

TEST REPORT

Product : MOBILE PHONE
Trade mark : ROKiT
Model/Type reference : IO Pro
Serial Number : N/A
Report Number : EED32K00215410
FCC ID : 2AQNZ-IOPRO
Date of Issue : Sep. 03, 2018
Test Standards : 47 CFR Part 2
47 CFR Part 27
Test result : PASS

Prepared for:

ROKIT Corp Limited

**ROK House, Kingswood Business Park, Holyhead Road, Albrighton,
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Prepared by:

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Date:

Sep. 03, 2018

Check No.:3096342807



2 Version

Version No.	Date	Description
00	Sep. 03, 2018	Original

3 Test Summary

LTE Band 17			
Test Item	Test Requirement	Test method	Result
Conducted output power	Part 2.1046(a) /Part 27.50(c)	TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Effective Radiated Power of Transmitter(EIRP)	Part 2.1046(a) / Part 27.50(c)	TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
99% &26dBOccupied Bandwidth	Part 2.1049(g)	Part 27.53(g) &KDB 971168 D01v03r01	PASS
Band Edge at antenna terminals	Part 2.1051/ Part 27.53(g)	Part 27.53(g) &KDB 971168 D01v03r01	PASS
Spurious emissions at antenna terminals	Part 2.1051/ Part 27.53(g)	TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Field strength of spurious radiation	Part 2.1053/ Part 27.53(g)	TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Frequency stability	Part 2.1055/Part 27.54	TIA-603-E-2016 & KDB 971168 D01v03r01	PASS

Remark:

The tested samples and the sample information are provided by the client.

Tx: In this whole report Tx (or tx) means Transmitter.

Rx: In this whole report Rx (or rx) means Receiver.

RF: In this whole report RF means Radiated Frequency.

CH: In this whole report CH means channel.

Volt: In this whole report Volt means Voltage.

Temp: In this whole report Temp means Temperature.

Humid: In this whole report Humid means humidity.

Press: In this whole report Press means Pressure.

N/A: In this whole report not application

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5 Test Requirement

5.1 Test setup

5.1.1 For Radiated Emissions test setup

Radiated Emissions setup:

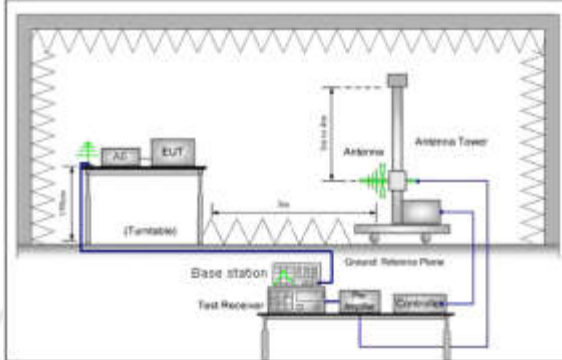


Figure 1.30MHz to 1GHz

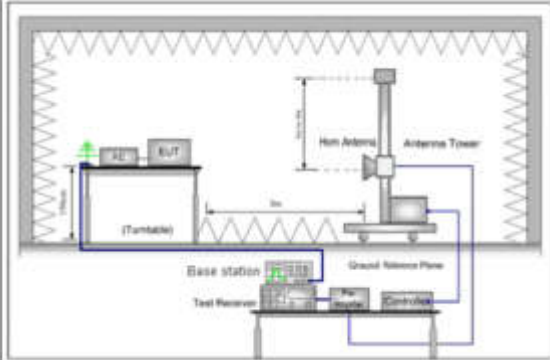


Figure 2. above 1GHz

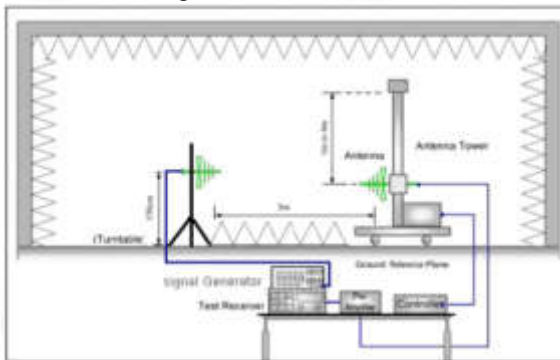


Figure 1. 30MHz to 1GHz

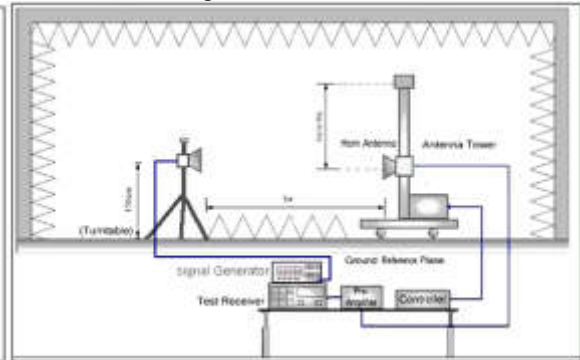


Figure 2. above 1GHz

5.2 Test Environment

Operating Environment:

Temperature:	25.0 °C
Humidity:	56 % RH
Atmospheric Pressure:	1010mbar

5.3 Test Condition

Test channel:

Test Mode	Test Frequency ID	Bandwidth (MHz)	Number [UL]	Frequency of Uplink(MHz)	Number [DL]	Frequency of Downlink(MHz)
LTEband17 TX:704-716MHz RX:734-746MHz	Low Range	5	23755	706.5	5755	736.5
		10	23780	709	5780	739
	Mid Range	5/10	23790	710	5790	740
	High Range	5	23825	713.5	5825	743.5
		10	23800	711	5800	741

6 General Information

6.1 Client Information

Applicant:	ROKIT Corp Limited
Address of Applicant:	ROK House, Kingswood Business Park, Holyhead Road, Albrighton, Wolverhampton, United Kingdom, WV73AU
Manufacturer:	ROKIT Corp Limited
Address of Manufacturer:	ROK House, Kingswood Business Park, Holyhead Road, Albrighton, Wolverhampton, United Kingdom, WV73AU
Factory:	Shenzhen Newsun Technology Co., Ltd
Address of Factory:	5th Floor, A1 Building, Zhongtai Information Technology Industrial Park, No. 2 Dezheng Road, Shilong Community, Shiyan Street, Baoan District, Shenzhen, China

6.2 General Description of EUT

Product Name:	MOBILE PHONE
Model No.(EUT):	IO Pro
Trade mark:	ROKIT
EUT Supports Radios application:	<p>BT4.0, 2.1+EDR: 2402MHz to 2480MHz</p> <p>WiFi: IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz</p> <p>IEEE 802.11n(HT40): 2422MHz to 2452MHz</p> <p>GPS: 1559MHz to 1610MHz</p> <p>GSM/GPRS/EDGE 850:</p> <p>Tx:824.20 -848.80MHz; Rx: 869.20 – 893.80MHz</p> <p>GSM/GPRS/EDGE 1900:</p> <p>Tx:1850.20 – 1909.80MHz; Rx:1930.20 – 1989.80MHz</p> <p>CDMA BC0:</p> <p>Tx:824-849MHz; Rx:869-894MHz</p> <p>CDMA BC1:</p> <p>Tx:1850-1910MHz; Rx:1930-1990MHz</p> <p>CDMA BC10:</p> <p>TX:817.25-823.975MHz, RX:862.25-868.975MHz</p> <p>1xEVDO BC0:</p> <p>Tx:824-849MHz; Rx:869-894MHz</p> <p>1xEVDO BC0:</p> <p>Tx:1850-1910MHz; Rx:1930-1990MHz</p> <p>1xEVDO BC0:</p> <p>TX:817.25-823.975MHz, RX:862.25-868.975MHz</p> <p>WCDMA/HSDPA/HSUPA/HSPA+(Down Link) Band V:</p> <p>Tx:826.40 -846.60MHz; Rx: 871.40 – 891.60MHz</p> <p>WCDMA/HSDPA/HSUPA/HSPA+(Down Link) Band IV:</p> <p>Tx:1710-1755MHz; Rx: 2110-2155MHz</p> <p>WCDMA/HSDPA/HSUPA/HSPA+(Down Link) Band II:</p> <p>Tx:1852.40 – 1907.60MHz; Rx:1932.40 – 1987.60MHz</p> <p>LTE Band 2:</p> <p>TX:1850MHz to 1910MHz RX:1930MHz to 1990MHz.</p> <p>LTE Band 4:</p> <p>TX:1710MHz to 1755MHz RX:2110MHz to 2155MHz.</p> <p>LTE Band 5:</p> <p>TX:824MHz to 849MHz RX:869MHz to 894MHz.</p>

	LTE Band 12: TX:698MHz to 716MHz RX:729MHz to 746MHz. LTE Band 17: TX:704MHz to 716MHz RX:734MHz to 746MHz.
Power Supply:	DC 5V by USB port
	Li-ion Battery 3.85V, 3850mAh, 14.822Wh
Firmware version:	MOLY.LR12A.R2.MP.V36.9(manufacturer declare)
Hardware version:	V0(manufacturer declare)
USB cable:	100cm(shielded)
Sample Received Date:	Aug. 08, 2018
Sample tested Date:	Aug. 08, 2018 to Aug. 29, 2018

6.3 Product Specification subjective to this standard

Frequency Band:	LTE Band 17: TX:704-716MHz, RX:734-746MHz
Modulation Type:	QPSK, 16QAM
Sample Type:	mobile production
Antenna Type:	MONOPOLE
Antenna Gain:	-5dBi
Test Voltage:	DC 3.85V

6.4 Description of Support Units

The EUT has been tested independently.

6.5 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax:+86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

6.6 Deviation from Standards

None.

6.7 Abnormalities from Standard Conditions

None.

6.8 Other Information Requested by the Customer

None.

6.9 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Radio Frequency	7.9×10^{-8}
2	RF power, conducted	0.31dB (30MHz-1GHz)
		0.57dB (1GHz-18GHz)
3	Radiated Spurious emission test	4.5dB (30MHz-1GHz)
		4.8dB (1GHz-12.75GHz)
4	Conduction emission	3.6dB (9kHz to 150kHz)
		3.2dB (150kHz to 30MHz)
5	Temperature test	0.64°C
6	Humidity test	2.8%
7	DC power voltages	0.025%

7 Equipment List

Communication RF test system					
Equipment	Manufacturer	Model No.	Serial Number	Cal. Date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Spectrum Analyzer	Agilent	E4440A	MY46185649	11-16-2017	11-15-2018
Signal Generator	Agilent	E4438C	MY45095744	03-13-2018	03-12-2019
Communication test set	Agilent	E5515C	GB47050534	03-16-2018	03-15-2019
Signal Generator	Keysight	E8257D	MY53401106	03-13-2018	03-12-2019
Communication test set	R&S	CMW500	152394	03-16-2018	03-15-2019
High-pass filter	Sinoscite	FL3CX03WG18 NM12-0398-002	---	01-10-2018	01-09-2019
High-pass filter	MICRO-TRONICS	SPA-F-63029-4	---	01-10-2018	01-09-2019
band rejection filter	Sinoscite	FL5CX01CA09C L12-0395-001	---	01-10-2018	01-09-2019
band rejection filter	Sinoscite	FL5CX01CA08C L12-0393-001	---	01-10-2018	01-09-2019
band rejection filter	Sinoscite	FL5CX02CA04C L12-0396-002	---	01-10-2018	01-09-2019
band rejection filter	Sinoscite	FL5CX02CA03C L12-0394-001	---	01-10-2018	01-09-2019
DC Power	Keysight	E3642A	MY54426112	03-13-2018	03-12-2019
DC Power	Keysight	E3642A	MY54426115	03-13-2018	03-12-2019
PC-2	Lenovo	R4960d	---	01-10-2018	01-09-2019
PC-3	Lenovo	R4960d	---	01-10-2018	01-09-2019
RF control unit	JS Tonscend	JS0806-1	158060004	03-13-2018	03-12-2019
DC power Box	JS Tonscend	JS0806-4	158060007	03-13-2018	03-12-2019
LTE Automatic test software	JS Tonscend	JS1120-1	---	03-30-2018	03-29-2019
WCDMA Automatic test software	JS Tonscend	JS1120-3	---	03-30-2018	03-29-2019
GSM Automatic test software	JS Tonscend	JS1120-3	---	03-30-2018	03-29-2019

3M Semi/full-anechoic Chamber					
Equipment	Manufacturer	Model No.	Serial Number	Cal. date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
3M Chamber & Accessory Equipment	TDK	SAC-3	---	06-04-2016	06-03-2019
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	9163-401	04-26-2018	04-25-2019
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	9163-618	07-30-2018	07-29-2019
Microwave Preamplifier	Agilent	8449B	3008A02425	08-21-2018	08-20-2019
Microwave Preamplifier	Tonscend	EMC051845SE	980380	01-19-2018	01-18-2019
Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-1869	04-25-2018	04-23-2021
Double ridge horn antenna	A.H.SYSTEMS	SAS-574	6042	06-05-2018	06-04-2021
Pre-amplifier	A.H.SYSTEMS	PAP-1840-60	6041	06-05-2018	06-04-2021
Loop Antenna	ETS	6502	00071730	06-22-2017	06-21-2019
Spectrum Analyzer	R&S	FSP40	100416	05-11-2018	05-10-2019
Receiver	R&S	ESCI	100435	05-25-2018	05-24-2019
Multi device Controller	matur	NCD/070/10711112	---	01-10-2018	01-09-2019
LISN	schwarzbeck	NNBM8125	81251547	05-11-2018	05-10-2019
LISN	schwarzbeck	NNBM8125	81251548	05-11-2018	05-10-2019
Signal Generator	Agilent	E4438C	MY45095744	03-13-2018	03-12-2019
Signal Generator	Keysight	E8257D	MY53401106	03-13-2018	03-12-2019
Temperature/ Humidity Indicator	TAYLOR	1451	1905	05-02-2018	05-01-2019
Communication test set	Agilent	E5515C	GB47050534	03-16-2018	03-15-2019
Cable line	Fulai(7M)	SF106	5219/6A	01-10-2018	01-09-2019
Cable line	Fulai(6M)	SF106	5220/6A	01-10-2018	01-09-2019
Cable line	Fulai(3M)	SF106	5216/6A	01-10-2018	01-09-2019
Cable line	Fulai(3M)	SF106	5217/6A	01-10-2018	01-09-2019
Communication test set	R&S	CMW500	104466	02-05-2018	02-04-2019
High-pass filter	Sinoscite	FL3CX03WG18 NM12-0398-002	---	01-10-2018	01-09-2019
High-pass filter	MICRO-TRONICS	SPA-F-63029-4	---	01-10-2018	01-09-2019
band rejection filter	Sinoscite	FL5CX01CA09 CL12-0395-001	---	01-10-2018	01-09-2019
band rejection filter	Sinoscite	FL5CX01CA08 CL12-0393-001	---	01-10-2018	01-09-2019
band rejection filter	Sinoscite	FL5CX02CA04 CL12-0396-002	---	01-10-2018	01-09-2019
band rejection filter	Sinoscite	FL5CX02CA03 CL12-0394-001	---	01-10-2018	01-09-2019

8 Radio Technical Requirements Specification

Reference documents for testing:

No.	Identity	Document Title
1	PART 22 (2015)	PART 22 – PUBLIC MOBILE SERVICES Subpart H – Cellular Radiotelephone Service
2	PART 24 (2015)	PART 24 – PERSONAL COMMUNICATIONS SERVICES Subpart E – Broadband PCS
3	PART 27 (2015)	PART 27 – MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES Subpart C – Technical Standards
3	PART 2 (2015)	Frequency allocations and radio treaty matters; general rules and regulations
4	TIA-603-E-2016	Land Mobile FM or PM -Communications Equipment -Measurement and Performance Standards
5	KDB971168 D01	KDB971168 D01 Power Meas License Digital Systems v03r01

Test Results List:

Test Requirement	Test method	Test item	Verdict	Note
Part 2.1046(a)/Part 22.913(a)/ Part 27.50(c)	TIA-603-E-2016& KDB 971168 D01v03r01	Conducted output power	PASS	Appendix A)
Part 2.1046(a)/ Part 27.50(g)	TIA-603-E-2016& KDB 971168 D01v03r01	Effective Radiated Power of Transmitter(ERP)	PASS	Appendix A)
Part 2.1049(g)	Part 27.53(g) &KDB 971168 D01v03r01	99% &26dBOccupied Bandwidth	PASS	Appendix B)
Part 2.1051/Part 22.917(a)/ Part 27.53(g)	Part 27.53(g) &KDB 971168 D01v03r01	Band Edge at antenna terminals	PASS	Appendix C)
Part 2.1051/ Part 2.1057/ Part 27.53(g)	TIA-603-E-2016& KDB 971168 D01v03r01	Spurious emissions at antenna terminals	PASS	Appendix D)
Part 2.1055/ Part 22.355/ Part 27.54	TIA-603-E-2016& KDB 971168 D01v03r01	Frequency stability	PASS	Appendix E)
Part 2.1053/ Part 2.1057/ Part 27.53(g)	TIA-603-E-2016& KDB 971168 D01v03r01	Field strength of spurious radiation	PASS	Appendix F)

Appendix A) Conducted Output Power and Effective (Isotropic) Radiated Power

<p>Description of the Conducted Output Power Measurement and ERP/EIRP Measurement:</p>	<p>A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.</p> <p>According to KDB 412172 D01 Power Approach $EIRP = P_T + G_T - L_C$, $ERP = EIRP - 2.15$, where P_T = transmitter output power in dBm G_T = gain of the transmitting antenna in dBi L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB</p>				
<p>Measurement Procedure:</p>	<ol style="list-style-type: none"> 1. The transmitter output port was connected to the system simulator. 2. Set EUT at maximum power through the system simulator. 3. Select lowest, middle, and highest channels for each band and different modulation. 4. Measure and record the power level from the system simulator. 				
<p>Limit:</p>	<table border="1"> <tr> <td>Mode</td> <td>LTE band 17</td> </tr> <tr> <td>Limit</td> <td>34.77dBm (3W)</td> </tr> </table>	Mode	LTE band 17	Limit	34.77dBm (3W)
Mode	LTE band 17				
Limit	34.77dBm (3W)				

Test Result

Channel Bandwidth: 5 MHz

Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Average Power [dBm]	ERP [dBm]	Verdict
		Size	Offset			
QPSK	LCH	1	0	22.01	14.86	PASS
		1	12	22.22	15.07	PASS
		1	24	22.31	15.16	PASS
		12	0	21.99	14.84	PASS
		12	6	21.05	13.90	PASS
		12	13	21.32	14.17	PASS
		25	0	21.21	14.06	PASS
	MCH	1	0	22.20	15.05	PASS
		1	12	22.71	15.56	PASS
		1	24	23.05	15.90	PASS
		12	0	21.40	14.25	PASS
		12	6	21.37	14.22	PASS
		12	13	21.79	14.64	PASS
		25	0	21.62	14.47	PASS
	HCH	1	0	22.86	15.71	PASS
		1	12	23.54	16.39	PASS
		1	24	23.79	16.64	PASS
		12	0	22.30	15.15	PASS

16QAM	LCH	12	6	22.26	15.11	PASS
		12	13	22.65	15.50	PASS
		25	0	22.53	15.38	PASS
		1	0	21.05	13.90	PASS
		1	12	21.27	14.12	PASS
		1	24	21.38	14.23	PASS
		12	0	21.02	13.87	PASS
		12	6	21.01	13.86	PASS
		12	13	21.38	14.23	PASS
	25	0	21.22	14.07	PASS	
	MCH	1	0	21.27	14.12	PASS
		1	12	21.75	14.60	PASS
		1	24	22.11	14.96	PASS
		12	0	21.37	14.22	PASS
		12	6	21.37	14.22	PASS
		12	13	21.79	14.64	PASS
		25	0	21.67	14.52	PASS
	HCH	1	0	21.91	14.76	PASS
		1	12	22.57	15.42	PASS
		1	24	22.85	15.70	PASS
		12	0	22.32	15.17	PASS
		12	6	22.25	15.10	PASS
		12	13	22.61	15.46	PASS
		25	0	21.54	14.39	PASS

Channel Bandwidth: 10 MHz

Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Average Power [dBm]	ERP [dBm]	Verdict
		Size	Offset			
QPSK	LCH	1	0	21.99	14.84	PASS
		1	24	22.50	15.35	PASS
		1	49	23.29	16.14	PASS
		25	0	21.14	13.99	PASS
		25	12	21.10	13.95	PASS
		25	25	21.78	14.63	PASS
		50	0	21.44	14.29	PASS
	MCH	1	0	21.95	14.80	PASS
		1	24	22.68	15.53	PASS

		1	49	23.54	16.39	PASS	
		25	0	21.28	14.13	PASS	
		25	12	21.26	14.11	PASS	
		25	25	21.94	14.79	PASS	
		50	0	21.62	14.47	PASS	
	HCH	1	0	22.08	14.93	PASS	
		1	24	22.95	15.80	PASS	
		1	49	23.79	16.64	PASS	
		25	0	21.48	14.33	PASS	
		25	12	21.46	14.31	PASS	
		25	25	22.25	15.10	PASS	
		50	0	21.79	14.64	PASS	
		16QAM	LCH	1	0	21.21	14.06
	1			24	21.73	14.58	PASS
	1			49	22.56	15.41	PASS
	25			0	21.10	13.95	PASS
25	12			21.11	13.96	PASS	
25	25			21.79	14.64	PASS	
50	0			21.43	14.28	PASS	
MCH	1			0	21.24	14.09	PASS
	1		24	21.89	14.74	PASS	
	1		49	22.78	15.63	PASS	
	25		0	21.26	14.11	PASS	
	25		12	21.29	14.14	PASS	
	25		25	21.94	14.79	PASS	
	50		0	20.58	13.43	PASS	
	HCH		1	0	21.33	14.18	PASS
1			24	22.15	15.00	PASS	
1		49	23.04	15.89	PASS		
25		0	21.46	14.31	PASS		
25		12	21.45	14.30	PASS		
25		25	22.24	15.09	PASS		
50		0	21.77	14.62	PASS		

Appendix B) 26dB Bandwidth and Occupied Bandwidth

Test Result

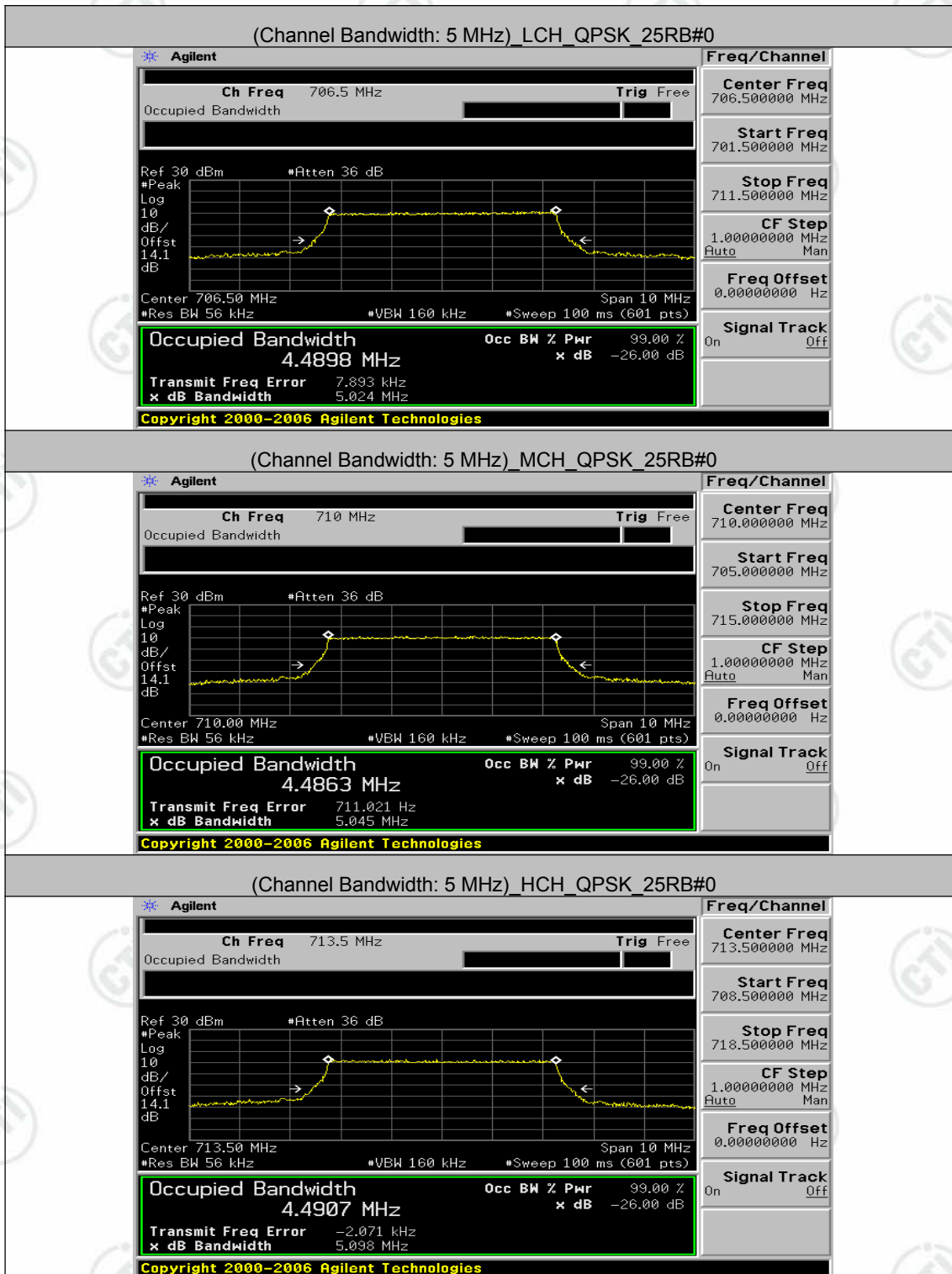
Channel Bandwidth: 5 MHz

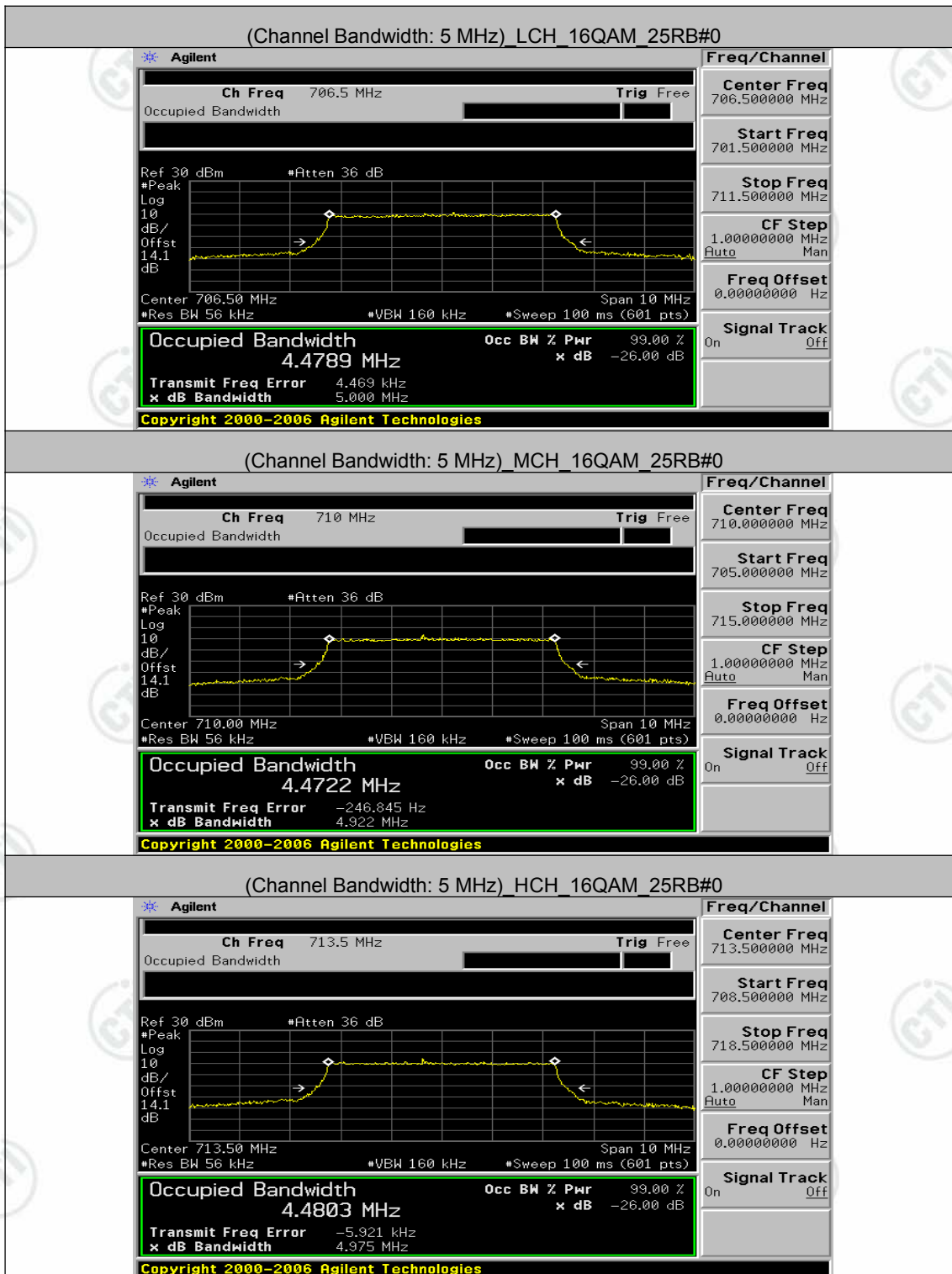
Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	25	0	4.4898	5.024	PASS
	MCH	25	0	4.4863	5.045	PASS
	HCH	25	0	4.4907	5.098	PASS
16QAM	LCH	25	0	4.4789	5.000	PASS
	MCH	25	0	4.4722	4.922	PASS
	HCH	25	0	4.4803	4.975	PASS

Channel Bandwidth: 10 MHz

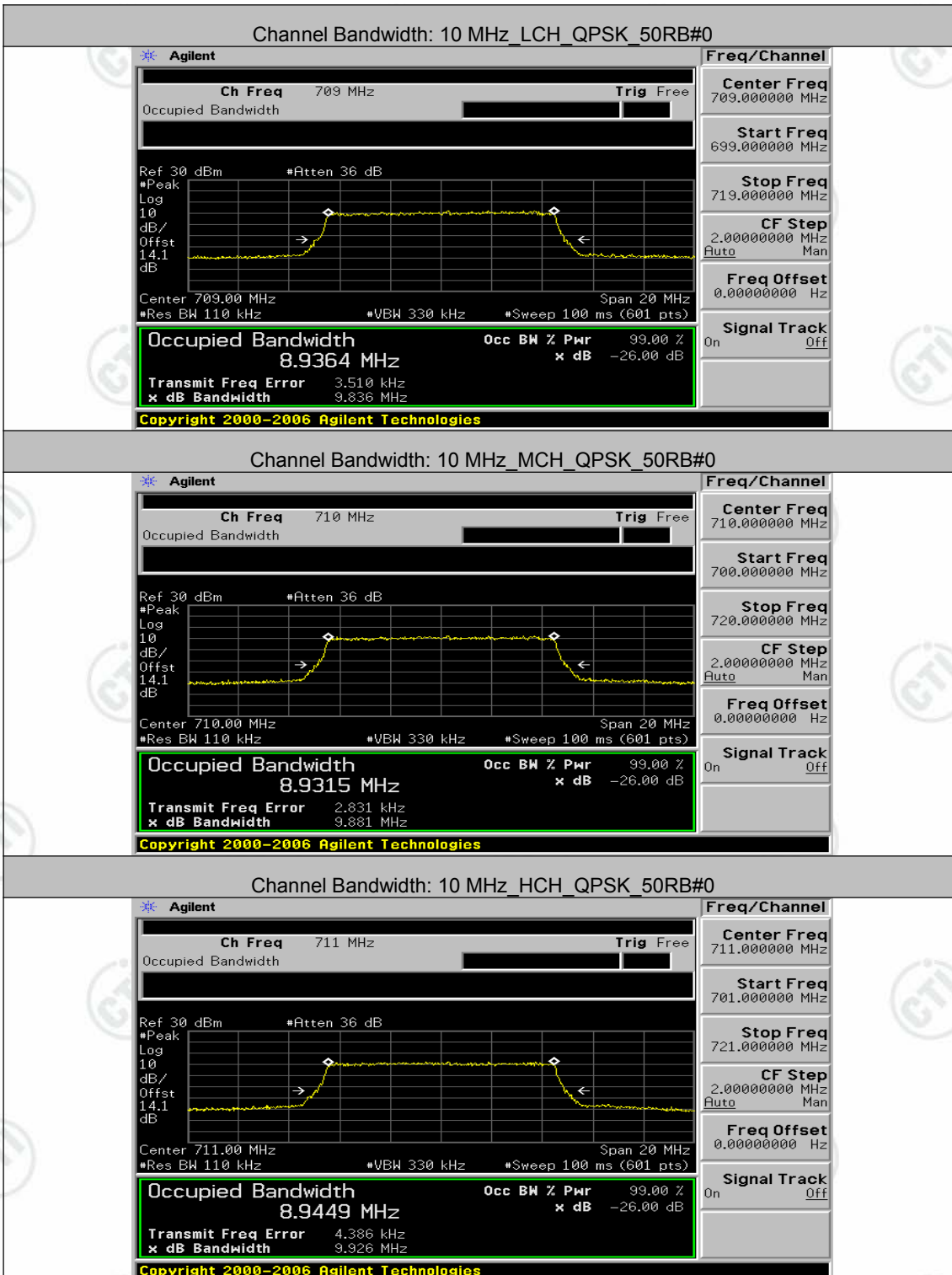
Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	50	0	8.9364	9.836	PASS
	MCH	50	0	8.9315	9.881	PASS
	HCH	50	0	8.9449	9.926	PASS
16QAM	LCH	50	0	8.9134	9.703	PASS
	MCH	50	0	8.9007	9.706	PASS
	HCH	50	0	8.9167	9.776	PASS

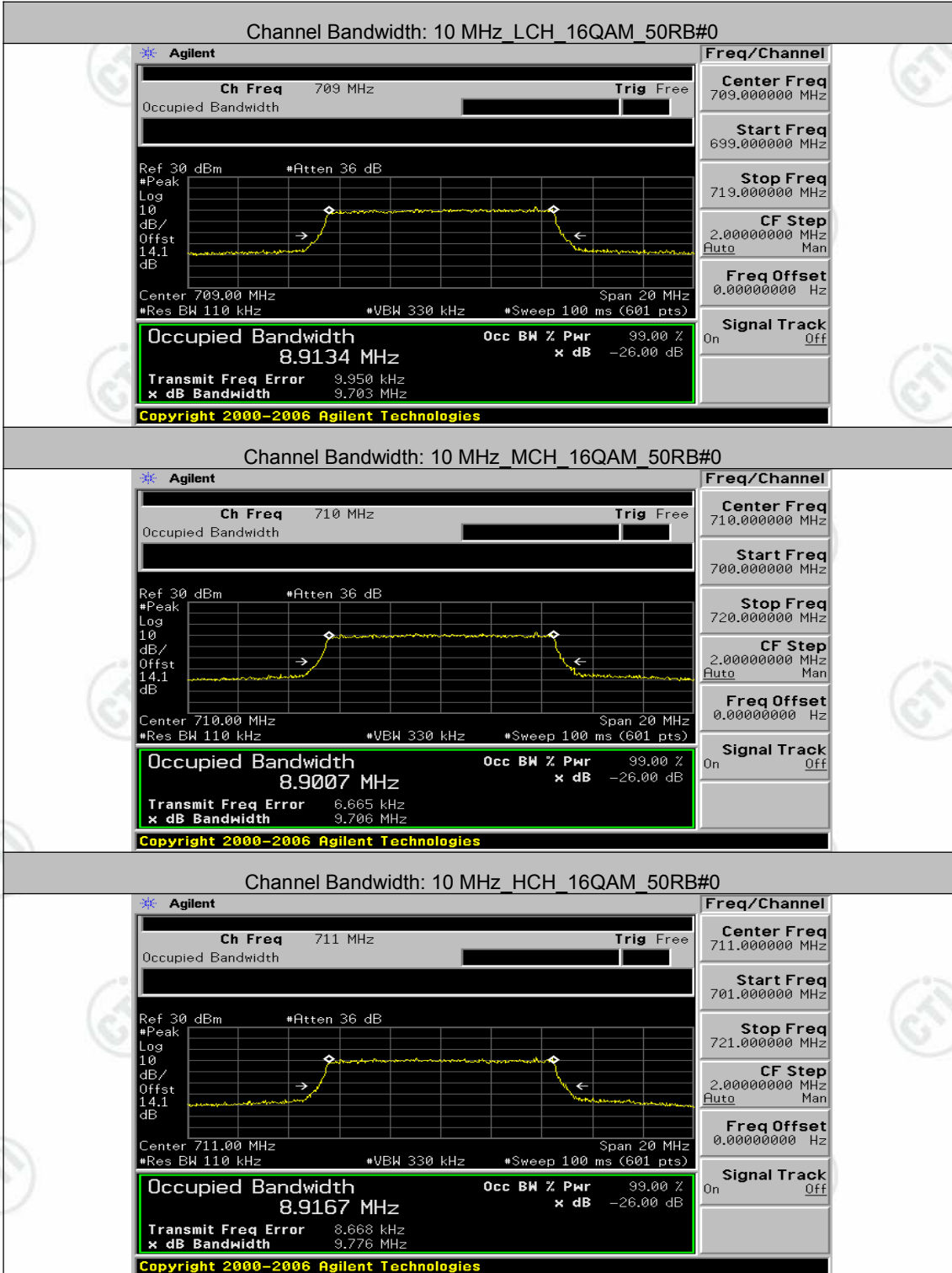
Test Graphs
Channel Bandwidth: 5 MHz





Channel Bandwidth: 10 MHz

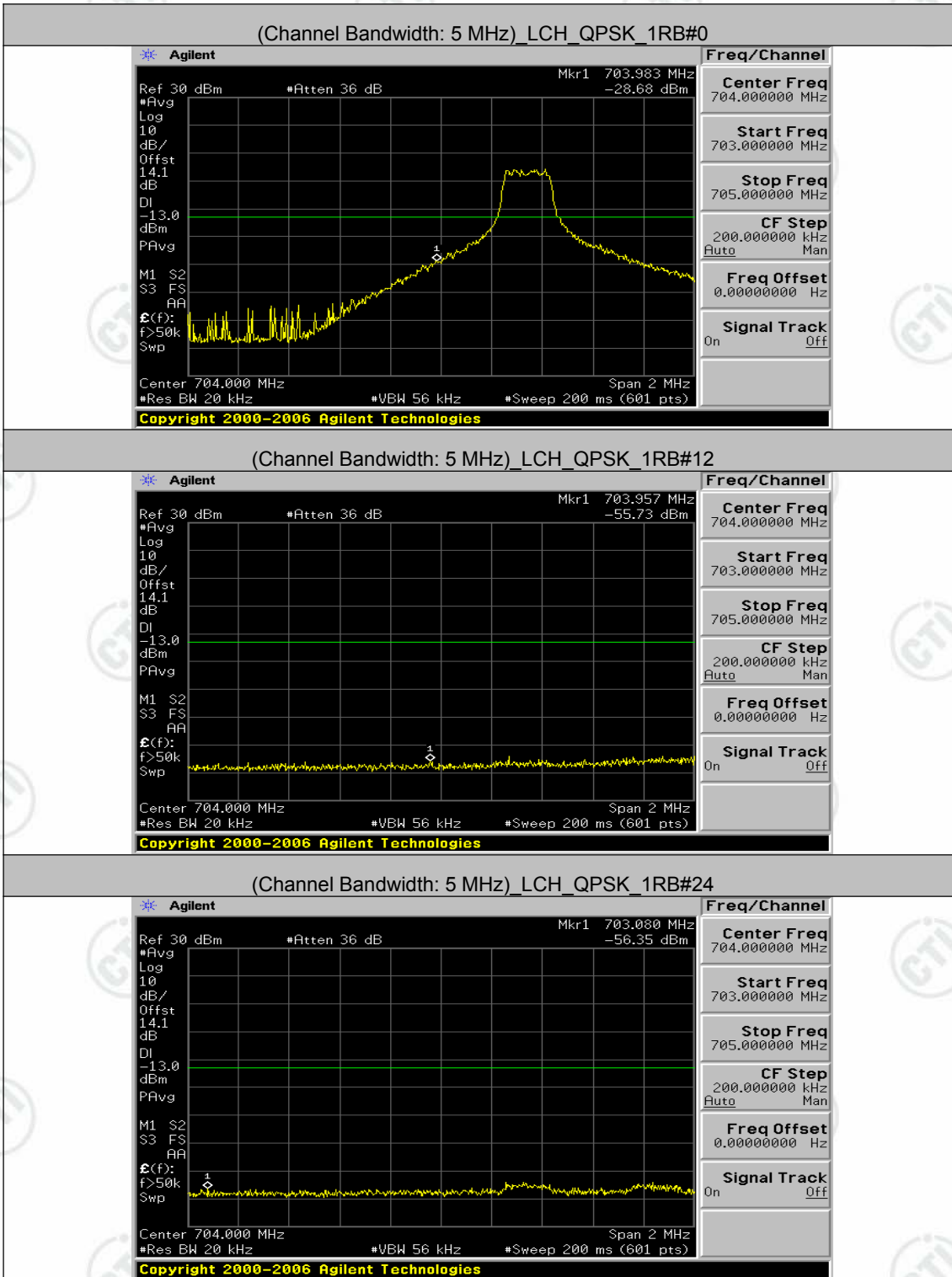


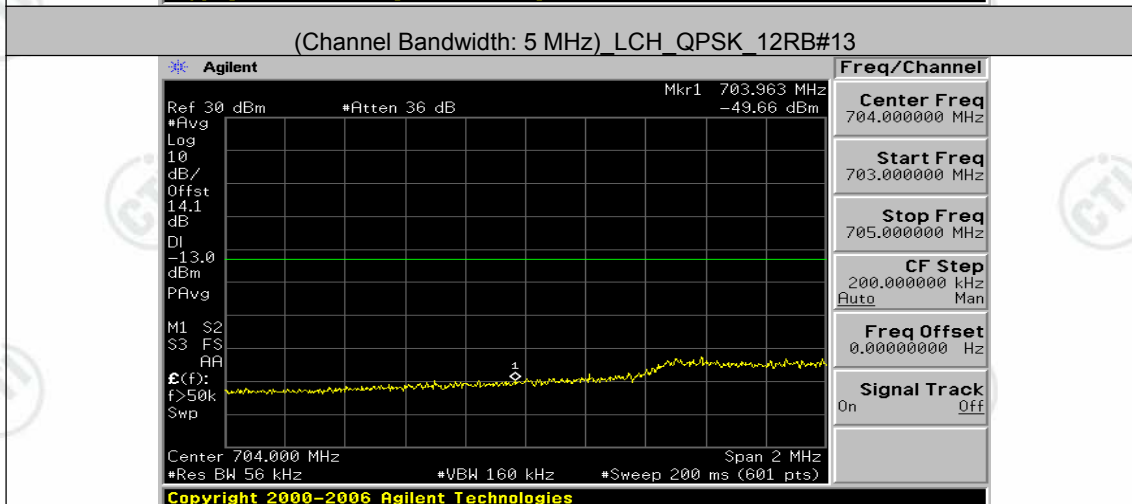
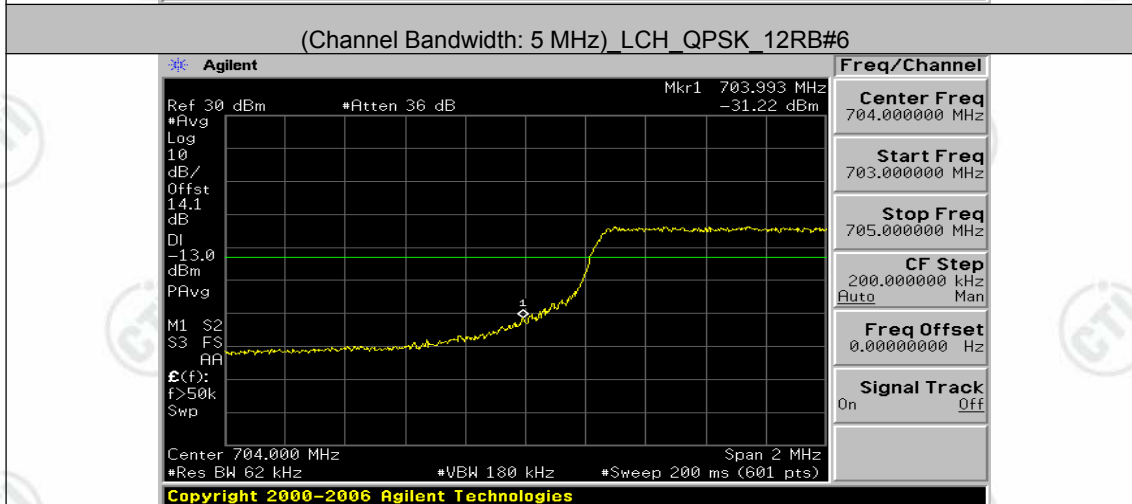
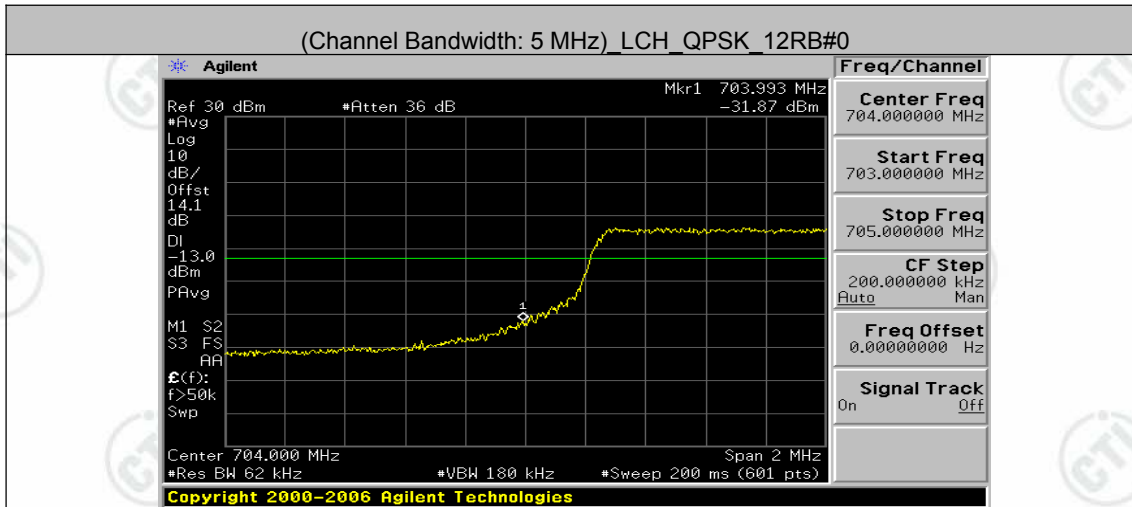


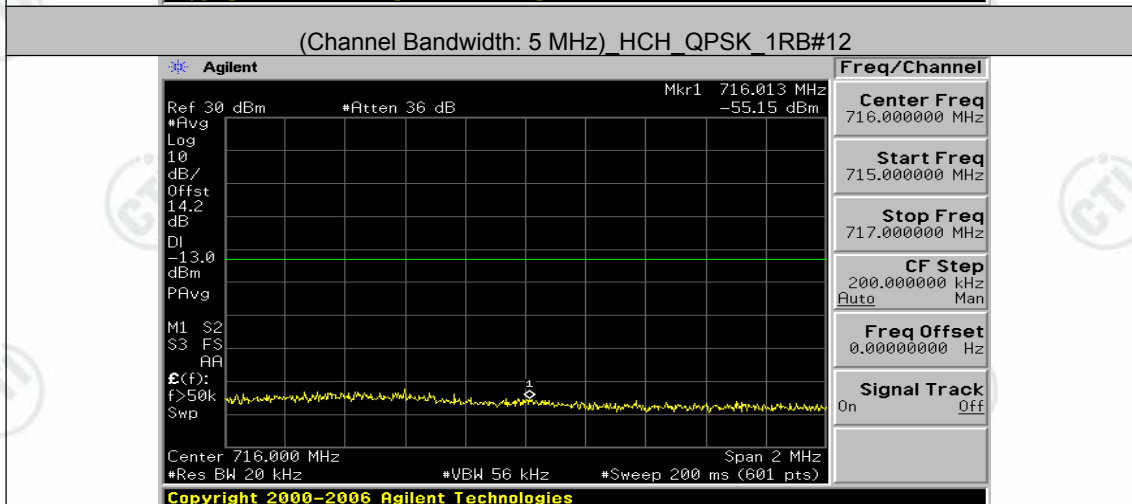
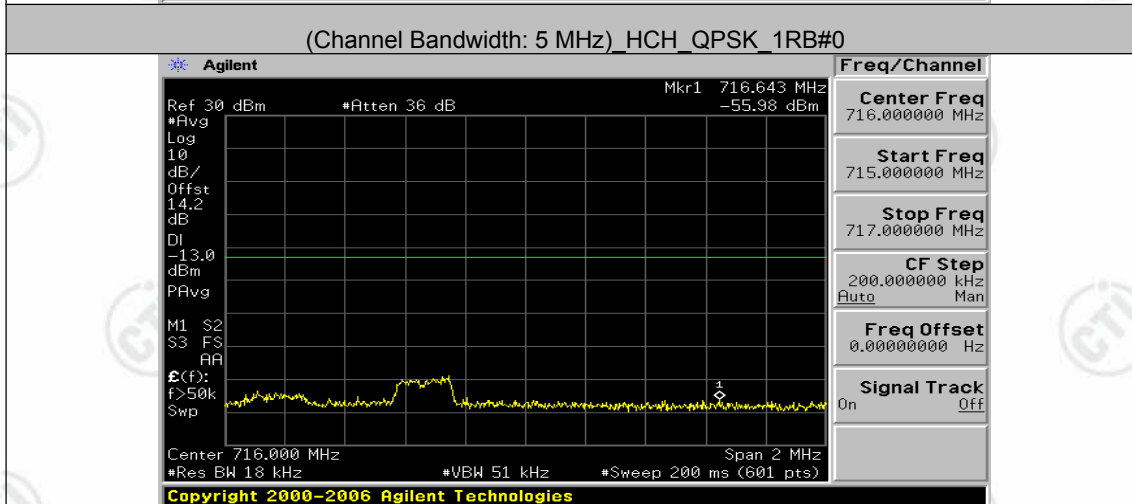
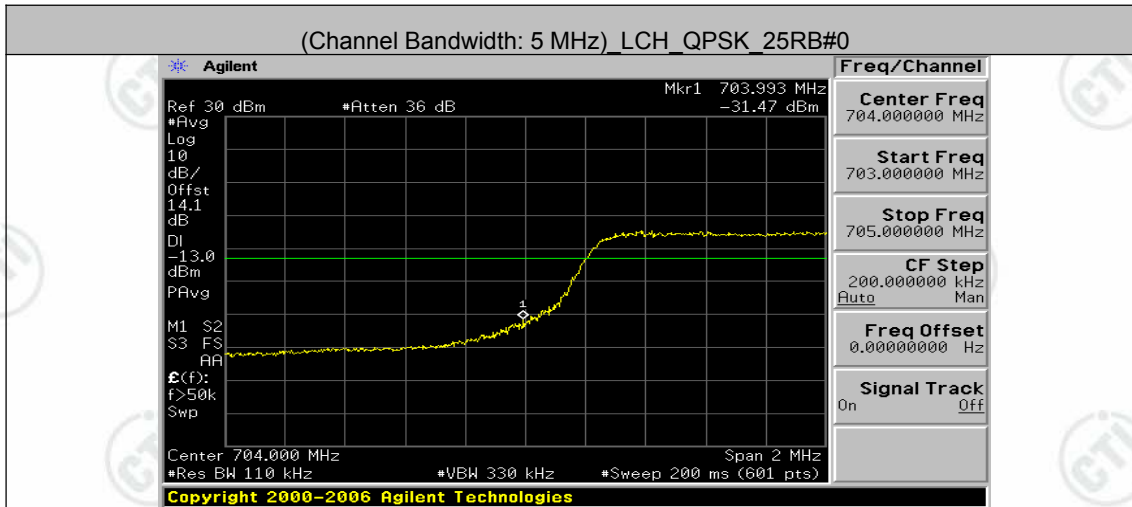
Appendix C) Band Edge

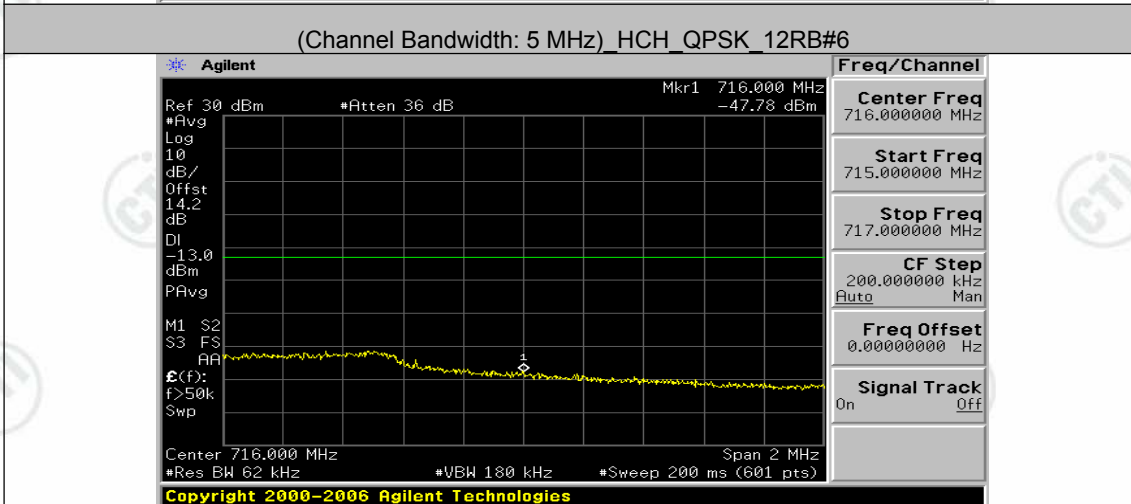
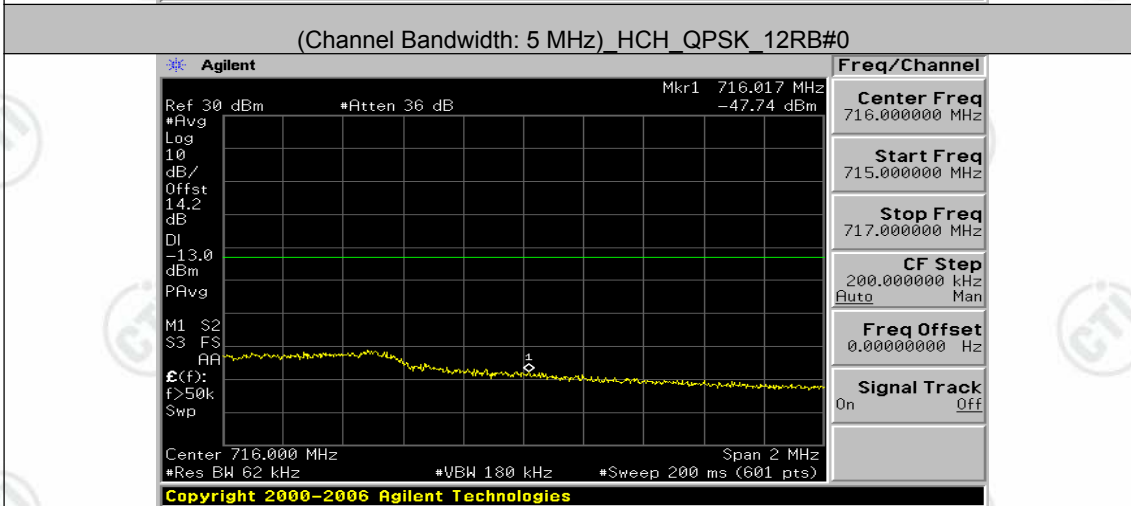
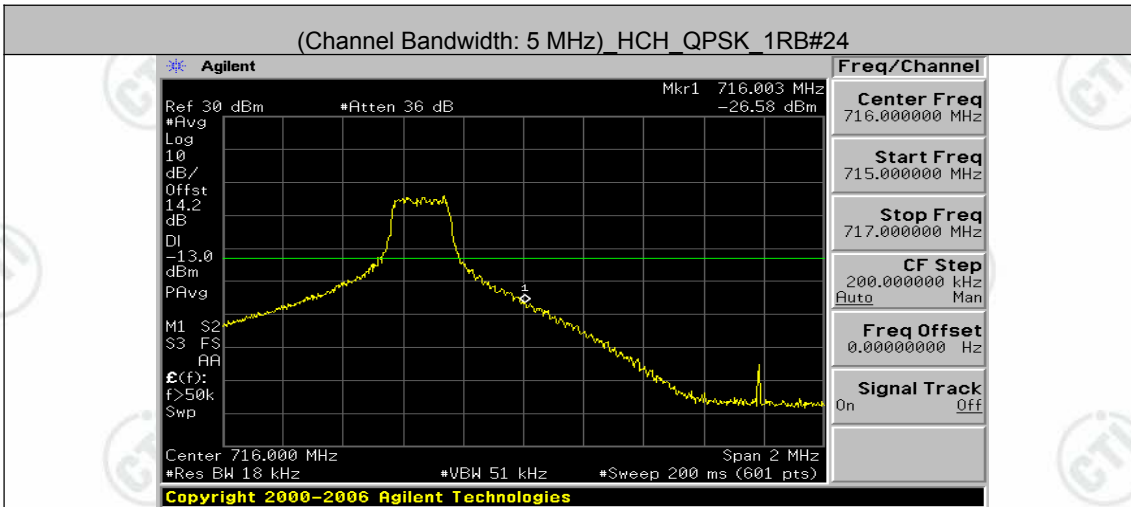
Test Graphs

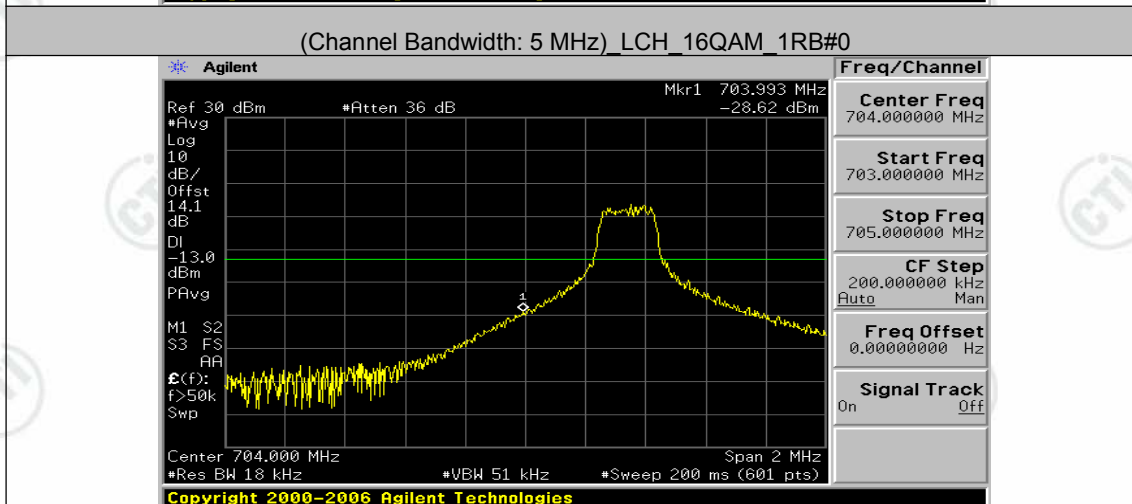
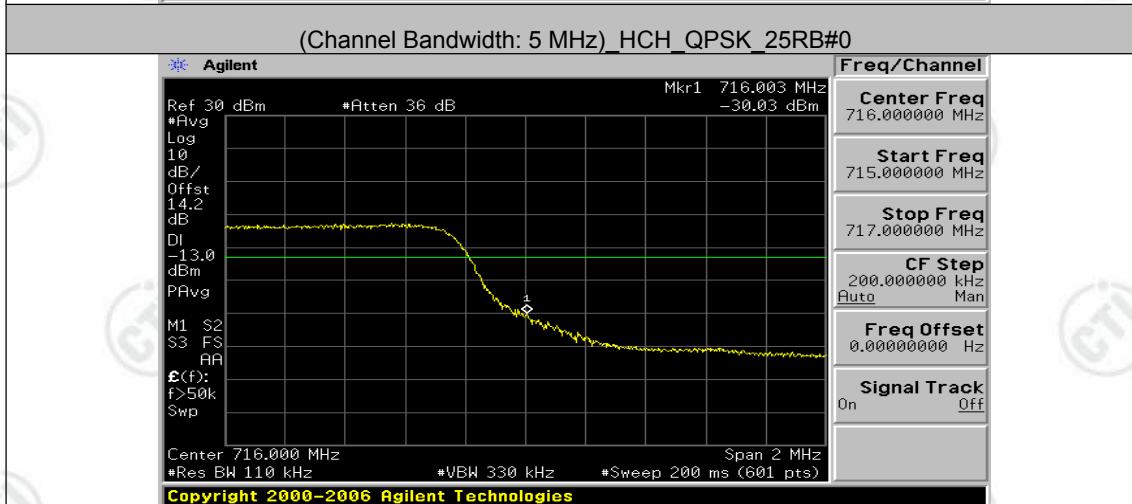
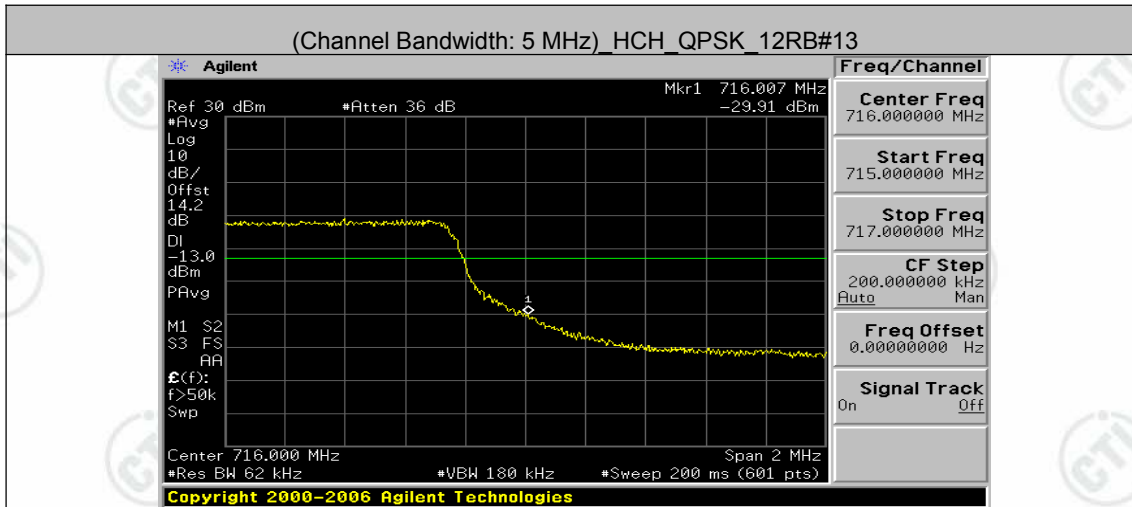
Channel Bandwidth: 5 MHz

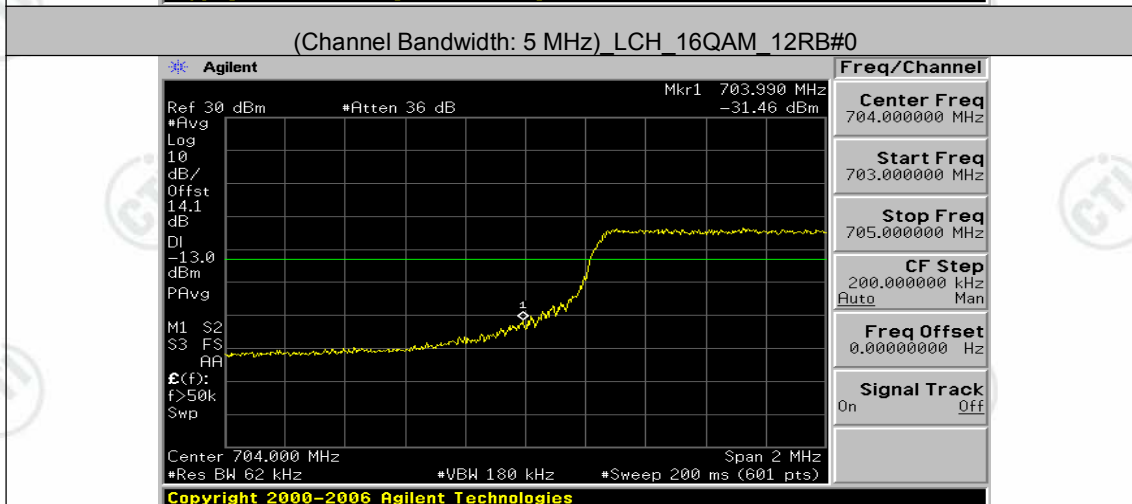
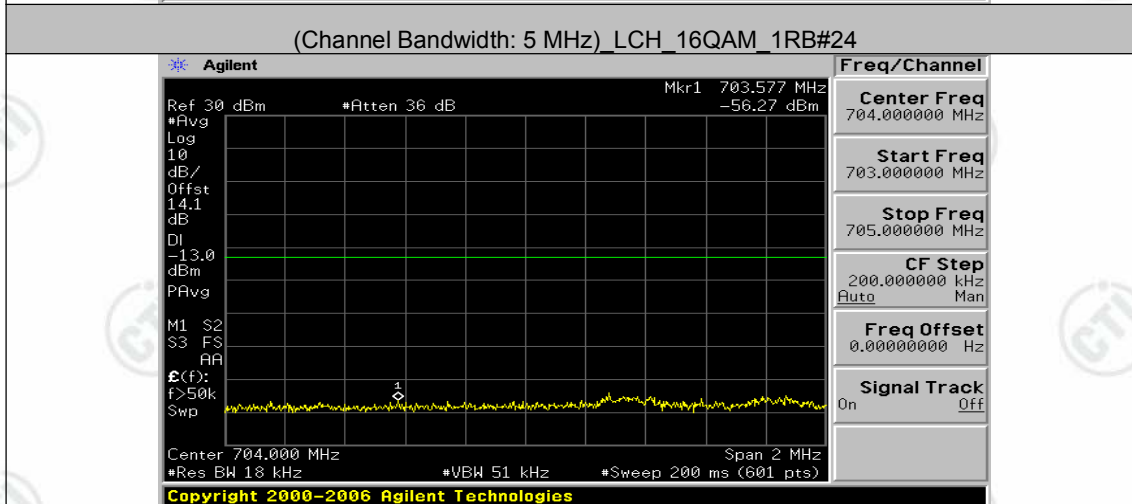
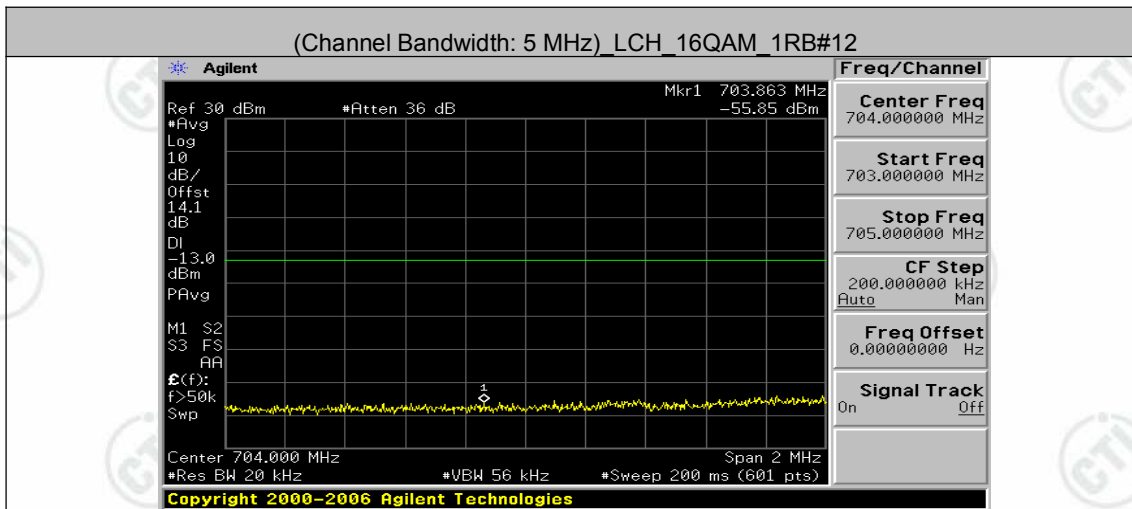


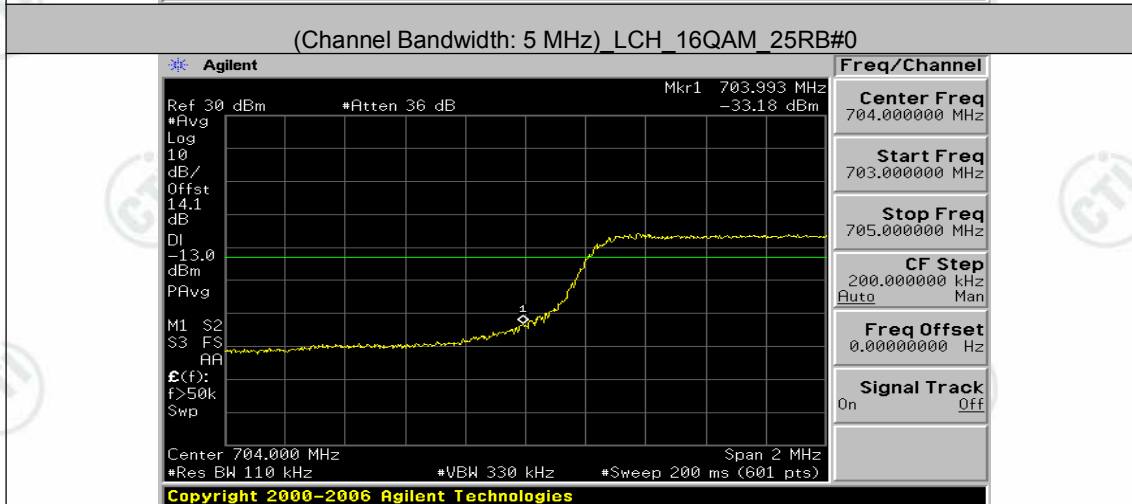
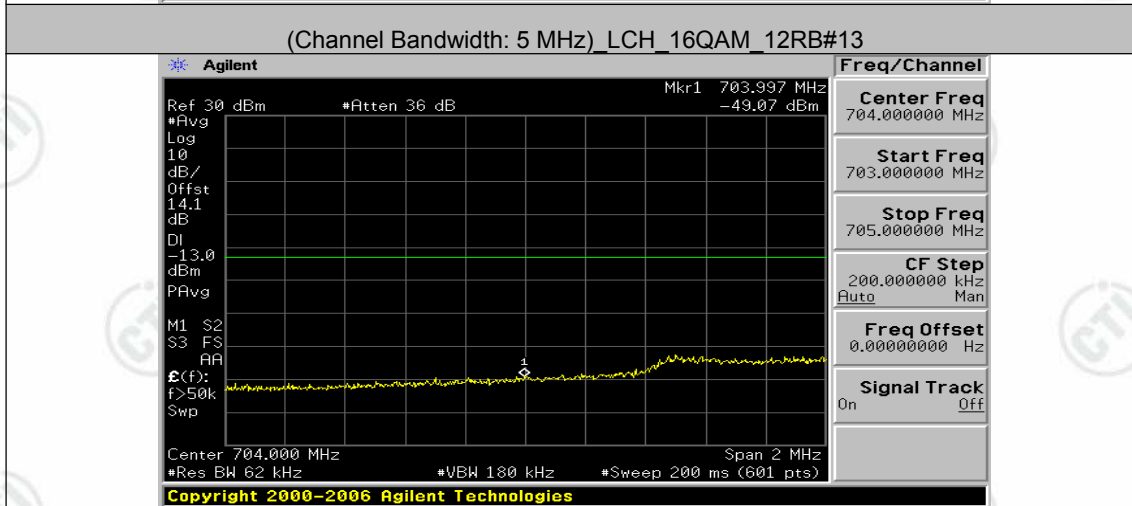
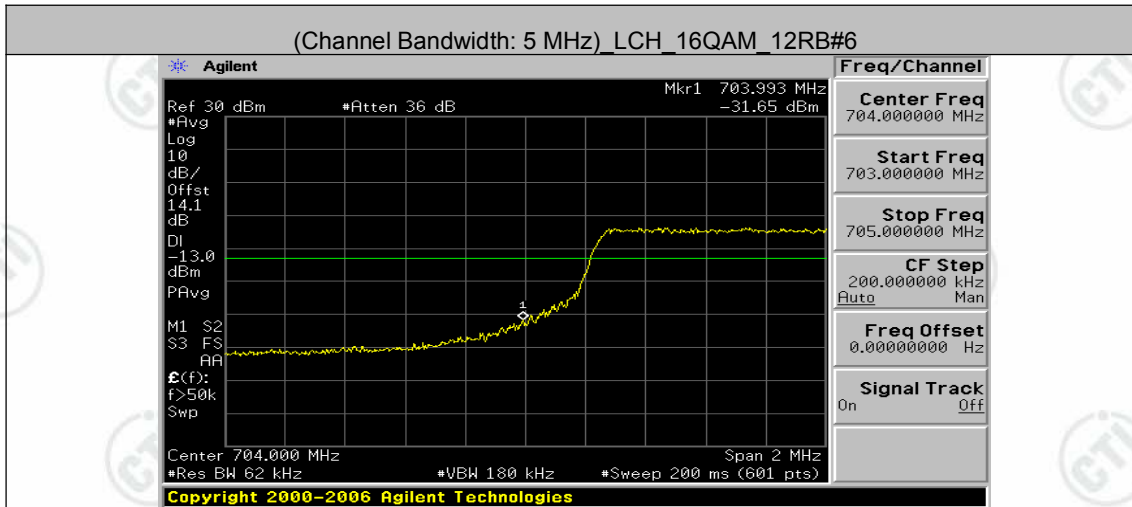


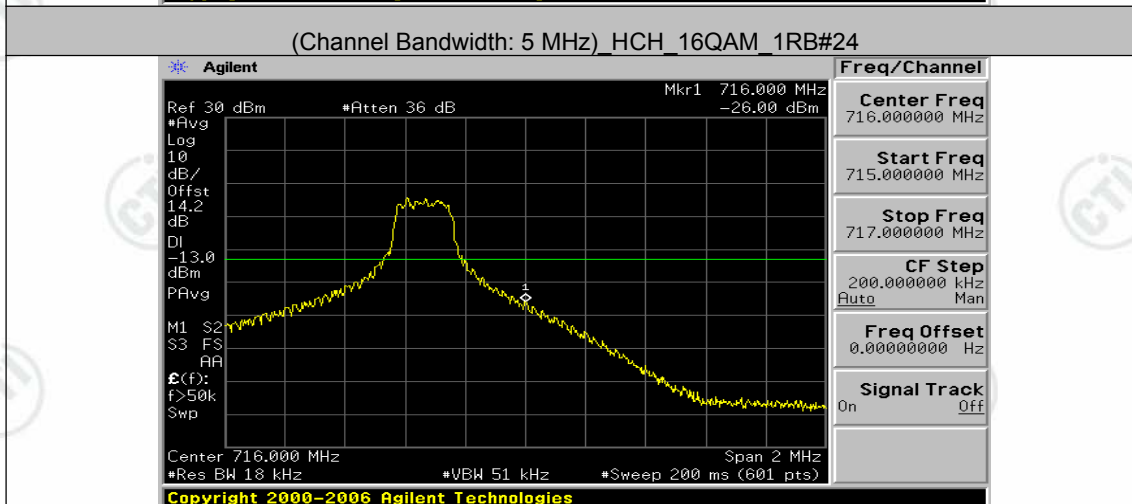
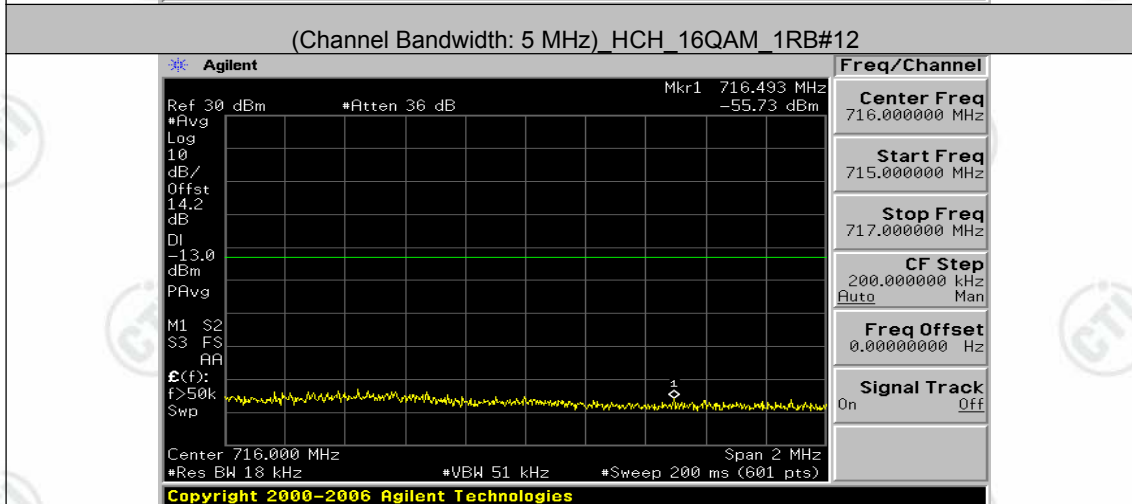
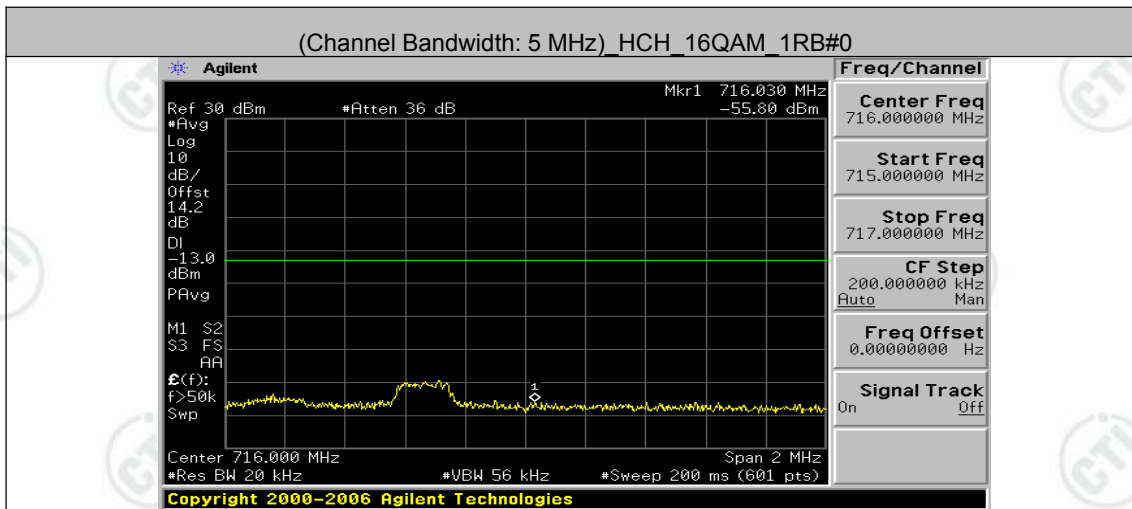


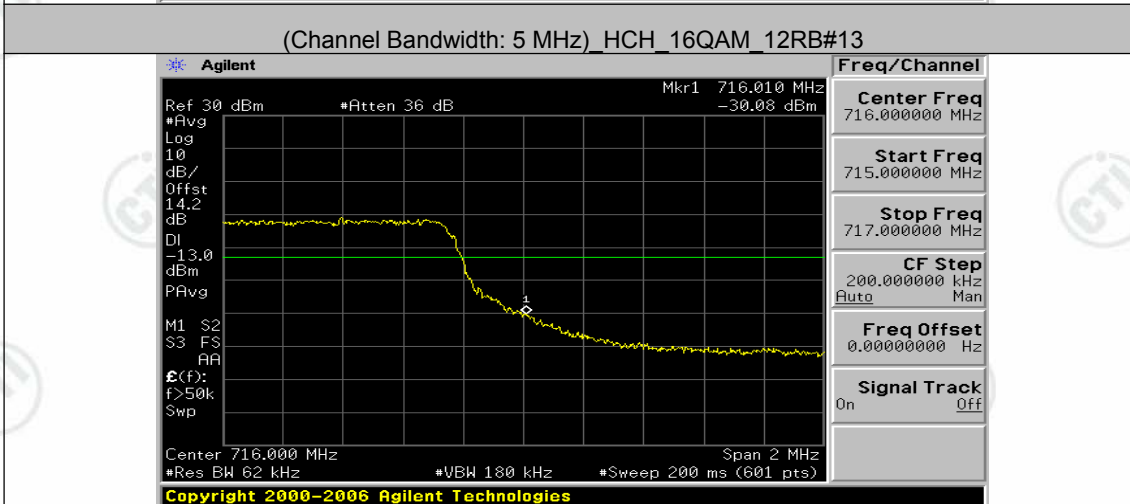
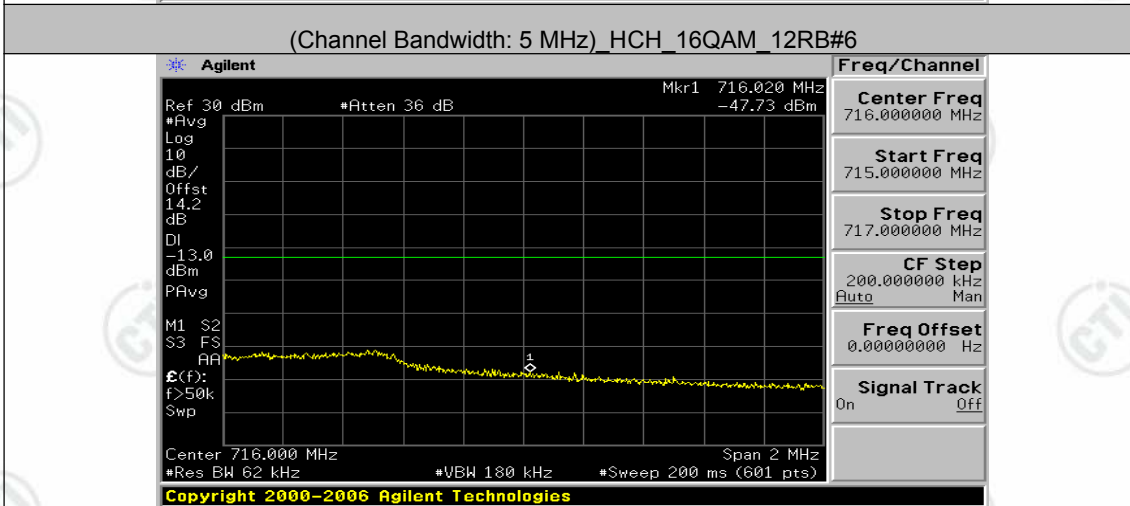
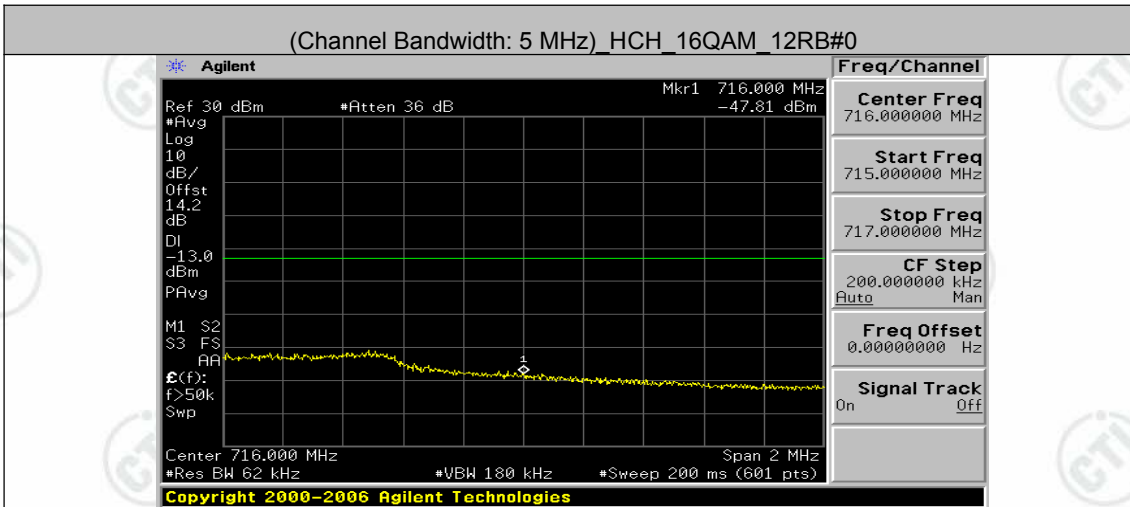


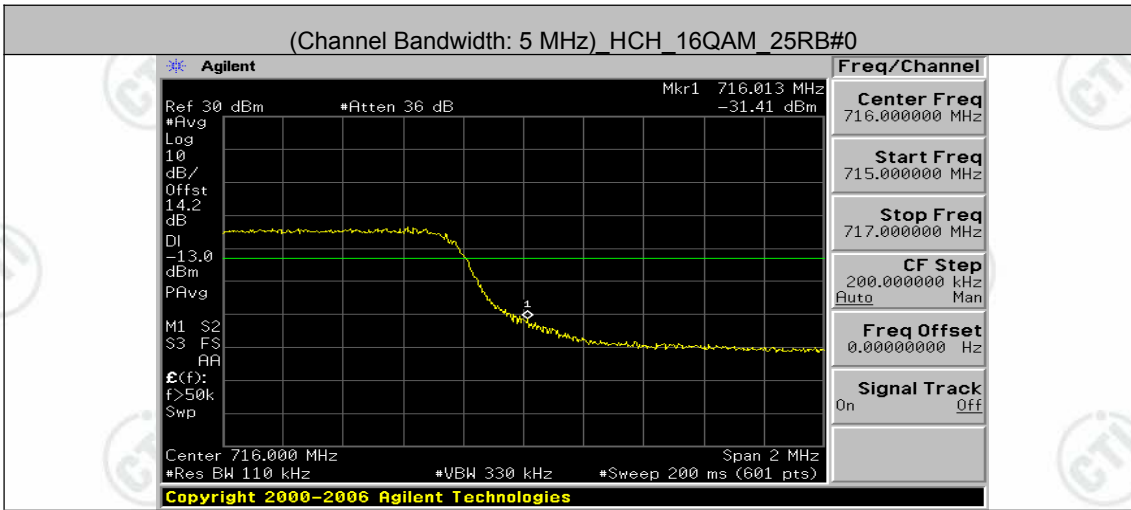




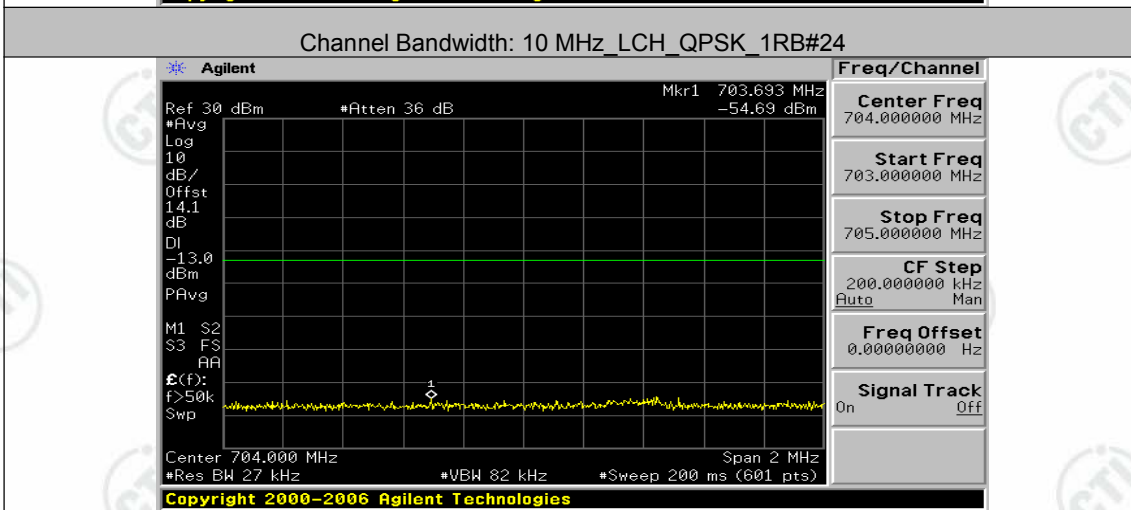
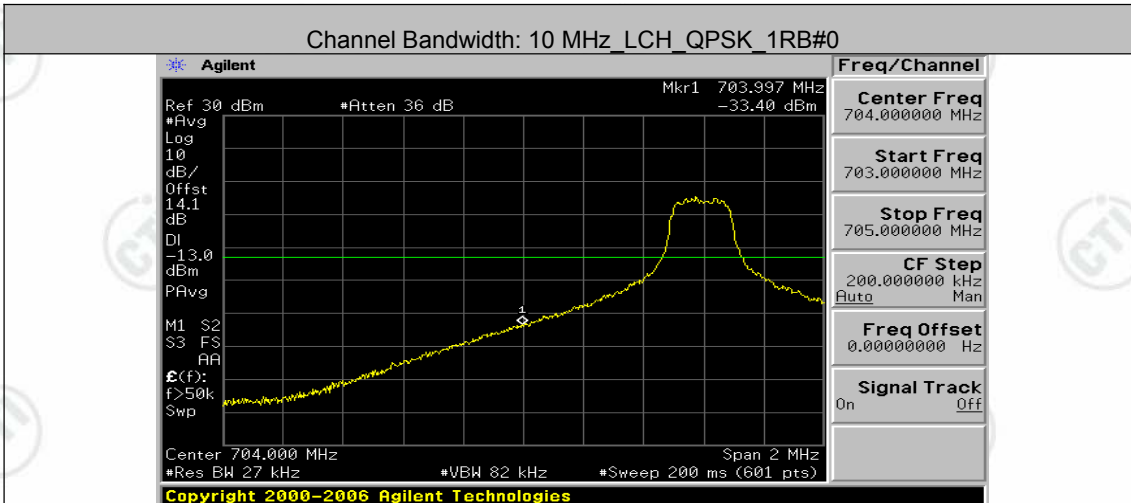


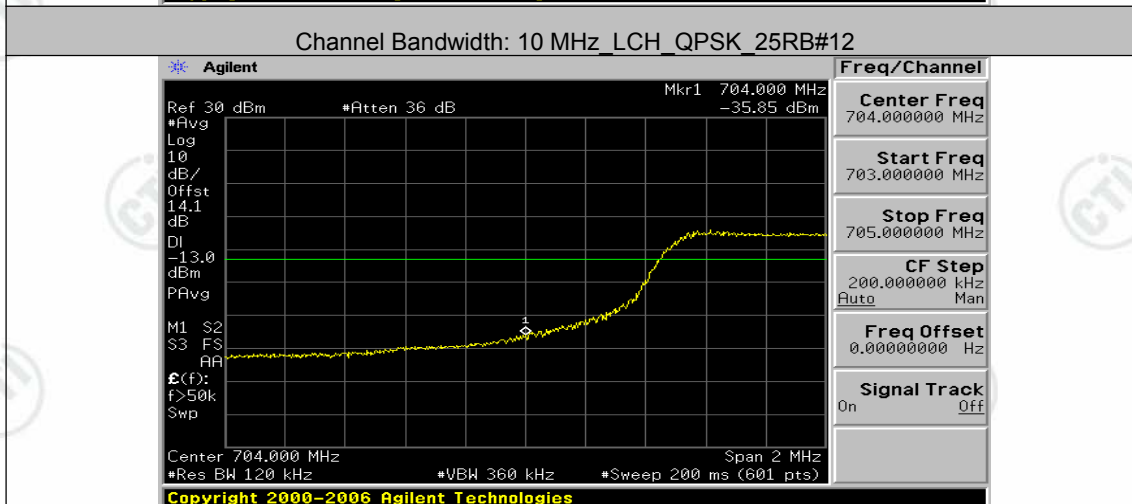
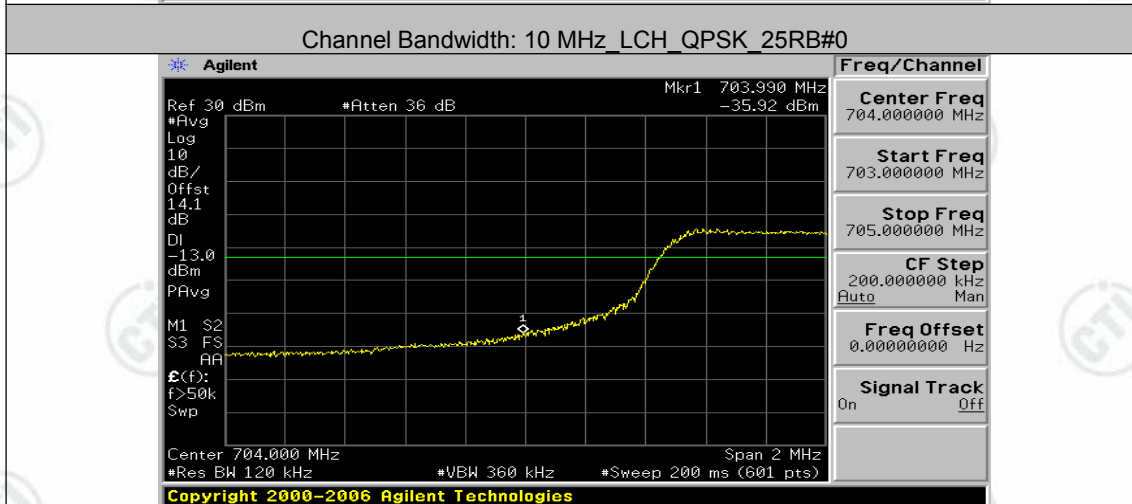
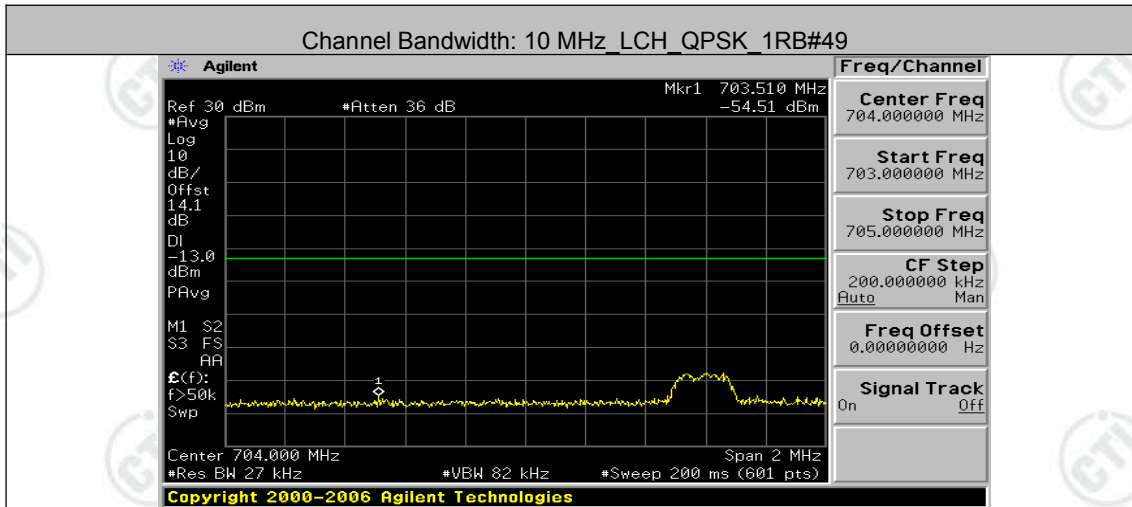


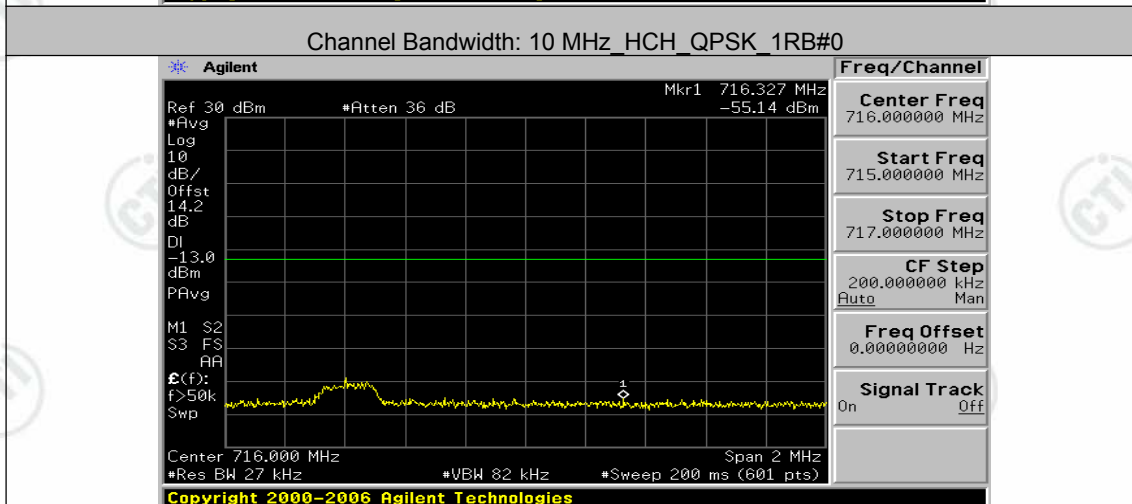
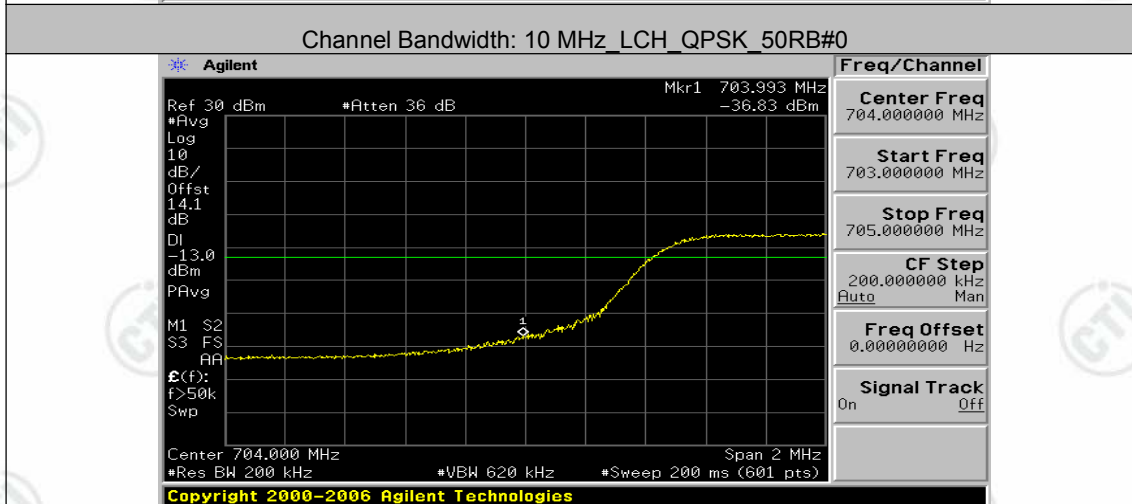
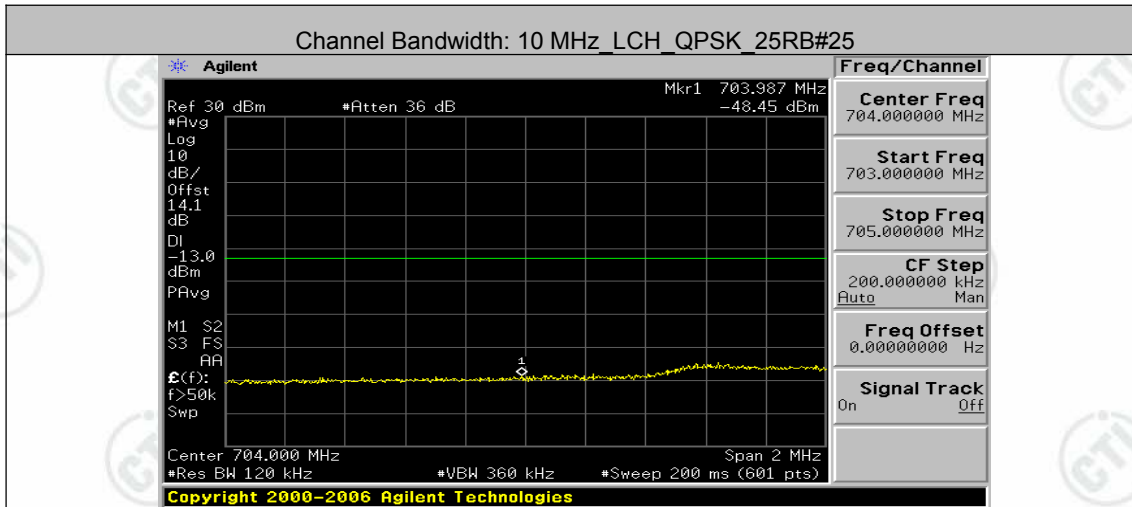


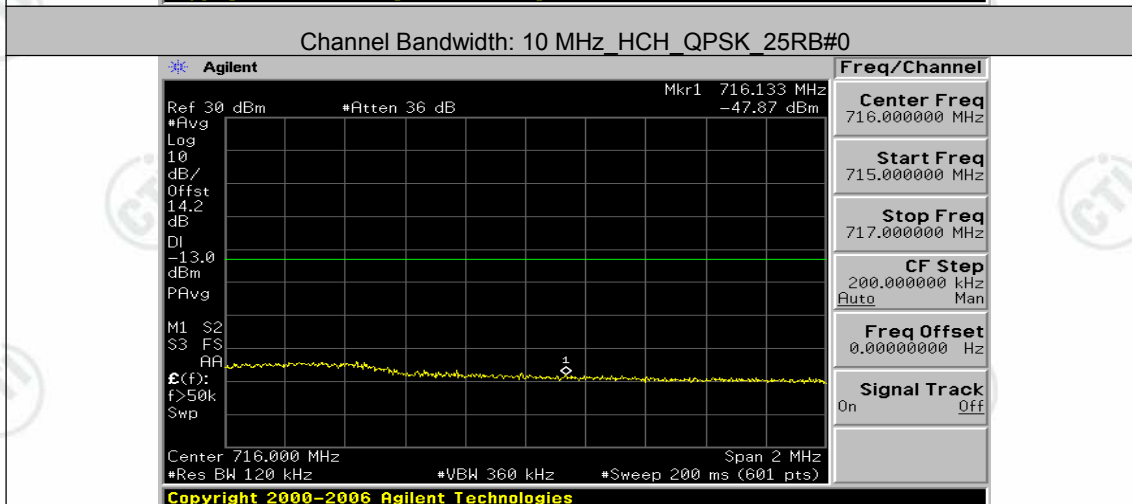
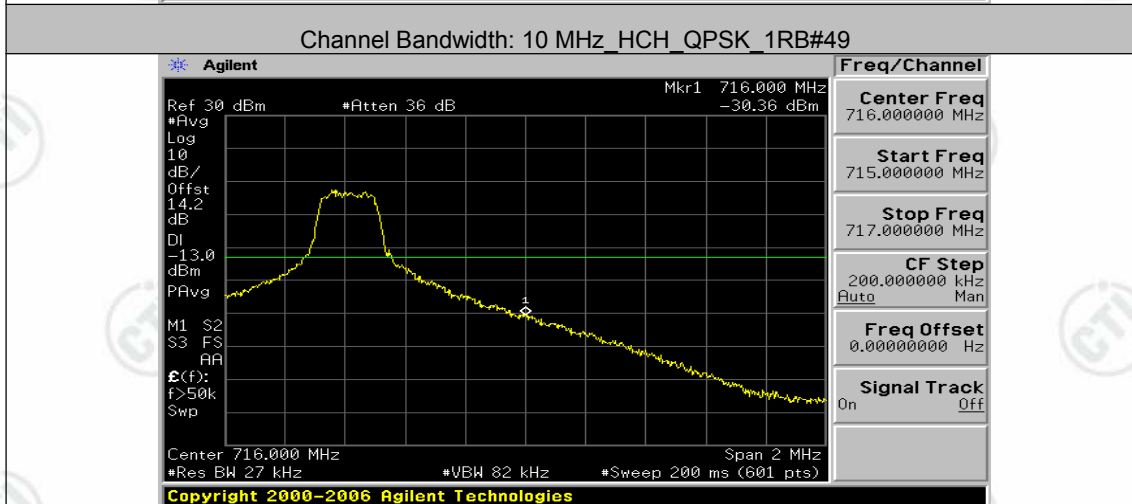
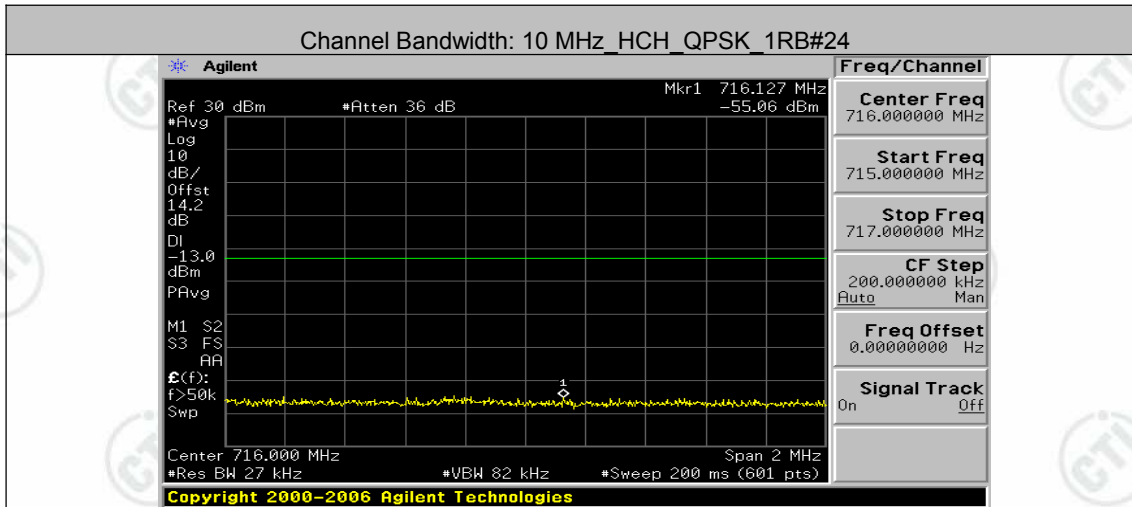


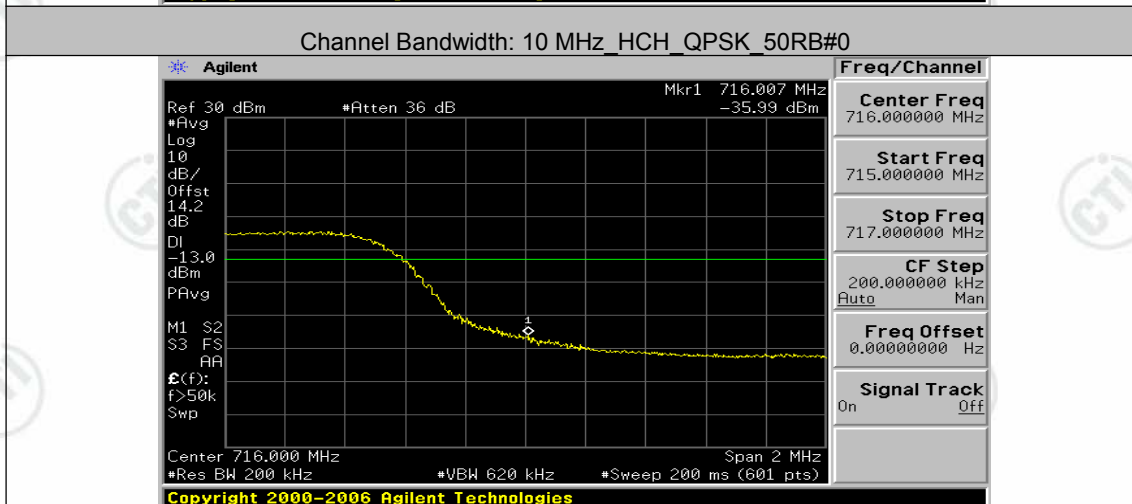
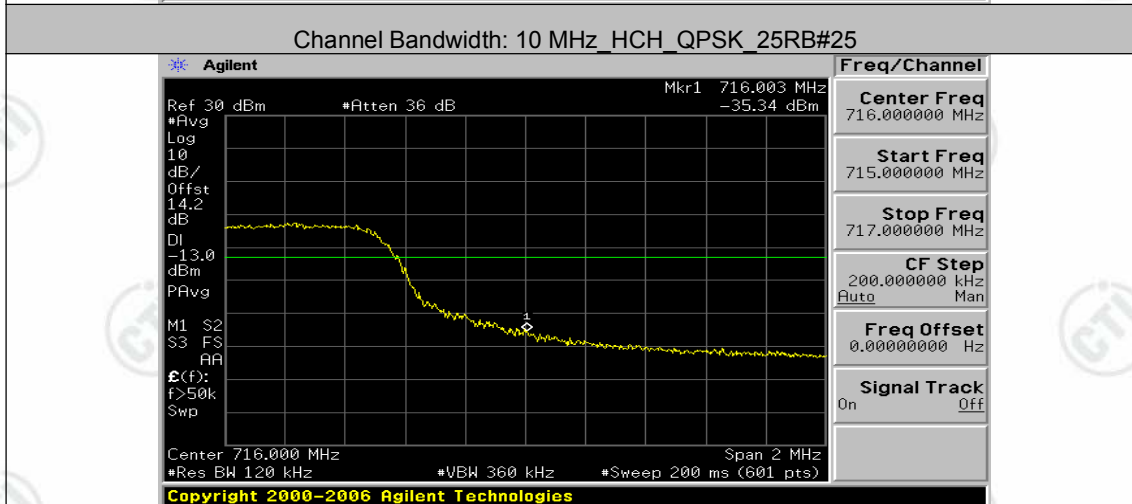
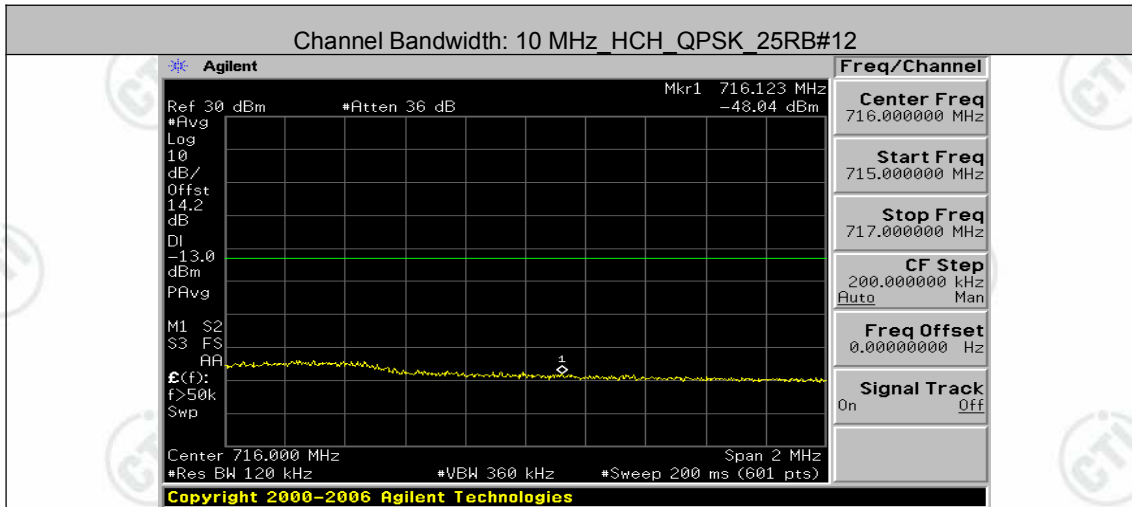
Channel Bandwidth: 10 MHz

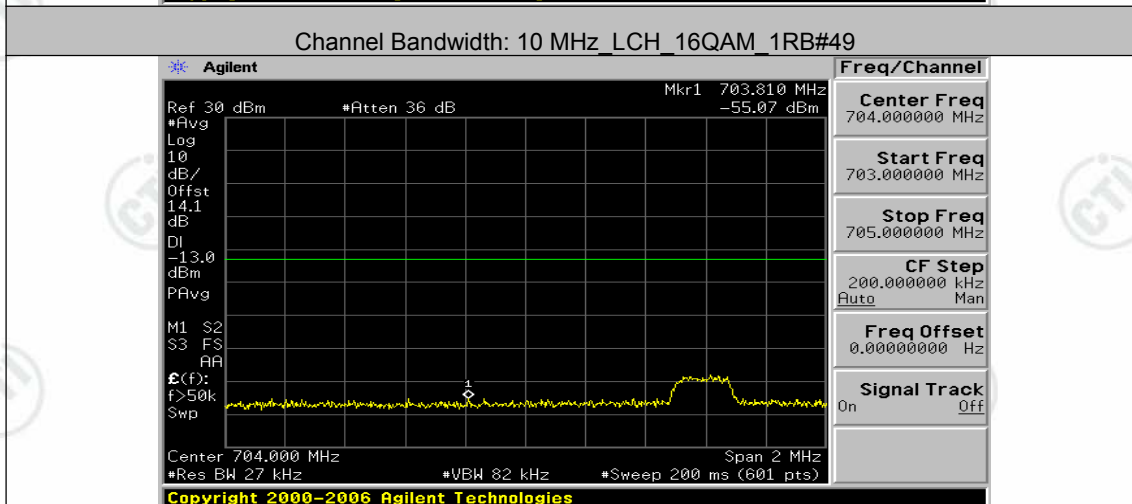
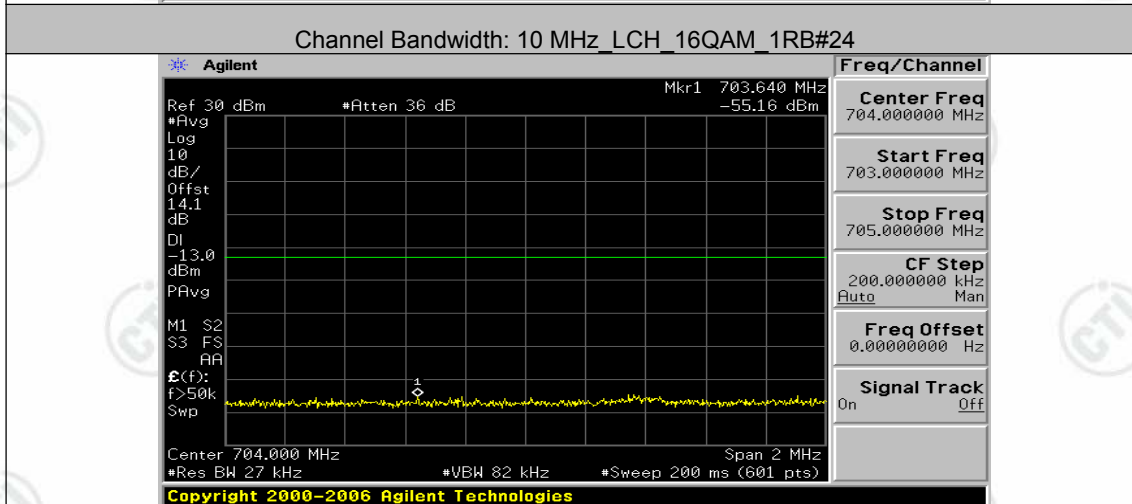
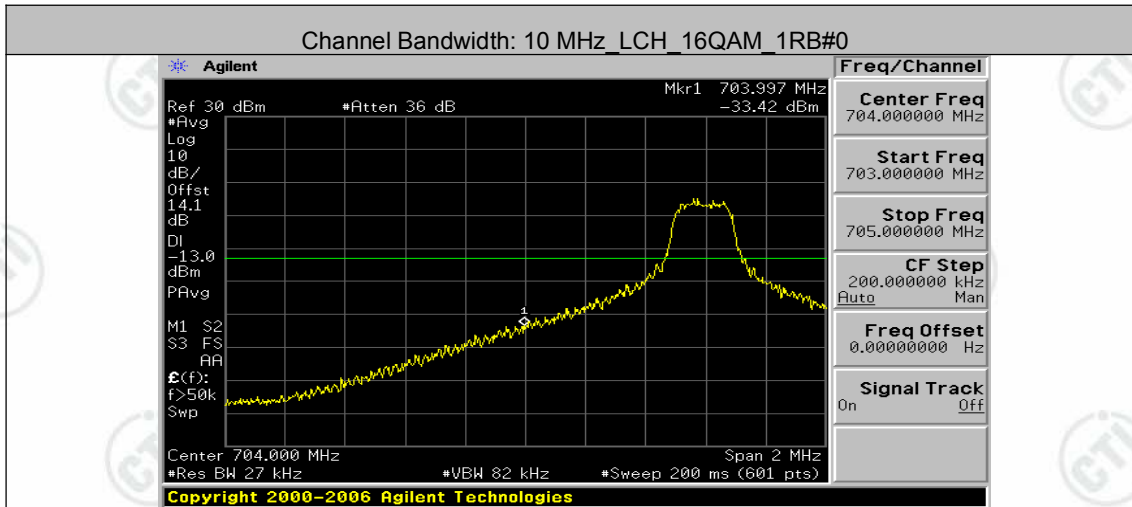


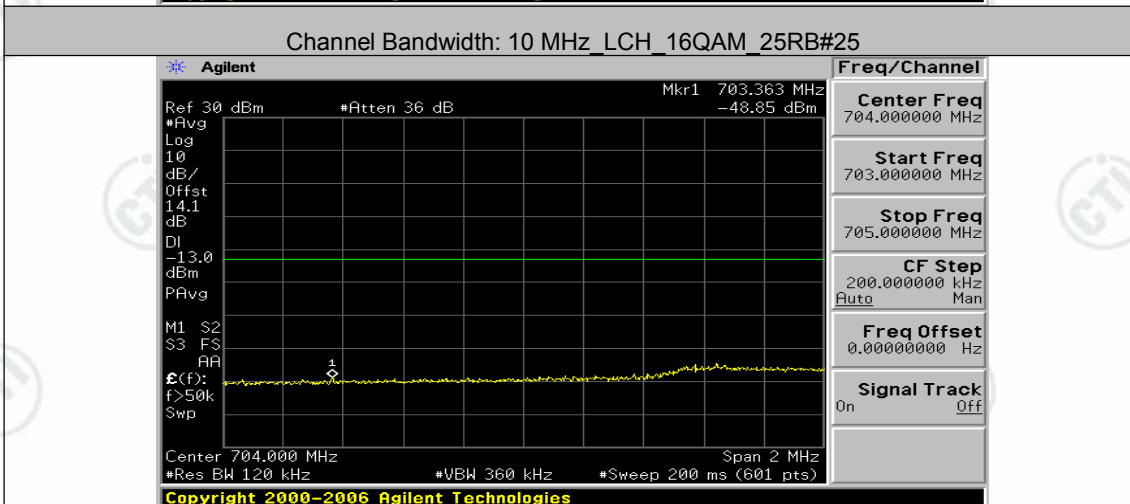
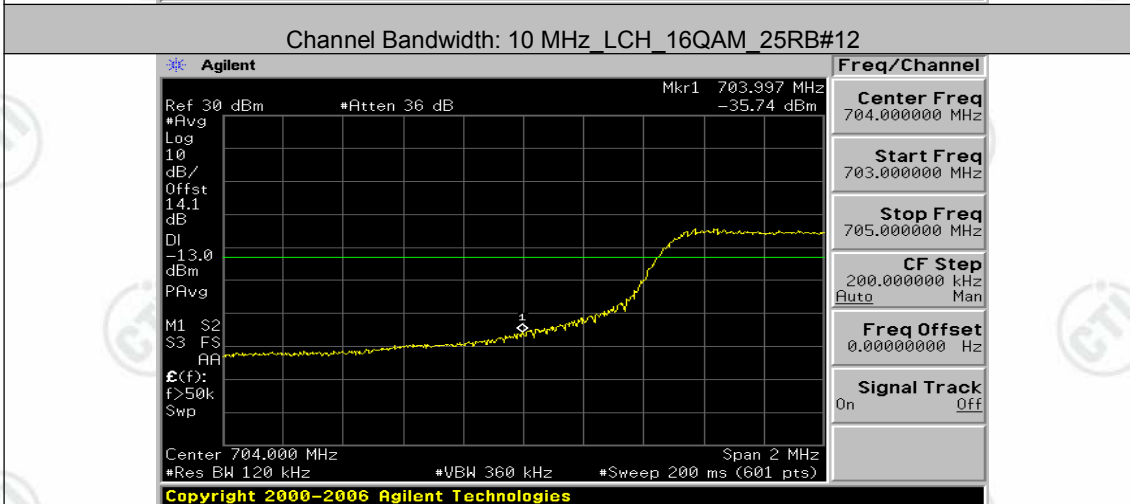
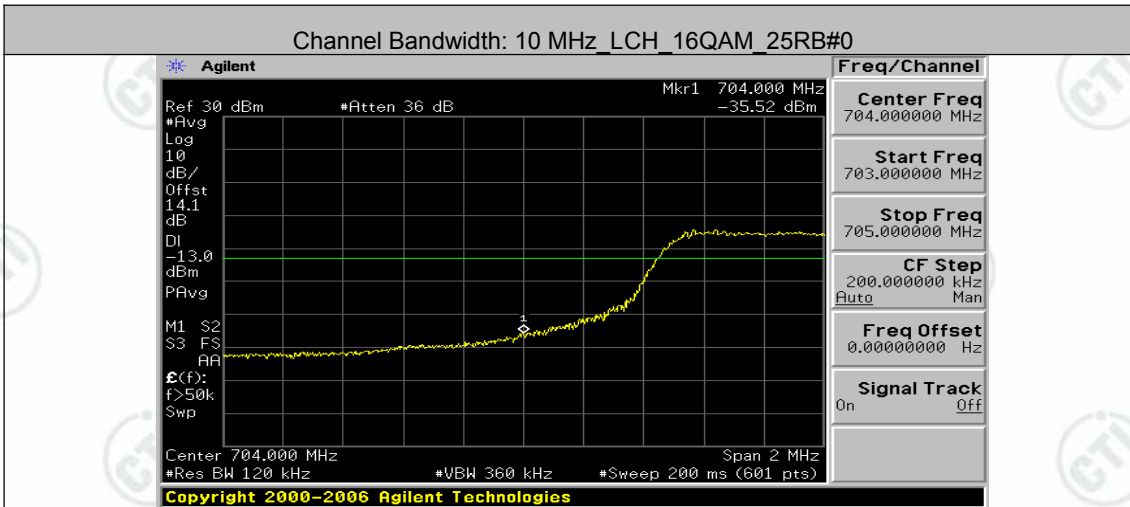


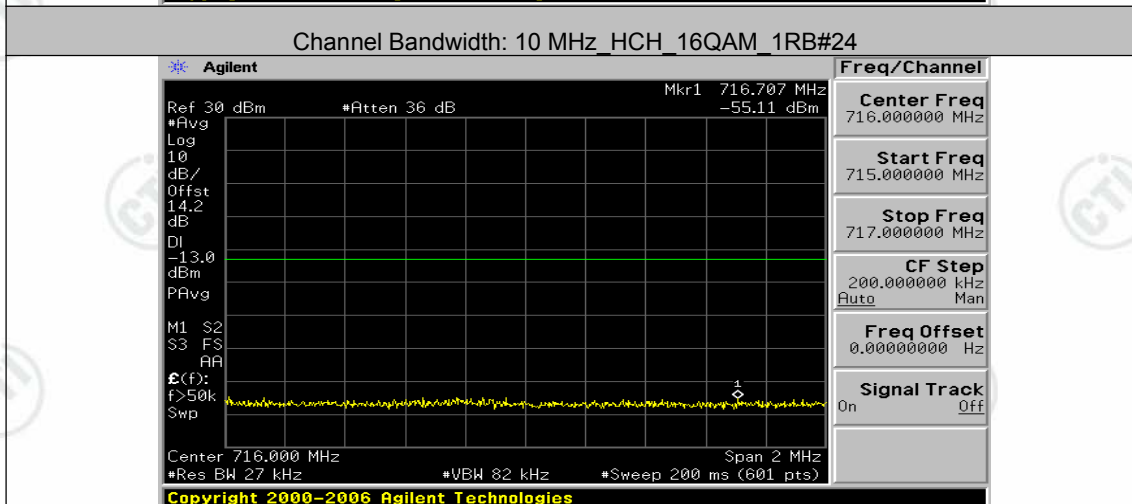
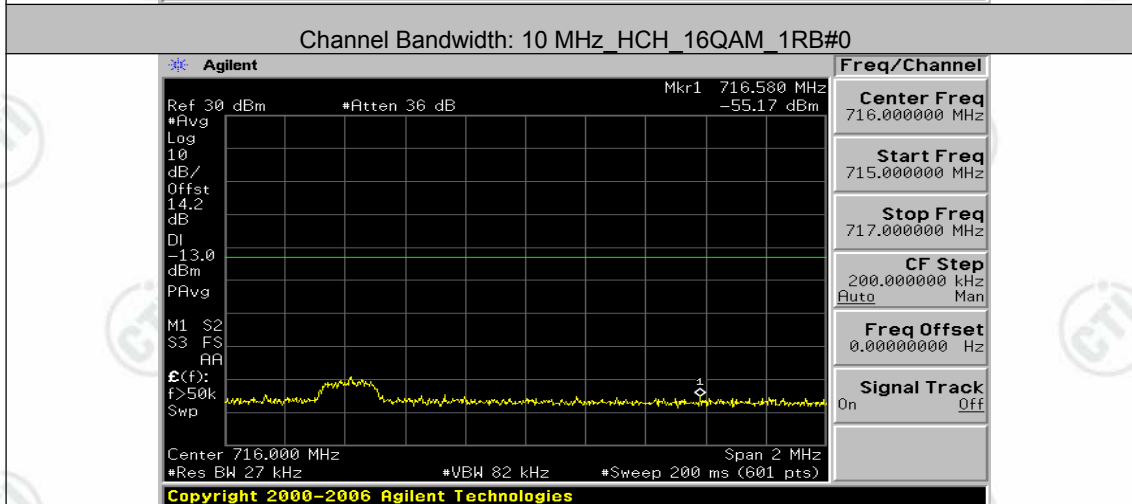
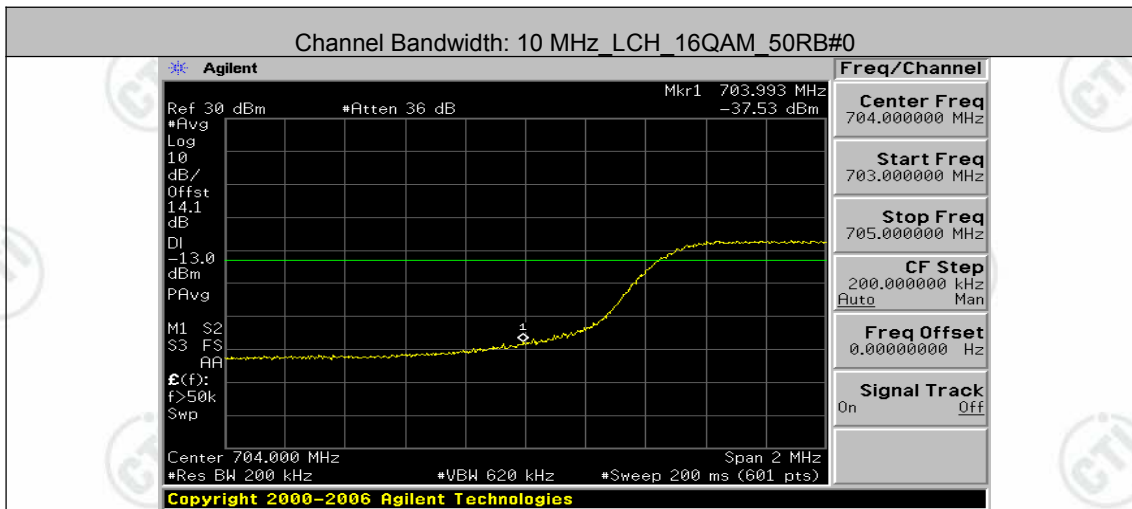


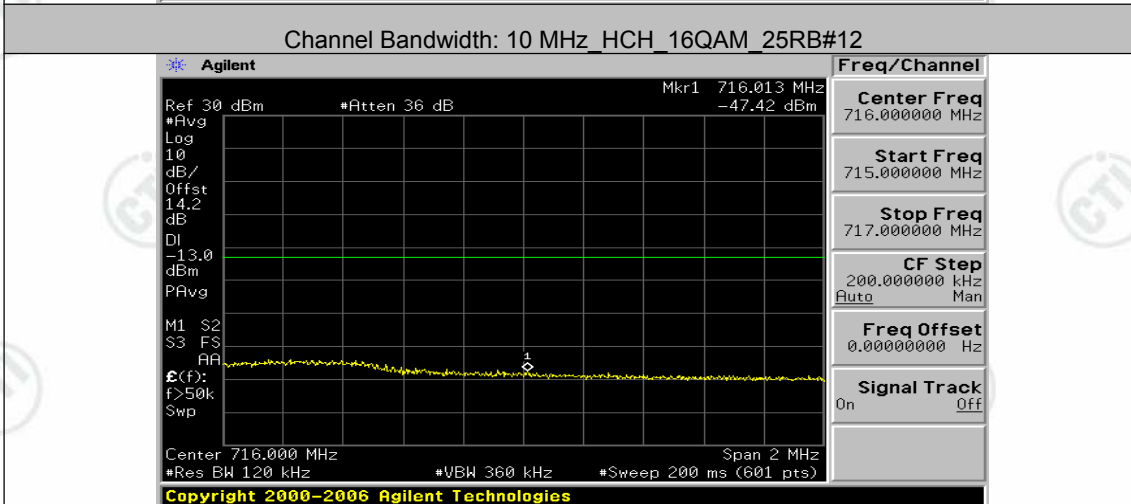
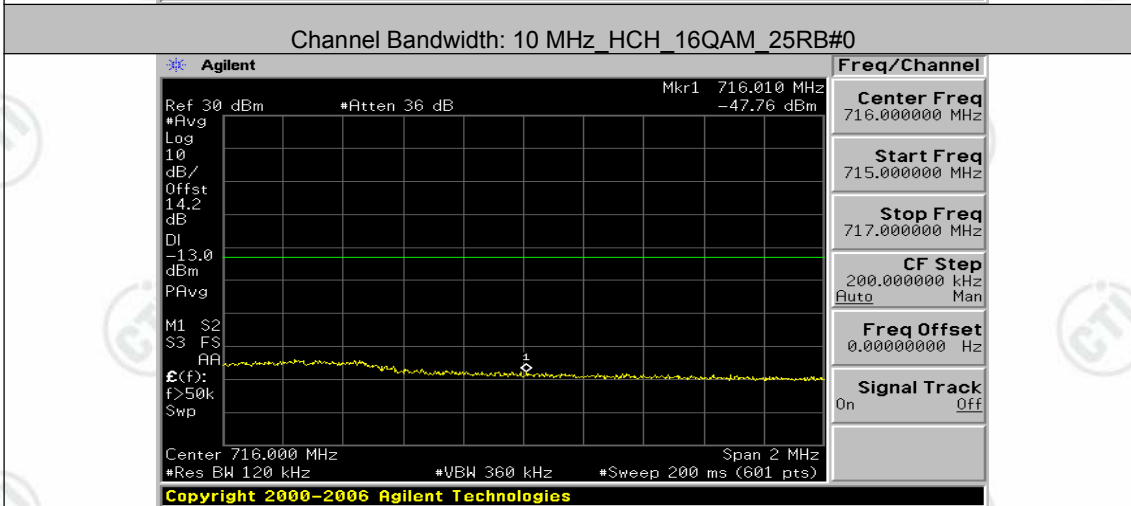
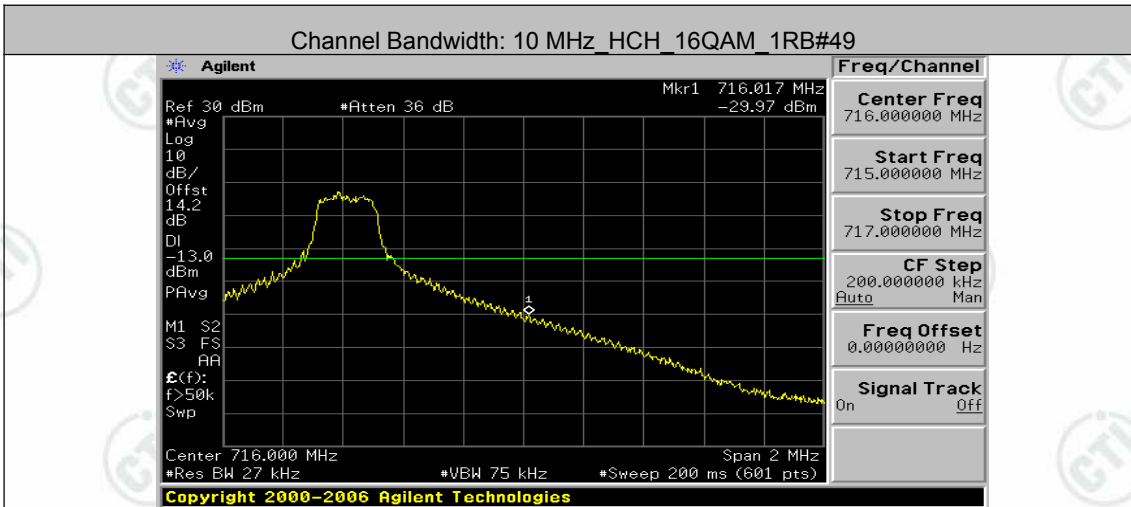


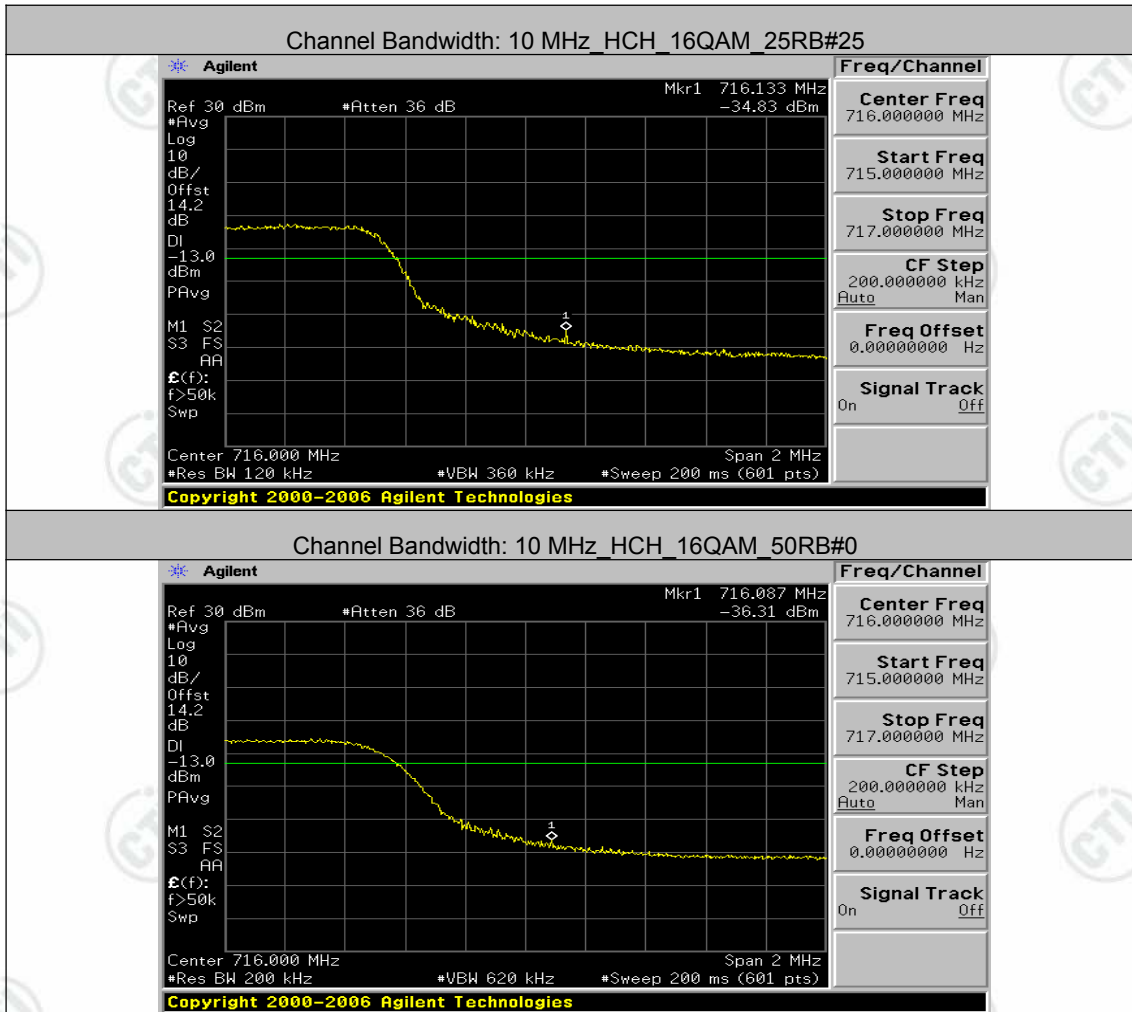








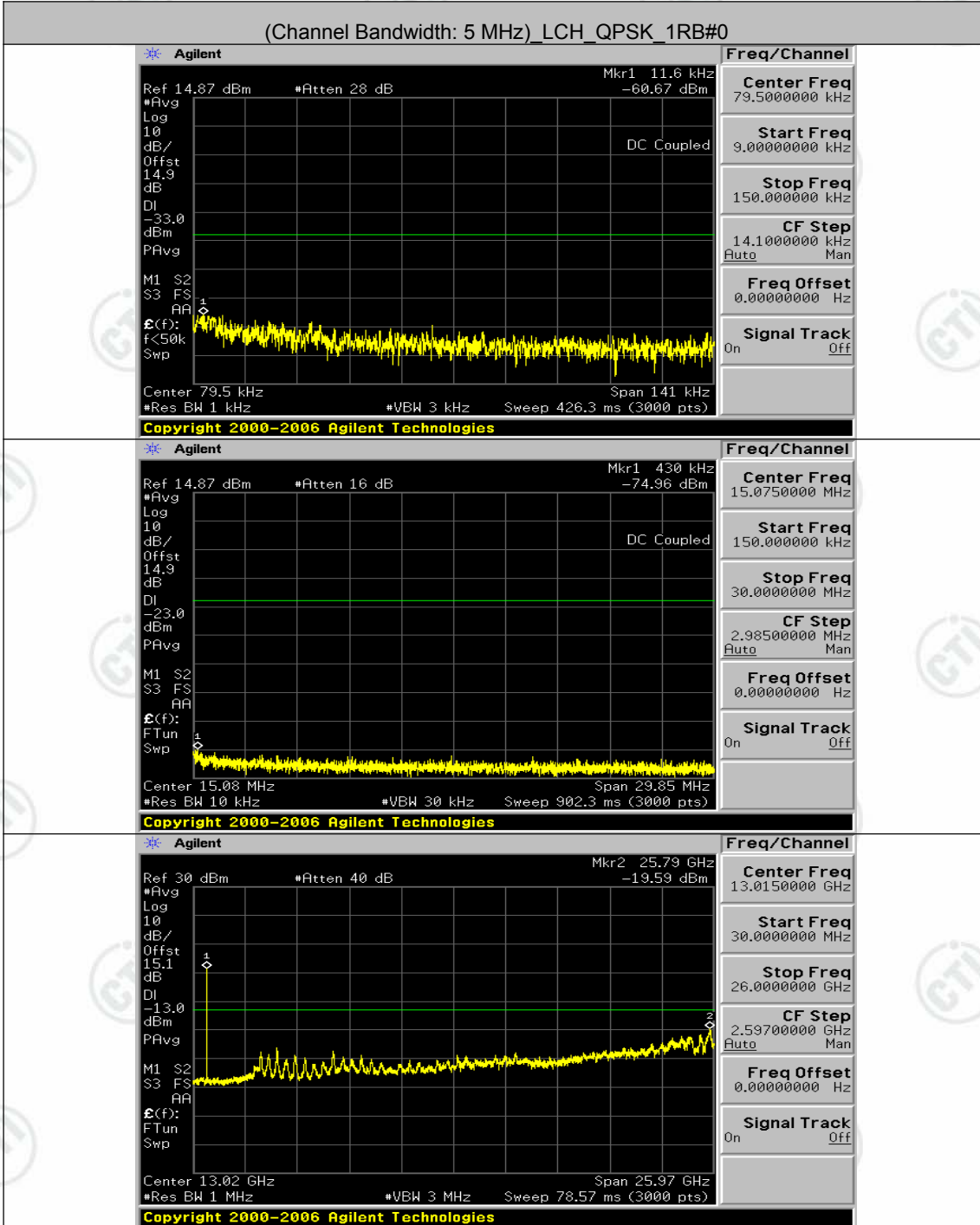


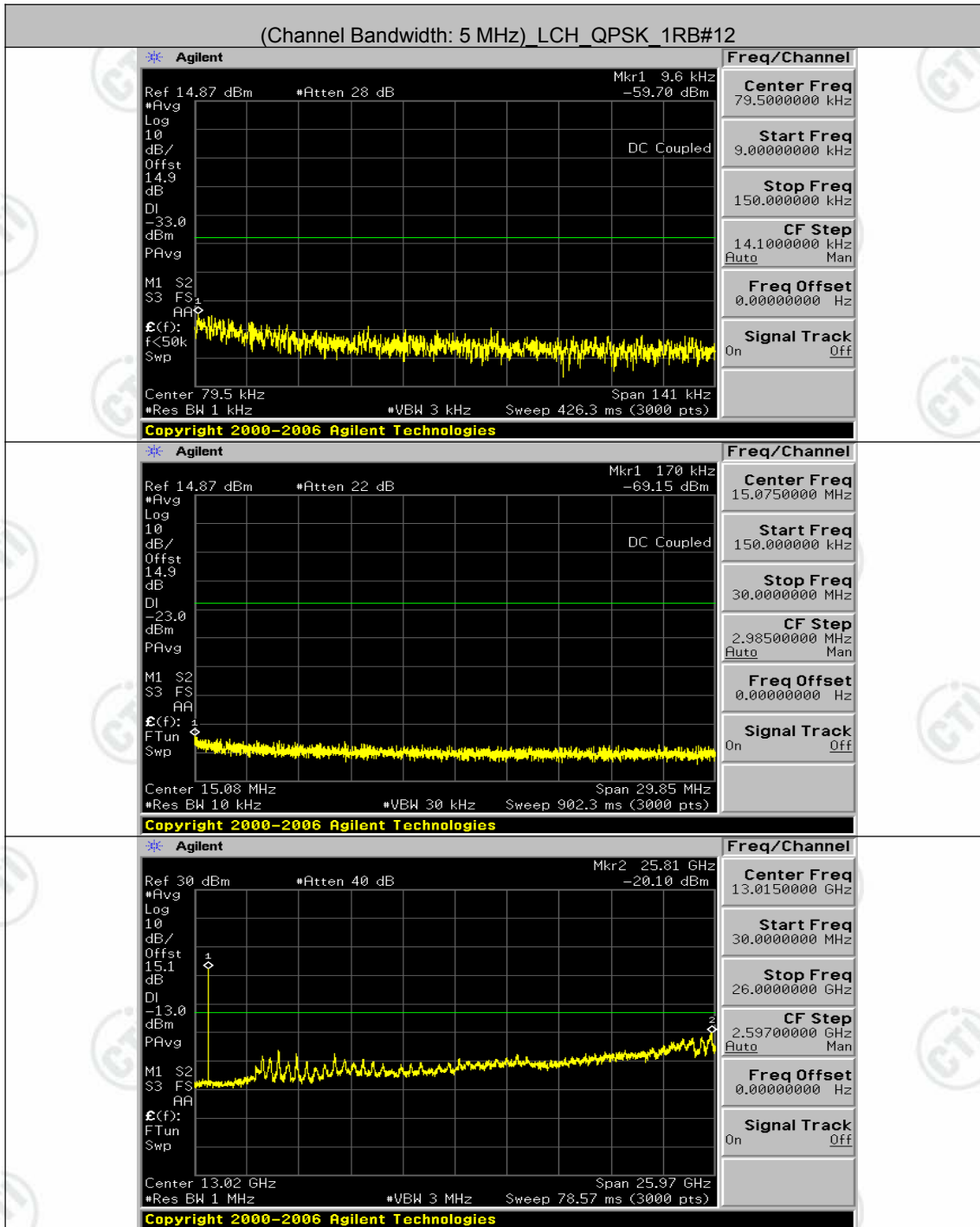


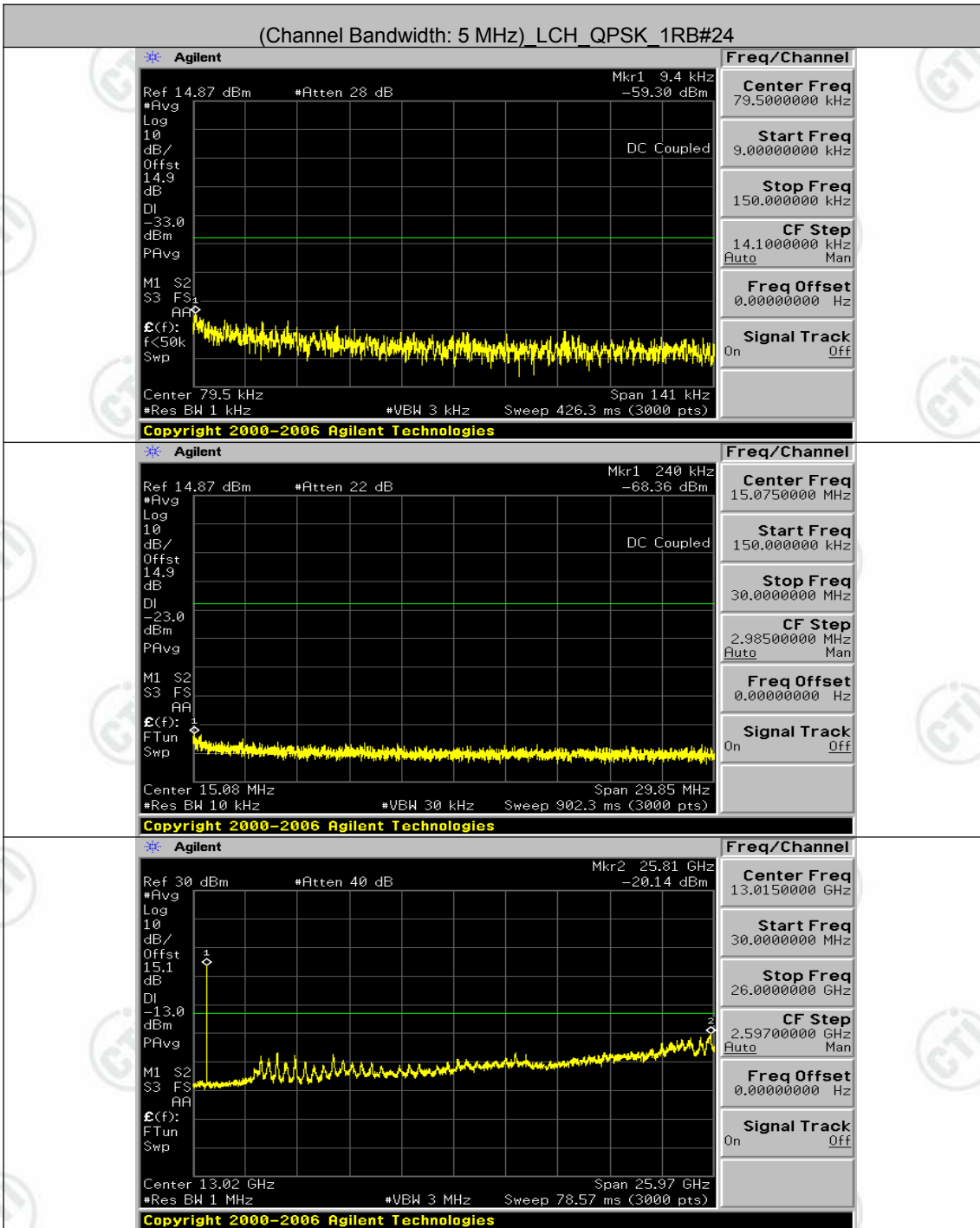
Appendix D) Conducted Spurious Emission

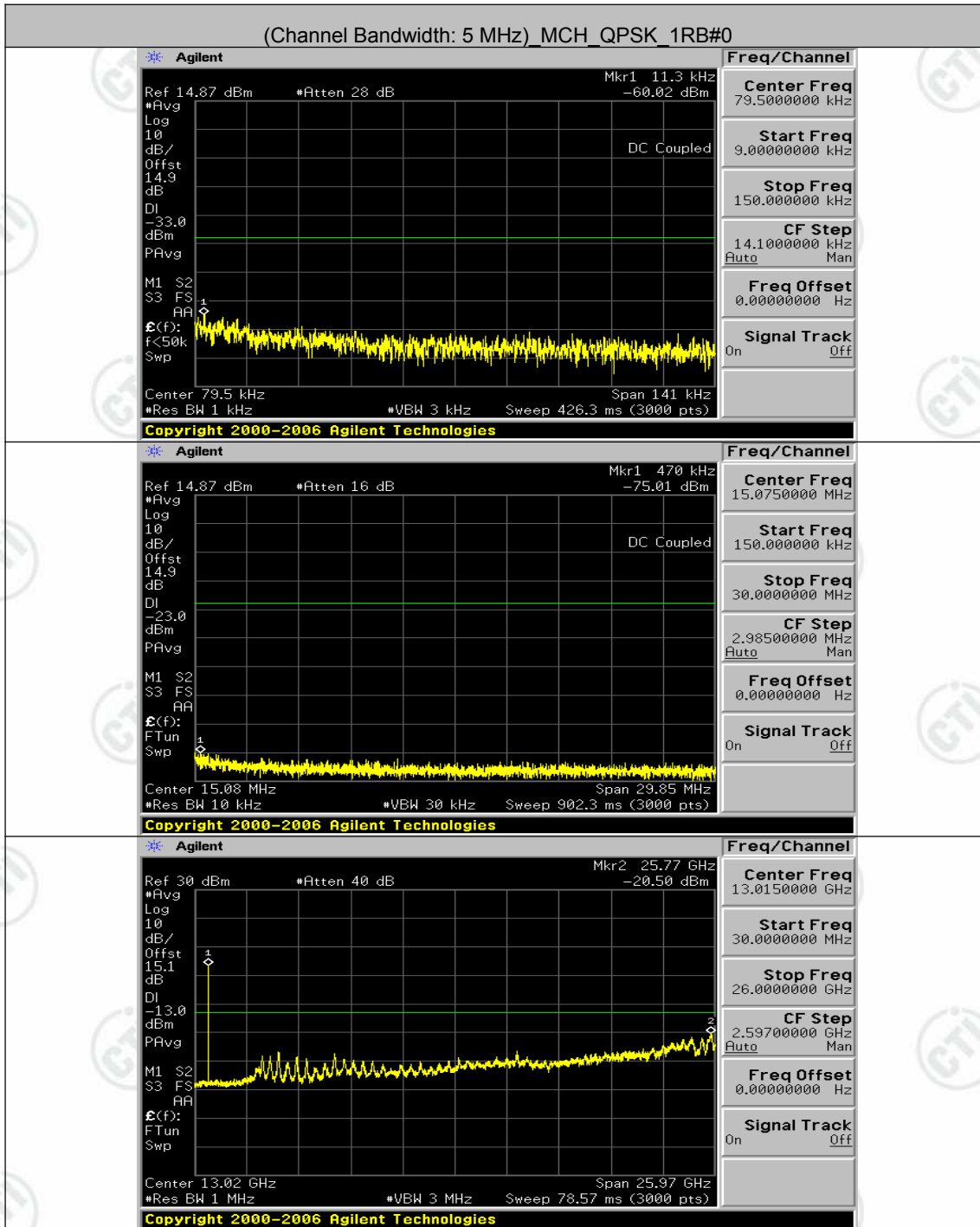
Test Graphs

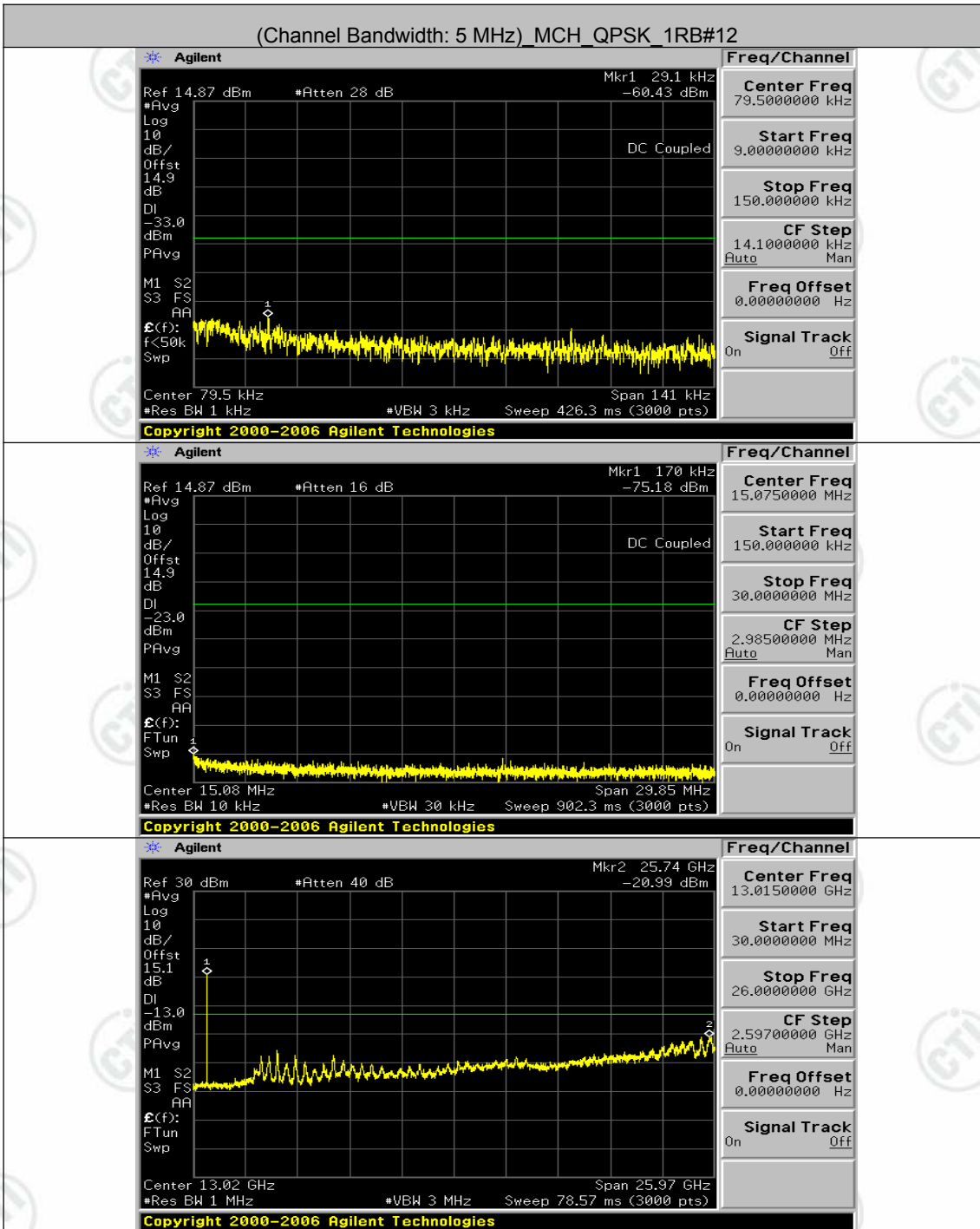
Channel Bandwidth: 5 MHz

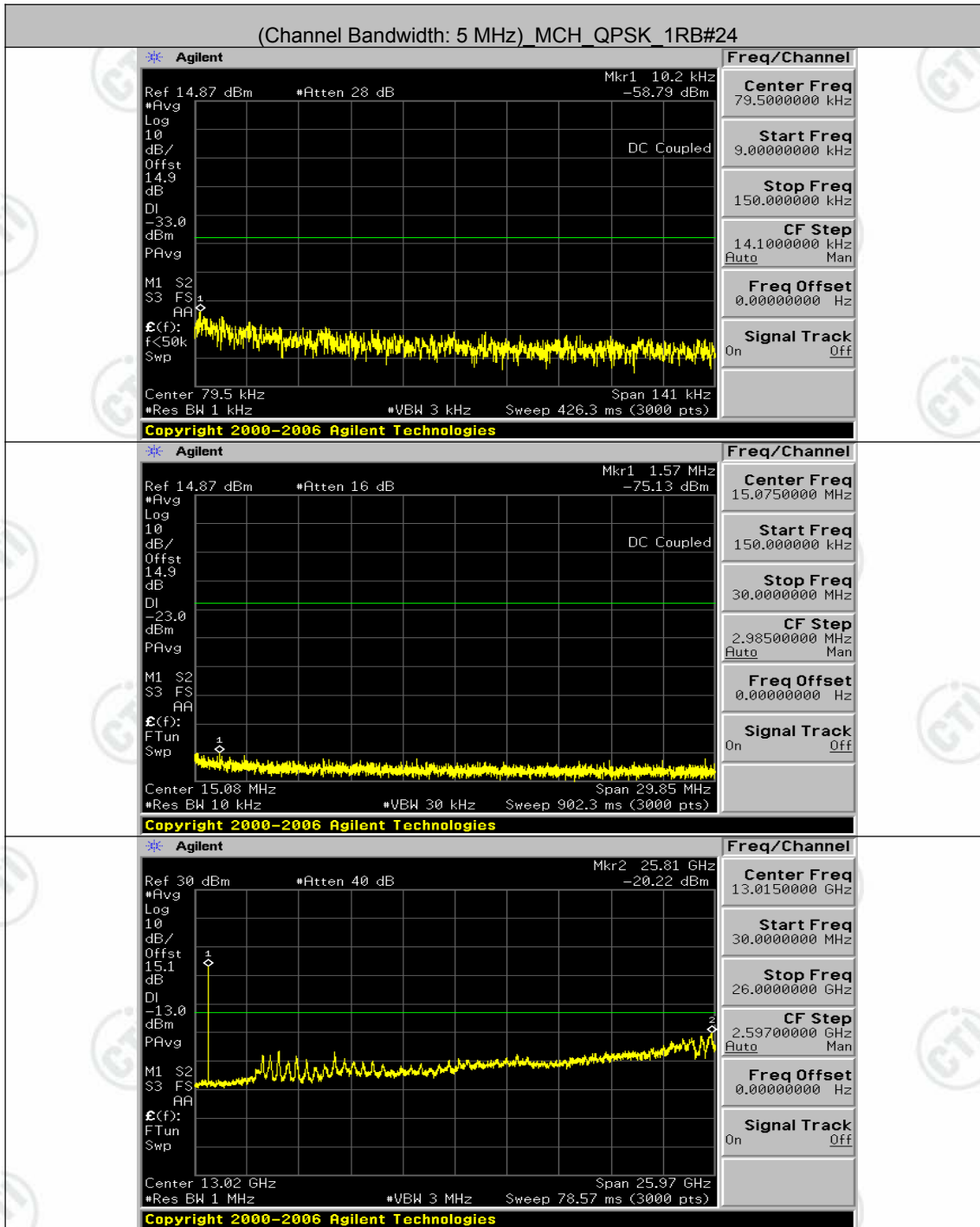


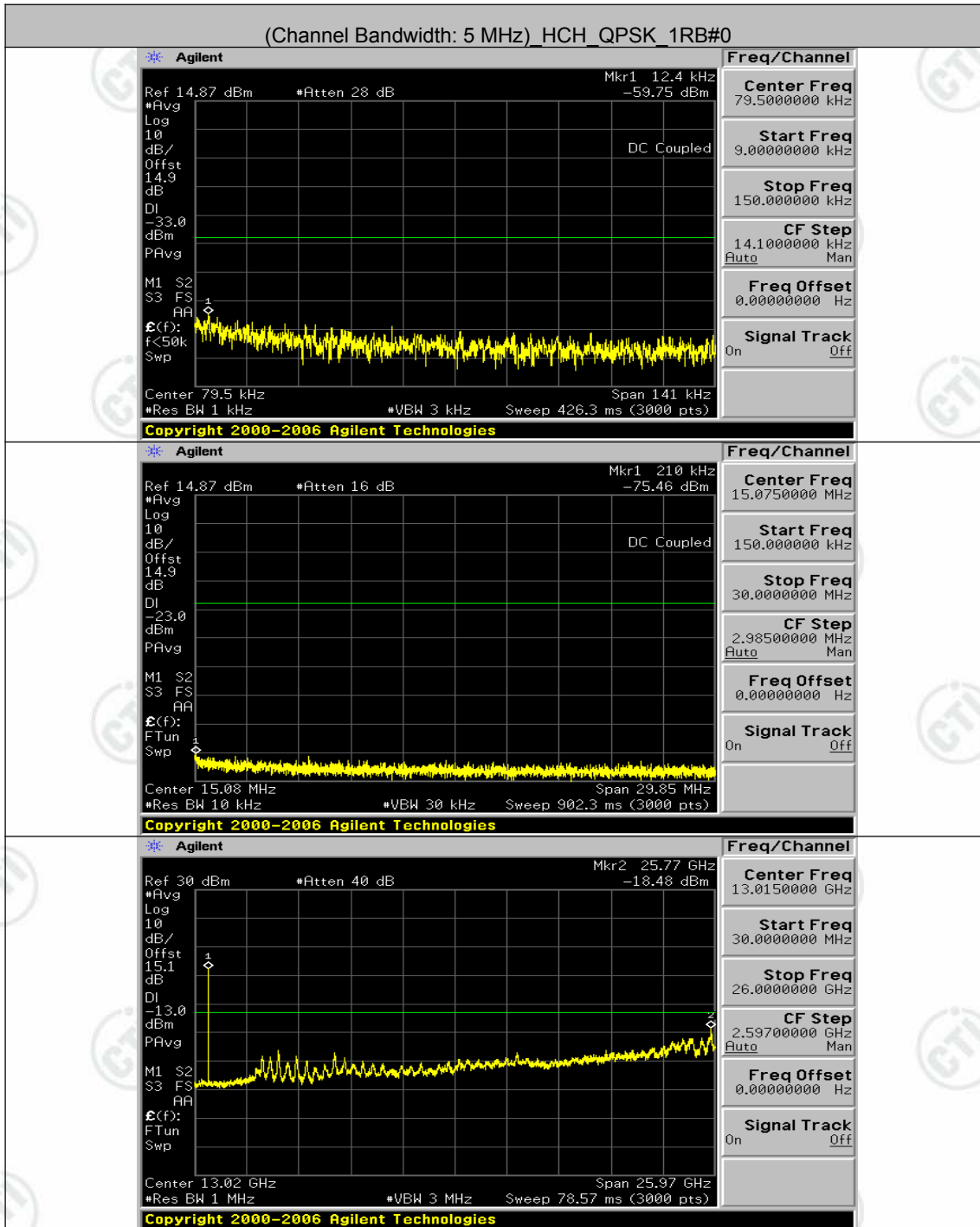


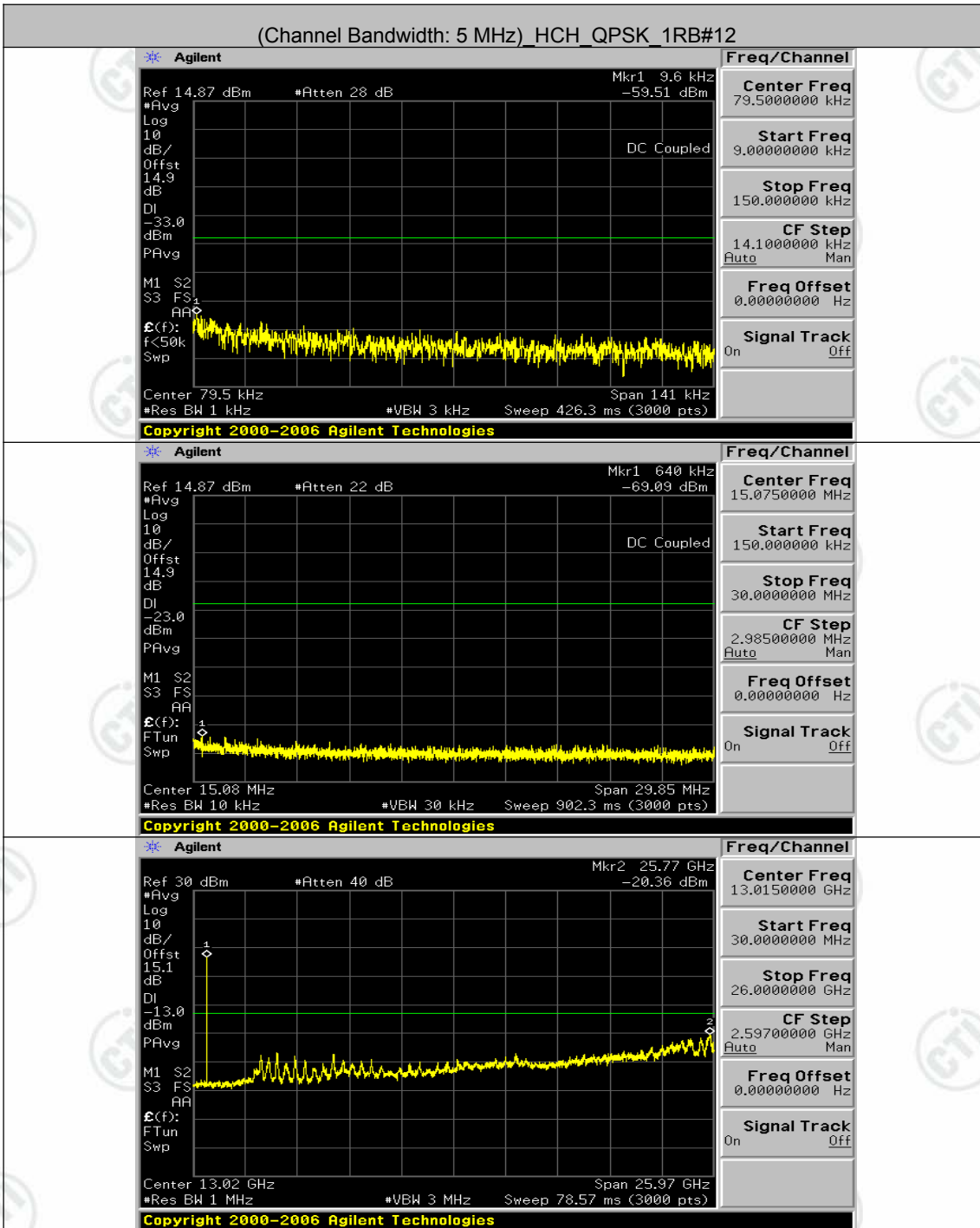


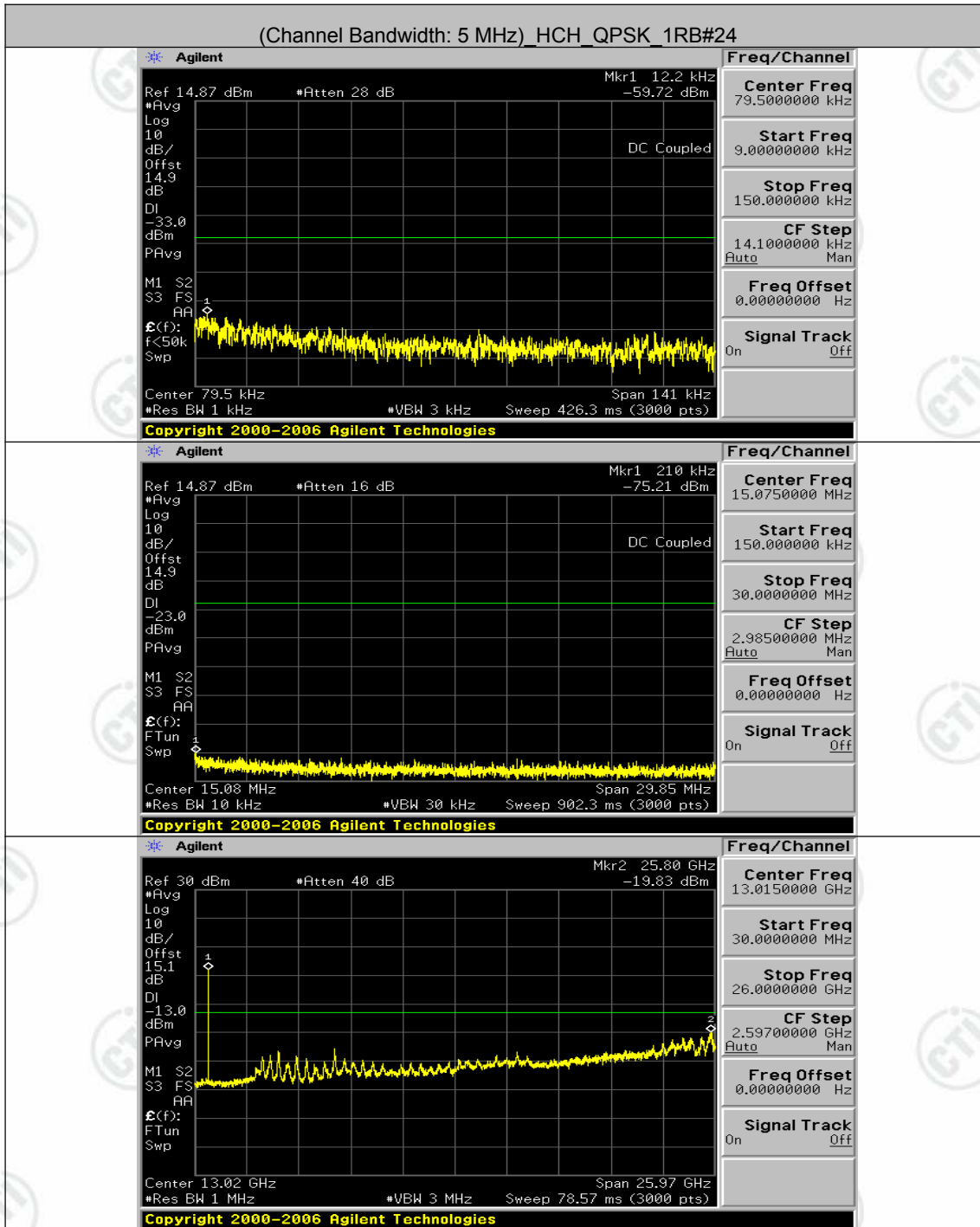


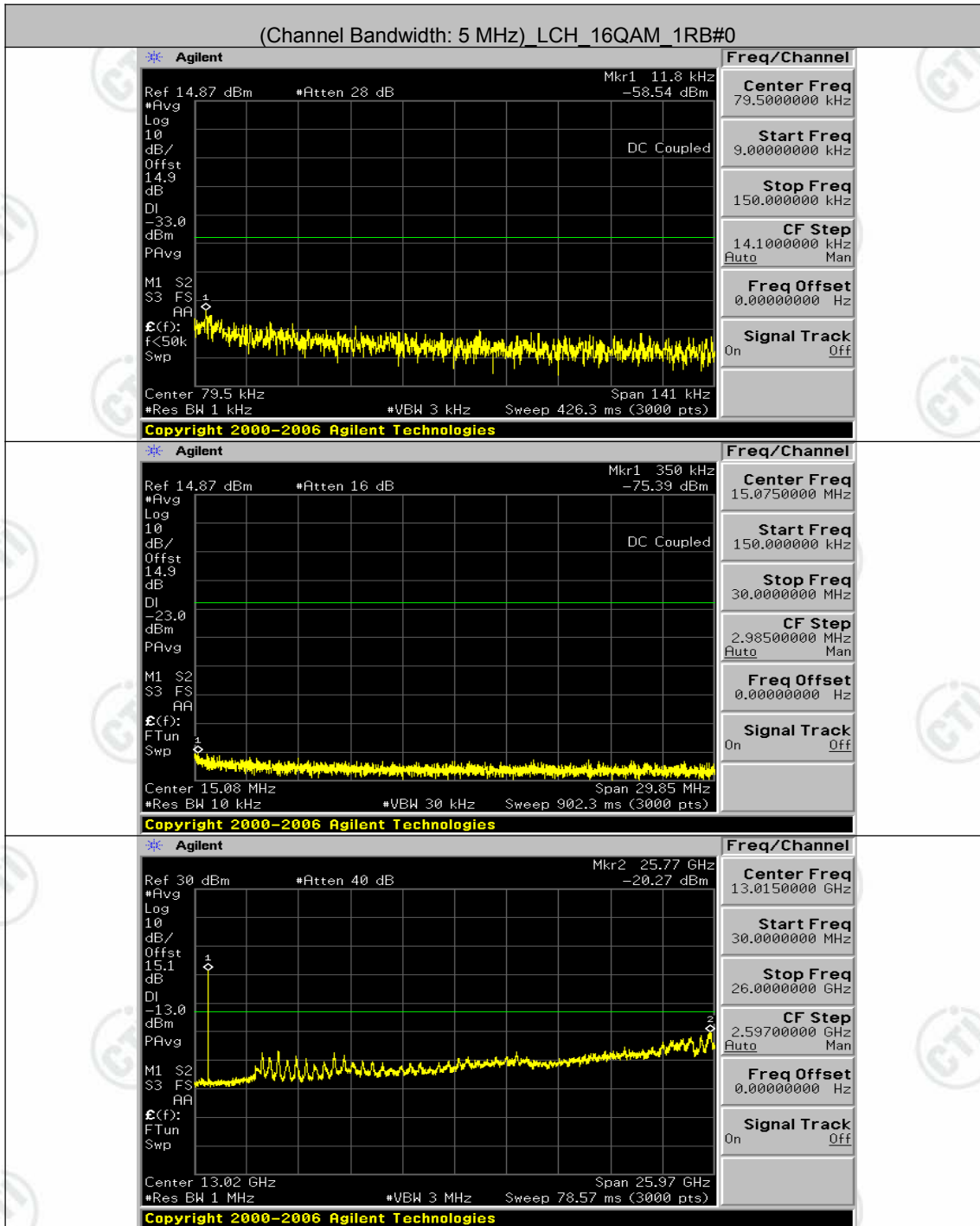


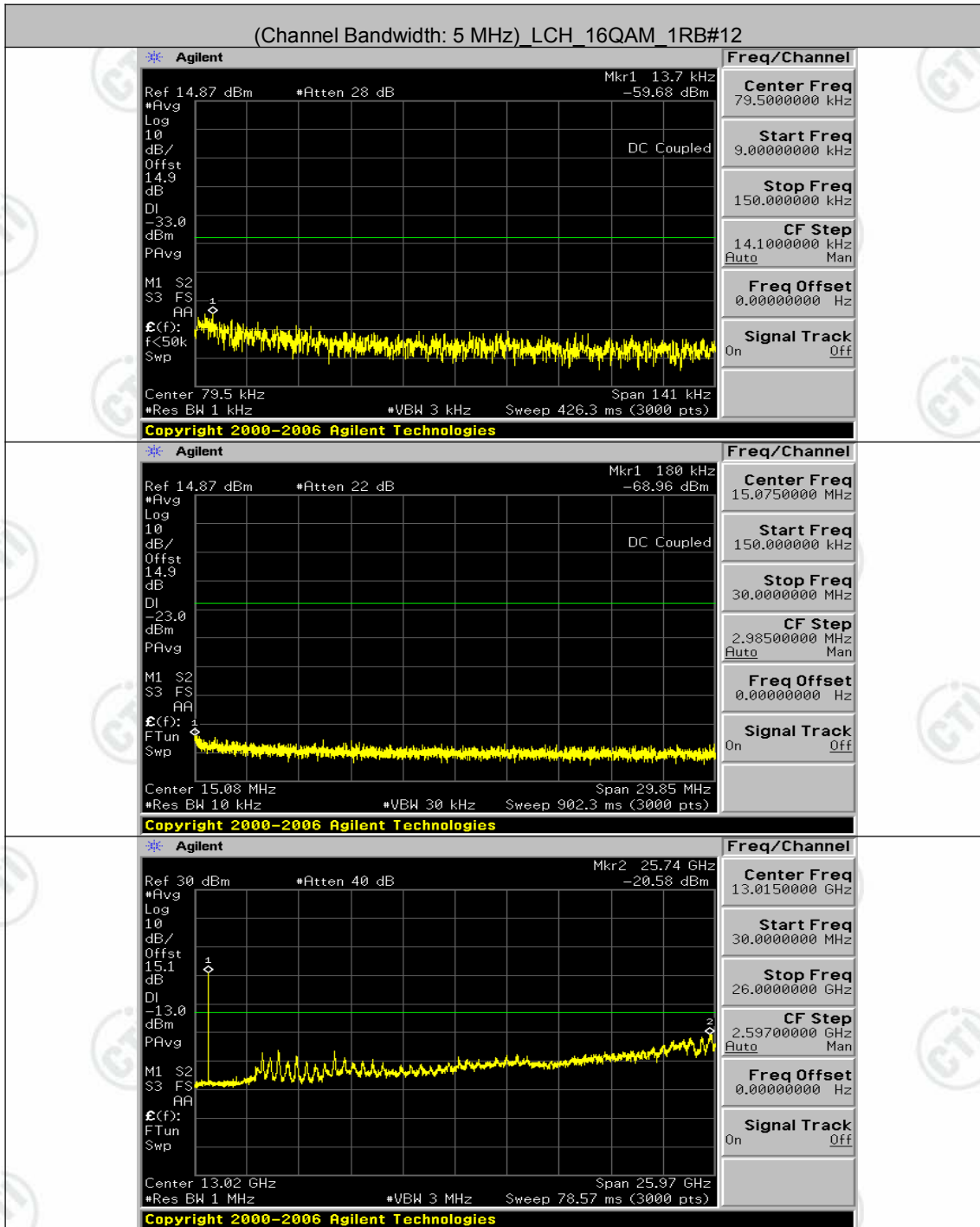


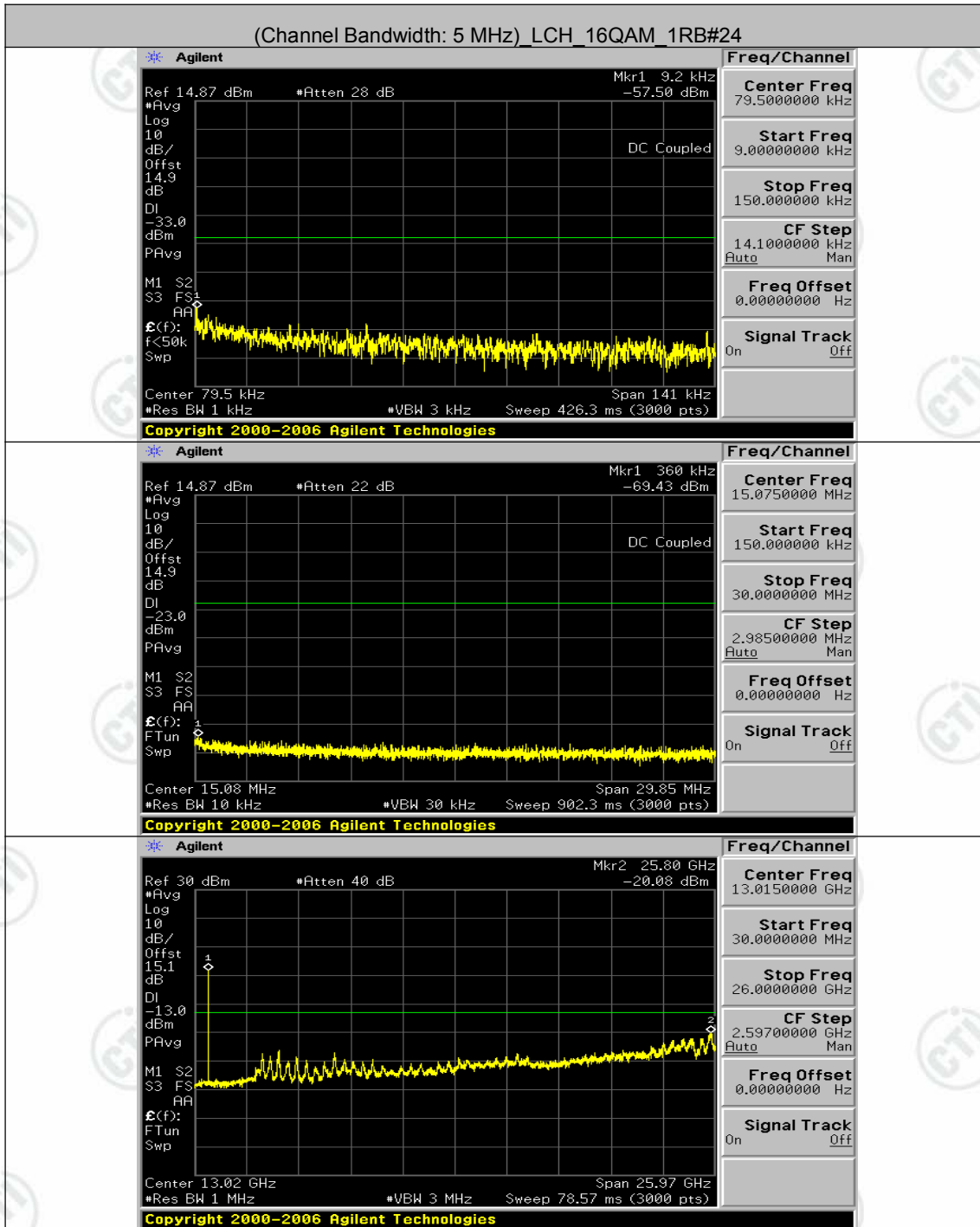


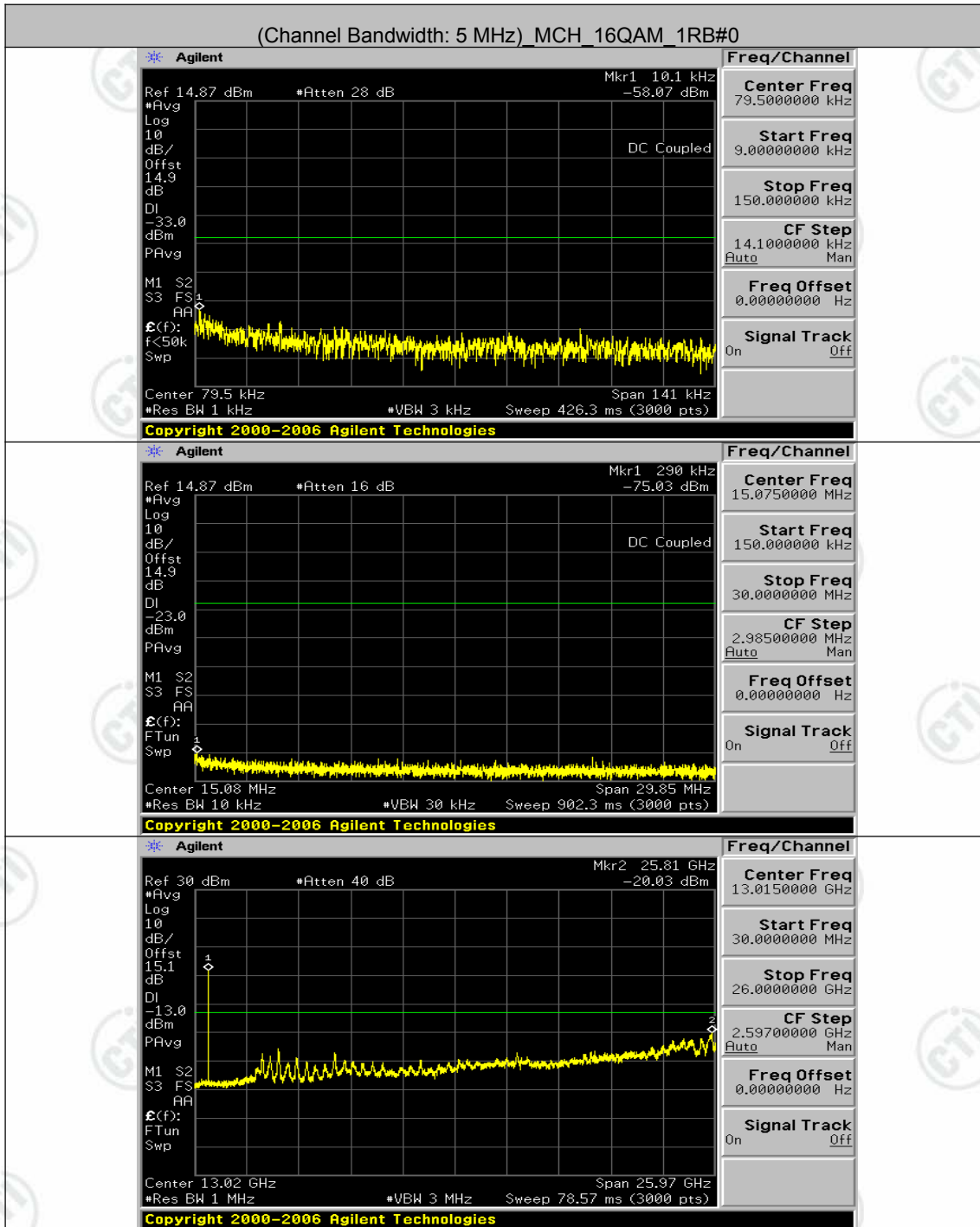


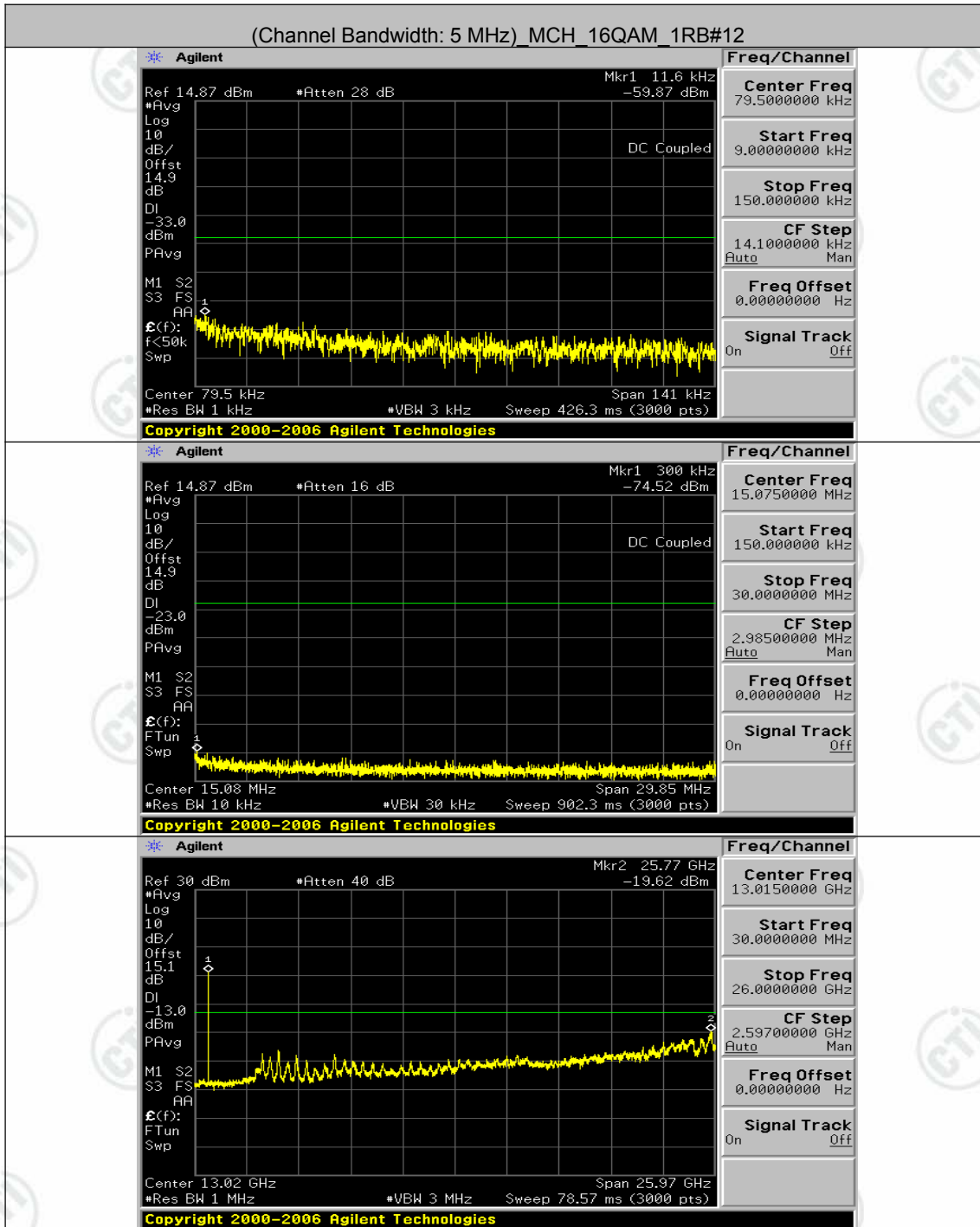


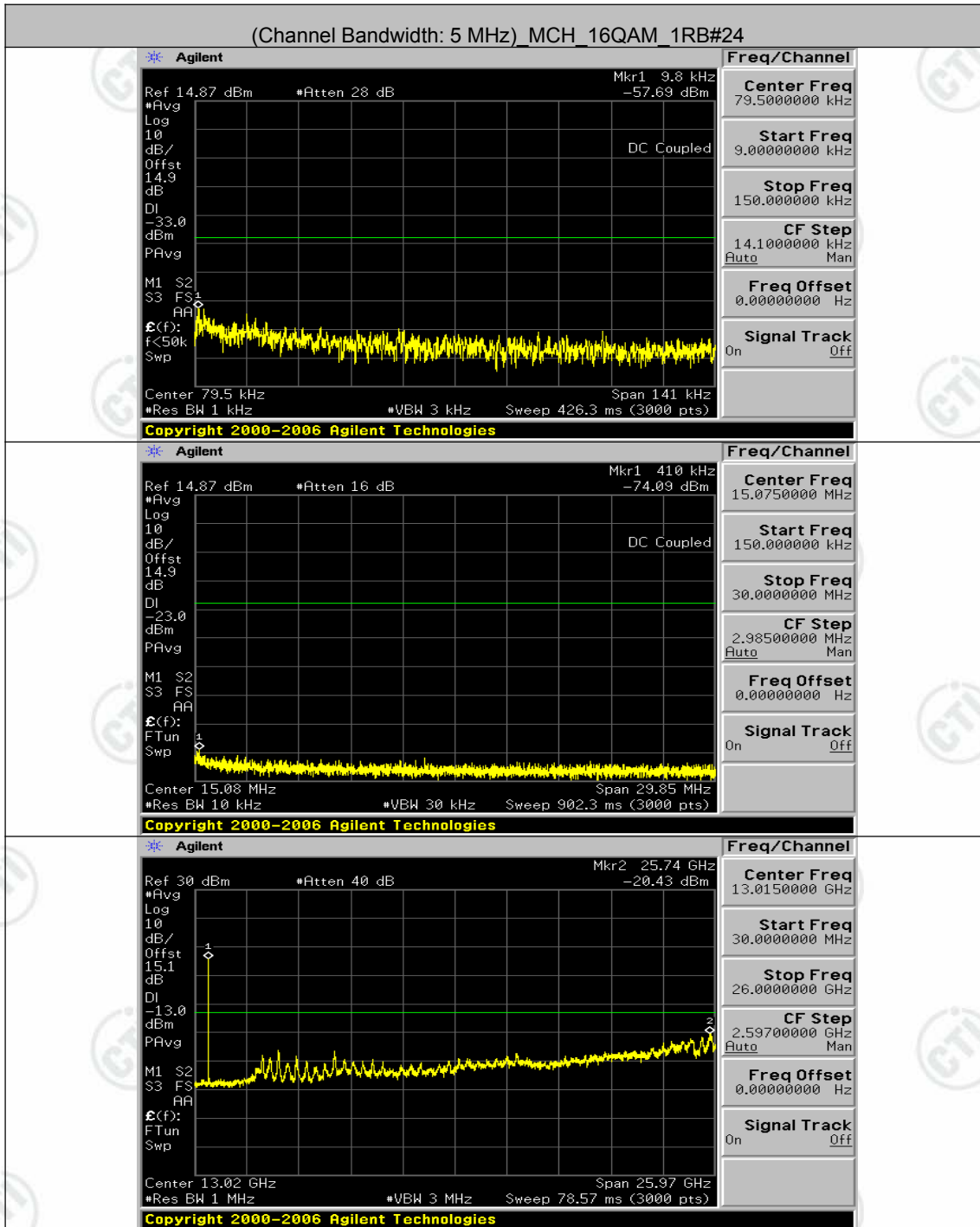


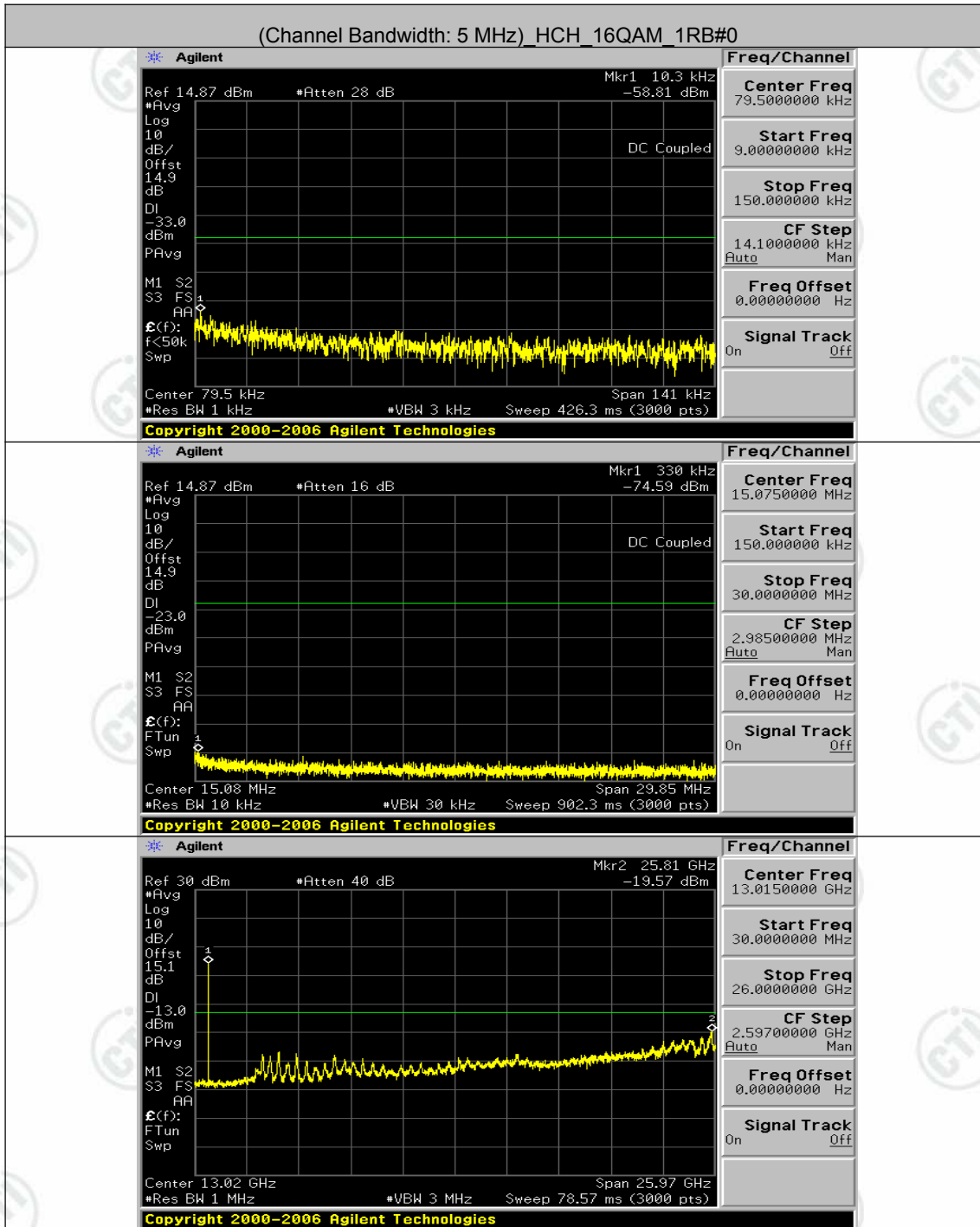


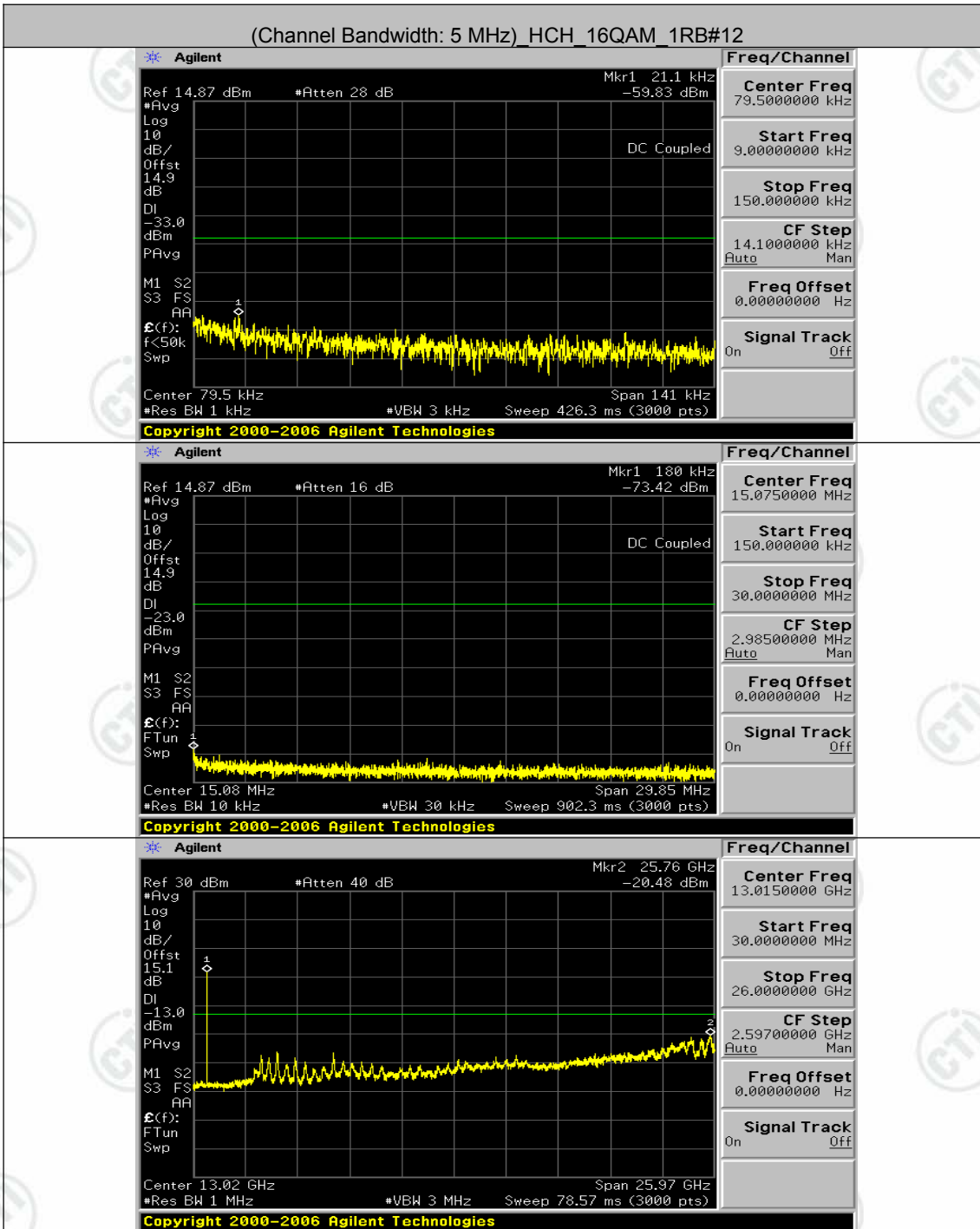


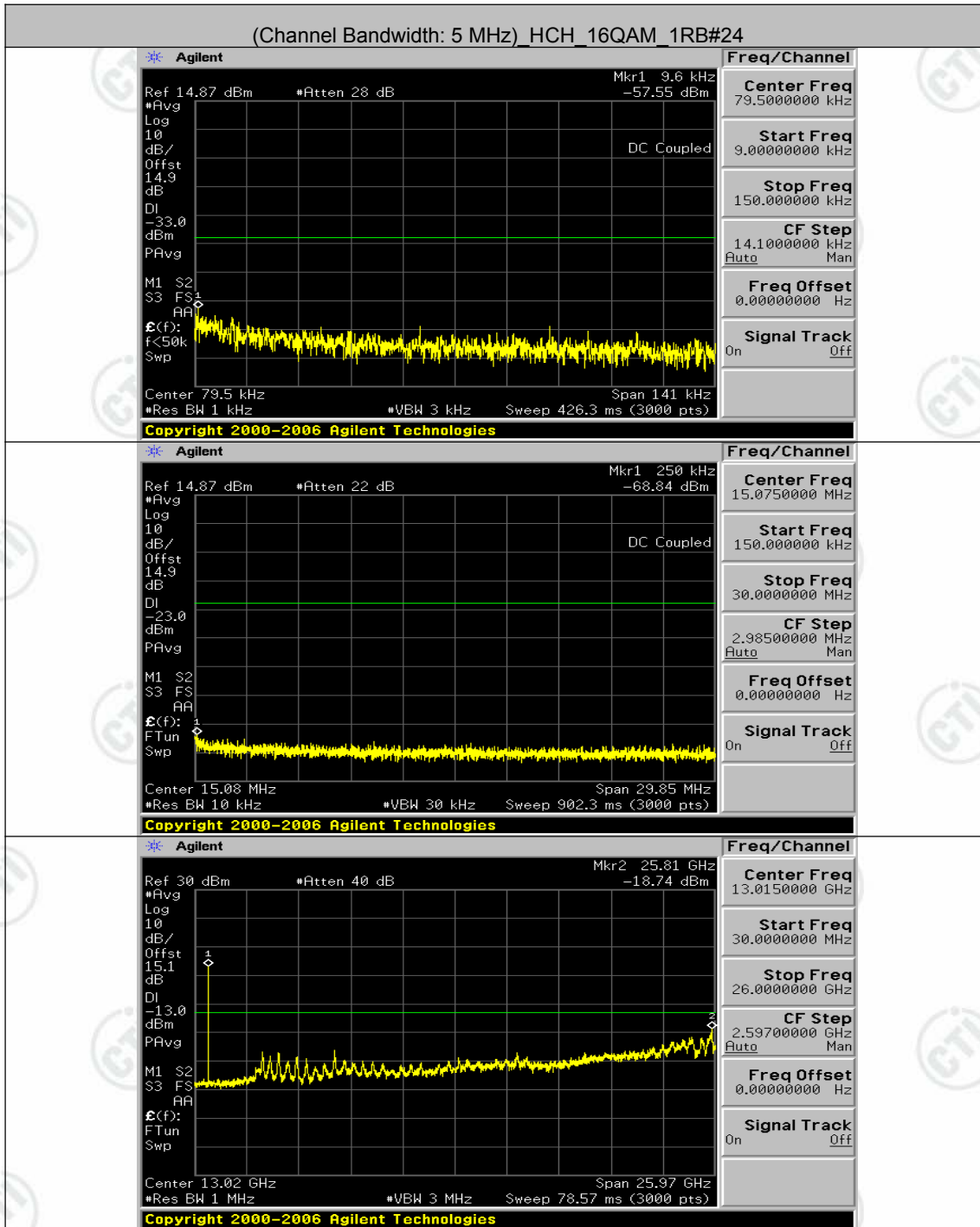




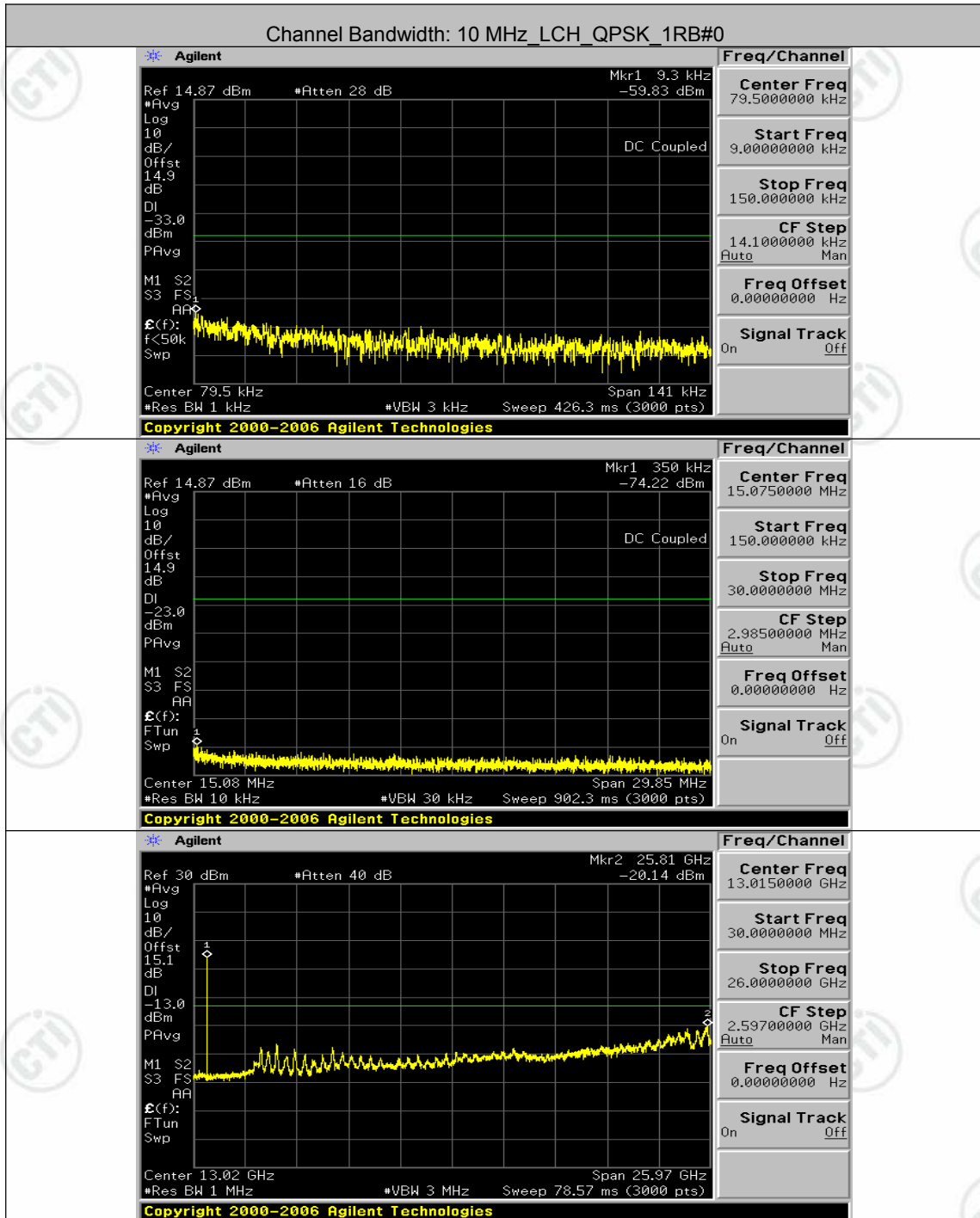


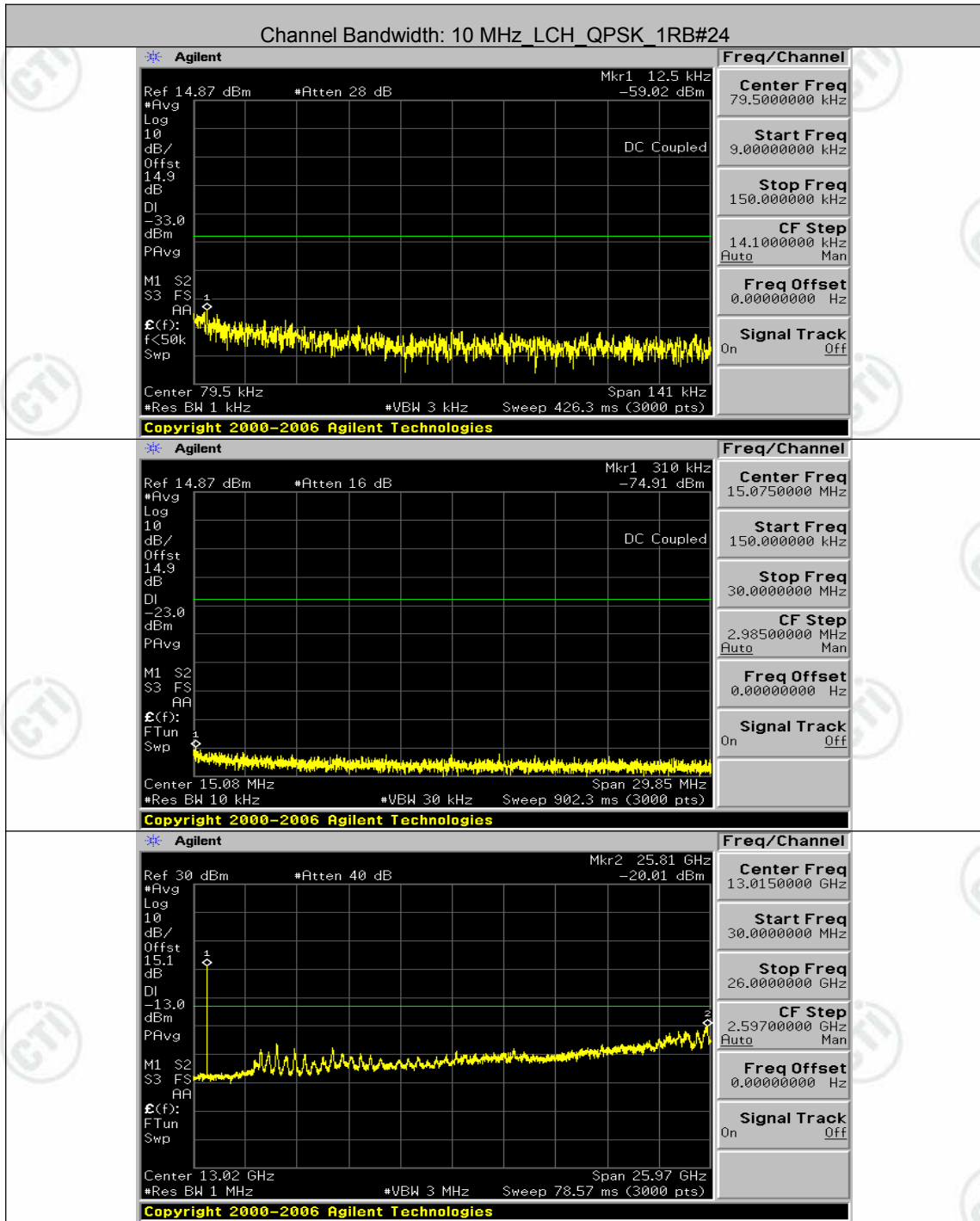


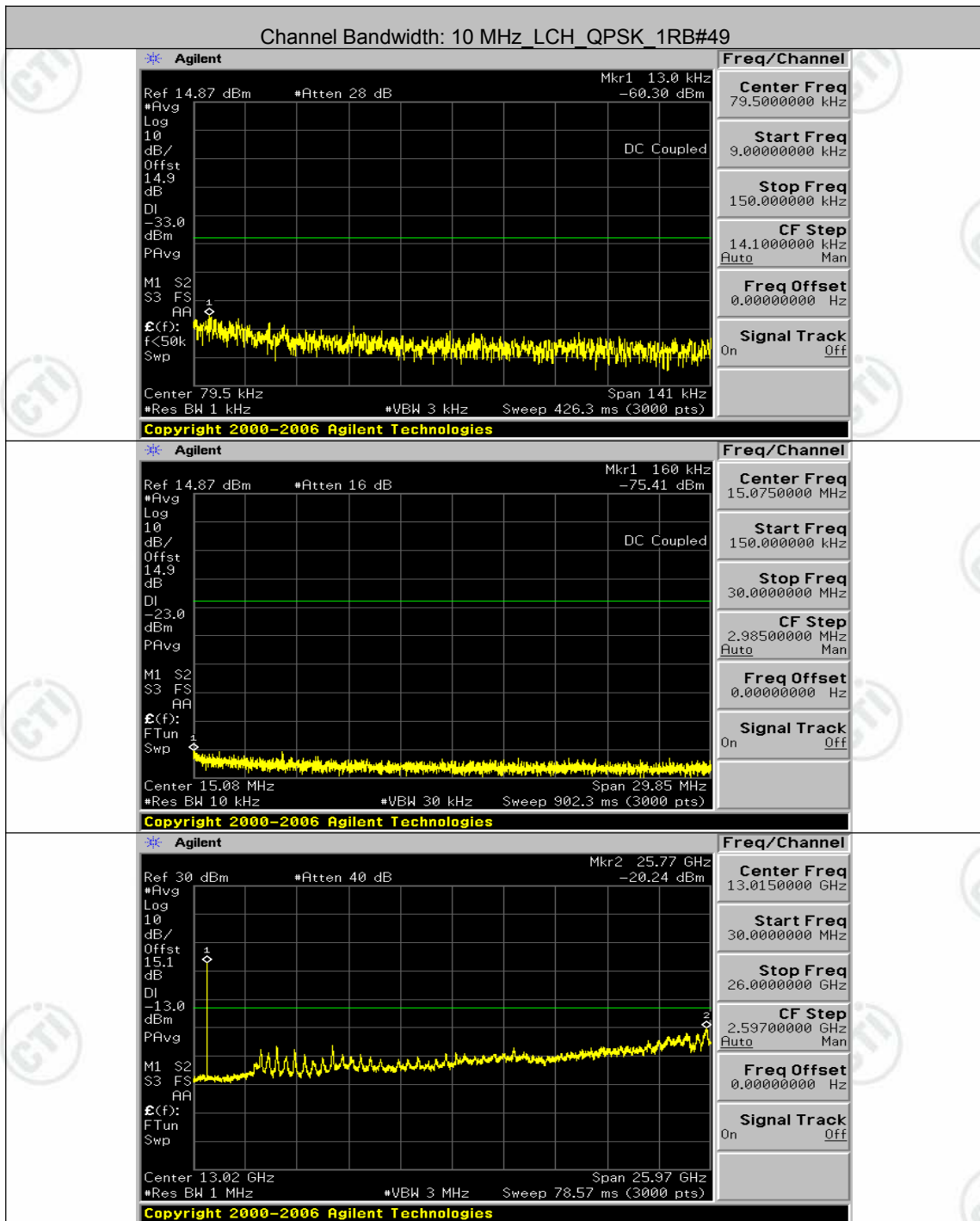


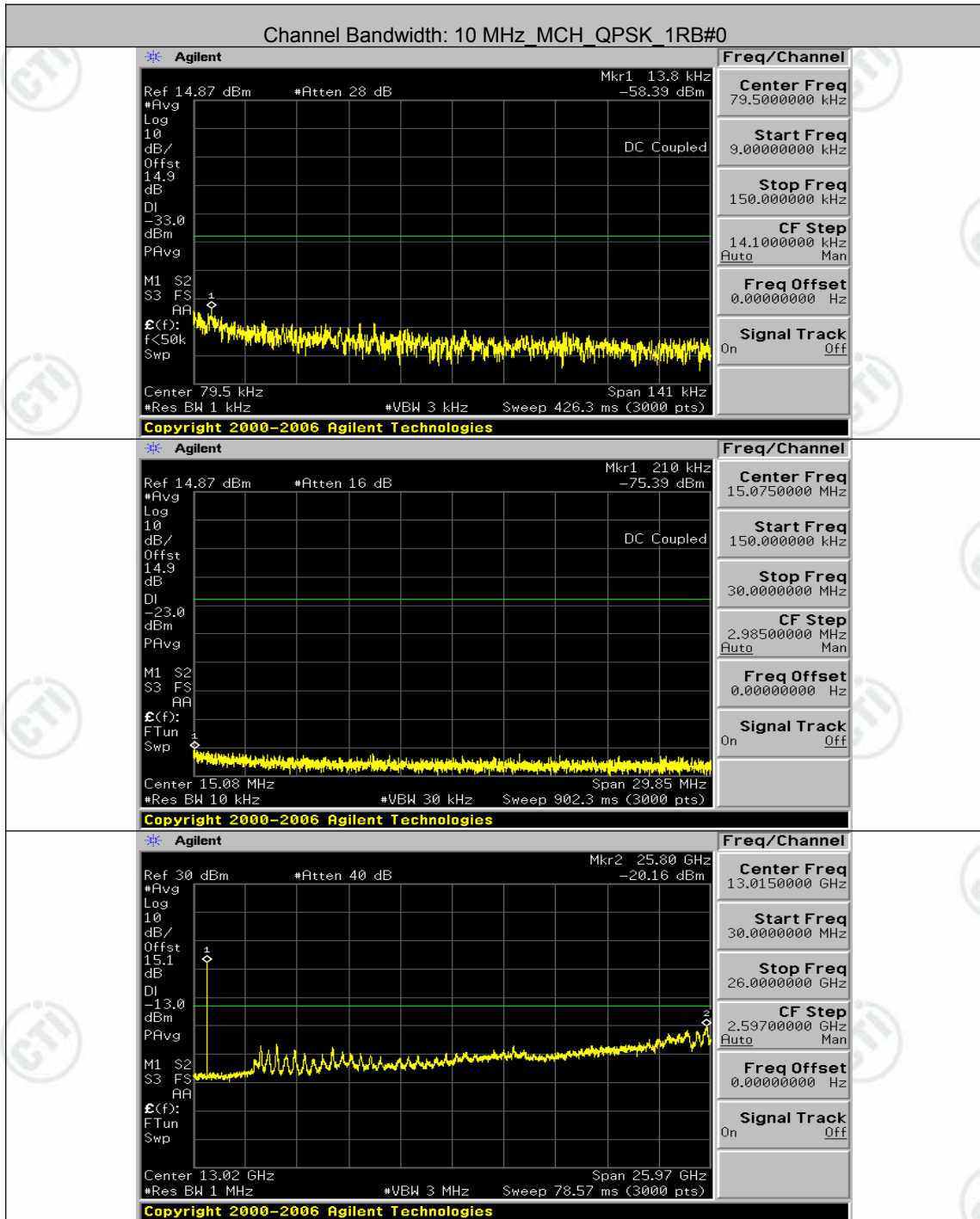


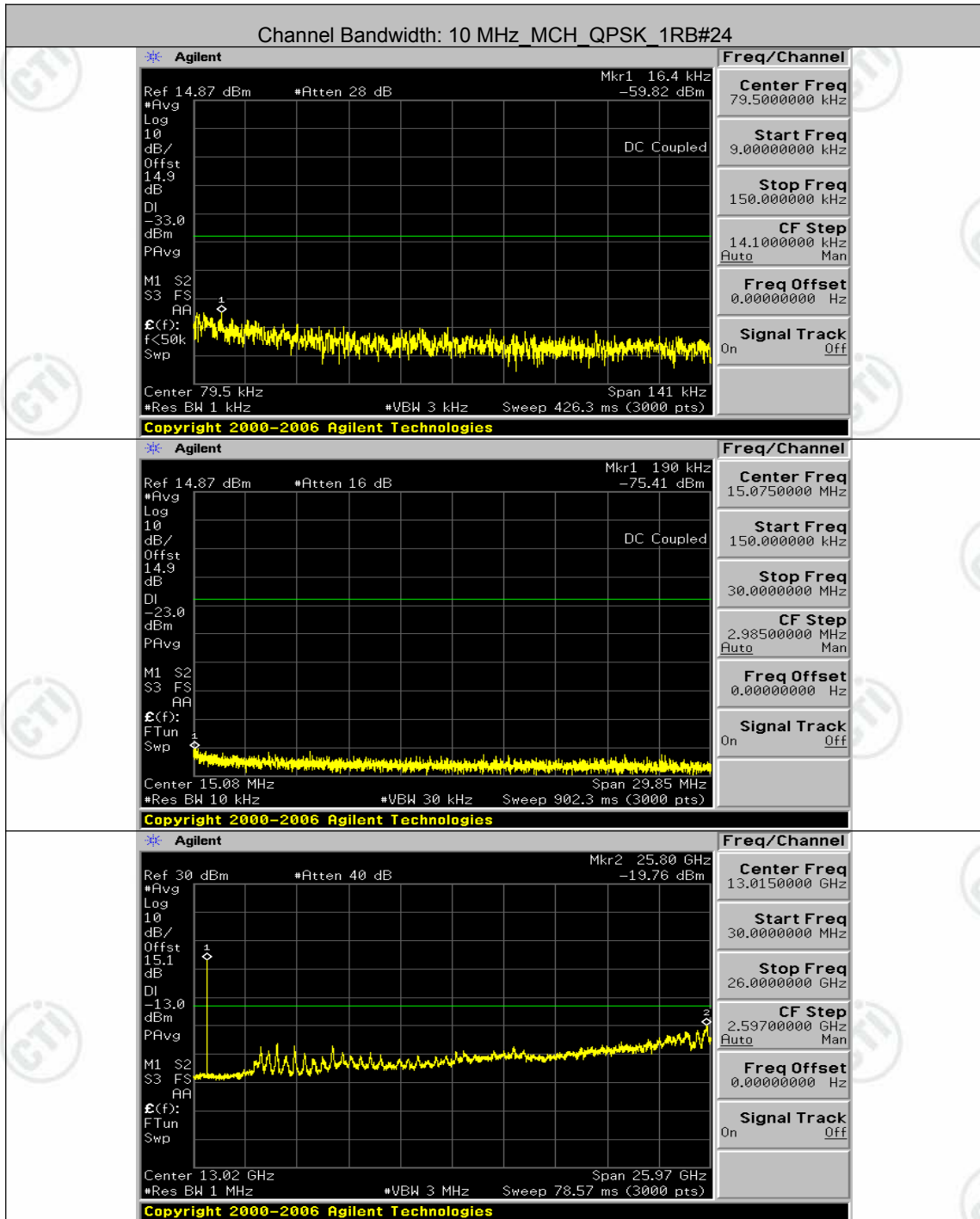
Channel Bandwidth: 10 MHz

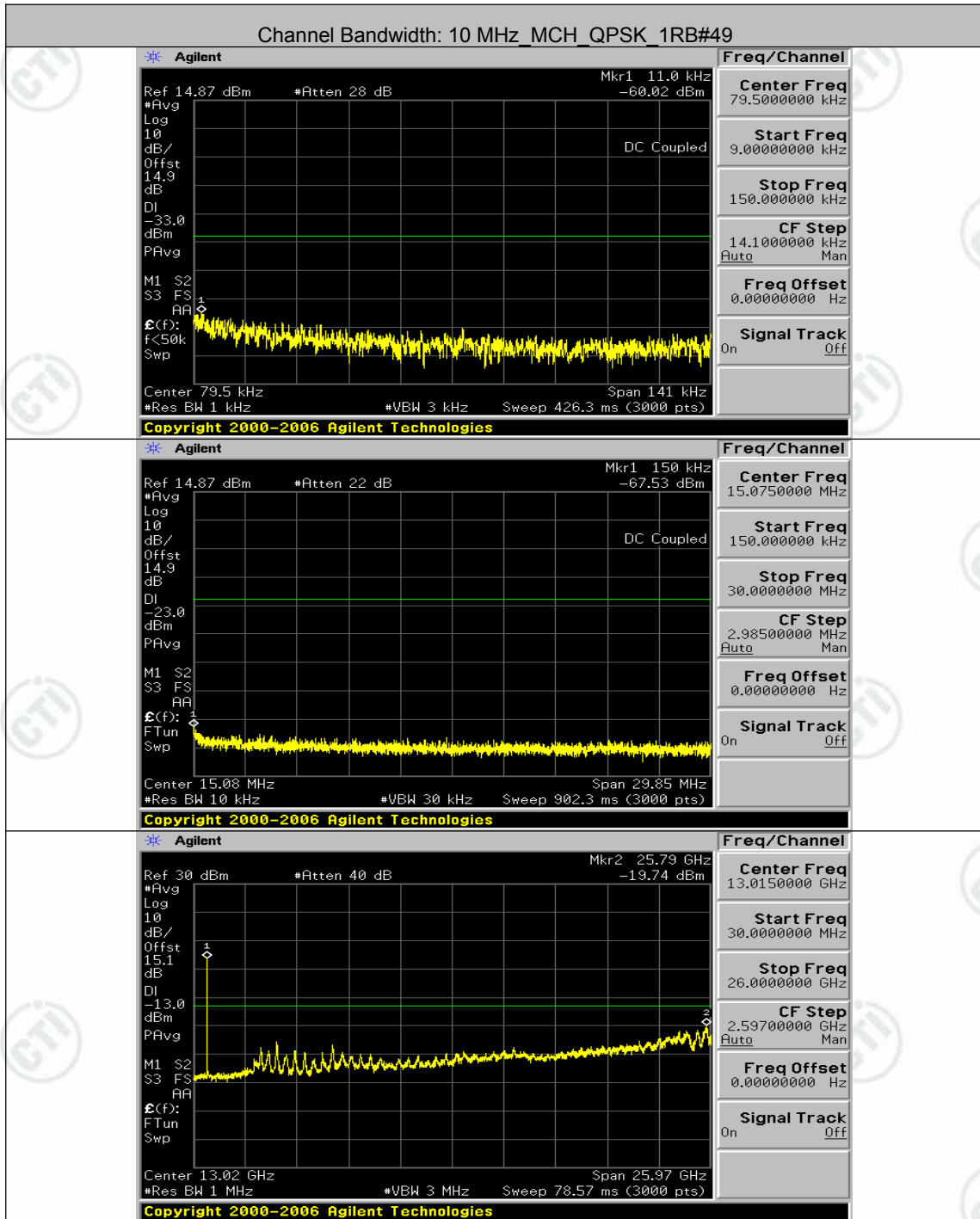


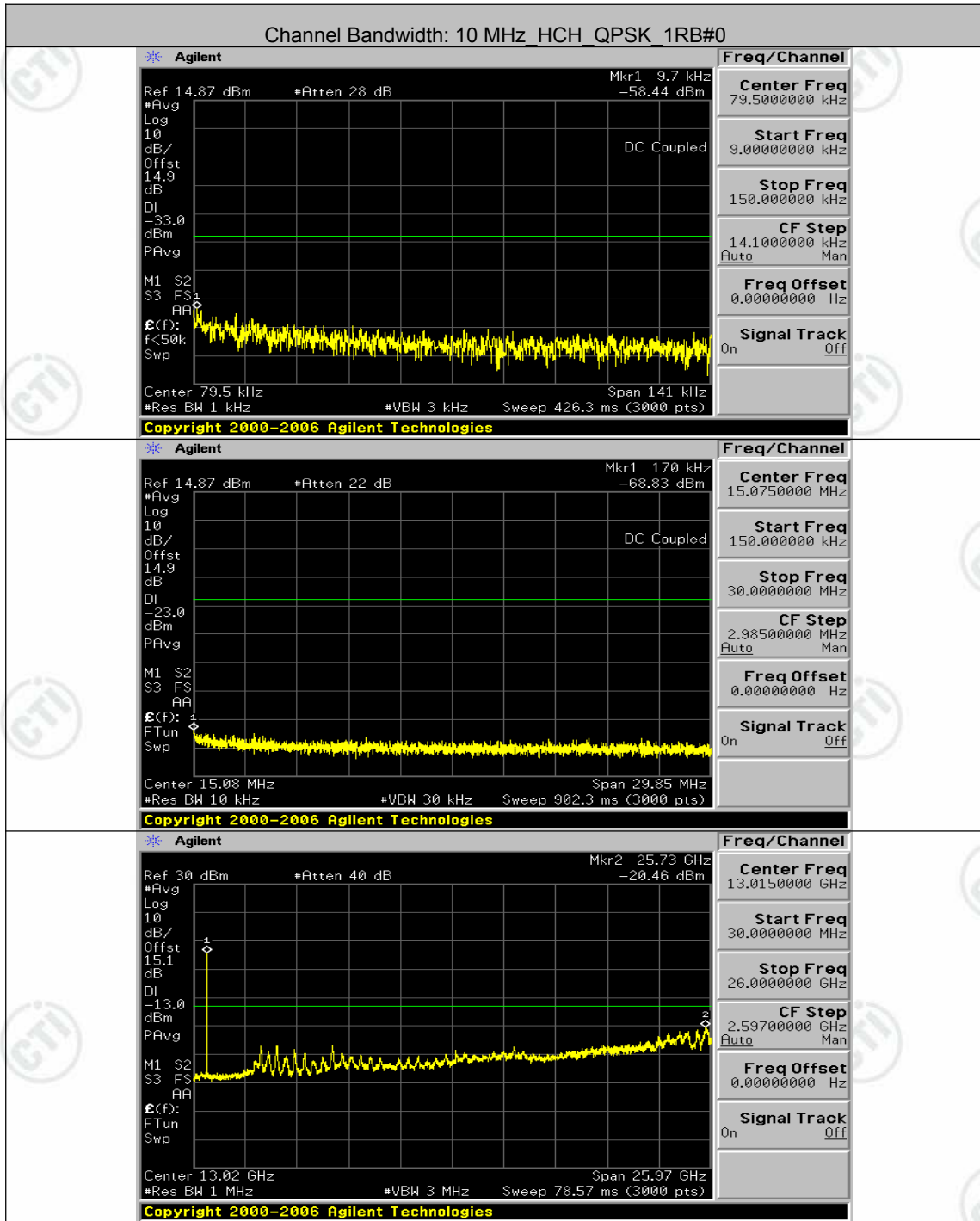


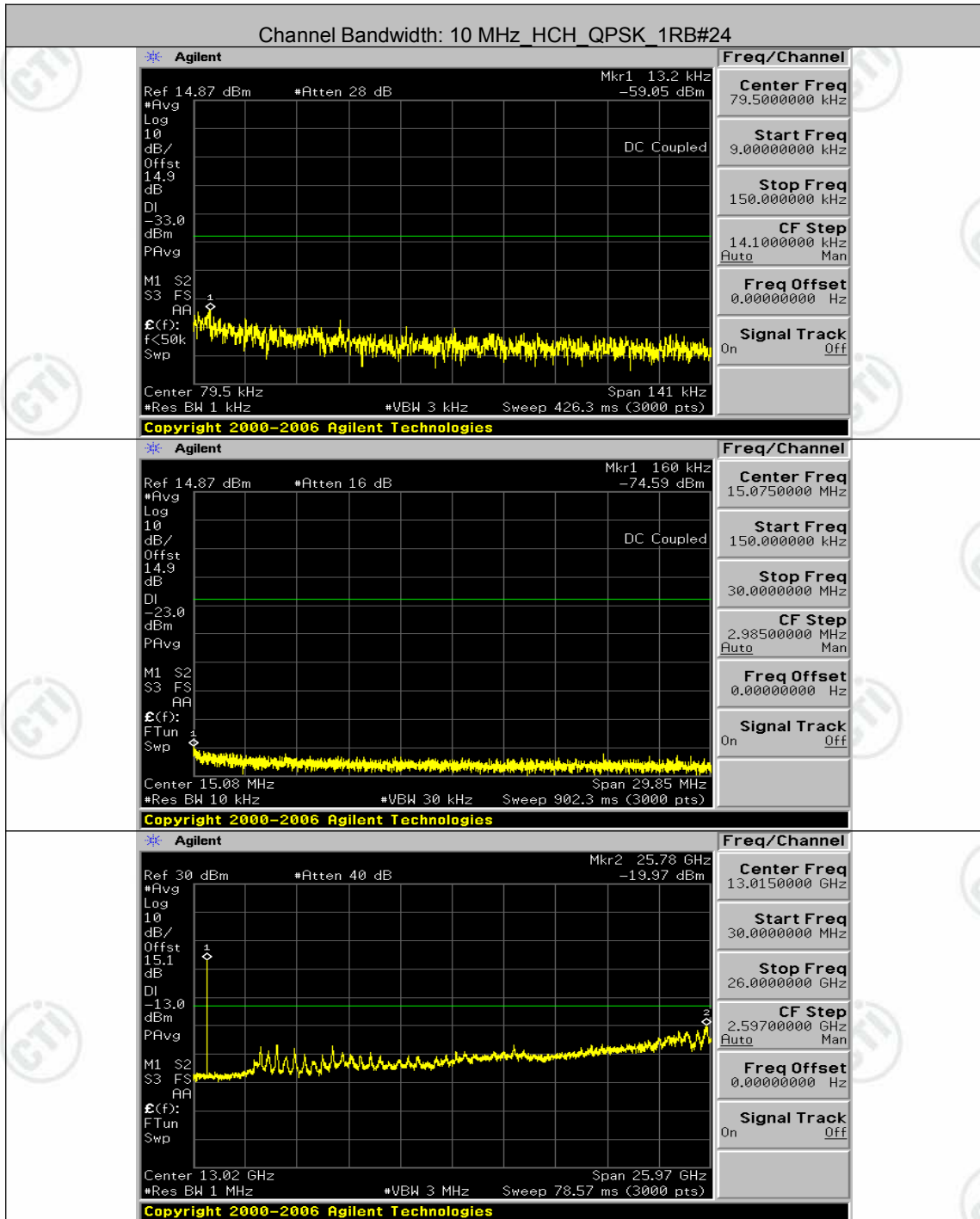


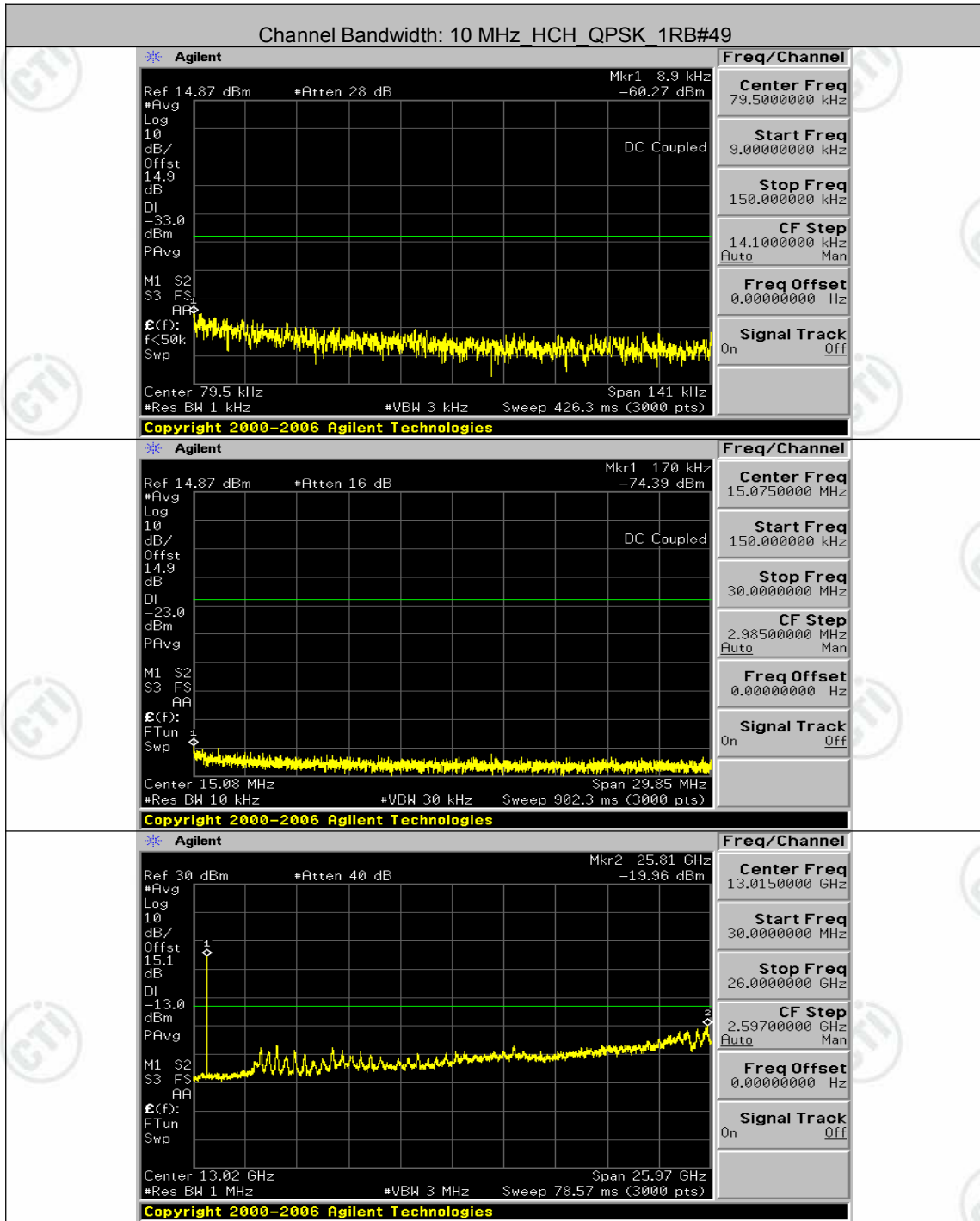


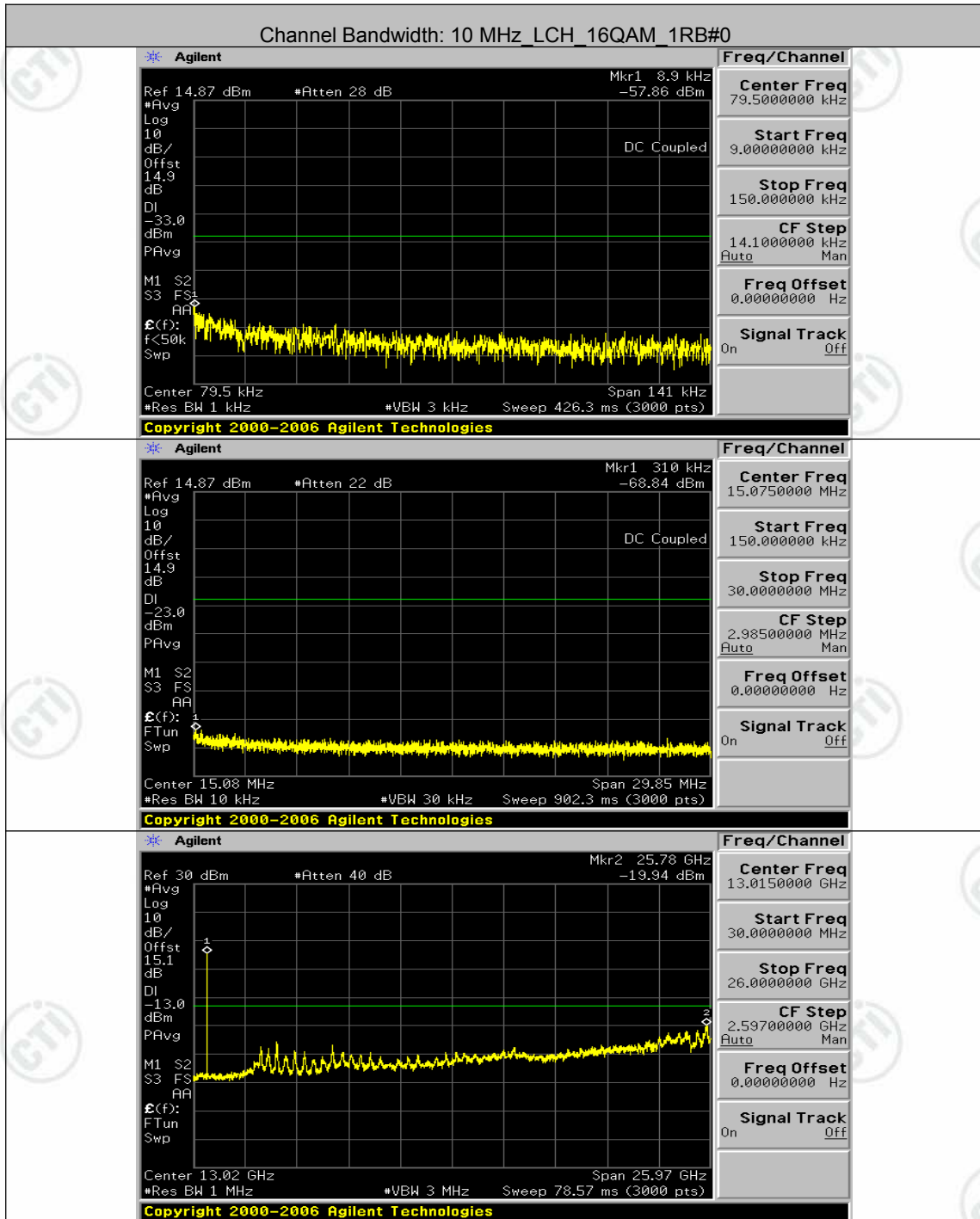


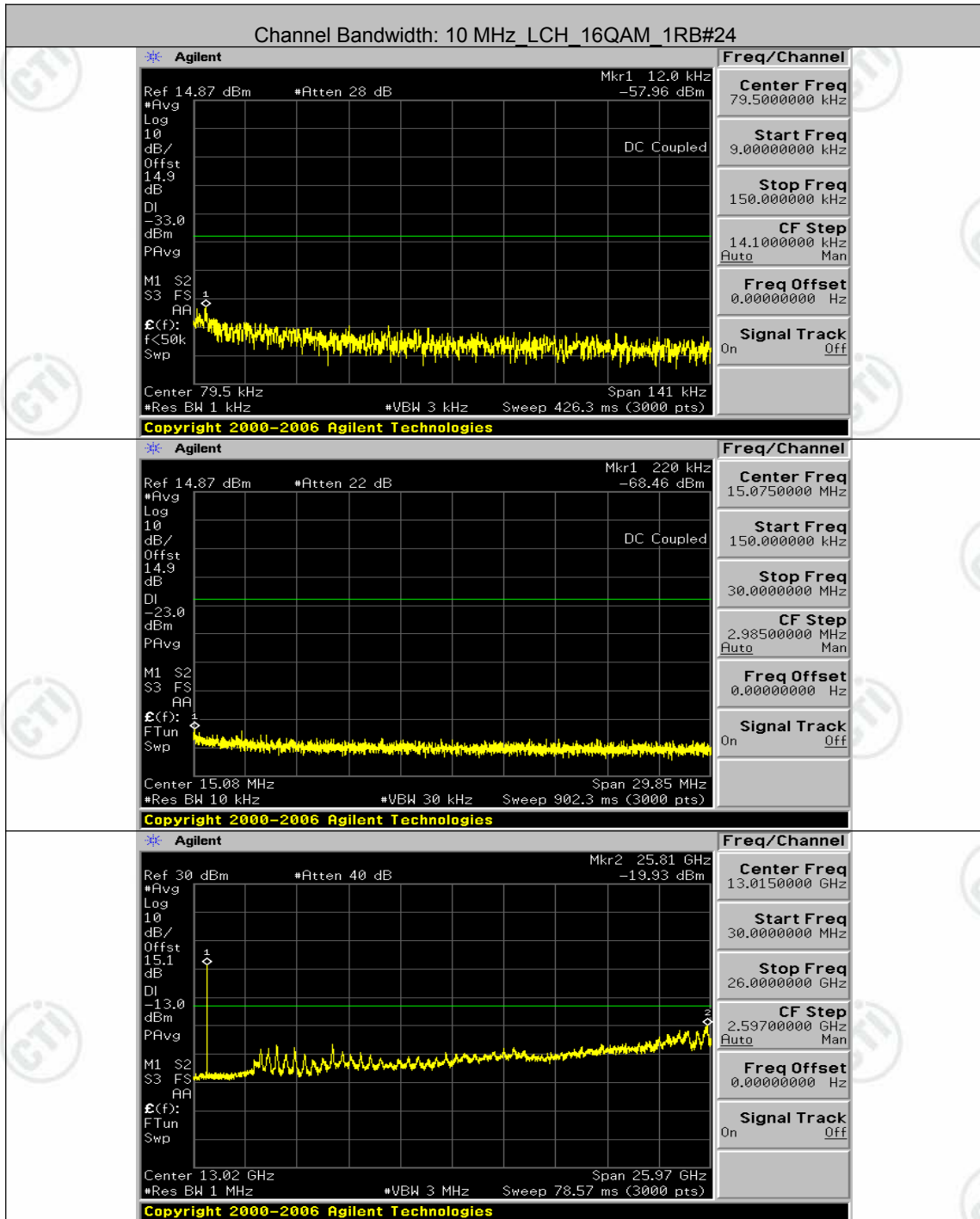


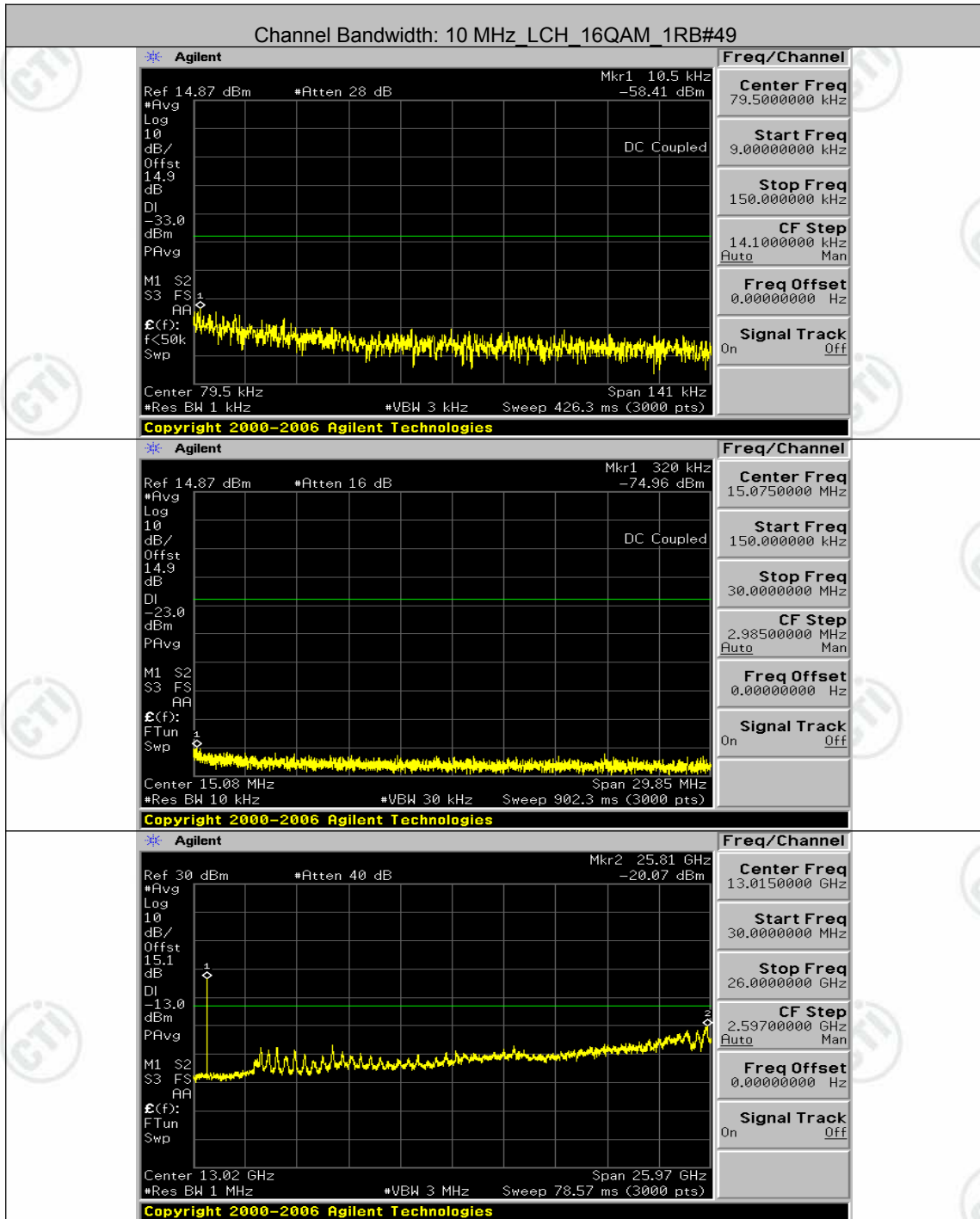


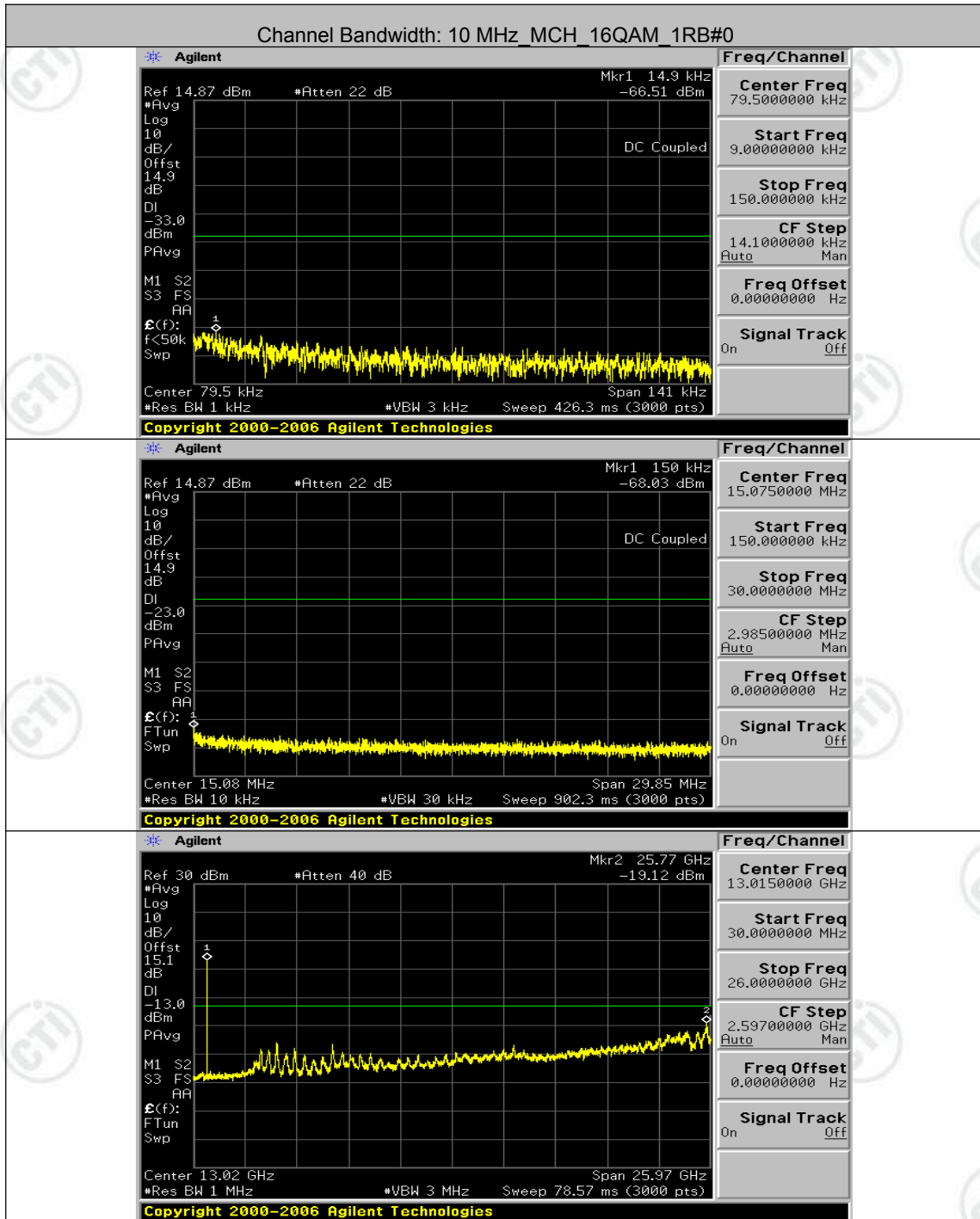


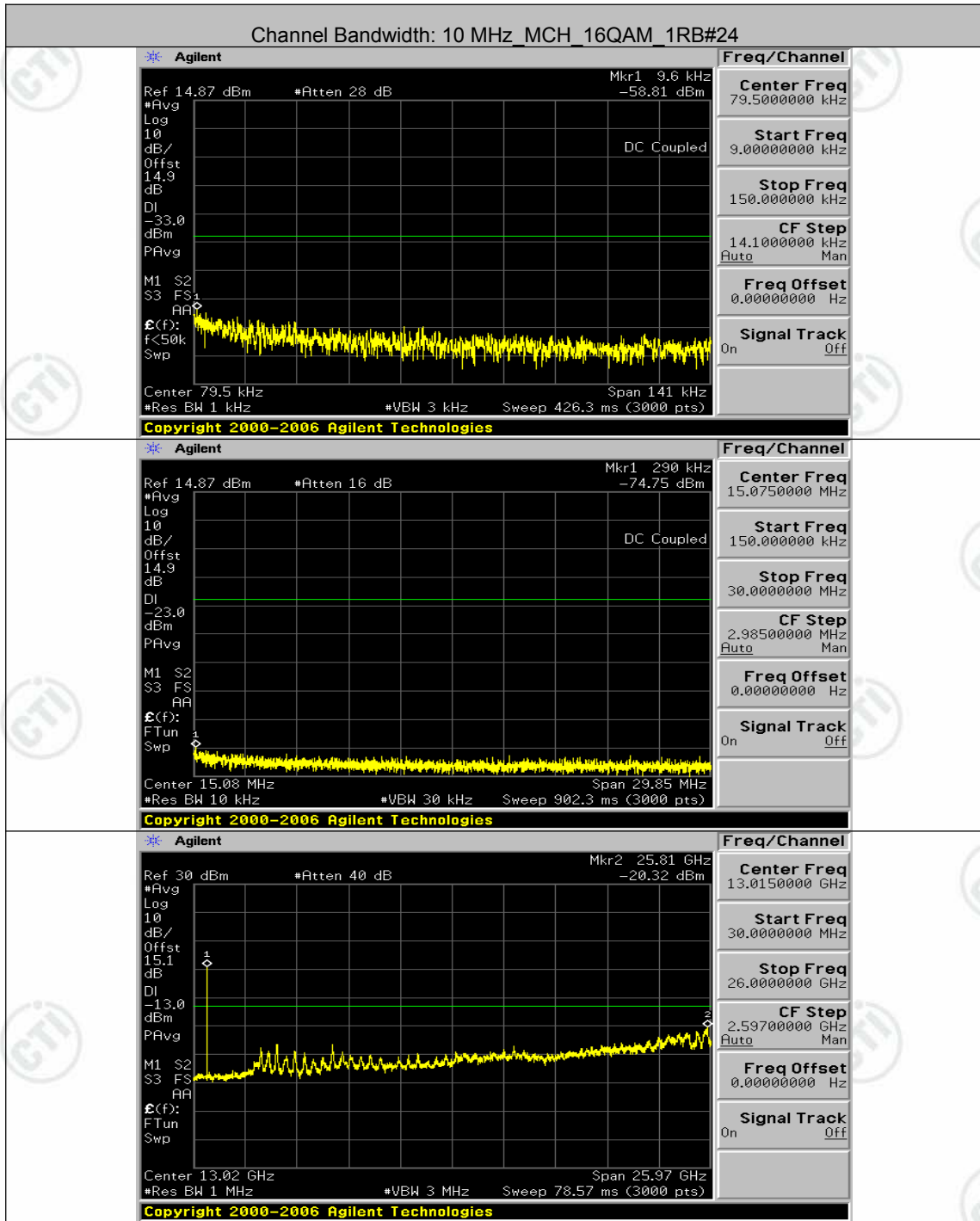


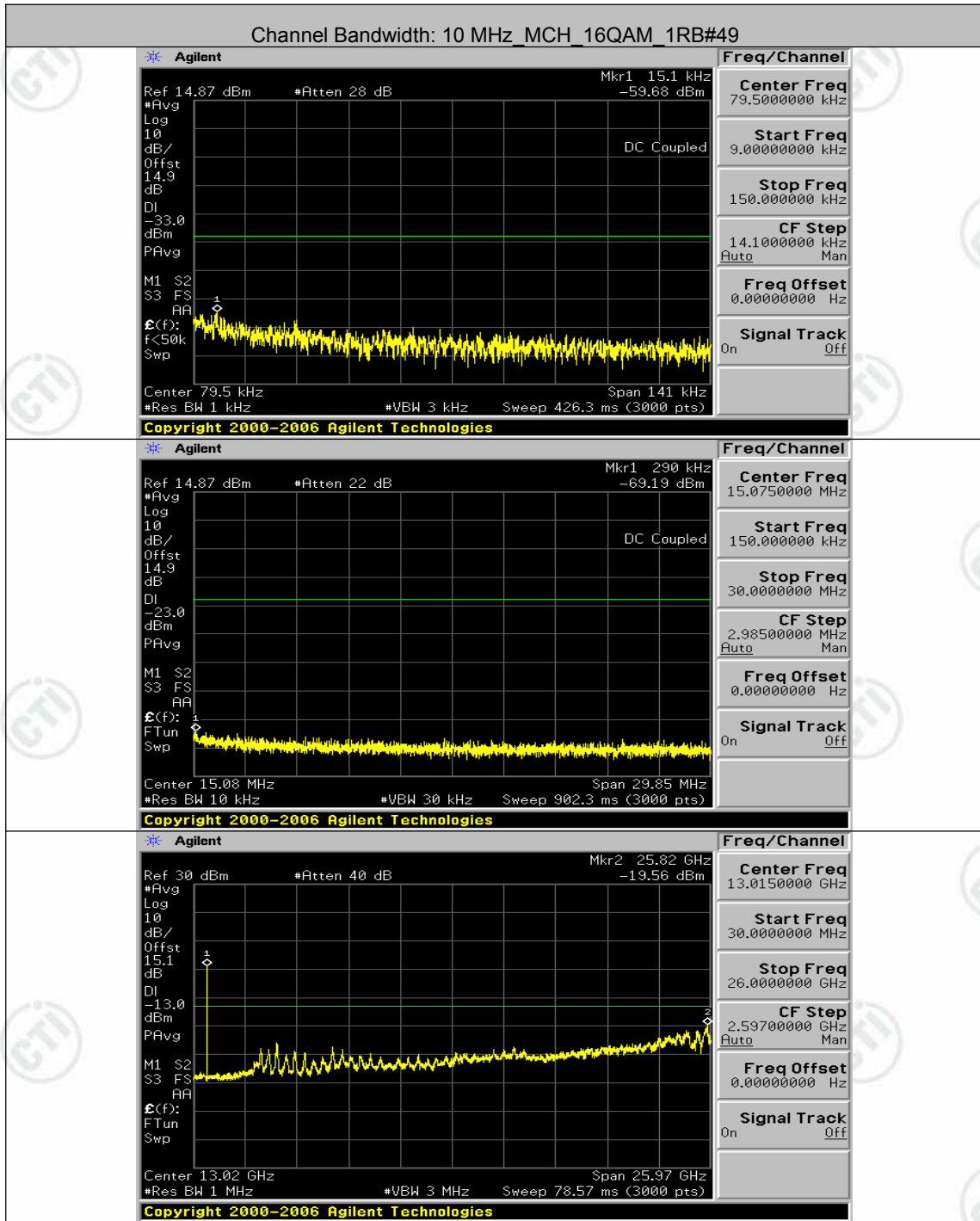


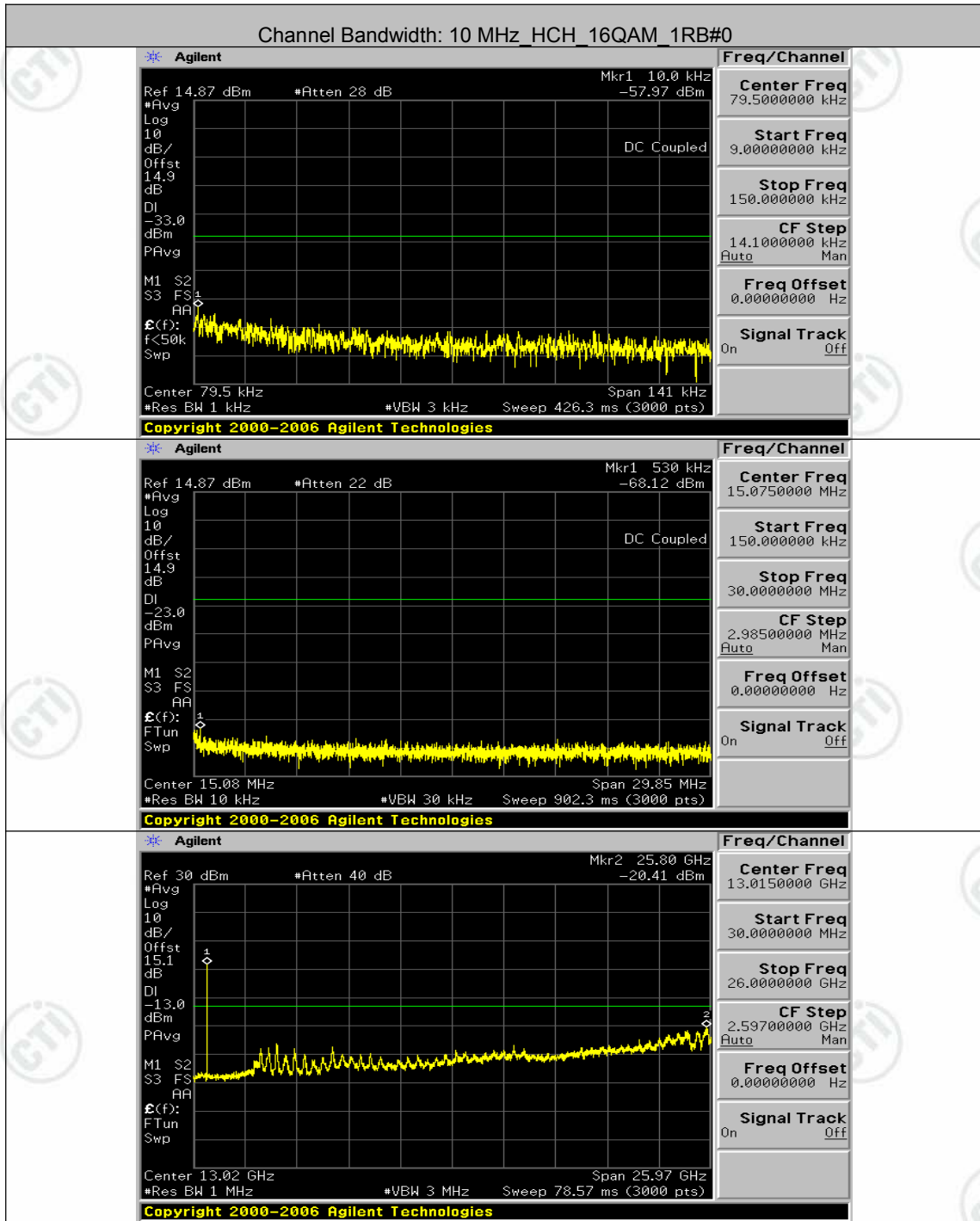


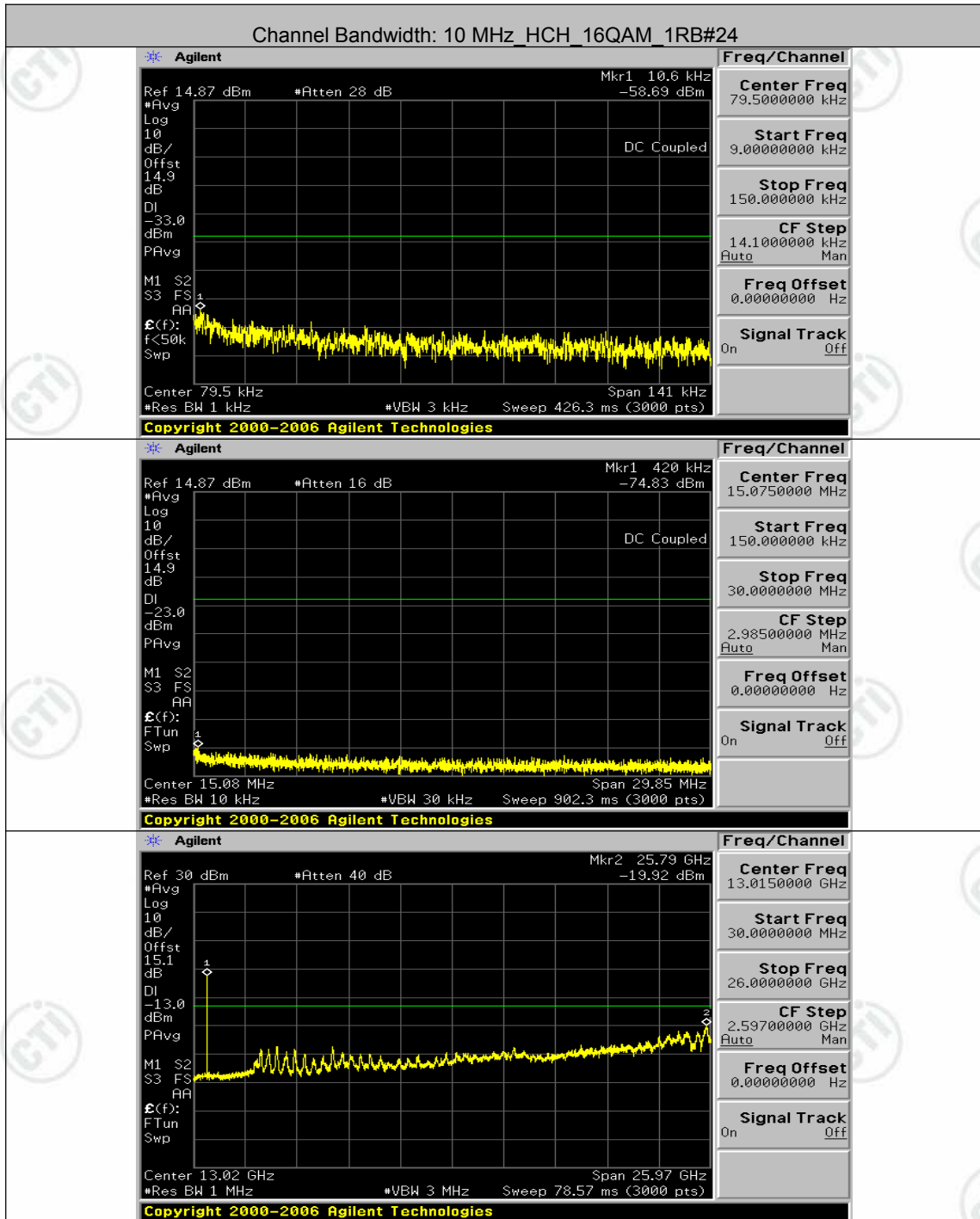


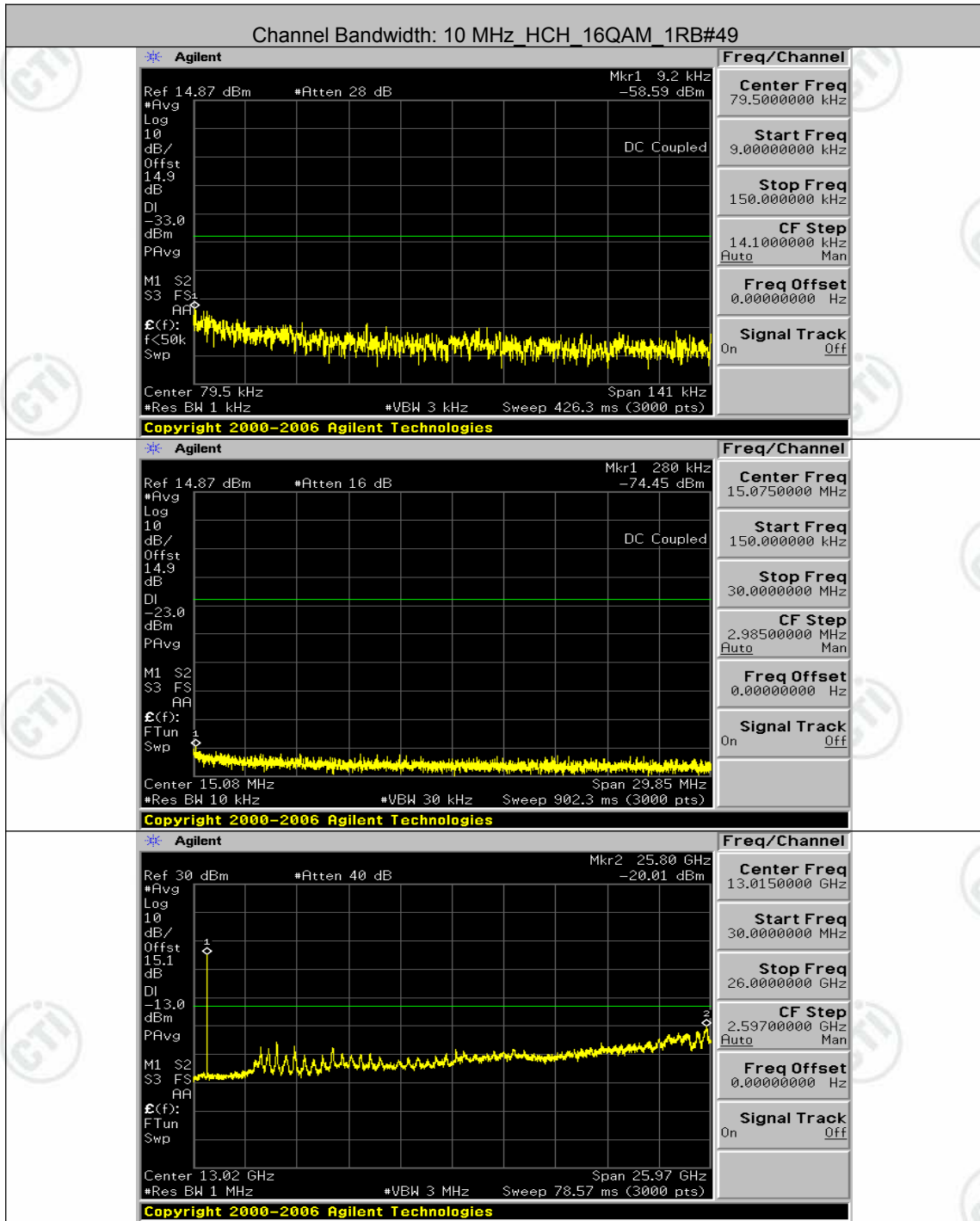












Appendix E) Frequency Stability

Test Result

(VL is 3.5V, VN is 3.85V, VH is 4.35V)

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	-4.05	-0.005730	± 2.5	PASS
		VN	TN	-5.55	-0.007856	± 2.5	PASS
		VH	TN	-3.05	-0.004313	± 2.5	PASS
	MCH	VL	TN	-6.59	-0.009288	± 2.5	PASS
		VN	TN	-11.94	-0.016824	± 2.5	PASS
		VH	TN	-10.40	-0.014648	± 2.5	PASS
	HCH	VL	TN	-7.20	-0.010085	± 2.5	PASS
		VN	TN	-7.50	-0.010506	± 2.5	PASS
		VH	TN	-9.67	-0.013553	± 2.5	PASS
16QAM	LCH	VL	TN	-7.72	-0.010934	± 2.5	PASS
		VN	TN	-5.41	-0.007654	± 2.5	PASS
		VH	TN	-6.22	-0.008808	± 2.5	PASS
	MCH	VL	TN	-9.63	-0.013560	± 2.5	PASS
		VN	TN	-4.48	-0.006306	± 2.5	PASS
		VH	TN	-7.05	-0.009933	± 2.5	PASS
	HCH	VL	TN	-5.85	-0.008200	± 2.5	PASS
		VN	TN	-4.11	-0.005754	± 2.5	PASS
		VH	TN	-11.69	-0.016380	± 2.5	PASS
Temperature							
Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
QPSK	LCH	VN	-30	-9.31	-0.013181	± 2.5	PASS
		VN	-20	-6.01	-0.008504	± 2.5	PASS
		VN	-10	-3.16	-0.004475	± 2.5	PASS
		VN	0	-2.78	-0.003928	± 2.5	PASS
		VN	10	-7.44	-0.010529	± 2.5	PASS
		VN	20	-6.77	-0.009577	± 2.5	PASS
		VN	30	-9.96	-0.014093	± 2.5	PASS
		VN	40	-9.50	-0.013445	± 2.5	PASS
		VN	50	-11.62	-0.016441	± 2.5	PASS
	MCH	VN	-30	-9.67	-0.013620	± 2.5	PASS
		VN	-20	-10.60	-0.014930	± 2.5	PASS
		VN	-10	-13.20	-0.018597	± 2.5	PASS
		VN	0	-10.11	-0.014245	± 2.5	PASS
		VN	10	-8.70	-0.012250	± 2.5	PASS
		VN	20	-6.61	-0.009308	± 2.5	PASS
		VN	30	-3.88	-0.005460	± 2.5	PASS
		VN	40	-11.34	-0.015977	± 2.5	PASS
		VN	50	-10.74	-0.015131	± 2.5	PASS
	HCH	VN	-30	-4.85	-0.006797	± 2.5	PASS
		VN	-20	-8.60	-0.012050	± 2.5	PASS
		VN	-10	-13.68	-0.019167	± 2.5	PASS
		VN	0	-5.97	-0.008361	± 2.5	PASS

		VN	10	-7.32	-0.010265	± 2.5	PASS
		VN	20	-7.52	-0.010546	± 2.5	PASS
		VN	30	-5.14	-0.007198	± 2.5	PASS
		VN	40	-1.22	-0.001704	± 2.5	PASS
		VN	50	-8.18	-0.011468	± 2.5	PASS
16QAM	LCH	VN	-30	-8.14	-0.011521	± 2.5	PASS
		VN	-20	-6.97	-0.009861	± 2.5	PASS
		VN	-10	-7.93	-0.011217	± 2.5	PASS
		VN	0	-5.52	-0.007816	± 2.5	PASS
		VN	10	-6.07	-0.008585	± 2.5	PASS
		VN	20	-8.28	-0.011724	± 2.5	PASS
		VN	30	-4.03	-0.005710	± 2.5	PASS
		VN	40	-5.92	-0.008383	± 2.5	PASS
	VN	50	-6.32	-0.008950	± 2.5	PASS	
	MCH	VN	-30	-4.48	-0.006306	± 2.5	PASS
		VN	-20	-8.70	-0.012250	± 2.5	PASS
		VN	-10	-3.38	-0.004755	± 2.5	PASS
		VN	0	-2.53	-0.003566	± 2.5	PASS
		VN	10	-5.34	-0.007515	± 2.5	PASS
		VN	20	-8.84	-0.012451	± 2.5	PASS
		VN	30	-6.19	-0.008724	± 2.5	PASS
		VN	40	-9.60	-0.013519	± 2.5	PASS
	VN	50	-7.15	-0.010074	± 2.5	PASS	
	HCH	VN	-30	-5.78	-0.008100	± 2.5	PASS
		VN	-20	-5.32	-0.007458	± 2.5	PASS
		VN	-10	-10.20	-0.014295	± 2.5	PASS
		VN	0	-10.39	-0.014556	± 2.5	PASS
		VN	10	-9.11	-0.012771	± 2.5	PASS
		VN	20	-5.48	-0.007679	± 2.5	PASS
		VN	30	-3.08	-0.004311	± 2.5	PASS
		VN	40	-2.09	-0.002927	± 2.5	PASS
	VN	50	-6.38	-0.008942	± 2.5	PASS	

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	-7.00	-0.009866	± 2.5	PASS
		VN	TN	-2.76	-0.003894	± 2.5	PASS
		VH	TN	-4.98	-0.007021	± 2.5	PASS
	MCH	VL	TN	-5.88	-0.008281	± 2.5	PASS
		VN	TN	-6.38	-0.008986	± 2.5	PASS
		VH	TN	-4.52	-0.006367	± 2.5	PASS
	HCH	VL	TN	-4.85	-0.006821	± 2.5	PASS
		VN	TN	-2.96	-0.004165	± 2.5	PASS
		VH	TN	-3.69	-0.005191	± 2.5	PASS
16QAM	LCH	VL	TN	-1.44	-0.002038	± 2.5	PASS
		VN	TN	-6.74	-0.009503	± 2.5	PASS
		VH	TN	-3.40	-0.004802	± 2.5	PASS
	MCH	VL	TN	-7.47	-0.010517	± 2.5	PASS

Modulation	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict	
								Temperature
QPSK	HCH	VN	TN	-5.18	-0.007294	± 2.5	PASS	
		VH	TN	-8.33	-0.011726	± 2.5	PASS	
		VL	TN	-7.11	-0.009999	± 2.5	PASS	
		VN	TN	-7.18	-0.010100	± 2.5	PASS	
		VH	TN	-4.53	-0.006378	± 2.5	PASS	
	QPSK	LCH	VN	-30	-5.98	-0.008434	± 2.5	PASS
			VN	-20	-3.85	-0.005427	± 2.5	PASS
			VN	-10	-7.93	-0.011178	± 2.5	PASS
			VN	0	-7.61	-0.010734	± 2.5	PASS
			VN	10	-5.84	-0.008232	± 2.5	PASS
VN			20	-8.23	-0.011601	± 2.5	PASS	
VN			30	-4.69	-0.006618	± 2.5	PASS	
VN			40	-4.86	-0.006860	± 2.5	PASS	
MCH		VN	50	-5.58	-0.007869	± 2.5	PASS	
		VN	-30	-3.40	-0.004795	± 2.5	PASS	
		VN	-20	-5.06	-0.007132	± 2.5	PASS	
		VN	-10	-2.82	-0.003969	± 2.5	PASS	
		VN	0	-5.49	-0.007737	± 2.5	PASS	
		VN	10	-6.37	-0.008966	± 2.5	PASS	
		VN	20	-6.38	-0.008986	± 2.5	PASS	
		VN	30	-8.93	-0.012572	± 2.5	PASS	
HCH		VN	40	-7.58	-0.010678	± 2.5	PASS	
		VN	50	-8.67	-0.012210	± 2.5	PASS	
		VN	-30	-3.28	-0.004607	± 2.5	PASS	
		VN	-20	-7.35	-0.010342	± 2.5	PASS	
		VN	-10	-8.96	-0.012595	± 2.5	PASS	
		VN	0	-8.03	-0.011287	± 2.5	PASS	
		VN	10	-7.90	-0.011106	± 2.5	PASS	
		VN	20	-3.93	-0.005533	± 2.5	PASS	
16QAM		LCH	VN	30	-7.52	-0.010583	± 2.5	PASS
			VN	40	-7.98	-0.011227	± 2.5	PASS
			VN	50	-4.13	-0.005815	± 2.5	PASS
			VN	-30	-1.69	-0.002381	± 2.5	PASS
	VN		-20	-6.32	-0.008918	± 2.5	PASS	
	VN		-10	-5.22	-0.007364	± 2.5	PASS	
	VN		0	-6.37	-0.008979	± 2.5	PASS	
	VN		10	-4.71	-0.006638	± 2.5	PASS	
	MCH	VN	20	-2.95	-0.004156	± 2.5	PASS	
		VN	30	-2.73	-0.003854	± 2.5	PASS	
		VN	40	-1.34	-0.001897	± 2.5	PASS	
		VN	50	-9.76	-0.013760	± 2.5	PASS	
		VN	-30	-5.64	-0.007938	± 2.5	PASS	
		VN	-20	-5.49	-0.007737	± 2.5	PASS	
		VN	-10	-4.13	-0.005823	± 2.5	PASS	
		VN	0	-3.59	-0.005057	± 2.5	PASS	
		VN	10	-7.17	-0.010094	± 2.5	PASS	
		VN	20	-7.85	-0.011061	± 2.5	PASS	
VN	30	-6.72	-0.009470	± 2.5	PASS			

		VN	40	-6.11	-0.008603	± 2.5	PASS
		VN	50	-5.18	-0.007294	± 2.5	PASS
	HCH	VN	-30	-6.01	-0.008450	± 2.5	PASS
		VN	-20	-2.68	-0.003762	± 2.5	PASS
		VN	-10	-3.55	-0.004990	± 2.5	PASS
		VN	0	-4.79	-0.006740	± 2.5	PASS
		VN	10	-5.91	-0.008309	± 2.5	PASS
		VN	20	-5.82	-0.008189	± 2.5	PASS
		VN	30	-6.29	-0.008853	± 2.5	PASS
		VN	40	-4.86	-0.006841	± 2.5	PASS
		VN	50	-2.52	-0.003541	± 2.5	PASS

Appendix F) 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:	<ol style="list-style-type: none"> 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. <p>Test procedure as below:</p> <ol style="list-style-type: none"> 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: $\text{ERP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBi)}$ $\text{EIRP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBi)}$ $\text{EIRP} = \text{ERP} + 2.15\text{dB}$ 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:
QPSK

Mode:		LTE Traffic						
Band:		17	Channel:			23755		
Remark:		5M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	49.1585	150	172	-79.96	-13.00	66.96	Pass	Horizontal
2	120.0205	150	360	-80.01	-13.00	67.01	Pass	Horizontal
3	184.2862	150	172	-81.81	-13.00	68.81	Pass	Horizontal
4	269.9900	150	34	-80.05	-13.00	67.05	Pass	Horizontal
5	360.0105	150	16	-78.11	-13.00	65.11	Pass	Horizontal
6	625.0763	150	172	-75.41	-13.00	62.41	Pass	Horizontal
7	1413.0000	150	308	-51.31	-13.00	38.31	Pass	Horizontal
8	2119.5000	150	72	-48.54	-13.00	35.54	Pass	Horizontal
9	2826.0000	150	111	-50.19	-13.00	37.19	Pass	Horizontal
10	3015.0015	150	224	-46.17	-13.00	33.17	Pass	Horizontal
11	7119.4119	150	139	-45.06	-13.00	32.06	Pass	Horizontal
12	9708.6709	150	0	-41.18	-13.00	28.18	Pass	Horizontal

Mode:		LTE Traffic						
Band:		17	Channel:			23755		
Remark:		5M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	50.8075	150	270	-65.69	-13.00	52.69	Pass	Vertical
2	71.9061	150	360	-71.00	-13.00	58.00	Pass	Vertical
3	184.3347	150	1	-75.25	-13.00	62.25	Pass	Vertical
4	208.8769	150	291	-71.28	-13.00	58.28	Pass	Vertical
5	411.4231	150	56	-77.74	-13.00	64.74	Pass	Vertical
6	570.4140	150	95	-75.72	-13.00	62.72	Pass	Vertical
7	1197.8198	150	74	-49.04	-13.00	36.04	Pass	Vertical
8	1413.0000	150	74	-49.96	-13.00	36.96	Pass	Vertical
9	2119.5000	150	17	-50.19	-13.00	37.19	Pass	Vertical
10	2826.0000	150	309	-50.42	-13.00	37.42	Pass	Vertical
11	5142.2142	150	104	-47.62	-13.00	34.62	Pass	Vertical
12	11762.3762	150	359	-40.92	-13.00	27.92	Pass	Vertical

Mode:		LTE Traffic						
Band:		17		Channel:		23790		
Remark:		5M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	57.5979	150	292	-79.46	-13.00	66.46	Pass	Horizontal
2	119.9720	150	349	-79.76	-13.00	66.76	Pass	Horizontal
3	184.2862	150	17	-81.13	-13.00	68.13	Pass	Horizontal
4	269.9900	150	34	-78.57	-13.00	65.57	Pass	Horizontal
5	359.9620	150	1	-78.93	-13.00	65.93	Pass	Horizontal
6	625.0278	150	74	-75.62	-13.00	62.62	Pass	Horizontal
7	1420.0000	150	331	-48.87	-13.00	35.87	Pass	Horizontal
8	2130.0000	150	153	-48.91	-13.00	35.91	Pass	Horizontal
9	2840.0000	150	253	-49.47	-13.00	36.47	Pass	Horizontal
10	4653.1653	150	298	-47.56	-13.00	34.56	Pass	Horizontal
11	6351.3351	150	262	-46.21	-13.00	33.21	Pass	Horizontal
12	9710.1710	150	336	-41.82	-13.00	28.82	Pass	Horizontal

Mode:		LTE Traffic						
Band:		17		Channel:		23790		
Remark:		5M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	52.4566	150	16	-66.50	-13.00	53.50	Pass	Vertical
2	71.9061	150	330	-71.57	-13.00	58.57	Pass	Vertical
3	184.3347	150	230	-74.32	-13.00	61.32	Pass	Vertical
4	208.8769	150	330	-71.10	-13.00	58.10	Pass	Vertical
5	289.9730	150	330	-79.47	-13.00	66.47	Pass	Vertical
6	462.9326	150	134	-77.88	-13.00	64.88	Pass	Vertical
7	1420.0000	150	112	-49.13	-13.00	36.13	Pass	Vertical
8	2130.0000	150	34	-50.66	-13.00	37.66	Pass	Vertical
9	2840.0000	150	173	-49.92	-13.00	36.92	Pass	Vertical
10	4477.6478	150	359	-48.32	-13.00	35.32	Pass	Vertical
11	6399.3399	150	336	-47.15	-13.00	34.15	Pass	Vertical
12	9723.6724	150	288	-41.15	-13.00	28.15	Pass	Vertical

Mode:		LTE Traffic						
Band:		17	Channel:			23825		
Remark:		5M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	57.8889	150	137	-79.57	-13.00	66.57	Pass	Horizontal
2	116.1403	150	137	-79.95	-13.00	66.95	Pass	Horizontal
3	184.2862	150	1	-82.27	-13.00	69.27	Pass	Horizontal
4	269.9900	150	57	-78.27	-13.00	65.27	Pass	Horizontal
5	367.5284	150	98	-78.73	-13.00	65.73	Pass	Horizontal
6	626.3858	150	176	-75.88	-13.00	62.88	Pass	Horizontal
7	1427.0000	150	311	-48.56	-13.00	35.56	Pass	Horizontal
8	2140.5000	150	272	-50.47	-13.00	37.47	Pass	Horizontal
9	2854.0000	150	193	-50.31	-13.00	37.31	Pass	Horizontal
10	3765.0765	150	0	-47.97	-13.00	34.97	Pass	Horizontal
11	6366.3366	150	0	-47.20	-13.00	34.20	Pass	Horizontal
12	9720.6721	150	311	-41.49	-13.00	28.49	Pass	Horizontal

Mode:		LTE Traffic						
Band:		17	Channel:			23825		
Remark:		5M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	51.1956	150	17	-66.25	-13.00	53.25	Pass	Vertical
2	71.9061	150	34	-70.69	-13.00	57.69	Pass	Vertical
3	184.3347	150	360	-75.02	-13.00	62.02	Pass	Vertical
4	208.8769	150	269	-70.96	-13.00	57.96	Pass	Vertical
5	289.9730	150	360	-78.47	-13.00	65.47	Pass	Vertical
6	562.5081	150	174	-76.53	-13.00	63.53	Pass	Vertical
7	1427.0000	150	95	-48.11	-13.00	35.11	Pass	Vertical
8	2140.5000	150	292	-50.49	-13.00	37.49	Pass	Vertical
9	2854.0000	150	213	-50.66	-13.00	37.66	Pass	Vertical
10	3574.5575	150	359	-46.44	-13.00	33.44	Pass	Vertical
11	6486.3486	150	226	-47.51	-13.00	34.51	Pass	Vertical
12	9708.6709	150	0	-42.08	-13.00	29.08	Pass	Vertical

Mode:		LTE Traffic						
Band:		17	Channel:			23780		
Remark:		10M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	57.8404	150	253	-79.66	-13.00	66.66	Pass	Horizontal
2	119.9720	150	349	-79.56	-13.00	66.56	Pass	Horizontal
3	184.3347	150	1	-80.87	-13.00	67.87	Pass	Horizontal
4	269.9900	150	74	-79.75	-13.00	66.75	Pass	Horizontal
5	359.9620	150	1	-77.47	-13.00	64.47	Pass	Horizontal
6	960.7130	150	331	-70.57	-13.00	57.57	Pass	Horizontal
7	1418.0000	150	309	-52.20	-13.00	39.20	Pass	Horizontal
8	2127.0000	150	74	-50.16	-13.00	37.16	Pass	Horizontal
9	2836.0000	150	95	-50.17	-13.00	37.17	Pass	Horizontal
10	3562.5563	150	164	-46.41	-13.00	33.41	Pass	Horizontal
11	6508.8509	150	201	-46.97	-13.00	33.97	Pass	Horizontal
12	9695.1695	150	128	-42.07	-13.00	29.07	Pass	Horizontal

Mode:		LTE Traffic						
Band:		17	Channel:			23780		
Remark:		10M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	53.4267	150	191	-66.71	-13.00	53.71	Pass	Vertical
2	71.8576	150	360	-71.22	-13.00	58.22	Pass	Vertical
3	184.2862	150	213	-75.42	-13.00	62.42	Pass	Vertical
4	208.8769	150	230	-70.78	-13.00	57.78	Pass	Vertical
5	411.4231	150	73	-77.83	-13.00	64.83	Pass	Vertical
6	957.9969	150	230	-70.05	-13.00	57.05	Pass	Vertical
7	1418.0000	150	73	-49.09	-13.00	36.09	Pass	Vertical
8	2127.0000	150	191	-50.52	-13.00	37.52	Pass	Vertical
9	2836.0000	150	73	-50.01	-13.00	37.01	Pass	Vertical
10	3583.5584	150	359	-46.78	-13.00	33.78	Pass	Vertical
11	7195.9196	150	30	-44.76	-13.00	31.76	Pass	Vertical
12	11799.8800	150	288	-41.09	-13.00	28.09	Pass	Vertical

Mode:		LTE Traffic						
Band:		17		Channel:		23790		
Remark:		10M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	62.7876	150	270	-80.26	-13.00	67.26	Pass	Horizontal
2	101.5896	150	253	-79.71	-13.00	66.71	Pass	Horizontal
3	119.9720	150	348	-78.63	-13.00	65.63	Pass	Horizontal
4	184.3347	150	348	-81.77	-13.00	68.77	Pass	Horizontal
5	269.9900	150	98	-79.28	-13.00	66.28	Pass	Horizontal
6	364.5697	150	348	-78.69	-13.00	65.69	Pass	Horizontal
7	1195.4195	150	59	-49.66	-13.00	36.66	Pass	Horizontal
8	1420.0000	150	154	-51.24	-13.00	38.24	Pass	Horizontal
9	2130.0000	150	360	-50.30	-13.00	37.30	Pass	Horizontal
10	2840.0000	150	231	-50.30	-13.00	37.30	Pass	Horizontal
11	5152.7153	150	336	-47.86	-13.00	34.86	Pass	Horizontal
12	9702.6703	150	215	-41.28	-13.00	28.28	Pass	Horizontal

Mode:		LTE Traffic						
Band:		17		Channel:		23790		
Remark:		10M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	53.3782	150	34	-66.63	-13.00	53.63	Pass	Vertical
2	71.8576	150	172	-71.45	-13.00	58.45	Pass	Vertical
3	159.6955	150	305	-78.32	-13.00	65.32	Pass	Vertical
4	184.3347	150	1	-75.21	-13.00	62.21	Pass	Vertical
5	208.8769	150	267	-71.23	-13.00	58.23	Pass	Vertical
6	360.0105	150	344	-78.88	-13.00	65.88	Pass	Vertical
7	1292.6293	150	288	-48.73	-13.00	35.73	Pass	Vertical
8	1420.0000	150	112	-48.78	-13.00	35.78	Pass	Vertical
9	2130.0000	150	211	-50.93	-13.00	37.93	Pass	Vertical
10	2840.0000	150	73	-48.39	-13.00	35.39	Pass	Vertical
11	4482.1482	150	348	-47.83	-13.00	34.83	Pass	Vertical
12	9897.6898	150	275	-41.18	-13.00	28.18	Pass	Vertical

Mode:		LTE Traffic						
Band:		17	Channel:			23800		
Remark:		10M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	54.7847	150	98	-79.85	-13.00	66.85	Pass	Horizontal
2	120.0205	150	34	-80.09	-13.00	67.09	Pass	Horizontal
3	160.0350	150	341	-83.15	-13.00	70.15	Pass	Horizontal
4	184.3347	150	179	-82.09	-13.00	69.09	Pass	Horizontal
5	270.0385	150	58	-80.05	-13.00	67.05	Pass	Horizontal
6	414.3817	150	1	-78.81	-13.00	65.81	Pass	Horizontal
7	1422.0000	150	139	-49.10	-13.00	36.10	Pass	Horizontal
8	2133.0000	150	98	-50.98	-13.00	37.98	Pass	Horizontal
9	2698.5699	150	139	-47.23	-13.00	34.23	Pass	Horizontal
10	2844.0000	150	357	-49.75	-13.00	36.75	Pass	Horizontal
11	5133.2133	150	51	-47.56	-13.00	34.56	Pass	Horizontal
12	9699.6700	150	64	-41.36	-13.00	28.36	Pass	Horizontal

Mode:		LTE Traffic						
Band:		17	Channel:			23800		
Remark:		10M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	50.8560	150	173	-67.03	-13.00	54.03	Pass	Vertical
2	71.9061	150	360	-71.36	-13.00	58.36	Pass	Vertical
3	184.2862	150	113	-74.85	-13.00	61.85	Pass	Vertical
4	208.8769	150	134	-71.42	-13.00	58.42	Pass	Vertical
5	360.0105	150	113	-78.45	-13.00	65.45	Pass	Vertical
6	411.4716	150	1	-77.68	-13.00	64.68	Pass	Vertical
7	1295.6296	150	173	-48.95	-13.00	35.95	Pass	Vertical
8	1422.0000	150	113	-48.05	-13.00	35.05	Pass	Vertical
9	2133.0000	150	74	-49.89	-13.00	36.89	Pass	Vertical
10	2844.0000	150	360	-50.13	-13.00	37.13	Pass	Vertical
11	3117.0117	150	143	-46.17	-13.00	33.17	Pass	Vertical
12	9116.1116	150	252	-42.77	-13.00	29.77	Pass	Vertical

16QAM

Mode:		LTE Traffic						
Band:		17			Channel:		23755	
Remark:		5M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	44.5992	150	228	-82.83	-13.00	69.83	Pass	Horizontal
2	81.2186	150	133	-82.72	-13.00	69.72	Pass	Horizontal
3	175.0223	150	308	-83.86	-13.00	70.86	Pass	Horizontal
4	313.4967	150	16	-80.98	-13.00	67.98	Pass	Horizontal
5	533.8917	150	291	-78.24	-13.00	65.24	Pass	Horizontal
6	813.6052	150	1	-73.58	-13.00	60.58	Pass	Horizontal
7	1413.0000	150	308	-49.44	-13.00	36.44	Pass	Horizontal
8	2119.5000	150	72	-47.64	-13.00	34.64	Pass	Horizontal
9	2826.0000	150	111	-47.47	-13.00	34.47	Pass	Horizontal
10	5454.2454	150	323	-47.63	-13.00	34.63	Pass	Horizontal
11	8489.0489	150	114	-43.30	-13.00	30.30	Pass	Horizontal
12	11211.8212	150	273	-41.68	-13.00	28.68	Pass	Horizontal

Mode:		LTE Traffic						
Band:		17			Channel:		23755	
Remark:		5M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	43.2412	150	74	-69.96	-13.00	56.96	Pass	Vertical
2	77.7264	150	348	-76.61	-13.00	63.61	Pass	Vertical
3	114.7337	150	152	-82.97	-13.00	69.97	Pass	Vertical
4	174.2947	150	113	-79.31	-13.00	66.31	Pass	Vertical
5	284.9772	150	95	-81.75	-13.00	68.75	Pass	Vertical
6	519.9715	150	174	-79.63	-13.00	66.63	Pass	Vertical
7	1413.0000	150	74	-49.56	-13.00	36.56	Pass	Vertical
8	2119.5000	150	17	-49.27	-13.00	36.27	Pass	Vertical
9	2826.0000	150	309	-49.43	-13.00	36.43	Pass	Vertical
10	4156.6157	150	348	-49.68	-13.00	36.68	Pass	Vertical
11	6283.8284	150	6	-49.82	-13.00	36.82	Pass	Vertical
12	11082.8083	150	128	-44.54	-13.00	31.54	Pass	Vertical

Mode:		LTE Traffic						
Band:		17	Channel:				23790	
Remark:		5M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	54.0572	150	74	-79.70	-13.00	66.70	Pass	Horizontal
2	82.5766	150	310	-82.60	-13.00	69.60	Pass	Horizontal
3	149.9950	150	17	-83.21	-13.00	70.21	Pass	Horizontal
4	304.7177	150	331	-80.39	-13.00	67.39	Pass	Horizontal
5	493.8287	150	1	-77.99	-13.00	64.99	Pass	Horizontal
6	871.0806	150	214	-73.16	-13.00	60.16	Pass	Horizontal
7	1420.0000	150	331	-47.84	-13.00	34.84	Pass	Horizontal
8	1853.4853	150	231	-50.34	-13.00	37.34	Pass	Horizontal
9	2130.0000	150	153	-47.91	-13.00	34.91	Pass	Horizontal
10	2840.0000	150	253	-46.41	-13.00	33.41	Pass	Horizontal
11	5994.2994	150	6	-47.60	-13.00	34.60	Pass	Horizontal
12	9054.6055	150	359	-42.79	-13.00	29.79	Pass	Horizontal

Mode:		LTE Traffic						
Band:		17	Channel:				23790	
Remark:		5M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	60.4595	150	16	-71.25	-13.00	58.25	Pass	Vertical
2	107.8464	150	330	-82.63	-13.00	69.63	Pass	Vertical
3	310.2470	150	360	-81.80	-13.00	68.80	Pass	Vertical
4	385.0378	150	1	-80.50	-13.00	67.50	Pass	Vertical
5	533.6977	150	308	-78.41	-13.00	65.41	Pass	Vertical
6	905.0323	150	291	-70.46	-13.00	57.46	Pass	Vertical
7	1420.0000	150	112	-47.77	-13.00	34.77	Pass	Vertical
8	2130.0000	150	34	-48.65	-13.00	35.65	Pass	Vertical
9	2840.0000	150	173	-47.81	-13.00	34.81	Pass	Vertical
10	5229.2229	150	55	-48.18	-13.00	35.18	Pass	Vertical
11	6849.3849	150	312	-47.22	-13.00	34.22	Pass	Vertical
12	10220.2220	150	288	-42.76	-13.00	29.76	Pass	Vertical

Mode:		LTE Traffic						
Band:		17		Channel:		23825		
Remark:		5M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	42.0286	150	193	-83.14	-13.00	70.14	Pass	Horizontal
2	71.9061	150	137	-83.26	-13.00	70.26	Pass	Horizontal
3	104.9362	150	216	-80.01	-13.00	67.01	Pass	Horizontal
4	231.2366	150	193	-84.27	-13.00	71.27	Pass	Horizontal
5	534.3767	150	350	-77.93	-13.00	64.93	Pass	Horizontal
6	871.9051	150	255	-73.02	-13.00	60.02	Pass	Horizontal
7	1427.0000	150	311	-46.00	-13.00	33.00	Pass	Horizontal
8	2140.5000	150	272	-47.97	-13.00	34.97	Pass	Horizontal
9	2854.0000	150	193	-50.04	-13.00	37.04	Pass	Horizontal
10	4210.6211	150	348	-49.00	-13.00	36.00	Pass	Horizontal
11	7245.4245	150	91	-45.42	-13.00	32.42	Pass	Horizontal
12	11343.8344	150	42	-42.13	-13.00	29.13	Pass	Horizontal

Mode:		LTE Traffic						
Band:		17		Channel:		23825		
Remark:		5M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	37.5179	150	269	-78.37	-13.00	65.37	Pass	Vertical
2	99.2130	150	113	-80.92	-13.00	67.92	Pass	Vertical
3	249.9585	150	95	-82.12	-13.00	69.12	Pass	Vertical
4	411.4231	150	56	-79.41	-13.00	66.41	Pass	Vertical
5	633.6612	150	269	-76.79	-13.00	63.79	Pass	Vertical
6	878.0164	150	269	-71.29	-13.00	58.29	Pass	Vertical
7	1237.4237	150	152	-50.36	-13.00	37.36	Pass	Vertical
8	1427.0000	150	95	-46.59	-13.00	33.59	Pass	Vertical
9	2140.5000	150	292	-49.76	-13.00	36.76	Pass	Vertical
10	2854.0000	150	213	-50.96	-13.00	37.96	Pass	Vertical
11	4462.6463	150	359	-49.46	-13.00	36.46	Pass	Vertical
12	9108.6109	150	31	-44.33	-13.00	31.33	Pass	Vertical

Mode:		LTE Traffic						
Band:		17	Channel:				23780	
Remark:		10M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	50.9045	150	17	-80.09	-13.00	67.09	Pass	Horizontal
2	149.9950	150	231	-83.67	-13.00	70.67	Pass	Horizontal
3	233.5162	150	253	-84.30	-13.00	71.30	Pass	Horizontal
4	307.9674	150	34	-80.93	-13.00	67.93	Pass	Horizontal
5	521.6691	150	1	-78.09	-13.00	65.09	Pass	Horizontal
6	867.9279	150	95	-72.48	-13.00	59.48	Pass	Horizontal
7	1418.0000	150	309	-49.39	-13.00	36.39	Pass	Horizontal
8	2127.0000	150	74	-49.06	-13.00	36.06	Pass	Horizontal
9	2836.0000	150	95	-47.32	-13.00	34.32	Pass	Horizontal
10	4467.1467	150	104	-47.95	-13.00	34.95	Pass	Horizontal
11	7380.4380	150	42	-44.59	-13.00	31.59	Pass	Horizontal
12	10427.2427	150	91	-42.78	-13.00	29.78	Pass	Horizontal

Mode:		LTE Traffic						
Band:		17	Channel:				23780	
Remark:		10M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	43.4837	150	291	-68.15	-13.00	55.15	Pass	Vertical
2	92.8591	150	348	-78.11	-13.00	65.11	Pass	Vertical
3	152.0321	150	348	-80.55	-13.00	67.55	Pass	Vertical
4	262.8116	150	34	-82.58	-13.00	69.58	Pass	Vertical
5	444.7442	150	1	-78.22	-13.00	65.22	Pass	Vertical
6	634.8737	150	73	-75.87	-13.00	62.87	Pass	Vertical
7	1418.0000	150	73	-46.43	-13.00	33.43	Pass	Vertical
8	2127.0000	150	191	-47.42	-13.00	34.42	Pass	Vertical
9	2836.0000	150	73	-46.87	-13.00	33.87	Pass	Vertical
10	4197.1197	150	263	-48.48	-13.00	35.48	Pass	Vertical
11	5995.7996	150	214	-47.95	-13.00	34.95	Pass	Vertical
12	11141.3141	150	91	-42.14	-13.00	29.14	Pass	Vertical

Mode:		LTE Traffic						
Band:		17	Channel:			23790		
Remark:		10M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	55.1728	150	348	-80.41	-13.00	67.41	Pass	Horizontal
2	81.1701	150	76	-83.69	-13.00	70.69	Pass	Horizontal
3	229.6360	150	34	-85.56	-13.00	72.56	Pass	Horizontal
4	311.3141	150	137	-81.12	-13.00	68.12	Pass	Horizontal
5	588.3114	150	331	-77.74	-13.00	64.74	Pass	Horizontal
6	957.8029	150	360	-70.18	-13.00	57.18	Pass	Horizontal
7	1135.6136	150	137	-50.02	-13.00	37.02	Pass	Horizontal
8	1420.0000	150	154	-47.89	-13.00	34.89	Pass	Horizontal
9	2130.0000	150	360	-49.70	-13.00	36.70	Pass	Horizontal
10	2840.0000	150	231	-49.30	-13.00	36.30	Pass	Horizontal
11	5899.7900	150	1	-48.14	-13.00	35.14	Pass	Horizontal
12	9231.6232	150	1	-43.30	-13.00	30.30	Pass	Horizontal

Mode:		LTE Traffic						
Band:		17	Channel:			23790		
Remark:		10M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	60.0230	150	360	-70.30	-13.00	57.30	Pass	Vertical
2	108.1859	150	327	-80.66	-13.00	67.66	Pass	Vertical
3	250.0555	150	73	-81.28	-13.00	68.28	Pass	Vertical
4	338.6694	150	56	-79.71	-13.00	66.71	Pass	Vertical
5	481.8486	150	288	-77.99	-13.00	64.99	Pass	Vertical
6	844.5497	150	228	-70.34	-13.00	57.34	Pass	Vertical
7	1198.6199	150	305	-48.93	-13.00	35.93	Pass	Vertical
8	1420.0000	150	112	-46.68	-13.00	33.68	Pass	Vertical
9	2130.0000	150	211	-49.63	-13.00	36.63	Pass	Vertical
10	2840.0000	150	73	-46.86	-13.00	33.86	Pass	Vertical
11	5608.7609	150	359	-47.79	-13.00	34.79	Pass	Vertical
12	10412.2412	150	359	-41.69	-13.00	28.69	Pass	Vertical

Mode:		LTE Traffic						
Band:		17	Channel:				23800	
Remark:		10M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	49.4010	150	139	-80.52	-13.00	67.52	Pass	Horizontal
2	105.9548	150	17	-80.22	-13.00	67.22	Pass	Horizontal
3	208.9254	150	219	-85.13	-13.00	72.13	Pass	Horizontal
4	306.7548	150	260	-80.85	-13.00	67.85	Pass	Horizontal
5	441.9311	150	260	-79.22	-13.00	66.22	Pass	Horizontal
6	883.6427	150	318	-71.90	-13.00	58.90	Pass	Horizontal
7	1422.0000	150	139	-49.48	-13.00	36.48	Pass	Horizontal
8	2133.0000	150	98	-50.78	-13.00	37.78	Pass	Horizontal
9	2844.0000	150	357	-47.69	-13.00	34.69	Pass	Horizontal
10	4189.6190	150	0	-47.82	-13.00	34.82	Pass	Horizontal
11	7543.9544	150	187	-45.55	-13.00	32.55	Pass	Horizontal
12	11216.3216	150	3	-42.37	-13.00	29.37	Pass	Horizontal

Mode:		LTE Traffic						
Band:		17	Channel:				23800	
Remark:		10M						
NO.	Freq. [MHz]	Height [cm]	Azimuth [deg]	Level [dBm]	Limit [dBm]	Margin [dB]	Result	Polarity
1	59.9745	150	329	-70.58	-13.00	57.58	Pass	Vertical
2	103.1902	150	173	-82.04	-13.00	69.04	Pass	Vertical
3	250.0070	150	268	-82.84	-13.00	69.84	Pass	Vertical
4	327.6594	150	346	-80.73	-13.00	67.73	Pass	Vertical
5	591.7551	150	307	-77.08	-13.00	64.08	Pass	Vertical
6	829.9020	150	360	-70.64	-13.00	57.64	Pass	Vertical
7	1195.8196	150	346	-50.71	-13.00	37.71	Pass	Vertical
8	1422.0000	150	113	-45.95	-13.00	32.95	Pass	Vertical
9	2133.0000	150	74	-49.57	-13.00	36.57	Pass	Vertical
10	2844.0000	150	360	-48.46	-13.00	35.46	Pass	Vertical
11	5785.7786	150	179	-49.29	-13.00	36.29	Pass	Vertical
12	10227.7228	150	1	-43.01	-13.00	30.01	Pass	Vertical

Note:

Scan from 9kHz to 25GHz, the disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

PHOTOGRAPHS OF TEST SETUP

Test model No.: IO Pro



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



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

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No.EED32I00251401 for EUT external and internal photos.

*** End of Report ***

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