

TEST REPORT

Product : WisePad 2
Trade mark : BBPOS
Model/Type reference : WPC23
Serial Number : N/A
Report Number : EED32J00095405
FCC ID : 2AB7X-WISEPAD2-3G
Date of Issue : Jun. 21, 2017
Test Standards : 47 CFR Part 2(2015)
47 CFR Part 22 subpart H
47 CFR Part 24 subpart E
Test result : PASS

Prepared for:

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Date:

Jun. 21, 2017



Check No.:2402681052

2 Version

Version No.	Date	Description
00	Jun. 21, 2017	Original

3 Test Summary

GSM 850, WCDMA(Band V)			
Test Item	Test Requirement	Test method	Result
Conducted output power	Part 2.1046(a)/Part 22.913(a)	TIA-603-E-2016 &KDB 971168 D01v02r02	PASS
Effective Radiated Power of Transmitter(ERP)	Part 2.1046(a)/Part 22.913(a)	TIA-603-E-2016 &KDB 971168 D01v02r02	PASS
99%&26dB Occupied Bandwidth	Part 2.1049(h)	Part 22.917(b) &KDB 971168 D01v02r02	PASS
Band Edge at antenna terminals	Part 2.1051/Part 22.917(a)	Part 22.917(b) &KDB 971168 D01v02r02	PASS
Spurious emissions at antenna terminals	Part 2.1051/ Part 2.1057/ Part 22.917(a)(b)	TIA-603-E-2016 &KDB 971168 D01v02r02	PASS
Field strength of spurious radiation	Part 2.1053/ Part 2.1057/ Part 22.917(a)(b)	TIA-603-E-2016 &KDB 971168 D01v02r02	PASS
Frequency stability	Part 2.1055/ Part 22.355	TIA-603-E-2016 &KDB 971168 D01v02r02	PASS
GSM 1900,WCDMA(Band II)			
Test Item	Test Requirement	Test method	Result
Conducted output power	Part 2.1046(a) /Part 24.232(c)	TIA-603-E-2016&KDB 971168 D01v02r02	PASS
Effective Radiated Power of Transmitter(EIRP)	Part 2.1046(a) / Part 24.232(c)	TIA-603-E-2016 &KDB 971168 D01v02r02	PASS
peak-to-average ratio	Part 24.232(d)	KDB 971168 D01v02r02	PASS
99% &26dBOccupied Bandwidth	Part 2.1049(h)	Part 24.238(b) &KDB 971168 D01v02r02	PASS
Band Edge at antenna terminals	Part 2.1051/ Part 24.238(a)	Part 24.238(b) &KDB 971168 D01v02r02	PASS
Spurious emissions at antenna terminals	Part 2.1051/ Part 2.1057/ Part 24.238(a)(b)	TIA-603-E-2016 &KDB 971168 D01v02r02	PASS
Field strength of spurious radiation	Part 2.1053 /Part 2.1057 / Part 24.238(a)(b)	TIA-603-E-2016 &KDB 971168 D01v02r02	PASS
Frequency stability	Part 2.1055/Part 24.235	TIA-603-E-2016 &KDB 971168 D01v02r02	PASS

Remark:

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

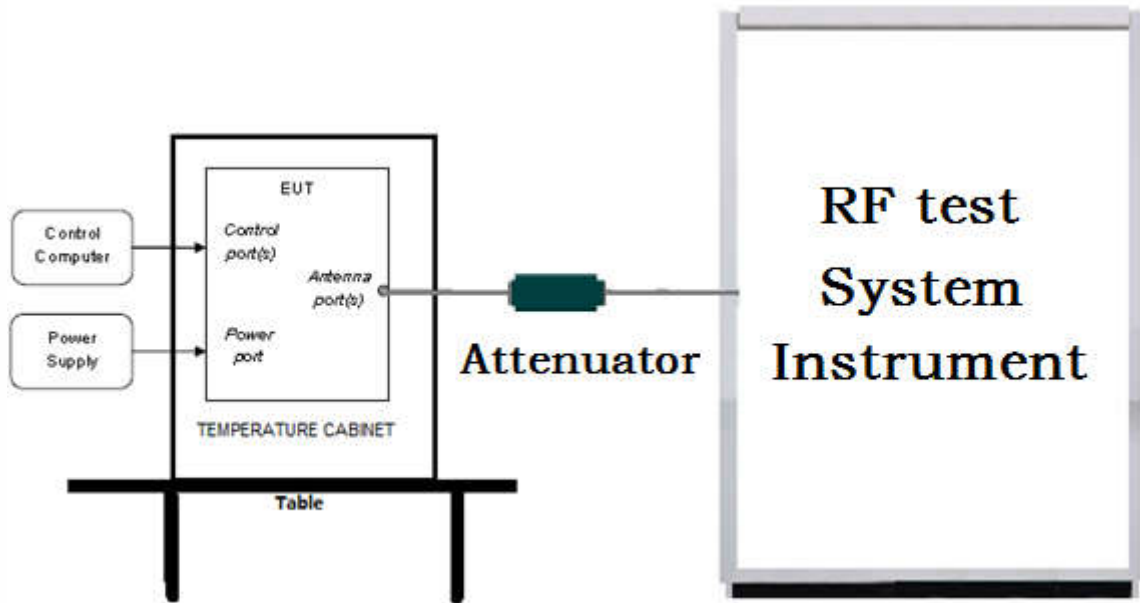
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5 Test Requirement

5.1 Test setup

5.1.1 For Conducted test setup



5.1.2 For Radiated Emissions test setup

Radiated Emissions setup:

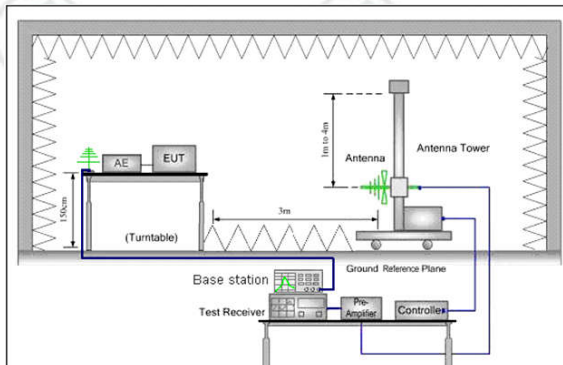


Figure 1.30MHz to 1GHz

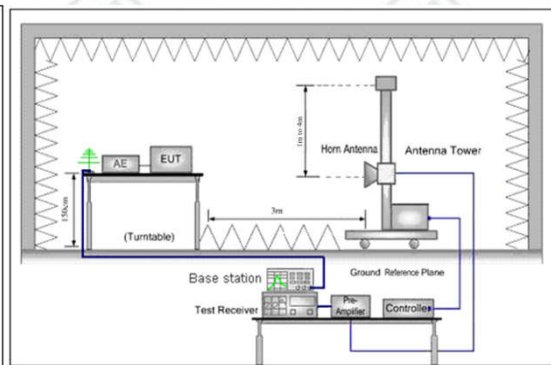


Figure 2. above 1GHz

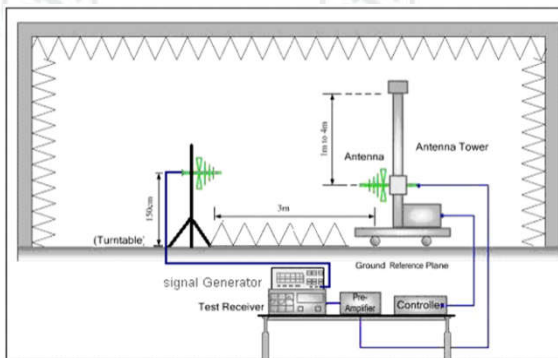


Figure 1. 30MHz to 1GHz

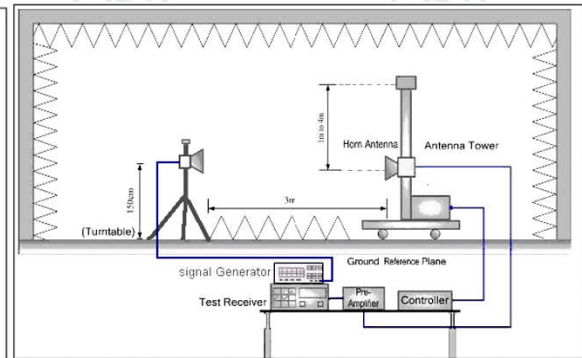


Figure 2. above 1GHz

5.2 Test Environment

Operating Environment:	
Temperature:	22°C
Humidity:	55% RH
Atmospheric Pressure:	1010mbar

5.3 Test Condition

Test channel:

Test Mode	Tx/Rx	RF Channel		
		Low(L)	Middle(M)	High(H)
GPRS/ EDGE850	Tx (824 MHz ~849 MHz)	Channel 128	Channel 190	Channel 251
		824.2MHz	836.6 MHz	848.8 MHz
	Rx (869 MHz ~894 MHz)	Channel 128	Channel 190	Channel 251
		869.2 MHz	881.6 MHz	893.8 MHz
WCDMA/HSD PA HSUPA HSPA+(Down Link) band V	Tx (824 MHz ~849 MHz)	Channel 4132	Channel 4182	Channel 4233
		826.4 MHz	836.4 MHz	846.6 MHz
	Rx (869 MHz ~894 MHz)	Channel 4357	Channel 4407	Channel 4458
		871.4 MHz	881.4 MHz	891.6 MHz
GPRS/ EDGE1900	Tx (1850 MHz ~1910 MHz)	Channel 512	Channel 661	Channel 810
		1850.2MHz	1880.0 MHz	1909.8 MHz
	Rx (1930 MHz ~1990 MHz)	Channel 512	Channel 661	Channel 810
		1930.2 MHz	1960.0 MHz	1989.8 MHz
WCDMA/HSD PA HSUPA HSPA+(Down Link) Band II	Tx (1850 MHz ~1910 MHz)	Channel 9262	Channel 9400	Channel 9538
		1852.4 MHz	1880.0 MHz	1907.6 MHz
	Rx (1930 MHz ~1990 MHz)	Channel 9662	Channel 9800	Channel 9938
		1932.4 MHz	1960.0 MHz	1987.6 MHz

Test mode:

Pre-scan under all rate at lowest middle and highest channel ,find the transmitter power as below:

band	GSM850 (dBm)			GSM1900 (dBm)		
	128	190	251	512	661	810
Channel	128	190	251	512	661	810
Frequency(MHz)	824.2MHz	836.6MHz	848.8MHz	1850.2MHz	1880MHz	1909.8MHz
GPRS Class 8	32.51	32.62	32.52	28.54	28.42	28.84
EDGE Class 8	26.73	26.80	27.02	24.71	24.58	24.45

band	WCDMA Band V (dBm)			WCDMA Band II (dBm)		
	Channel	4132	4182	4233	9262	9400
Frequency(MHz)	826.4MHz	836.4MHz	846.6MHz	1852.4MHz	1880MHz	1907.6MHz
RMC 12.2K	22.62	22.86	22.38	23.12	23.05	22.71
HSDPA	21.62	22.82	22.28	23.42	22.28	22.052
HSUPA	21.07	22.12	21.87	21.12	21.89	22.08

Pre-scan all mode and data rates and positions,find the worse case mode as below:

band	Radiated	Conducted
GPRS/EDGE 850	1)GPRS 8 Link 2)EDGE 8 Link	1)GPRS 8 Link 2)EDGE 8 Link
GPRS/EDGE 1900	1)GPRS 8 Link 2)EDGE 8 Link	1)GPRS 8 Link 2)EDGE 8 Link
WCDMA Band V	1)RMC 12.2Kbps Link 2)HSDPA 3)HSUPA	1)RMC 12.2Kbps Link 2)HSDPA 3)HSUPA
WCDMA Band II	1)RMC 12.2Kbps Link 2)HSDPA 3)HSUPA	1)RMC 12.2Kbps Link 2)HSDPA 3)HSUPA

Test mode:

Test Mode	Test Modes description
GSM/TM2	GSM system, GPRS, GMSK modulation
GSM/TM3	GSM system, EDGE, 8PSK modulation
Test Mode	Test Modes description
UMTS/TM1	WCDMA system, QPSK modulation
UMTS/TM2	HSDPA system, QPSK modulation
UMTS/TM3	HSUPA system, QPSK modulation

6 General Information

6.1 Client Information

Applicant:	BBPOS International Limited
Address of Applicant:	Suite 1602, 16/F, Tower 2, Nina Tower, No. 8 Yeung Uk Road, Tsuen Wan, NT, Hong Kong
Manufacturer:	BBPOS International Limited
Address of Manufacturer:	Suite 1602, 16/F, Tower 2, Nina Tower, No. 8 Yeung Uk Road, Tsuen Wan, NT, Hong Kong

6.2 General Description of EUT

Product Name:	WisePad 2
Mode No.(EUT):	WPC23
Trade Mark:	BBPOS
EUT Supports Radios application:	GPRS/EDGE 850/1900 WCDMA/HSDPA /HSUPA Band V/Band II
Power Supply:	DC 3.7V by Battery DC 5V by USB port
Battery	Li-polymer 3.7V, 750mAh
Sample Received Date:	May 18, 2017
Sample tested Date:	May 18, 2017 to Jun. 21, 2017

6.3 Product Specification subjective to this standard

Frequency Band:	GPRS/EDGE 850: Tx:824.20 -848.80MHz; Rx: 869.20 – 893.80MHz GPRS/EDGE 1900: Tx:1850.20 – 1909.80MHz; Rx:1930.20 – 1989.80MHz WCDMA/HSDPA/HSUPA Band V: Tx:826.40 -846.60MHz; Rx: 871.40 – 891.60MHz WCDMA/HSDPA/HSUPA Band II: Tx:1852.40 – 1907.60MHz; Rx:1932.40 – 1987.60MHz
Modulation Type:	GPRS Mode with GMSK Modulation EDGE Mode with 8PSK Modulation WCDMA Mode with QPSK Modulation
Sample Type:	Portable
Antenna Type:	Monopole
Antenna Gain:	GSM850MHz: -2dBi GSM1900MHz: 0dBi WCDMA1900MHz: 0dBi WCDMA850MHz: -2dBi
Test Voltage:	DC 3.7V by Battery DC 5V by USB port

6.4 Description of Support Units

The EUT has been tested dependently.

6.5 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd.

Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China 518101

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

No tests were sub-contracted.

6.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L1910

Centre Testing International Group Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories..

A2LA-Lab Cert. No. 3061.01

Centre Testing International Group Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC-Registration No.: 886427

Centre Testing International Group Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 886427.

IC-Registration No.: 7408A-2

The 3m Alternate Test Site of Centre Testing International Group Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 7408A-2 .

IC-Registration No.: 7408B-1

The 10m Alternate Test Site of Centre Testing International Group Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 7408B-1.

NEMKO-Aut. No.: ELA503

Centre Testing International Group Co., Ltd. has been assessed the quality assurance system, the testing facilities, qualifications and testing practices of the relevant parts of the organization. The quality assurance system of the Laboratory has been validated against ISO/IEC 17025 or equivalent. The laboratory also fulfils the conditions described in Nemko Document NLA-10.

VCCI

The Radiation 3 &10 meters site of Centre Testing International Group Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-4096.

Main Ports Conducted Interference Measurement of Centre Testing International Group Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: C-4563.

Telecommunication Ports Conducted Disturbance Measurement of

Centre Testing International Group Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: T-2146.

The Radiation 3 meters site of Centre Testing International Group Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-758

6.7 Deviation from Standards

None.

6.8 Abnormalities from Standard Conditions

None.

6.9 Other Information Requested by the Customer

None.

6.10 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	Mode No.	Serial Number	Cal. Date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Spectrum Analyzer	Agilent	E4440A	MY46185649	12-16-2016	12-15-2017
Signal Generator	Agilent	E4438C	MY45095744	03-14-2017	03-13-2018
Communication test set	Agilent	E5515C	GB47050534	03-14-2017	03-13-2018
Signal Generator	Keysight	E8257D	MY53401106	03-14-2017	03-13-2018
Communication test set	R&S	CMW500	152394	03-14-2017	03-13-2018
High-pass filter	Sinoscite	FL3CX03WG18 NM12-0398-002	---	01-12-2017	01-11-2018
High-pass filter	MICRO-TRONICS	SPA-F-63029-4	---	01-12-2017	01-11-2018
band rejection filter	Sinoscite	FL5CX01CA09C L12-0395-001	---	01-12-2017	01-11-2018
band rejection filter	Sinoscite	FL5CX01CA08C L12-0393-001	---	01-12-2017	01-11-2018
band rejection filter	Sinoscite	FL5CX02CA04C L12-0396-002	---	01-12-2017	01-11-2018
band rejection filter	Sinoscite	FL5CX02CA03C L12-0394-001	---	01-12-2017	01-11-2018
DC Power	Keysight	E3642A	MY54426112	03-14-2017	03-13-2018
DC Power	Keysight	E3642A	MY54426115	03-14-2017	03-13-2018
PC-2	Lenovo	R4960d	---	04-01-2017	03-31-2018
PC-3	Lenovo	R4960d	---	04-01-2017	03-31-2018
RF control unit	JS Tonscend	JS0806-1	158060004	03-14-2017	03-13-2018
DC power Box	JS Tonscend	JS0806-4	158060007	04-01-2017	03-31-2018
LTE Automatic test software	JS Tonscend	JS1120-1	---	04-01-2017	03-31-2018
WCDMA Automatic test software	JS Tonscend	JS1120-3	---	04-01-2017	03-31-2018
GSM Automatic test software	JS Tonscend	JS1120-3	---	04-01-2017	03-31-2018

Radiated Spurious Emission & Radiated Emission					
Equipment	Manufacturer	Mode No.	Serial Number	Cal. date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
3M Chamber & Accessory Equipment	TDK	SAC-3	---	06-05-2016	06-05-2019
TRILOG Broadband Antenna	SCHWARZBECK	VULB9163	9163-484	05-23-2017	05-22-2018
Microwave Preampifier	Agilent	8449B	3008A02425	02-16-2017	02-15-2018
Horn Antenna	ETS-LINDGREN	3117	00057407	07-20-2015	07-18-2018
Loop Antenna	ETS	6502	00071730	07-30-2015	07-28-2017
Spectrum Analyzer	R&S	FSP40	100416	06-13-2017	06-12-2018
Receiver	R&S	ESCI	100435	06-13-2017	06-12-2018
Multi device Controller	matturo	NCD/070/10711 112	---	01-12-2017	01-11-2018
LISN	schwarzbeck	NNBM8125	81251547	06-13-2017	06-12-2018
LISN	schwarzbeck	NNBM8125	81251548	06-13-2017	06-12-2018
Signal Generator	Agilent	E4438C	MY45095744	03-14-2017	03-13-2018
Signal Generator	Keysight	E8257D	MY53401106	03-14-2017	03-13-2018
Temperature/ Humidity Indicator	TAYLOR	1451	1905	05-08-2017	05-07-2018
Communication test set	Agilent	E5515C	GB47050534	03-14-2017	03-13-2018
Cable line	Fulai(7M)	SF106	5219/6A	01-12-2017	01-11-2018
Cable line	Fulai(6M)	SF106	5220/6A	01-12-2017	01-11-2018
Cable line	Fulai(3M)	SF106	5216/6A	01-12-2017	01-11-2018
Cable line	Fulai(3M)	SF106	5217/6A	01-12-2017	01-11-2018
Communication test set	R&S	CMW500	152394	03-14-2017	03-13-2018
High-pass filter(3-18GHz)	Sinoscite	FL3CX03WG18 NM12-0398-002	---	01-12-2017	01-11-2018
High-pass filter(6-18GHz)	MICRO-TRONICS	SPA-F-63029-4	---	01-12-2017	01-11-2018
band rejection filter	Sinoscite	FL5CX01CA09C L12-0395-001	---	01-12-2017	01-11-2018
band rejection filter	Sinoscite	FL5CX01CA08C L12-0393-001	---	01-12-2017	01-11-2018
band rejection filter	Sinoscite	FL5CX02CA04C L12-0396-002	---	01-12-2017	01-11-2018
band rejection filter	Sinoscite	FL5CX02CA03C L12-0394-001	---	01-12-2017	01-11-2018

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 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 v02r02

Test Results List:

Test Requirement	Test method	Test item	Verdict	Note
Part 2.1046(a)/Part 22.913(a)/ part 24.232(c)	TIA-603-E&KDB 971168 D01v02r02	Conducted output power	PASS	Appendix A)
Part 24.232(d)	KDB 971168 D01v02r02	peak-to-average ratio	PASS	Appendix B)
Part 2.1049(h)	Part 22.917(b)/ Part 24.238(b) &KDB 971168 D01v02r02	99% &26dB Occupied Bandwidth	PASS	Appendix C)
Part 2.1051/Part 22.917(a)/ Part 24.238(a)	Part 22.917(b)/ Part 24.238(b) &KDB 971168 D01v02r02	Band Edge at antenna terminals	PASS	Appendix D)
Part 2.1051/ Part 2.1057/ Part 22.917(a)(b)/ Part 24.238(a)(b)	TIA-603-E &KDB 971168 D01v02r02	Spurious emissions at antenna terminals	PASS	Appendix E)
Part 2.1055/ Part 22.355/ Part 24.235	TIA-603-E &KDB 971168 D01v02r02	Frequency stability	PASS	Appendix F)
Part 2.1053/ Part 2.1057/ Part 22.917(a)(b)/ Part 24.238(a)(b)	TIA-603-E &KDB 971168 D01v02r02	Field strength of spurious radiation	PASS	Appendix G)
Part 2.1046(a)/Part 22.913(a)/ Part 24.232(c)	TIA-603-E &KDB 971168 D01v02r02	Effective Radiated Power of Transmitter(ERP)	PASS	Appendix H)

Appendix A): RF Power Output

Test Requirement:	Part 2.1046(a)		
Test Method:	TIA-603-E-2016 Clause 2.2.1		
Test Setup:	Refer to section 5 for details		
Limit:	Mode	GSM 850/WCDMA/HSDPA /HSUPA 850 Band V	GSM 1900/WCDMA/HSDPA /HSUPA 1900 Band II
	Frequency	824 – 849MHz	1850 – 1910MHz
	Limit	38.45dBm (ERP)	33.01dBm (EIRP)
Measurement Procedure:	The transmitter output was connected to a calibrated coaxial cable, attenuator and power meter, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The power output at the transmitter antenna port was determined by adding the value of the cable insertion loss to the power reading. The tests were performed at three frequencies (low channel, middle channel and high channel) and on the highest power levels, which can be setup on the transmitters.		
Instruments Used:	Refer to section 7 for details		
Test Results:	Pass		

Test Data:

Test Band	Test Mode	Test Channel	Test slot	Measured(dbm)	Limit (dbm)	Verdict
GSM850	GSM/TM2	LCH	Slot1	32.45	38.5	PASS
			Slot2	32.35	38.5	PASS
			Slot3	30.78	38.5	PASS
			Slot4	29.73	38.5	PASS
		MCH	Slot1	32.53	38.5	PASS
			Slot2	32.48	38.5	PASS
			Slot3	30.88	38.5	PASS
			Slot4	29.82	38.5	PASS
		HCH	Slot1	32.49	38.5	PASS
			Slot2	32.46	38.5	PASS
			Slot3	30.98	38.5	PASS
			Slot4	29.86	38.5	PASS
	GSM/TM3	LCH	Slot1	26.92	38.5	PASS
			Slot2	26.88	38.5	PASS
			Slot3	26.83	38.5	PASS
			Slot4	26.82	38.5	PASS
		MCH	Slot1	26.94	38.5	PASS
			Slot2	26.85	38.5	PASS
			Slot3	26.83	38.5	PASS
			Slot4	26.84	38.5	PASS
HCH	Slot1	27.09	38.5	PASS		
	Slot2	27.04	38.5	PASS		
	Slot3	27.08	38.5	PASS		
	Slot4	27.00	38.5	PASS		

Test Band	Test Mode	Test Channel	Test slot	Measured(dbm)	Limit (dbm)	Verdict
GSM1900	GSM/TM2	LCH	Slot1	28.47	33	PASS
			Slot2	28.42	33	PASS
			Slot3	28.44	33	PASS
			Slot4	28.46	33	PASS
		MCH	Slot1	28.34	33	PASS
			Slot2	28.32	33	PASS
			Slot3	28.30	33	PASS
			Slot4	28.33	33	PASS
		HCH	Slot1	27.98	33	PASS
			Slot2	27.95	33	PASS
			Slot3	27.93	33	PASS
			Slot4	27.91	33	PASS
	GSM/TM3	LCH	Slot1	24.64	33	PASS
			Slot2	24.63	33	PASS
			Slot3	24.56	33	PASS
			Slot4	24.59	33	PASS
		MCH	Slot1	24.49	33	PASS
			Slot2	24.46	33	PASS
			Slot3	24.40	33	PASS
			Slot4	24.42	33	PASS
		HCH	Slot1	24.21	33	PASS
			Slot2	24.17	33	PASS
			Slot3	24.18	33	PASS
			Slot4	24.18	33	PASS

Test Band	Test Mode	Test Channel	Measured(dbm)	Limit (dbm)	Verdict
WCDMA850	UMTS/TM1	LCH	22.66	38.5	PASS
		MCH	22.84	38.5	PASS
		HCH	22.42	38.5	PASS
Test Band	Test Mode	Test Channel	Measured(dbm)	Limit (dbm)	Verdict
WCDMA850	UMTS/TM2	LCH	21.68	38.5	PASS
		MCH	22.87	38.5	PASS
		HCH	22.29	38.5	PASS
Test Band	Test Mode	Test Channel	Measured(dbm)	Limit (dbm)	Verdict
WCDMA850	UMTS/TM3	LCH	21.09	38.5	PASS
		MCH	22.14	38.5	PASS
		HCH	21.85	38.5	PASS

Test Band	Test Mode	Test Channel	Measured(dbm)	Limit (dbm)	Verdict
WCDMA1900	UMTS/TM1	LCH	23.18	33	PASS
		MCH	23.05	33	PASS
		HCH	22.73	33	PASS
Test Band	Test Mode	Test Channel	Measured(dbm)	Limit (dbm)	Verdict
WCDMA1900	UMTS/TM2	LCH	23.49	33	PASS
		MCH	22.27	33	PASS
		HCH	22.51	33	PASS

Test Band	Test Mode	Test Channel	Measured(dbm)	Limit (dbm)	Verdict
WCDMA1900	UMTS/TM3	LCH	21.13	33	PASS
		MCH	21.83	33	PASS
		HCH	22.01	33	PASS

Appendix B): Peak-to-Average Ratio

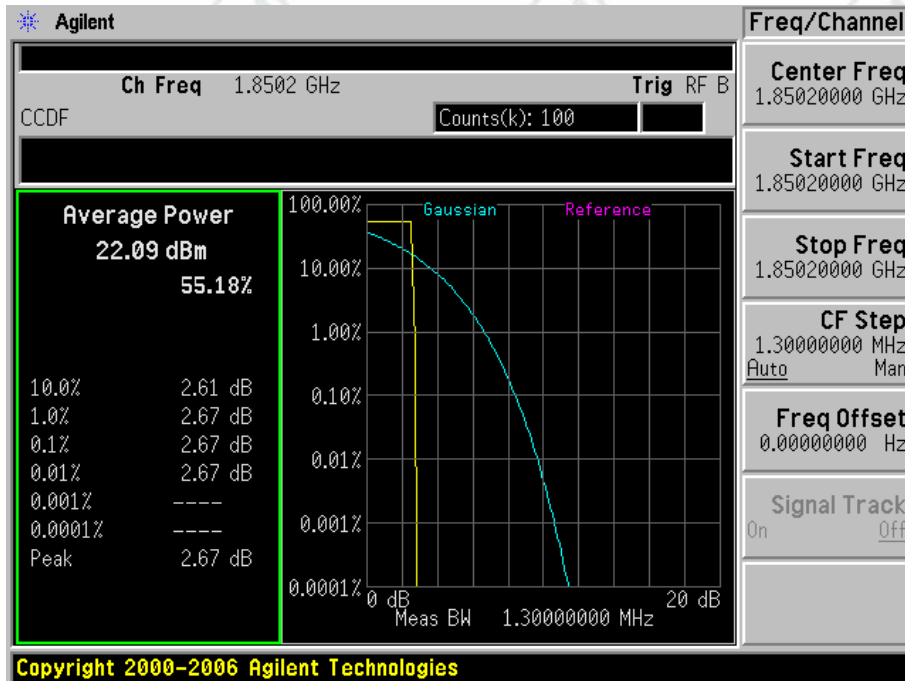
Test Requirement:	Part 24.232(d)
Test Method:	KDB 971168 D01
Test Setup:	Refer to section 5 for details
Limit:	13dB
Measurement Procedure:	Use one of the procedures to measure the total peak power and record as PPK. Use one of the applicable procedures to measure the total average power and record as PAvg. Both the peak and average power levels must be expressed in the same logarithmic units (e.g., dBm). Determine the PAPR from: $PAPR (dB) = PPK (dBm) - PAvg (dBm)$.
Instruments Used:	Refer to section 7 for details
Test Results:	Pass

Test Data:

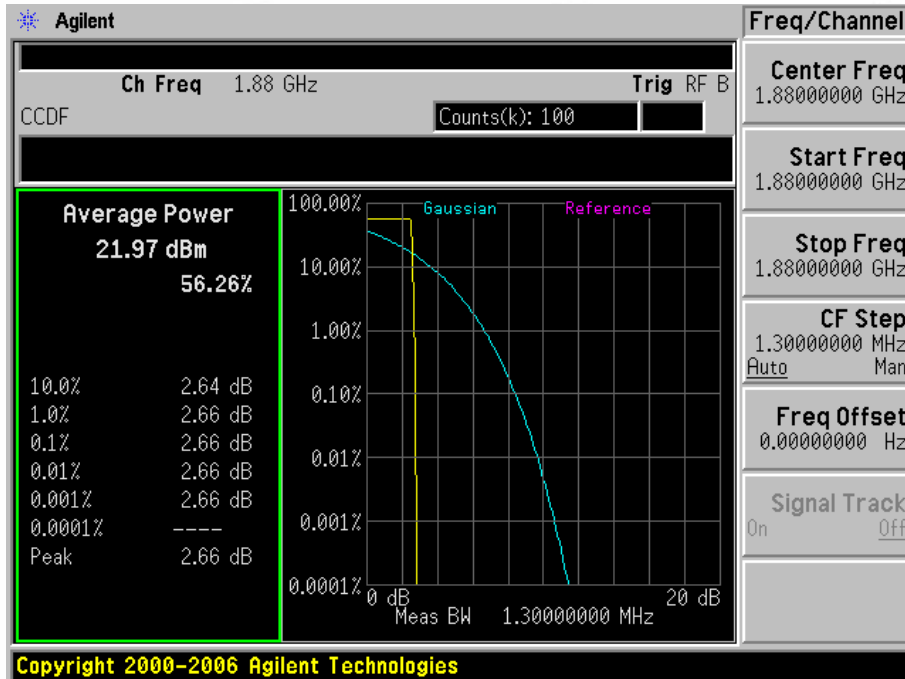
Test Band	Test Mode	Test Channel	Measured (dB)	Limit (dB)	Verdict
GSM1900	GSM/TM2	LCH	2.66	13	PASS
		MCH	2.67	13	PASS
		HCH	2.67	13	PASS
	GSM/TM3	LCH	5.37	13	PASS
		MCH	5.35	13	PASS
		HCH	5.43	13	PASS

1.1 Test Mode=GSM/TM2

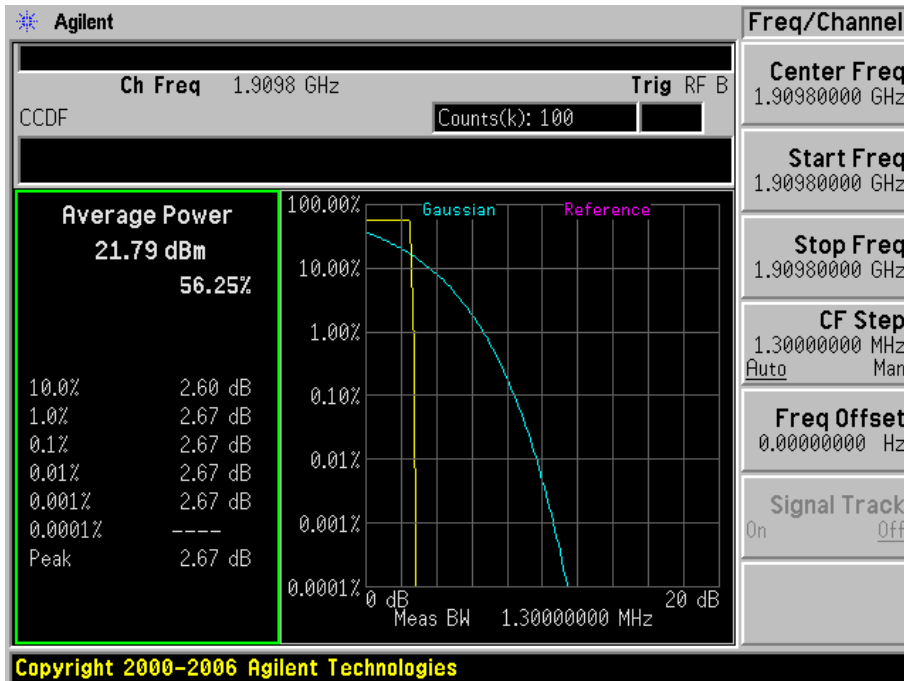
1.1.1.1 Test Channel=LCH



1.1.1.2 Test Channel=MCH

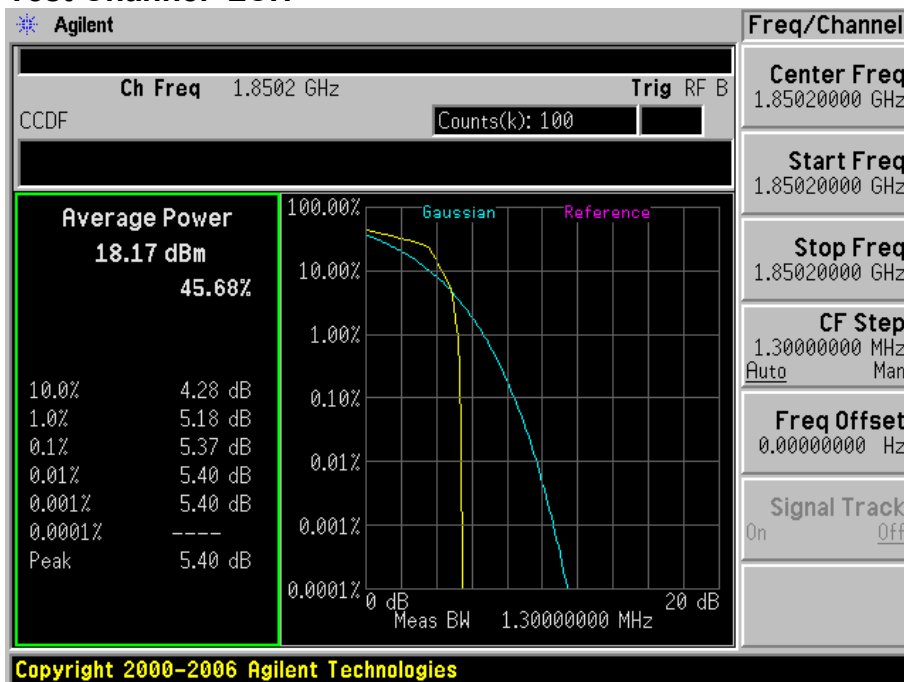


1.1.1.3 Test Channel=HCH

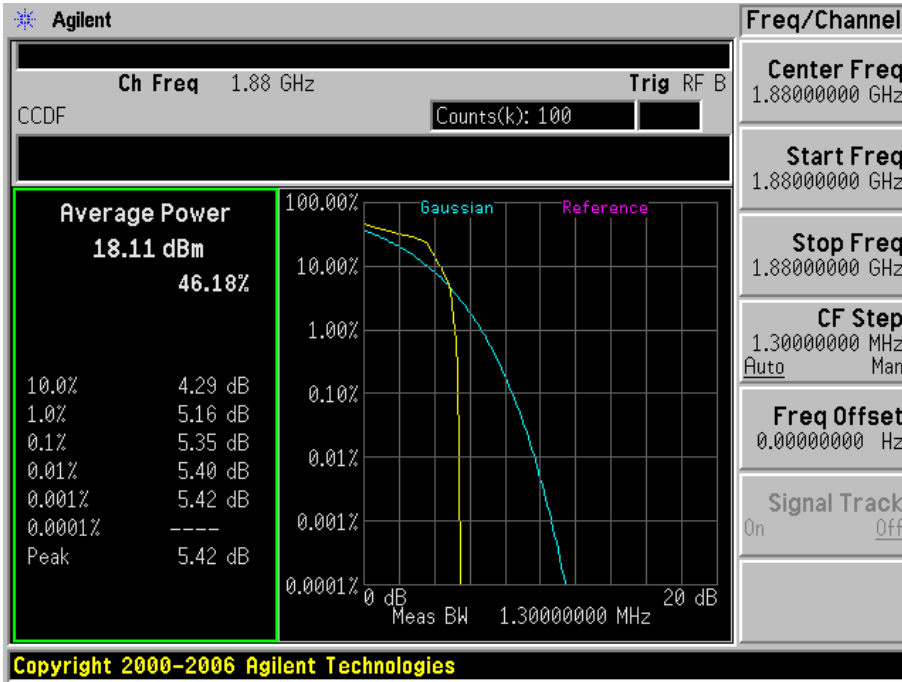


1.2 Test Mode=GSM/TM3

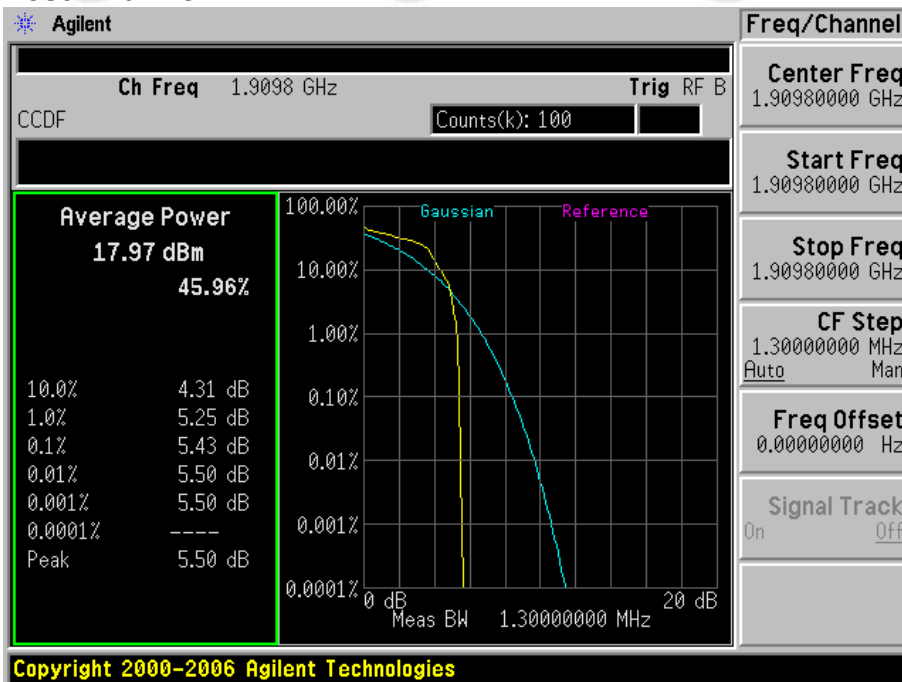
1.2.1.1 Test Channel=LCH



1.2.1.2 Test Channel=MCH



1.2.1.3 Test Channel=HCH

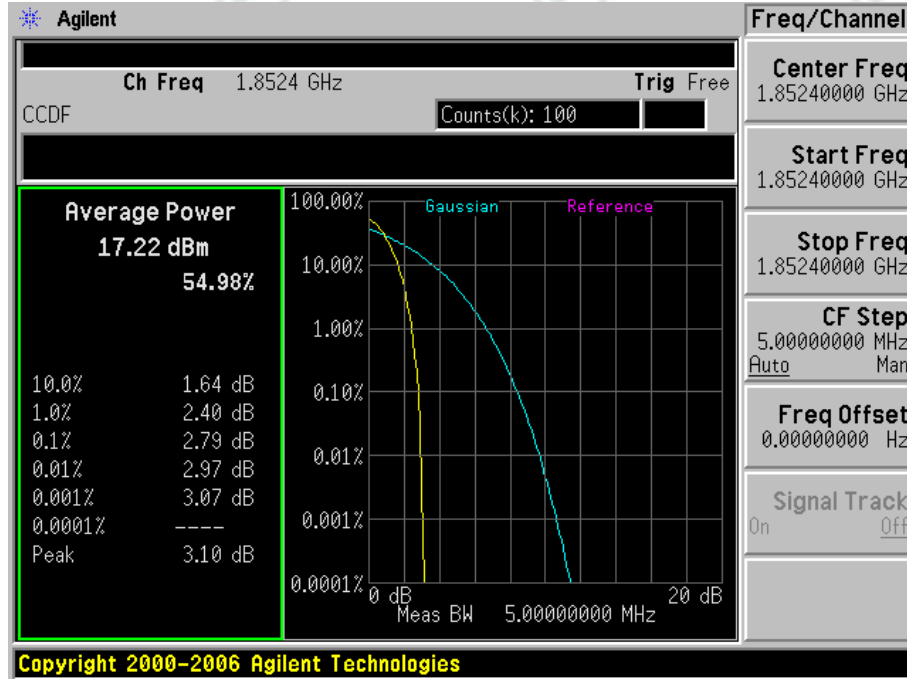


Test Band	Test Mode	Test Channel	Measured(dB)	Limit (dB)	Verdict
WCDMA1900	UMTS/TM1	LCH	2.79	13	PASS
		MCH	2.76	13	PASS
		HCH	2.82	13	PASS
Test Band	Test Mode	Test Channel	Measured(dB)	Limit (dB)	Verdict
WCDMA1900	UMTS/TM2	LCH	3	13	PASS
		MCH	3.27	13	PASS
		HCH	3.08	13	PASS
Test Band	Test Mode	Test Channel	Measured(dB)	Limit (dB)	Verdict
WCDMA1900	UMTS/TM3	LCH	4.26	13	PASS
		MCH	4.38	13	PASS
		HCH	4.28	13	PASS

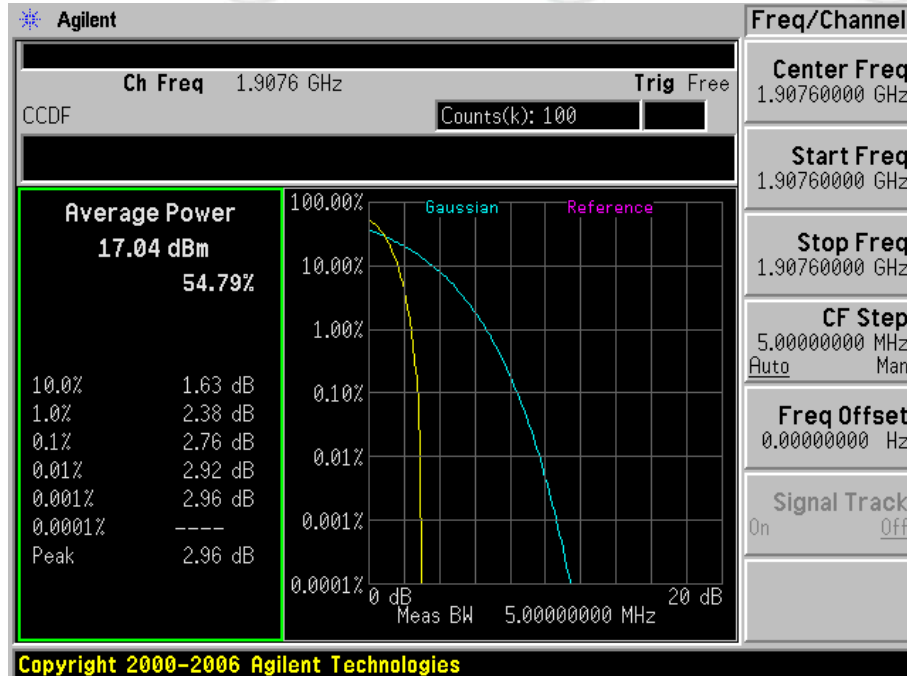
1.1 Test Band=WCDMA1900

1.1.1 Test Mode=UMTS/TM1

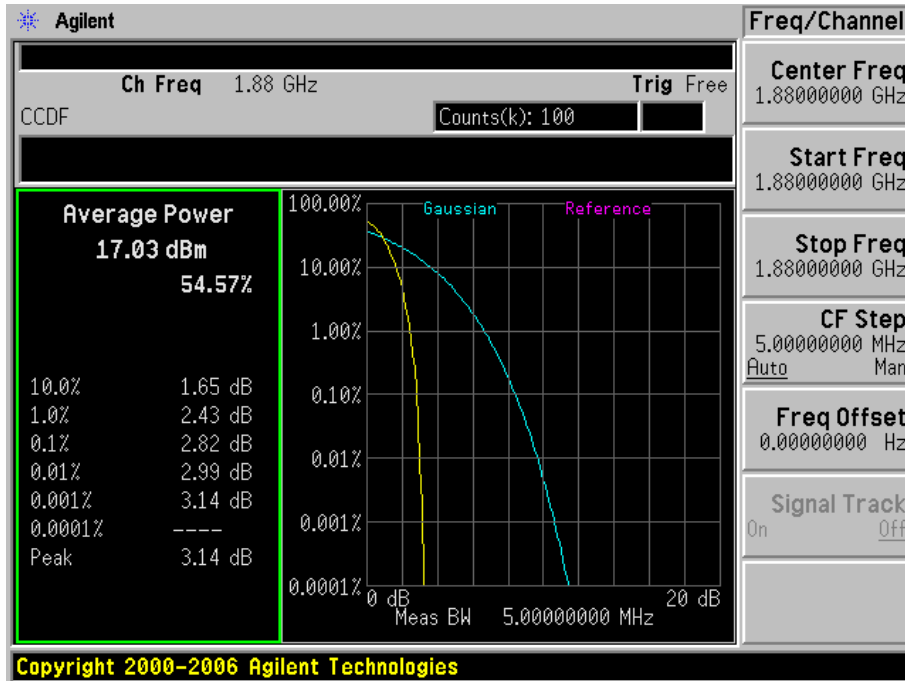
1.1.1.1 Test Channel=LCH



1.1.1.2 Test Channel=MCH

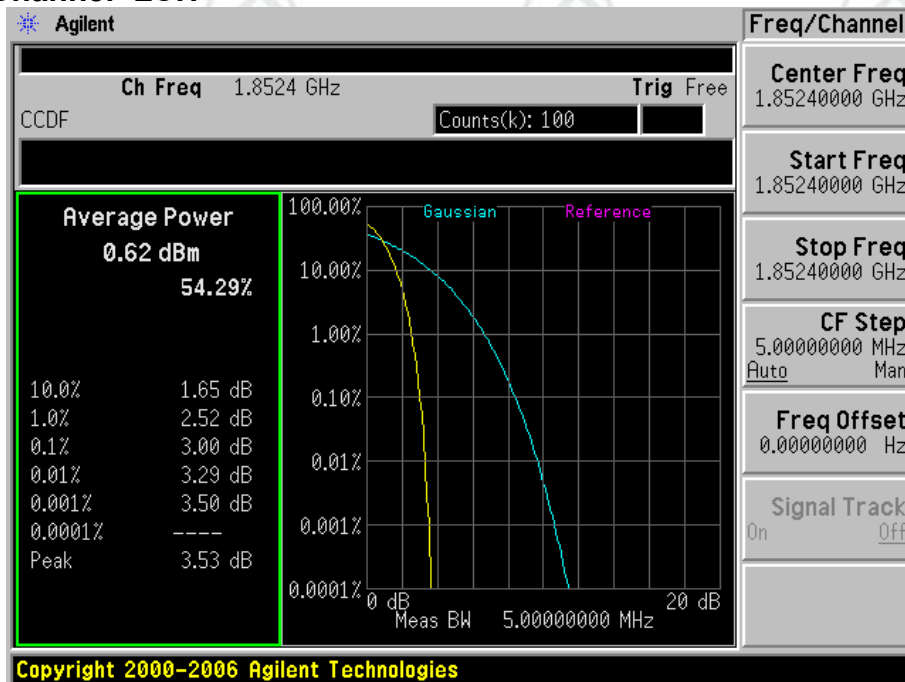


1.1.1.3 Test Channel=HCH

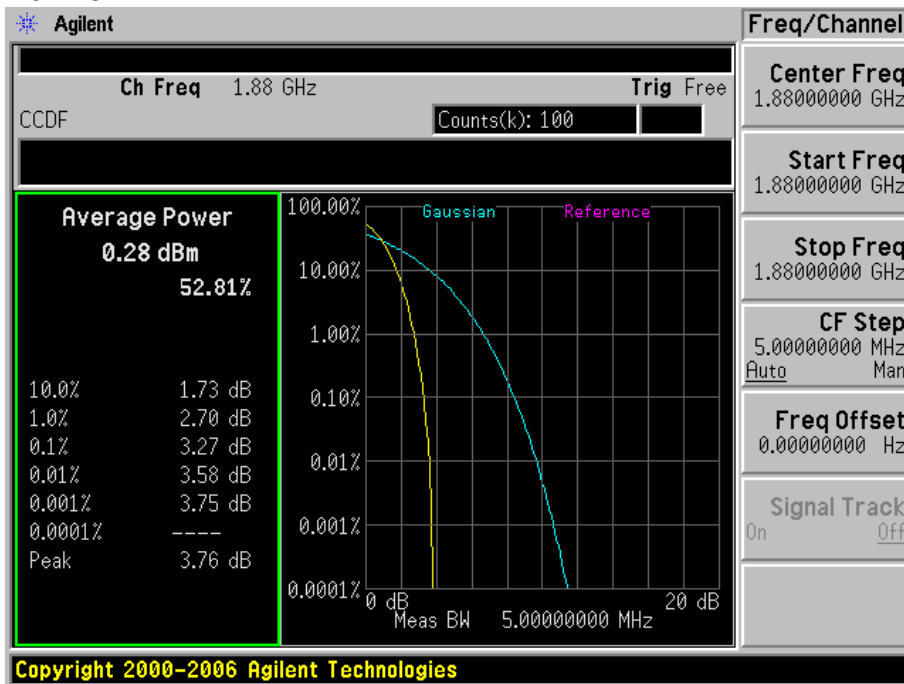


1.1.2 Test Mode=UMTS/TM2

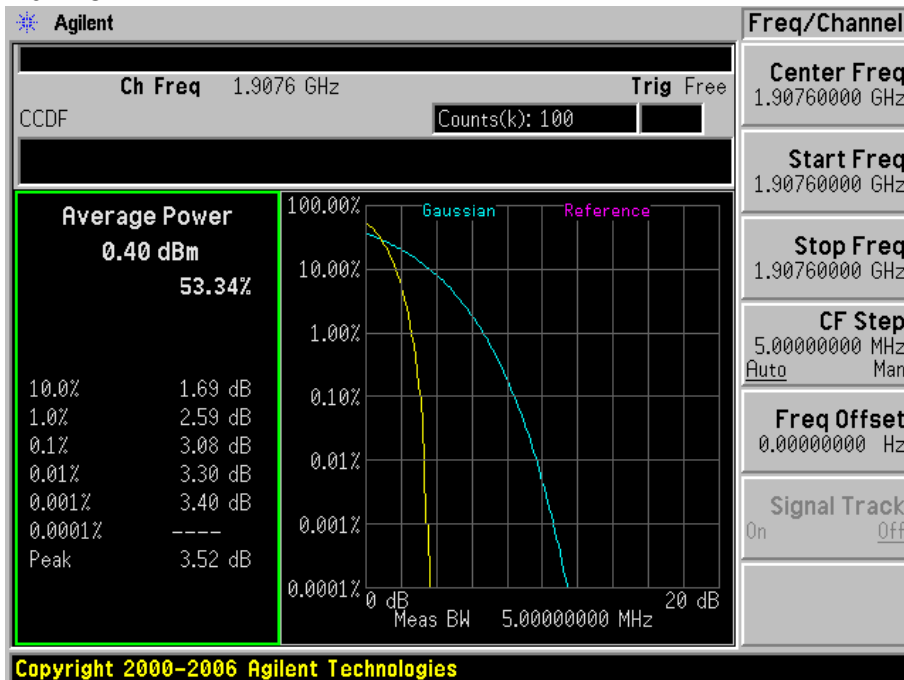
1.1.2.1 Test Channel=LCH



1.1.2.2 Test Channel=MCH

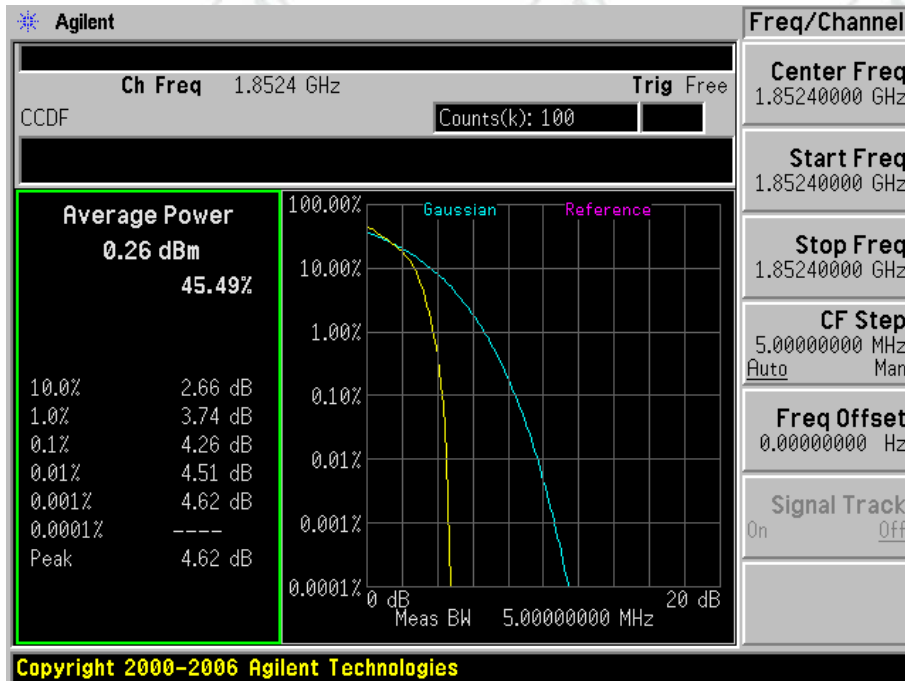


1.1.2.3 Test Channel=HCH

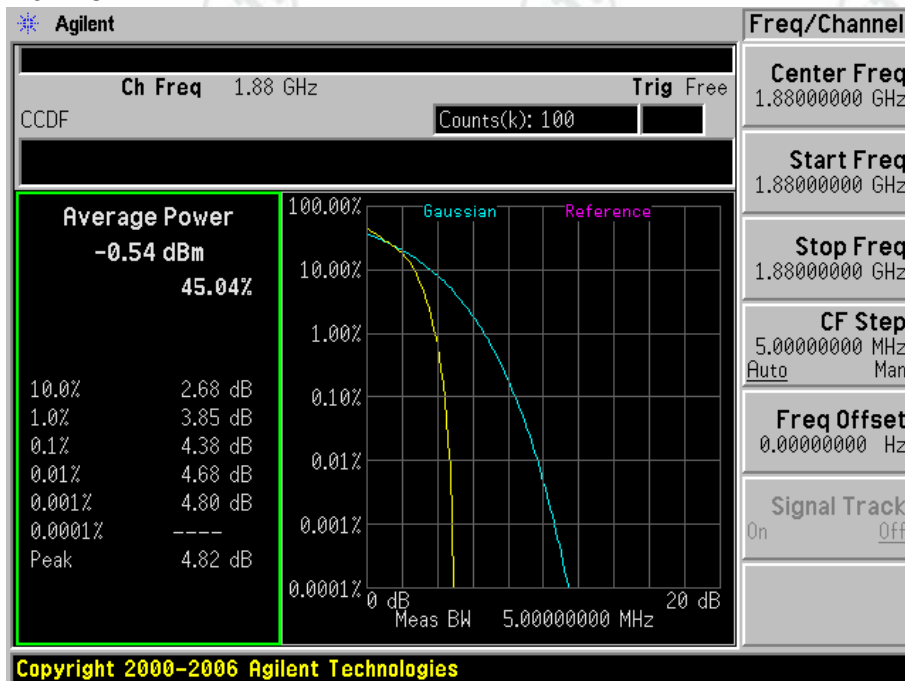


1.1.3 Test Mode=UMTS/TM3

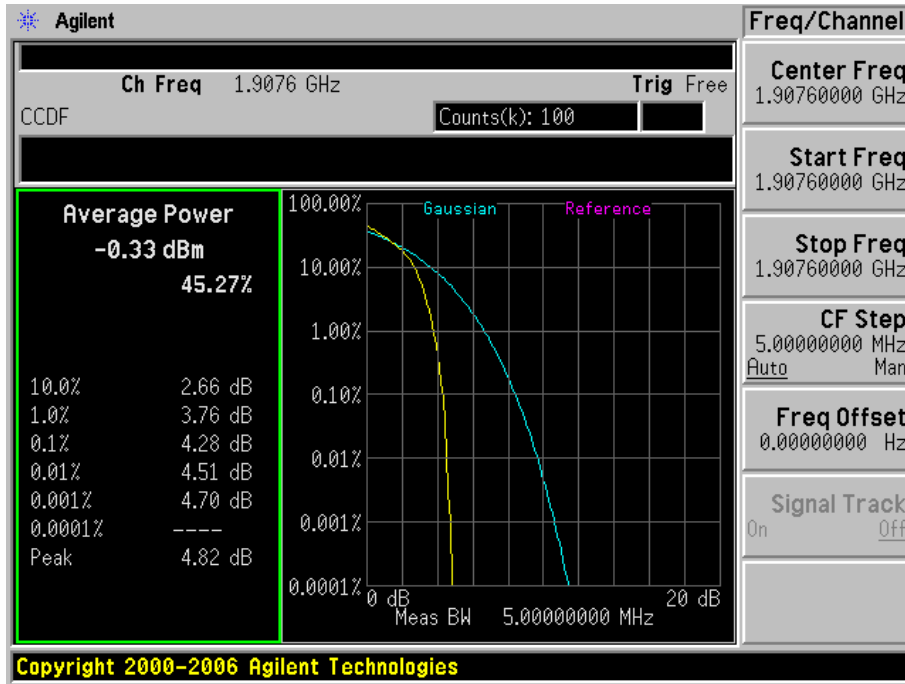
1.1.3.1 Test Channel=LCH



1.1.3.2 Test Channel=MCH



1.1.3.3 Test Channel=HCH



Appendix C): BandWidth

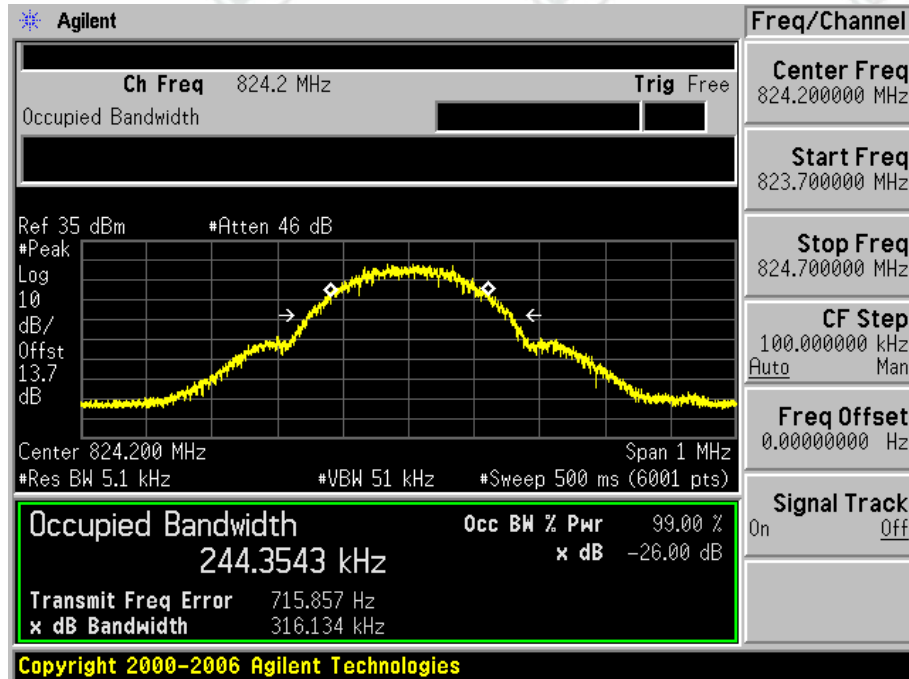
Test Requirement:	Part 2.1049(h)
Test Method:	Part 22.917(b)/Part 24.238(b)
Test Setup:	Refer to section 5 for details
Limit:	N/A
Measurement Procedure:	The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyser, the other end of which was connected to a Base 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, middle channel and high channel).the resolution bandwidth of the analyser is set to 100kHz or 1% of the emission bandwidth, the EUT emission bandwidth is measured as the width of the signal between two points, outside of which all emission are attenuated at least 26dB below the transmitter power. The video bandwidth of the spectrum analyzer was set at thrice the resolution bandwidth. Detector Mode was set to peak or peak hold power.
Instruments Used:	Refer to section 7 for details
Test Results:	Pass

Test Data:

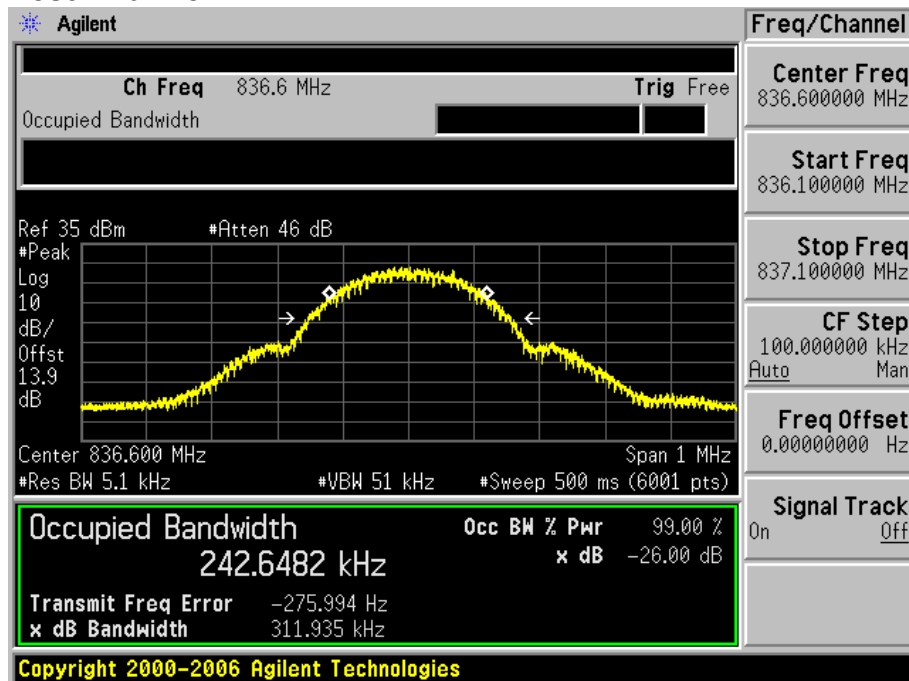
Test Band	Test Mode	Test Channel	Occupied Bandwidth (KHZ)	Emission Bandwidth (KHZ)	Verdict
GSM850	GSM/TM2	LCH	244.35	316.13	PASS
		MCH	242.64	311.93	PASS
		HCH	244.36	308.59	PASS
	GSM/TM3	LCH	250.53	314.76	PASS
		MCH	249.49	320.42	PASS
		HCH	250.55	314.08	PASS

Test Band	Test Mode	Test Channel	Occupied Bandwidth (KHZ)	Emission Bandwidth (KHZ)	Verdict
GSM1900	GSM/TM2	LCH	243.88	311.12	PASS
		MCH	244.02	312.97	PASS
		HCH	246.64	314.97	PASS
	GSM/TM3	LCH	253.37	328.55	PASS
		MCH	252.80	324.17	PASS
		HCH	251.50	312.74	PASS

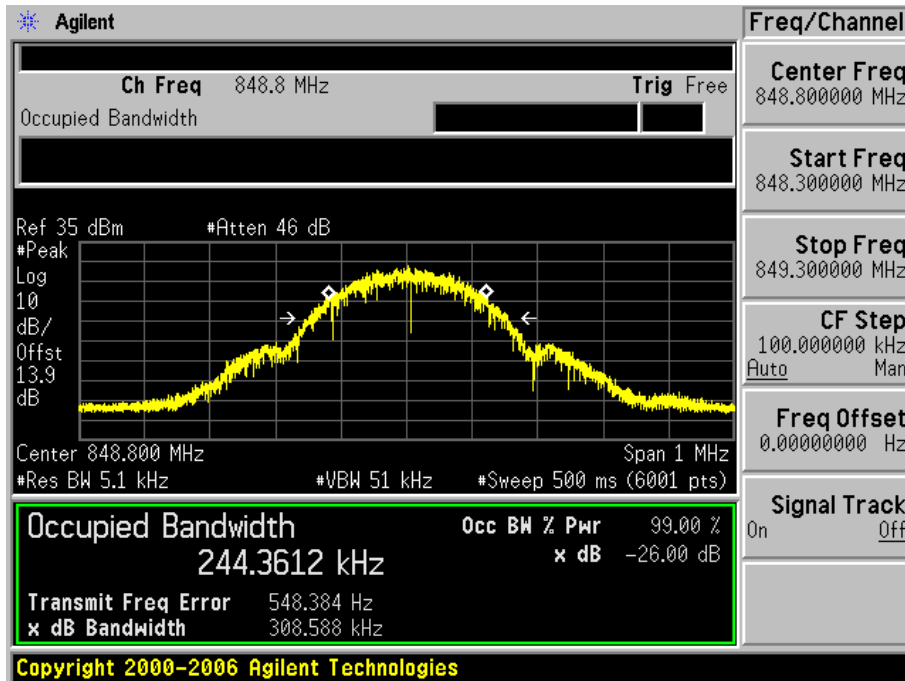
- 1 For GSM
- 1.1 Test Band=GSM850
- 1.1.1 Test Mode=GSM/TM2
- 1.1.1.1 Test Channel=LCH



- 1.1.1.2 Test Channel=MCH

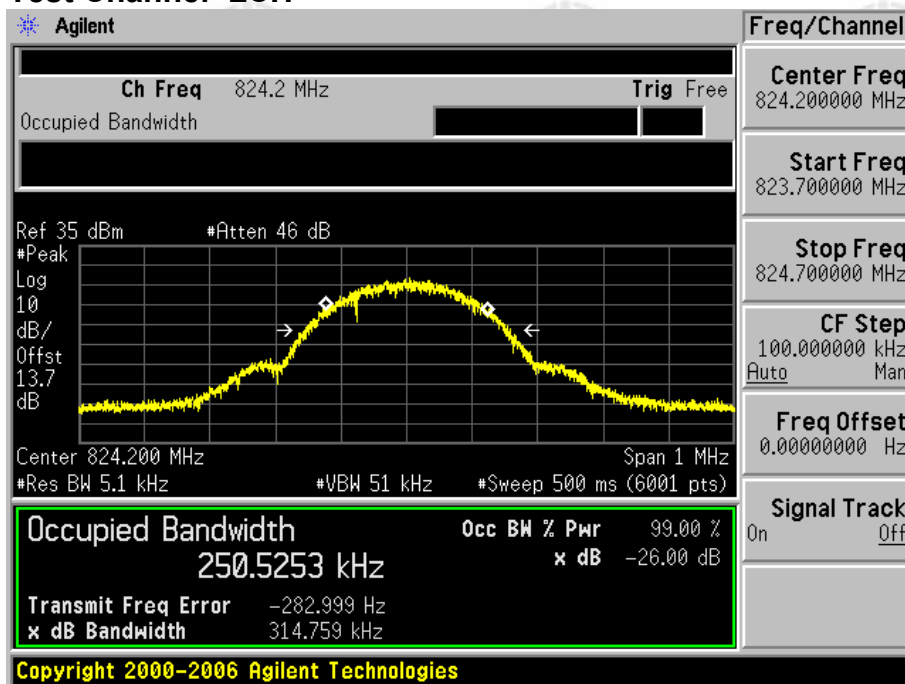


1.1.1.3 Test Channel=HCH

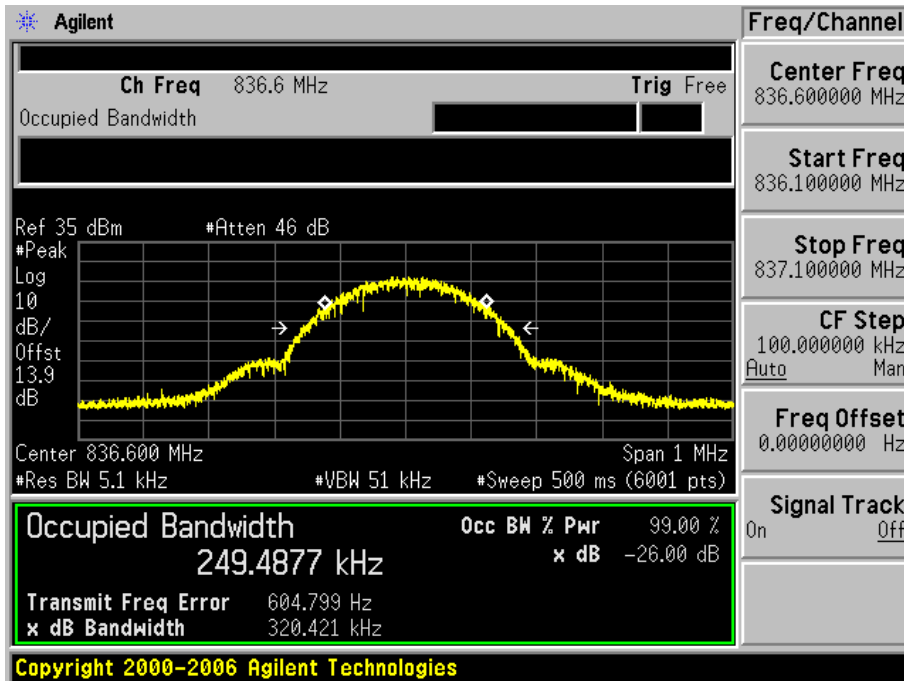


1.1.2 Test Mode=GSM/TM3

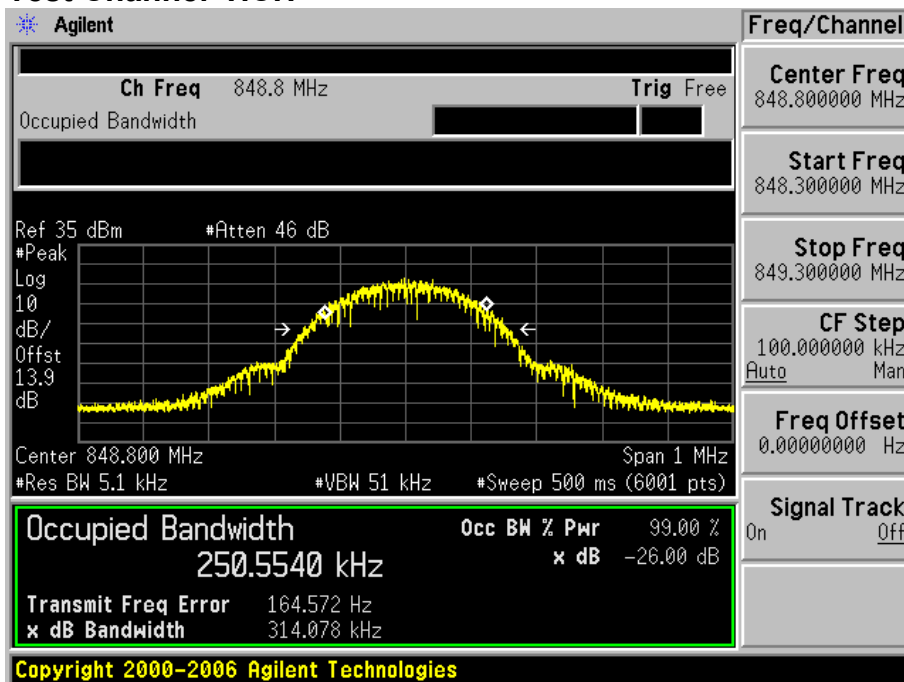
1.1.2.1 Test Channel=LCH



1.1.2.2 Test Channel=MCH

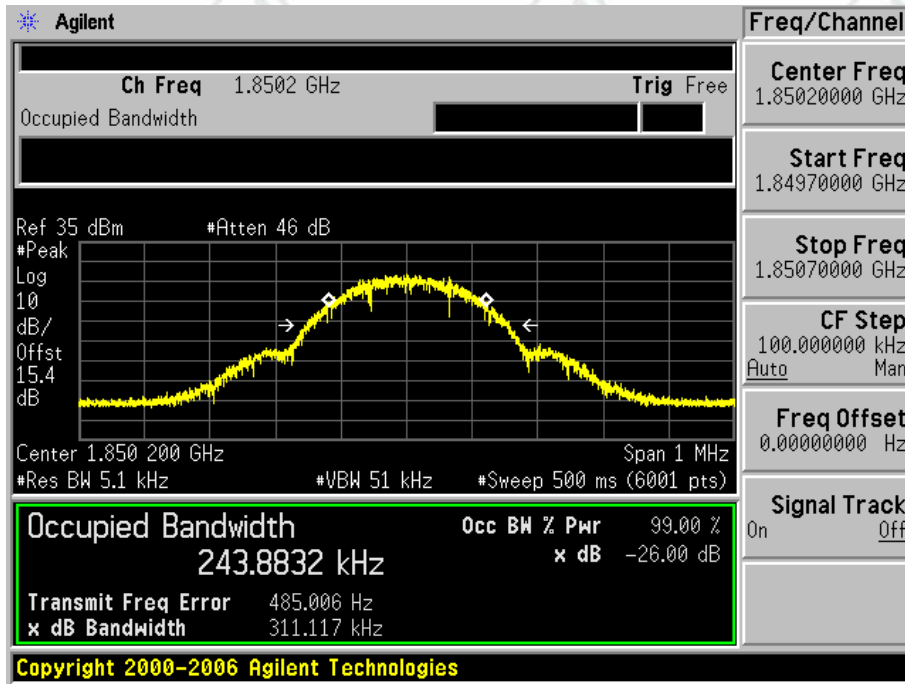


1.1.2.3 Test Channel=HCH

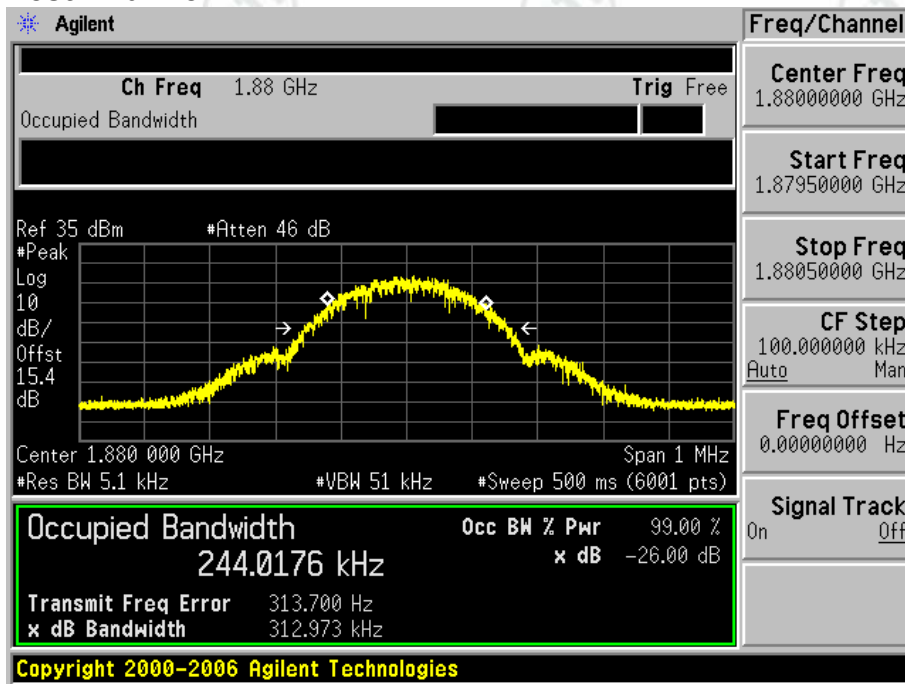


1.2 Test Mode=GSM/TM2

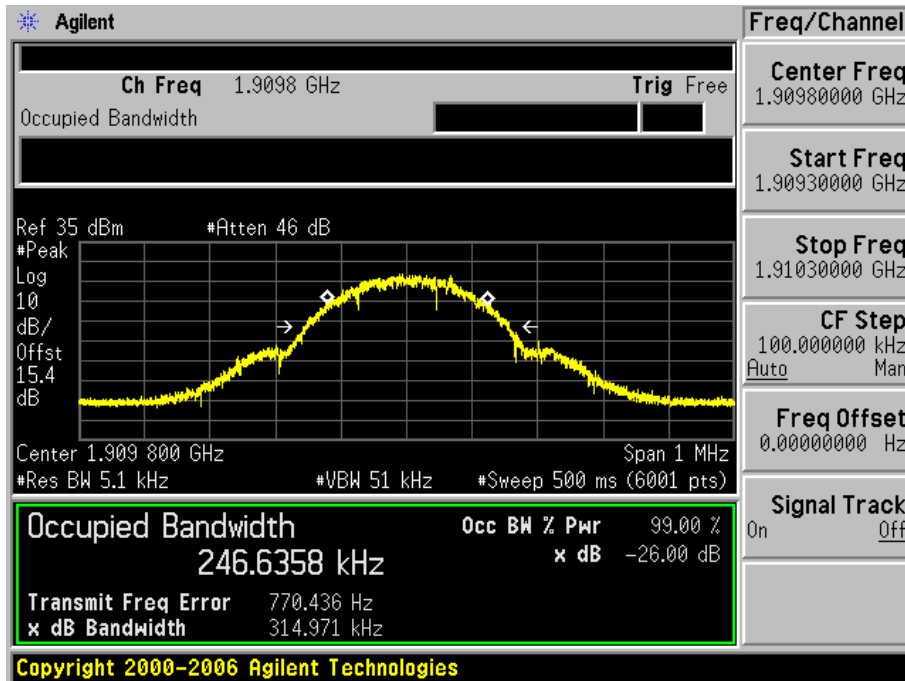
1.2.1.1 Test Channel=LCH



1.2.1.2 Test Channel=MCH

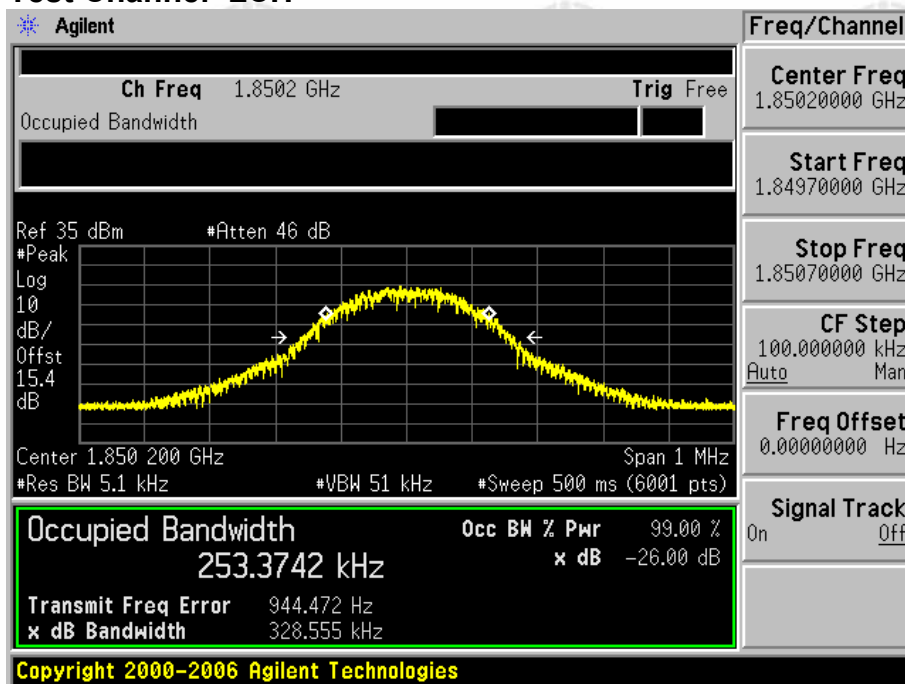


1.2.1.3 Test Channel=HCH

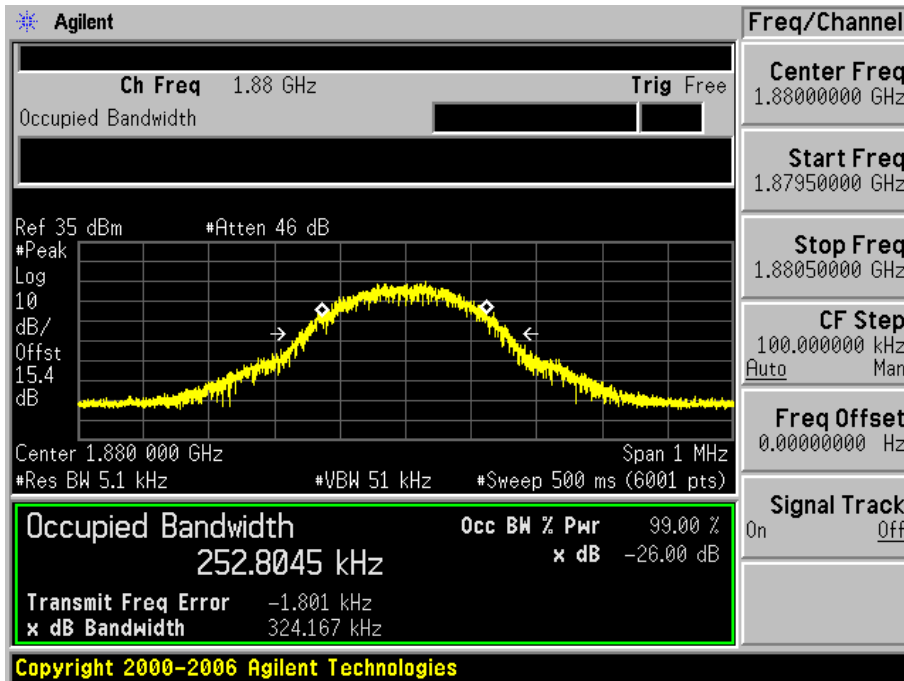


1.3 Test Mode=GSM/TM3

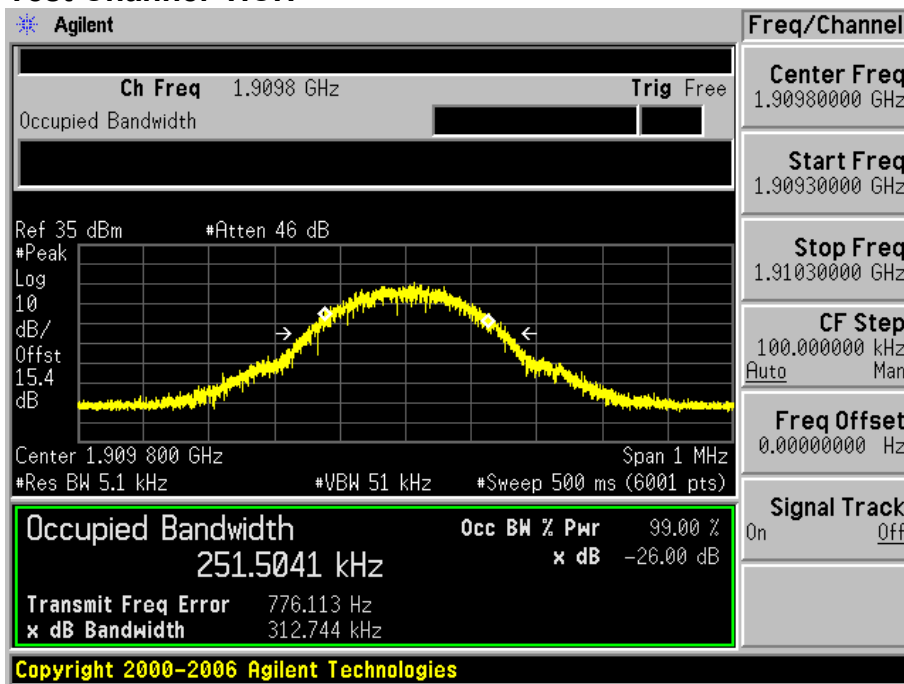
1.3.1.1 Test Channel=LCH



1.3.1.2 Test Channel=MCH



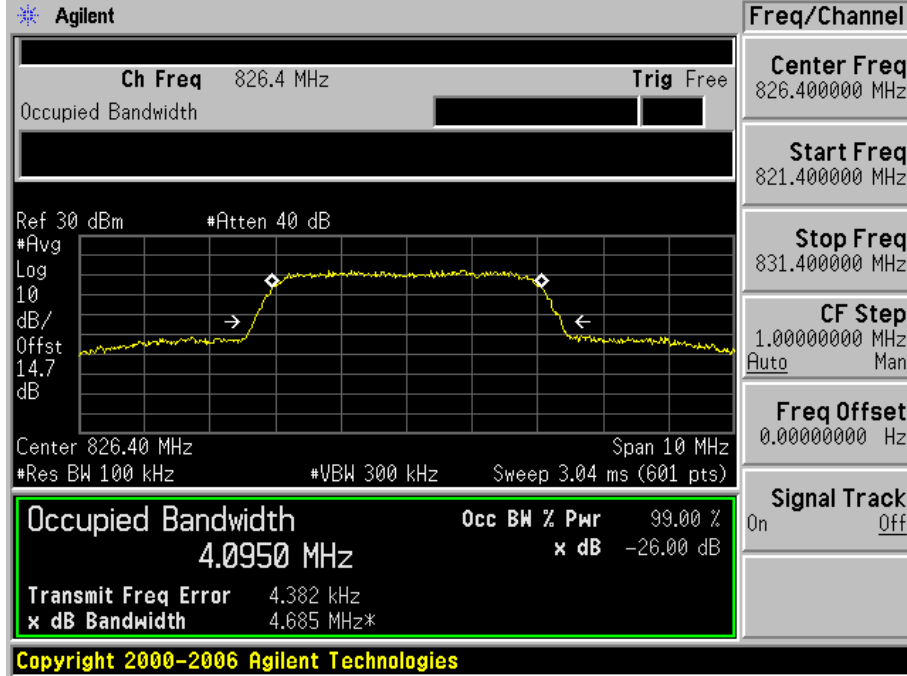
1.3.1.3 Test Channel=HCH



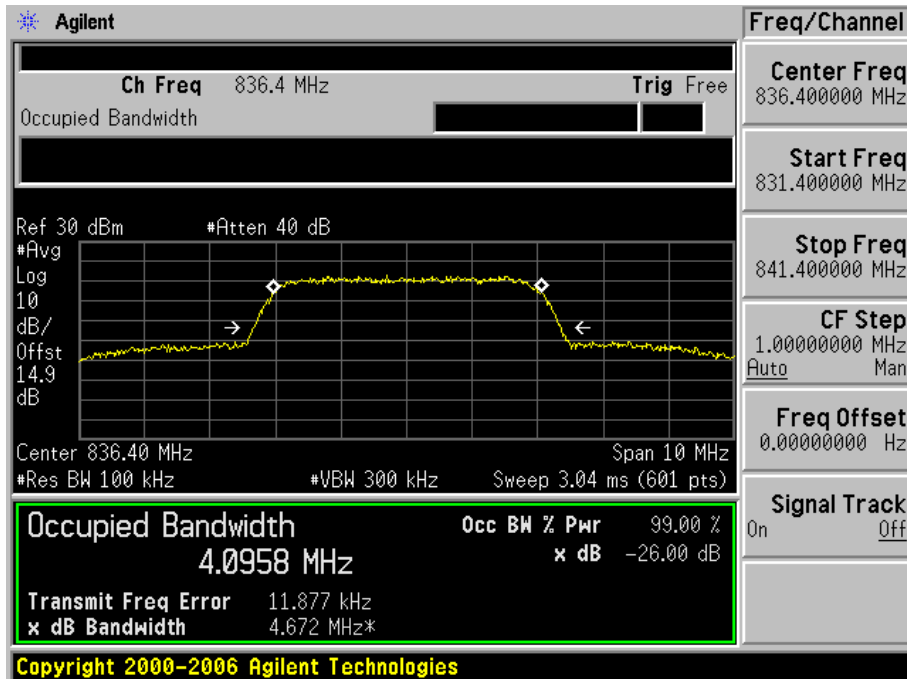
Test Band	Test Mode	Test Channel	Occupied Bandwidth (KHZ)	Emission Bandwidth (KHZ)	Verdict
WCDMA850	UMTS/TM1	LCH	4095.0	4685	PASS
		MCH	4095.8	4672	PASS
		HCH	4063.5	4674	PASS
WCDMA850	UMTS/TM2	LCH	4073.2	4645	PASS
		MCH	4074.6	4675	PASS
		HCH	4084.8	4645	PASS
WCDMA850	UMTS/TM3	LCH	4043.6	4608	PASS
		MCH	4056.6	4607	PASS
		HCH	4051.3	4624	PASS

Test Band	Test Mode	Test Channel	Occupied Bandwidth (KHZ)	Emission Bandwidth (KHZ)	Verdict
WCDMA1900	UMTS/TM1	LCH	4085.6	4667	PASS
		MCH	4093.7	4667	PASS
		HCH	4078.9	4663	PASS
WCDMA1900	UMTS/TM2	LCH	4064.2	4626	PASS
		MCH	4051.2	4639	PASS
		HCH	4074.4	4618	PASS
WCDMA1900	UMTS/TM3	LCH	4059.7	4626	PASS
		MCH	4050.3	4624	PASS
		HCH	4052.9	4634	PASS

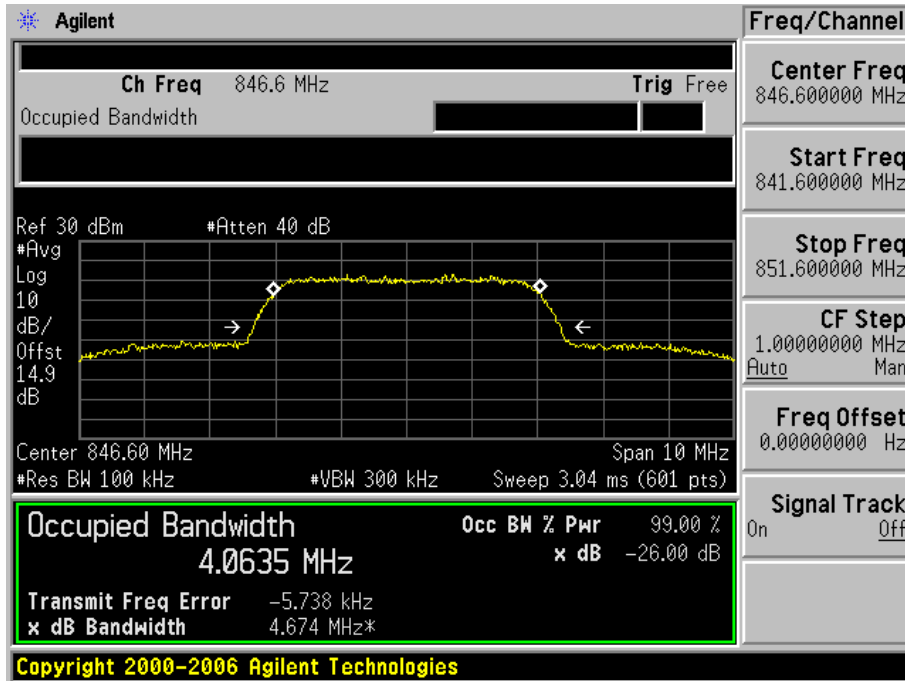
2 For WCDMA
2.1 Test Band=WCDMA850
2.1.1 Test Mode=UMTS/TM1
2.1.1.1 Test Channel=LCH



2.1.1.2 Test Channel=MCH

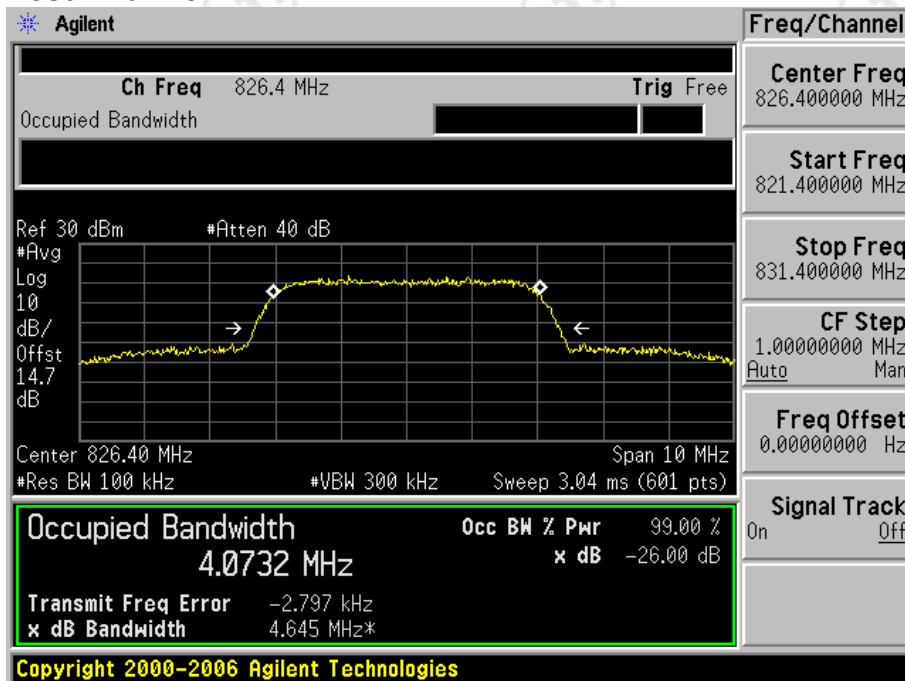


2.1.1.3 Test Channel=HCH

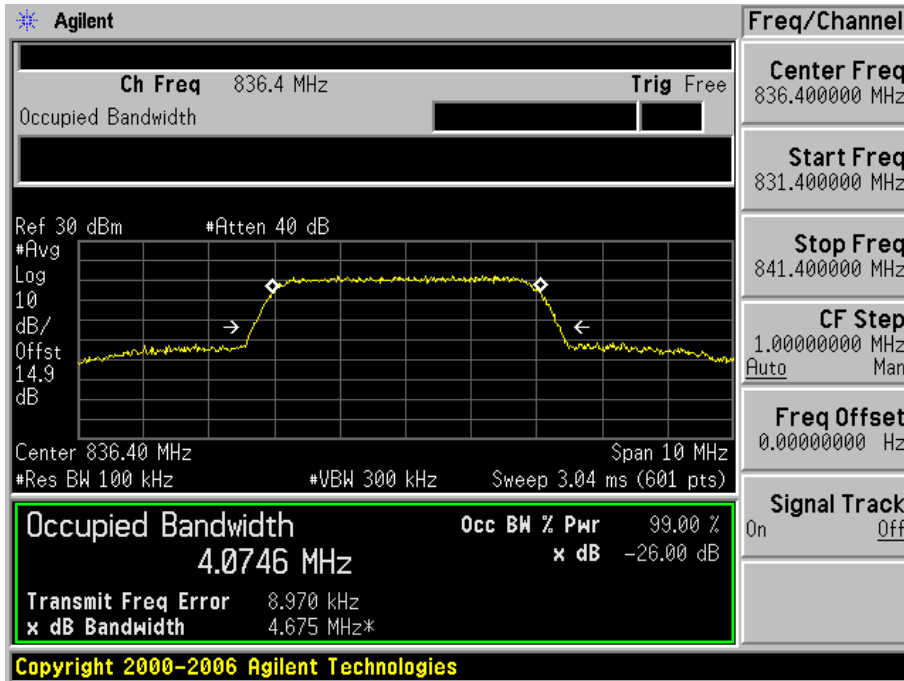


2.1.2 Test Mode=UMTS/TM2

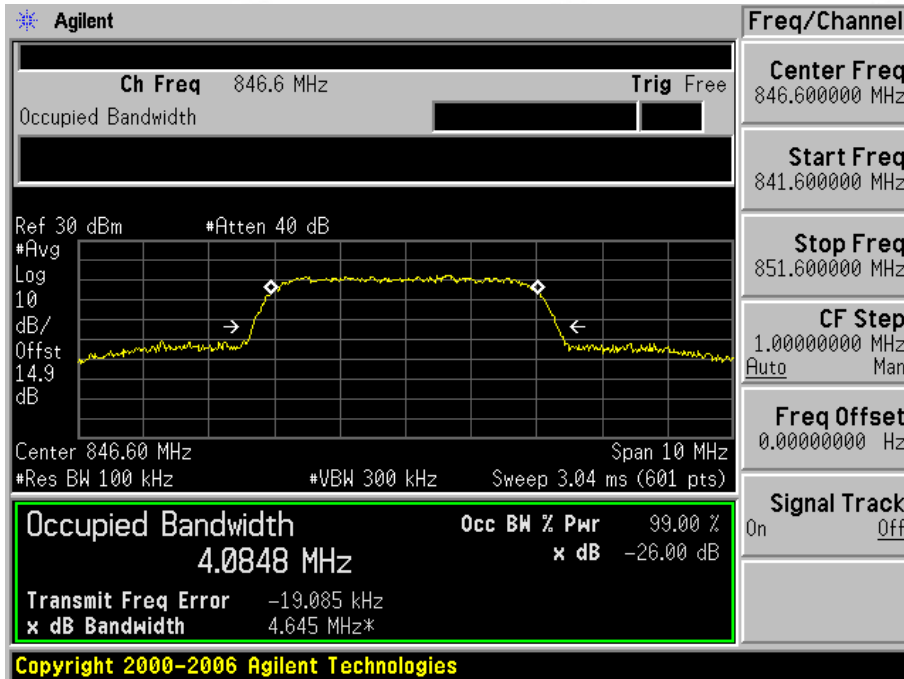
2.1.2.1 Test Channel=LCH



2.1.2.2 Test Channel=MCH

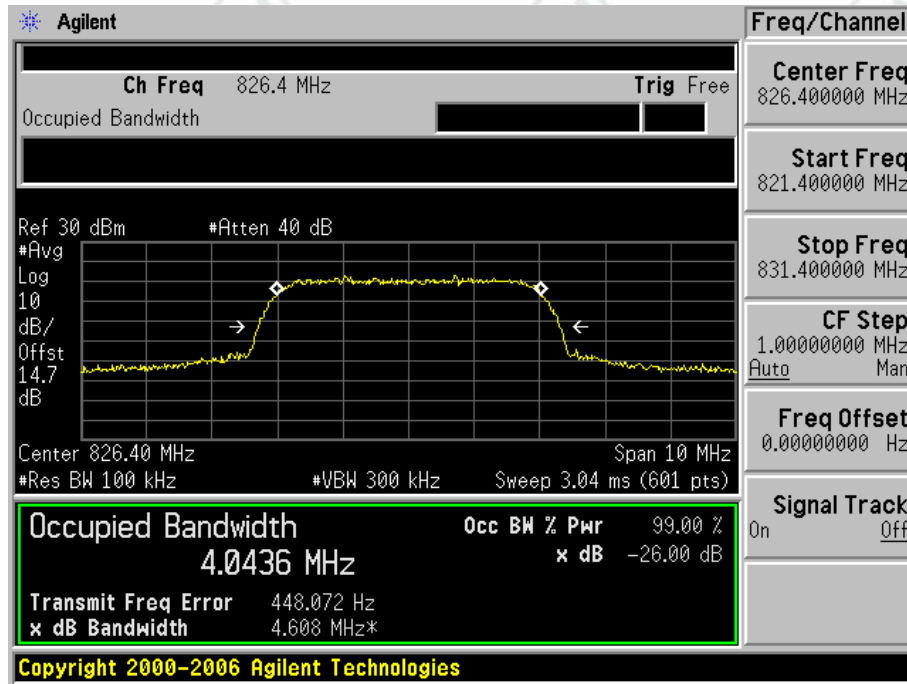


2.1.2.3 Test Channel=HCH

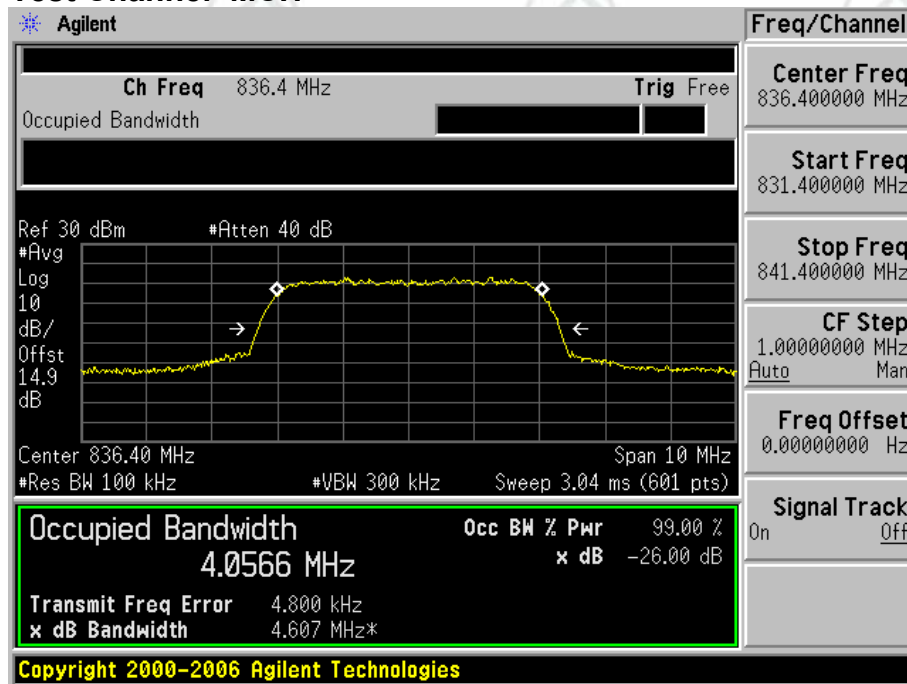


2.1.3 Test Mode=UMTS/TM3

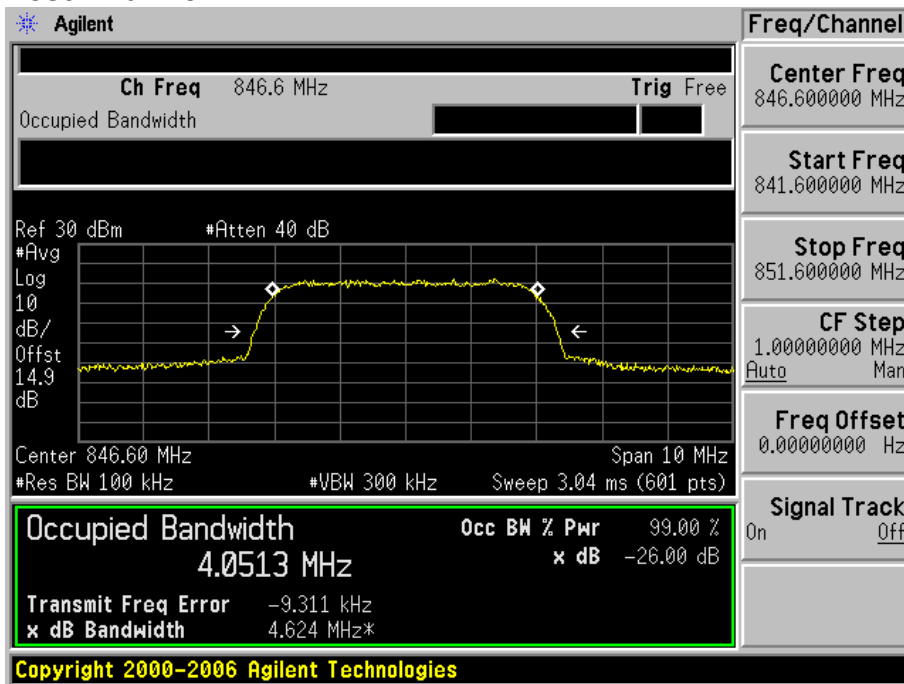
2.1.3.1 Test Channel=LCH



2.1.3.2 Test Channel=MCH



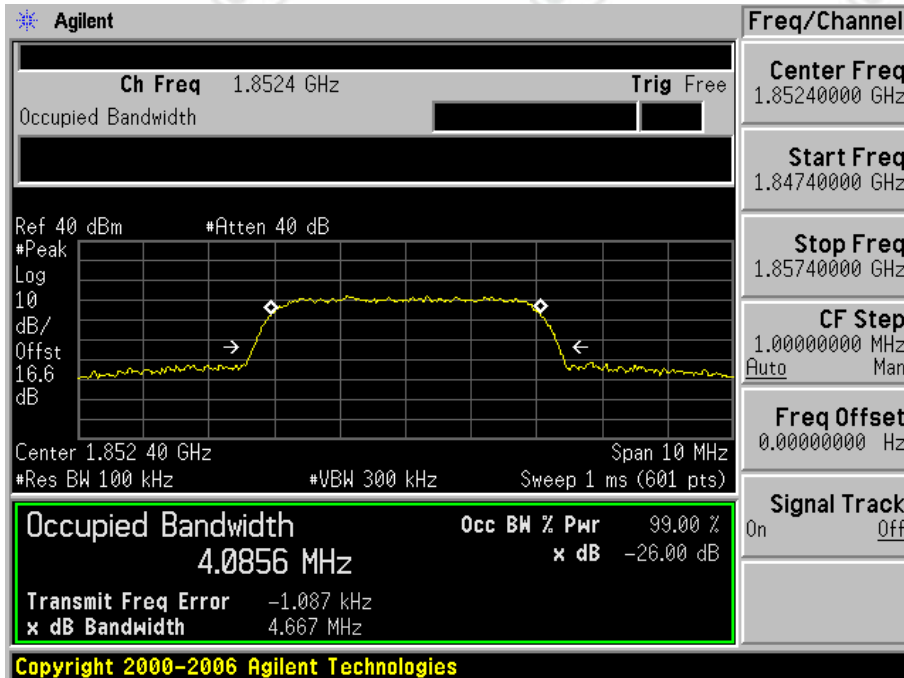
2.1.3.3 Test Channel=HCH



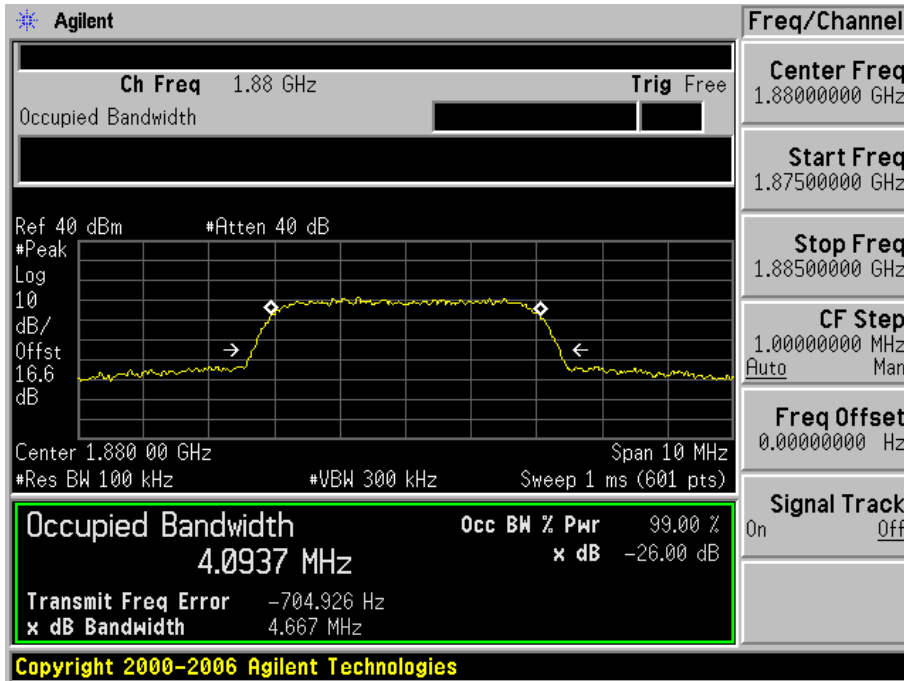
2.2 Test Band=WCDMA1900

2.2.1 Test Mode=UMTS/TM1

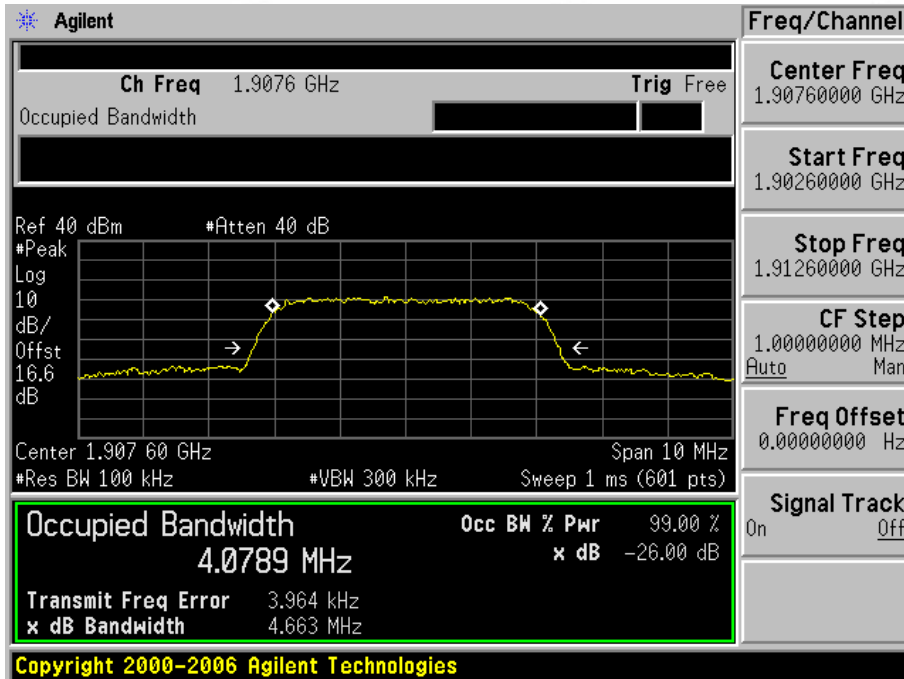
2.2.1.1 Test Channel=LCH



2.2.1.2 Test Channel=MCH

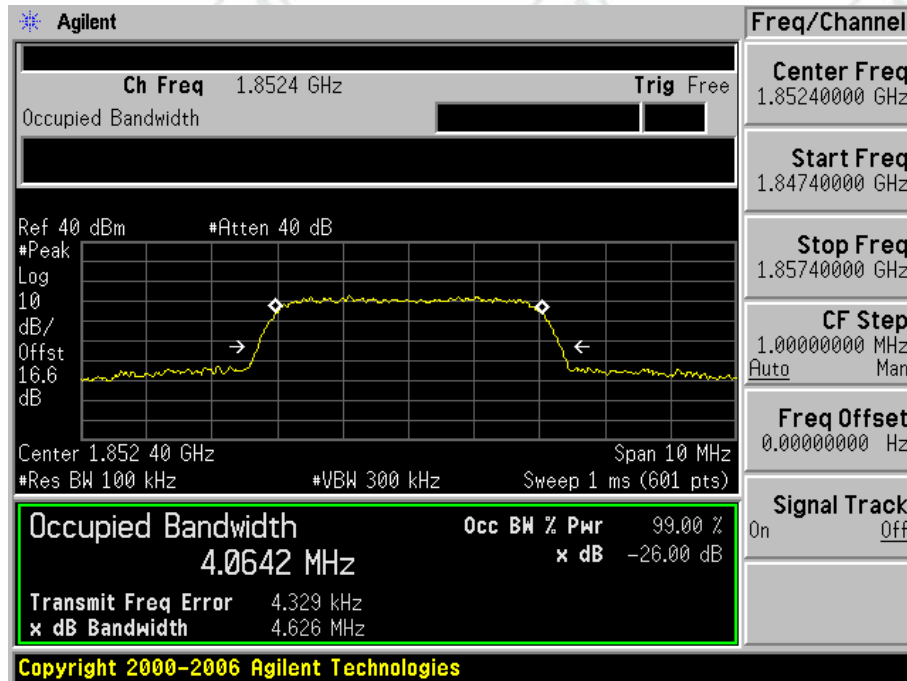


2.2.1.3 Test Channel=HCH

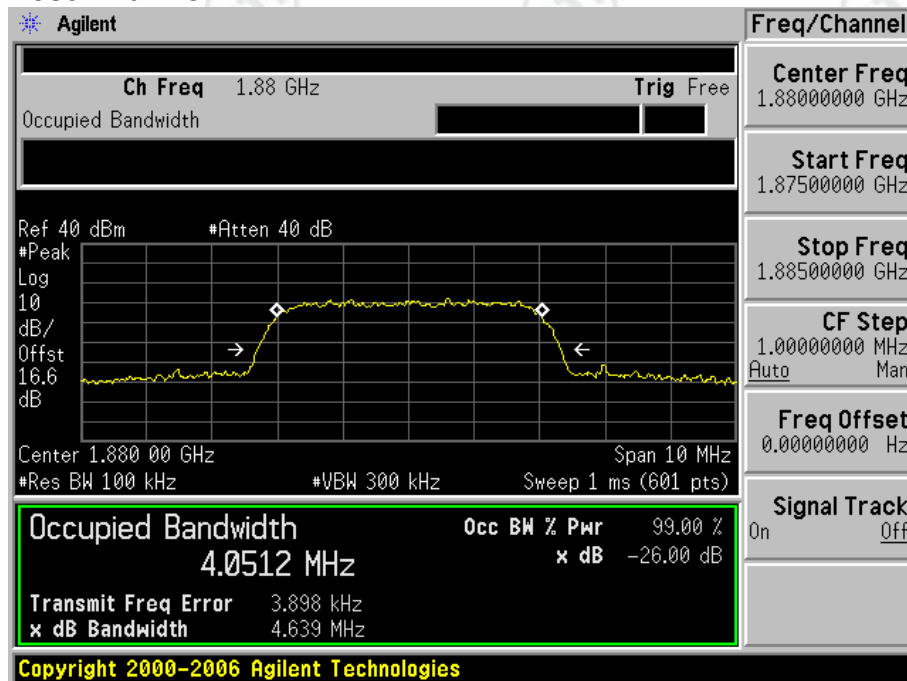


2.2.2 Test Mode=UMTS/TM2

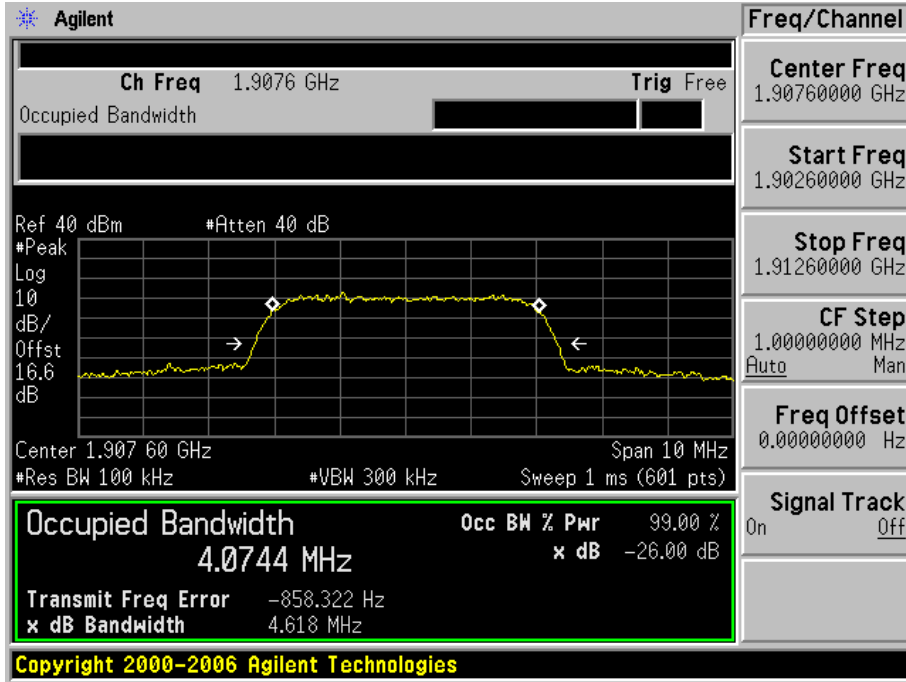
2.2.2.1 Test Channel=LCH



2.2.2.2 Test Channel=MCH

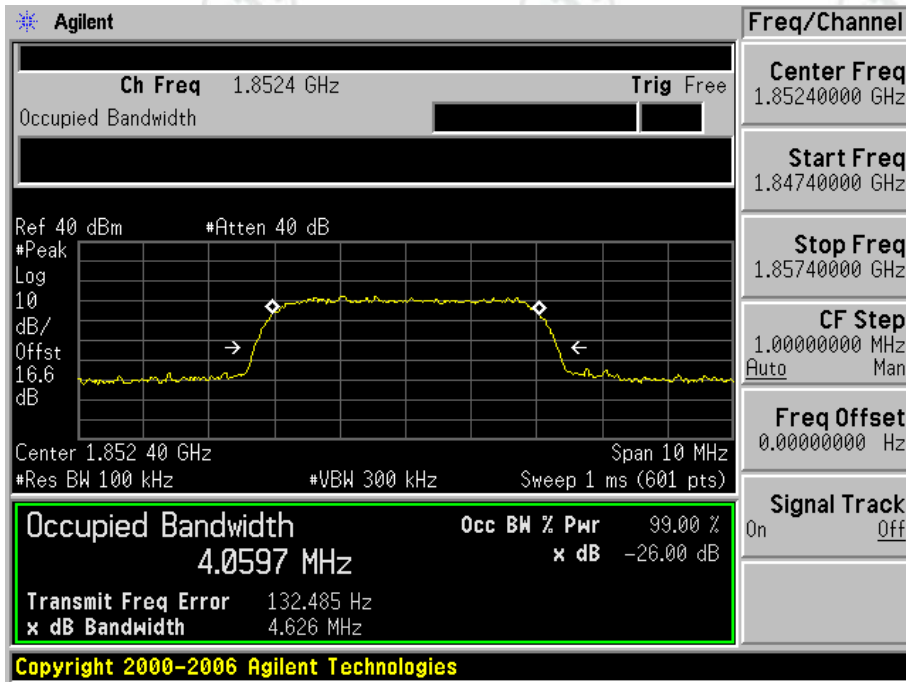


2.2.2.3 Test Channel=HCH

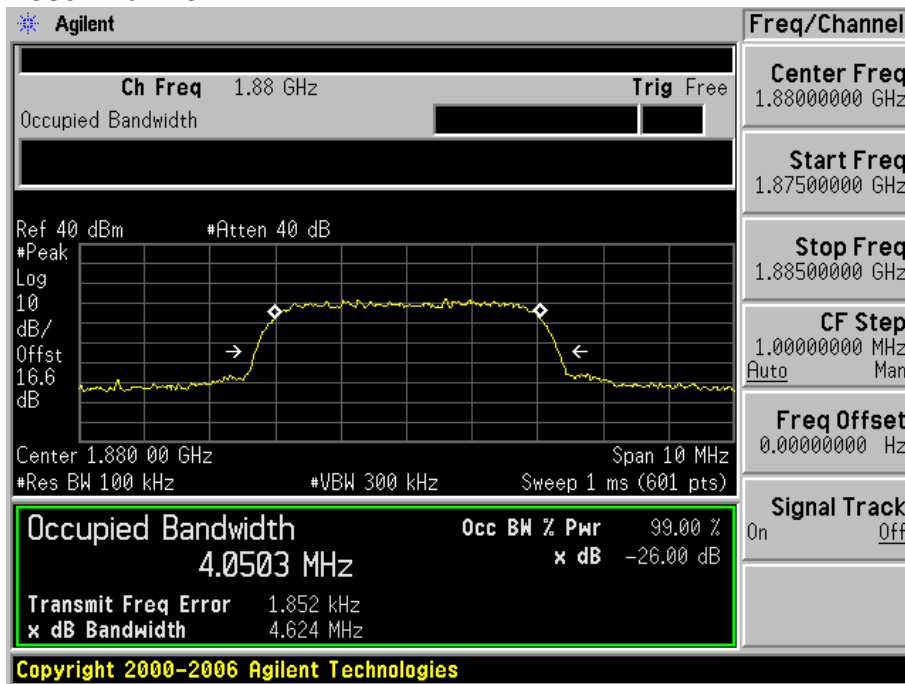


2.2.3 Test Mode=UMTS/TM3

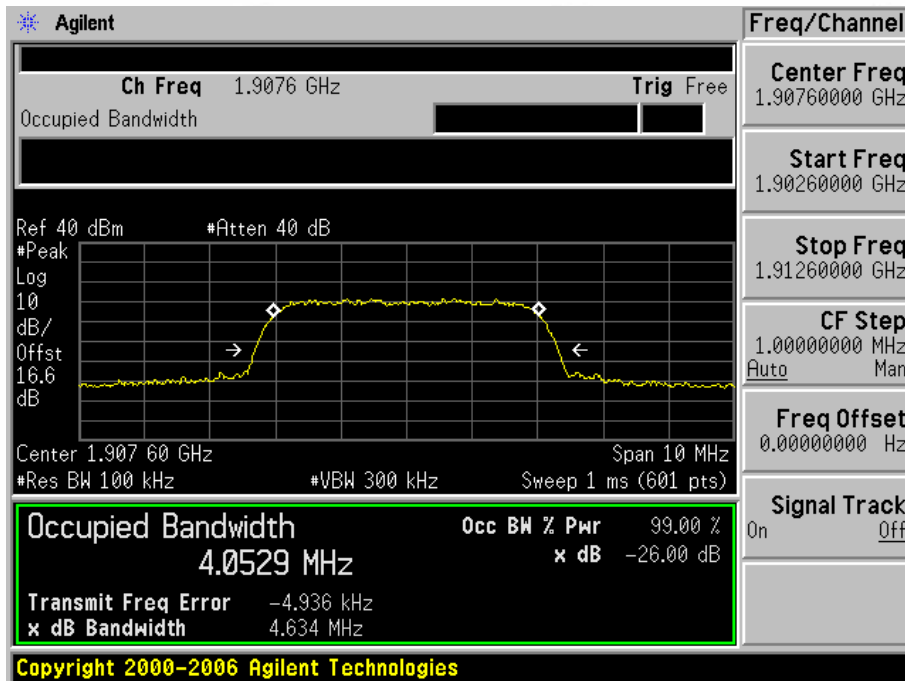
2.2.3.1 Test Channel=LCH



2.2.3.2 Test Channel=MCH



2.2.3.3 Test Channel=HCH

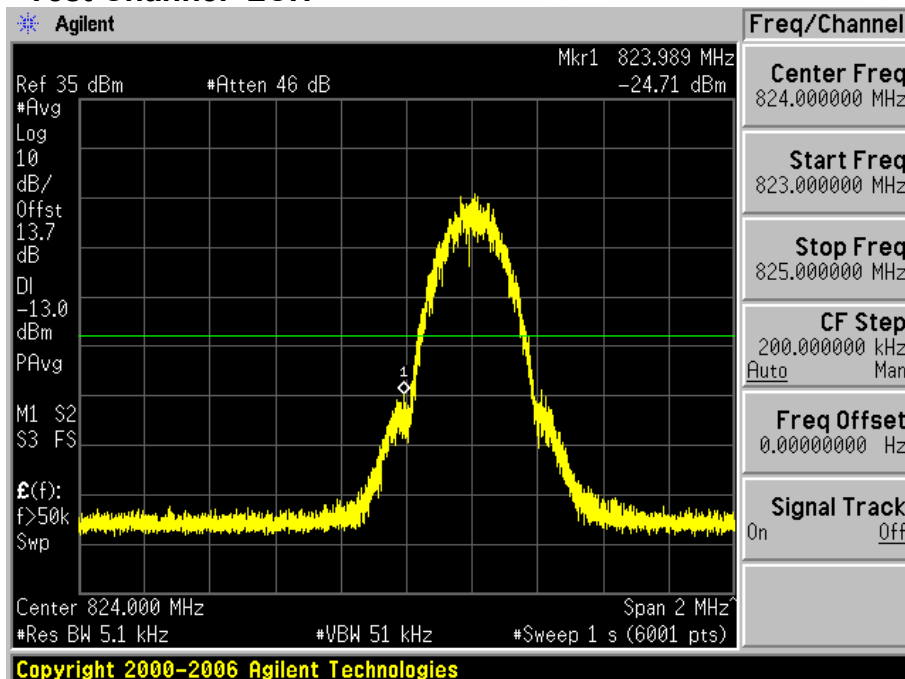


Appendix D): Band Edges Compliance

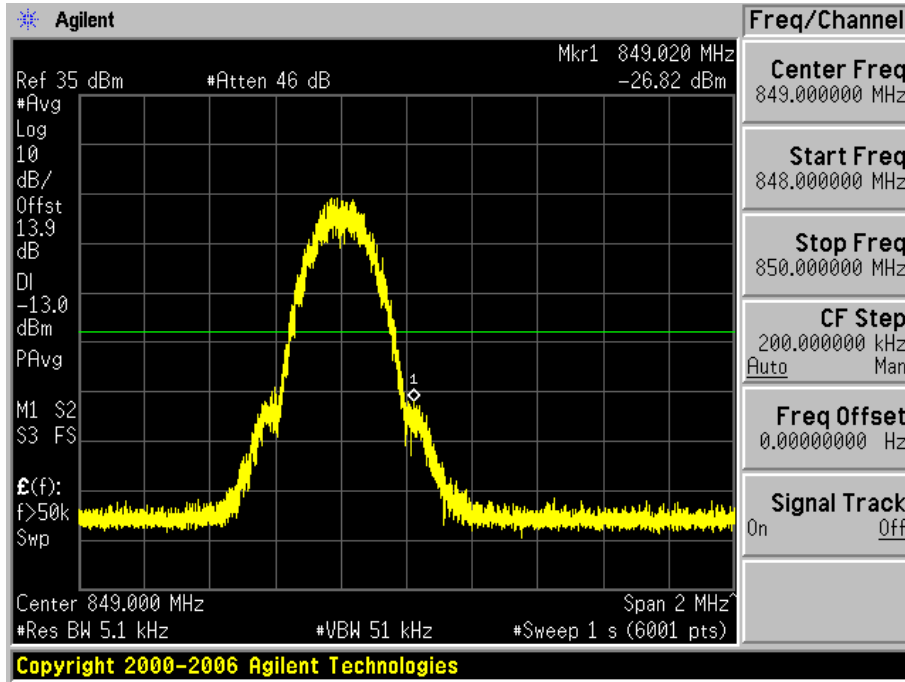
Test Requirement:	Part 2.1051		
Test Method:	Part 22.917(b)/Part 24.238(b)		
Test Setup:	Refer to section 5 for details		
Measurement Procedure:	The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyser, the other end of which was connected to a Base Station 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).in the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of 100kHz or 1% of the emission bandwidth of the fundamental emission of the transmitter may be employed. The EUT emission bandwidth is measured as the width of the signal between two points, outside of which all emission are attenuated at least 26dB below the transmitter power. The video bandwidth of the spectrum analyzer was set at thrice the resolution bandwidth. Detector Mode was set to peak or peak hold power.		
Limit:	Operation Band	Frequency Range (MHz)	Limit
	GPRS/EDGE/WCDMA 850	Below 824 and above 849	Attenuated at least 43+10log(P)
	GPRS/EDGE/WCDMA 1900	Below 1850 and above 1910	Attenuated at least 43+10log(P)
Instruments Used:	Refer to section 7 for details		
Test Results:	Pass		

Test result:

- 1 For GSM
- 1.1 Test Band=GSM850
- 1.1.1 Test Mode=GSM/TM3
- 1.1.1.1 Test Channel=LCH



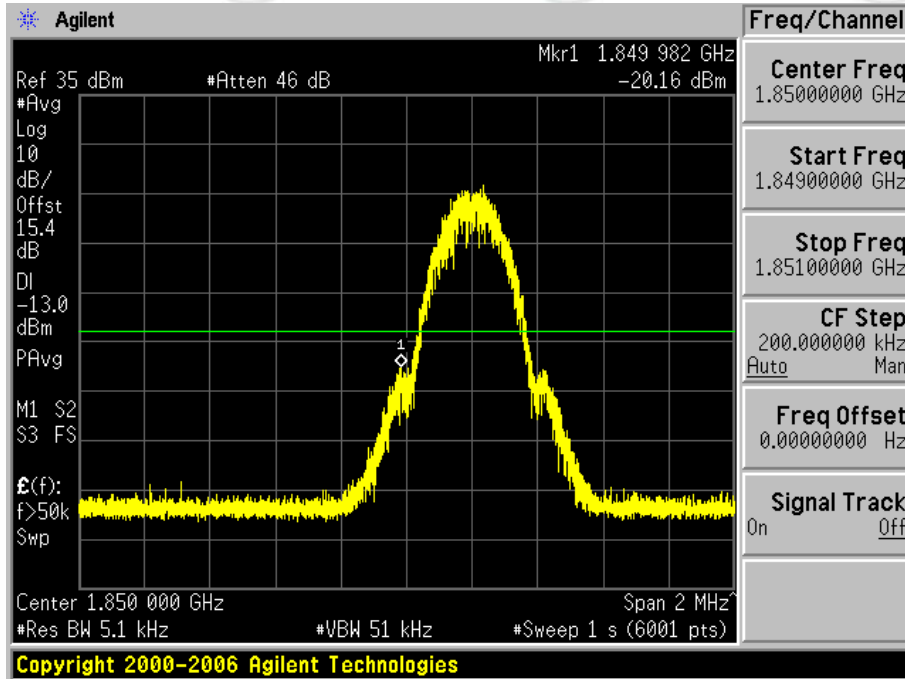
1.1.1.2 Test Channel=HCH



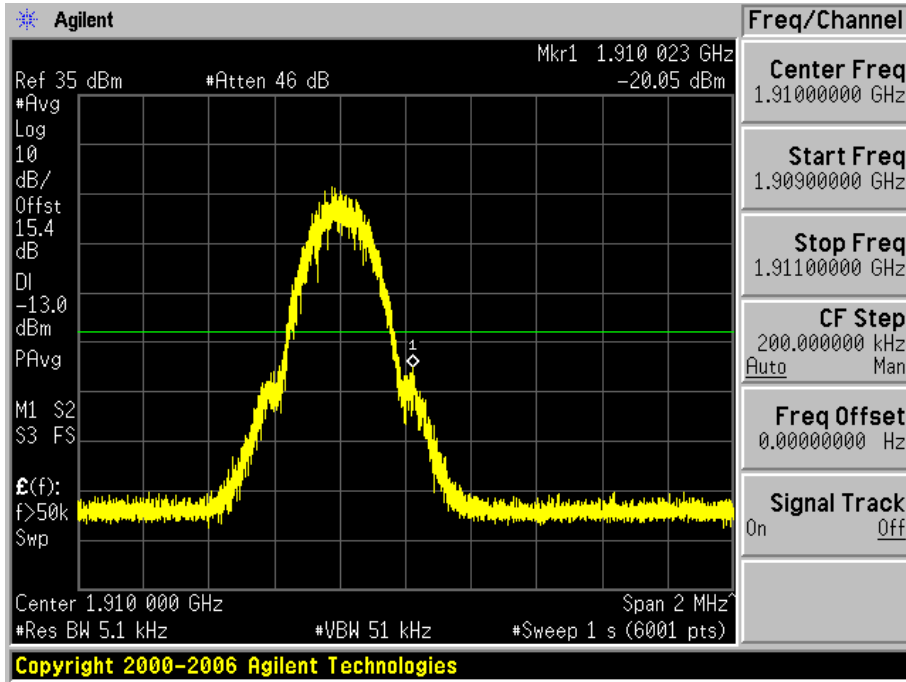
Test Band=GSM1900

1.1.2 Test Mode=GSM/TM2

1.1.2.1 Test Channel=LCH

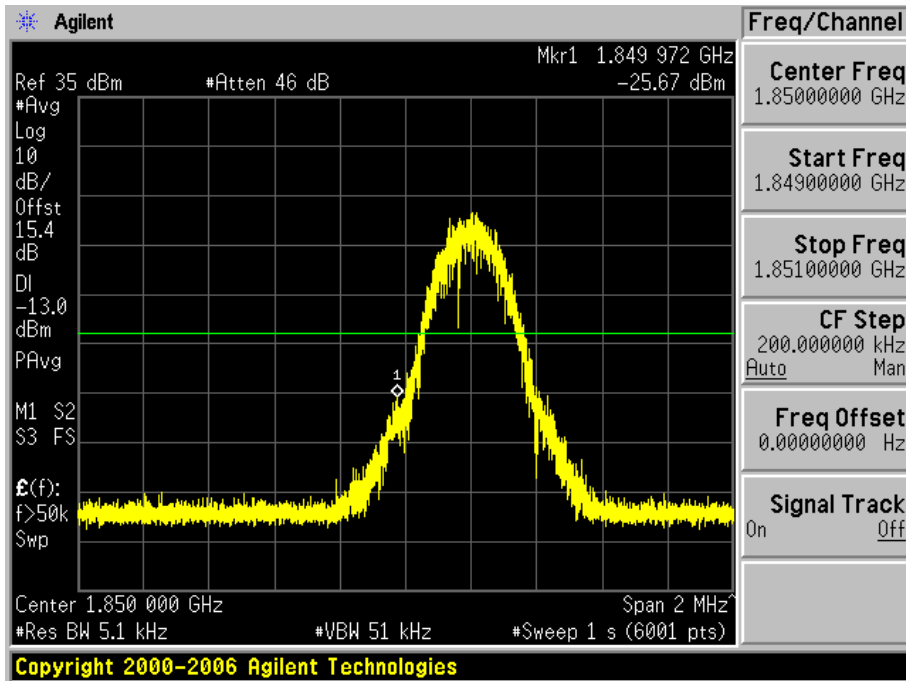


1.1.2.2 Test Channel=HCH

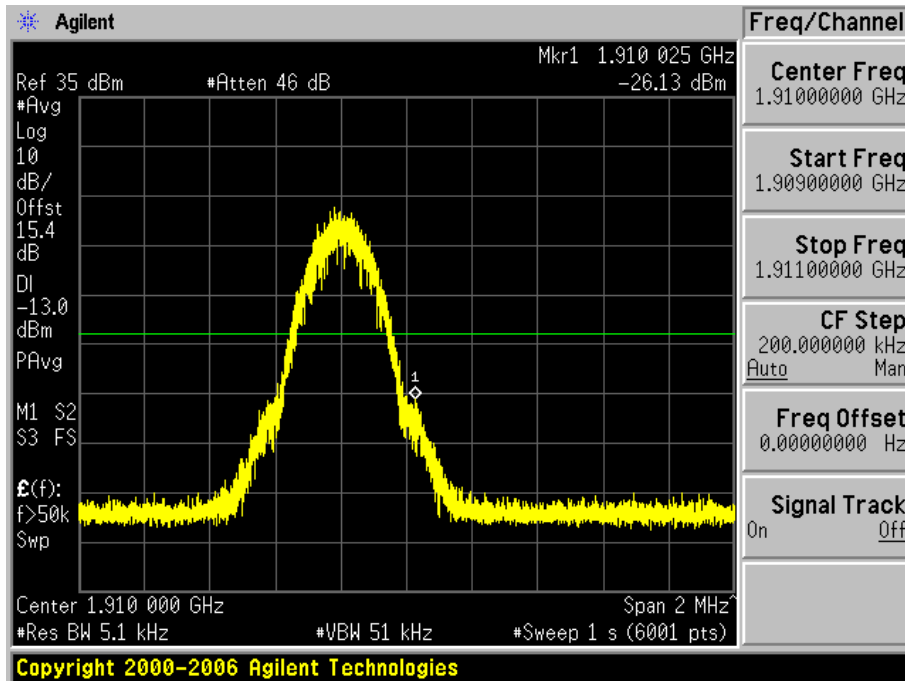


1.1.3 Test Mode=GSM/TM3

1.1.3.1 Test Channel=LCH



1.1.3.2 Test Channel=HCH

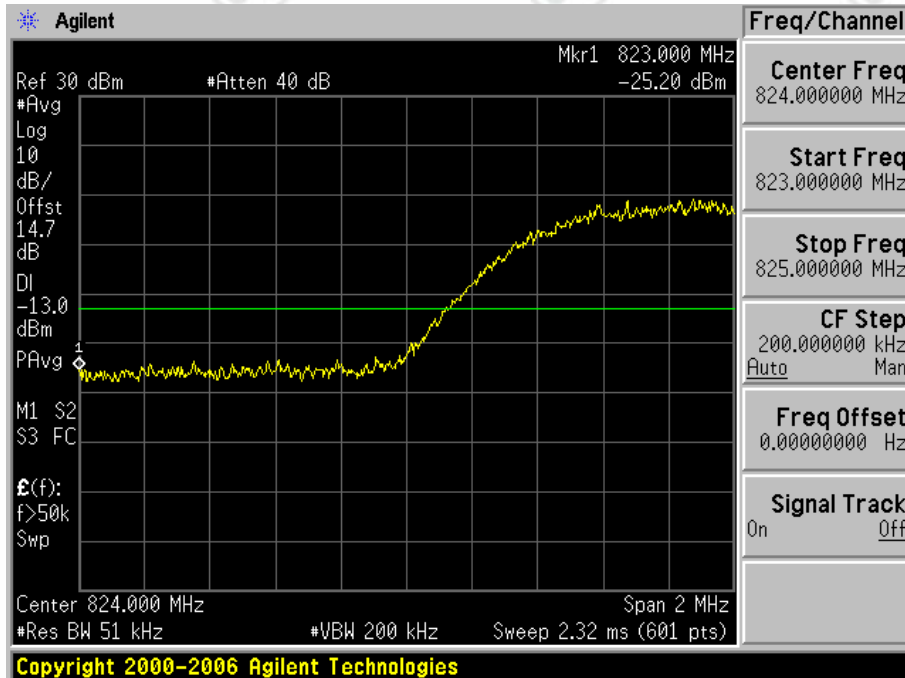


For WCDMA

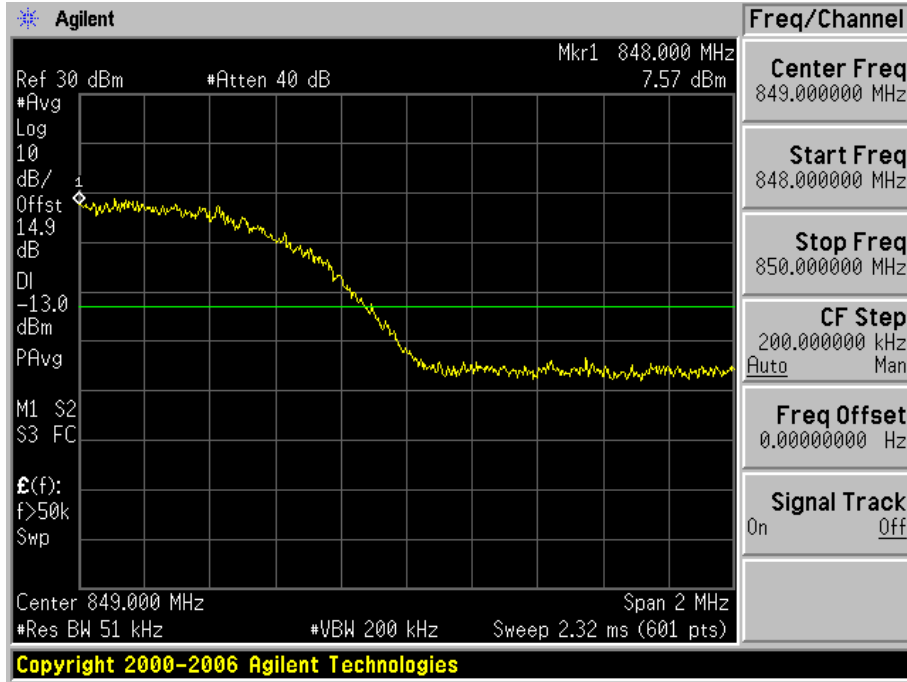
1.2 Test Band=WCDMA850

1.2.1 Test Mode=UMTS/TM1

1.2.1.1 Test Channel=LCH

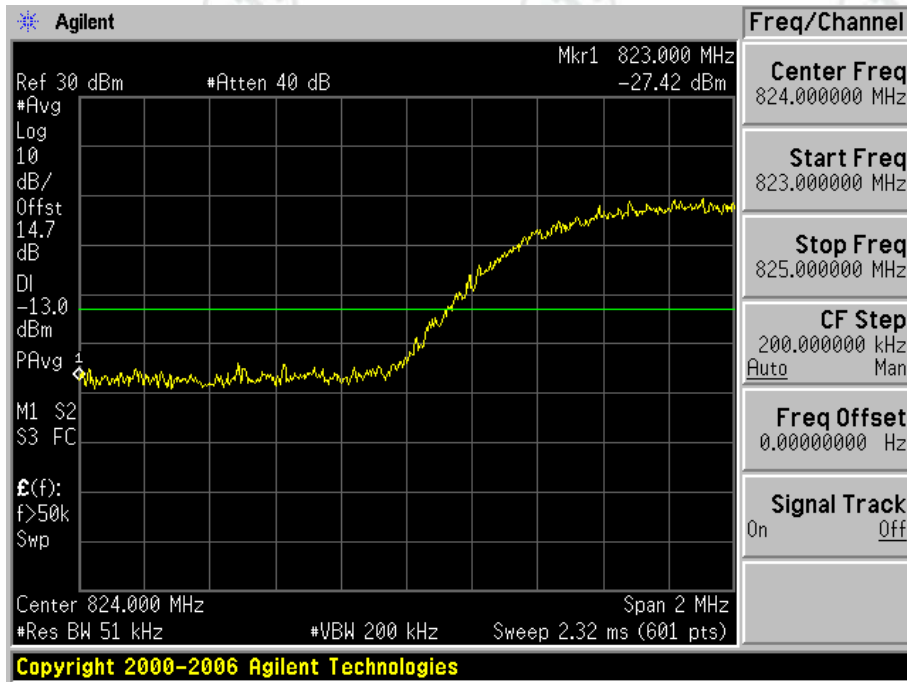


1.2.1.2 Test Channel=HCH

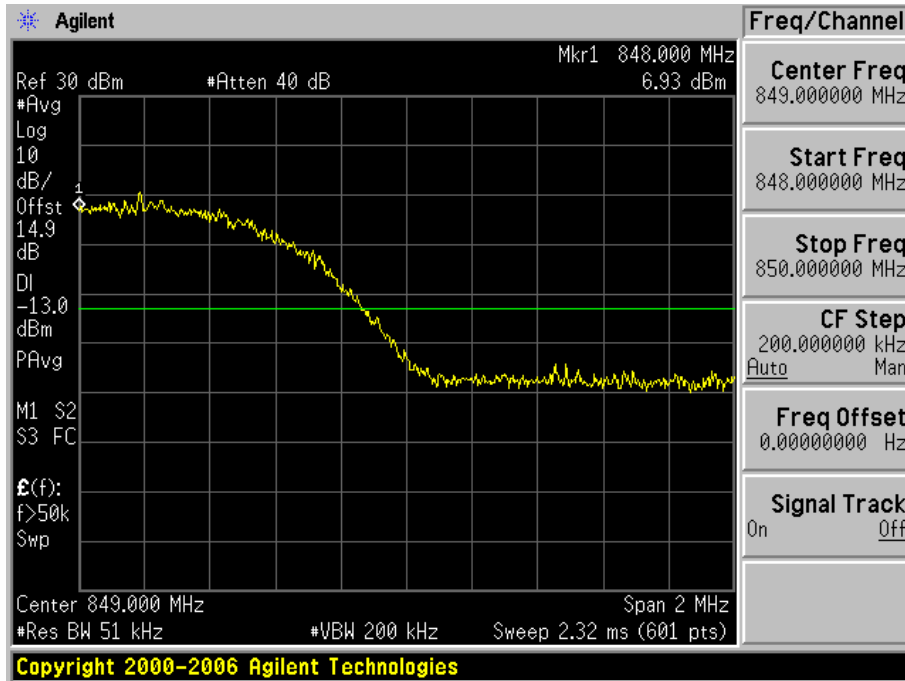


1.2.2 Test Mode=UMTS/TM2

1.2.2.1 Test Channel=LCH

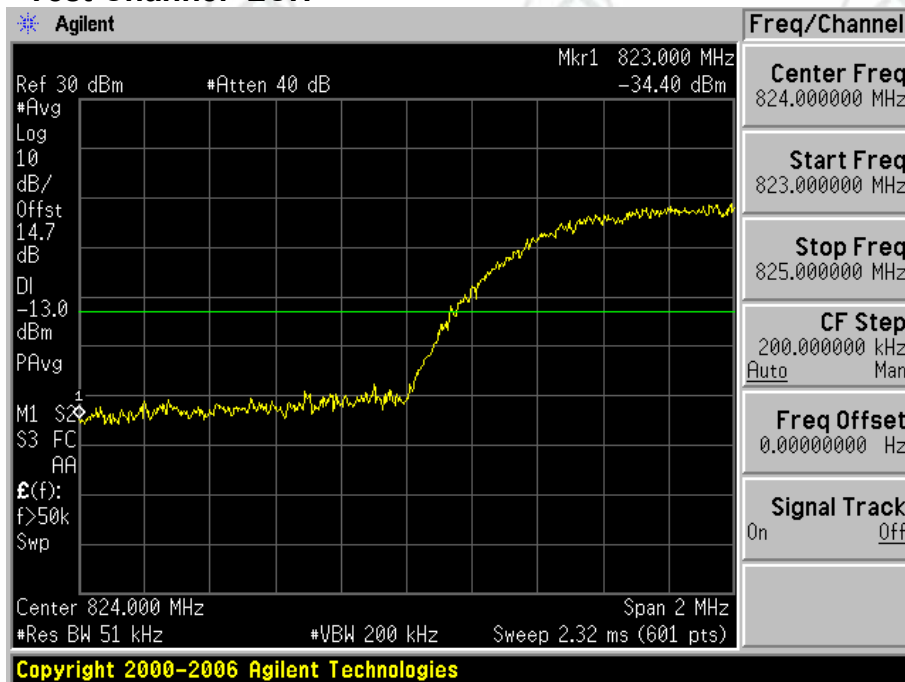


1.2.2.2 Test Channel=HCH

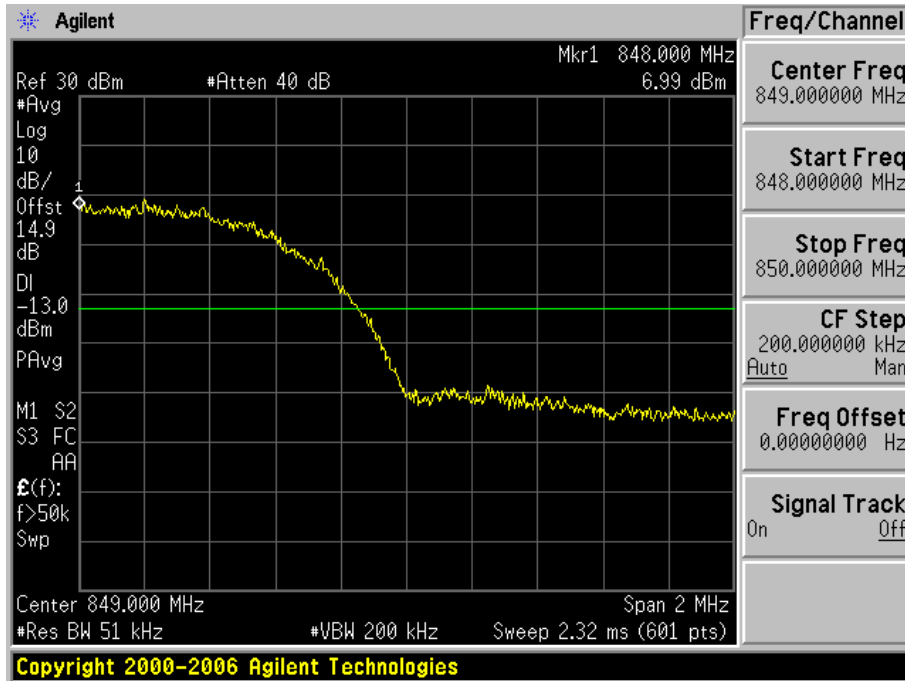


1.2.3 Test Mode=UMTS/TM3

1.2.3.1 Test Channel=LCH



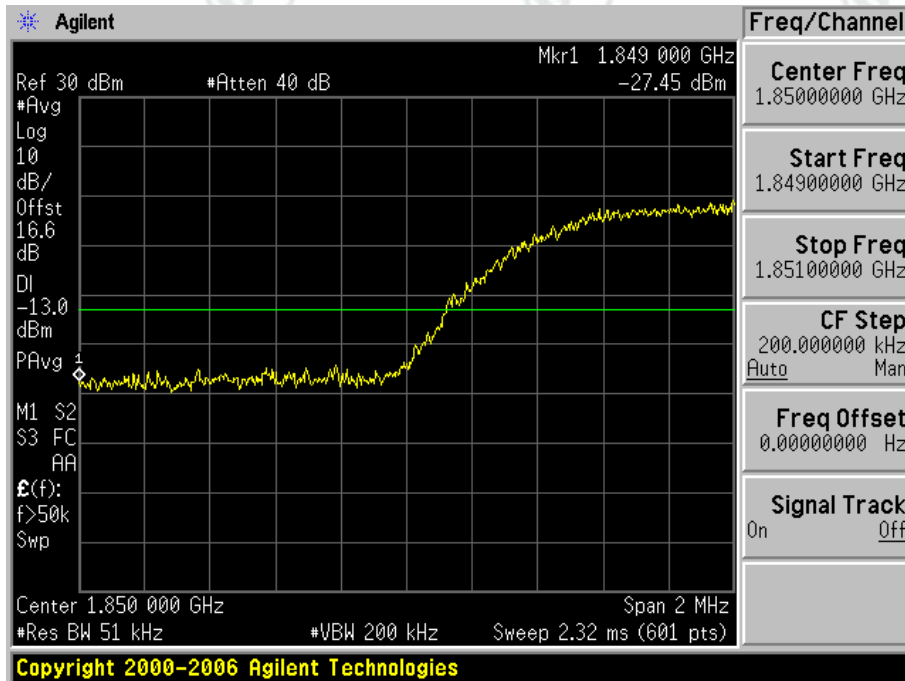
1.2.3.2 Test Channel=HCH



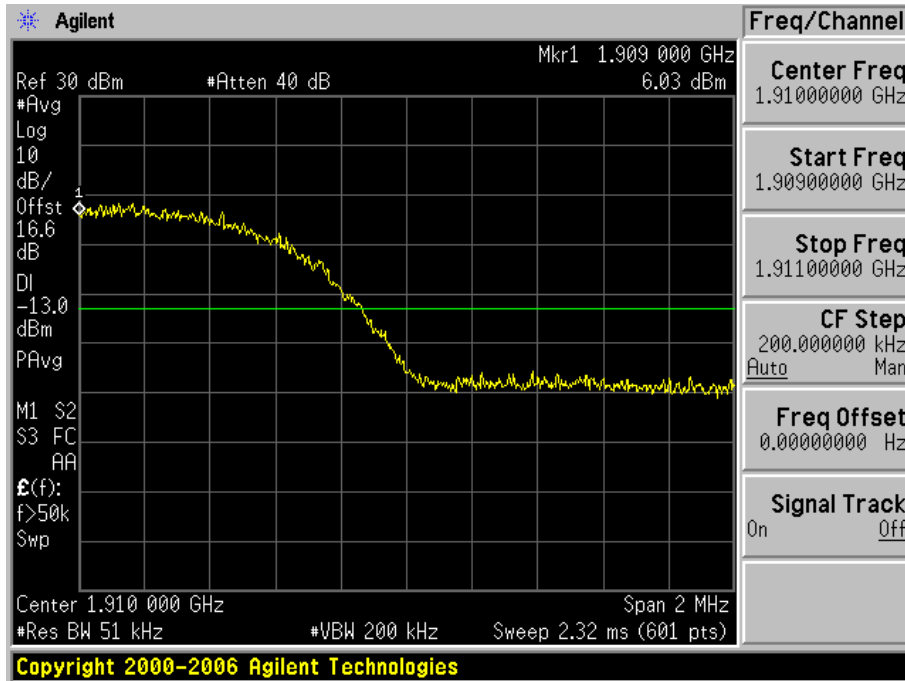
Test Band=WCDMA1900

1.2.4 Test Mode=UMTSTM1

1.2.4.1 Test Channel=LCH

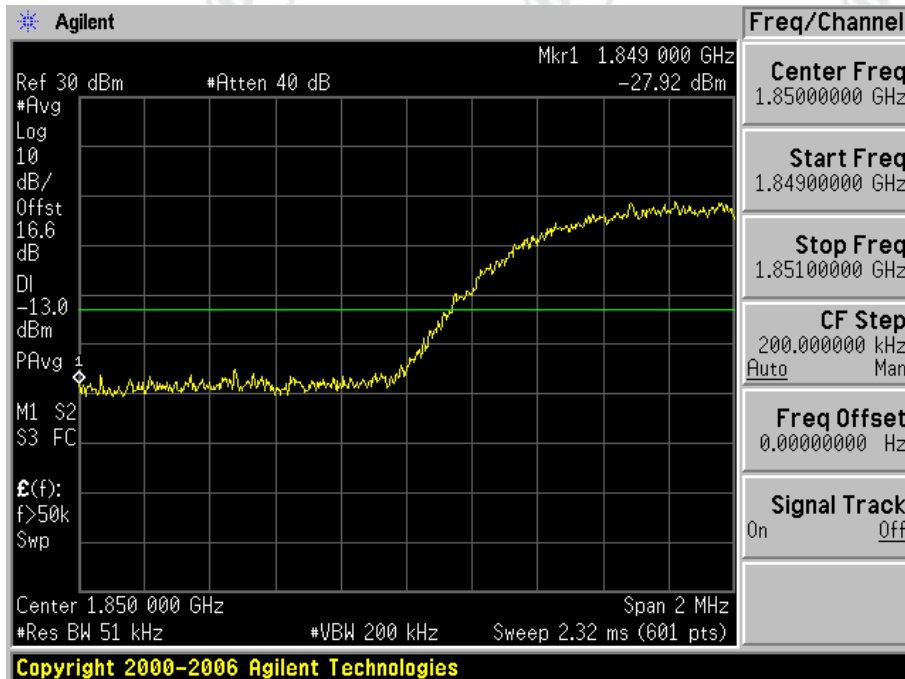


1.2.4.2 Test Channel=HCH

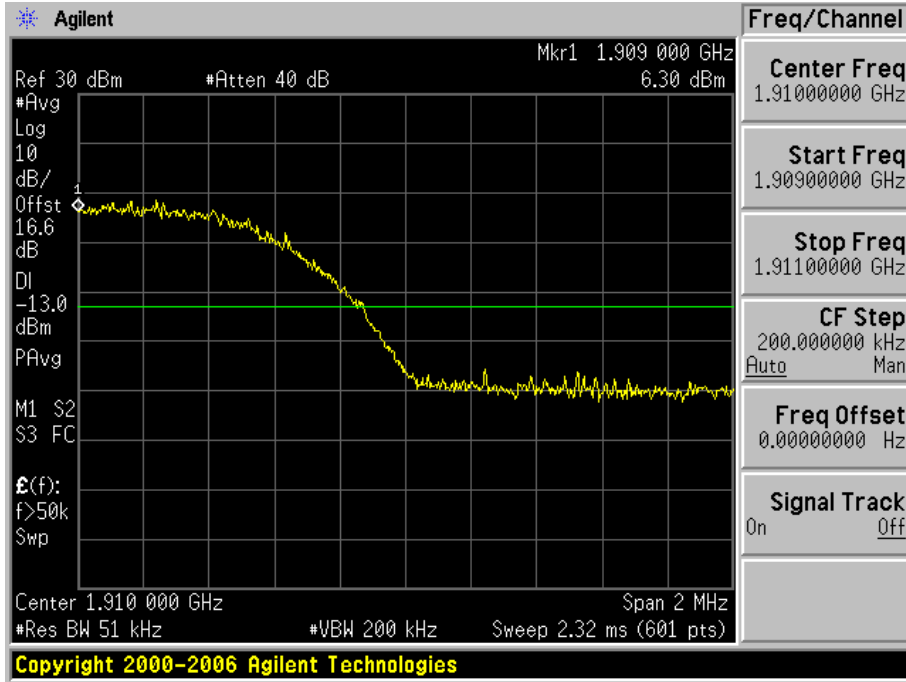


1.2.5 Test Mode=UMTS/TM2

1.2.5.1 Test Channel=LCH

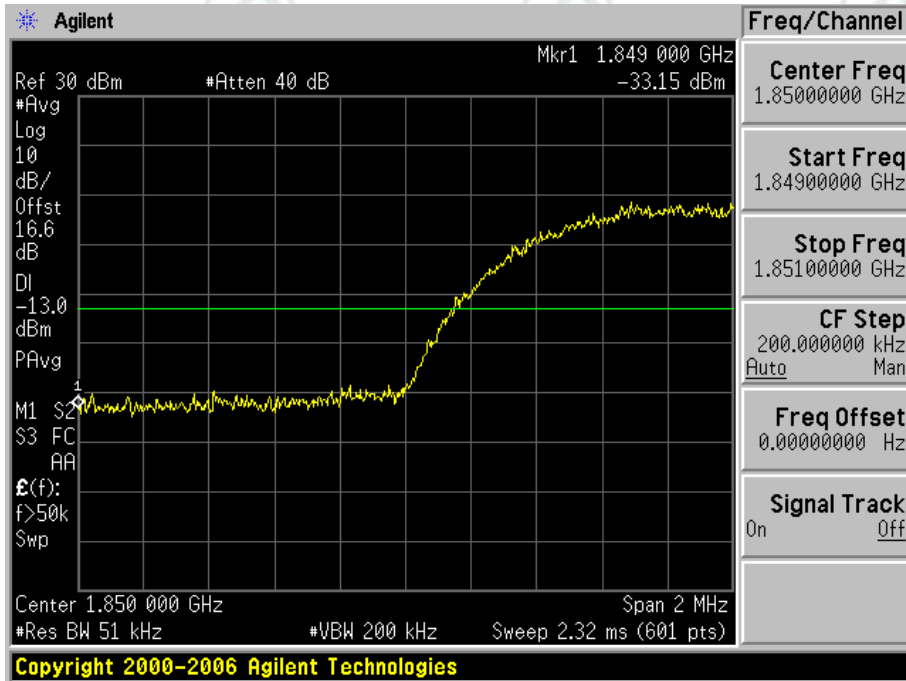


1.2.5.2 Test Channel=HCH

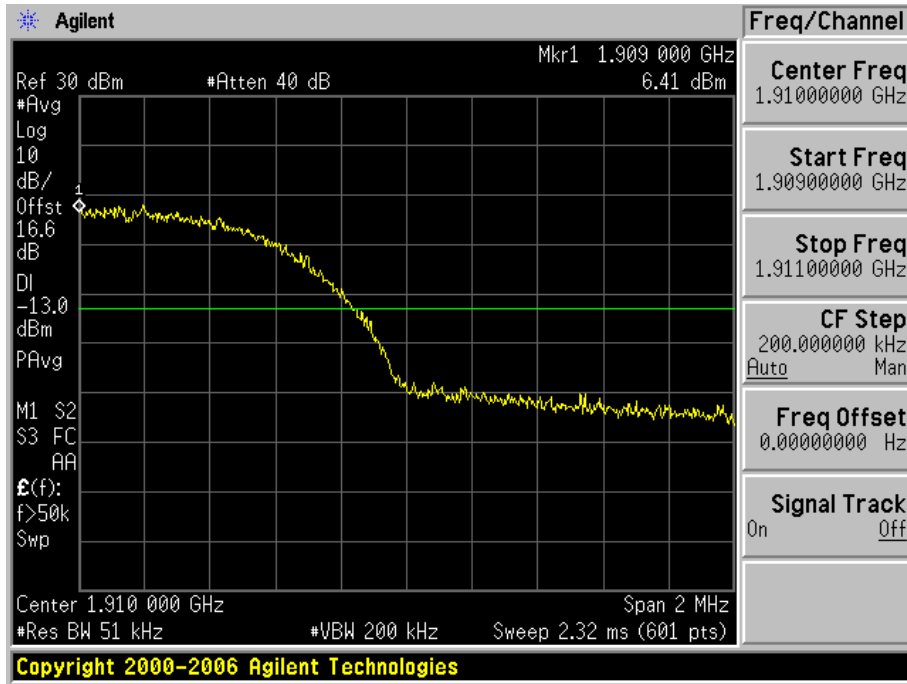


1.2.6 Test Mode=UMTS/TM3

1.2.6.1 Test Channel=LCH



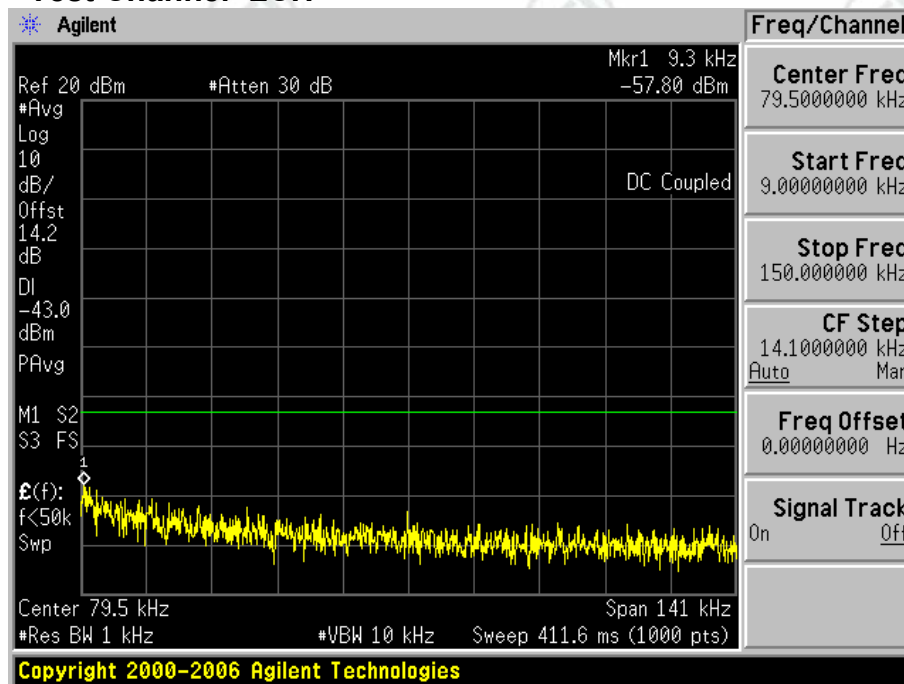
1.2.6.2 Test Channel=HCH

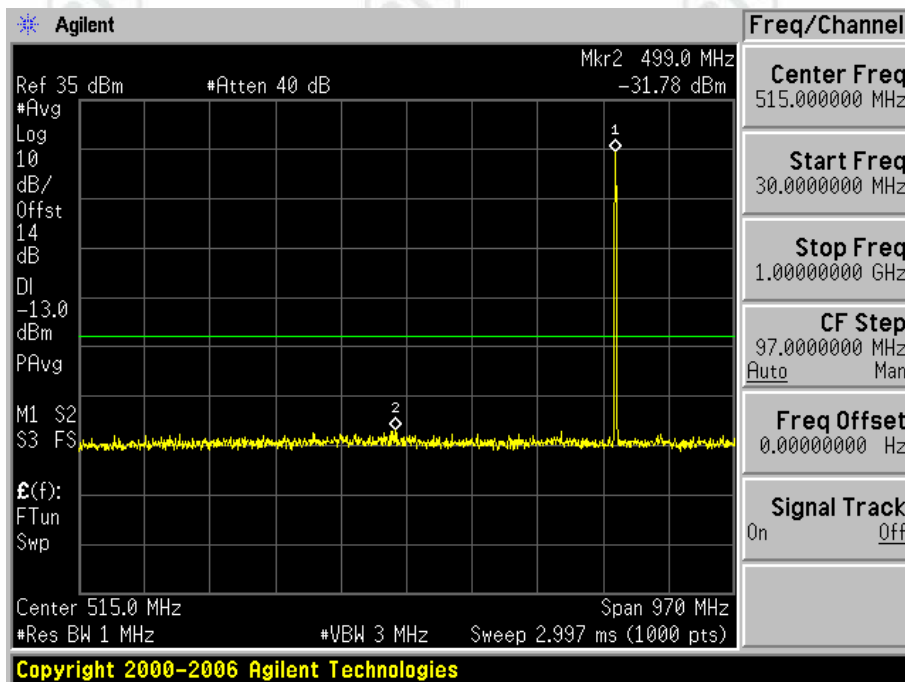
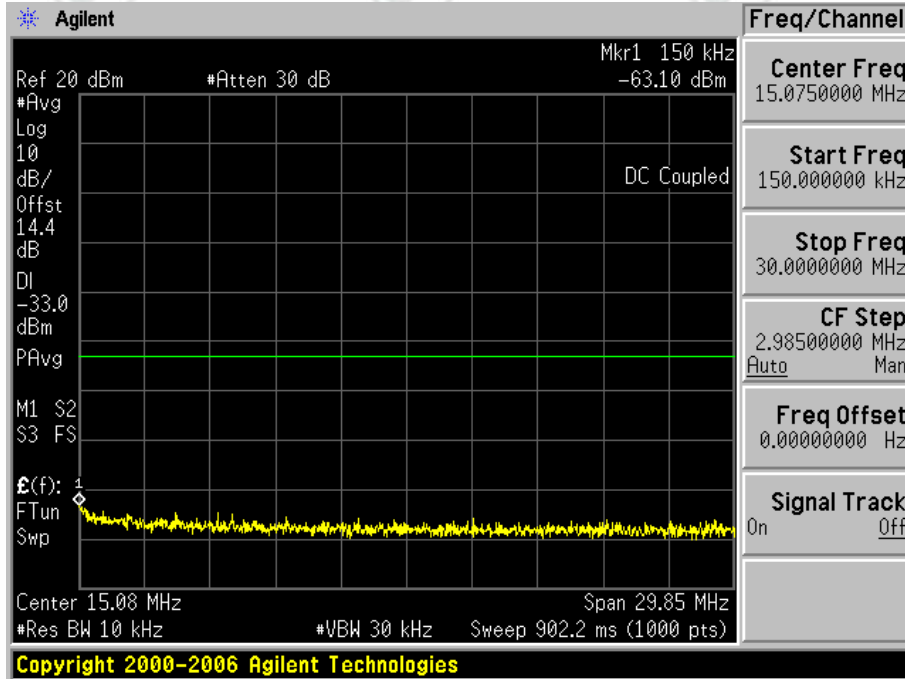


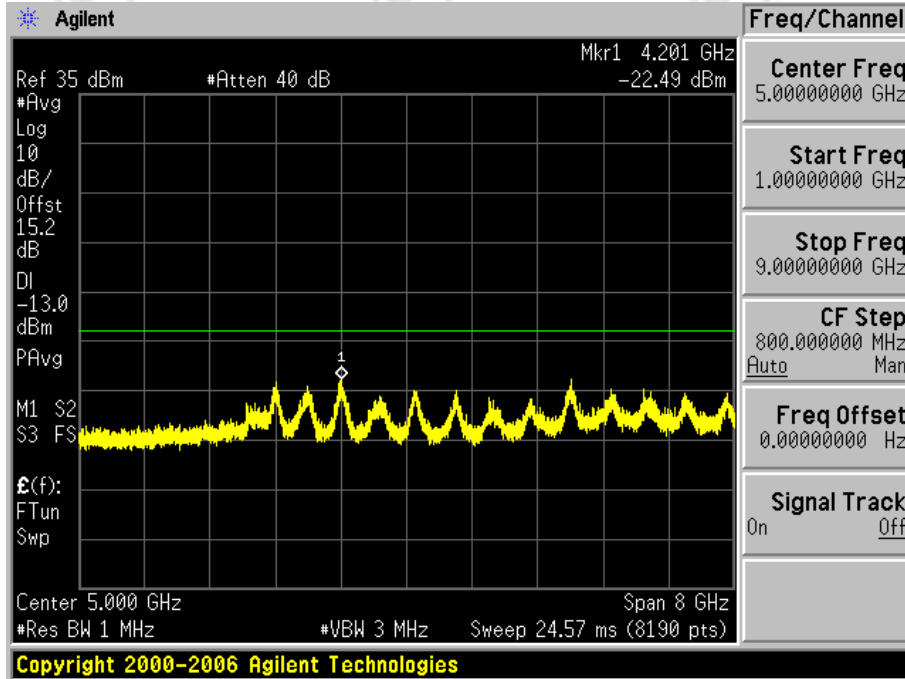
Appendix E): Spurious Emission at Antenna Terminal

Test Requirement:	Part 2.1051/Part 2.1057
Test Method:	TIA-603-E-2016 Clause 2.2.13
Test Setup:	Refer to section 5 for details
Measurement Procedure:	The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyzer, the other end of which was connected to 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 equipment operates below 10GHz: to the tenth harmonic of the highest fundamental frequency or to 40GHz.whichever is lower, the resolution bandwidth of the spectrum analyzer was set at 100kHz for spurious emissions below 1 GHz, and 1 MHz for spurious emissions above 1GHz.the video bandwidth of the spectrum analyzer was set at thrice the resolution bandwidth. Detector Mode was set to mean or average power.
Instruments Used:	Refer to section 7 for details
Limit:	Attenuated at least $43+10\log(P)$
Test Results:	Pass

- 1 For GSM
- 1.1 Test Band=GSM850
- 1.1.1 Test Mode=GSM/TM2
- 1.1.1.1 Test Channel=LCH

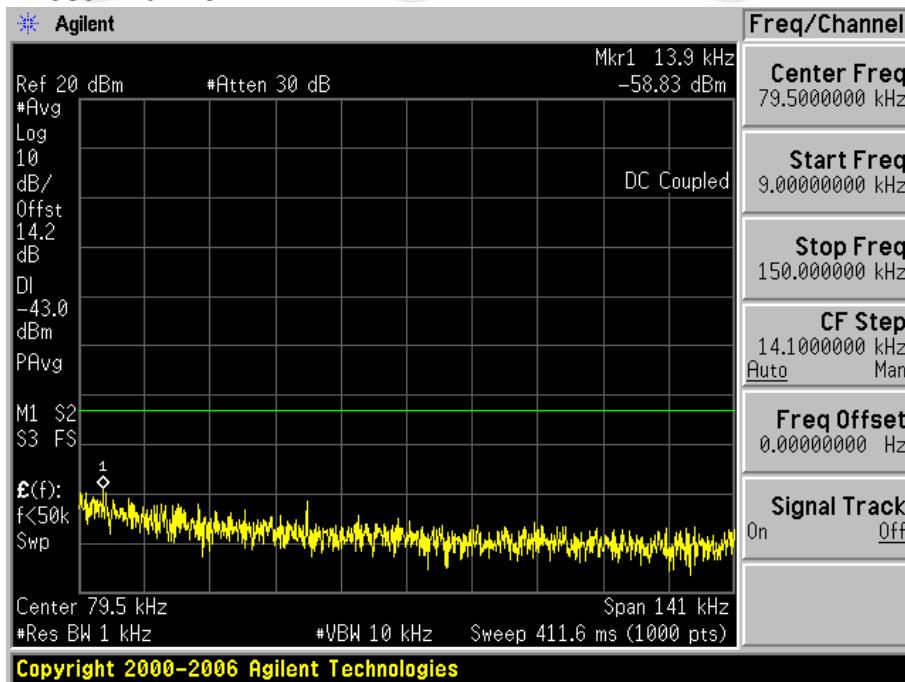


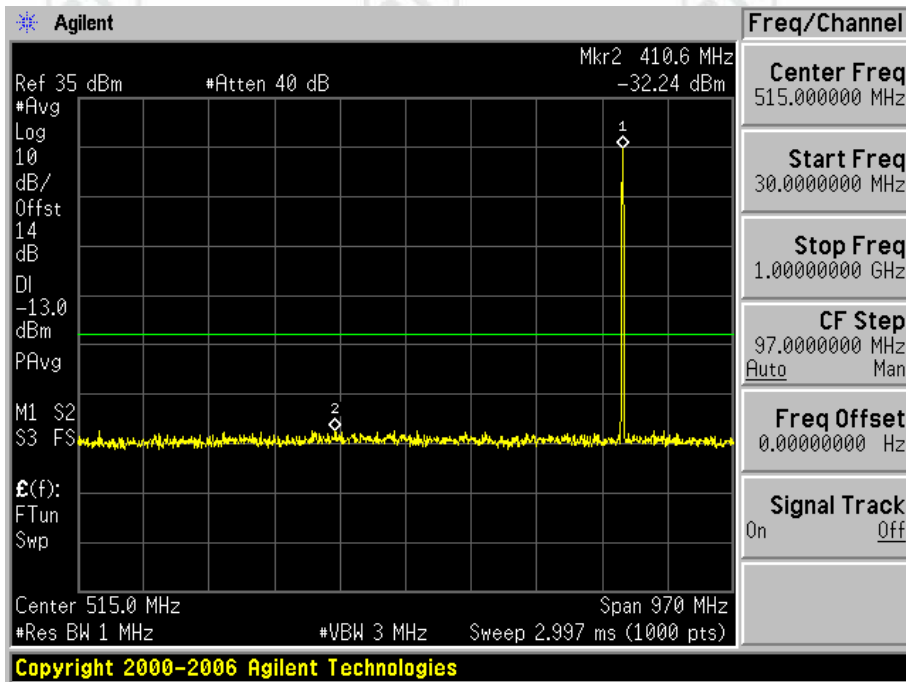
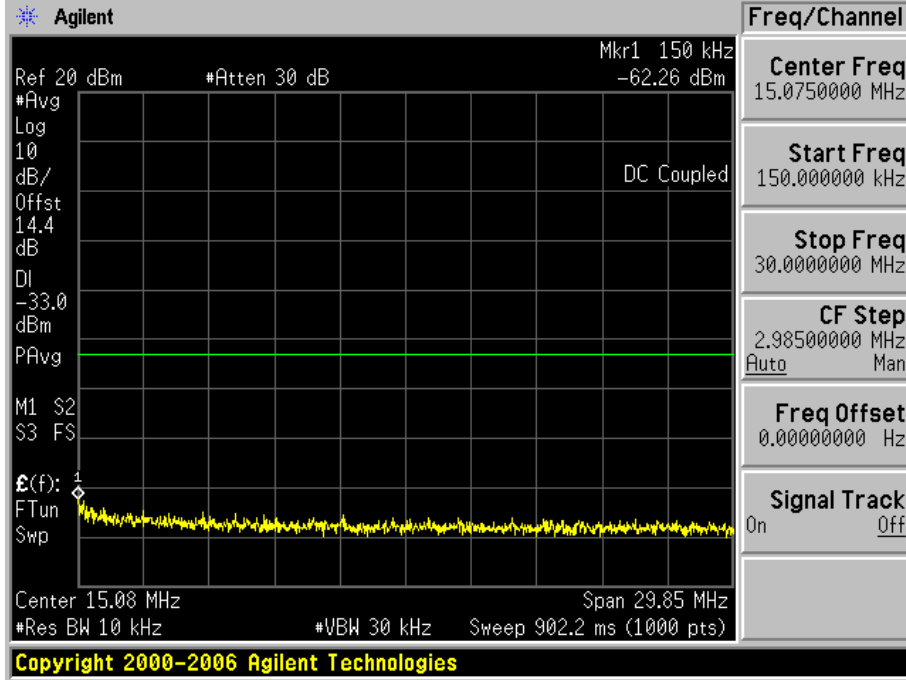


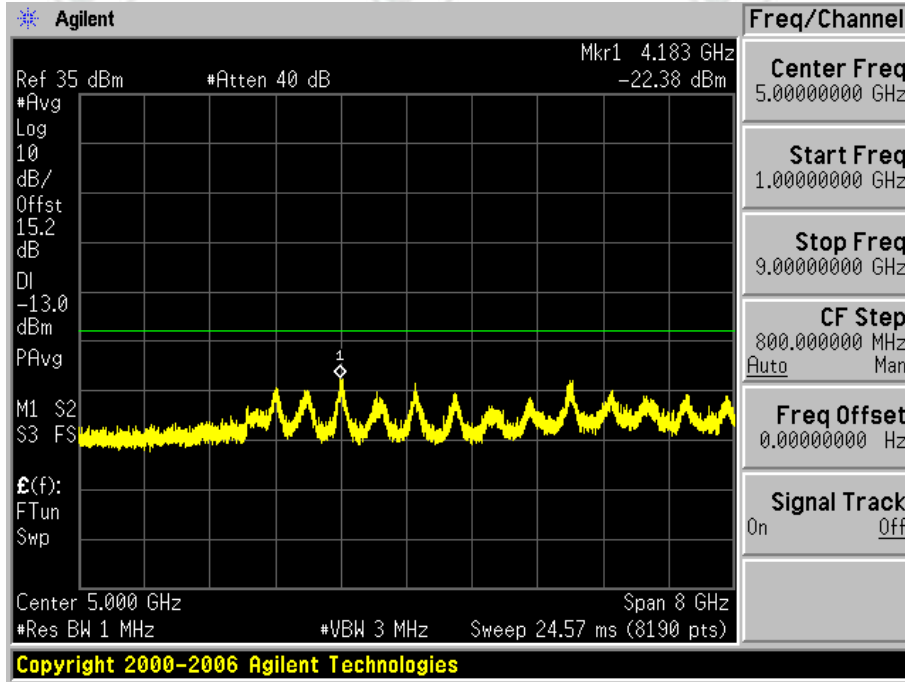


1.1.1.2

Test Channel=MCH

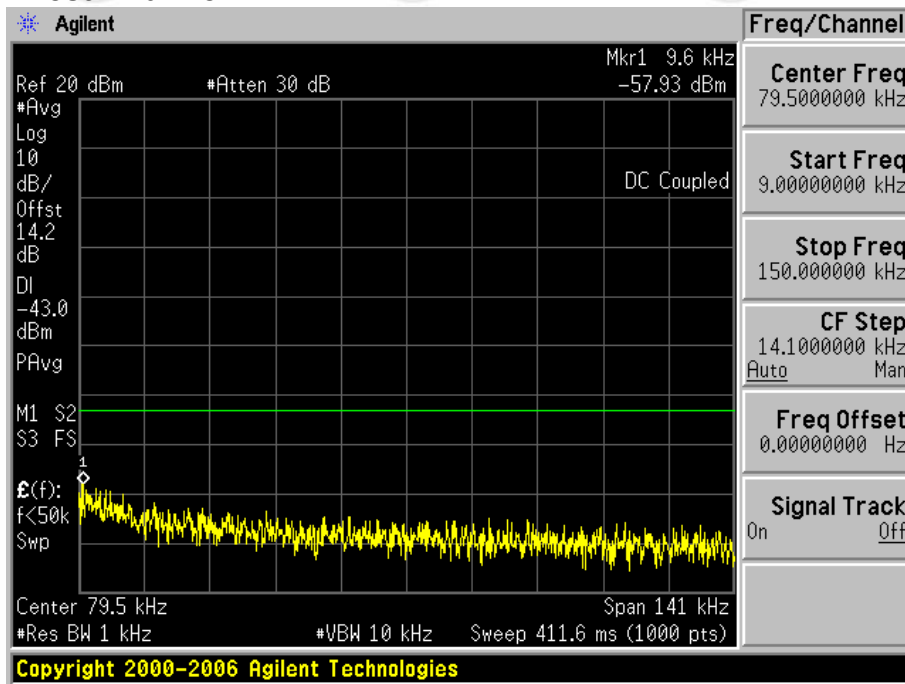


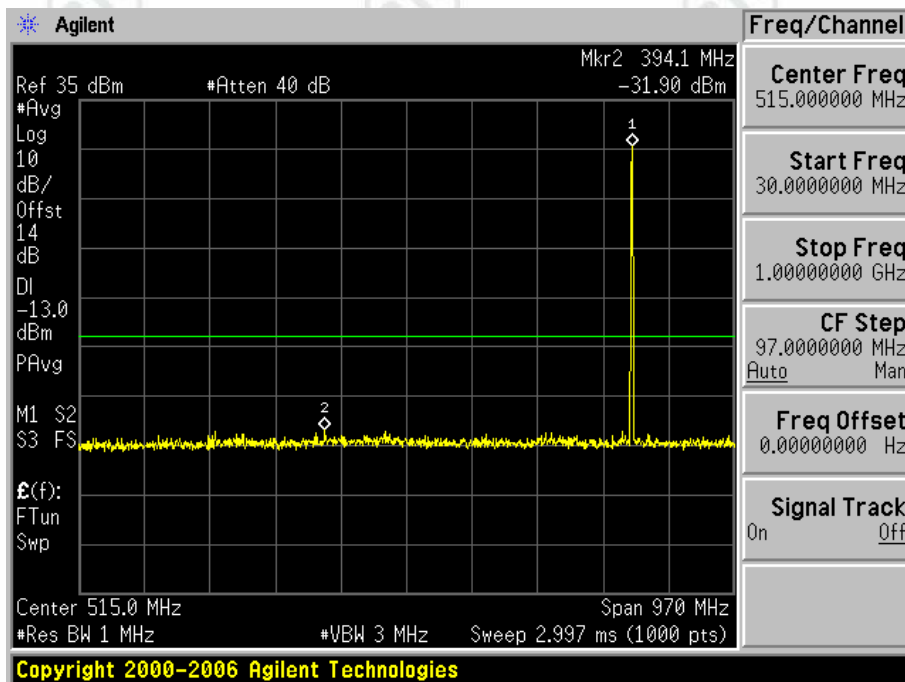
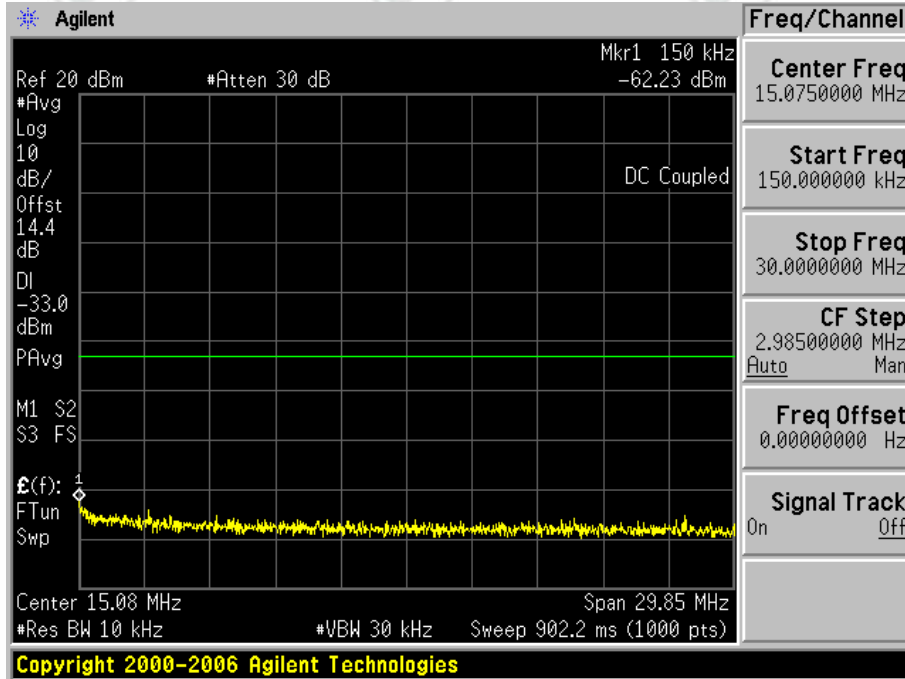


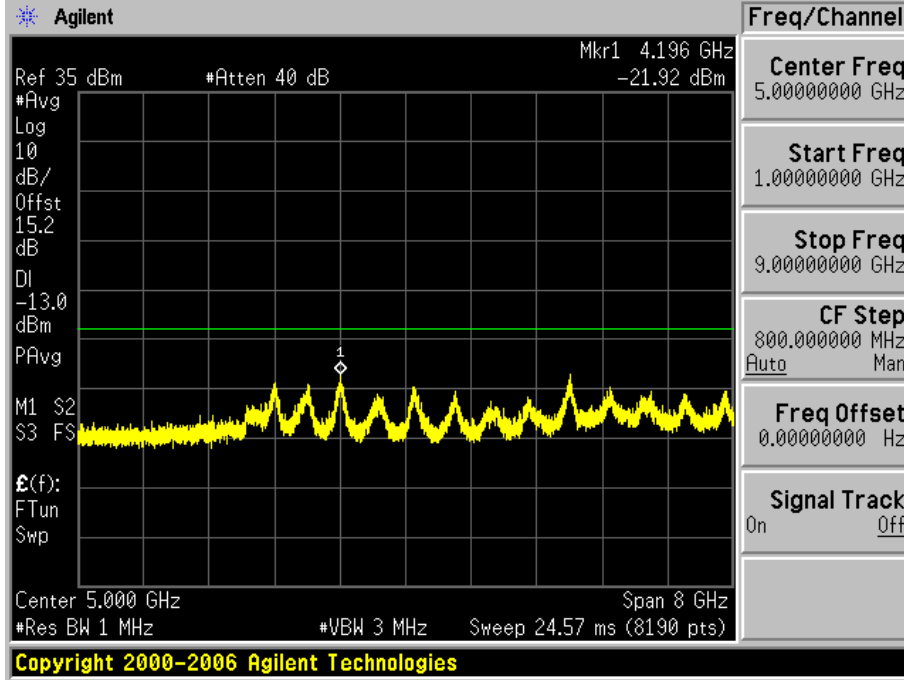


1.1.1.3

Test Channel=HCH





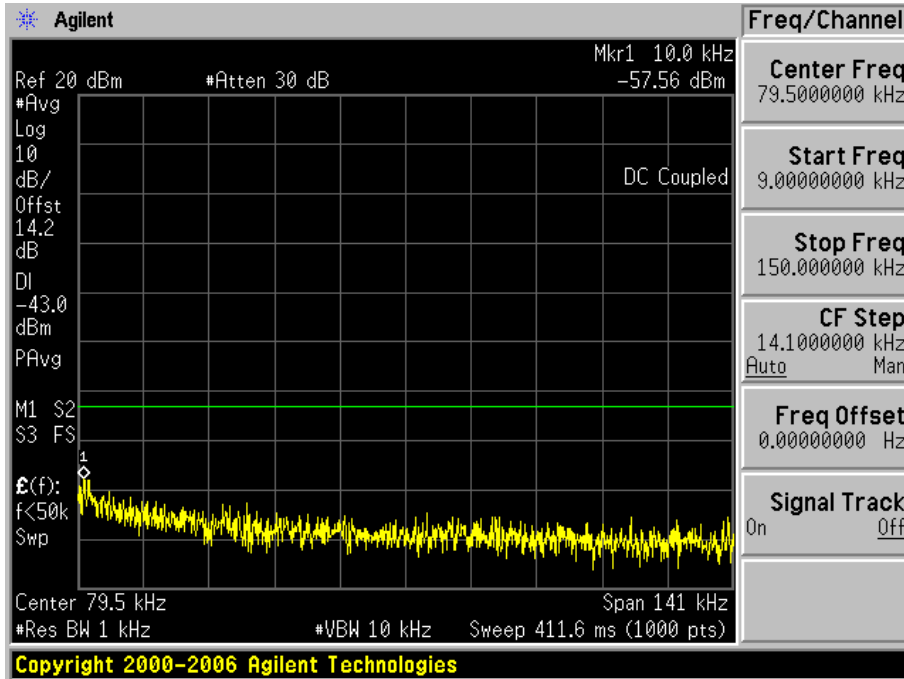


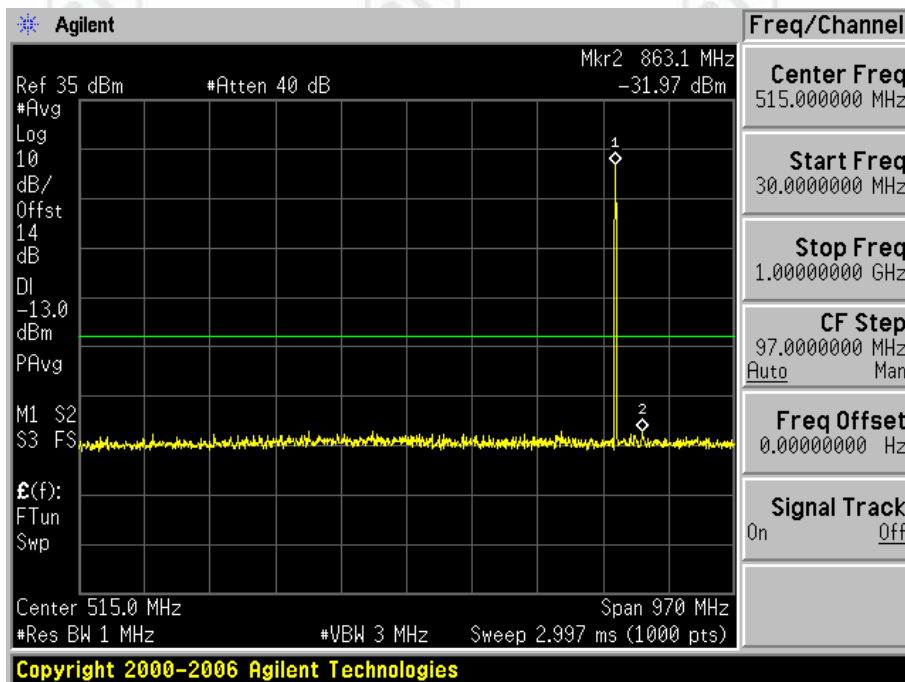
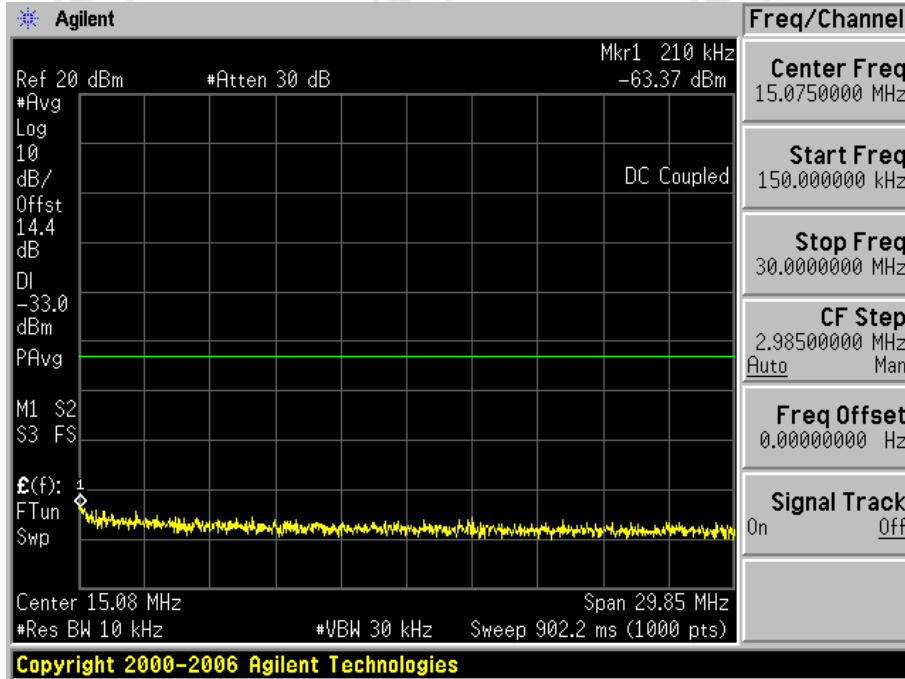
1.1.2

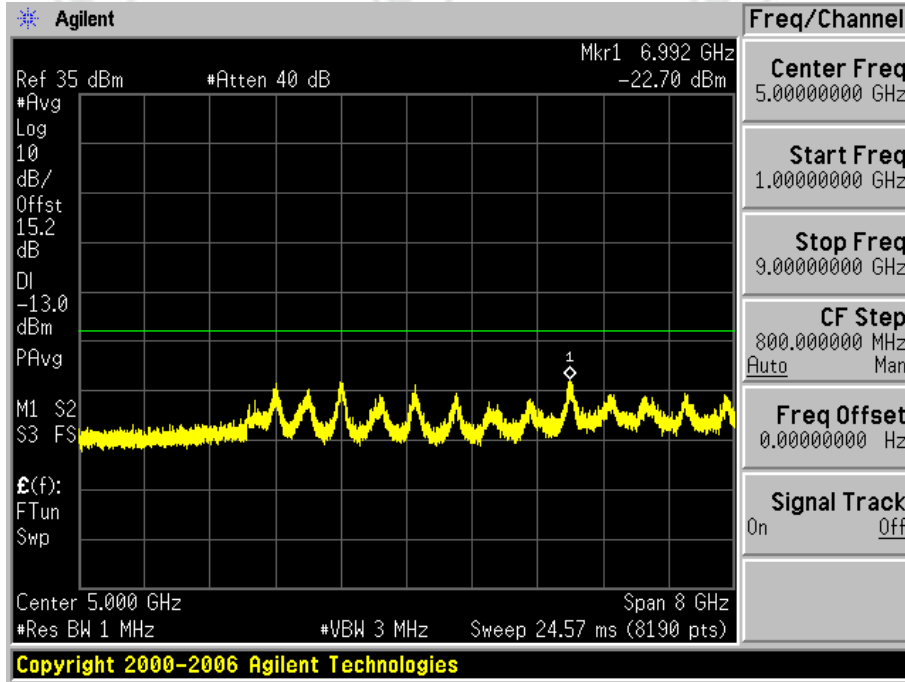
Test Mode=GSM/TM3

1.1.2.1

Test Channel=LCH

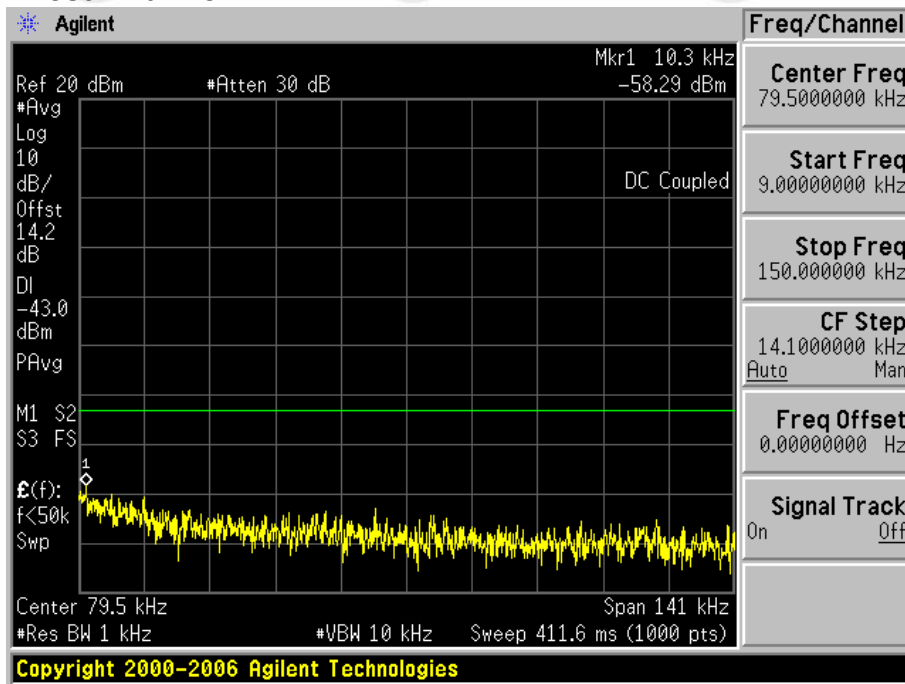


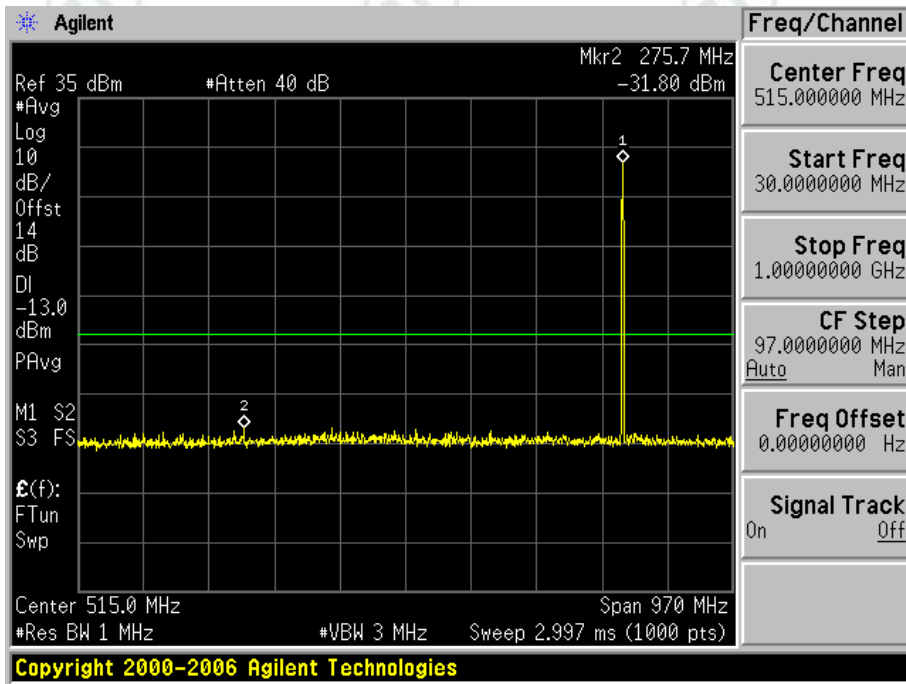
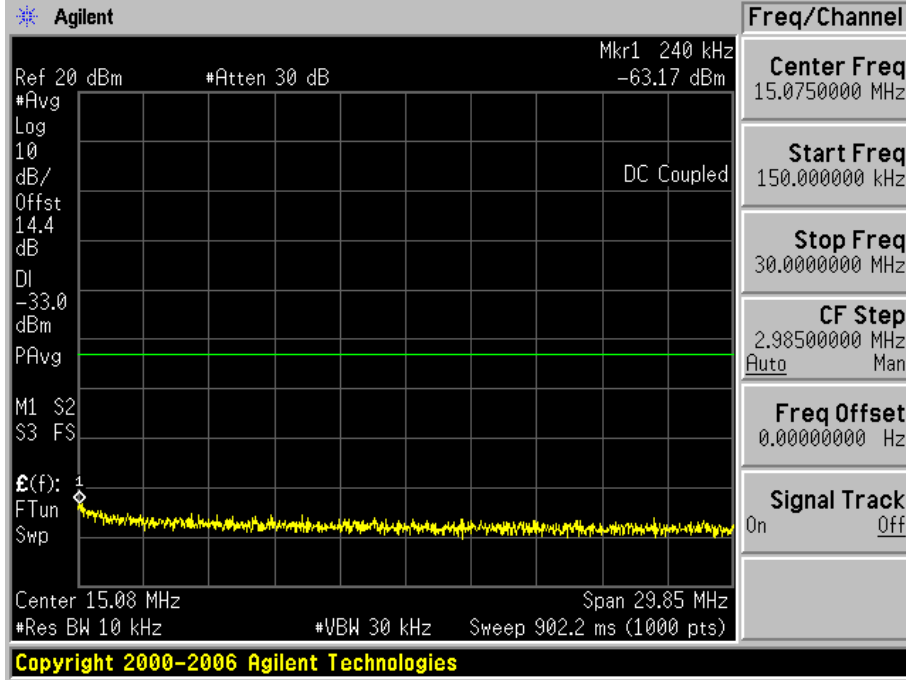


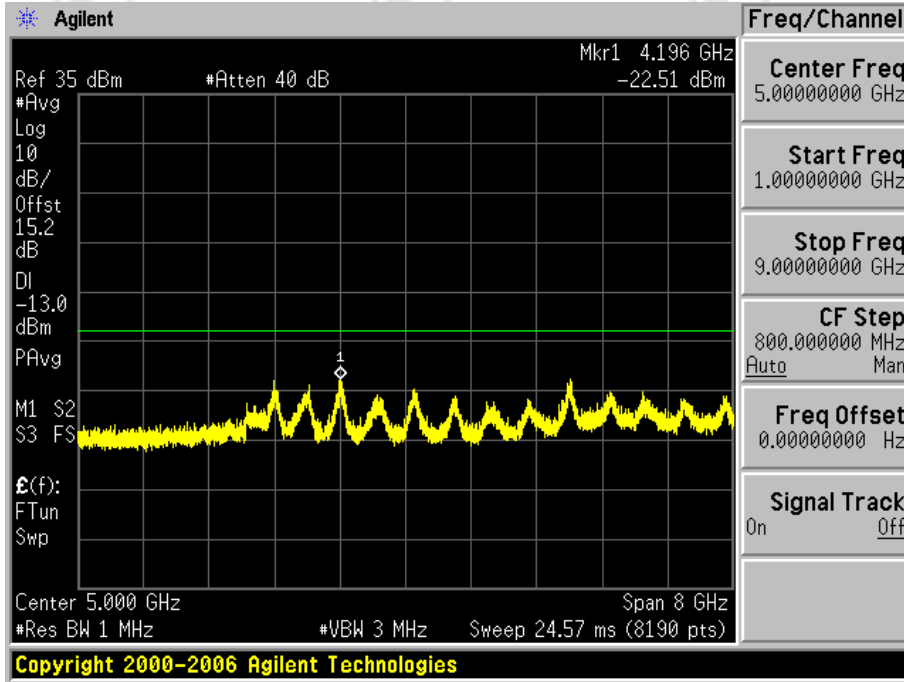


1.1.2.2

Test Channel=MCH

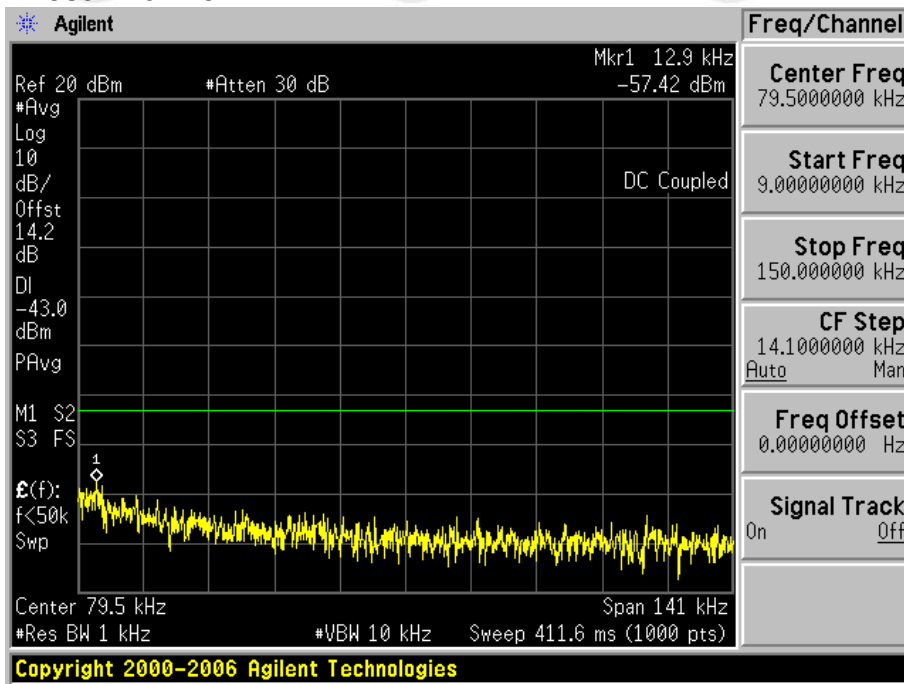


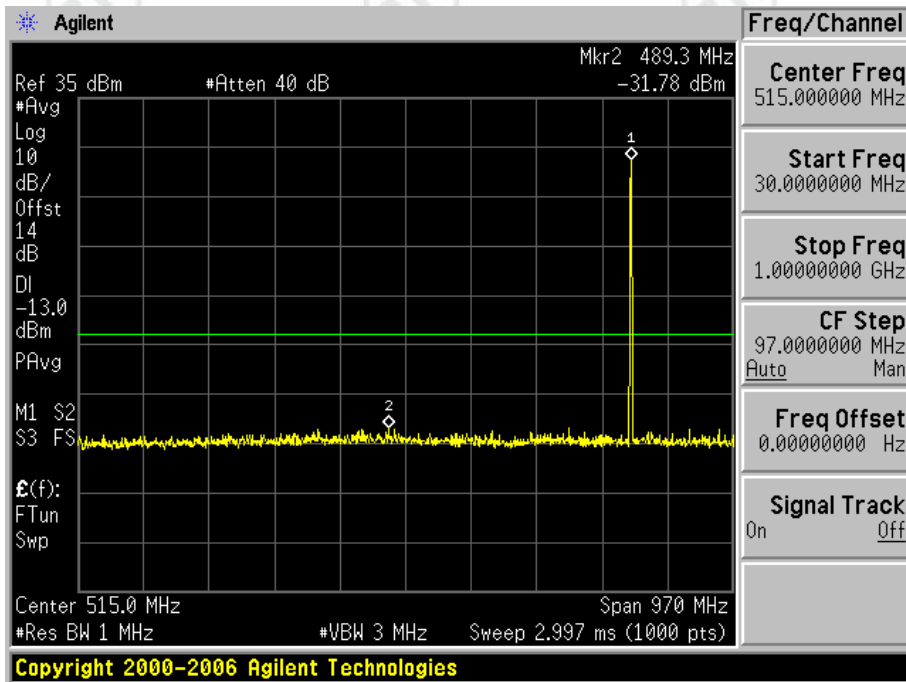
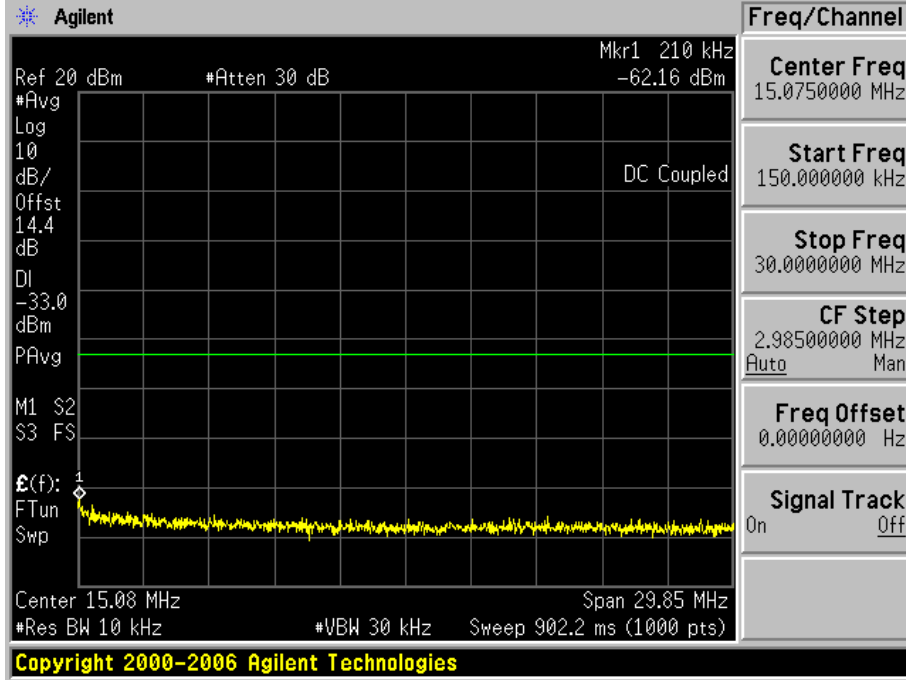


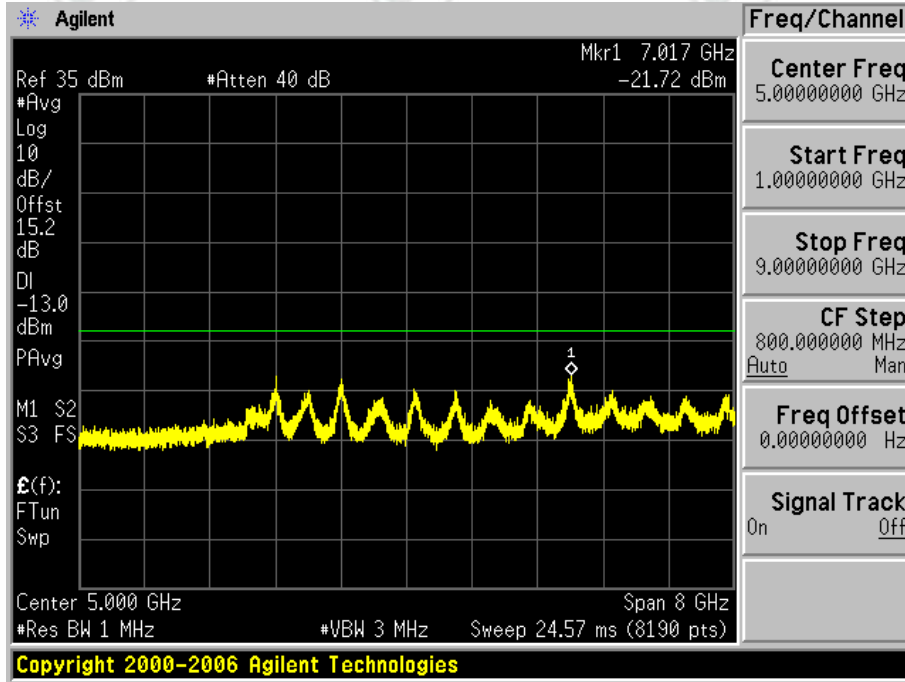


1.1.2.3

Test Channel=HCH







1.2

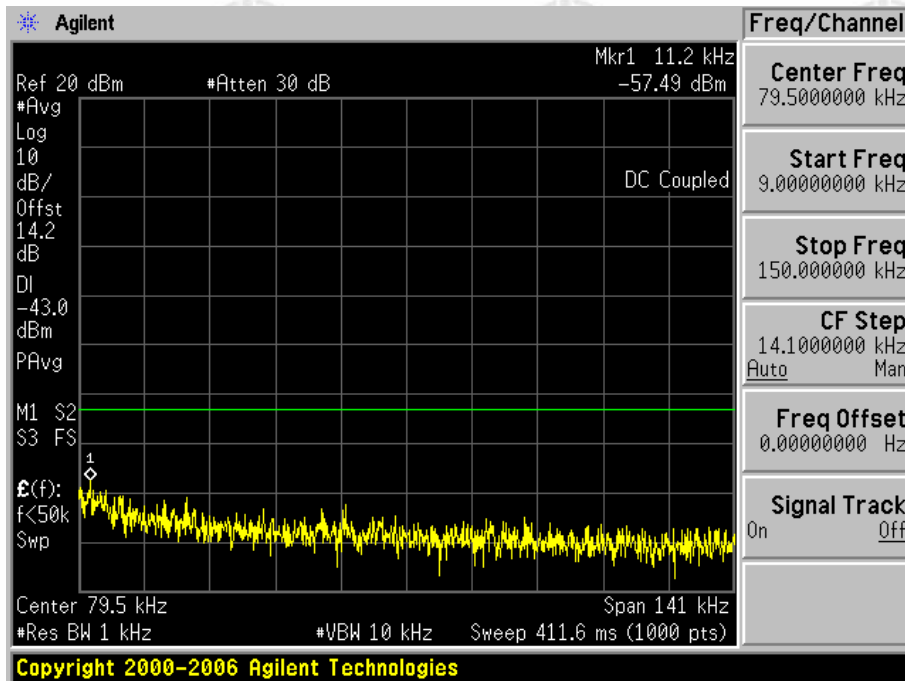
Test Band=GSM1900

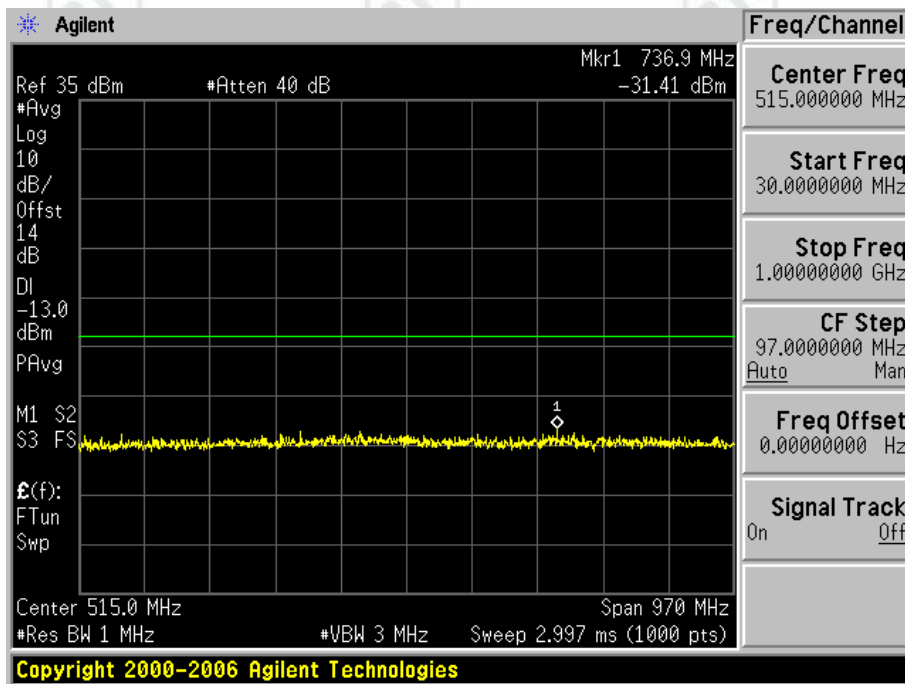
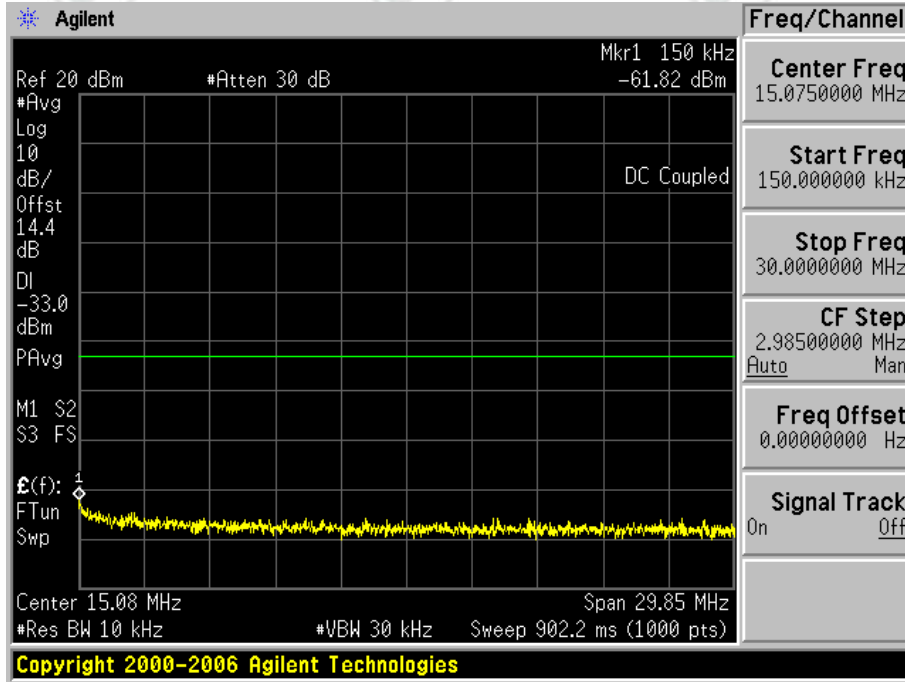
1.2.1

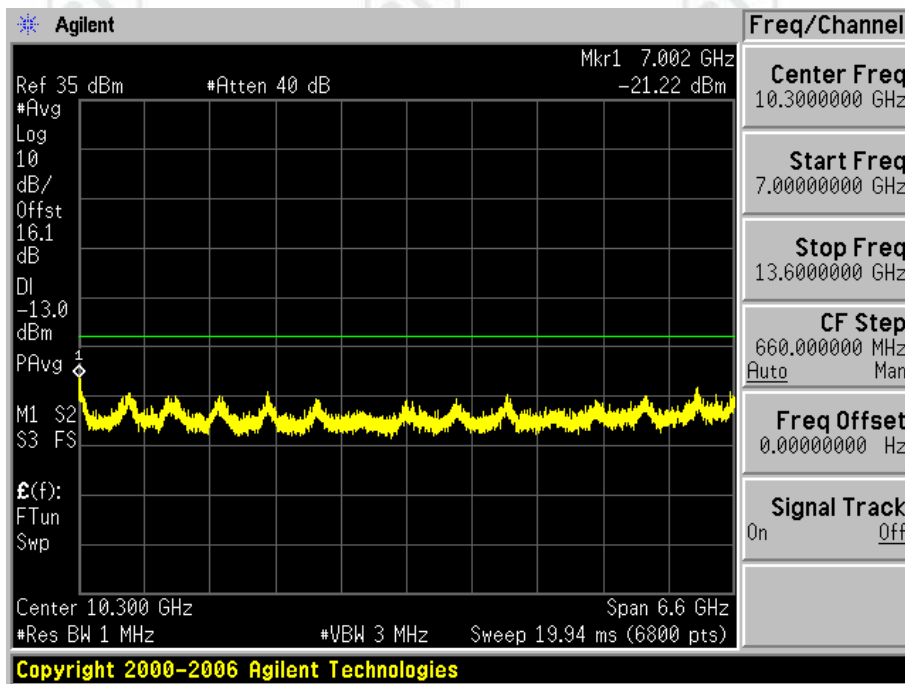
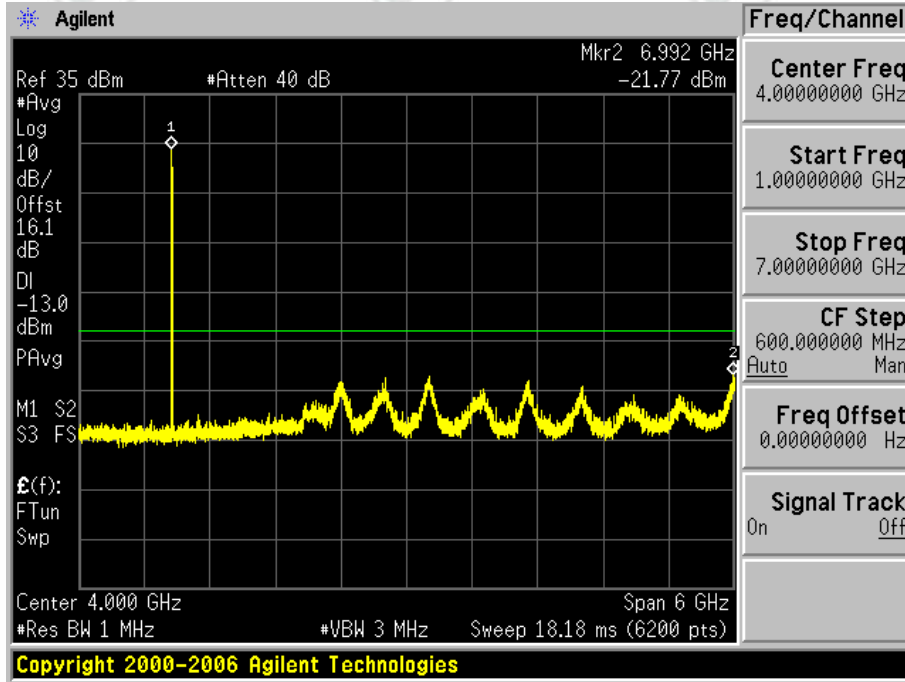
Test Mode=GSM/TM2

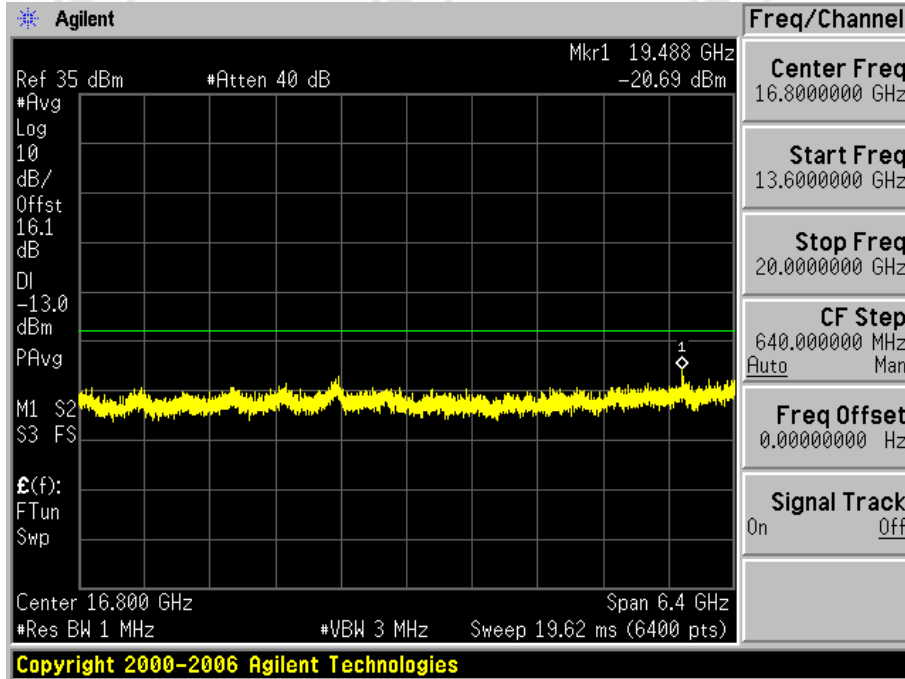
1.2.1.1

Test Channel=LCH



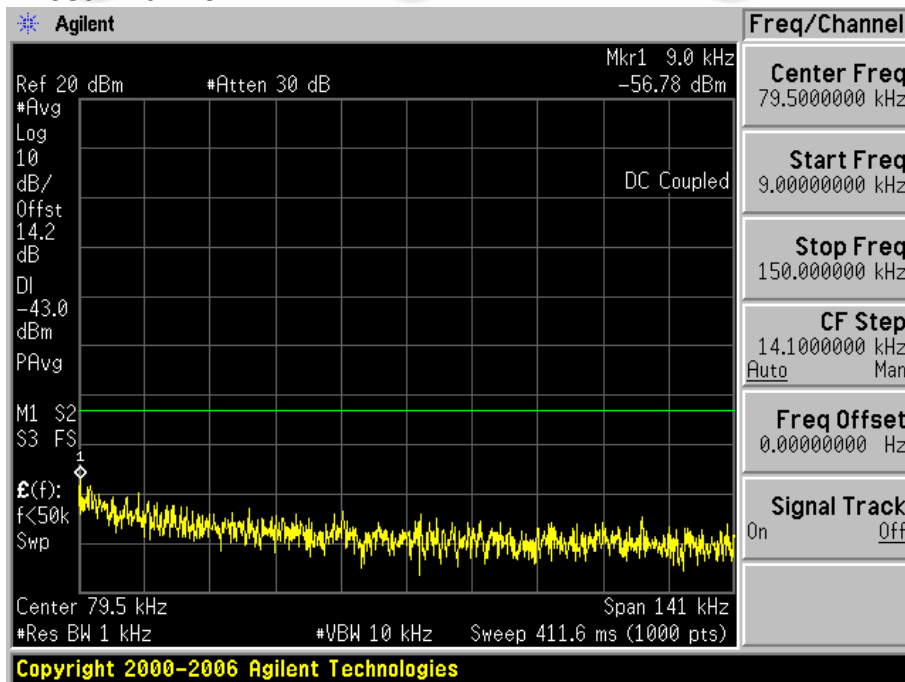


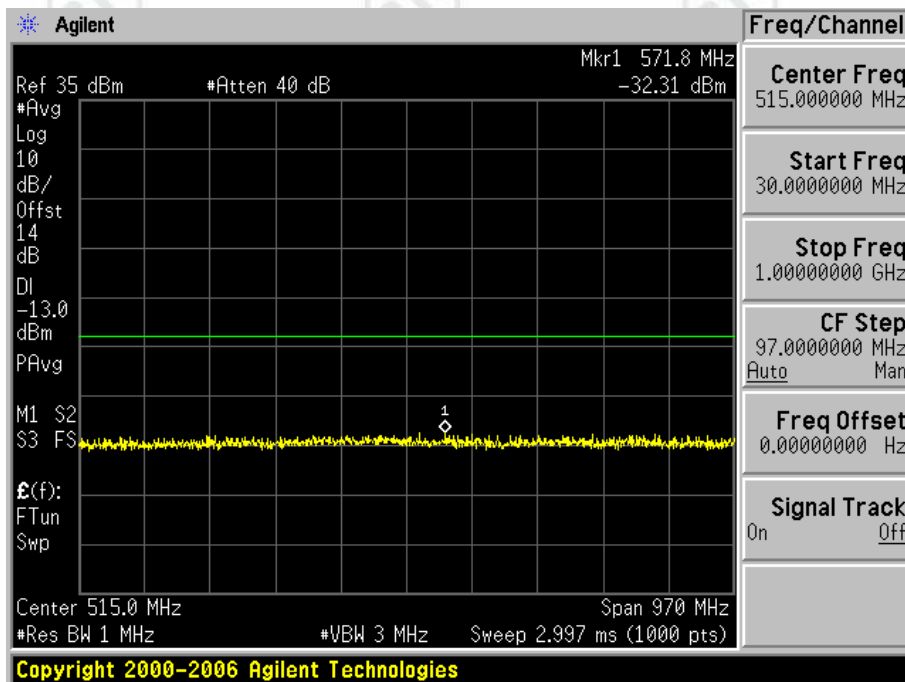
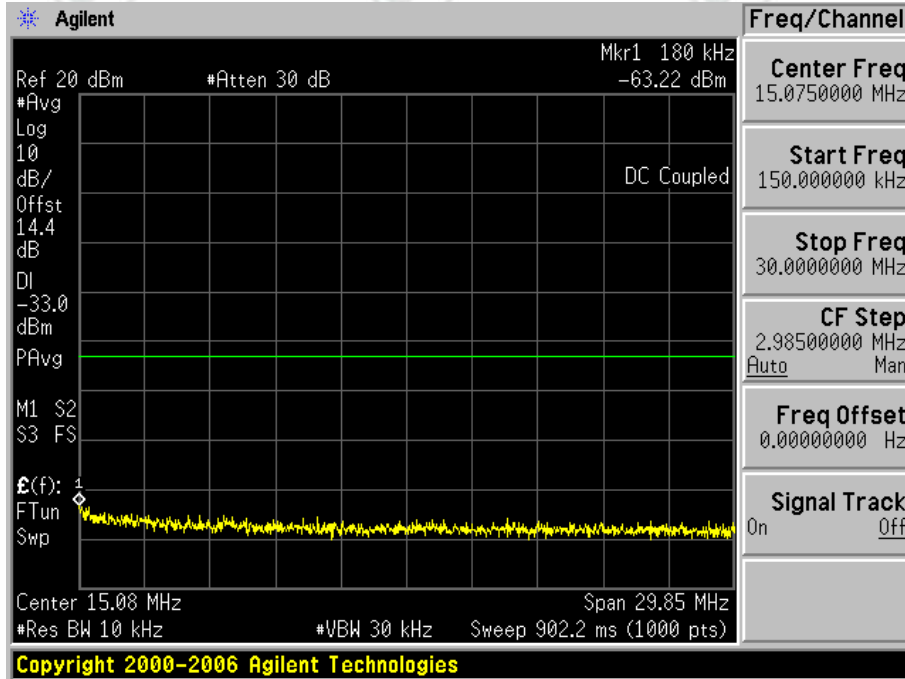


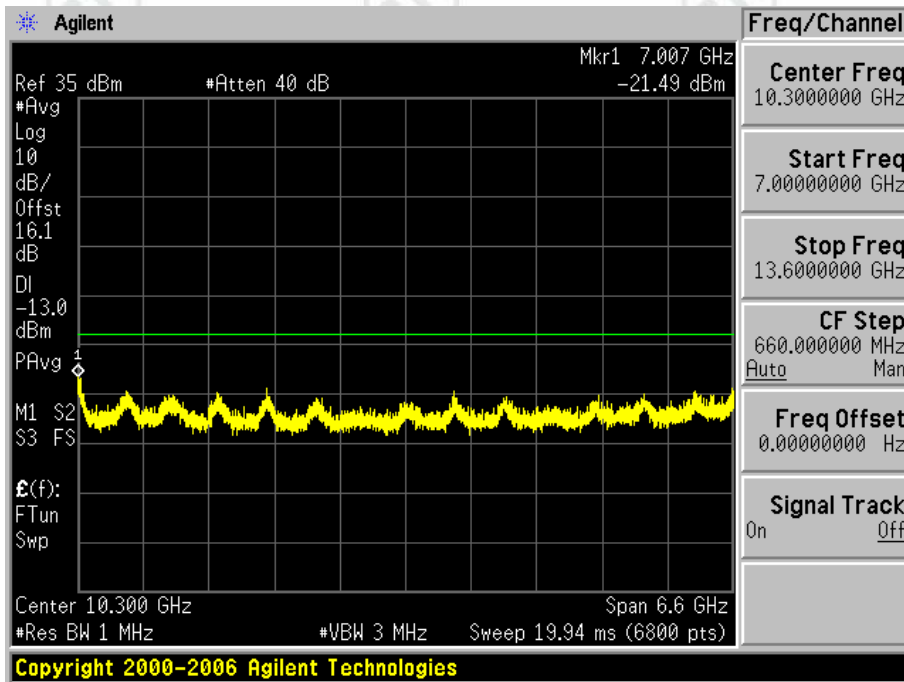
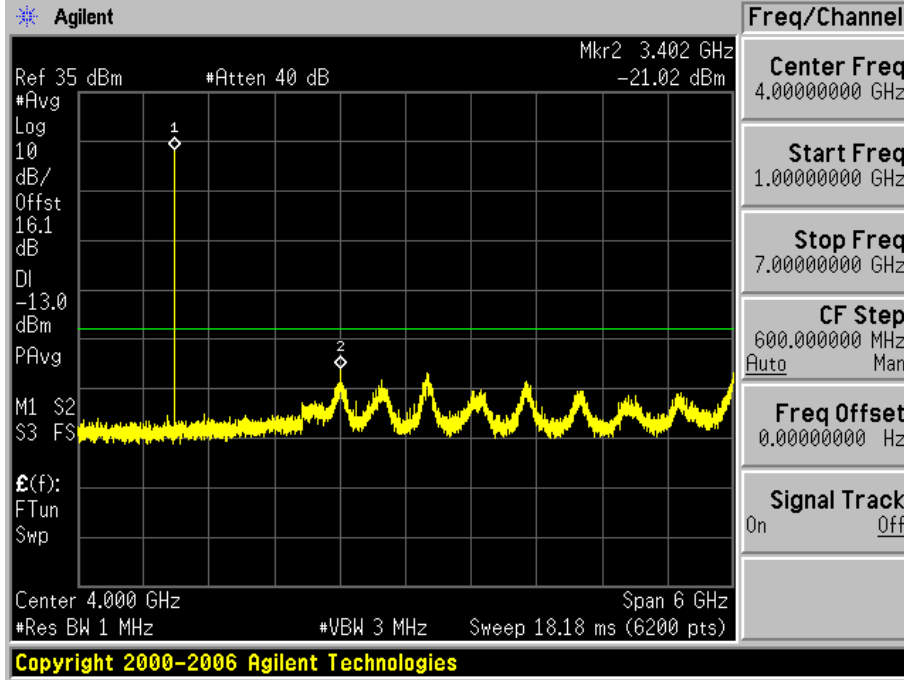


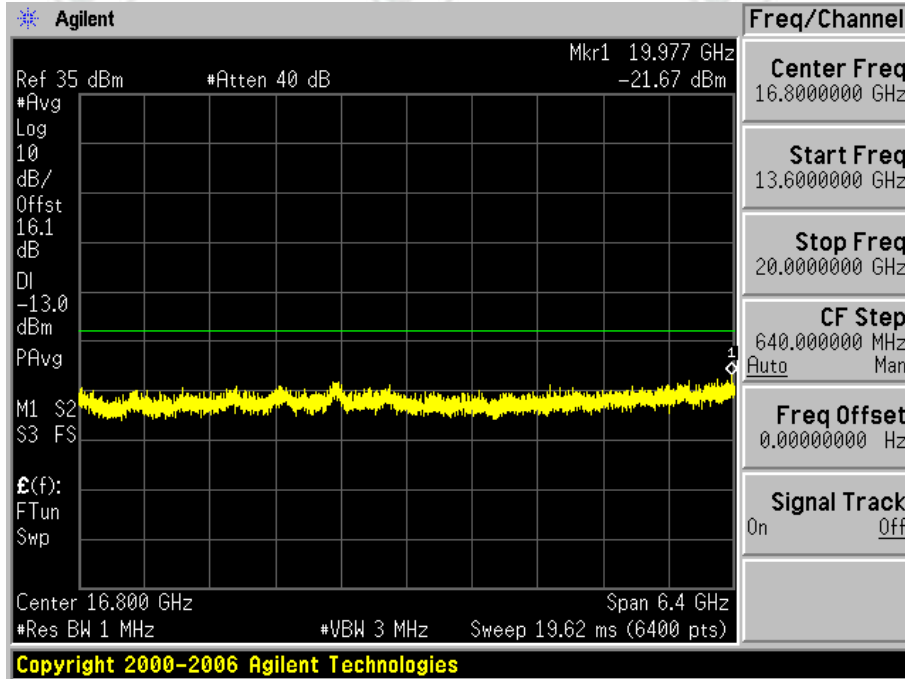
1.2.1.2

Test Channel=MCH



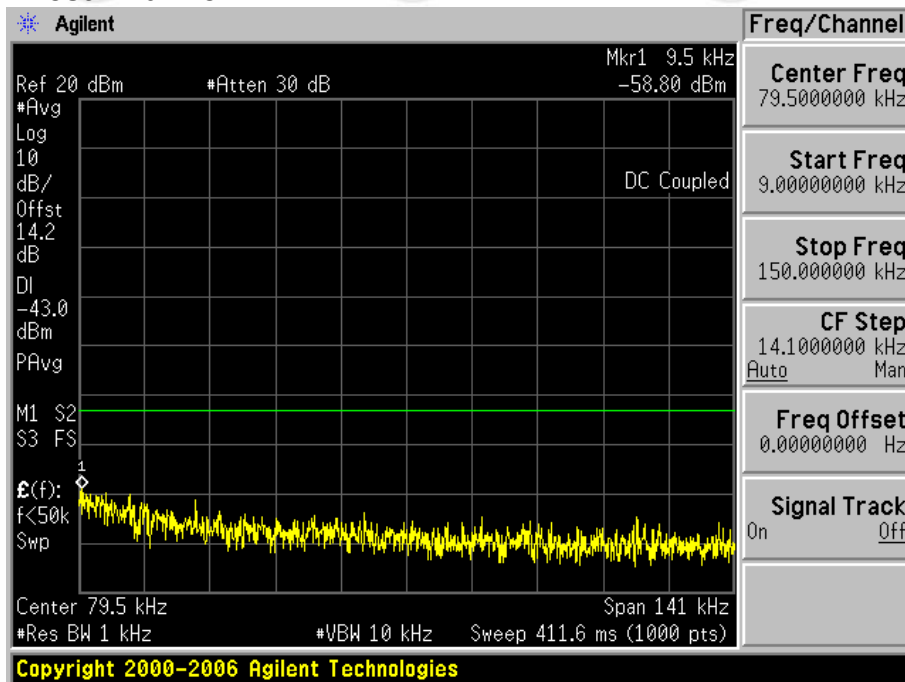


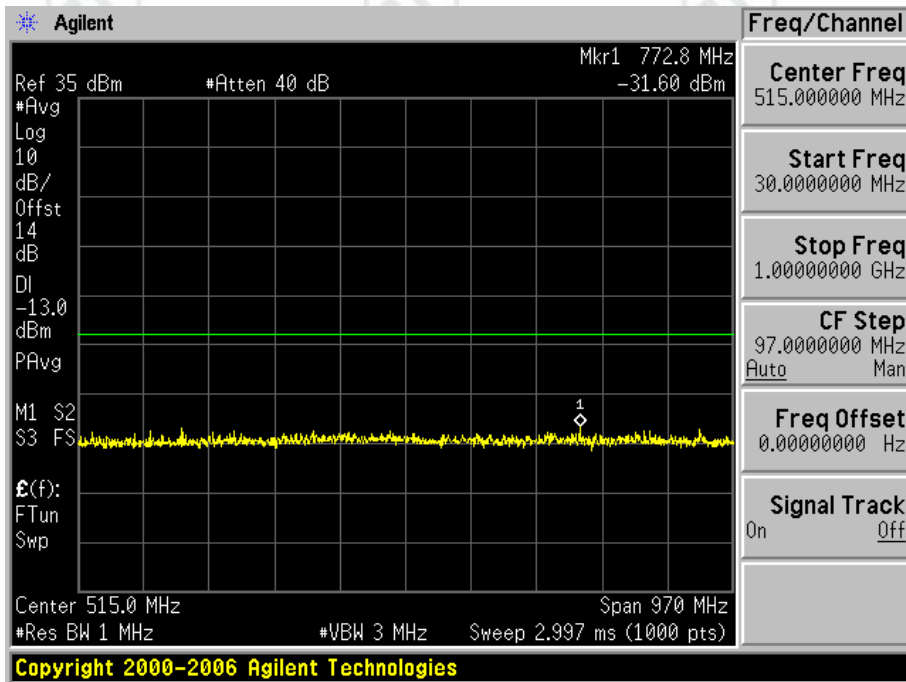
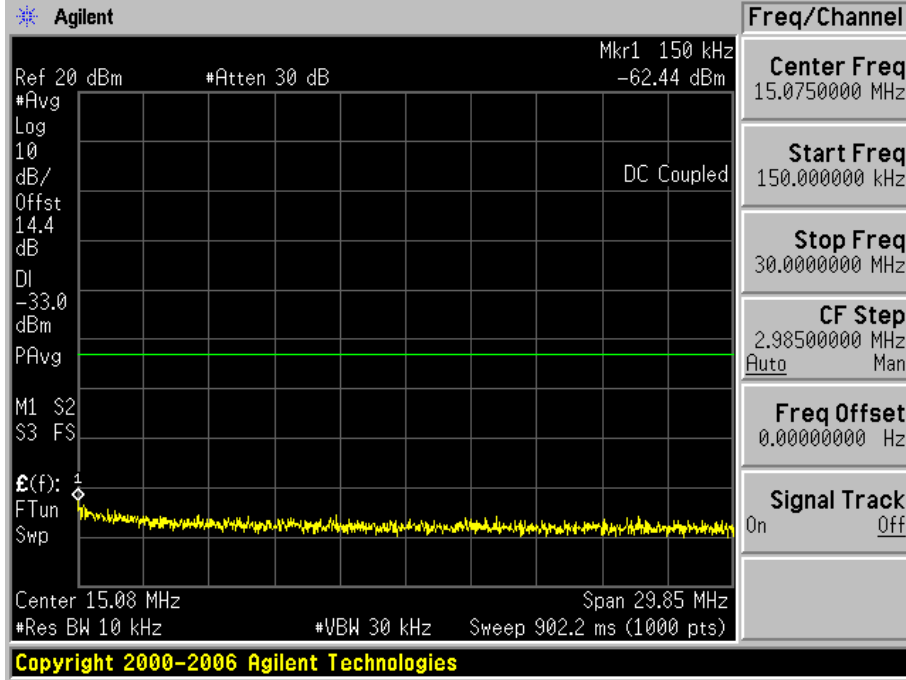


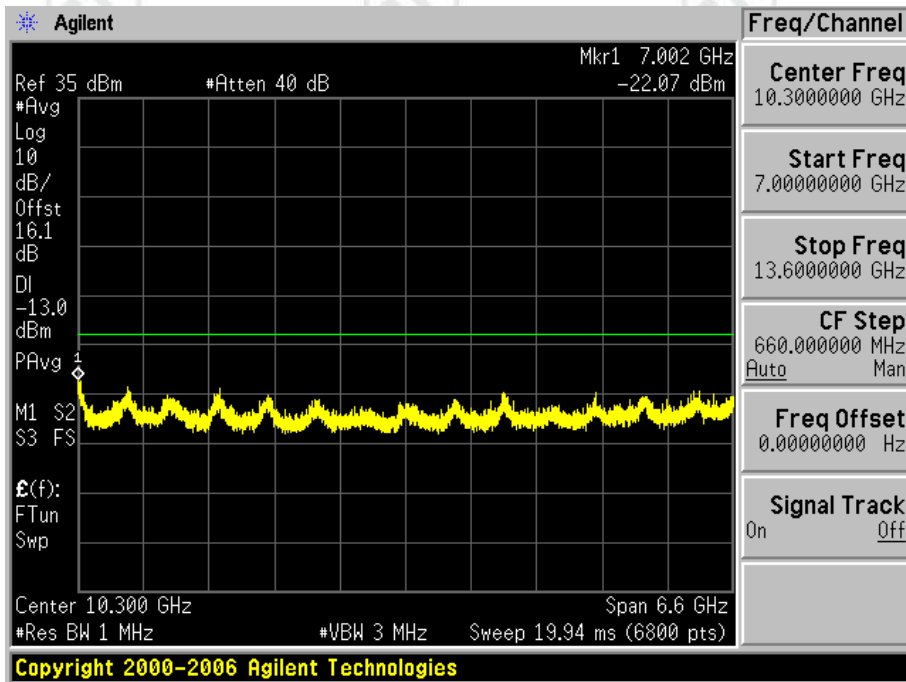
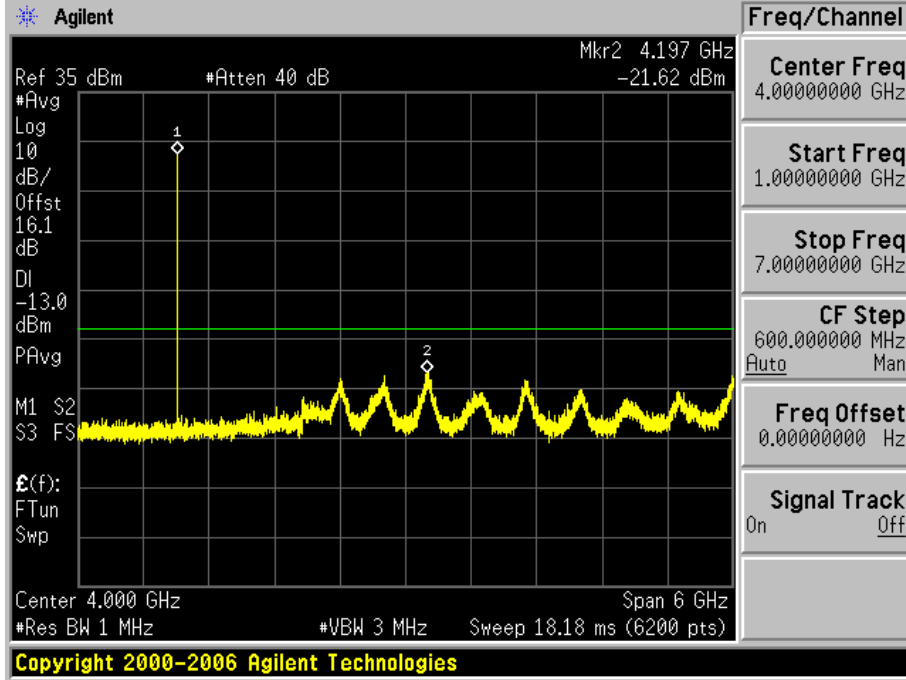


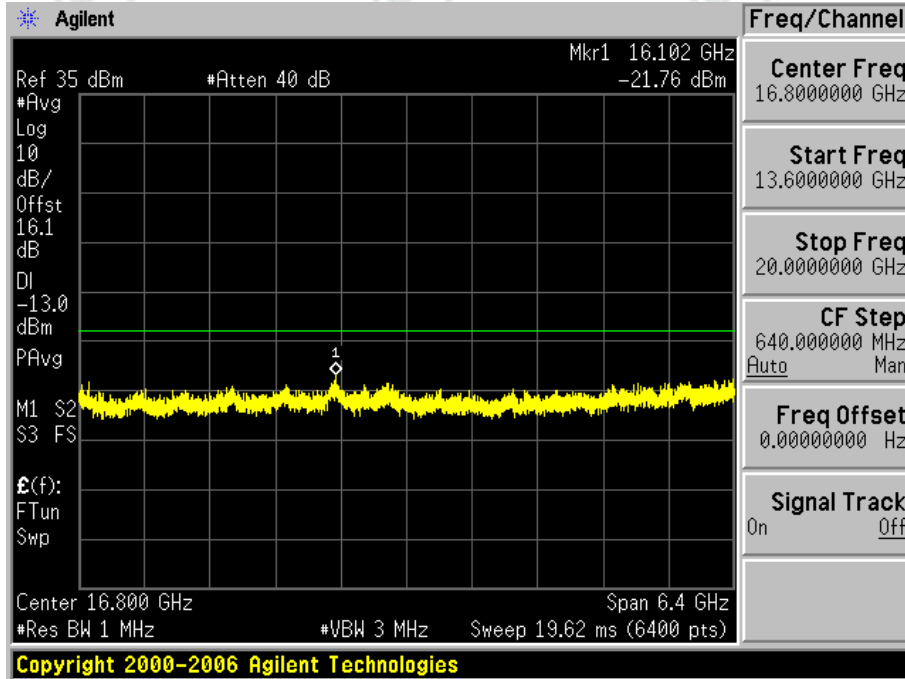
1.2.1.3

Test Channel=HCH







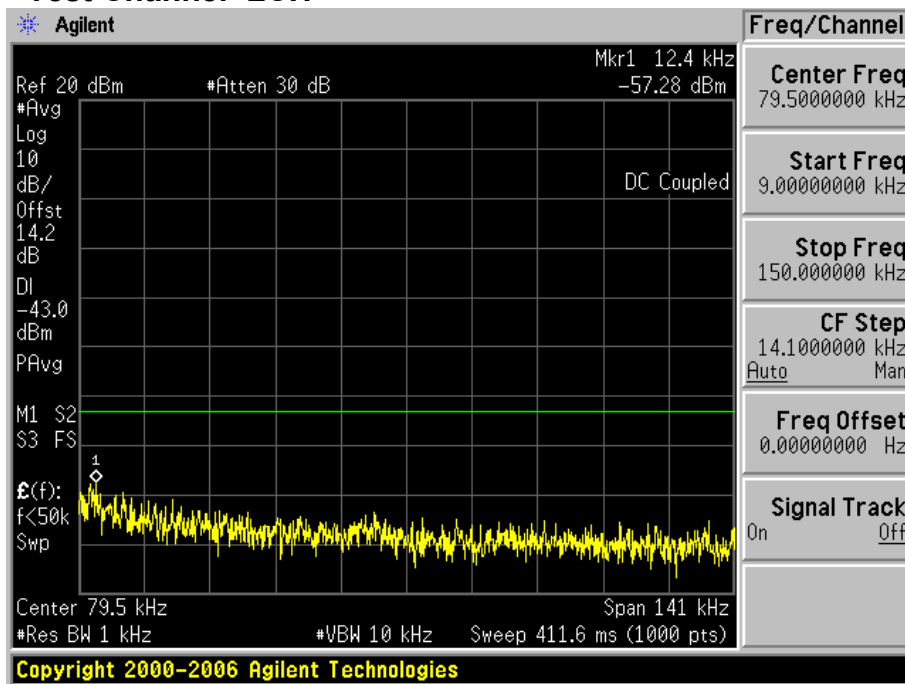


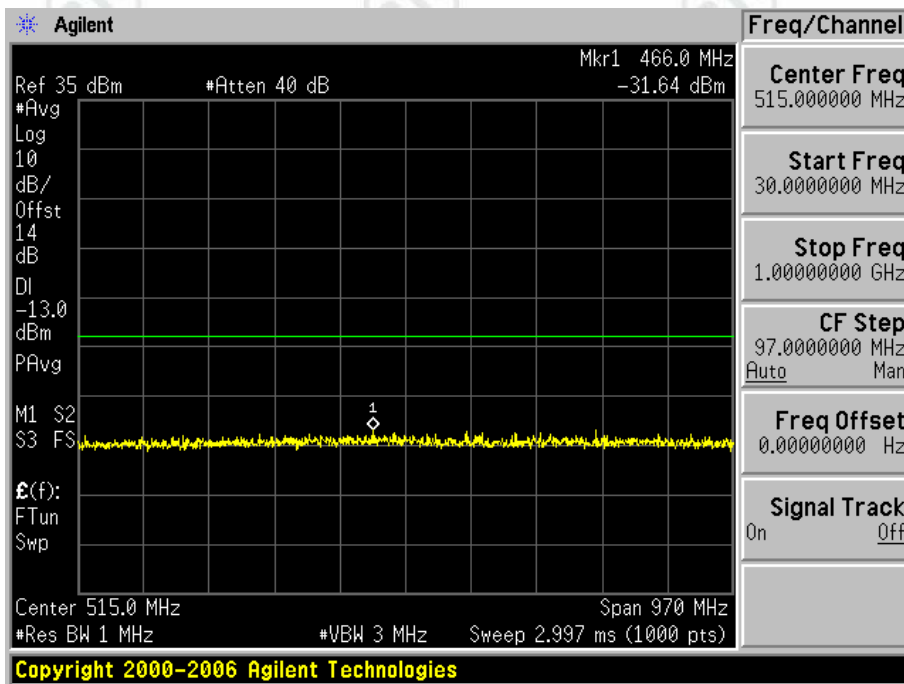
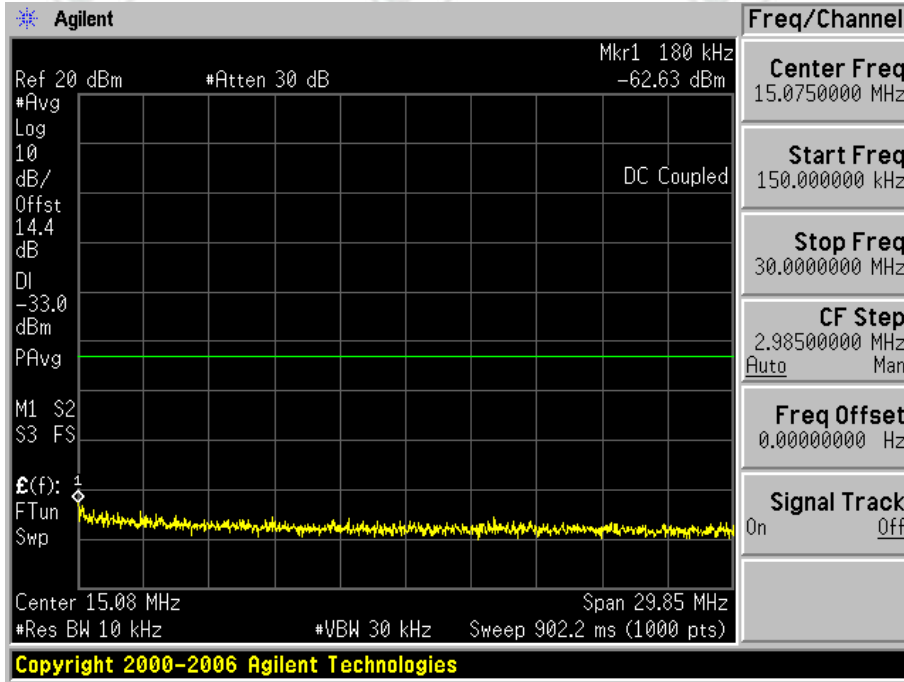
1.2.2

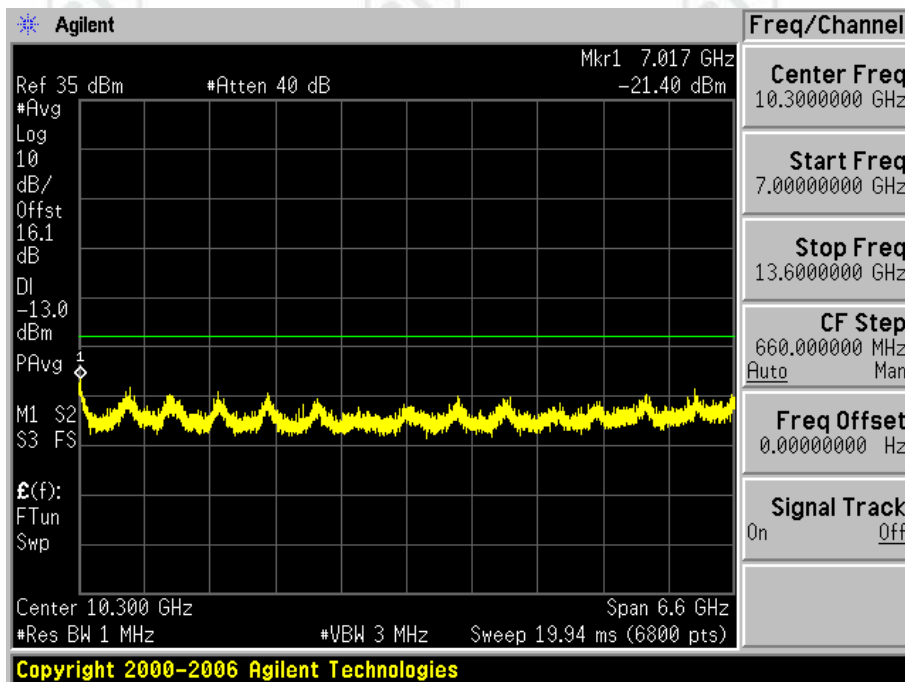
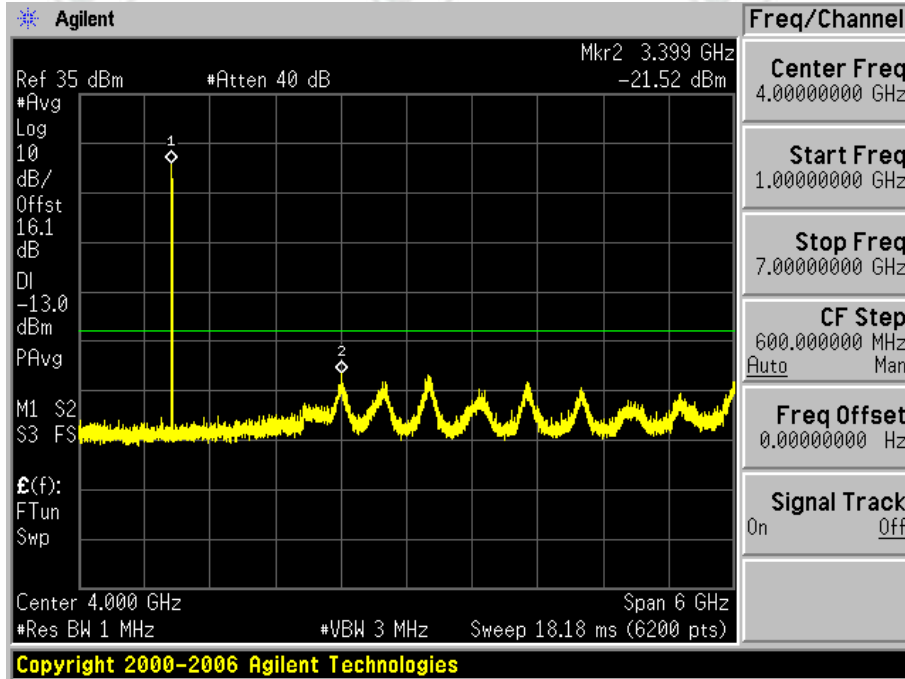
Test Mode=GSM/TM3

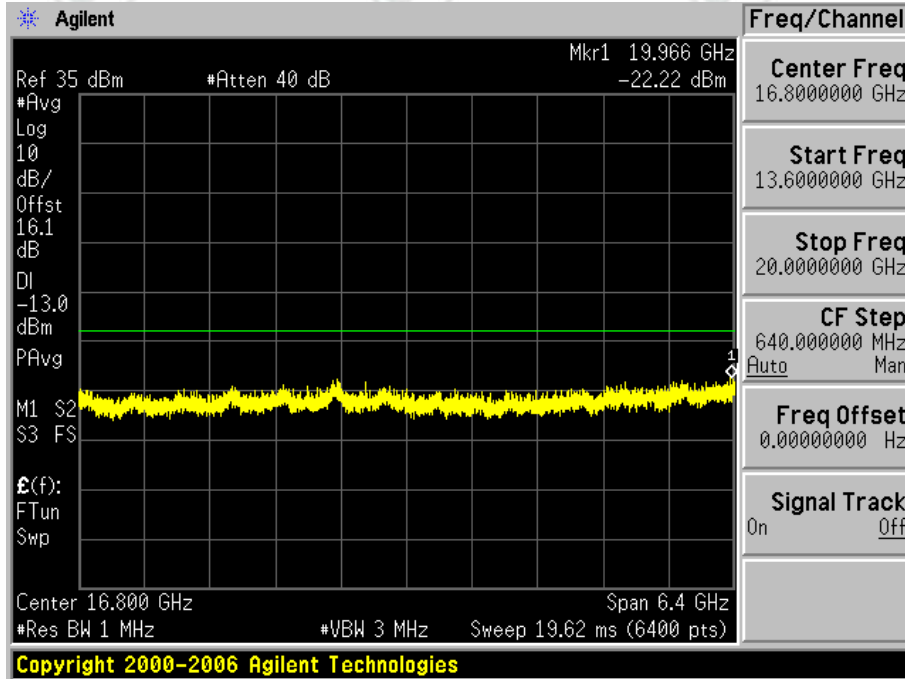
1.2.2.1

Test Channel=LCH



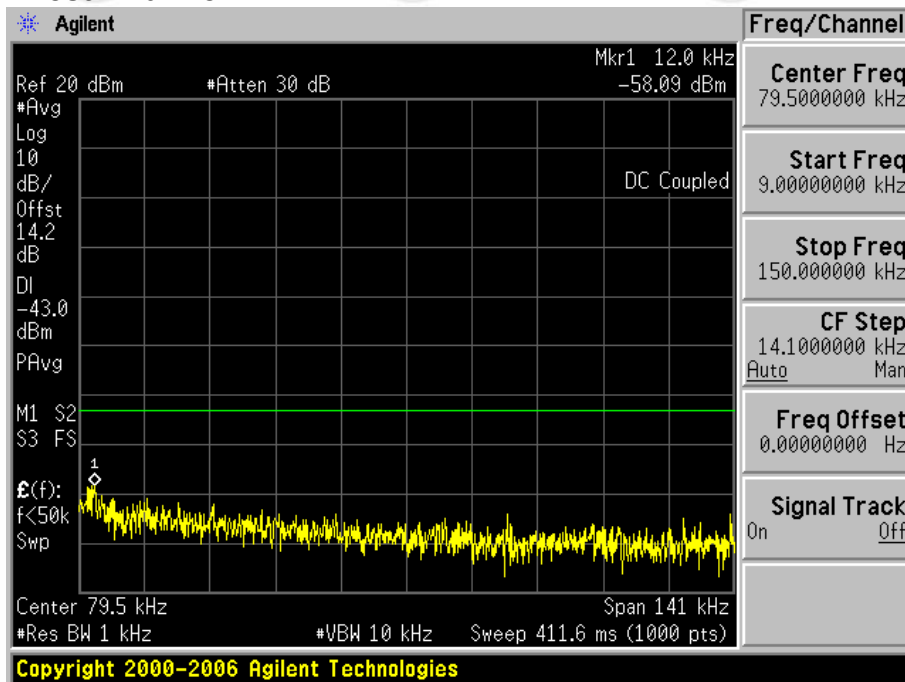


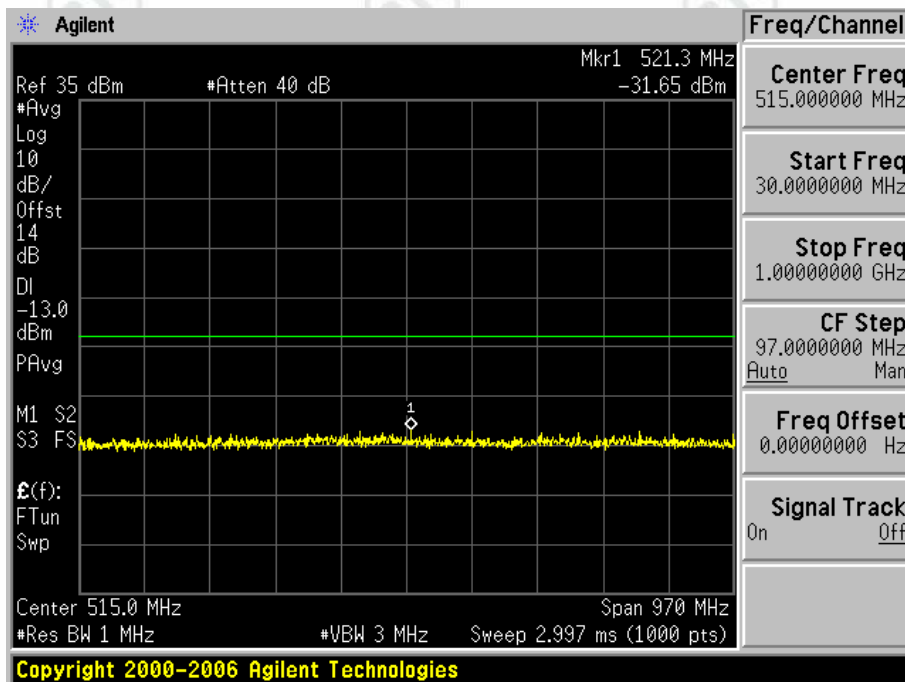
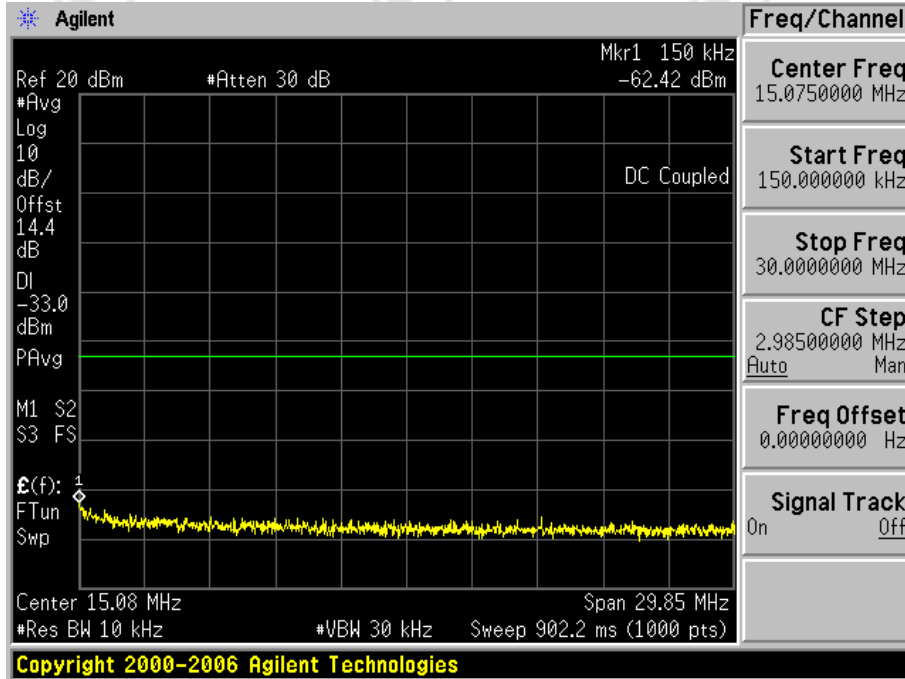


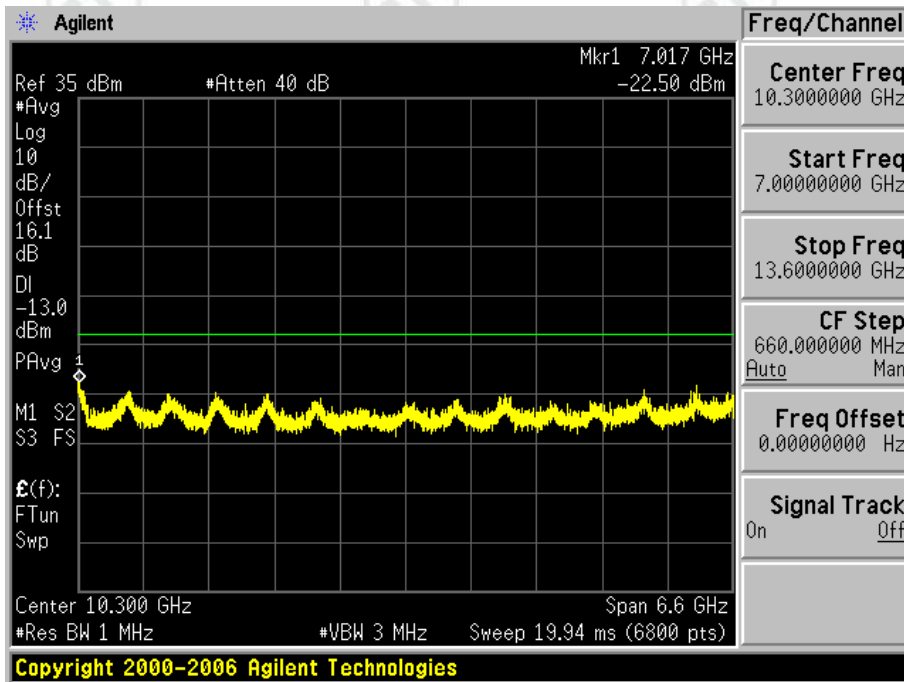
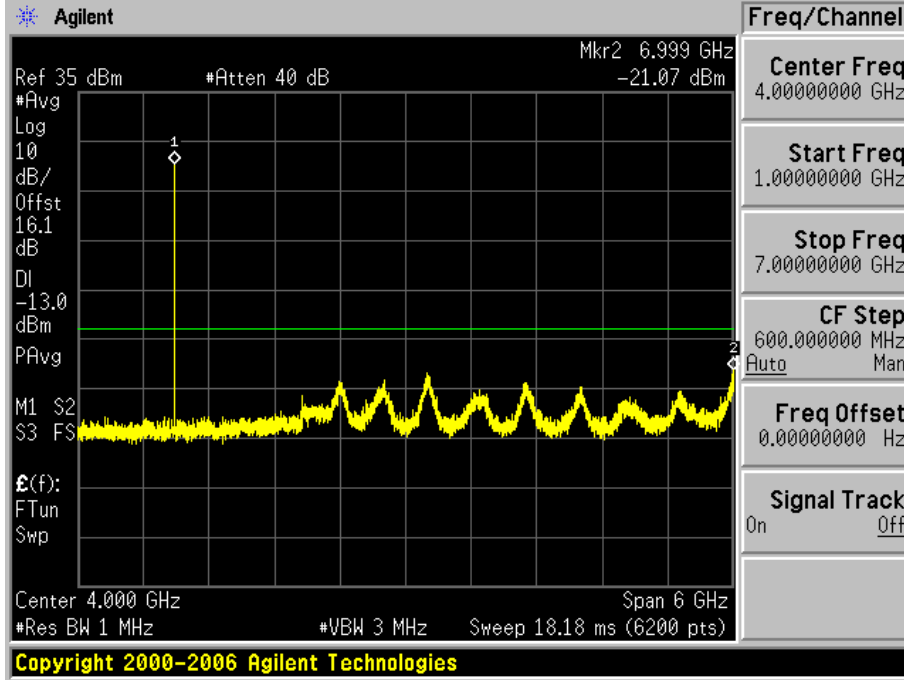


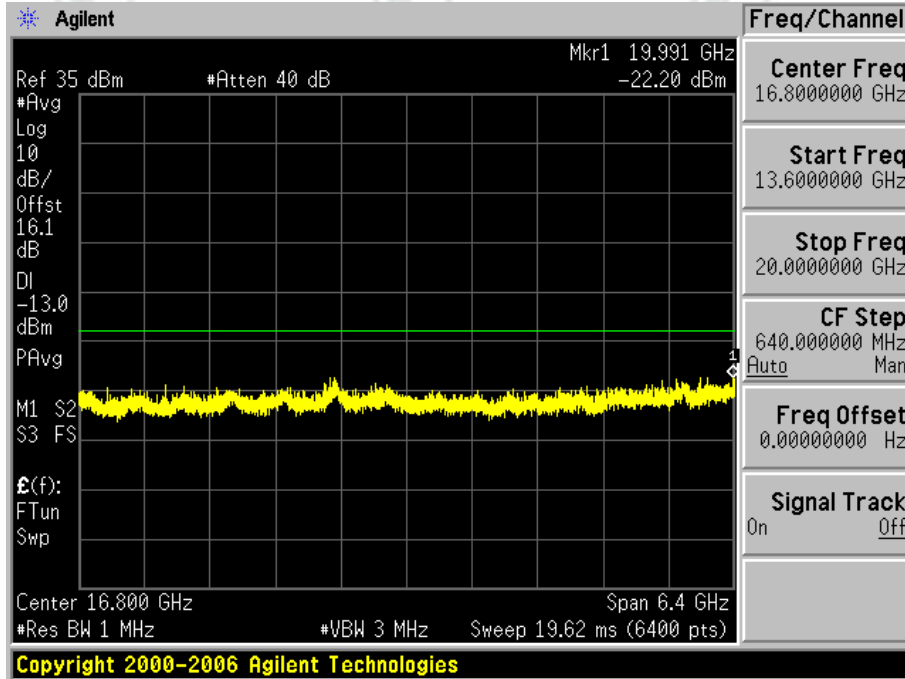
1.2.2.2

Test Channel=MCH



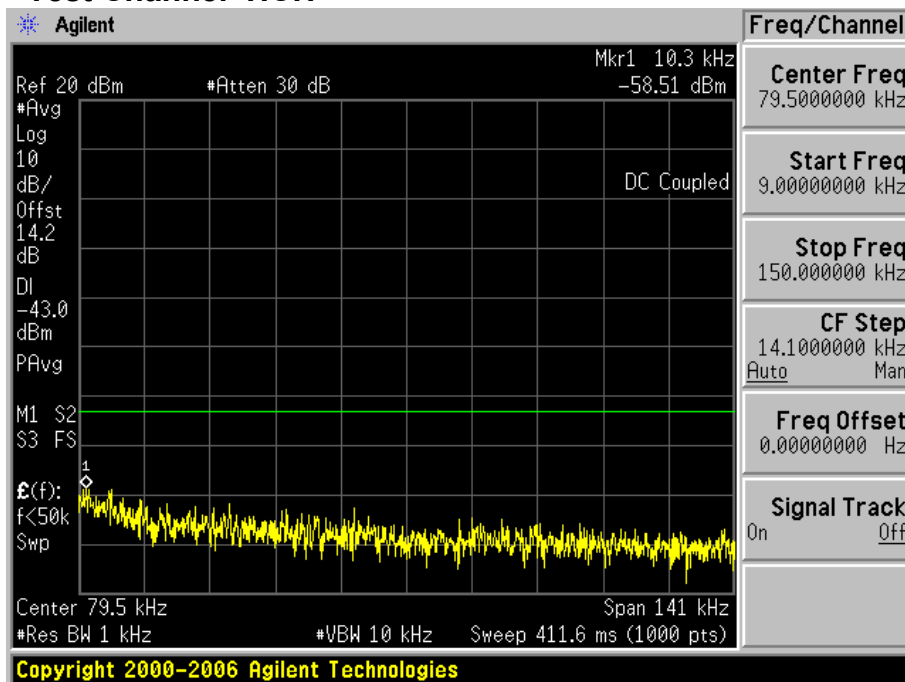


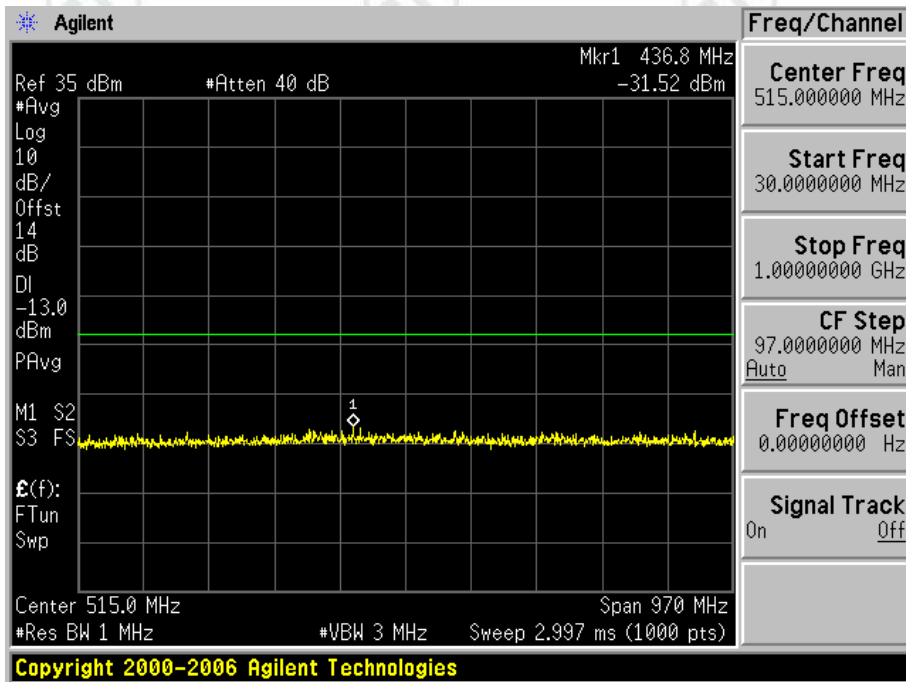
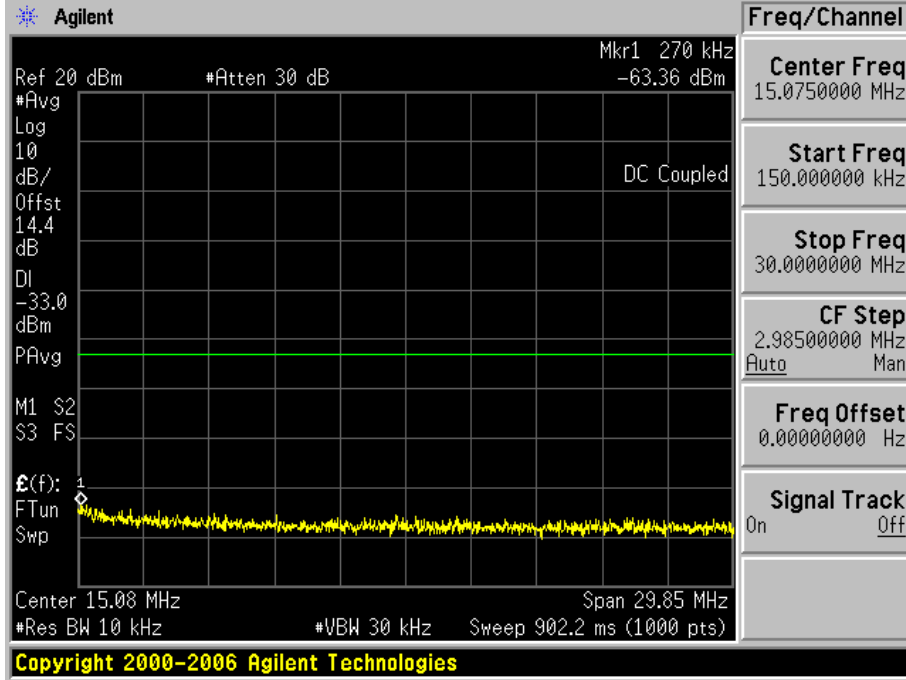


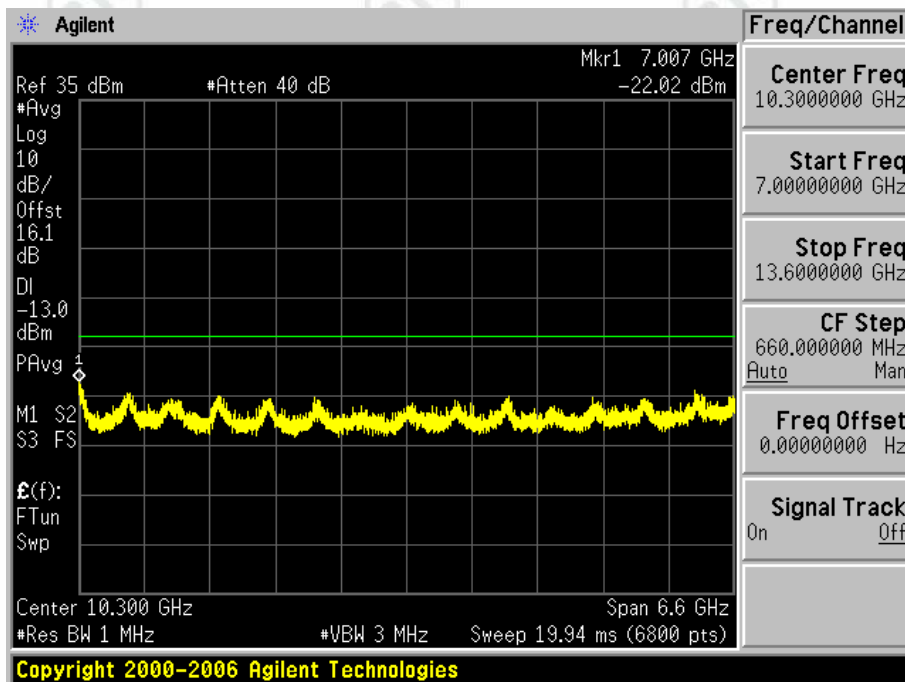
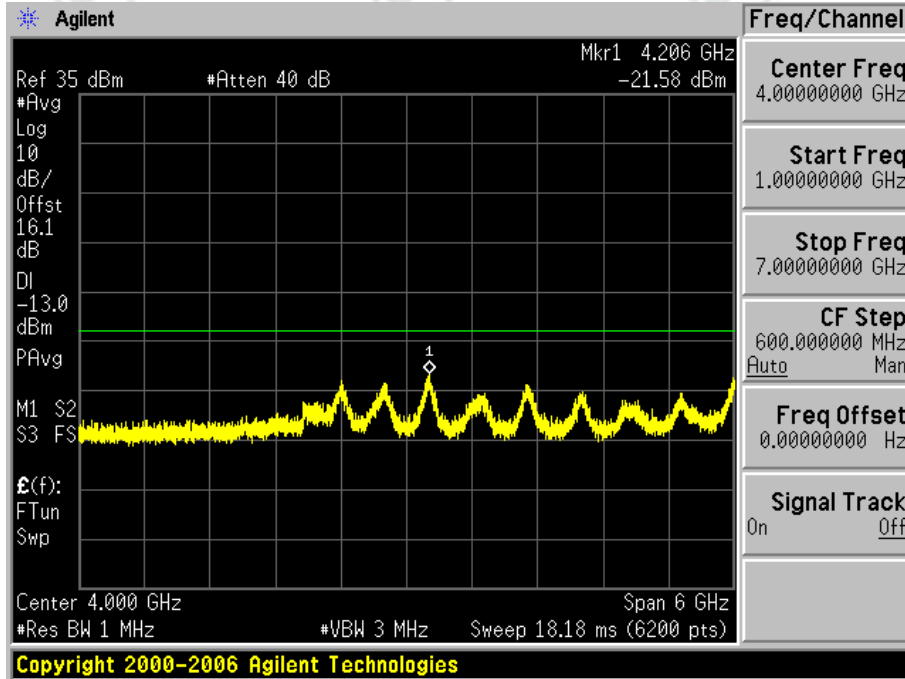


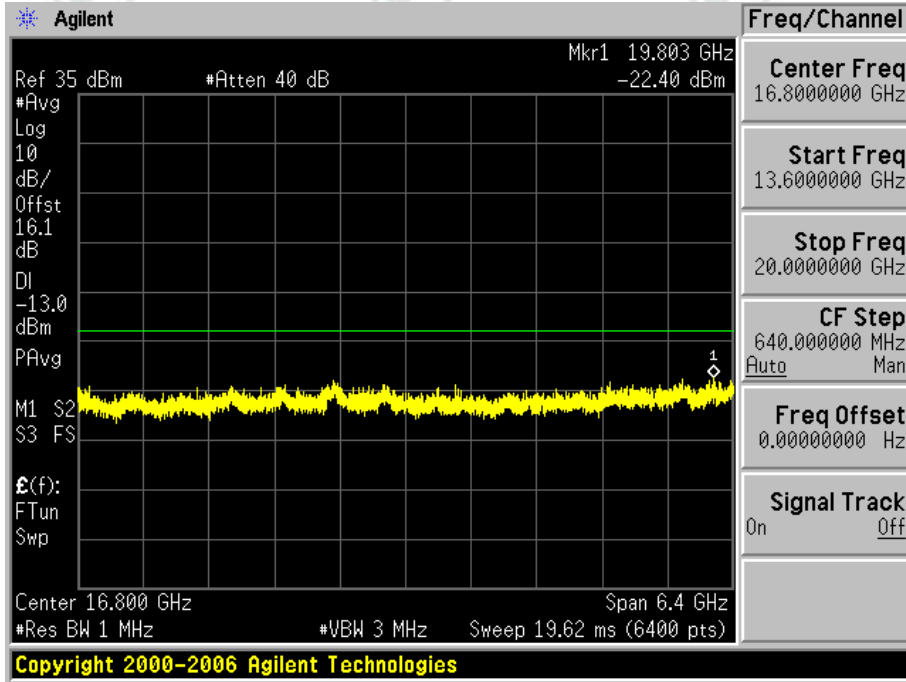
1.2.2.3

Test Channel=HCH

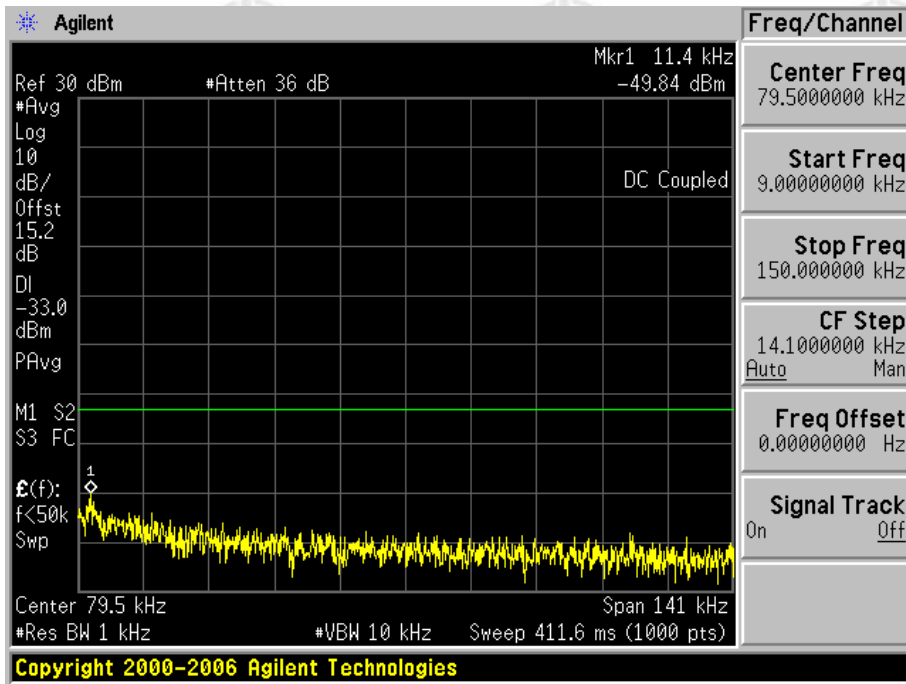


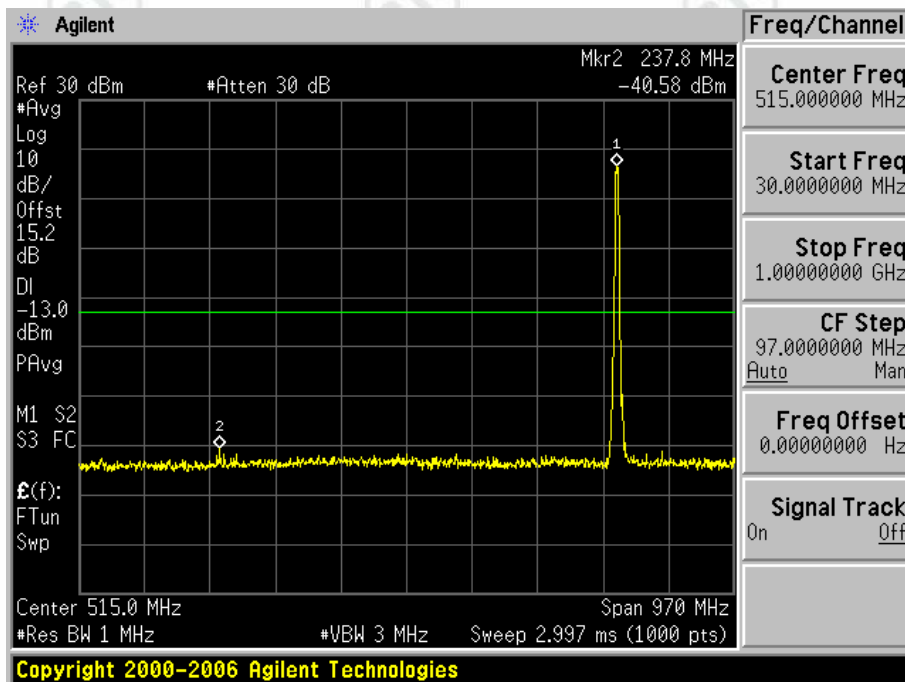
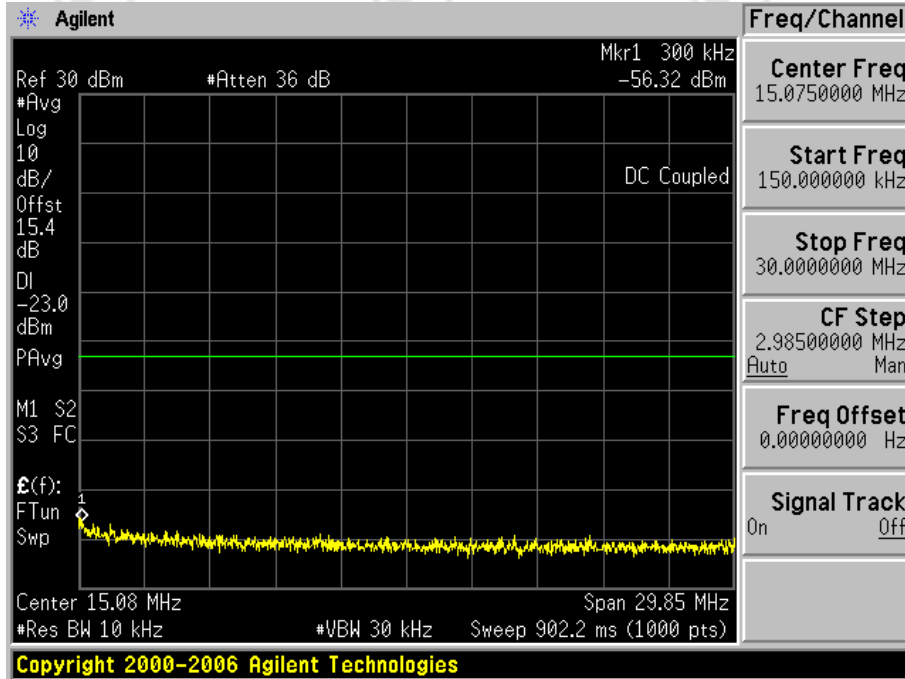


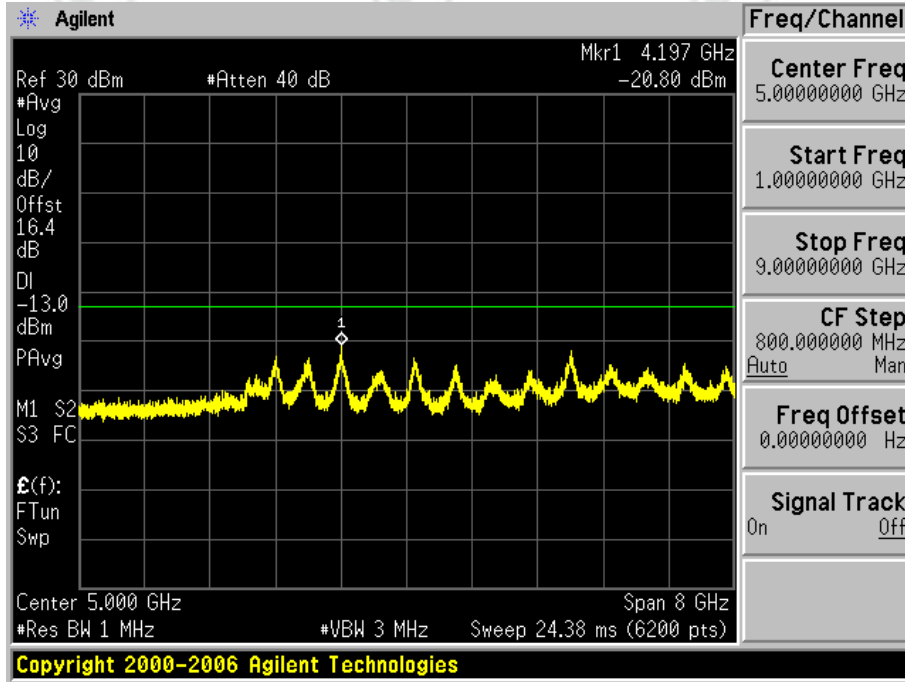




- 2 For WCDMA
- 2.1 Test Band=WCDMA850
- 2.1.1 Test Mode=UMTS/TM1
- 2.1.1.1 Test Channel=LCH

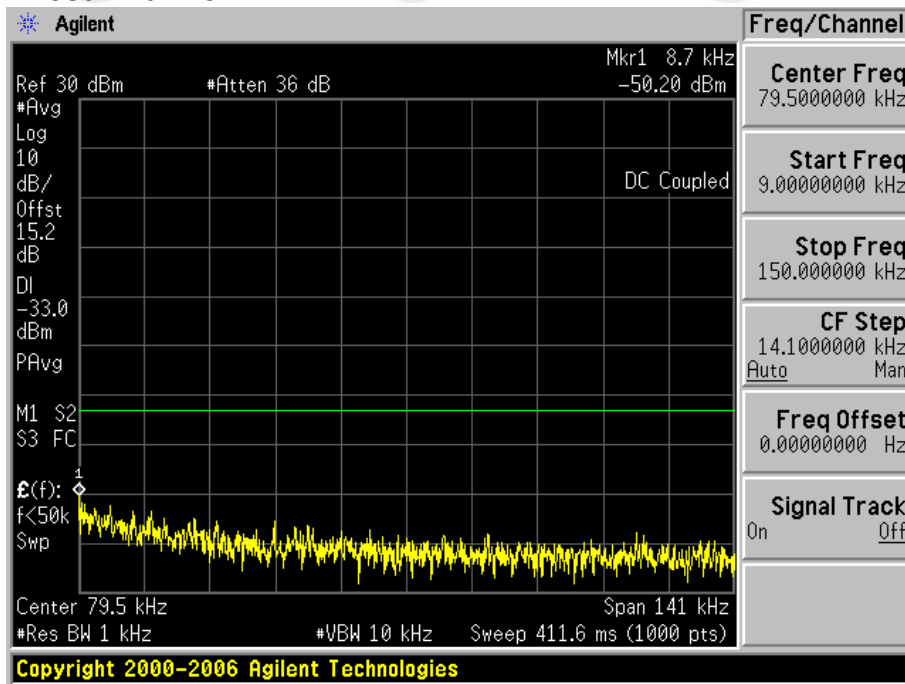


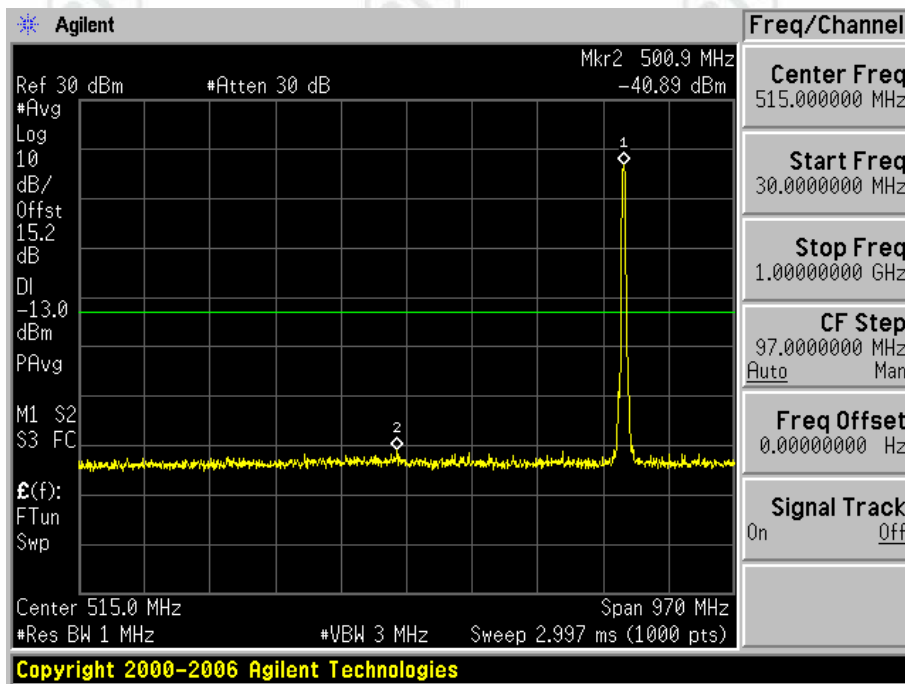
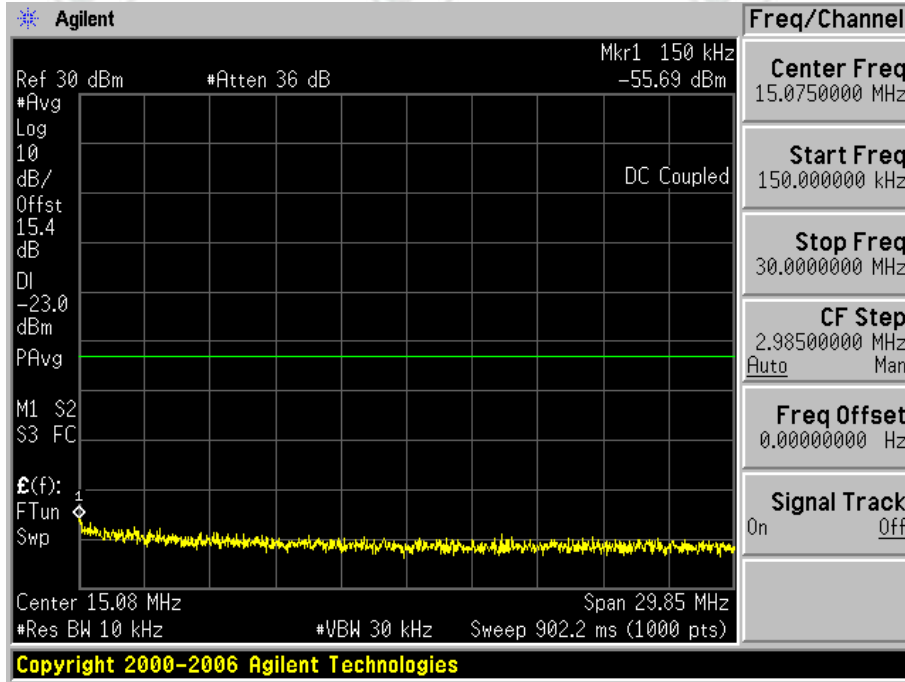


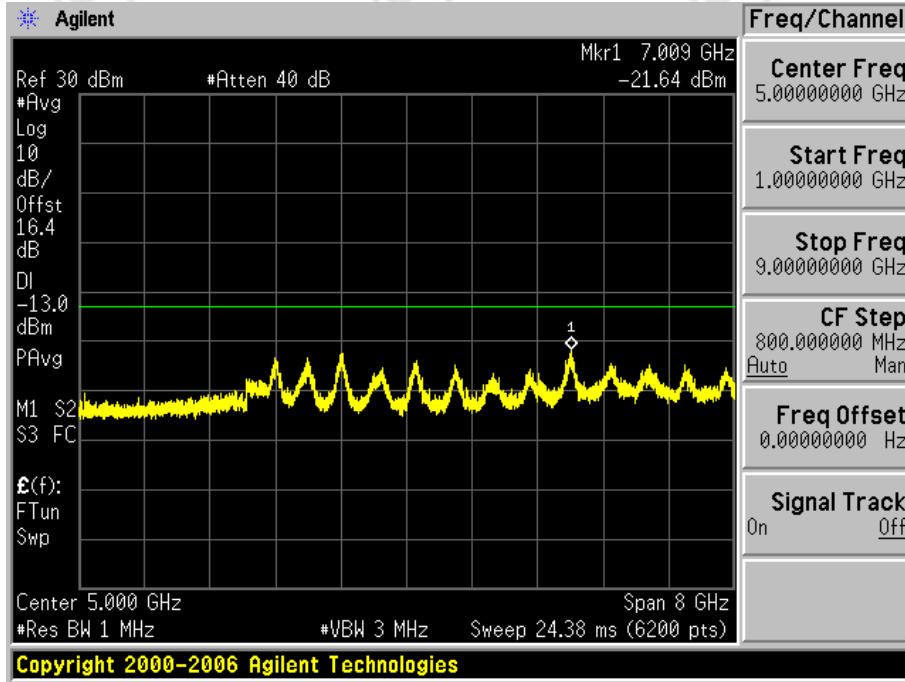


2.1.1.2

Test Channel=MCH

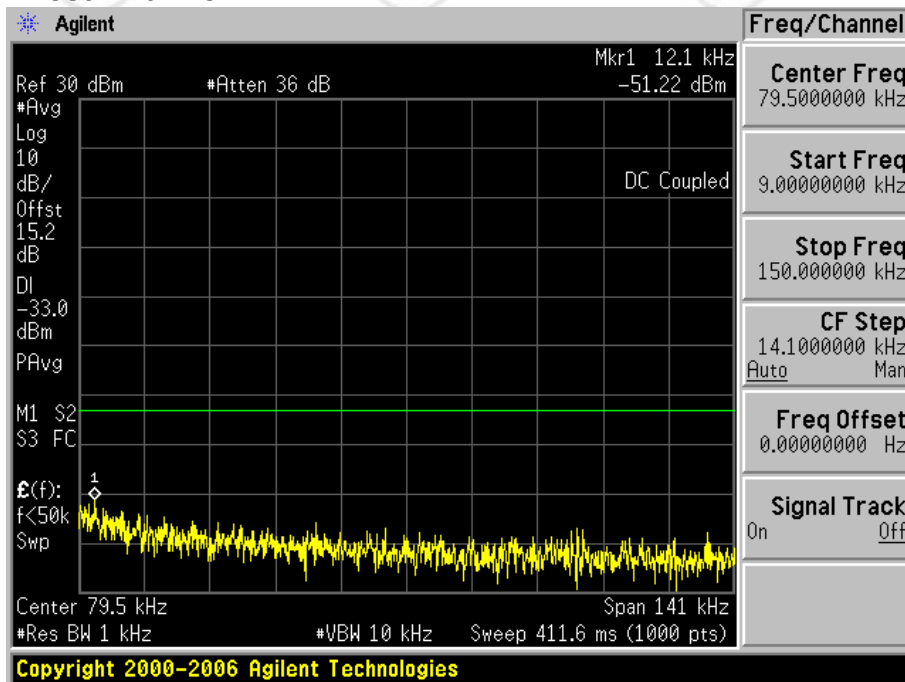


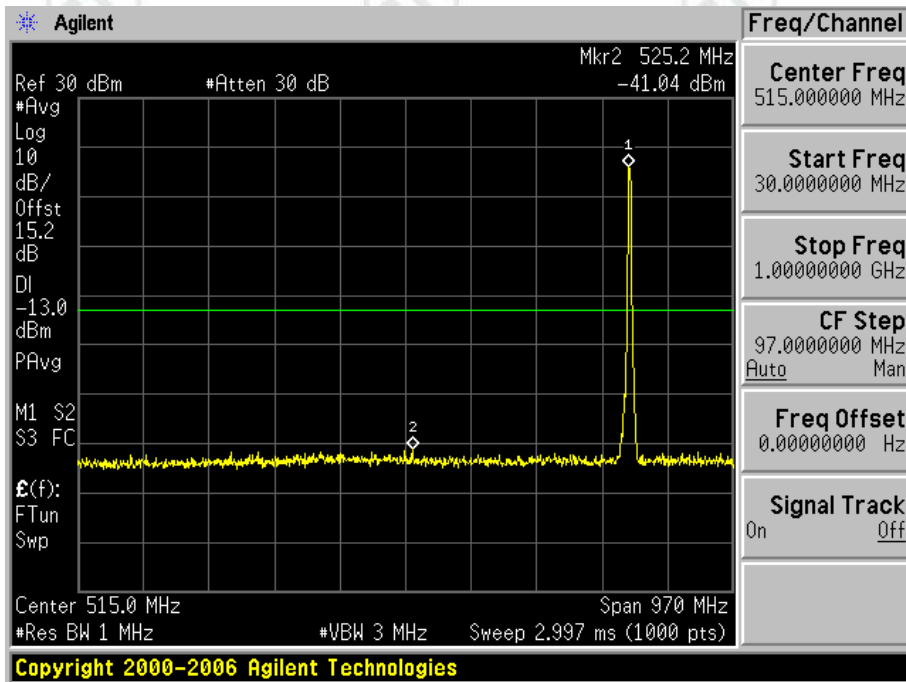
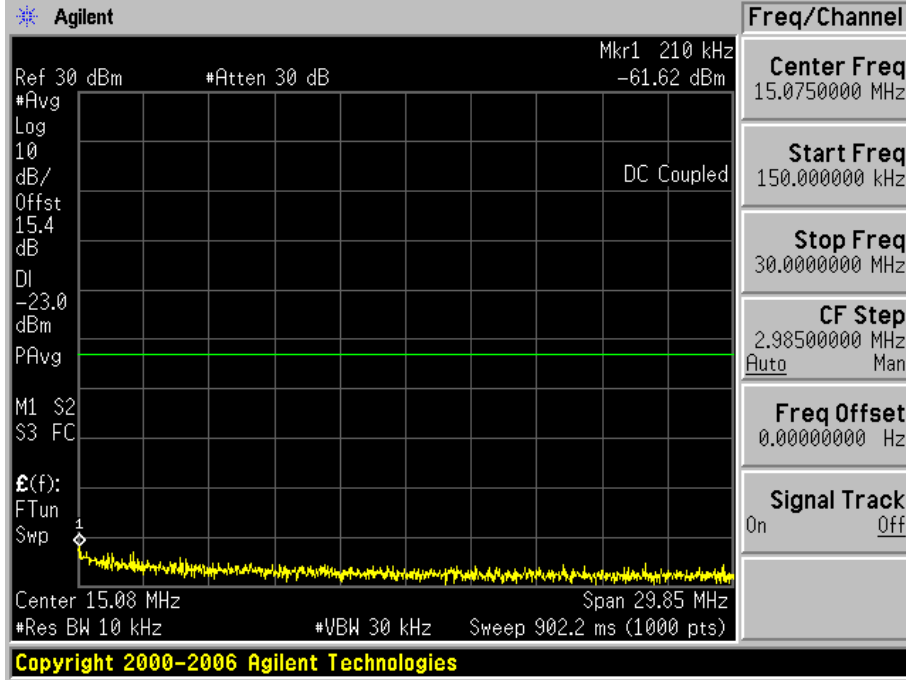


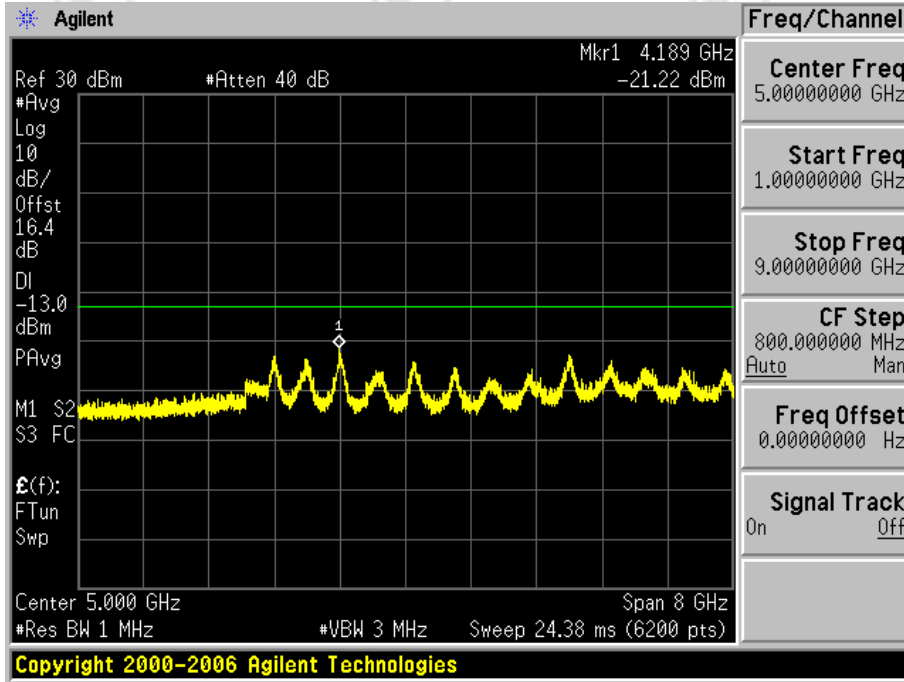


2.1.1.3

Test Channel=HCH





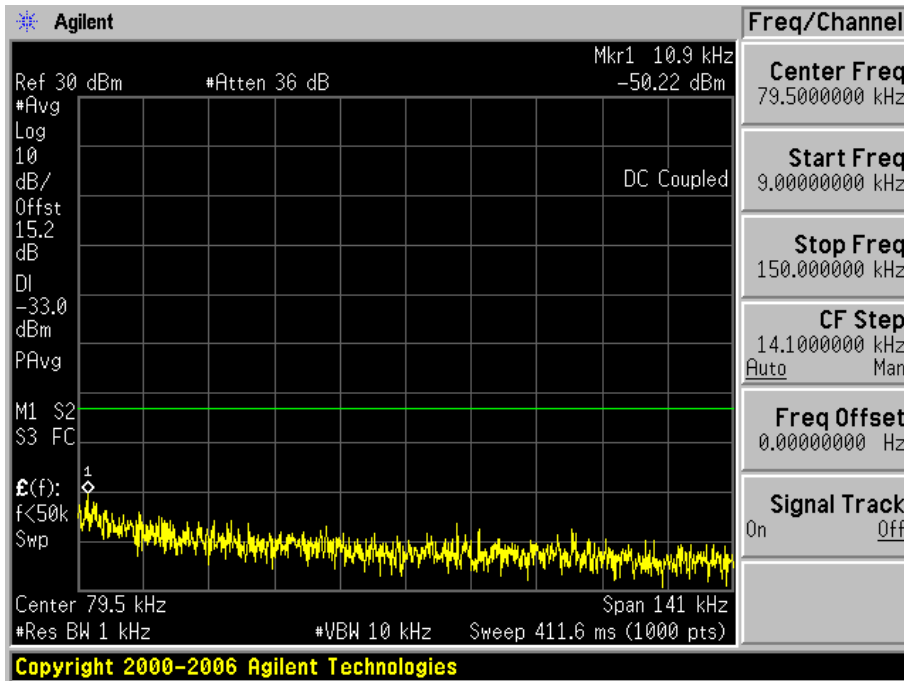


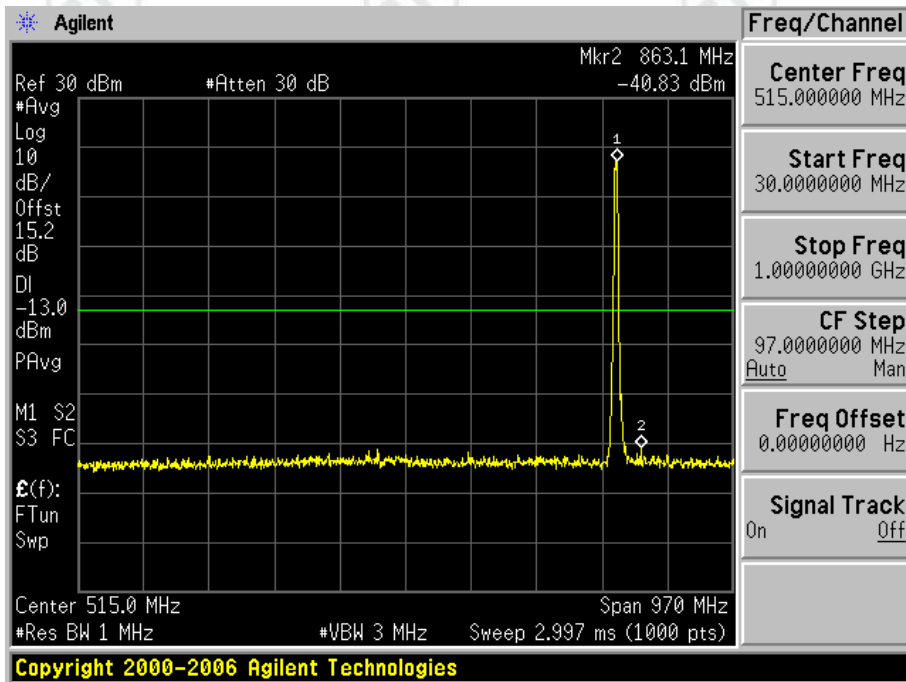
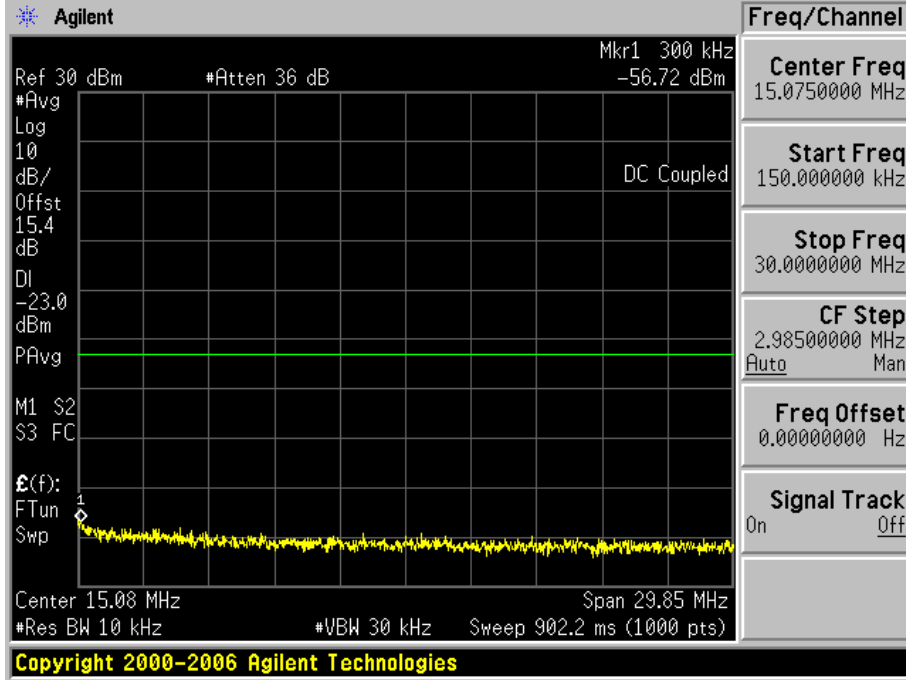
2.1.2

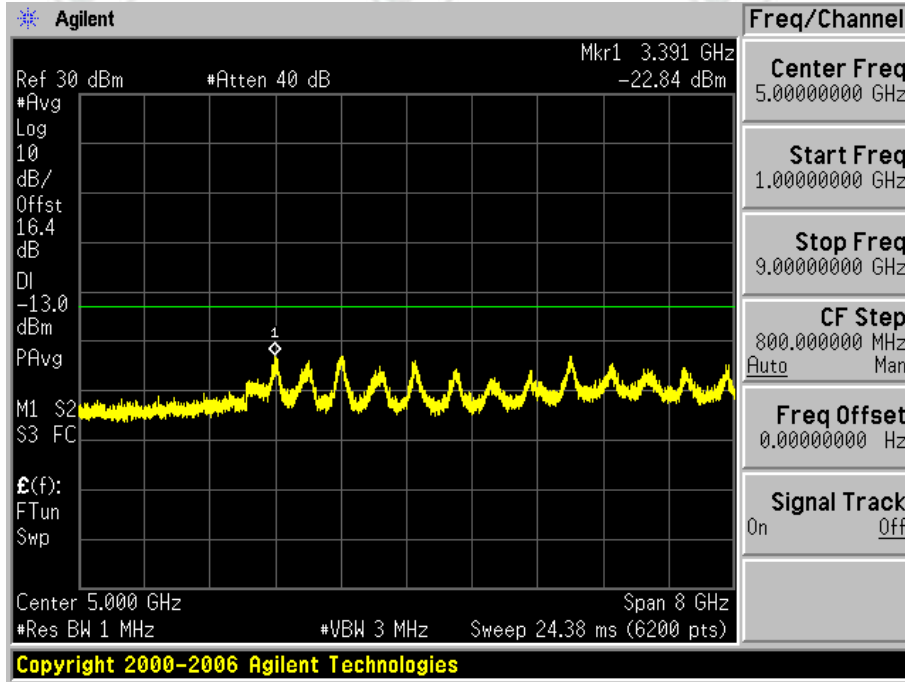
Test Mode=UMTS/TM2

2.1.2.1

Test Channel=LCH

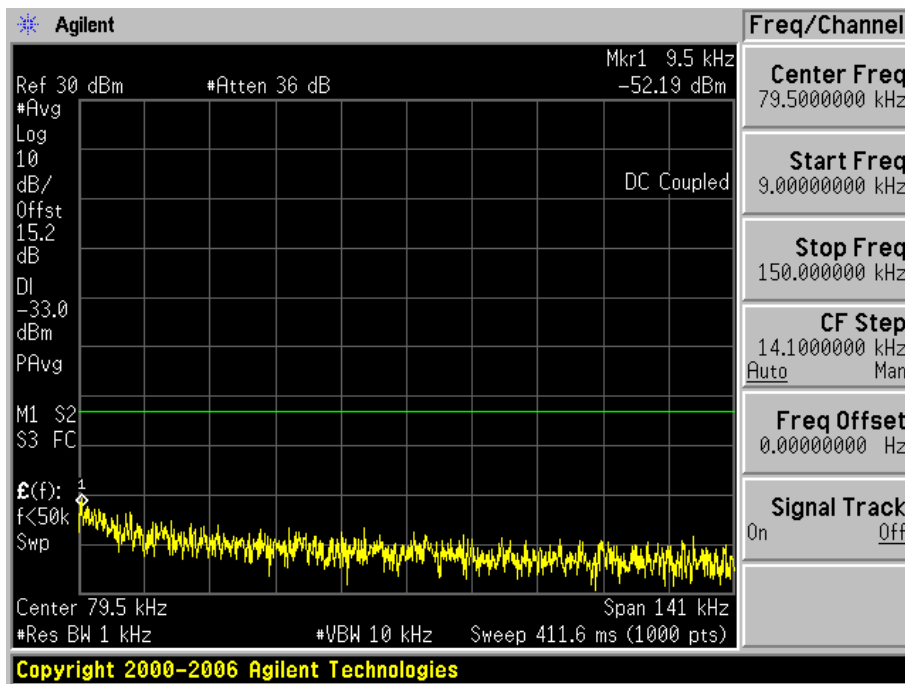


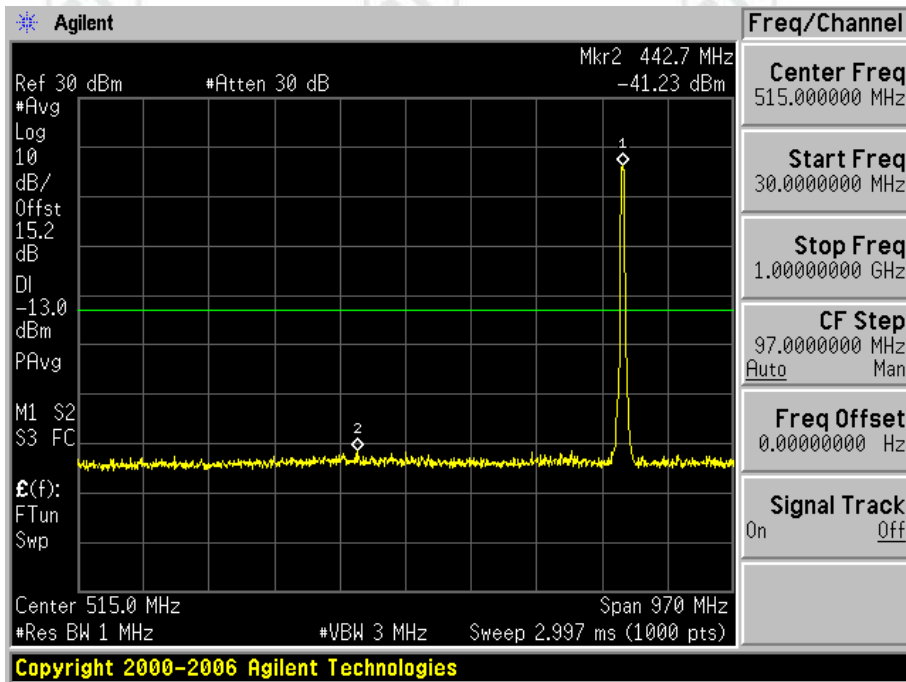
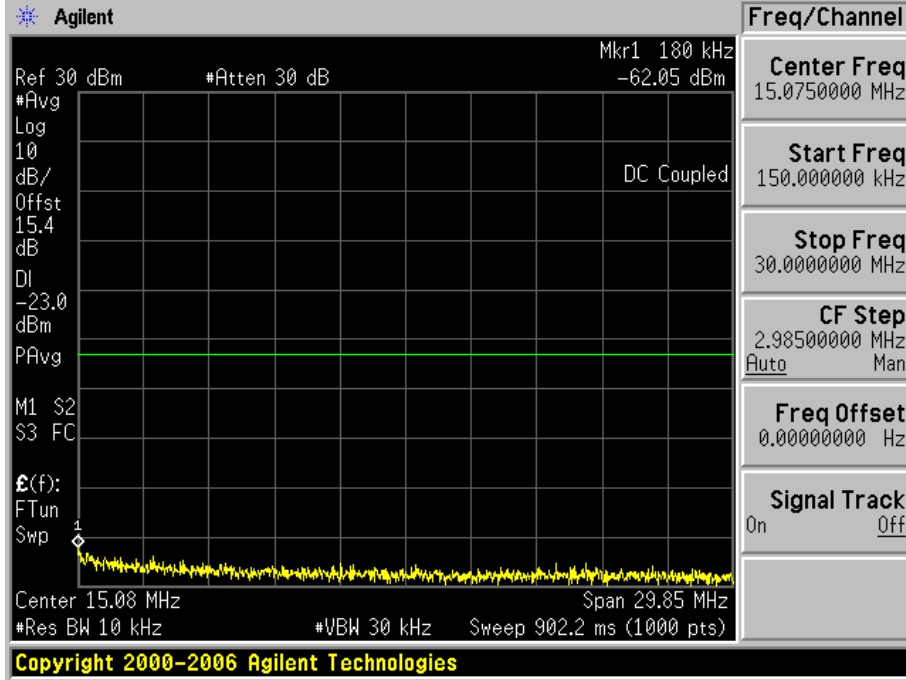


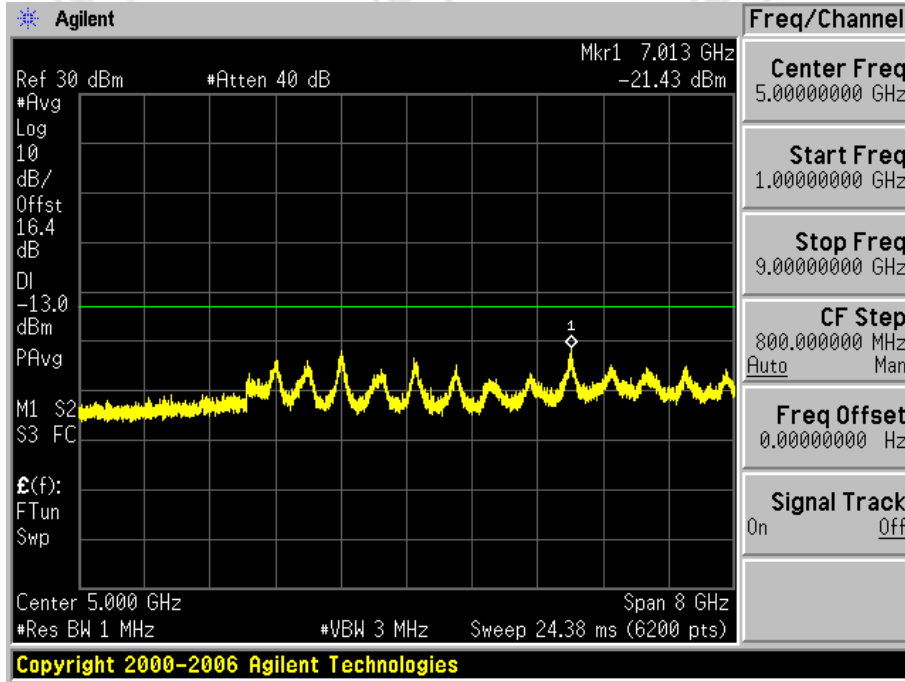


2.1.2.2

Test Channel=MCH

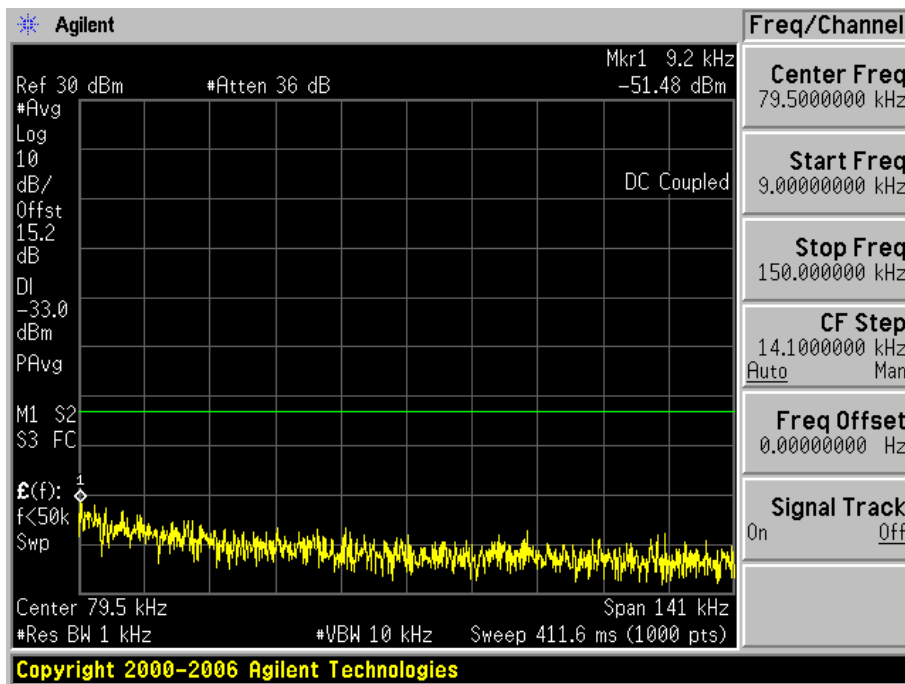


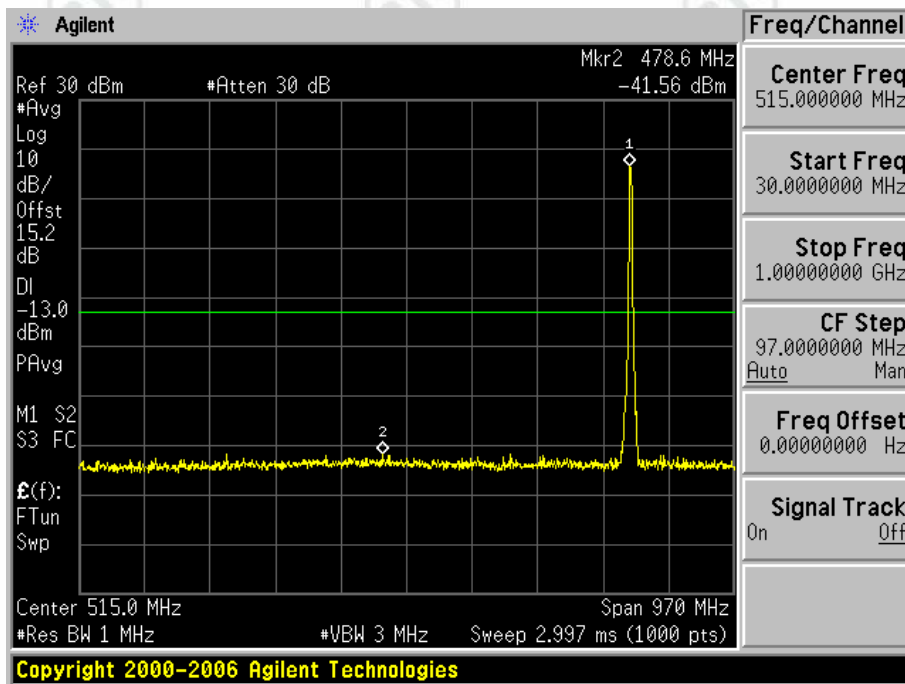
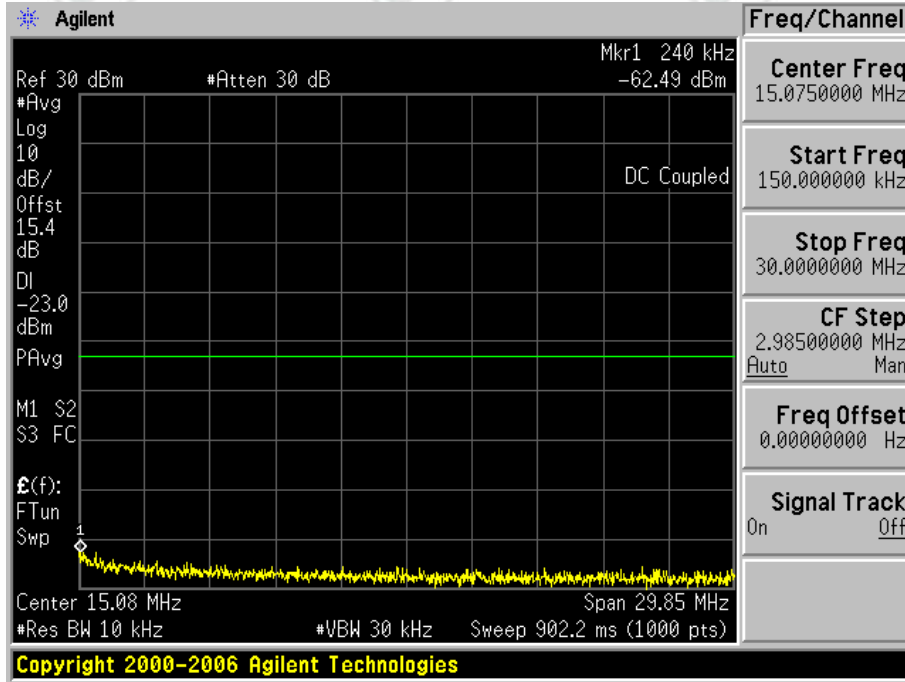


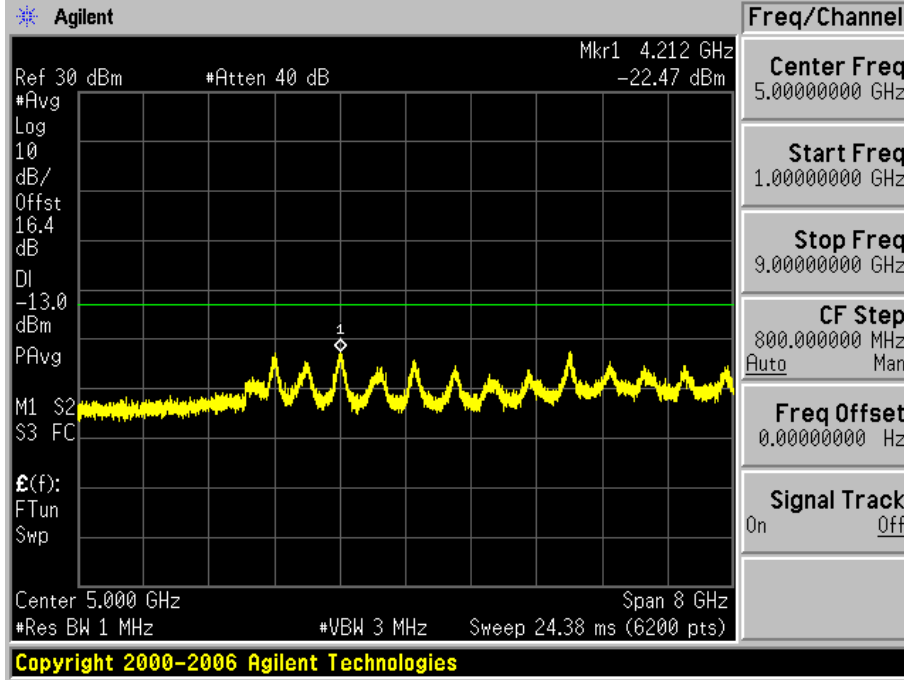


2.1.2.3

Test Channel=HCH





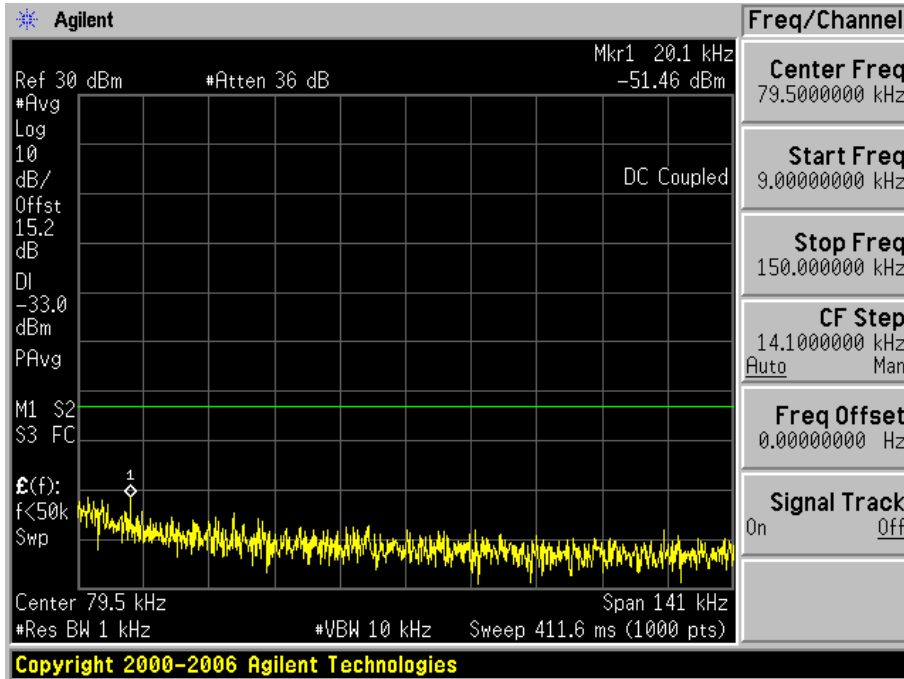


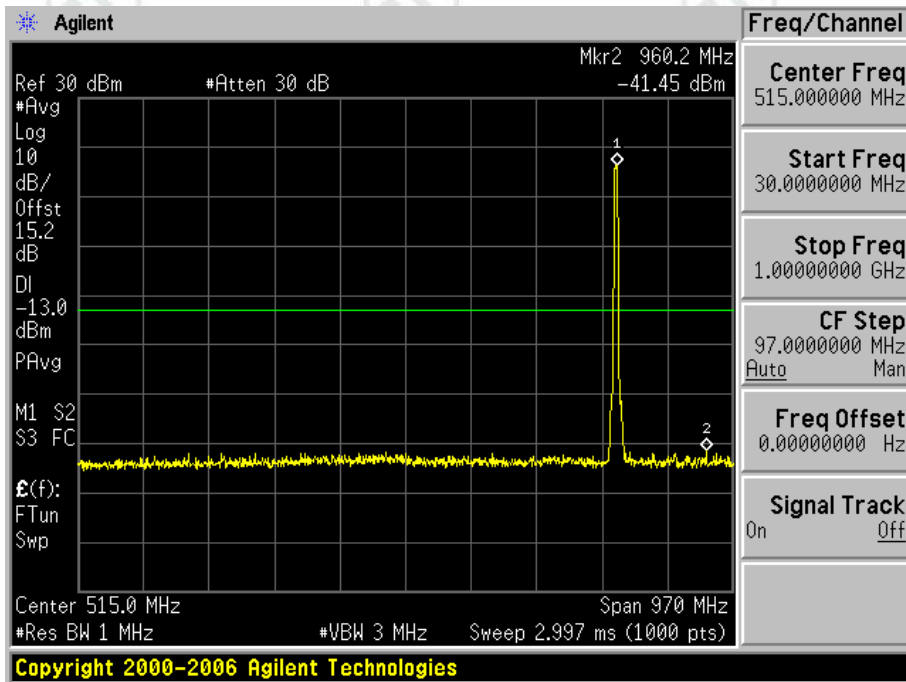
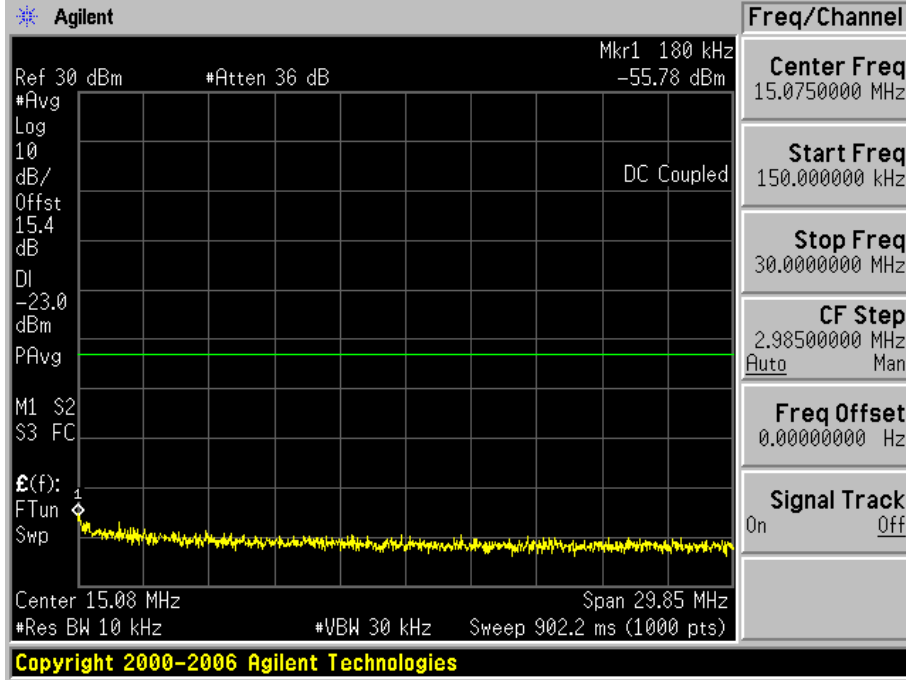
2.1.3

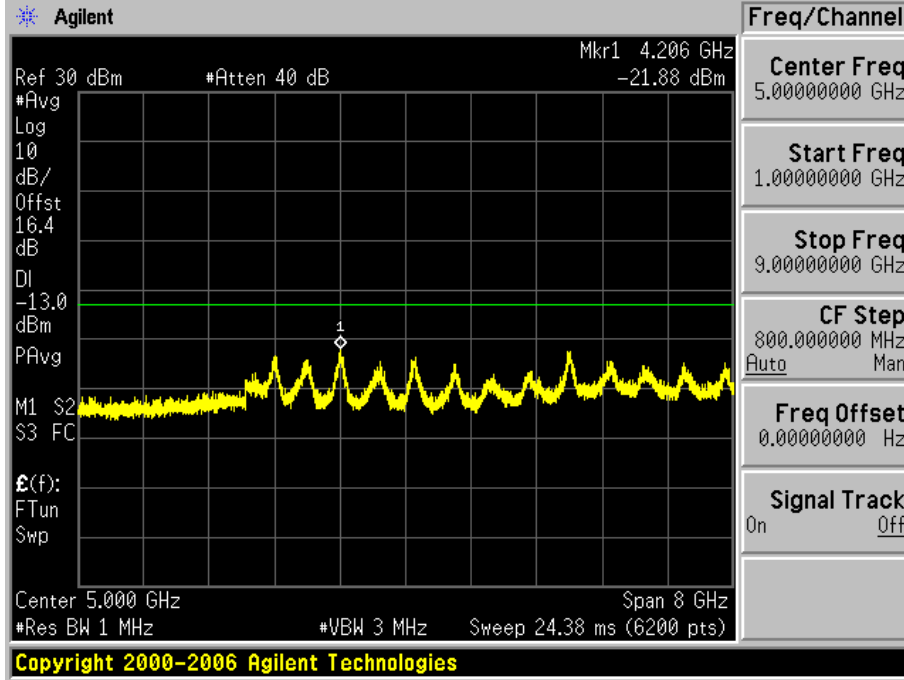
Test Mode=UMTS/TM3

2.1.3.1

Test Channel=LCH

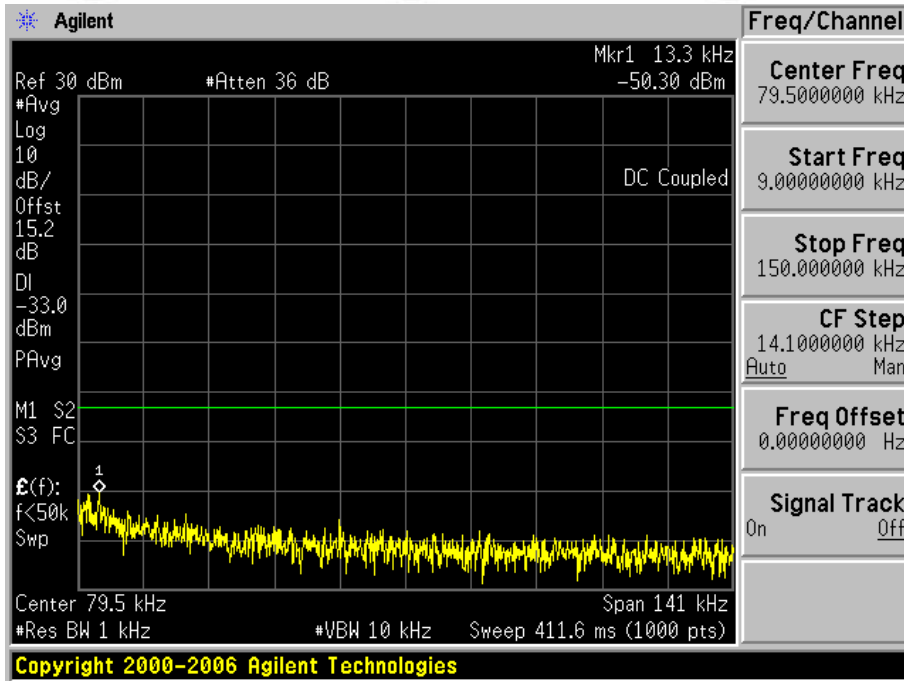


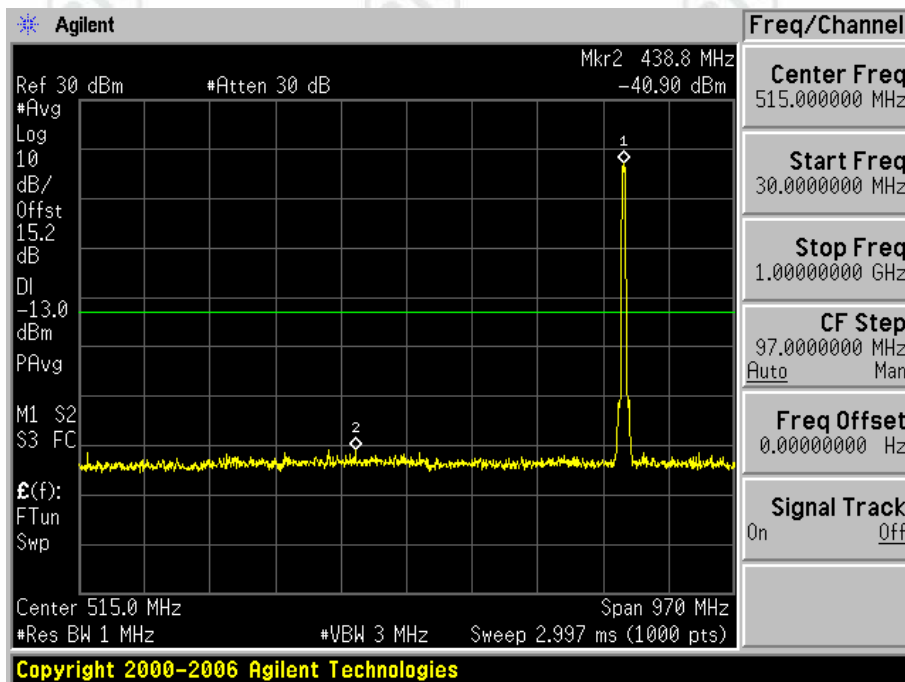
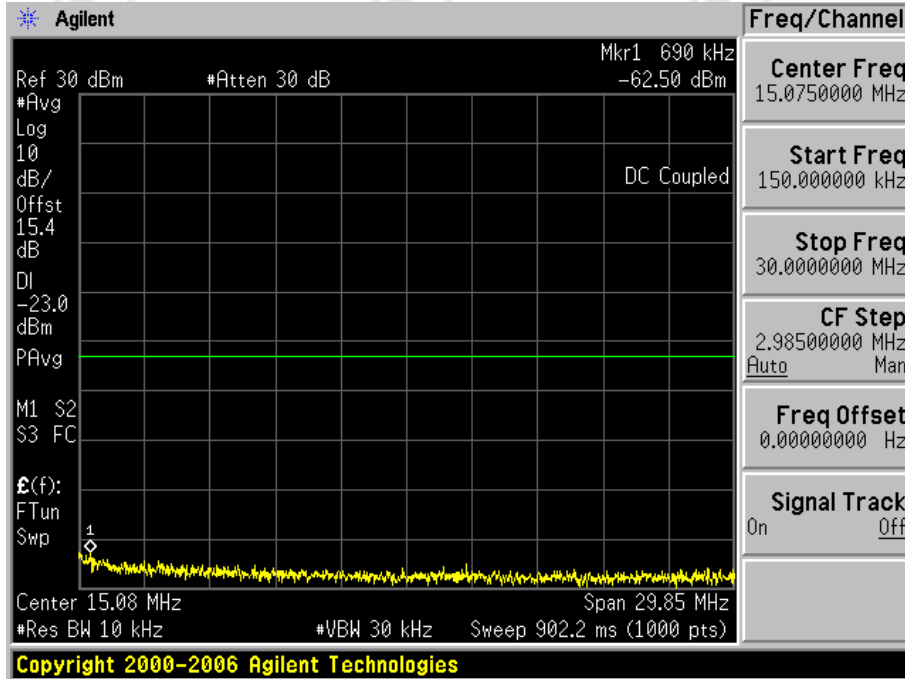


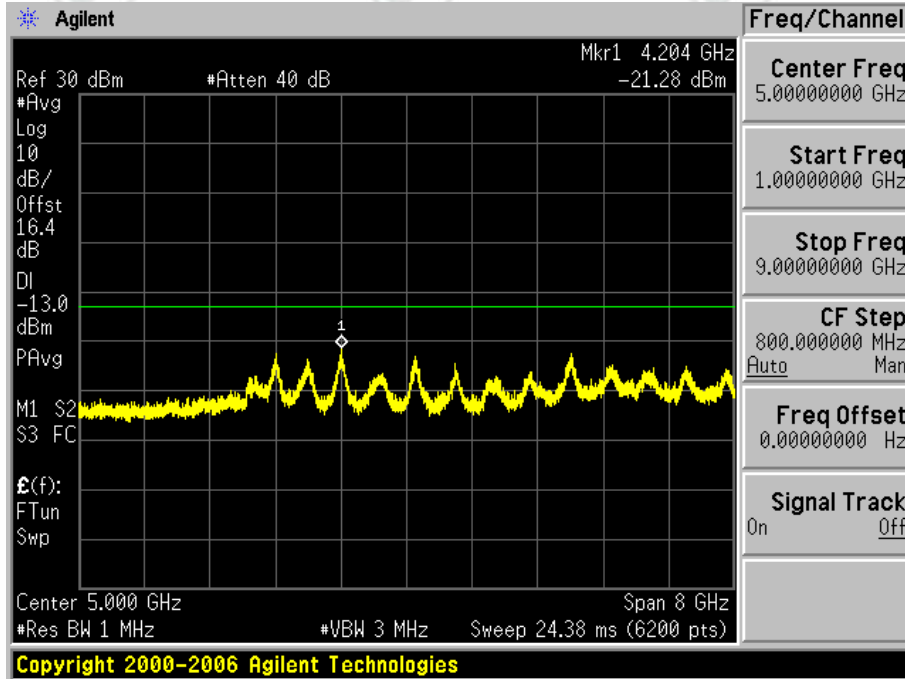


2.1.3.2

Test Channel=MCH

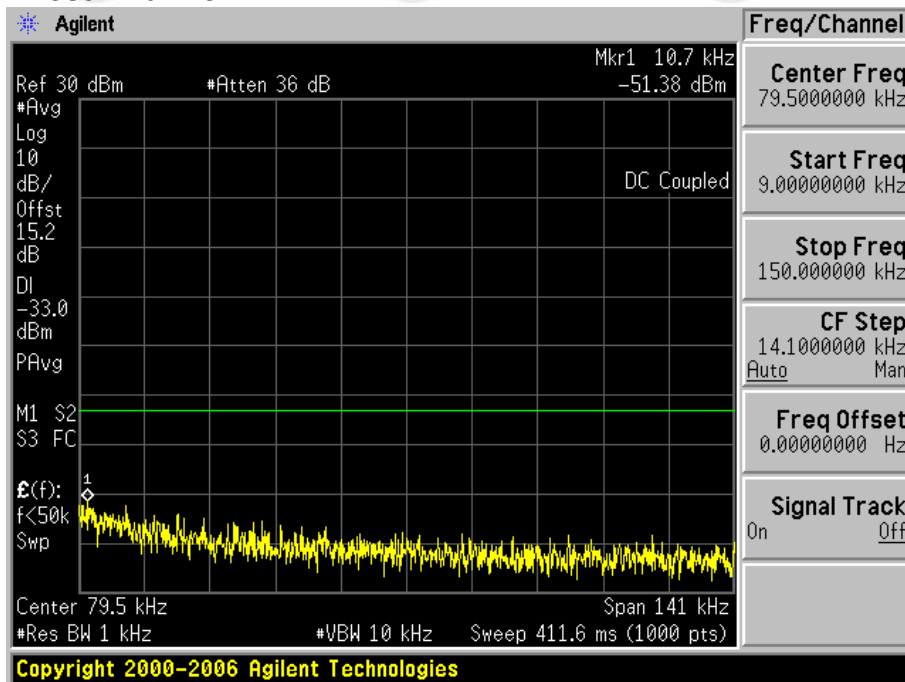


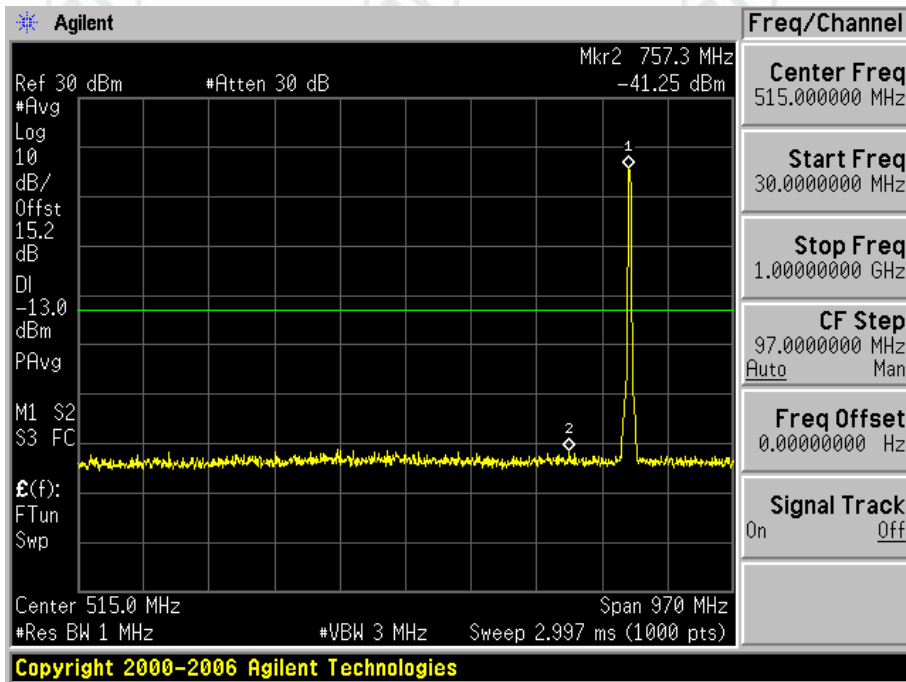
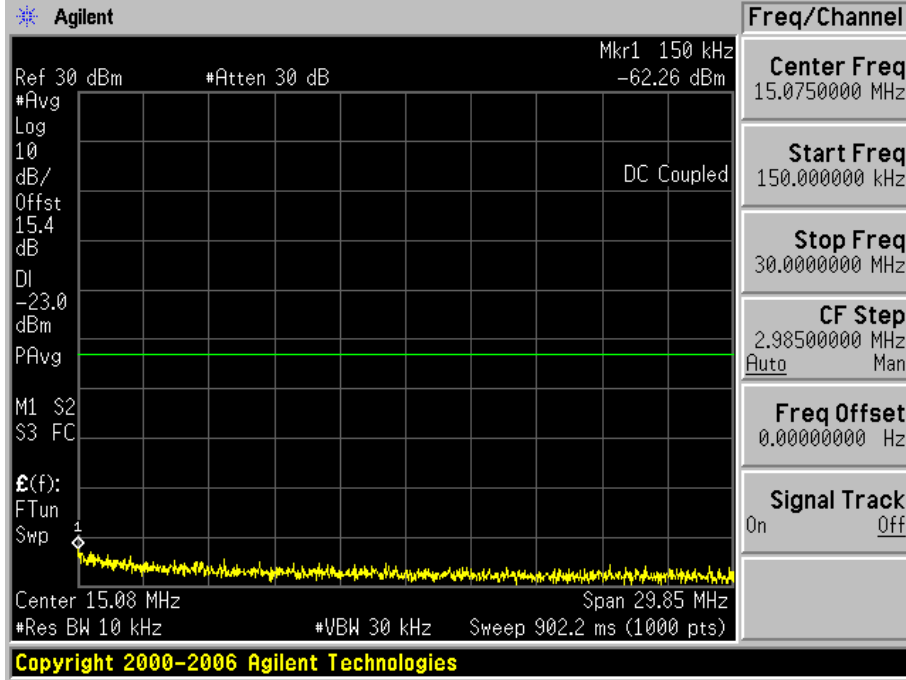


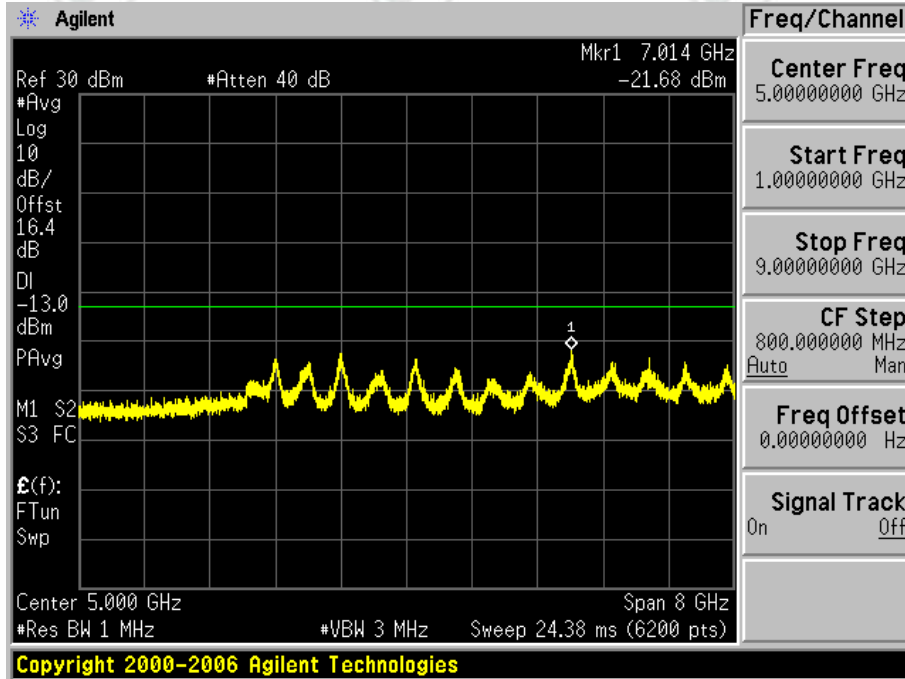


2.1.3.3

Test Channel=HCH







2.2

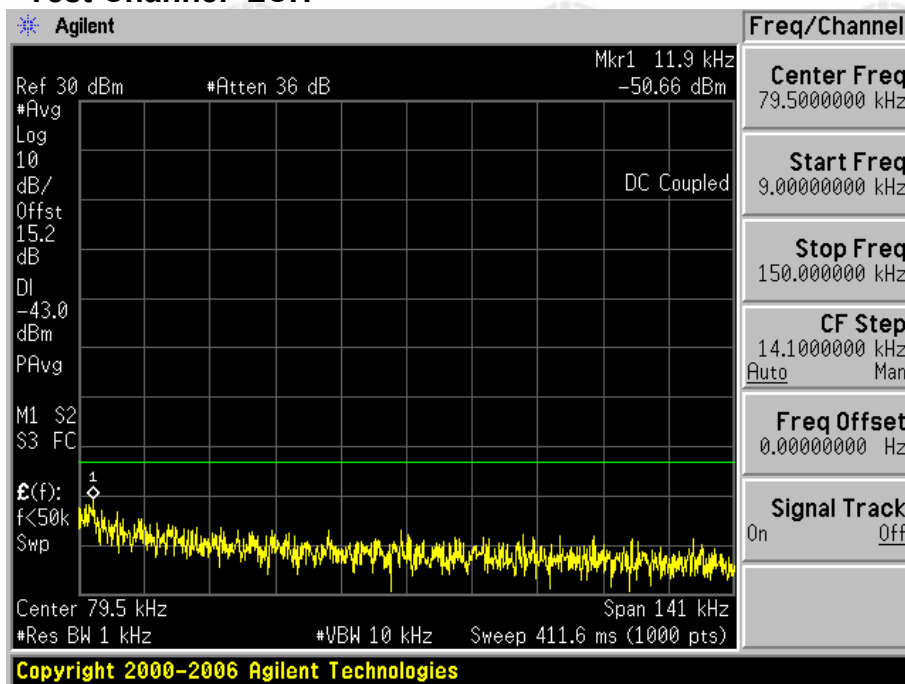
Test Band=WCDMA1900

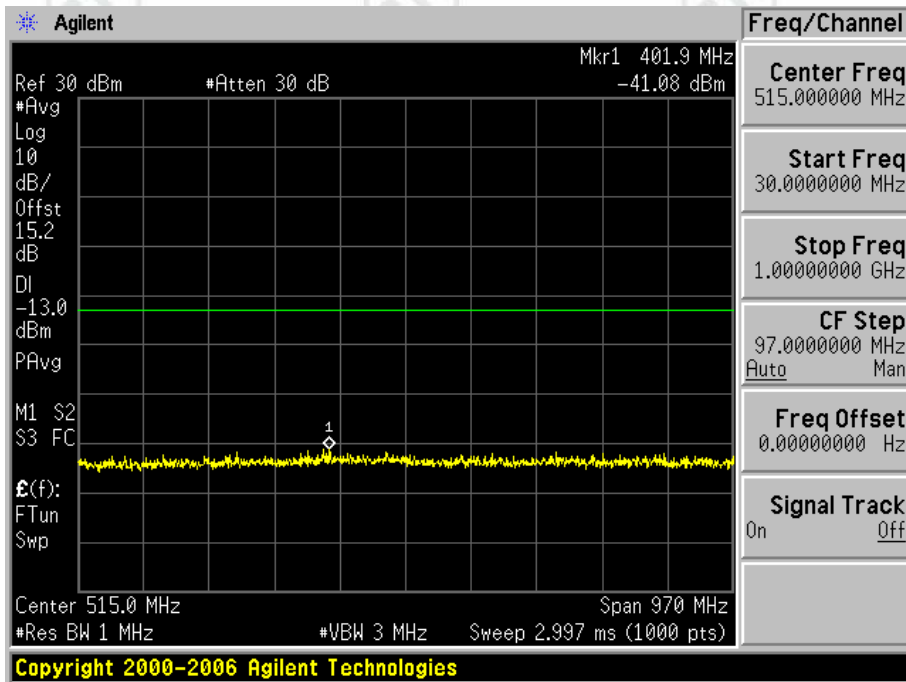
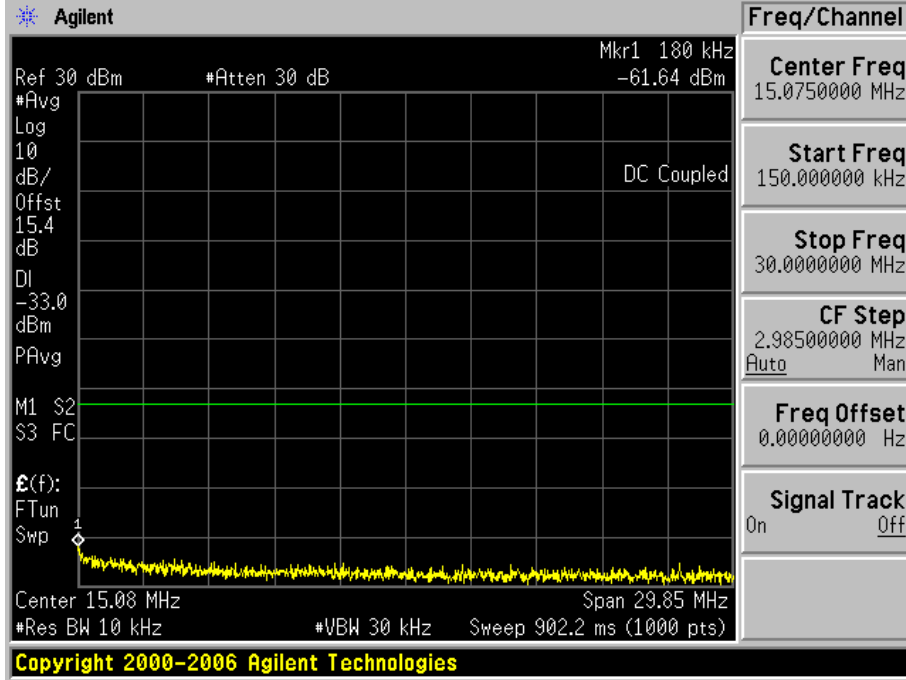
2.2.1

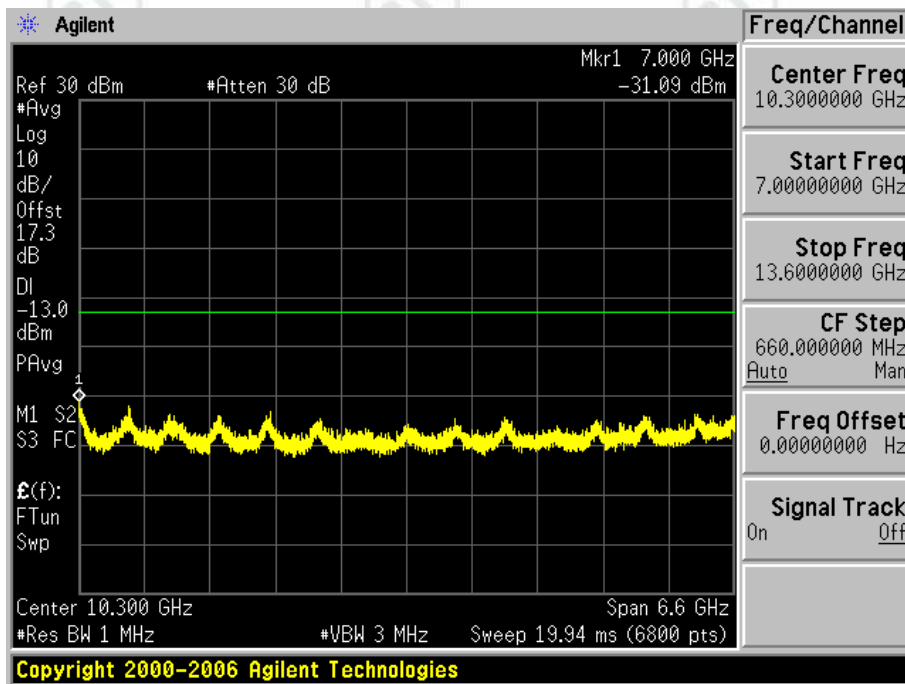
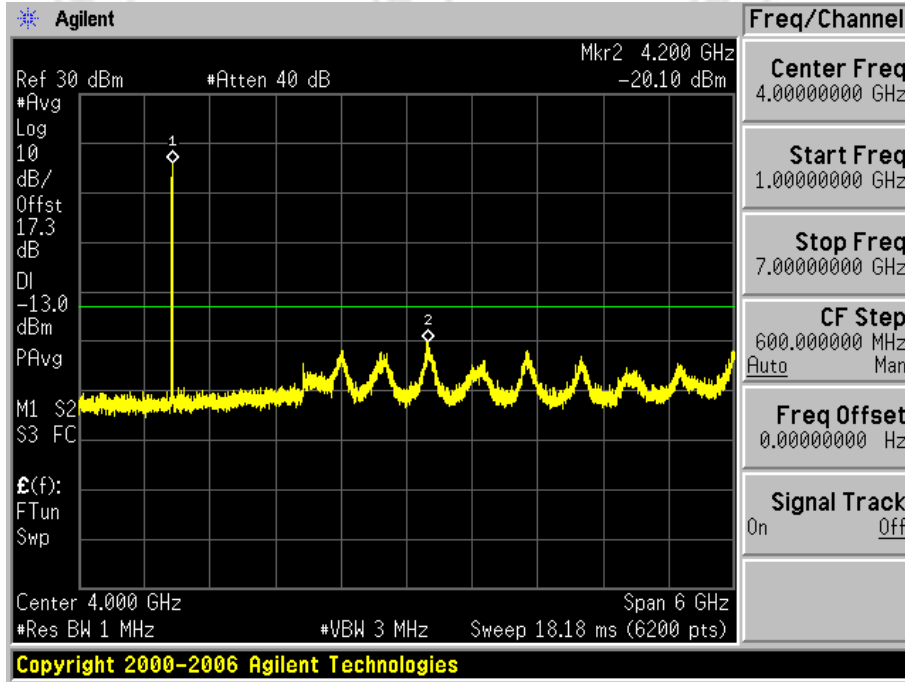
Test Mode=UMTS/TM1

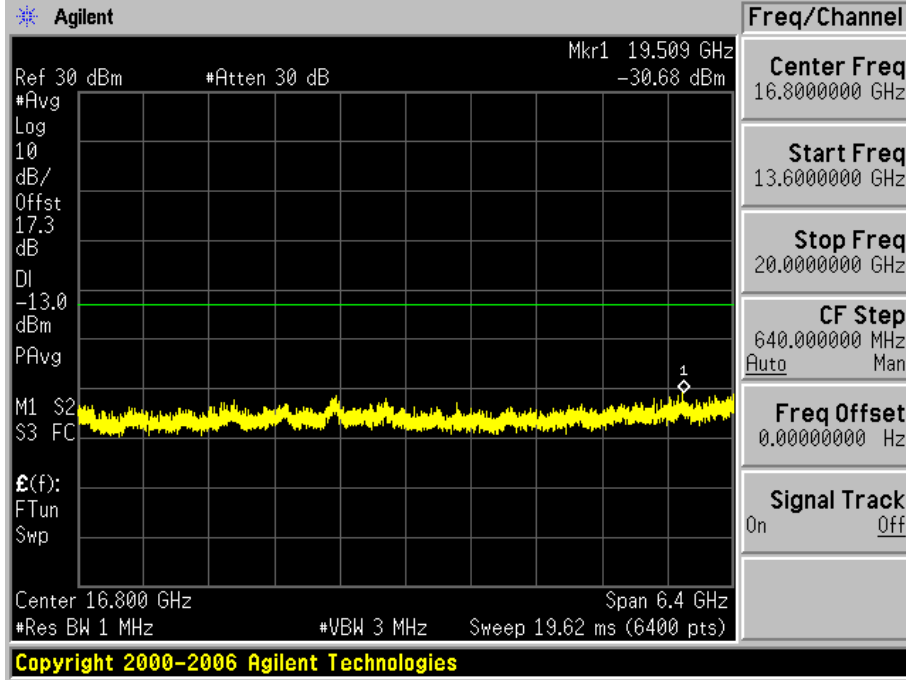
2.2.1.1

Test Channel=LCH



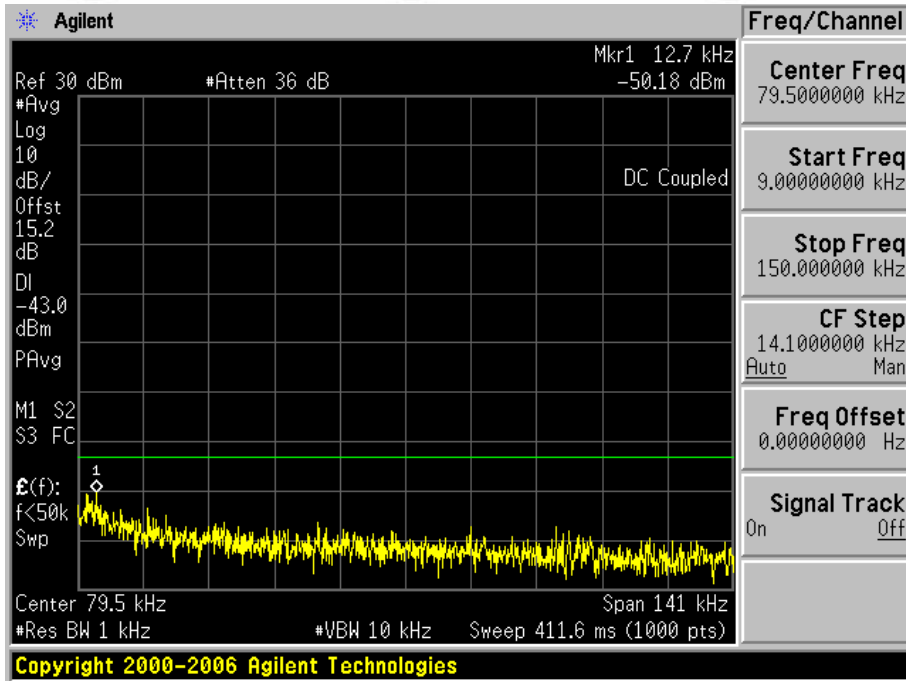


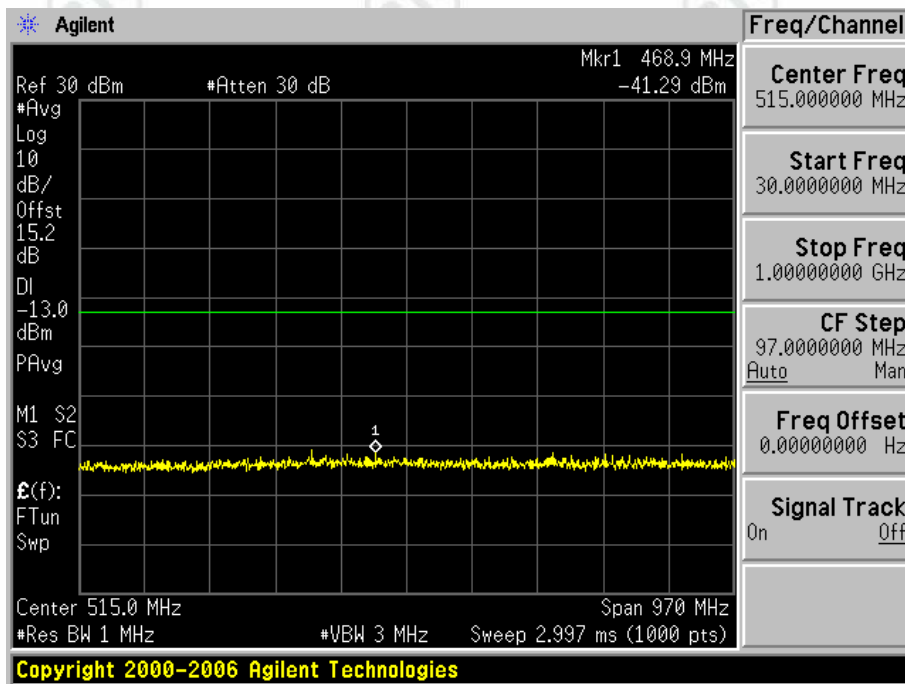
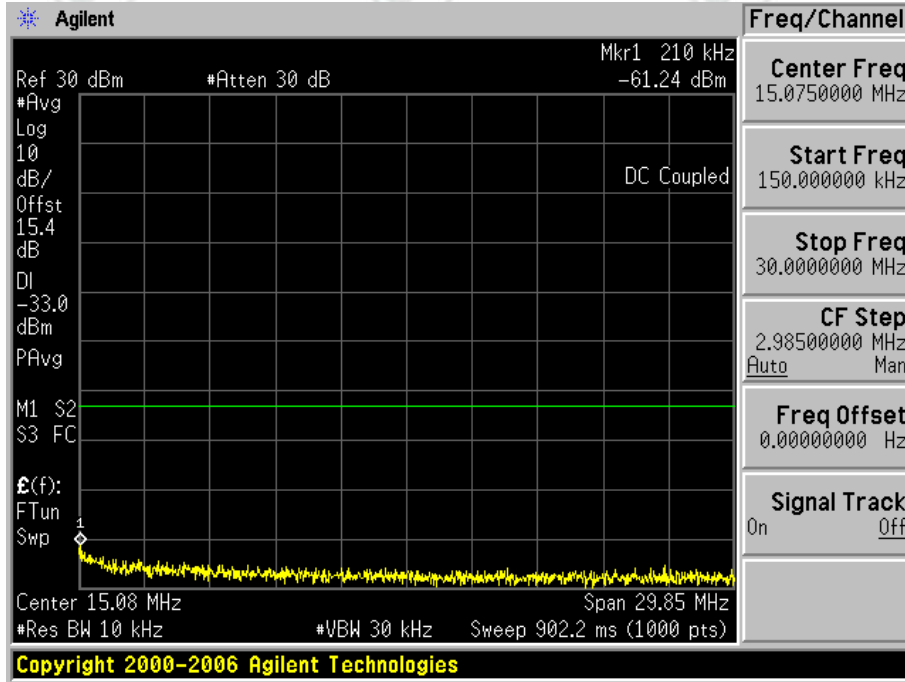


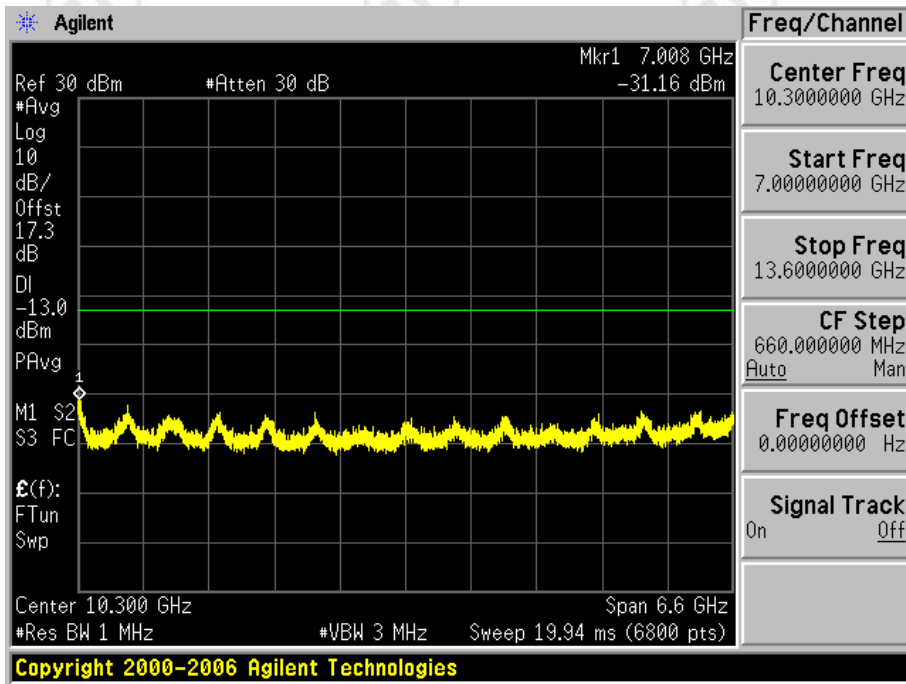
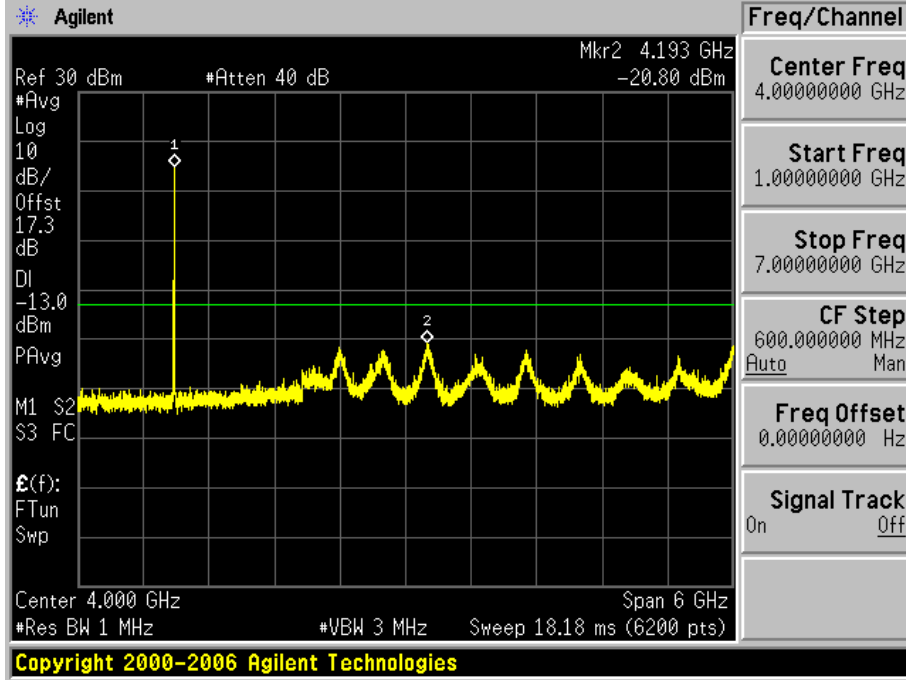


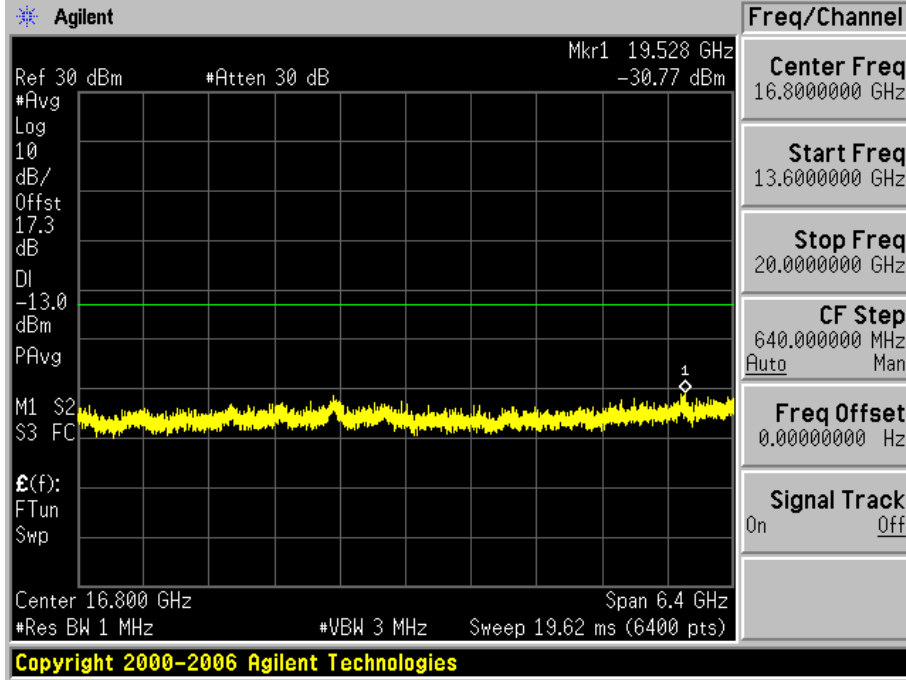
2.2.1.2

Test Channel=MCH



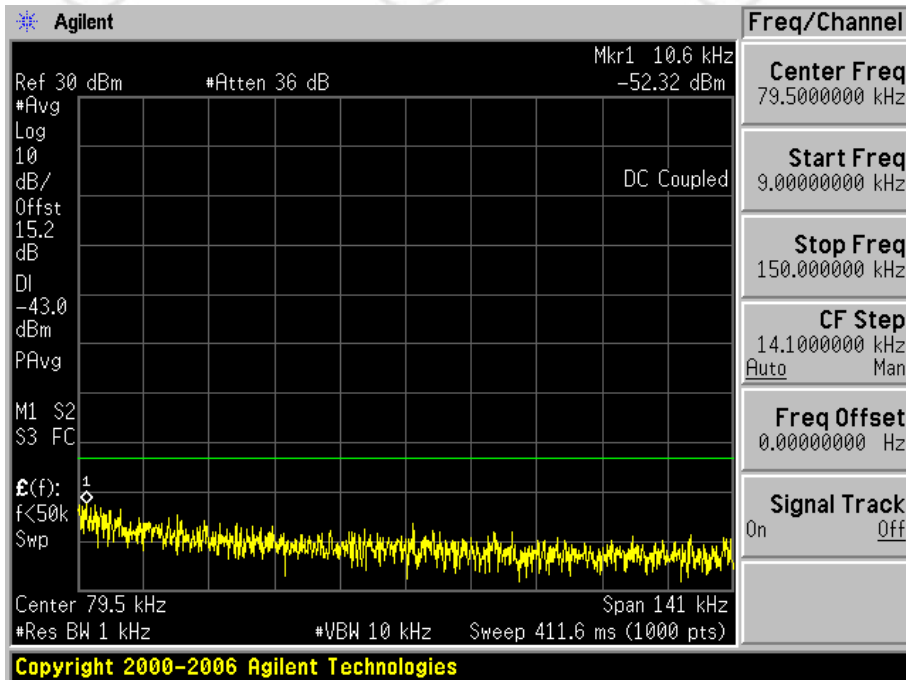


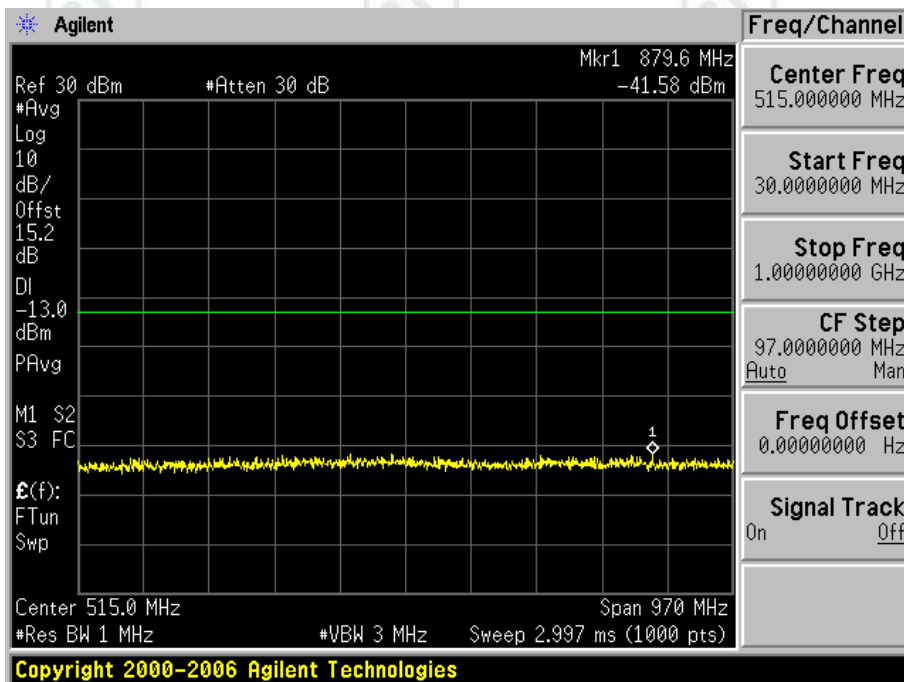
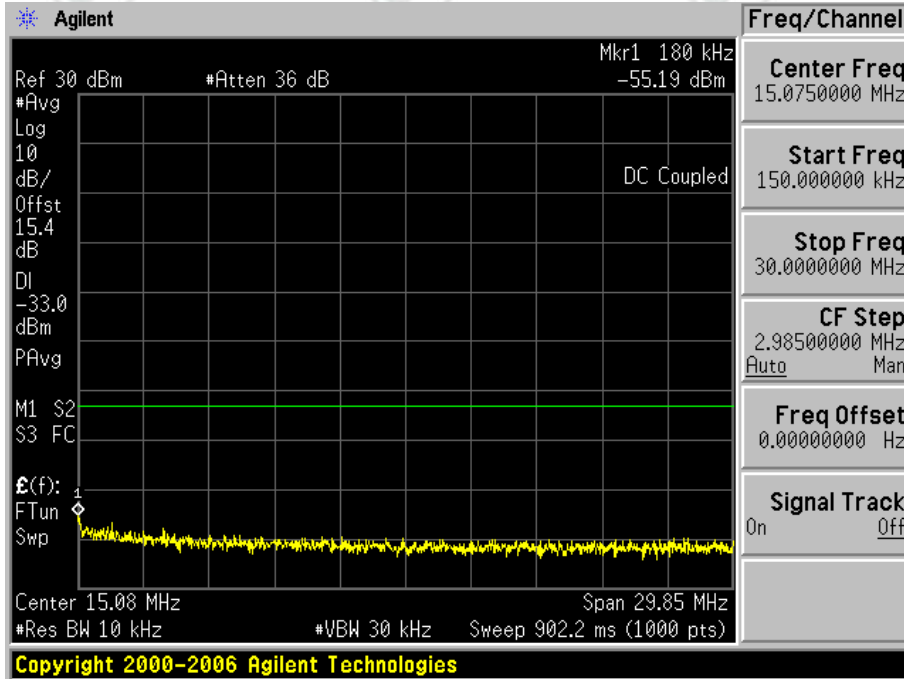


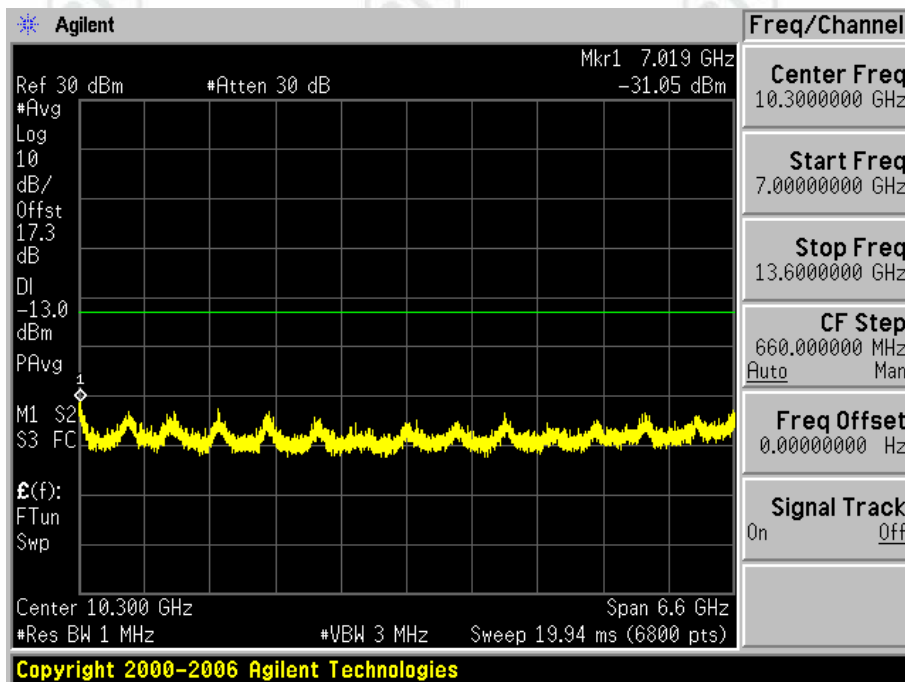
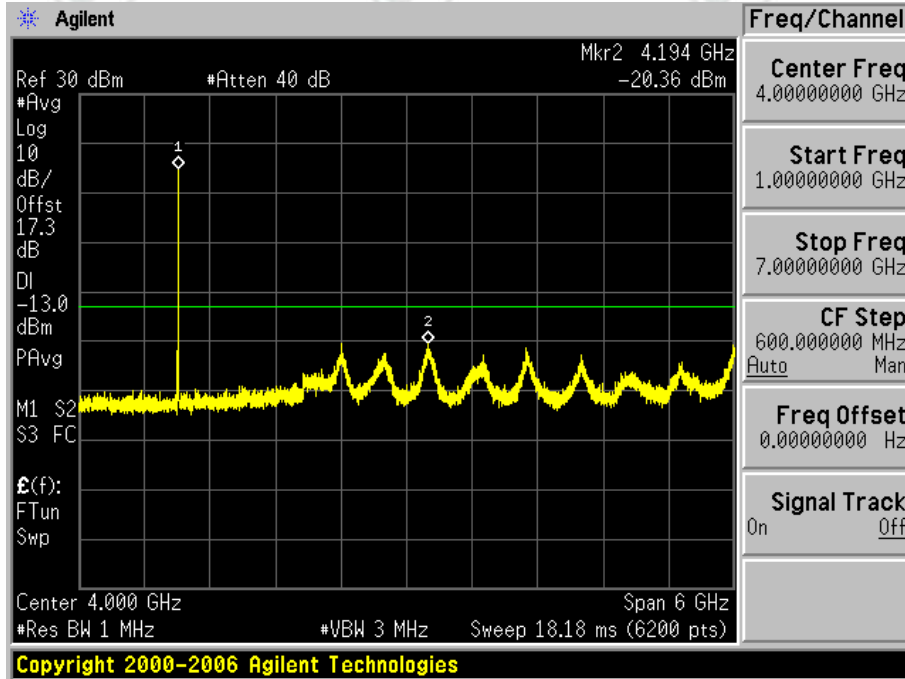


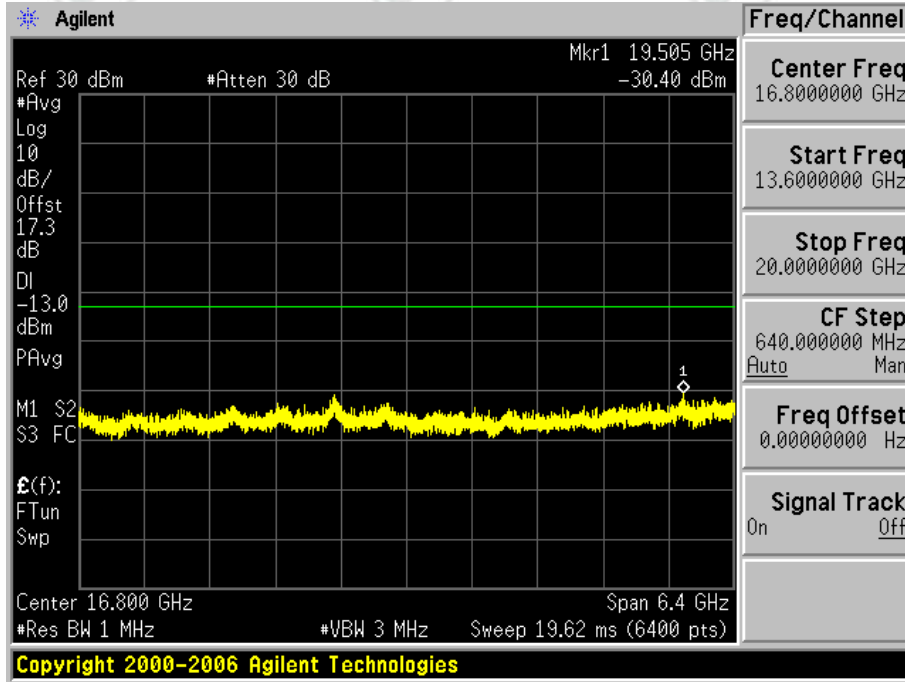
2.2.1.3

Test Channel=HCH







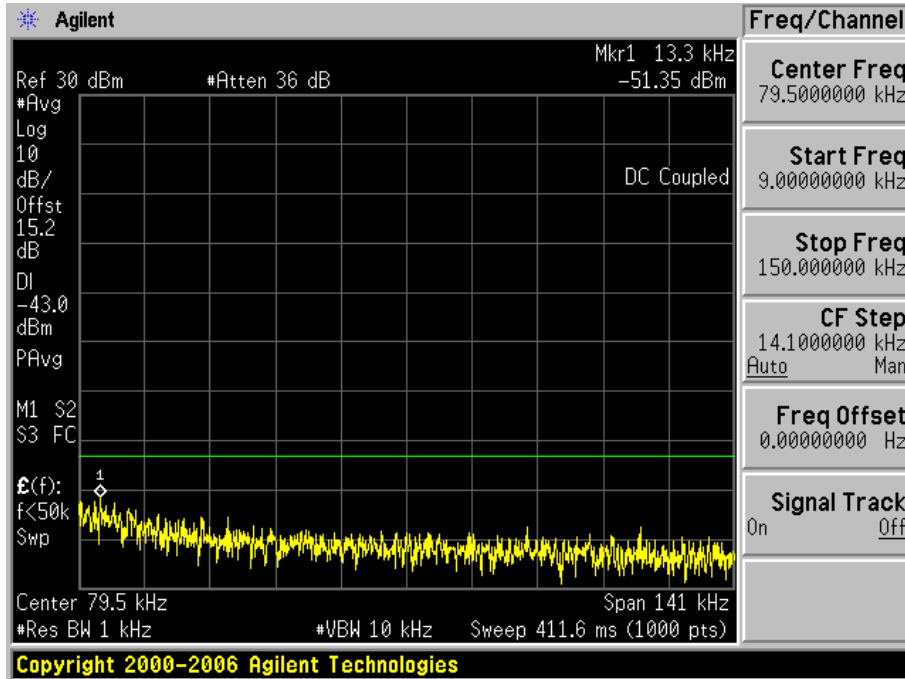


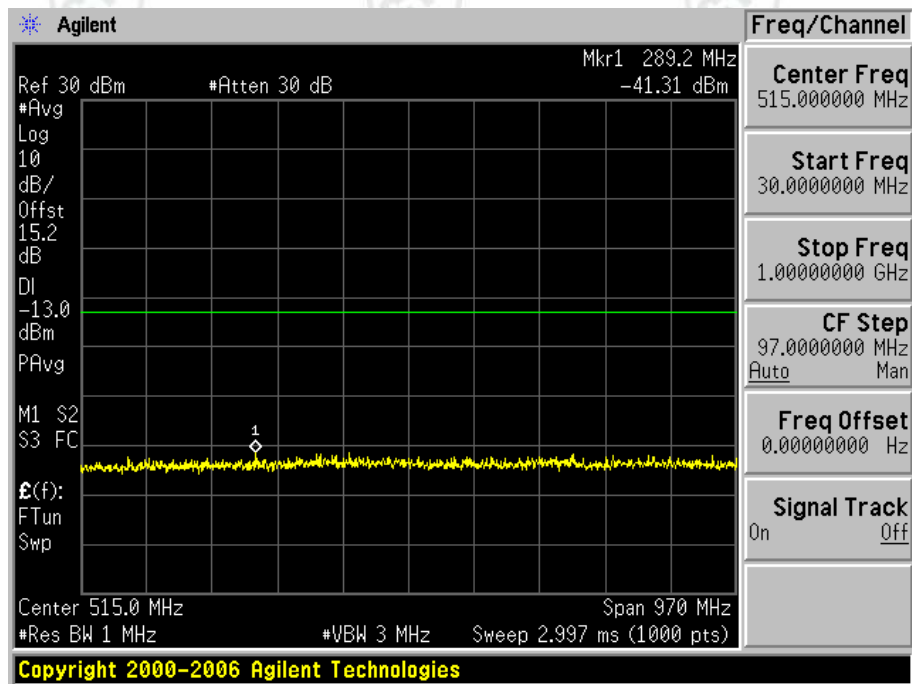
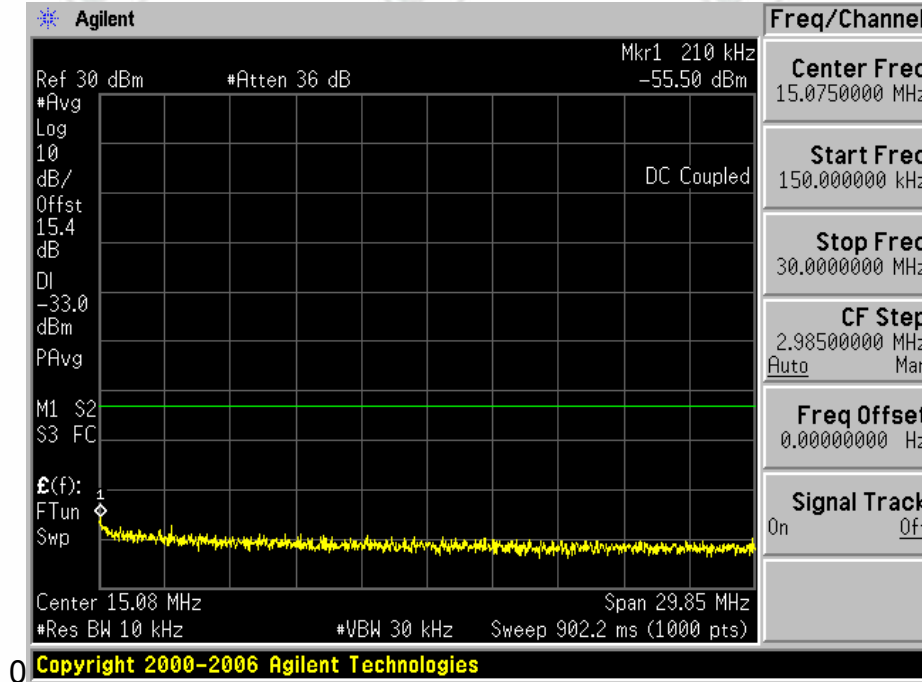
2.2.2

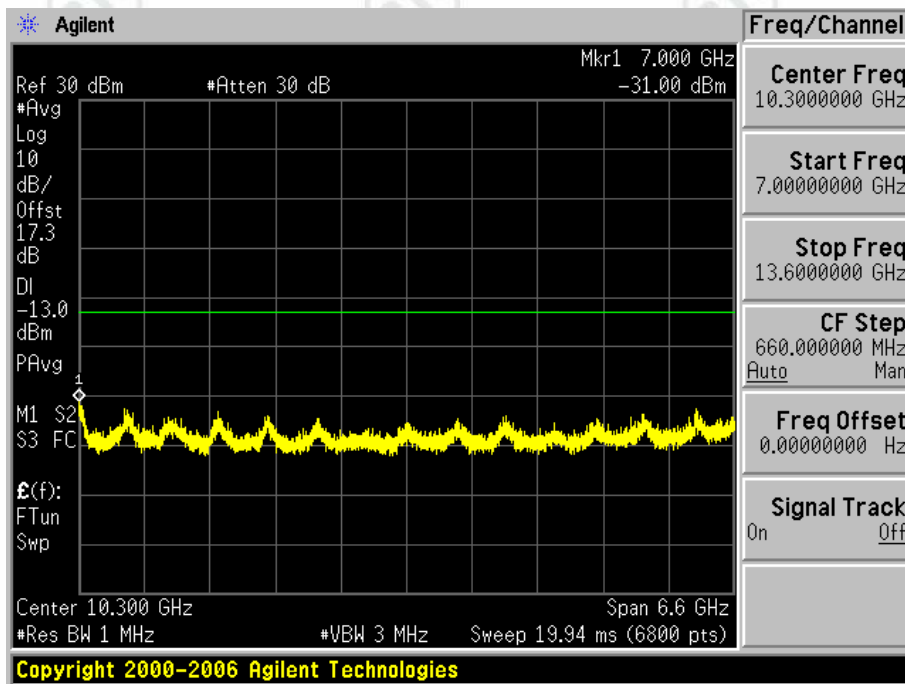
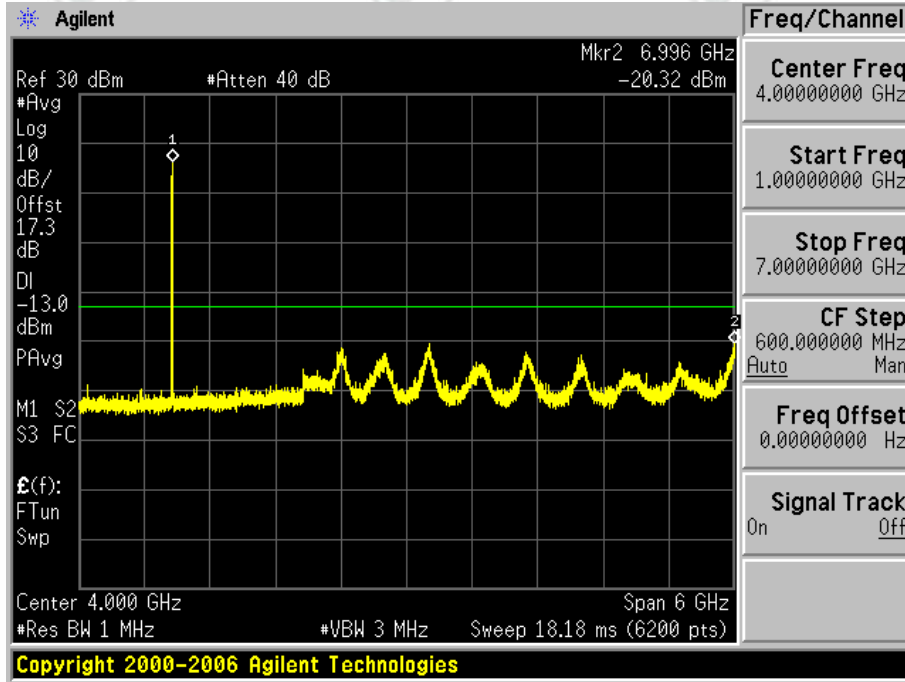
Test Mode=UMTS/TM2

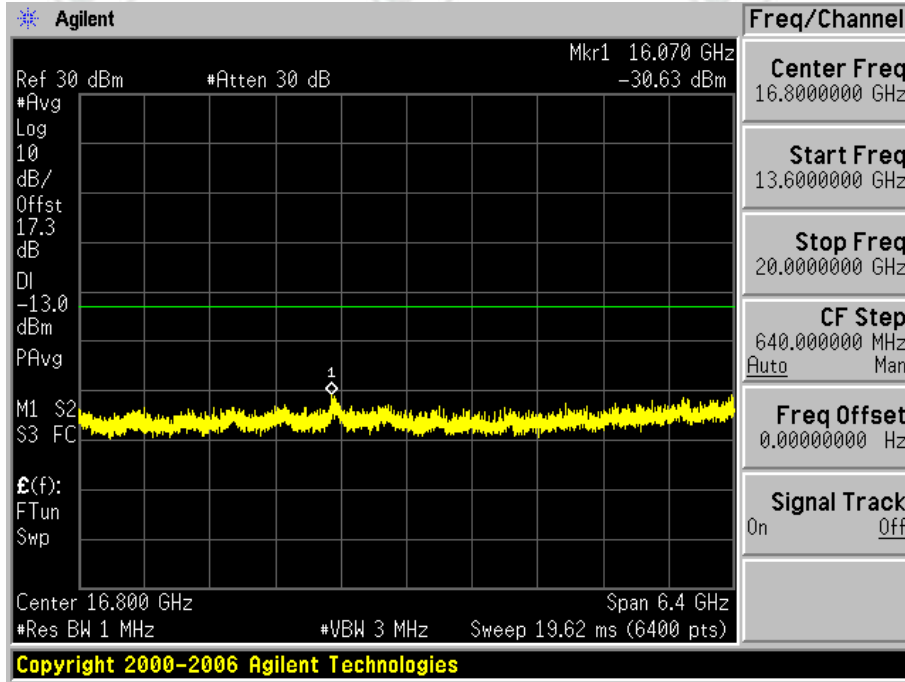
2.2.2.1

Test Channel=LCH



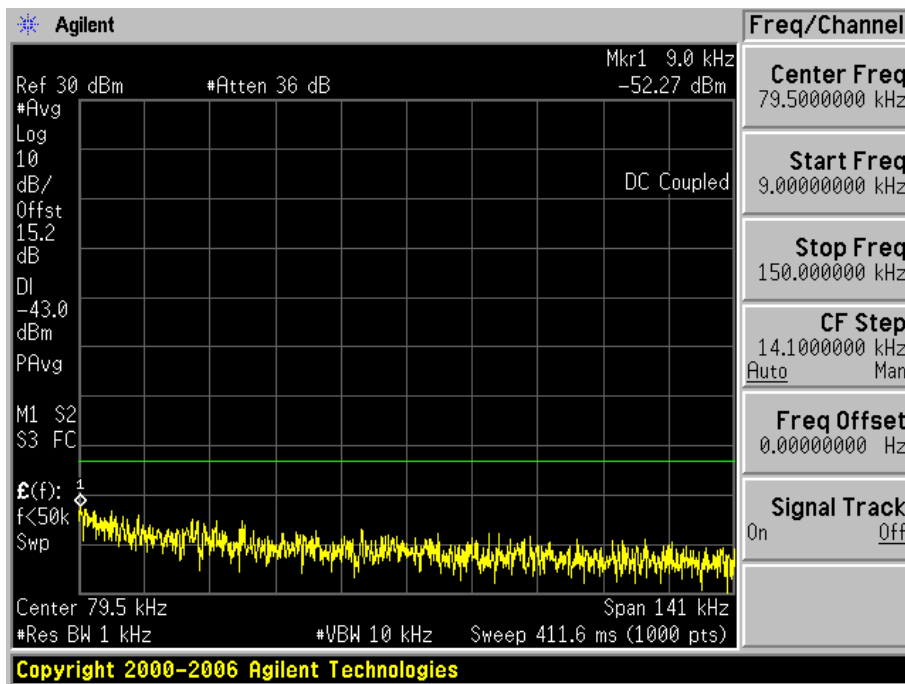


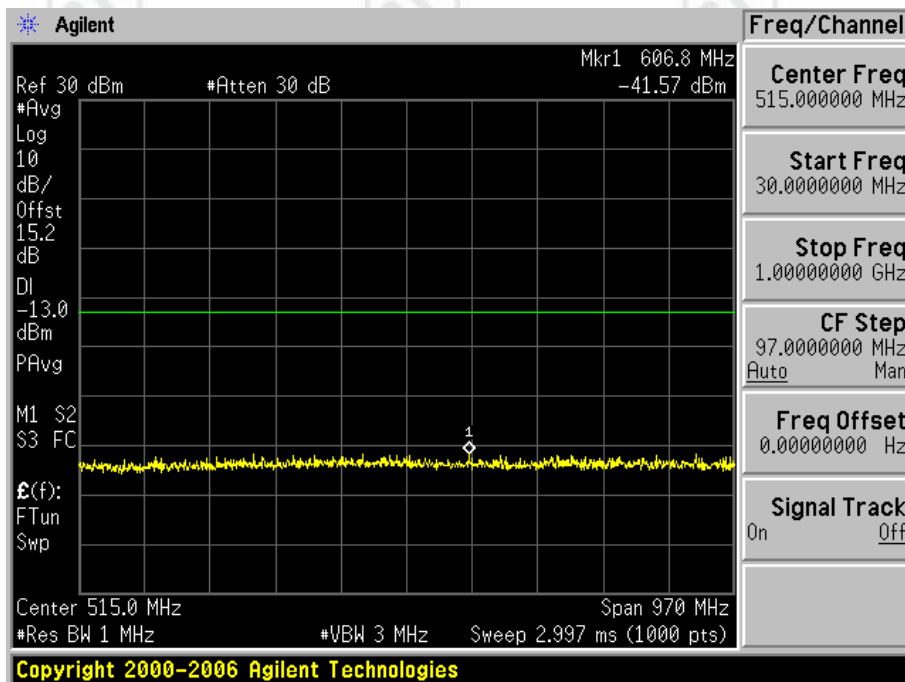
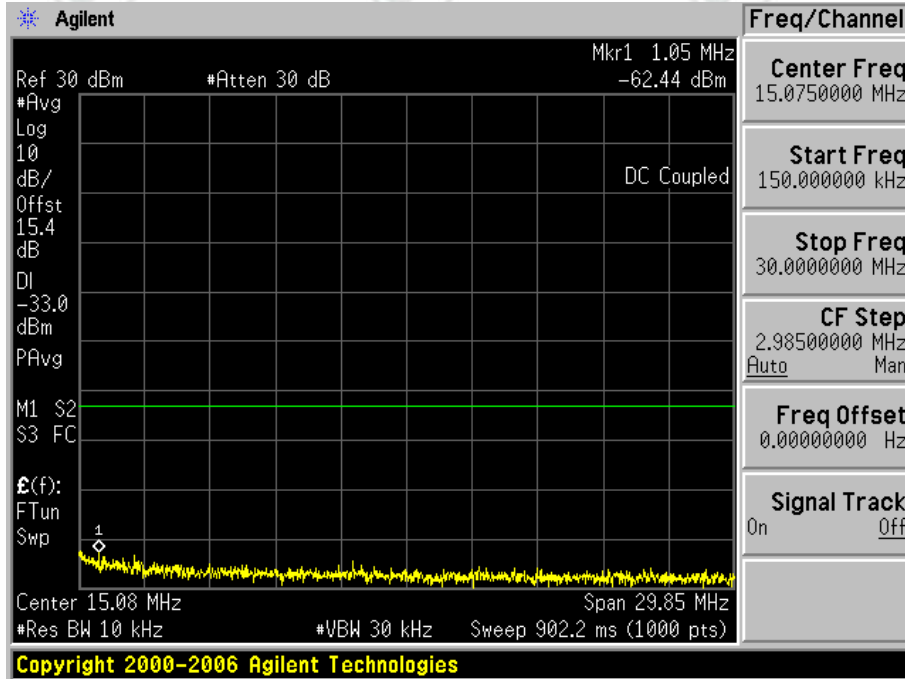


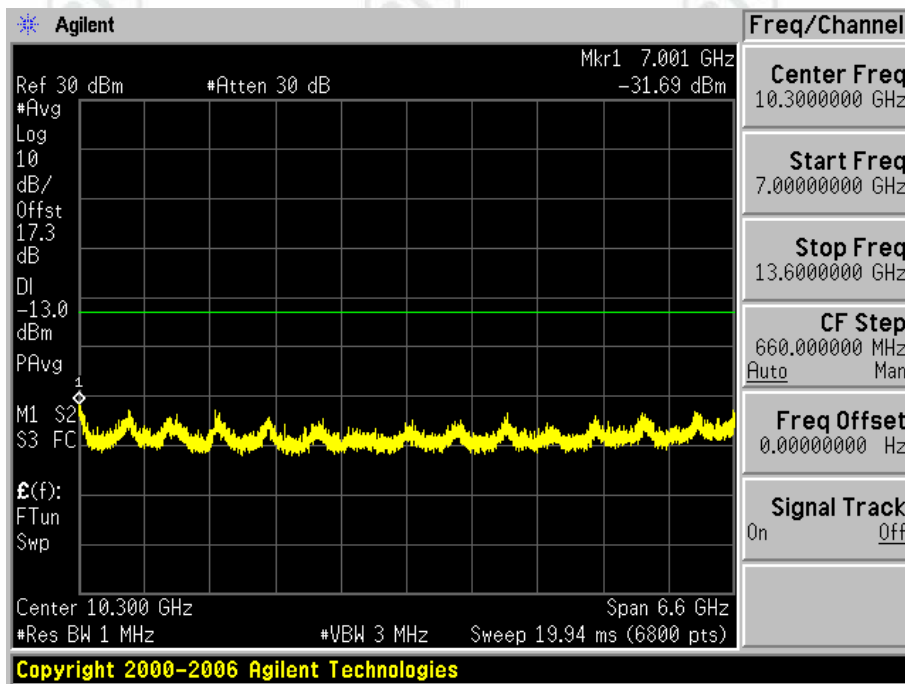
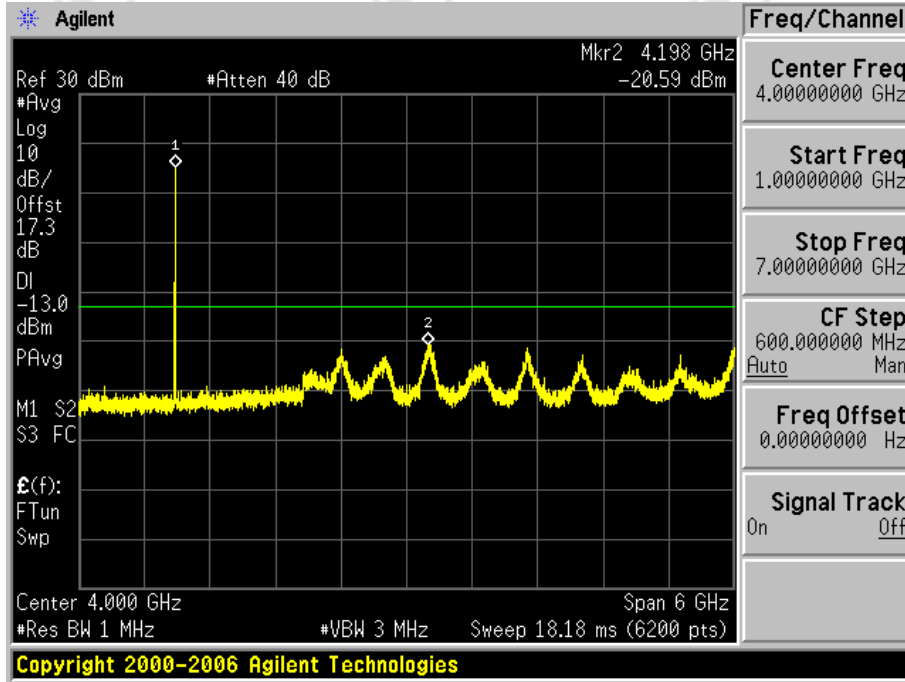


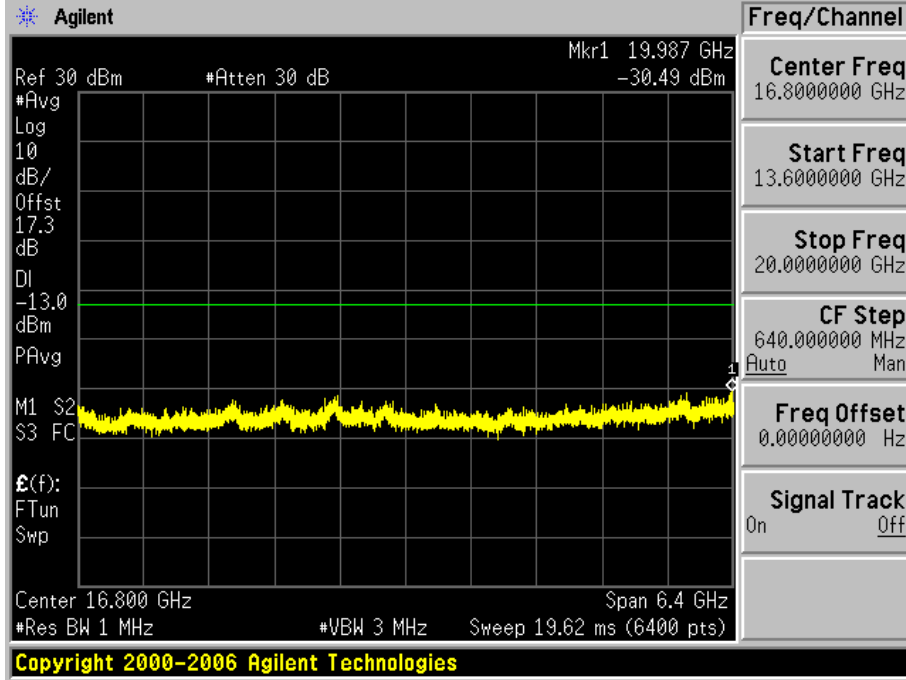
2.2.2.2

Test Channel=MCH



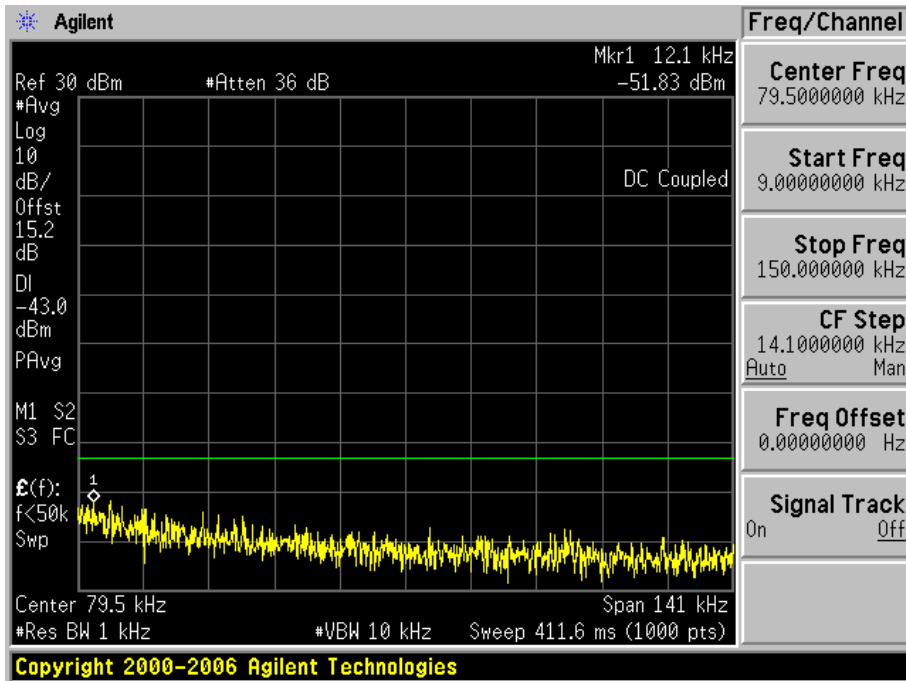


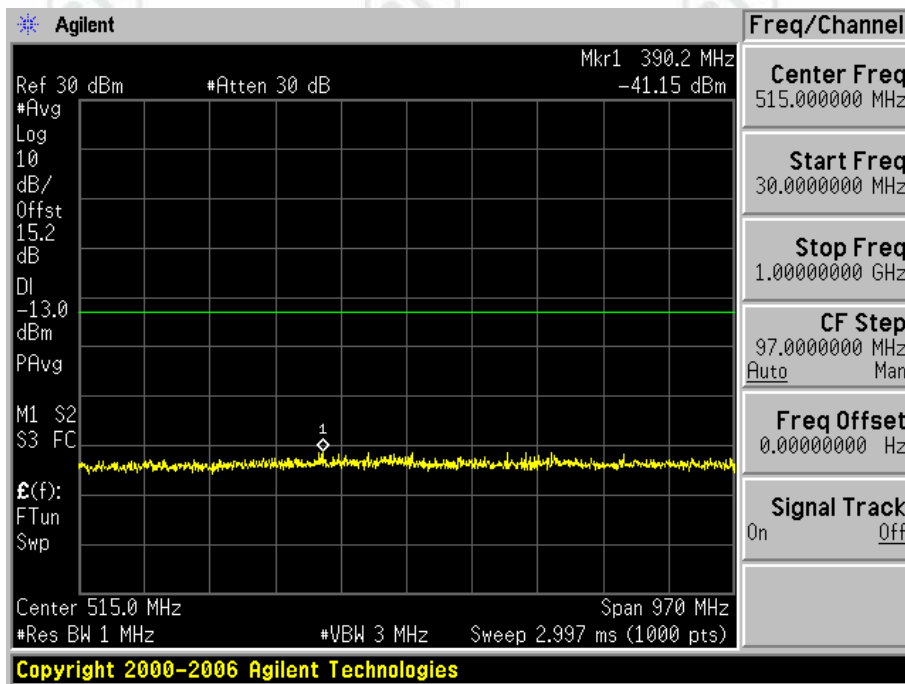
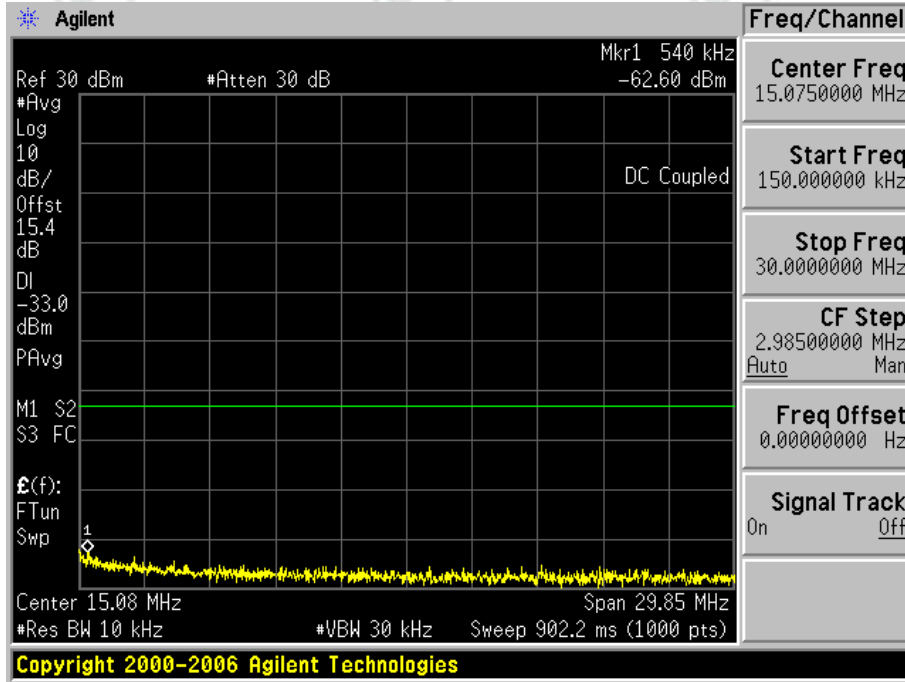


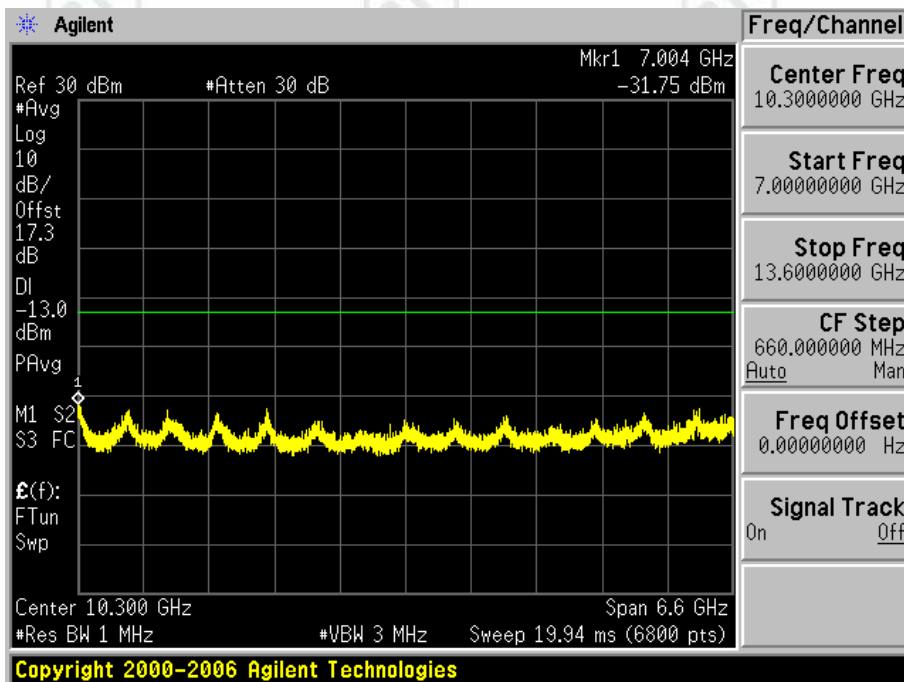
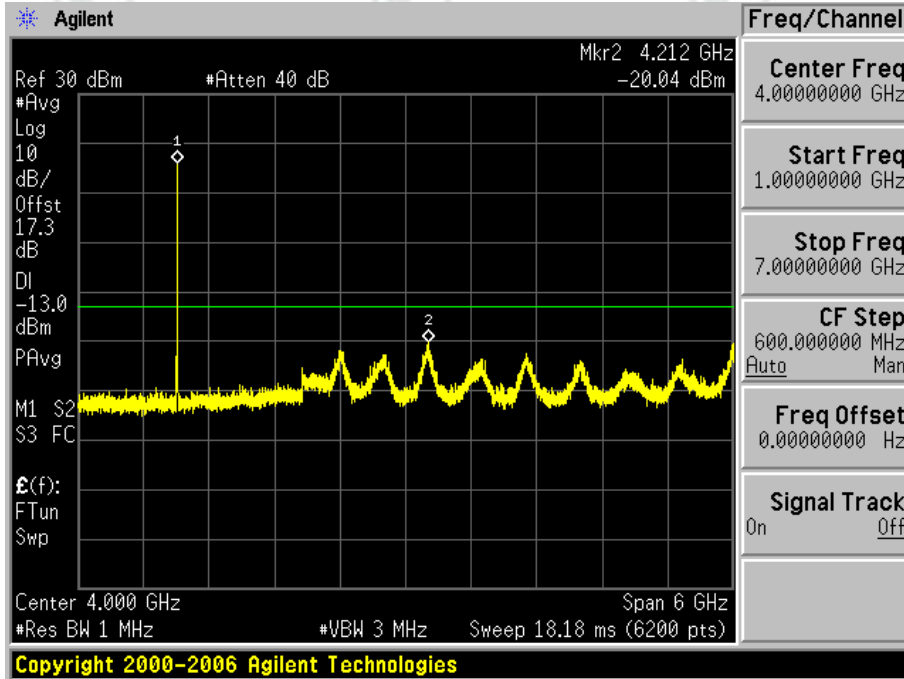


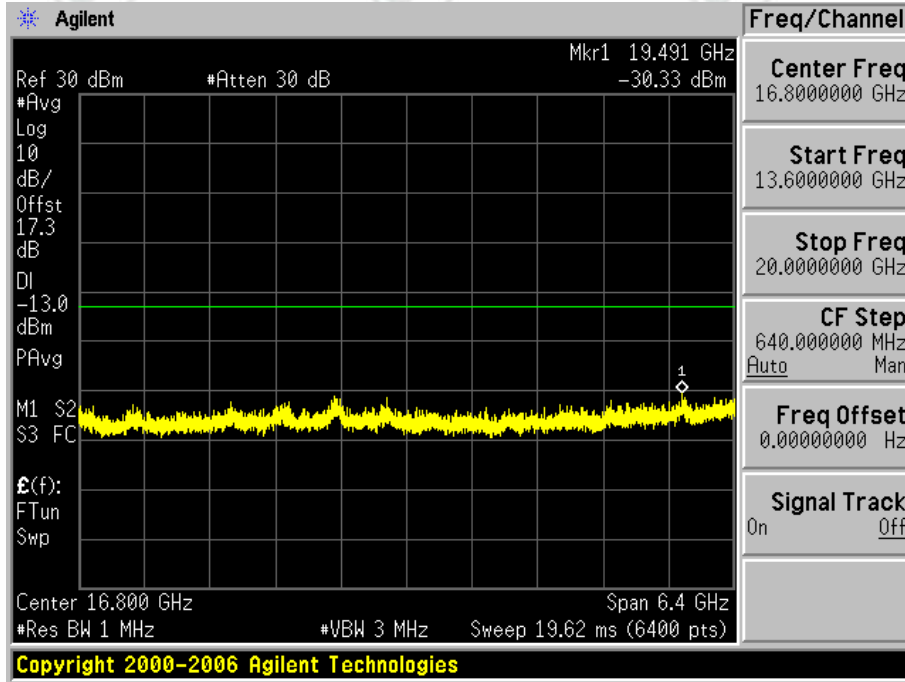
2.2.2.3

Test Channel=HCH







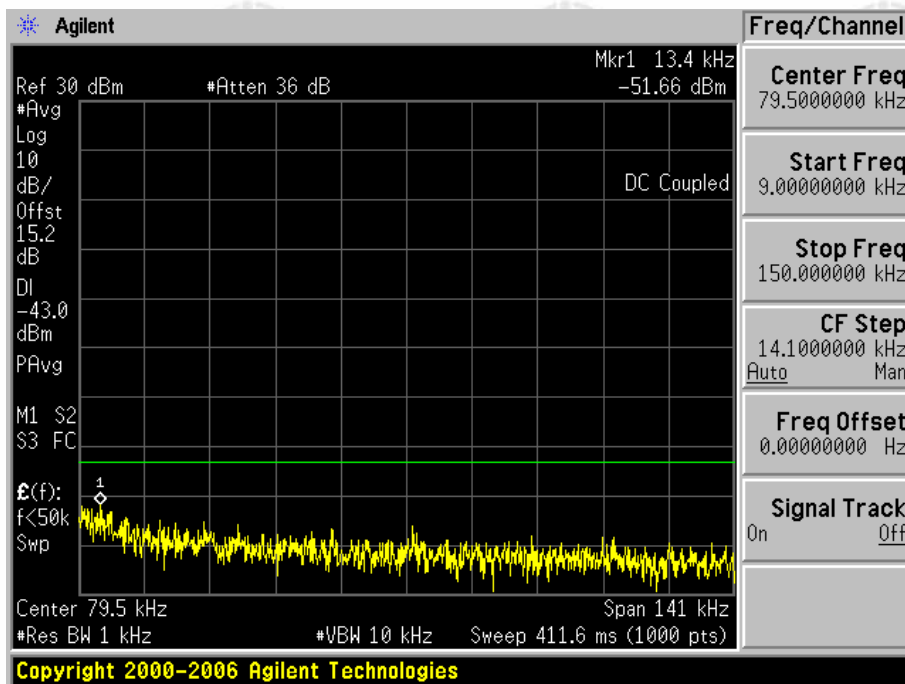


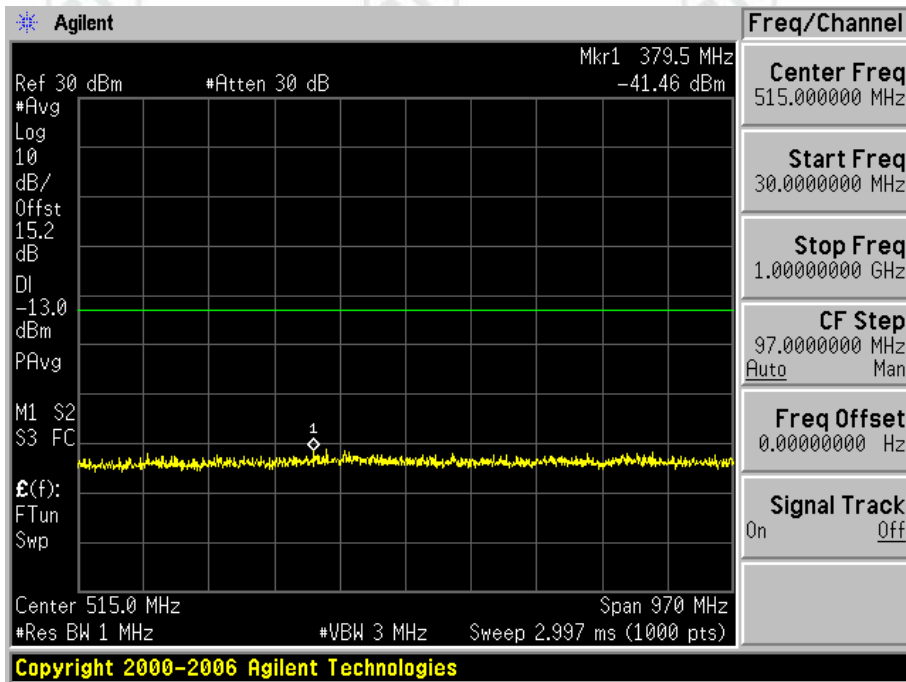
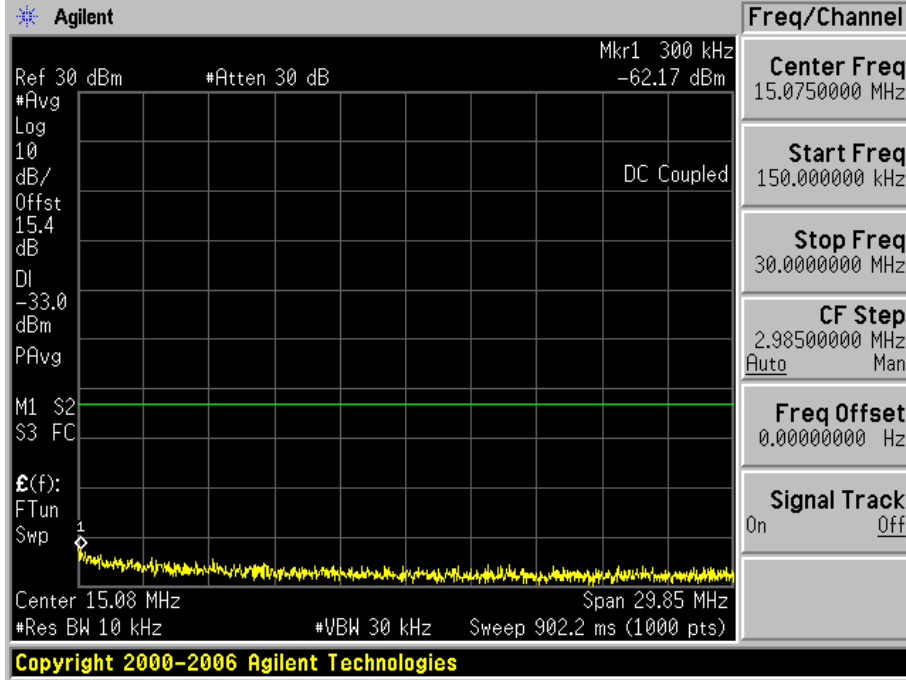
2.2.3

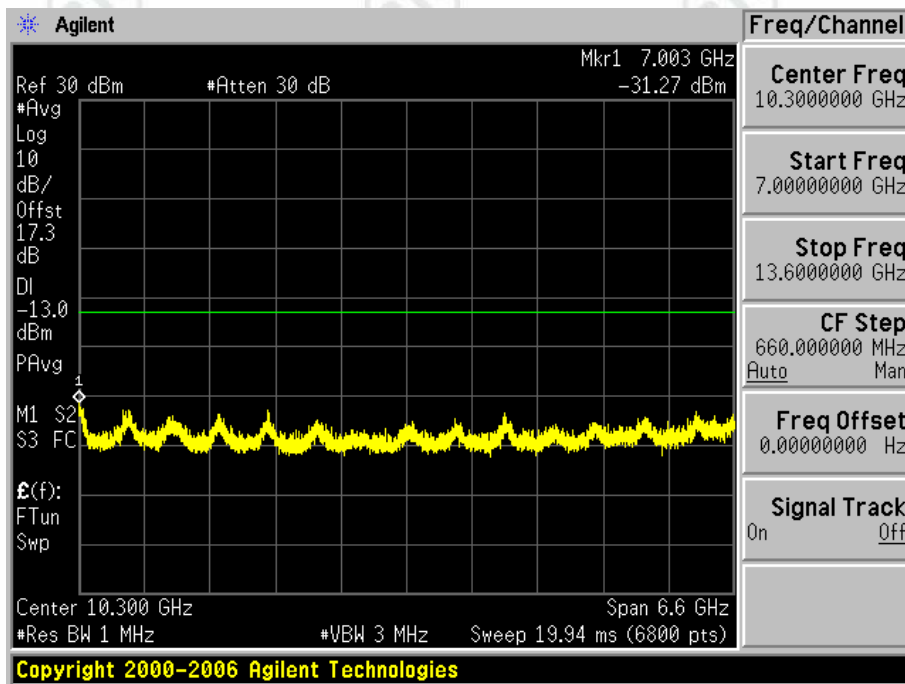
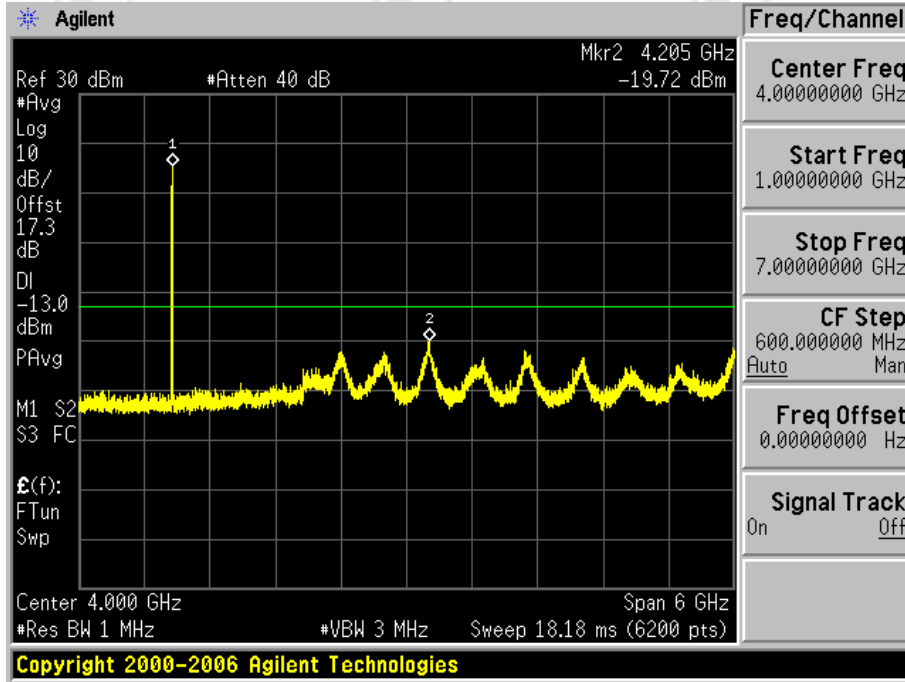
Test Mode=UMTS/TM3

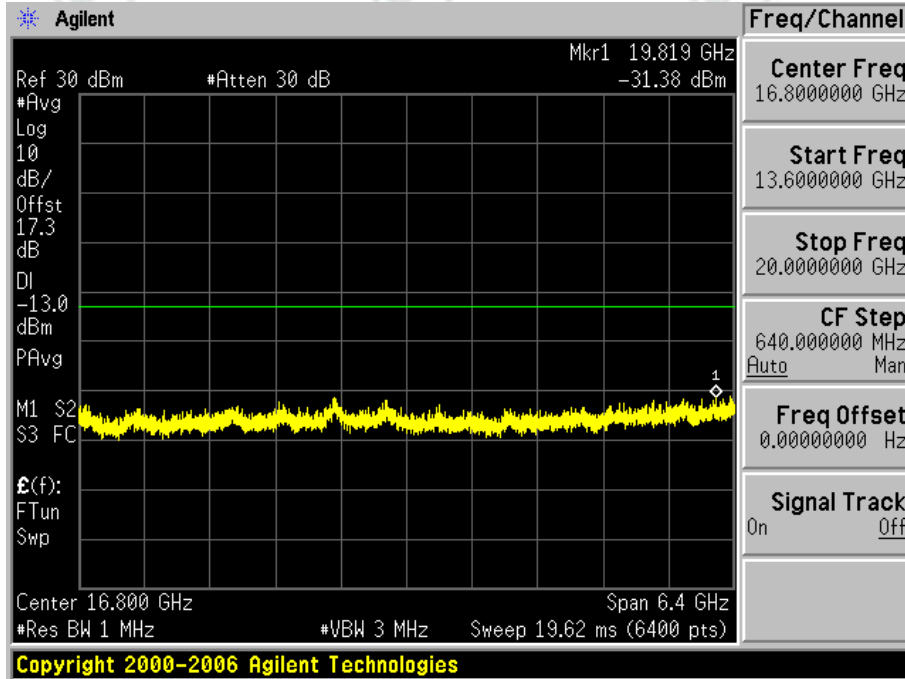
2.2.3.1

Test Channel=LCH



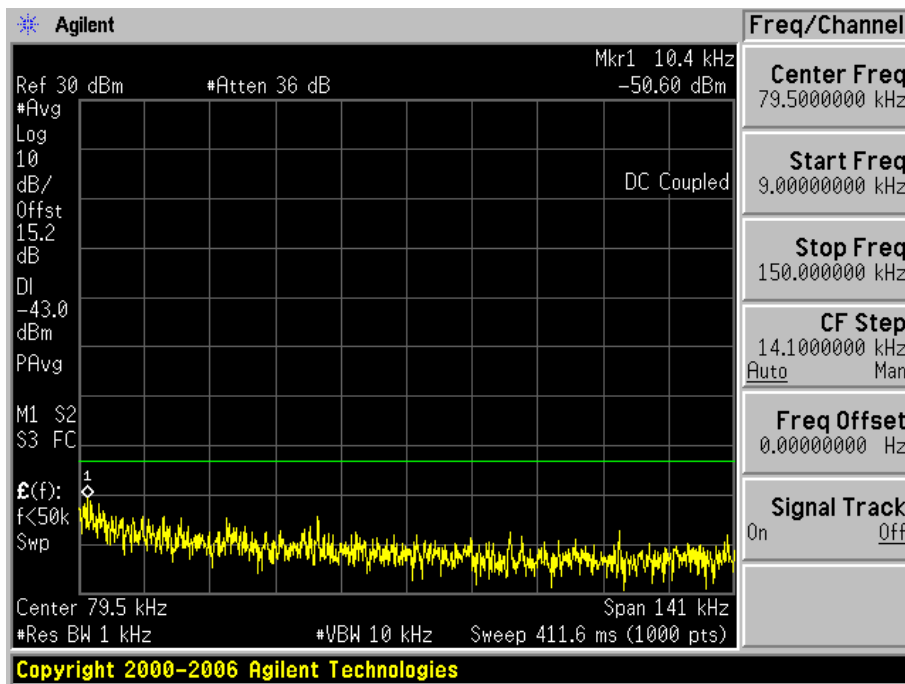


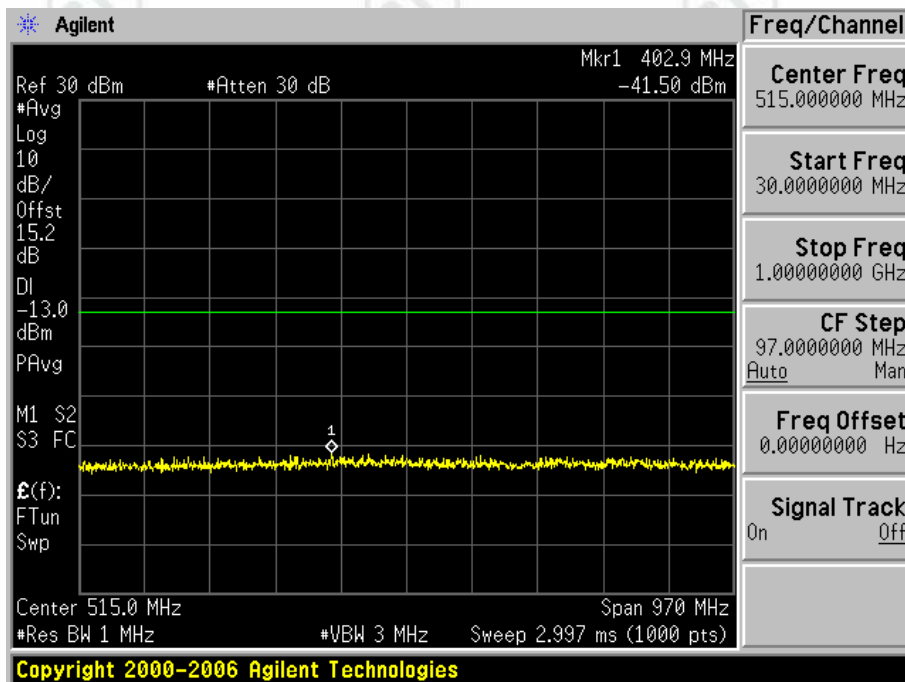
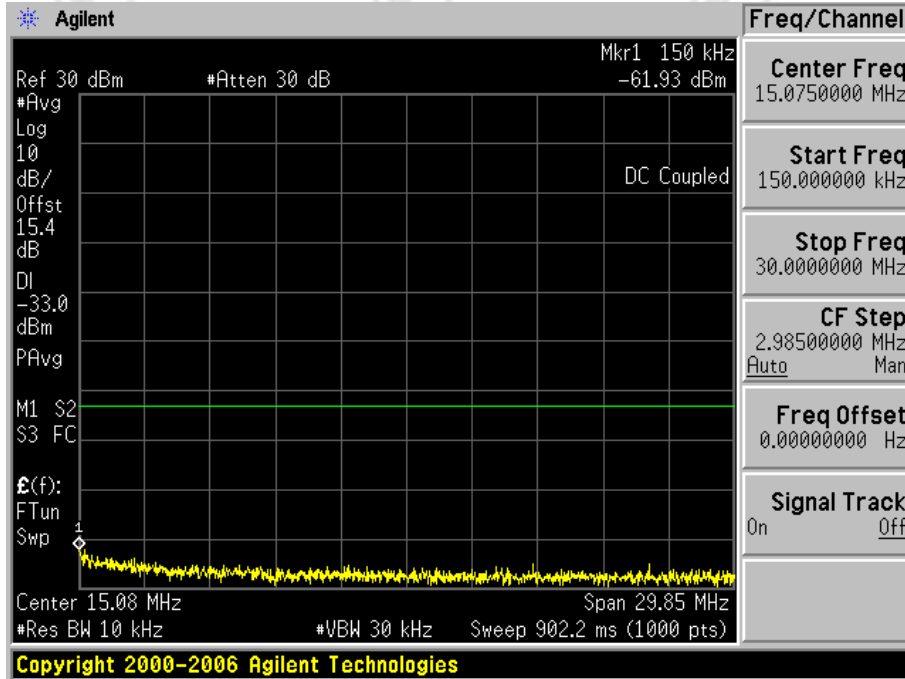


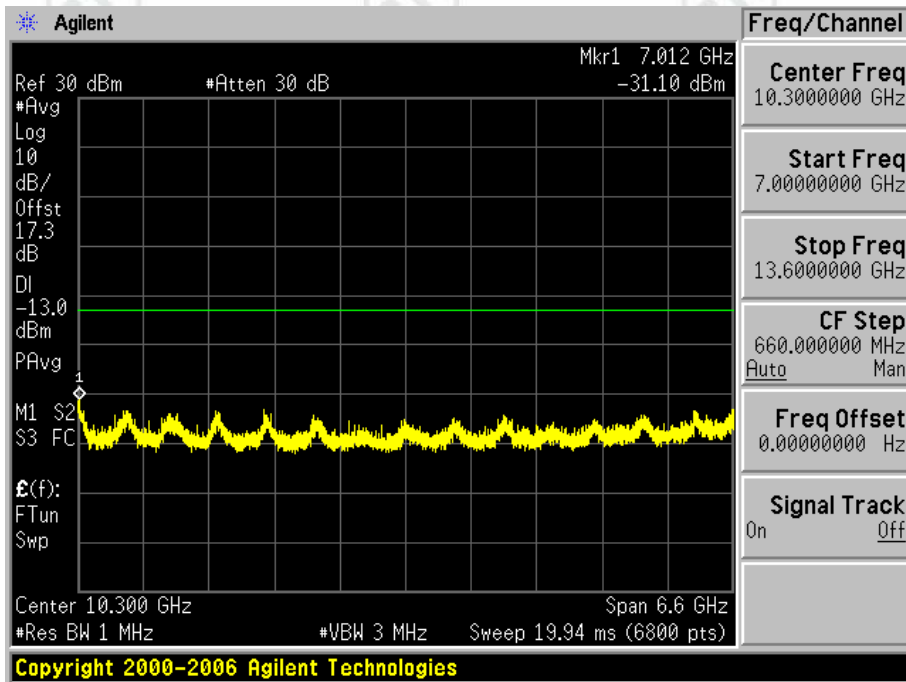
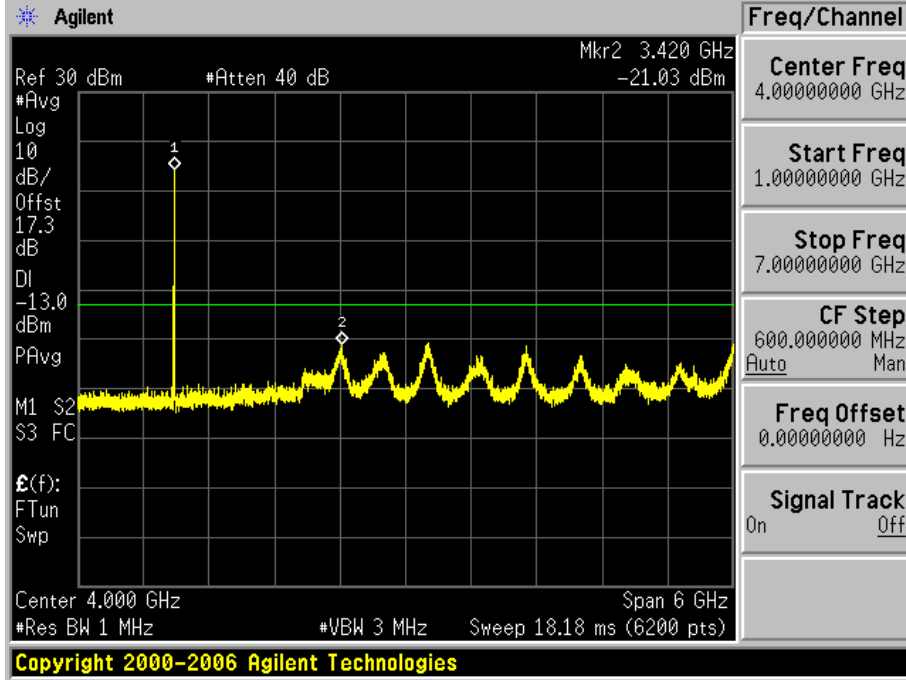


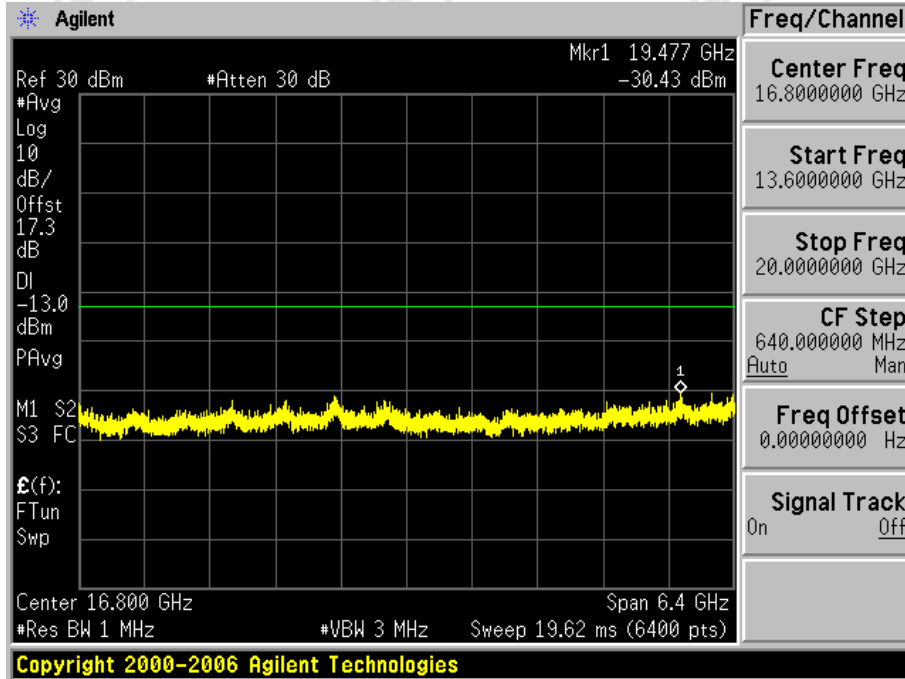
2.2.3.2

Test Channel=MCH



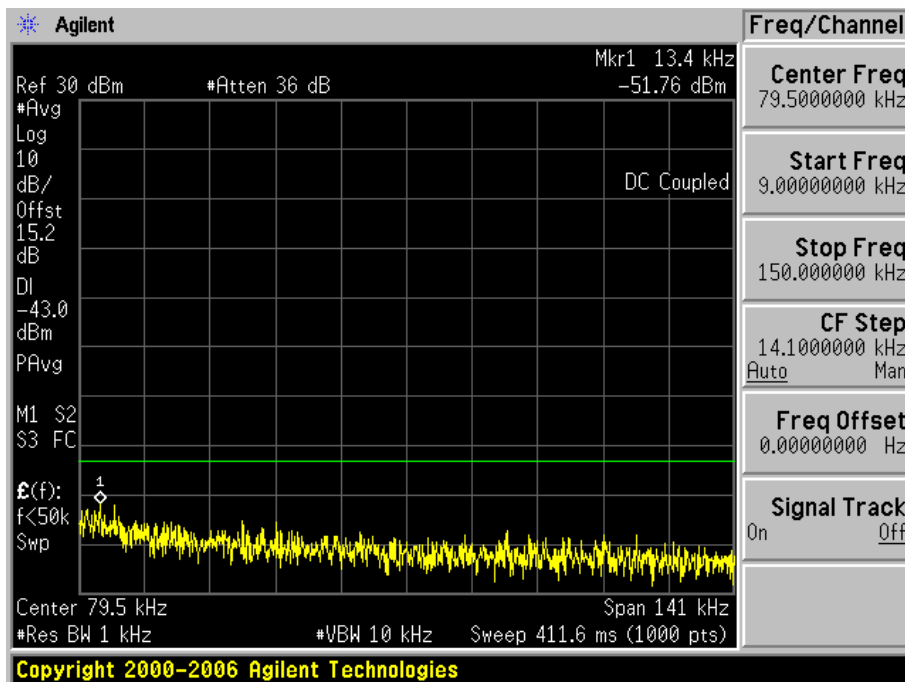


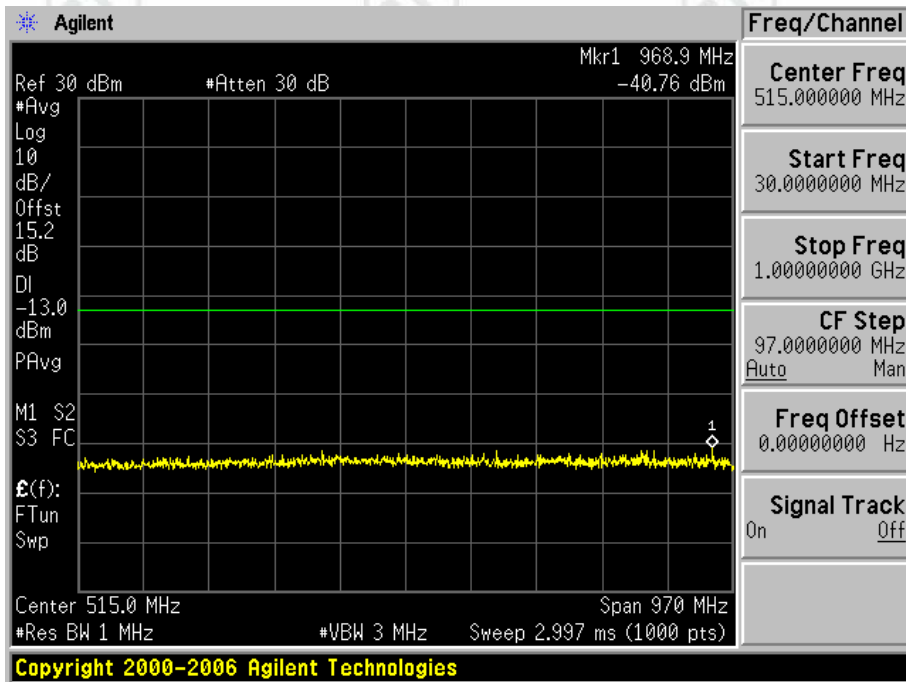
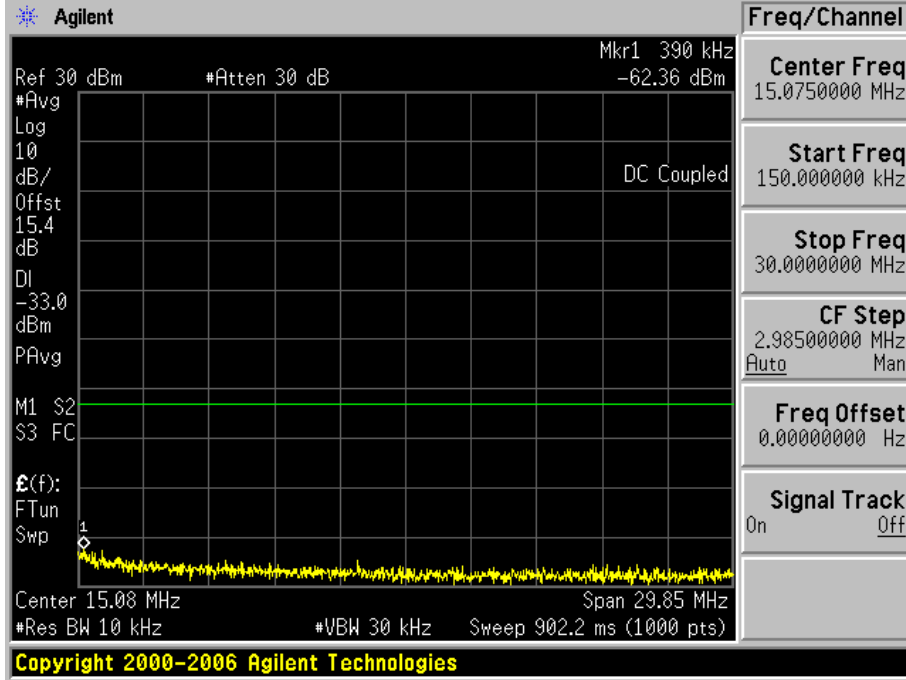


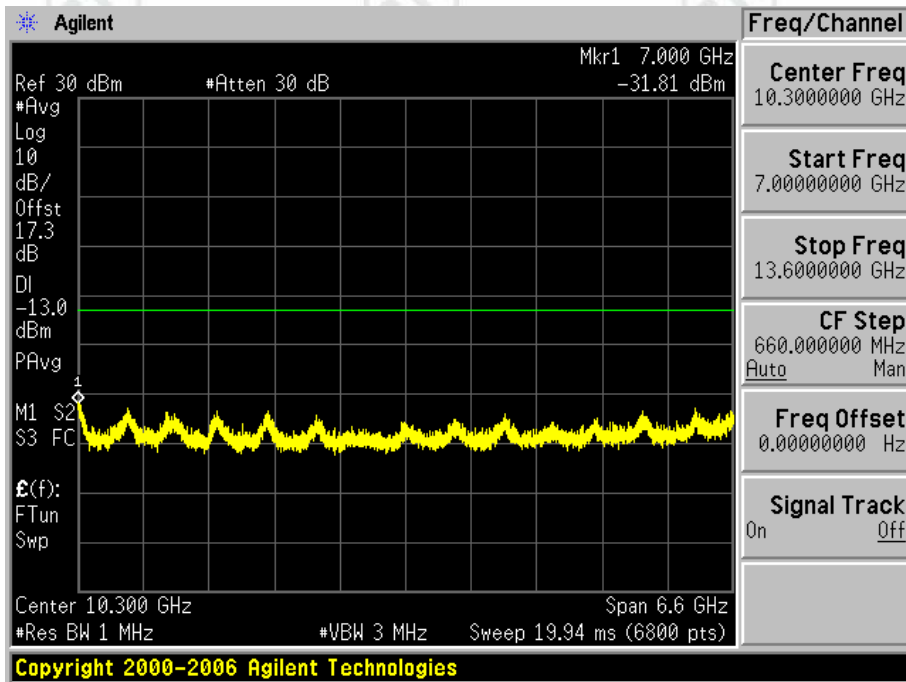
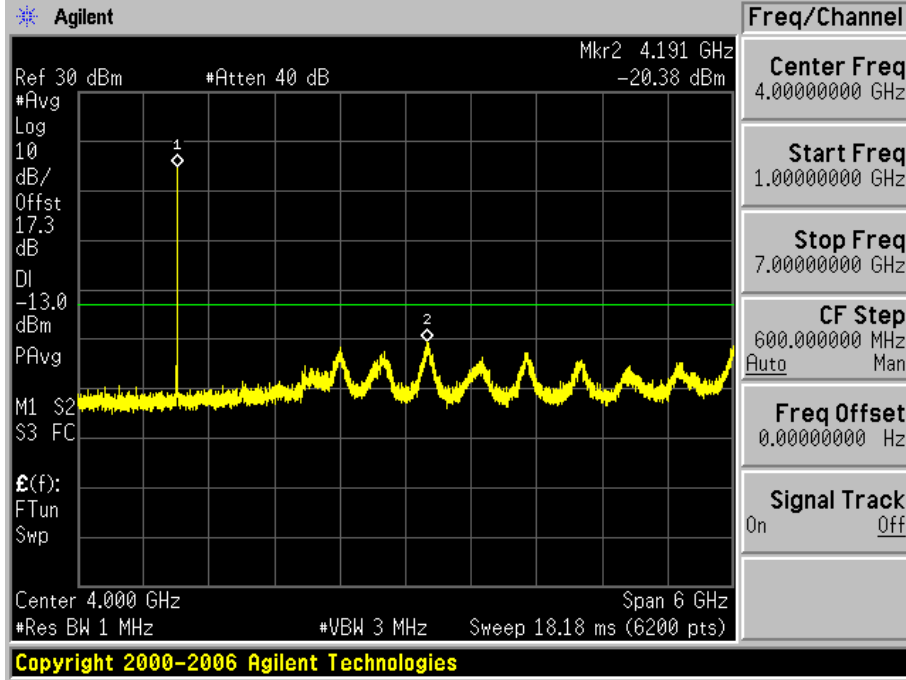


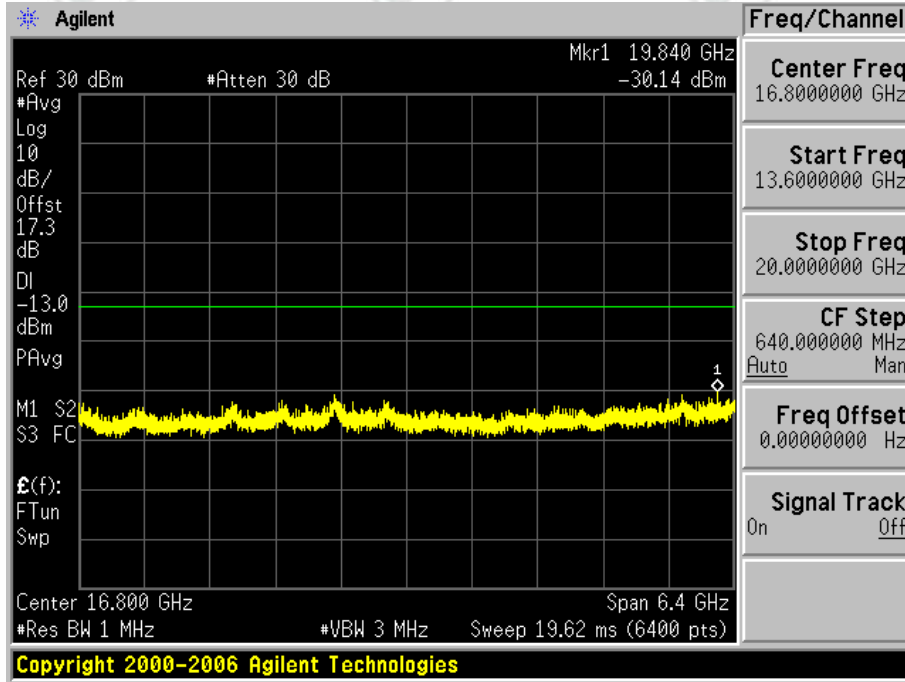
2.2.3.3

Test Channel=HCH









Appendix F): Frequency Stability

Test Requirement:	Part 2.1055	
Test Method:	TIA-603-E-2016 Clause 2.2.2	
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 placed in the temperature chamber, the DC leads and RF output cable exited the chamber through 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 +55°C at intervals of not more than 10°C The frequency stability was read from the base station at 25°C the input voltage was reduced from 3.7V to 3.4V, the frequency stability and input voltage was record.	
Instruments Used:	Refer to section 7 for details	
Limit:	Operation Band	Frequency stability Limit(ppm)
	GPRS/EDGE/WCDMA 850	±2.5ppm
	GPRS/EDGE/WCDMA 1900	---
Test Results:	Pass	

Test Data:

Frequency Error vs. Voltage:

(VL is 3.4V, VN is 3.5V, VH is 3.7V)

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
GSM850	TM2	LCH	TN	VL	5.42	0.006576	±2.5	PASS
			TN	VN	7.88	0.009561	±2.5	PASS
			TN	VH	9.69	0.011757	±2.5	PASS
		MCH	TN	VL	4.00	0.004781	±2.5	PASS
			TN	VN	6.20	0.007411	±2.5	PASS
			TN	VH	4.00	0.004781	±2.5	PASS
		HCH	TN	VL	7.17	0.008447	±2.5	PASS
			TN	VN	5.49	0.006468	±2.5	PASS
			TN	VH	3.42	0.004029	±2.5	PASS

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
GSM850	TM3	LCH	TN	VL	-2.20	-0.002669	±2.5	PASS
			TN	VN	1.07	0.001298	±2.5	PASS
			TN	VH	-1.26	-0.001529	±2.5	PASS
		MCH	TN	VL	-5.55	-0.006634	±2.5	PASS
			TN	VN	-4.91	-0.005869	±2.5	PASS
			TN	VH	-3.87	-0.004626	±2.5	PASS
		HCH	TN	VL	-3.97	-0.004677	±2.5	PASS
			TN	VN	-1.42	-0.001673	±2.5	PASS
			TN	VH	-5.84	-0.006880	±2.5	PASS

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
GSM1900	TM2	LCH	TN	VL	12.01	0.006491	±2.5	PASS
			TN	VN	10.40	0.005621	±2.5	PASS
			TN	VH	8.33	0.004502	±2.5	PASS
		MCH	TN	VL	3.55	0.001888	±2.5	PASS
			TN	VN	-5.88	-0.003128	±2.5	PASS
			TN	VH	-0.26	-0.000138	±2.5	PASS
		HCH	TN	VL	-2.07	-0.001084	±2.5	PASS
			TN	VN	-3.49	-0.001827	±2.5	PASS
			TN	VH	6.78	0.003550	±2.5	PASS

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
GSM1900	TM3	LCH	TN	VL	8.07	0.004362	±2.5	PASS
			TN	VN	4.23	0.002286	±2.5	PASS
			TN	VH	-1.87	-0.001011	±2.5	PASS
		MCH	TN	VL	7.26	0.003862	±2.5	PASS
			TN	VN	1.03	0.000548	±2.5	PASS
			TN	VH	-1.42	-0.000755	±2.5	PASS
		HCH	TN	VL	-3.97	-0.002079	±2.5	PASS
			TN	VN	-2.32	-0.001215	±2.5	PASS
			TN	VH	6.42	0.003362	±2.5	PASS

Frequency Error vs. Temperature:

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
GSM850	TM2	LCH	VN	-30	4.20	0.005096	±2.5	PASS
			VN	-20	6.52	0.007911	±2.5	PASS
			VN	-10	6.52	0.007911	±2.5	PASS
			VN	0	1.81	0.002196	±2.5	PASS
			VN	10	7.43	0.009015	±2.5	PASS
			VN	20	4.91	0.005957	±2.5	PASS
			VN	30	7.36	0.008930	±2.5	PASS
			VN	40	4.26	0.005169	±2.5	PASS
			VN	50	8.07	0.009791	±2.5	PASS
GSM850	TM2	MCH	VN	-30	7.81	0.009335	±2.5	PASS
			VN	-20	2.97	0.003550	±2.5	PASS
			VN	-10	5.94	0.007100	±2.5	PASS
			VN	0	3.94	0.004710	±2.5	PASS
			VN	10	7.94	0.009491	±2.5	PASS
			VN	20	4.65	0.005558	±2.5	PASS
			VN	30	5.42	0.006479	±2.5	PASS
			VN	40	6.01	0.007184	±2.5	PASS
			VN	50	6.84	0.008176	±2.5	PASS
GSM850	TM2	HCH	VN	-30	7.23	0.008518	±2.5	PASS
			VN	-20	4.39	0.005172	±2.5	PASS
			VN	-10	0.97	0.001143	±2.5	PASS
			VN	0	3.75	0.004418	±2.5	PASS
			VN	10	5.88	0.006927	±2.5	PASS
			VN	20	6.33	0.007458	±2.5	PASS
			VN	30	6.46	0.007611	±2.5	PASS
			VN	40	7.55	0.008895	±2.5	PASS
			VN	50	8.14	0.009590	±2.5	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
GSM850	TM3	LCH	VN	-30	-3.65	-0.004429	±2.5	PASS
			VN	-20	-3.20	-0.003883	±2.5	PASS
			VN	-10	-1.84	-0.002232	±2.5	PASS
			VN	0	0.45	0.000546	±2.5	PASS
			VN	10	3.55	0.004307	±2.5	PASS
			VN	20	-4.00	-0.004853	±2.5	PASS
			VN	30	-2.39	-0.002900	±2.5	PASS
			VN	40	-0.97	-0.001177	±2.5	PASS
			VN	50	-0.13	-0.000158	±2.5	PASS
GSM850	TM3	MCH	VN	-30	-2.42	-0.002893	±2.5	PASS
			VN	-20	2.03	0.002426	±2.5	PASS
			VN	-10	-0.42	-0.000502	±2.5	PASS
			VN	0	-4.07	-0.004865	±2.5	PASS
			VN	10	-0.26	-0.000311	±2.5	PASS
			VN	20	-4.10	-0.004901	±2.5	PASS
			VN	30	-1.42	-0.001697	±2.5	PASS
			VN	40	-0.65	-0.000777	±2.5	PASS
			VN	50	-5.91	-0.007064	±2.5	PASS
GSM850	TM3	HCH	VN	-30	-5.42	-0.006385	±2.5	PASS
			VN	-20	0.32	0.000377	±2.5	PASS
			VN	-10	-7.52	-0.008860	±2.5	PASS
			VN	0	-1.97	-0.002321	±2.5	PASS
			VN	10	1.29	0.001520	±2.5	PASS
			VN	20	-2.55	-0.003004	±2.5	PASS
			VN	30	-1.78	-0.002097	±2.5	PASS
			VN	40	-1.00	-0.001178	±2.5	PASS
			VN	50	-2.32	-0.002733	±2.5	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
GSM1900	TM2	LCH	VN	-30	6.46	0.003492	±2.5	PASS
			VN	-20	-2.20	-0.001189	±2.5	PASS
			VN	-10	4.91	0.002654	±2.5	PASS
			VN	0	1.81	0.000978	±2.5	PASS
			VN	10	6.84	0.003697	±2.5	PASS
			VN	20	4.71	0.002546	±2.5	PASS
			VN	30	-3.87	-0.002092	±2.5	PASS
			VN	40	3.87	0.002092	±2.5	PASS
			VN	50	0.97	0.000524	±2.5	PASS
GSM1900	TM2	MCH	VN	-30	1.23	0.000654	±2.5	PASS
			VN	-20	-6.20	-0.003298	±2.5	PASS
			VN	-10	-4.20	-0.002234	±2.5	PASS
			VN	0	2.97	0.001580	±2.5	PASS
			VN	10	-2.32	-0.001234	±2.5	PASS
			VN	20	6.07	0.003229	±2.5	PASS
			VN	30	-4.33	-0.002303	±2.5	PASS
			VN	40	1.68	0.000894	±2.5	PASS
			VN	50	-2.84	-0.001511	±2.5	PASS
GSM1900	TM2	HCH	VN	-30	-7.17	-0.003754	±2.5	PASS
			VN	-20	1.36	0.000712	±2.5	PASS
			VN	-10	-7.68	-0.004021	±2.5	PASS
			VN	0	7.23	0.003786	±2.5	PASS
			VN	10	0.45	0.000236	±2.5	PASS
			VN	20	-6.72	-0.003519	±2.5	PASS
			VN	30	2.26	0.001183	±2.5	PASS
			VN	40	-4.78	-0.002503	±2.5	PASS
			VN	50	-8.07	-0.004226	±2.5	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
GSM1900	TM3	LCH	VN	-30	-0.39	-0.000211	±2.5	PASS
			VN	-20	2.84	0.001535	±2.5	PASS
			VN	-10	0.42	0.000227	±2.5	PASS
			VN	0	4.75	0.002567	±2.5	PASS
			VN	10	-0.32	-0.000173	±2.5	PASS
			VN	20	-1.07	-0.000578	±2.5	PASS
			VN	30	-5.13	-0.002773	±2.5	PASS
			VN	40	-3.42	-0.001848	±2.5	PASS
			VN	50	-1.32	-0.000713	±2.5	PASS
GSM1900	TM3	MCH	VN	-30	-8.91	-0.004739	±2.5	PASS
			VN	-20	-7.75	-0.004122	±2.5	PASS
			VN	-10	-6.04	-0.003213	±2.5	PASS
			VN	0	-5.39	-0.002867	±2.5	PASS
			VN	10	2.10	0.001117	±2.5	PASS
			VN	20	-0.71	-0.000378	±2.5	PASS
			VN	30	3.62	0.001926	±2.5	PASS
			VN	40	0.13	0.000069	±2.5	PASS
			VN	50	-2.91	-0.001548	±2.5	PASS
GSM1900	TM3	HCH	VN	-30	-4.04	-0.002115	±2.5	PASS
			VN	-20	-1.90	-0.000995	±2.5	PASS
			VN	-10	-0.16	-0.000084	±2.5	PASS
			VN	0	0.81	0.000424	±2.5	PASS
			VN	10	1.87	0.000979	±2.5	PASS
			VN	20	2.36	0.001236	±2.5	PASS
			VN	30	5.46	0.002859	±2.5	PASS
			VN	40	-5.04	-0.002639	±2.5	PASS
			VN	50	5.07	0.002655	±2.5	PASS

Frequency Error vs. Voltage:

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
WCDMA850	TM1	LCH	TN	VL	15.81	0.019129	±2.5	PASS
			TN	VN	8.41	0.010174	±2.5	PASS
			TN	VH	4.12	0.004985	±2.5	PASS
		MCH	TN	VL	11.89	0.014212	±2.5	PASS
			TN	VN	8.41	0.888801	±2.5	PASS
			TN	VH	583.69	0.697865	±2.5	PASS
		HCH	TN	VL	2.85	0.003370	±2.5	PASS
			TN	VN	8.41	-0.006651	±2.5	PASS
			TN	VH	13.55	0.016005	±2.5	PASS
Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
WCDMA850	TM2	LCH	TN	VL	102.43	0.123950	±2.5	PASS
			TN	VN	-0.06	-0.000074	±2.5	PASS
			TN	VH	51.82	0.062704	±2.5	PASS
		MCH	TN	VL	23.91	0.028587	±2.5	PASS
			TN	VN	-0.06	-0.163990	±2.5	PASS
			TN	VH	88.46	0.105757	±2.5	PASS
		HCH	TN	VL	70.83	0.083666	±2.5	PASS
			TN	VN	-0.06	-0.056180	±2.5	PASS
			TN	VH	90.85	0.107313	±2.5	PASS
Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
WCDMA850	TM3	LCH	TN	VL	-1.88	-0.002271	±2.5	PASS
			TN	VN	-58.03	-0.070219	±2.5	PASS
			TN	VH	26.29	0.031814	±2.5	PASS
		MCH	TN	VL	35.48	0.042416	±2.5	PASS
			TN	VN	-58.03	-0.043200	±2.5	PASS
			TN	VH	-64.83	-0.077516	±2.5	PASS
		HCH	TN	VL	-27.54	-0.032533	±2.5	PASS
			TN	VN	-58.03	0.047024	±2.5	PASS
			TN	VH	30.35	0.035849	±2.5	PASS

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
WCDMA1900	TM1	LCH	TN	VL	173.16	0.093477	±2.5	PASS
			TN	VN	301.01	0.162497	±2.5	PASS
			TN	VH	23.97	0.012941	±2.5	PASS
		MCH	TN	VL	313.58	0.166800	±2.5	PASS
			TN	VN	301.01	0.163577	±2.5	PASS
			TN	VH	-8.48	-0.004513	±2.5	PASS
		HCH	TN	VL	31.89	0.016718	±2.5	PASS
			TN	VN	301.01	0.003895	±2.5	PASS
			TN	VH	29.54	0.015486	±2.5	PASS
Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
WCDMA1900	TM2	LCH	TN	VL	-66.70	-0.036005	±2.5	PASS
			TN	VN	-11.02	-0.005947	±2.5	PASS
			TN	VH	-112.99	-0.060997	±2.5	PASS
		MCH	TN	VL	-32.27	-0.017166	±2.5	PASS
			TN	VN	-11.02	-0.101536	±2.5	PASS
			TN	VH	138.29	0.073559	±2.5	PASS
		HCH	TN	VL	-86.84	-0.045522	±2.5	PASS
			TN	VN	-11.02	-0.073486	±2.5	PASS
			TN	VH	-14.14	-0.007415	±2.5	PASS
Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
WCDMA1900	TM3	LCH	TN	VL	48.72	0.026302	±2.5	PASS
			TN	VN	103.55	0.055898	±2.5	PASS
			TN	VH	-20.74	-0.011194	±2.5	PASS
		MCH	TN	VL	61.58	0.032758	±2.5	PASS
			TN	VN	103.55	0.053333	±2.5	PASS
			TN	VH	-114.73	-0.061027	±2.5	PASS
		HCH	TN	VL	28.52	0.014950	±2.5	PASS
			TN	VN	103.55	-0.036739	±2.5	PASS
			TN	VH	95.67	0.050153	±2.5	PASS

Frequency Error vs. Temperature:

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
WCDMA850	TM1	LCH	VN	-30	6.50	0.007866	±2.5	PASS
			VN	-20	-10.25	-0.012408	±2.5	PASS
			VN	-10	9.38	0.011355	±2.5	PASS
			VN	0	-3.17	-0.003841	±2.5	PASS
			VN	10	13.89	0.016802	±2.5	PASS
			VN	20	-0.85	-0.001034	±2.5	PASS
			VN	30	12.53	0.015159	±2.5	PASS
			VN	40	0.64	0.000775	±2.5	PASS
			VN	50	10.85	0.013128	±2.5	PASS
WCDMA850	TM1	MCH	VN	-30	423.31	0.506109	±2.5	PASS
			VN	-20	568.25	0.679403	±2.5	PASS
			VN	-10	579.45	0.692794	±2.5	PASS
			VN	0	431.76	0.516216	±2.5	PASS
			VN	10	732.42	0.875684	±2.5	PASS
			VN	20	2.66	0.003174	±2.5	PASS
			VN	30	880.14	1.052298	±2.5	PASS
			VN	40	445.24	0.532324	±2.5	PASS
			VN	50	741.49	0.886520	±2.5	PASS
WCDMA850	TM1	HCH	VN	-30	-3.05	-0.003605	±2.5	PASS
			VN	-20	3.20	0.003785	±2.5	PASS
			VN	-10	-5.23	-0.006182	±2.5	PASS
			VN	0	4.35	0.005137	±2.5	PASS
			VN	10	-4.76	-0.005623	±2.5	PASS
			VN	20	4.73	0.005587	±2.5	PASS
			VN	30	-5.05	-0.005966	±2.5	PASS
			VN	40	-4.21	-0.004975	±2.5	PASS
			VN	50	12.59	0.014869	±2.5	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
WCDMA850	TM1	LCH	VN	-30	6.50	0.007866	±2.5	PASS
			VN	-20	-10.25	-0.012408	±2.5	PASS
			VN	-10	9.38	0.011355	±2.5	PASS
			VN	0	-3.17	-0.003841	±2.5	PASS
			VN	10	13.89	0.016802	±2.5	PASS
			VN	20	-0.85	-0.001034	±2.5	PASS
			VN	30	12.53	0.015159	±2.5	PASS
			VN	40	0.64	0.000775	±2.5	PASS
			VN	50	10.85	0.013128	±2.5	PASS
WCDMA850	TM1	MCH	VN	-30	423.31	0.506109	±2.5	PASS
			VN	-20	568.25	0.679403	±2.5	PASS
			VN	-10	579.45	0.692794	±2.5	PASS
			VN	0	431.76	0.516216	±2.5	PASS
			VN	10	732.42	0.875684	±2.5	PASS
			VN	20	2.66	0.003174	±2.5	PASS
			VN	30	880.14	1.052298	±2.5	PASS
			VN	40	445.24	0.532324	±2.5	PASS
			VN	50	741.49	0.886520	±2.5	PASS
WCDMA850	TM1	HCH	VN	-30	-3.05	-0.003605	±2.5	PASS
			VN	-20	3.20	0.003785	±2.5	PASS
			VN	-10	-5.23	-0.006182	±2.5	PASS
			VN	0	4.35	0.005137	±2.5	PASS
			VN	10	-4.76	-0.005623	±2.5	PASS
			VN	20	4.73	0.005587	±2.5	PASS
			VN	30	-5.05	-0.005966	±2.5	PASS
			VN	40	-4.21	-0.004975	±2.5	PASS
			VN	50	12.59	0.014869	±2.5	PASS
Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
WCDMA850	TM2	LCH	VN	-30	153.87	0.186193	±2.5	PASS
			VN	-20	-20.83	-0.025204	±2.5	PASS
			VN	-10	137.62	0.166528	±2.5	PASS
			VN	0	-101.12	-0.122362	±2.5	PASS
			VN	10	76.63	0.092727	±2.5	PASS
			VN	20	-37.20	-0.045016	±2.5	PASS
			VN	30	-111.50	-0.134918	±2.5	PASS

			VN	40	68.18	0.082498	±2.5	PASS
			VN	50	-0.52	-0.000628	±2.5	PASS
WCDMA850	TM2	MCH	VN	-30	-23.97	-0.028660	±2.5	PASS
			VN	-20	35.08	0.041942	±2.5	PASS
			VN	-10	59.60	0.071259	±2.5	PASS
			VN	0	7.60	0.009085	±2.5	PASS
			VN	10	114.12	0.136442	±2.5	PASS
			VN	20	46.49	0.055588	±2.5	PASS
			VN	30	-81.39	-0.097310	±2.5	PASS
			VN	40	-10.94	-0.013081	±2.5	PASS
			VN	50	32.33	0.038658	±2.5	PASS
			VN	-30	28.11	0.033199	±2.5	PASS
			WCDMA850	TM2	HCH	VN	-20	-49.03
VN	-10	-47.79				-0.056450	±2.5	PASS
VN	0	-91.23				-0.107763	±2.5	PASS
VN	10	-42.59				-0.050304	±2.5	PASS
VN	20	24.93				0.029451	±2.5	PASS
VN	30	-44.27				-0.052286	±2.5	PASS
VN	40	43.08				0.050881	±2.5	PASS
VN	50	33.22				0.039237	±2.5	PASS
Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
WCDMA850	TM3	LCH	VN	-30	-85.86	-0.103898	±2.5	PASS
			VN	-20	7.60	0.009195	±2.5	PASS
			VN	-10	29.05	0.035156	±2.5	PASS
			VN	0	-19.78	-0.023930	±2.5	PASS
			VN	10	91.05	0.110176	±2.5	PASS
			VN	20	-10.21	-0.012353	±2.5	PASS
			VN	30	-45.53	-0.055097	±2.5	PASS
			VN	40	47.56	0.057553	±2.5	PASS
			VN	50	82.26	0.099540	±2.5	PASS
WCDMA850	TM3	MCH	VN	-30	-48.55	-0.058051	±2.5	PASS
			VN	-20	35.64	0.042617	±2.5	PASS
			VN	-10	23.53	0.028131	±2.5	PASS
			VN	0	39.46	0.047177	±2.5	PASS
			VN	10	103.97	0.124311	±2.5	PASS
			VN	20	-40.51	-0.048436	±2.5	PASS
			VN	30	49.22	0.058853	±2.5	PASS
			VN	40	-81.68	-0.097657	±2.5	PASS

			VN	50	21.67	0.025906	±2.5	PASS
WCDMA850	TM3	HCH	VN	-30	-20.68	-0.024422	±2.5	PASS
			VN	-20	11.80	0.013932	±2.5	PASS
			VN	-10	-41.11	-0.048556	±2.5	PASS
			VN	0	-28.78	-0.033993	±2.5	PASS
			VN	10	19.76	0.023341	±2.5	PASS
			VN	20	6.12	0.007227	±2.5	PASS
			VN	30	5.42	0.006398	±2.5	PASS
			VN	40	94.60	0.111746	±2.5	PASS
			VN	50	120.93	0.142837	±2.5	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
WCDMA1900	TM1	LCH	VN	-30	-0.08	-0.000041	±2.5	PASS
			VN	-20	34.01	0.018361	±2.5	PASS
			VN	-10	12.77	0.006895	±2.5	PASS
			VN	0	38.24	0.020643	±2.5	PASS
			VN	10	166.17	0.089704	±2.5	PASS
			VN	20	11.46	0.006186	±2.5	PASS
			VN	30	125.29	0.067637	±2.5	PASS
			VN	40	158.98	0.085824	±2.5	PASS
			VN	50	2.27	0.001227	±2.5	PASS
WCDMA1900	TM1	MCH	VN	-30	3.57	0.001899	±2.5	PASS
			VN	-20	10.21	0.005430	±2.5	PASS
			VN	-10	11.76	0.006258	±2.5	PASS
			VN	0	6.48	0.003449	±2.5	PASS
			VN	10	23.09	0.012280	±2.5	PASS
			VN	20	18.95	0.010081	±2.5	PASS
			VN	30	28.72	0.015275	±2.5	PASS
			VN	40	291.53	0.155071	±2.5	PASS
			VN	50	14.11	0.007508	±2.5	PASS
WCDMA1900	TM1	HCH	VN	-30	21.41	0.011223	±2.5	PASS
			VN	-20	3.48	0.001824	±2.5	PASS
			VN	-10	172.97	0.090676	±2.5	PASS
			VN	0	24.67	0.012934	±2.5	PASS
			VN	10	28.75	0.015070	±2.5	PASS
			VN	20	36.85	0.019317	±2.5	PASS
			VN	30	-2.29	-0.001200	±2.5	PASS
			VN	40	12.31	0.006455	±2.5	PASS
			VN	50	22.23	0.011654	±2.5	PASS
Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
WCDMA1900	TM2	LCH	VN	-30	134.55	0.072637	±2.5	PASS
			VN	-20	81.45	0.043971	±2.5	PASS
			VN	-10	30.84	0.016648	±2.5	PASS
			VN	0	-80.26	-0.043328	±2.5	PASS
			VN	10	34.91	0.018847	±2.5	PASS

			VN	20	71.72	0.038715	±2.5	PASS
			VN	30	-22.98	-0.012405	±2.5	PASS
			VN	40	-119.72	-0.064630	±2.5	PASS
			VN	50	-105.29	-0.056837	±2.5	PASS
WCDMA1900	TM2	MCH	VN	-30	-19.00	-0.010105	±2.5	PASS
			VN	-20	78.87	0.041954	±2.5	PASS
			VN	-10	176.91	0.094101	±2.5	PASS
			VN	0	42.66	0.022693	±2.5	PASS
			VN	10	44.68	0.023765	±2.5	PASS
			VN	20	124.48	0.066213	±2.5	PASS
			VN	30	45.59	0.024252	±2.5	PASS
			VN	40	54.52	0.029000	±2.5	PASS
			VN	50	67.70	0.036012	±2.5	PASS
WCDMA1900	TM2	HCH	VN	-30	86.76	0.045482	±2.5	PASS
			VN	-20	69.67	0.036523	±2.5	PASS
			VN	-10	-43.05	-0.022565	±2.5	PASS
			VN	0	46.14	0.024189	±2.5	PASS
			VN	10	95.17	0.049889	±2.5	PASS
			VN	20	-151.46	-0.079398	±2.5	PASS
			VN	30	78.37	0.041083	±2.5	PASS
			VN	40	131.88	0.069135	±2.5	PASS
			VN	50	43.84	0.022981	±2.5	PASS
Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq.Error (Hz)	Freq.vs.rated (ppm)	Limit (ppm)	Verdict
WCDMA1900	TM3	LCH	VN	-30	88.85	0.047966	±2.5	PASS
			VN	-20	-43.66	-0.023567	±2.5	PASS
			VN	-10	62.39	0.033682	±2.5	PASS
			VN	0	54.70	0.029531	±2.5	PASS
			VN	10	-8.01	-0.004325	±2.5	PASS
			VN	20	42.48	0.022933	±2.5	PASS
			VN	30	13.70	0.007397	±2.5	PASS
			VN	40	19.13	0.010330	±2.5	PASS
			VN	50	18.17	0.009811	±2.5	PASS
WCDMA1900	TM3	MCH	VN	-30	103.00	0.054786	±2.5	PASS
			VN	-20	-11.60	-0.006168	±2.5	PASS
			VN	-10	190.83	0.101503	±2.5	PASS
			VN	0	71.79	0.038188	±2.5	PASS
			VN	10	117.13	0.062301	±2.5	PASS

			VN	20	88.46	0.047051	±2.5	PASS
			VN	30	-41.32	-0.021979	±2.5	PASS
			VN	40	-44.07	-0.023440	±2.5	PASS
			VN	50	7.95	0.004229	±2.5	PASS
WCDMA1900	TM3	HCH	VN	-30	-17.81	-0.009335	±2.5	PASS
			VN	-20	64.24	0.033676	±2.5	PASS
			VN	-10	60.10	0.031508	±2.5	PASS
			VN	0	100.04	0.052441	±2.5	PASS
			VN	10	39.34	0.020621	±2.5	PASS
			VN	20	-2.50	-0.001312	±2.5	PASS
			VN	30	-61.48	-0.032228	±2.5	PASS
			VN	40	51.30	0.026892	±2.5	PASS
			VN	50	19.09	0.010007	±2.5	PASS

Appendix G): Effective Radiated Power of Transmitter (ERP/EIRP)

Receiver Setup:	<table border="1"> <thead> <tr> <th>Frequency</th> <th>Detector</th> <th>RBW</th> <th>VBW</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>30MHz-1GHz</td> <td>peak</td> <td>120kHz</td> <td>300kHz</td> <td>Peak</td> </tr> <tr> <td>Above 1GHz</td> <td>Peak</td> <td>1MHz</td> <td>3MHz</td> <td>Peak</td> </tr> </tbody> </table>	Frequency	Detector	RBW	VBW	Remark	30MHz-1GHz	peak	120kHz	300kHz	Peak	Above 1GHz	Peak	1MHz	3MHz	Peak
Frequency	Detector	RBW	VBW	Remark												
30MHz-1GHz	peak	120kHz	300kHz	Peak												
Above 1GHz	Peak	1MHz	3MHz	Peak												
Measurement Procedure:	<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: $\text{ERP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBd)}$ $\text{EIRP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBi)}$ $\text{EIRP} = \text{ERP} + 2.15\text{dB}$ 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:	<table border="1"> <thead> <tr> <th>Mode</th> <th>GSM 850/WCDMA/HSDPA /HSUPA Band V</th> <th>GSM 1900/WCDMA/HSDPA /HSUPA Band II</th> </tr> </thead> <tbody> <tr> <td>Frequency</td> <td>824 – 849MHz</td> <td>1850 – 1910MHz</td> </tr> <tr> <td>Limit</td> <td>38.45dBm (7W)</td> <td>33.01dBm (2W)</td> </tr> </tbody> </table>	Mode	GSM 850/WCDMA/HSDPA /HSUPA Band V	GSM 1900/WCDMA/HSDPA /HSUPA Band II	Frequency	824 – 849MHz	1850 – 1910MHz	Limit	38.45dBm (7W)	33.01dBm (2W)						
Mode	GSM 850/WCDMA/HSDPA /HSUPA Band V	GSM 1900/WCDMA/HSDPA /HSUPA Band II														
Frequency	824 – 849MHz	1850 – 1910MHz														
Limit	38.45dBm (7W)	33.01dBm (2W)														

GPRS 850							
Channel/fc (MHz)	Height (cm)	Azimuth (deg)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
128/824.2	150	183	18.27	38.45	-20.18	Pass	H
	150	226	20.14	38.45	-18.31	Pass	V
190/836.6	150	224	19.04	38.45	-19.41	Pass	H
	150	176	22.28	38.45	-16.17	Pass	V
251/848.8	150	185	19.75	38.45	-18.70	Pass	H
	150	114	21.46	38.45	-16.99	Pass	V

EDGE 850							
Channel/fc (MHz)	Height (cm)	Azimuth (deg)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
128/824.2	150	215	17.35	38.45	-21.10	Pass	H
	150	131	20.14	38.45	-18.31	Pass	V
190/836.6	150	165	18.24	38.45	-20.21	Pass	H
	150	110	20.75	38.45	-17.70	Pass	V
251/848.8	150	263	17.31	38.45	-21.14	Pass	H
	150	345	19.23	38.45	-19.22	Pass	V

WCDMA band V							
Channel/fc (MHz)	Height (cm)	Azimuth (deg)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
4132/826.4	150	98	14.88	38.45	-23.57	Pass	H
	150	252	16.14	38.45	-22.31	Pass	V
4182/836.6	150	171	12.91	38.45	-25.54	Pass	H
	150	197	14.64	38.45	-23.81	Pass	V
4233/846.6	150	109	14.09	38.45	-24.36	Pass	H
	150	115	16.28	38.45	-22.17	Pass	V

HSDPA band V							
Channel/fc (MHz)	Height (cm)	Azimuth (deg)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
4132/826.4	150	135	14.08	38.45	-24.37	Pass	H
	150	127	15.19	38.45	-23.26	Pass	V
4182/836.6	150	255	12.69	38.45	-25.76	Pass	H
	150	247	14.53	38.45	-23.92	Pass	V
4233/846.6	150	341	14.62	38.45	-23.83	Pass	H
	150	277	15.73	38.45	-22.72	Pass	V

HSUPA band V							
Channel/fc (MHz)	Height (cm)	Azimuth (deg)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
4132/826.4	150	84	14.82	38.45	-23.63	Pass	H
	150	97	15.88	38.45	-22.57	Pass	V
4182/836.6	150	151	14.52	38.45	-23.93	Pass	H
	150	213	15.25	38.45	-23.20	Pass	V
4233/846.6	150	181	14.16	38.45	-24.29	Pass	H
	150	121	15.54	38.45	-22.91	Pass	V

GPRS 1900							
Channel/fc (MHz)	Height (cm)	Azimuth (deg)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
512/1850.2	150	109	20.82	33.01	-12.19	Pass	H
	150	260	22.31	33.01	-10.70	Pass	V
661/1880.0	150	170	20.74	33.01	-12.27	Pass	H
	150	263	20.84	33.01	-12.17	Pass	V
810/1909.8	150	125	18.57	33.01	-14.44	Pass	H
	150	195	21.66	33.01	-11.35	Pass	V

EDGE1900							
Channel/fc (MHz)	Height (cm)	Azimuth (deg)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
512/1850.2	150	235	17.91	33.01	-15.10	Pass	H
	150	167	19.24	33.01	-13.77	Pass	V
661/1880.0	150	232	17.57	33.01	-15.44	Pass	H
	150	278	20.33	33.01	-12.68	Pass	V
810/1909.8	150	161	16.45	33.01	-16.56	Pass	H
	150	130	18.52	33.01	-14.49	Pass	V

WCDMA band II							
Channel/fc (MHz)	Height (cm)	Azimuth (deg)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
9262/1852.4	150	163	15.92	33.01	-17.09	Pass	H
	150	33	16.78	33.01	-16.23	Pass	V
9400/1880.0	150	195	13.84	33.01	-19.17	Pass	H
	150	186	15.70	33.01	-17.31	Pass	V
9538/1907.6	150	317	13.82	33.01	-19.19	Pass	H
	150	223	14.65	33.01	-18.36	Pass	V

HSDPA band II							
Channel/fc (MHz)	Height (cm)	Azimuth (deg)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
9262/1852.4	150	184	13.18	33.01	-19.83	Pass	H
	150	135	14.48	33.01	-18.53	Pass	V
9400/1880.0	150	128	14.60	33.01	-18.41	Pass	H
	150	145	15.61	33.01	-17.40	Pass	V
9538/1907.6	150	140	13.62	33.01	-19.39	Pass	H
	150	158	15.76	33.01	-17.25	Pass	V

HSUPA band II							
Channel/fc (MHz)	Height (cm)	Azimuth (deg)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
9262/1852.4	150	145	13.35	33.01	-19.66	Pass	H
	150	127	14.79	33.01	-18.22	Pass	V
9400/1880.0	150	178	13.85	33.01	-19.16	Pass	H
	150	312	15.26	33.01	-17.75	Pass	V
9538/1907.6	150	247	14.13	33.01	-18.88	Pass	H
	150	279	14.87	33.01	-18.14	Pass	V

Appendix H): Field strength of spurious radiation

Receiver Setup:	<table border="1"> <thead> <tr> <th>Frequency</th> <th>Detector</th> <th>RBW</th> <th>VBW</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>0.009MHz-30MHz</td> <td>Peak</td> <td>10kHz</td> <td>30kHz</td> <td>Peak</td> </tr> <tr> <td>30MHz-1GHz</td> <td>Peak</td> <td>120kHz</td> <td>300kHz</td> <td>Peak</td> </tr> <tr> <td>Above 1GHz</td> <td>Peak</td> <td>1MHz</td> <td>3MHz</td> <td>Peak</td> </tr> </tbody> </table>	Frequency	Detector	RBW	VBW	Remark	0.009MHz-30MHz	Peak	10kHz	30kHz	Peak	30MHz-1GHz	Peak	120kHz	300kHz	Peak	Above 1GHz	Peak	1MHz	3MHz	Peak
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. Test procedure as below: <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:

GPRS 850 128channel/824.2MHz(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1439.090	149	14	-55.19	-13.00	-42.19	Pass	H
1953.211	150	124	-55.35	-13.00	-42.35	Pass	H
2719.353	150	360	-56.20	-13.00	-43.20	Pass	H
3844.279	150	359	-55.34	-13.00	-42.34	Pass	H
5895.771	151	147	-55.96	-13.00	-42.96	Pass	H
8659.098	150	124	-57.16	-13.00	-44.16	Pass	H
1159.096	152	78	-55.79	-13.00	-42.79	Pass	V
1809.605	150	99	-54.46	-13.00	-41.46	Pass	V
2519.418	150	147	-55.11	-13.00	-42.11	Pass	V
3588.939	149	154	-55.71	-13.00	-42.71	Pass	V
4076.070	150	167	-57.20	-13.00	-44.20	Pass	V
5865.832	150	347	-56.46	-13.00	-43.46	Pass	V

GPRS 850 190channel/836.6MHz(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1159.096	151	226	-54.39	-13.00	-41.39	Pass	H
1439.090	150	21	-54.21	-13.00	-41.21	Pass	H
2024.074	150	360	-53.78	-13.00	-40.78	Pass	H
3160.026	152	70	-54.56	-13.00	-41.56	Pass	H
5910.798	150	148	-54.65	-13.00	-41.65	Pass	H
7941.185	149	97	-55.91	-13.00	-42.91	Pass	H
1159.096	149	27	-53.46	-13.00	-40.46	Pass	V
1923.606	150	100	-54.79	-13.00	-41.79	Pass	V
2726.283	151	359	-55.32	-13.00	-42.32	Pass	V
4278.055	150	20	-57.14	-13.00	-44.14	Pass	V
5925.863	150	147	-54.26	-13.00	-41.26	Pass	V
9784.466	150	100	-55.36	-13.00	-42.36	Pass	V

GPRS 850 251channel/848.8MHz(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1159.096	151	351	-55.31	-13.00	-42.31	Pass	H
1786.719	150	200	-55.67	-13.00	-42.67	Pass	H
2519.418	149	316	-55.94	-13.00	-42.94	Pass	H
3625.669	149	100	-54.92	-13.00	-41.92	Pass	H
5420.742	150	79	-55.69	-13.00	-42.69	Pass	H
7920.996	151	10	-56.81	-13.00	-43.81	Pass	H

1371.145	150	47	-57.85	-13.00	-44.85	Pass	V
2039.590	150	100	-54.57	-13.00	-41.57	Pass	V
3143.979	149	360	-55.48	-13.00	-42.48	Pass	V
4234.716	149	70	-57.24	-13.00	-44.24	Pass	V
6445.156	150	27	-57.55	-13.00	-44.55	Pass	V
9809.404	152	210	-56.36	-13.00	-43.36	Pass	V

EGPRS 850 128channel/824.2MHz(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1439.090	149	356	-54.89	-13.00	-41.89	Pass	H
2065.715	150	147	-52.34	-13.00	-39.34	Pass	H
2927.691	151	97	-55.35	-13.00	-42.35	Pass	H
4267.178	150	100	-57.22	-13.00	-44.22	Pass	H
5910.798	151	110	-55.02	-13.00	-42.02	Pass	H
7961.425	149	57	-57.00	-13.00	-44.00	Pass	H
1343.505	150	248	-57.24	-13.00	-44.24	Pass	V
1732.967	150	220	-55.72	-13.00	-42.72	Pass	V
2352.076	149	10	-55.15	-13.00	-42.15	Pass	V
3570.714	151	100	-55.51	-13.00	-42.51	Pass	V
5880.782	150	38	-56.06	-13.00	-43.06	Pass	V
8398.593	150	360	-55.64	-13.00	-42.64	Pass	V

EGPRS 850 190channel/836.6MHz(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1159.096	151	352	-55.03	-13.00	-42.03	Pass	H
1439.090	150	167	-56.03	-13.00	-43.03	Pass	H
2525.839	149	91	-55.14	-13.00	-42.14	Pass	H
3795.660	150	211	-55.00	-13.00	-42.00	Pass	H
5895.771	151	100	-54.93	-13.00	-41.93	Pass	H
7920.996	151	360	-56.78	-13.00	-43.78	Pass	H
1646.948	150	79	-54.92	-13.00	-41.92	Pass	V
2733.232	150	70	-54.48	-13.00	-41.48	Pass	V
3552.582	149	254	-55.96	-13.00	-42.96	Pass	V
5850.919	149	100	-56.50	-13.00	-43.50	Pass	V
7566.249	150	10	-58.03	-13.00	-45.03	Pass	V
9809.404	150	78	-56.64	-13.00	-43.64	Pass	V

EGPRS 850 251channel/848.8MHz(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1439.090	151	331	-55.67	-13.00	-42.67	Pass	H
2086.856	150	100	-53.40	-13.00	-40.40	Pass	H
3168.080	150	261	-55.88	-13.00	-42.88	Pass	H
4278.055	149	20	-57.39	-13.00	-44.39	Pass	H
5880.782	150	31	-55.81	-13.00	-42.81	Pass	H
8208.370	150	200	-57.62	-13.00	-44.62	Pass	H
1439.090	150	37	-55.50	-13.00	-42.50	Pass	V
2070.980	151	100	-54.35	-13.00	-41.35	Pass	V
3026.195	150	69	-56.34	-13.00	-43.34	Pass	V
4086.459	152	147	-57.78	-13.00	-44.78	Pass	V
6203.700	150	100	-57.11	-13.00	-44.11	Pass	V
8549.586	150	359	-57.11	-13.00	-44.11	Pass	V

GPRS1900 512channel/1850.2MHz(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1410.080	151	360	-57.70	-13.00	-44.70	Pass	H
2481.231	150	121	-54.97	-13.00	-41.97	Pass	H
3445.704	150	110	-54.77	-13.00	-41.77	Pass	H
4299.890	150	11	-56.40	-13.00	-43.40	Pass	H
5940.967	150	169	-55.05	-13.00	-42.05	Pass	H
8527.851	149	64	-56.17	-13.00	-43.17	Pass	H
1719.783	150	278	-55.85	-13.00	-42.85	Pass	V
2474.923	151	200	-55.57	-13.00	-42.57	Pass	V
3428.206	150	220	-55.52	-13.00	-42.52	Pass	V
4421.992	152	360	-57.50	-13.00	-44.50	Pass	V
5971.290	149	359	-56.18	-13.00	-43.18	Pass	V
7961.425	150	341	-57.79	-13.00	-44.79	Pass	V

GPRS1900 661channel/1880MHz(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1597.401	151	39	-54.92	-13.00	-41.92	Pass	H
2292.959	150	360	-53.35	-13.00	-40.35	Pass	H
3143.979	150	70	-54.87	-13.00	-41.87	Pass	H
4299.890	149	61	-56.31	-13.00	-43.31	Pass	H
5747.586	150	359	-54.75	-13.00	-41.75	Pass	H
7941.185	151	241	-56.16	-13.00	-43.16	Pass	H

1663.803	150	289	-56.19	-13.00	-43.19	Pass	V
2474.923	150	10	-55.77	-13.00	-42.77	Pass	V
3192.366	151	100	-55.89	-13.00	-42.89	Pass	V
4421.992	150	110	-58.83	-13.00	-45.83	Pass	V
5895.771	149	79	-56.19	-13.00	-43.19	Pass	V
8022.456	152	64	-56.68	-13.00	-43.68	Pass	V

GPRS1900 810channel/1909.8MHz(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1663.803	151	79	-56.12	-13.00	-43.12	Pass	H
2513.013	149	146	-55.99	-13.00	-42.99	Pass	H
3616.451	150	100	-55.27	-13.00	-42.27	Pass	H
4871.103	150	255	-59.68	-13.00	-46.68	Pass	H
5956.109	151	10	-56.21	-13.00	-43.21	Pass	H
8681.168	150	360	-57.44	-13.00	-44.44	Pass	H
1702.361	150	79	-56.10	-13.00	-43.10	Pass	V
2506.624	150	51	-56.17	-13.00	-43.17	Pass	V
3233.257	152	200	-55.78	-13.00	-42.78	Pass	V
5434.559	150	249	-56.43	-13.00	-43.43	Pass	V
7081.697	149	78	-59.40	-13.00	-46.40	Pass	V
8549.586	150	100	-56.22	-13.00	-43.22	Pass	V

EGPRS 1900 512channel/1850.2MHz(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1439.090	151	10	-56.14	-13.00	-43.14	Pass	H
2637.542	150	179	-54.76	-13.00	-41.76	Pass	H
3616.451	150	141	-54.59	-13.00	-41.59	Pass	H
5244.295	152	200	-55.91	-13.00	-42.91	Pass	H
6868.647	150	201	-57.64	-13.00	-44.64	Pass	H
9065.084	150	360	-55.87	-13.00	-42.87	Pass	H
1573.189	150	70	-55.99	-13.00	-42.99	Pass	V
2358.071	149	89	-54.92	-13.00	-41.92	Pass	V
3176.155	149	100	-54.85	-13.00	-41.85	Pass	V
4086.459	151	211	-56.37	-13.00	-43.37	Pass	V
5311.469	150	64	-56.66	-13.00	-43.66	Pass	V
6396.125	150	278	-56.62	-13.00	-43.62	Pass	V

EGPRS 1900 661channel/1880MHz(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1439.090	151	81	-56.15	-13.00	-43.15	Pass	H
2382.204	150	64	-55.09	-13.00	-42.09	Pass	H
3128.013	150	79	-55.01	-13.00	-42.01	Pass	H
4299.890	150	100	-56.80	-13.00	-43.80	Pass	H
5956.109	152	360	-55.78	-13.00	-42.78	Pass	H
7900.858	150	70	-55.74	-13.00	-42.74	Pass	H
1573.189	150	10	-56.67	-13.00	-43.67	Pass	V
2500.251	150	61	-54.12	-13.00	-41.12	Pass	V
3436.944	149	104	-54.30	-13.00	-41.30	Pass	V
4748.673	149	110	-58.83	-13.00	-45.83	Pass	V
6363.645	150	101	-57.39	-13.00	-44.39	Pass	V
8549.586	150	360	-56.34	-13.00	-43.34	Pass	V

EGPRS 1900 810channel/1909.8MHz(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1672.296	151	316	-55.77	-13.00	-42.77	Pass	H
2558.193	150	70	-55.26	-13.00	-42.26	Pass	H
3428.206	152	81	-55.00	-13.00	-42.00	Pass	H
4321.837	150	226	-57.93	-13.00	-44.93	Pass	H
5910.798	149	210	-55.97	-13.00	-42.97	Pass	H
7900.858	150	101	-57.01	-13.00	-44.01	Pass	H
1724.166	150	79	-56.57	-13.00	-43.57	Pass	V
2493.895	151	100	-55.54	-13.00	-42.54	Pass	V
3598.087	151	360	-53.95	-13.00	-40.95	Pass	V
4299.890	150	70	-56.19	-13.00	-43.19	Pass	V
5762.235	149	89	-55.93	-13.00	-42.93	Pass	V
7209.015	150	100	-58.84	-13.00	-45.84	Pass	V

WCDMA band V 4132 channel/826.4MHz(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1329.894	151	38	-59.20	-13.00	-46.20	Pass	H
2086.856	150	161	-53.84	-13.00	-40.84	Pass	H
2651.004	150	79	-56.32	-13.00	-43.32	Pass	H
3570.714	149	271	-55.74	-13.00	-42.74	Pass	H
4846.367	149	345	-58.96	-13.00	-45.96	Pass	H
5895.771	150	161	-55.75	-13.00	-42.75	Pass	H
1340.089	150	332	-57.88	-13.00	-44.88	Pass	V
2044.788	151	100	-54.84	-13.00	-41.84	Pass	V
2719.353	152	147	-54.19	-13.00	-41.19	Pass	V
3393.477	150	10	-55.54	-13.00	-42.54	Pass	V
4478.633	151	360	-58.39	-13.00	-45.39	Pass	V
5880.782	150	14	-55.22	-13.00	-42.22	Pass	V

WCDMA band V 4182 channel/836.4MHz(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1646.948	151	352	-56.09	-13.00	-43.09	Pass	H
2086.856	150	164	-53.57	-13.00	-40.57	Pass	H
2832.394	150	79	-56.67	-13.00	-43.67	Pass	H
3625.669	152	100	-55.76	-13.00	-42.76	Pass	H
4946.072	150	258	-59.35	-13.00	-46.35	Pass	H
6219.512	150	76	-57.04	-13.00	-44.04	Pass	H
1646.948	149	360	-53.97	-13.00	-40.97	Pass	V
2519.418	150	124	-56.03	-13.00	-43.03	Pass	V
3120.061	149	10	-54.71	-13.00	-41.71	Pass	V
4444.562	150	360	-57.53	-13.00	-44.53	Pass	V
5956.109	150	70	-55.93	-13.00	-42.93	Pass	V
7920.996	150	281	-57.00	-13.00	-44.00	Pass	V

WCDMA band V 4233 channel/846.6MHz(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1439.090	151	332	-53.85	-13.00	-40.85	Pass	H
2086.856	150	161	-52.94	-13.00	-39.94	Pass	H
2846.851	151	316	-56.07	-13.00	-43.07	Pass	H
4034.777	150	100	-56.28	-13.00	-43.28	Pass	H
5895.771	150	24	-54.52	-13.00	-41.52	Pass	H
8571.377	150	144	-56.96	-13.00	-43.96	Pass	H
1159.096	149	179	-55.28	-13.00	-42.28	Pass	V
1685.115	150	10	-55.15	-13.00	-42.15	Pass	V
2382.204	152	46	-55.09	-13.00	-42.09	Pass	V
3410.797	151	147	-54.74	-13.00	-41.74	Pass	V
4772.910	150	100	-59.40	-13.00	-46.40	Pass	V
5956.109	150	50	-55.65	-13.00	-42.65	Pass	V

HSDPA band V 4132 channel/826.4MHz(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1439.090	151	159	-55.09	-13.00	-42.09	Pass	H
2086.856	152	170	-53.40	-13.00	-40.40	Pass	H
2935.153	150	160	-56.07	-13.00	-43.07	Pass	H
3863.900	150	100	-56.55	-13.00	-43.55	Pass	H
5910.798	149	360	-54.20	-13.00	-41.20	Pass	H
7941.185	150	79	-56.71	-13.00	-43.71	Pass	H
1343.505	150	247	-57.84	-13.00	-44.84	Pass	V
1809.605	149	220	-55.96	-13.00	-42.96	Pass	V
2382.204	150	200	-55.65	-13.00	-42.65	Pass	V
3104.217	151	21	-55.31	-13.00	-42.31	Pass	V
4076.070	149	156	-57.09	-13.00	-44.09	Pass	V
5910.798	150	100	-52.89	-13.00	-39.89	Pass	V

HSDPA band V 4182 channel/836.4MHz(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1280.072	151	39	-56.48	-13.00	-43.48	Pass	H
1998.475	152	161	-54.59	-13.00	-41.59	Pass	H
2898.032	150	78	-56.58	-13.00	-43.58	Pass	H
3728.625	150	351	-55.90	-13.00	-42.90	Pass	H
5257.662	150	349	-57.26	-13.00	-44.26	Pass	H
7920.996	151	217	-56.99	-13.00	-43.99	Pass	H
1159.096	150	100	-53.86	-13.00	-40.86	Pass	V
1642.761	150	145	-57.15	-13.00	-44.15	Pass	V
2263.960	149	360	-54.48	-13.00	-41.48	Pass	V
3359.099	149	54	-56.38	-13.00	-43.38	Pass	V
4410.750	150	100	-58.12	-13.00	-45.12	Pass	V
5910.798	150	246	-55.00	-13.00	-42.00	Pass	V

HSDPA band V 4233channel/846.6MHz(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1316.422	151	326	-58.54	-13.00	-45.54	Pass	H
1851.542	150	100	-54.95	-13.00	-41.95	Pass	H
2545.202	150	172	-54.40	-13.00	-41.40	Pass	H
3402.126	149	98	-55.02	-13.00	-42.02	Pass	H
4467.247	150	47	-57.99	-13.00	-44.99	Pass	H
5940.967	150	100	-55.35	-13.00	-42.35	Pass	H
1159.096	150	284	-55.80	-13.00	-42.80	Pass	V
1828.125	151	100	-54.36	-13.00	-41.36	Pass	V
2519.418	150	61	-55.58	-13.00	-42.58	Pass	V
3168.080	149	360	-55.63	-13.00	-42.63	Pass	V
4501.492	150	79	-58.45	-13.00	-45.45	Pass	V
5910.798	150	56	-55.08	-13.00	-42.08	Pass	V

HSUPA band V 4132 channel/826.4MHz(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1659.574	152	229	-55.77	-13.00	-42.77	Pass	H
2571.250	152	170	-55.80	-13.00	-42.80	Pass	H
3598.087	150	80	-55.36	-13.00	-42.36	Pass	H
5448.410	150	100	-56.49	-13.00	-43.49	Pass	H
7941.185	149	36	-57.13	-13.00	-44.13	Pass	H
9538.543	150	79	-55.76	-13.00	-42.76	Pass	H
1832.785	150	332	-54.56	-13.00	-41.56	Pass	V
2382.204	152	220	-55.12	-13.00	-42.12	Pass	V
3049.394	150	88	-57.01	-13.00	-44.01	Pass	V
4065.707	152	21	-58.03	-13.00	-45.03	Pass	V
5420.742	149	156	-57.34	-13.00	-44.34	Pass	V
7099.747	150	109	-58.36	-13.00	-45.36	Pass	V

HSUPA band V 4182 channel/836.4MHz(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1439.090	150	55	-54.63	-13.00	-41.63	Pass	H
2039.590	152	192	-55.13	-13.00	-42.13	Pass	H
2571.250	150	78	-56.04	-13.00	-43.04	Pass	H
3410.797	150	351	-54.38	-13.00	-41.38	Pass	H
4490.048	150	169	-57.92	-13.00	-44.92	Pass	H
5925.863	151	217	-54.96	-13.00	-41.96	Pass	H
1573.189	150	158	-57.74	-13.00	-44.74	Pass	V
2108.213	152	145	-55.86	-13.00	-42.86	Pass	V
2920.248	149	226	-56.22	-13.00	-43.22	Pass	V
3766.785	149	54	-56.51	-13.00	-43.51	Pass	V
5244.295	150	100	-57.89	-13.00	-44.89	Pass	V
6594.518	150	33	-57.96	-13.00	-44.96	Pass	V

HSUPA band V 4233channel/846.6MHz(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1795.839	152	86	-54.54	-13.00	-41.54	Pass	H
2684.961	149	226	-56.03	-13.00	-43.03	Pass	H
3410.797	150	172	-55.48	-13.00	-42.48	Pass	H
4490.048	149	98	-59.21	-13.00	-46.21	Pass	H
6203.700	150	99	-56.42	-13.00	-43.42	Pass	H
8681.168	150	100	-56.94	-13.00	-43.94	Pass	H
1439.090	150	332	-55.98	-13.00	-42.98	Pass	V
1899.278	151	100	-54.65	-13.00	-41.65	Pass	V
2691.804	151	89	-55.78	-13.00	-42.78	Pass	V
3436.944	149	360	-56.47	-13.00	-43.47	Pass	V
4245.509	150	79	-57.29	-13.00	-44.29	Pass	V
5910.798	150	10	-55.45	-13.00	-42.45	Pass	V

WCDMA band II 9262 channel/1852.4MHz(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1518.111	151	351	-53.90	-13.00	-40.90	Pass	H
2449.851	150	200	-54.91	-13.00	-41.91	Pass	H
3160.026	150	217	-54.19	-13.00	-41.19	Pass	H
3844.279	151	96	-55.30	-13.00	-42.30	Pass	H
5448.410	150	100	-55.71	-13.00	-42.71	Pass	H
6594.518	149	351	-57.03	-13.00	-44.03	Pass	H
1672.296	150	70	-56.08	-13.00	-43.08	Pass	V
2487.555	150	151	-54.92	-13.00	-41.92	Pass	V
3151.992	150	100	-56.12	-13.00	-43.12	Pass	V
4055.371	149	21	-56.32	-13.00	-43.32	Pass	V
5434.559	149	10	-56.33	-13.00	-43.33	Pass	V
7245.810	150	360	-59.59	-13.00	-46.59	Pass	V

WCDMA band II 9400 channel/1880MHz(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1698.033	151	91	-54.58	-13.00	-41.58	Pass	H
2241.025	150	100	-54.32	-13.00	-41.32	Pass	H
3112.129	150	360	-54.12	-13.00	-41.12	Pass	H
3863.900	149	351	-54.26	-13.00	-41.26	Pass	H
5434.559	150	359	-56.22	-13.00	-43.22	Pass	H
7099.747	150	240	-58.18	-13.00	-45.18	Pass	H
1529.749	150	100	-57.64	-13.00	-44.64	Pass	V
2168.079	151	248	-54.61	-13.00	-41.61	Pass	V
2957.654	150	358	-56.23	-13.00	-43.23	Pass	V
4076.070	151	70	-56.53	-13.00	-43.53	Pass	V
5420.742	150	154	-55.56	-13.00	-42.56	Pass	V
7961.425	150	100	-56.53	-13.00	-43.53	Pass	V

WCDMA band II 9538 channel/1907.6MHz(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
2263.960	151	331	-55.03	-13.00	-42.03	Pass	H
2935.153	150	100	-56.05	-13.00	-43.05	Pass	H
3786.010	150	147	-55.27	-13.00	-42.27	Pass	H
5434.559	149	154	-56.42	-13.00	-43.42	Pass	H
7566.249	150	121	-58.34	-13.00	-45.34	Pass	H
9346.262	150	76	-56.33	-13.00	-43.33	Pass	H
1573.189	149	49	-57.18	-13.00	-44.18	Pass	V
2258.204	150	100	-54.41	-13.00	-41.41	Pass	V
3096.325	151	67	-56.61	-13.00	-43.61	Pass	V
3616.451	150	100	-55.03	-13.00	-42.03	Pass	V
4736.600	151	360	-59.07	-13.00	-46.07	Pass	V
6363.645	150	40	-57.44	-13.00	-44.44	Pass	V

HSDPA band II 9262 channel/1852.4MHz(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1597.401	151	61	-54.86	-13.00	-41.86	Pass	H
2108.213	150	200	-54.07	-13.00	-41.07	Pass	H
2846.851	150	157	-55.69	-13.00	-42.69	Pass	H
3854.077	150	241	-55.31	-13.00	-42.31	Pass	H
5434.559	152	100	-56.27	-13.00	-43.27	Pass	H
6886.154	150	169	-58.76	-13.00	-45.76	Pass	H
1676.558	149	254	-55.89	-13.00	-42.89	Pass	V
2500.251	150	26	-55.58	-13.00	-42.58	Pass	V
3428.206	151	100	-55.37	-13.00	-42.37	Pass	V
4760.776	150	332	-59.46	-13.00	-46.46	Pass	V
5956.109	150	159	-55.22	-13.00	-42.22	Pass	V
7920.996	150	100	-57.03	-13.00	-44.03	Pass	V

HSDPA band II 9400 channel/1880MHz(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1663.803	151	151	-54.31	-13.00	-41.31	Pass	H
2506.624	150	79	-55.26	-13.00	-42.26	Pass	H
3419.491	150	360	-54.05	-13.00	-41.05	Pass	H
4299.890	152	200	-56.14	-13.00	-43.14	Pass	H
5747.586	152	157	-55.32	-13.00	-42.32	Pass	H
7099.747	150	149	-59.01	-13.00	-46.01	Pass	H
1728.561	150	217	-56.35	-13.00	-43.35	Pass	V
2382.204	151	360	-54.50	-13.00	-41.50	Pass	V
3436.944	151	100	-56.15	-13.00	-43.15	Pass	V
4652.947	150	243	-58.46	-13.00	-45.46	Pass	V
5925.863	149	100	-55.70	-13.00	-42.70	Pass	V
7920.996	150	100	-55.92	-13.00	-42.92	Pass	V

HSDPA band II 9538 channel/1907.6MHz(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1557.252	151	37	-54.82	-13.00	-41.82	Pass	H
2263.960	150	60	-55.12	-13.00	-42.12	Pass	H
3135.986	149	360	-54.20	-13.00	-41.20	Pass	H
4467.247	150	79	-57.34	-13.00	-44.34	Pass	H
5762.235	150	151	-55.74	-13.00	-42.74	Pass	H
7941.185	149	247	-57.09	-13.00	-44.09	Pass	H
1529.749	150	291	-56.96	-13.00	-43.96	Pass	V
2382.204	150	200	-54.81	-13.00	-41.81	Pass	V
3436.944	151	147	-55.78	-13.00	-42.78	Pass	V
4736.600	150	10	-58.72	-13.00	-45.72	Pass	V
5925.863	151	36	-55.60	-13.00	-42.60	Pass	V
7702.278	150	111	-58.69	-13.00	-45.69	Pass	V

HSUPA band II 9262 channel/1852.4MHz(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1668.044	152	59	-55.55	-13.00	-42.55	Pass	H
2506.624	150	20	-54.19	-13.00	-41.19	Pass	H
3644.175	150	332	-55.12	-13.00	-42.12	Pass	H
4933.497	151	97	-58.60	-13.00	-45.60	Pass	H
5956.109	149	132	-56.18	-13.00	-43.18	Pass	H
8527.851	149	351	-56.40	-13.00	-43.40	Pass	H
1573.189	150	70	-56.27	-13.00	-43.27	Pass	V
2263.960	150	151	-55.32	-13.00	-42.32	Pass	V
2839.613	150	109	-56.79	-13.00	-43.79	Pass	V
3616.451	150	21	-54.90	-13.00	-41.90	Pass	V
4582.422	149	109	-59.14	-13.00	-46.14	Pass	V
5940.967	150	360	-55.93	-13.00	-42.93	Pass	V

HSUPA band II 9400 channel/1880MHz(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1557.252	151	229	-55.85	-13.00	-42.85	Pass	H
2269.730	152	100	-53.83	-13.00	-40.83	Pass	H
3096.325	150	26	-55.95	-13.00	-42.95	Pass	H
3854.077	149	351	-53.85	-13.00	-40.85	Pass	H
5420.742	150	359	-56.47	-13.00	-43.47	Pass	H
6886.154	150	240	-58.74	-13.00	-45.74	Pass	H
1698.033	150	19	-55.95	-13.00	-42.95	Pass	V
2358.071	151	248	-54.18	-13.00	-41.18	Pass	V
3104.217	151	358	-55.61	-13.00	-42.61	Pass	V
3854.077	151	70	-56.00	-13.00	-43.00	Pass	V
5271.063	150	154	-57.28	-13.00	-44.28	Pass	V
6412.427	150	100	-57.84	-13.00	-44.84	Pass	V

HSUPA band II 9538 channel/1907.6MHz(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1668.044	152	87	-55.81	-13.00	-42.81	Pass	H
2287.130	150	100	-55.16	-13.00	-42.16	Pass	H
2935.153	149	89	-55.25	-13.00	-42.25	Pass	H
3634.910	149	154	-56.34	-13.00	-43.34	Pass	H
4490.048	150	121	-58.09	-13.00	-45.09	Pass	H
5971.290	150	76	-55.55	-13.00	-42.55	Pass	H
1668.044	149	99	-55.16	-13.00	-42.16	Pass	V
2292.959	150	100	-54.60	-13.00	-41.60	Pass	V
3128.013	151	67	-54.08	-13.00	-41.08	Pass	V
4076.070	150	100	-56.47	-13.00	-43.47	Pass	V
5762.235	151	229	-54.48	-13.00	-41.48	Pass	V
8571.377	150	40	-56.05	-13.00	-43.05	Pass	V

Note:

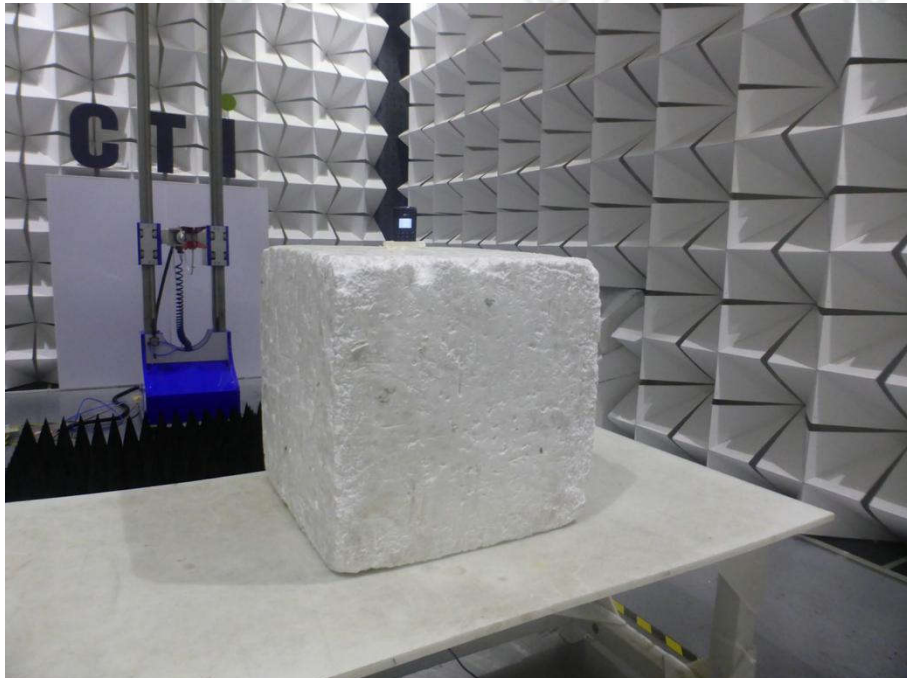
1) Scan from 9kHz to 25GHz, the disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below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

PHOTOGRAPHS OF TEST SETUP

Test mode No.: WPC23



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. EED32J00095402 for EUT external and internal photos.

*** End of Report ***

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