



# FCC Test Report

**Product Name: Mobile WiFi**

**Model Number: E5776s-501**

**Report No: SYBH(Z-RF)006112012-2006**

**FCC ID: QISE5776s-501**

**IC : 6369A-E5776S**

**Reliability Laboratory of Huawei Technologies Co., Ltd.**

Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District,  
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Notice



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<b>Applicant:</b>	Huawei Technologies Co., Ltd.
<b>Address:</b>	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C
<b>Date of Receipt Test Item:</b>	Nov.,07, 2012
<b>Start Date of Test:</b>	Nov.,07, 2012
<b>End Date of Test:</b>	Nov.,16, 2012
<b>Test Result:</b>	Pass

**Approved by Senior**

2012-11-16

DaiLinjun

**Engineer:**

Date

Name

Signature

**Prepared by:**

2012-11-16

GuoXingxing

Date

Name

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# 1 GENERAL INFORMATION

## 1.1 Applied Standard

Applied Rules: 47 CFR FCC Part 2, Subpart J (2011-1-10 Edition)  
47 CFR FCC Part 15, Subpart C (2011-1-10 Edition)

IC RSS-Gen (Issue 3, December 2010)  
IC RSS-210 (Issue 8, December 2010)

Test Method: FCC KDB 558074 D01 DTS Meas Guidance v01  
FCC KDB 662911 D01 Multiple Transmitter Output v01

## 1.2 Test Location

Test Location 1: Reliability Laboratory of Huawei Technologies Co., Ltd.  
Address: Administration Building, Headquarters of Huawei Technologies Co., Ltd.,  
Bantian, Longgang District, Shenzhen, 518129, P.R.C

## 1.3 Test Environment Condition

Ambient Temperature: 19.5to 25 °C  
Ambient Relative Humidity: 40 to 55 %  
Atmospheric Pressure: Not applicable



## 2 Summary

Test Item	FCC Part No.	IC Standard No.	Requirements	Test Result	Verdict (NOTE 2)
DTS Bandwidth	15.247(a)(2)	RSS-210, A8.2(a) RSS-210, 2.1 RSS-Gen, 4.6.1	≥ 500 kHz.	Appendix A	Pass
Maximum Peak Conducted Output Power	15.247(b)(3)	RSS-210, A8.4(4)	For directional gain: < 30 dBm – (G[dBi] – 6 [dB]), peak; Otherwise: < 30 dBm, peak.	Appendix B	Pass
Maximum Power Spectral Density Level	15.247(e)	RSS-210, A8.2(b)	For directional gain: < 8 dBm/3 kHz – (G[dBi] – 6 [dB]), peak. Otherwise: < 8 dBm/3 kHz, peak.	Appendix C	Pass
Unwanted Emissions into Non-Restricted Frequency Bands	15.247(d)	RSS-210, A8.5	< -20 dBm/100 kHz if total peak power ≤ power limit.	Appendix D&E	Pass
Unwanted Emissions into Restricted Frequency Bands	15.247(d) 15.209	RSS-210, A8.5 RSS-210, 2.2 RSS-Gen, 7.2.2 RSS-Gen, 7.2.5 (NOTE 1)	FCC Part 15.209 field strength limit; RSS-Gen 7.2.5 field strength limit.	Appendix F	Pass
Receiver Spurious Emissions (Radiated, Only for IC requirement)	---	RSS-210, 2.3 RSS-Gen, 6.1	RSS-Gen 6.1 radiated limit.	Appendix G	Pass
AC Power Line Conducted Emissions	15.207	RSS-Gen, 7.2.4	FCC Part 15.207 conducted limit; RSS-Gen, 7.2.4 conducted limit.	Appendix H	Pass
Photos of Test Setups	---	---	---	Appendix I	---
NOTE : For the verdict, the "N/A" denotes "not applicable", the "N/T" denotes "not tested".					



### 3 Product Description

#### 3.1 Product Information

##### 3.1.1 General Description

E5776s-501 is a LTE/UMTS/GSM triple mode and WiFi Wireless mobile Router; it can be used as a WiFi hotspot based on standard of IEEE802.11b/g/n. It supports 3G WCDMA and 4G LTE wireless internet accessing function. About 3G WCDMA wireless mode, it supports WCDMA and HSDPA/HSUPA/HSPA+/DC-HSDPA, operating in Band1、Band2、Band4、Band 5; and the 4G LTE operating in Band4、Band7; and GSM operating in GSM850MHz and GSM1900MHz.The WiFi frequency is 2.4GHz.

E5776s-501 supports 1Tx2Rx for 3G WCDMA and 4G LTE. WiFi supports 2Tx2Rx.

**Note: Only WIFI function was considered in this report.**

##### 3.1.2 Supporting function and Service

The EUT support the function and service as follows:

Table 1 Service and Test mode List

Service Name	mode	Characteristic
Data	11b	IEEE 802.11b with data rate of 11 Mbps
Data	11g	IEEE 802.11g with data rate of 54 Mbps
Data	11n20	IEEE 802.11n with 20 MHz bandwidth and data rate of MCS-7, not using MIMO
Data	11n40	IEEE 802.11n with 40 MHz bandwidth and data rate of MCS-7, not using MIMO
Data	11n20-mimo	IEEE 802.11n with 20 MHz bandwidth and data rate of MCS-15, using MIMO
Data	11n40-mimo	IEEE 802.11n with 40 MHz bandwidth and data rate of MCS-15, using MIMO

#### 3.2 Modification Information

For original equipment, following table is not application.

Table 2 Modification Information

Model Number	Board/Module	Original Version	New Version	Modify Information
Not applicable!				



## 4 Test Site Description

The test site of:

***Huawei Technologies Co. Ltd.***

***P.O. Box 518129***

***Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian,  
Longgang District, Shenzhen, P.R.C***

## 5 Test Modes

NOTE: Typical working modes for each IEEE 802.11 mode are selected to perform tests.

Test Mode	Test Modes Description
TM1	IEEE 802.11b with data rate of 11 Mbps
TM2	IEEE 802.11g with data rate of 54 Mbps
TM3	IEEE 802.11n with 20 MHz bandwidth and data rate of MCS-7, not using MIMO
TM4	IEEE 802.11n with 40 MHz bandwidth and data rate of MCS-7, not using MIMO
TM5	IEEE 802.11n with 20 MHz bandwidth and data rate of MCS-15, using MIMO
TM6	IEEE 802.11n with 40 MHz bandwidth and data rate of MCS-15, using MIMO

NOTE: All relevant operation modes have been tested, and the worst case data is included in this report.



## 6 Product Description

### 6.1 Technical Characteristics

#### 6.1.1 Frequency Range

Table 3 Frequency Range

Uplink band:	2400 to 2483.5 MHz	
Downlink band:	2400 to 2483.5 MHz	
Hop frequency support:	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

#### 6.1.2 Channel Spacing / Separation

Table 4 Channel Spacing / raster of 20 MHz bandwidth

Channel spacing:	22 MHz
Channel raster:	5 MHz

Table 5 Channel Spacing / raster of 40 MHz bandwidth

Channel spacing:	40 MHz
Channel raster:	5 MHz

#### 6.1.3 Antenna Information

Table 6 Antenna Information

Type:	Integrated / Internal
Maximum Gain(dBi):	2.0 (from 2400MHz to 2500MHz)

#### 6.1.4 Environmental Requirements

Table 7 Environmental Requirements

Minimum temperature:	- 0 °C
Maximum temperature:	+ 35 °C



Relative Humidity:	5%-95%
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### 6.1.5 Tune-up Procedure

According to CFR (FCC) part 2, subpart 2, section 2.1033(c) (9).

Please reference the document Tune-up Procedure in TCF.

## 6.2 EUT Identification List

### 6.2.1 Board Information

Table 8 Board Information

Mobile WiFi		
E5776s-501		
Board and Module		
Equipment Designation / Description	Software Version	Hardware Version
MAINBOARD	21.202.11.01.00	CL2E5776SM

### 6.2.2 Adapter Technical Data

AC/DCAdapter Model	HW-050200U3W
Manufacturer	HUAWEI
Input Voltage	100-240V1 ~50/60Hz, 0.5A MAX
Output Voltage	 5.0V 2.0A

### 6.2.3 FCC Identification

**Grantee Code:** QIS  
**Product Code:** E5776s-501  
**FCC Identification:** QISE5776s-501



## 7 Main Test Instruments

Table 9 Main Test Equipments

Equipment Name	Manufacturer	Model	Serial Number	Cal Date	Cal. Due
Power supply	KEITHLEY	2303	1288003	2012-11-09	2013-11-08
Spectrum Analyzer	Agilent	E4440A	MY48250119	2012-07-18	2013-07-17
Signal Analyzer	R&S	FSQ31	200021	2012-11-09	2013-11-08
Spectrum Analyzer	Agilent	N9030A	MY49431698	2012-11-09	2013-11-08
Temperature Chamber	WEISS	WKL64	24600294	2012-02-14	2013-02-13
Signal generator	Agilent	E8257D	MY49281095	2012-07-10	2013-07-09
Spectrum analyzer	R&S	FSU3	200474	2012-03-06	2013-03-05
Spectrum analyzer	R&S	FSU43	100144	2012-04-06	2013-04-05
Double-Ridged Waveguide Horn Antenna (1G~18GHz)	R&S	HF907	100304	2012-04-06	2013-04-05
Double-Ridged Waveguide Horn Antenna (1G~18GHz)	R&S	HF907	100391	2012-07-18	2013-07-17
Trilog Broadband Antenna (30M~3GHz)	SCHWARZBECK	VULB 9163	9163-521	2012-02-28	2013-02-27
Pyramidal Horn Antenna(26GHz-40GHz)	ETS-Lindgren	3160-10	00123940	2012-02-28	2013-02-27
Pyramidal Horn Antenna(18GHz-26.5GHz)	ETS-Lindgren	3160-09	00125912	2012-02-28	2013-02-27



## 8 Transmitter Measurements

### 8.1 Bandwidth measurement

#### 8.1.1 Test Conditions

Table 10 Test Conditions

Preconditioning:	0.5 hour
Measured at:	Antenna connector
Ambient temperature:	25°C
Relative humidity:	55%
Test Configurations:	TM1/TM2/TM3/TM4/TM5/TM6 at channel No. L, M, H

#### 8.1.2 Test Specifications and Limits

##### 8.1.2.1 Specification

CFR 47 (FCC) part 15.247 (a) (2) and KDB 558074

##### 8.1.2.2 Supporting Standards

Table 11 Supporting Standards:

ANSI C63.10-2009	American National Standard for Testing Unlicensed Wireless Devices
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##### 8.1.2.3 Limits

Systems using digital modulation techniques may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Table 12 Limits

Limits	≥ 500kHz
--------	----------

#### 8.1.3 Test Method and Setup

- (a) Connect test port of EUT to spectrum analyzer.
- (b) Set the EUT to transmit maximum output power at 2.4GHz, then set the measured frequency number and test the bandwidth with spectrum analyzer.

## Test setup

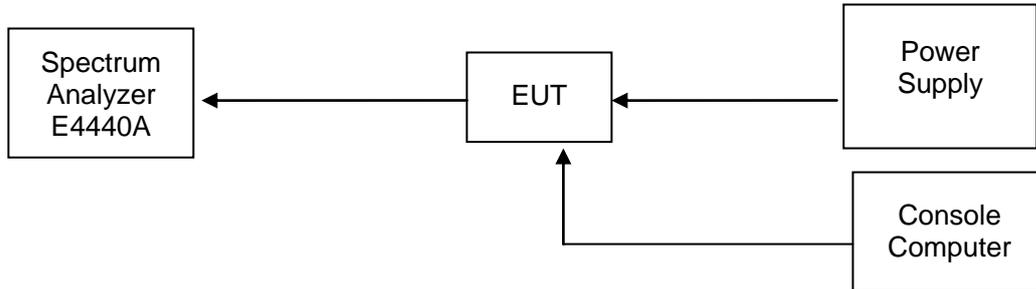


Figure 1. Test Set-up

## 8.1.4 Measurement Results

Table 13 Measurement Results

Test condition	Chain	Channel Position	Channel Number	Frequency [MHz]	Bandwidth Type	Measured Bandwidth [MHz]	Result
TM1	1	L	1	2412	6dB	8.245	Pass
					99%	10.404	Pass
		M	6	2437	6dB	8.136	Pass
					99%	10.796	Pass
		H	11	2462	6dB	8.212	Pass
					99%	10.734	Pass
	2	L	1	2412	6dB	8.138	Pass
					99%	10.465	Pass
		M	6	2437	6dB	7.953	Pass
					99%	10.250	Pass
		H	11	2462	6dB	8.096	Pass
					99%	10.294	Pass
TM2	1	L	1	2412	6dB	16.331	Pass
					99%	16.361	Pass
		M	6	2437	6dB	16.230	Pass
					99%	16.400	Pass
		H	11	2462	6dB	15.988	Pass
					99%	16.335	Pass
	2	L	1	2412	6dB	16.143	Pass
					99%	16.334	Pass
		M	6	2437	6dB	15.371	Pass
					99%	16.277	Pass
		H	11	2462	6dB	15.528	Pass
					99%	16.309	Pass
TM3	1	L	1	2412	6dB	17.384	Pass
					99%	17.522	Pass
		M	6	2437	6dB	17.472	Pass
					99%	17.587	Pass
		H	11	2462	6dB	16.264	Pass
					99%	16.264	Pass



Test condition	Chain	Channel Position	Channel Number	Frequency [MHz]	Bandwidth Type	Measured Bandwidth [MHz]	Result
	2	L	1	2412	99%	17.534	Pass
					6dB	17.310	Pass
		M	6	2437	99%	17.533	Pass
					6dB	15.796	Pass
		H	11	2462	99%	17.495	Pass
					6dB	16.286	Pass
TM4	1	L	3	2422	6dB	36.760	Pass
					99%	36.450	Pass
		M	6	2437	6dB	36.501	Pass
					99%	36.352	Pass
		H	9	2452	6dB	36.186	Pass
					99%	36.209	Pass
	2	L	3	2422	6dB	36.707	Pass
					99%	36.479	Pass
		M	6	2437	6dB	35.455	Pass
					99%	36.186	Pass
		H	9	2452	6dB	36.312	Pass
					99%	36.206	Pass
TM5	1	L	1	2412	6dB	17.531	Pass
					99%	17.451	Pass
		M	6	2437	6dB	17.496	Pass
					99%	17.452	Pass
		H	11	2462	6dB	17.326	Pass
					99%	17.428	Pass
	2	L	1	2412	6dB	17.485	Pass
					99%	17.444	Pass
		M	6	2437	6dB	16.177	Pass
					99%	17.362	Pass
		H	11	2462	6dB	16.625	Pass
					99%	17.402	Pass
TM6	1	L	3	2422	6dB	36.618	Pass
					99%	36.432	Pass
		M	6	2437	6dB	36.490	Pass
					99%	36.339	Pass
		H	9	2452	6dB	36.278	Pass
					99%	36.218	Pass
	2	L	3	2422	6dB	36.754	Pass
					99%	36.487	Pass
		M	6	2437	6dB	35.799	Pass
					99%	36.233	Pass
		H	9	2452	6dB	36.383	Pass
					99%	36.234	Pass

### 8.1.5 Conclusion

The equipment **PASSED** the requirement of this clause.  
For the measurement results refer to appendix A.



## 8.2 Peak output power

### 8.2.1 Test Conditions

Table 14 Test Conditions

Preconditioning:	0.5 hour
Measured at:	Antenna connector
Ambient temperature:	25°C
Relative humidity:	55%
Test Configurations:	TM1/TM2/TM3/TM4/TM5/TM6 at channel No. L, M, H

### 8.2.2 Test Specifications and Limits

#### 8.2.2.1 Specification

CFR 47 (FCC) part 15.247 (b) (3) and KDB 558074

#### 8.2.2.2 Supporting Standards

Table 15 Supporting Standards:

ANSI C63.10-2009	American National Standard for Testing Unlicensed Wireless Devices
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#### 8.2.2.3 Limits

Comply with part 15.247 (b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level.

Table 16 Limits

2.4GHz and 5.8GHz system using digital modulation	1 Watt / 30 dBm
---	-----------------

### 8.2.3 Test Method and Setup

- (a) Connect test port of EUT to spectrum analyzer.
- (b) Set the EUT to transmit maximum output power.
- (c) Then set the EUT to transmit at high, middle and low frequency and measure the conducted output power separately.

### Test setup

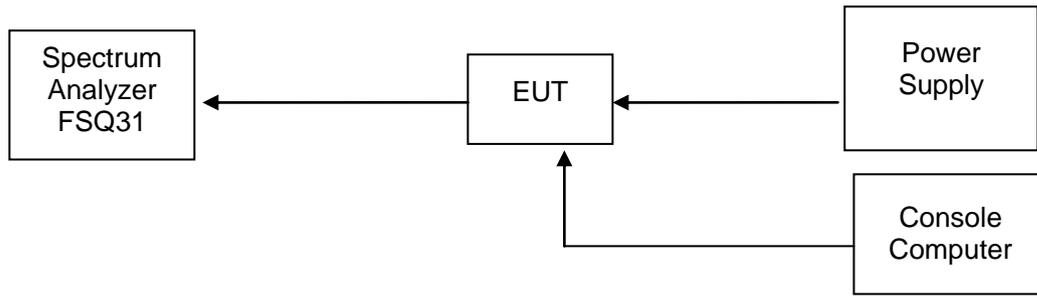


Figure 2. Test Set-up

### 8.2.4 Measurement Results

Table 17 Measurement Results

Test condition	Chain	Channel Position	Channel Number	Frequency [MHz]	Meas. Level (Cond.) [dBm]	Limit [dBm]	Result
TM1	1	L	1	2412	15.28	< 30	Pass
		M	6	2437	14.57	< 30	Pass
		H	11	2462	14.61	< 30	Pass
	2	L	1	2412	15.29	< 30	Pass
		M	6	2437	15.52	< 30	Pass
		H	11	2462	15.08	< 30	Pass
TM2	1	L	1	2412	19.68	< 30	Pass
		M	6	2437	19.90	< 30	Pass
		H	11	2462	18.82	< 30	Pass
	2	L	1	2412	19.28	< 30	Pass
		M	6	2437	20.28	< 30	Pass
		H	11	2462	18.77	< 30	Pass
TM3	1	L	1	2412	17.16	< 30	Pass
		M	6	2437	16.44	< 30	Pass
		H	11	2462	16.34	< 30	Pass
	2	L	1	2412	17.16	< 30	Pass
		M	6	2437	16.99	< 30	Pass
		H	11	2462	16.38	< 30	Pass
TM4	1	L	3	2422	18.07	< 30	Pass
		M	6	2437	16.53	< 30	Pass
		H	9	2452	16.11	< 30	Pass
	2	L	3	2422	16.88	< 30	Pass
		M	6	2437	17.51	< 30	Pass
		H	9	2452	17.45	< 30	Pass
TM5	1	L	1	2412	17.15	---	---
		M	6	2437	16.78	---	---
		H	11	2462	16.55	---	---
	2	L	1	2412	16.98	---	---
		M	6	2437	17.24	---	---
		H	11	2462	16.94	---	---
	1+2	L	1	2412	20.08	< 30	Pass
		M	6	2437	20.03	< 30	Pass



Test condition	Chain	Channel Position	Channel Number	Frequency [MHz]	Meas. Level (Cond.) [dBm]	Limit [dBm]	Result
		H	11	2462	19.76	< 30	Pass
TM6	1	L	3	2422	17.89	---	---
		M	6	2437	16.84	---	---
		H	9	2452	16.46	---	---
		L	3	2422	16.62	---	---
	2	M	6	2437	16.87	---	---
		H	9	2452	16.97	---	---
		L	3	2422	20.31	< 30	Pass
	1+2	M	6	2437	19.87	< 30	Pass
		H	9	2452	19.73	< 30	Pass

### 8.2.5 Conclusion

The equipment **PASSED** the requirement of this clause.  
For the measurement results refer to appendix B.



## 8.3 Band edge spurious emission

### 8.3.1 Test Conditions

Table 18 Test Conditions

Preconditioning:	0.5 hour
Measured at:	Antenna connector
Ambient temperature:	25°C
Relative humidity:	55%
Test Configurations:	TM1/TM2/TM3/TM4/TM5/TM6 at channel No. B, T

### 8.3.2 Test Specifications and Limits

#### 8.3.2.1 Specification

CFR 47 (FCC) part 15.247(d) and KDB 558074

#### 8.3.2.2 Supporting Standards

Table 19 Supporting Standards:

ANSI C63.10-2009	American National Standard for Testing Unlicensed Wireless Devices
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#### 8.3.2.3 Limits

Comply with part 15.247 (d), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required.

Table 20 Limits

Band edge spurious:	20 dBc/100kHz
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### 8.3.3 Test Method and Setup

- (a) Connect test port of EUT to spectrum analyzer
- (b) Set the EUT to transmit maximum output power at 2.4GHz
- (c) Then set the EUT to transmit at high, low frequency and measure the conducted band edge spurious separately.

### Test setup

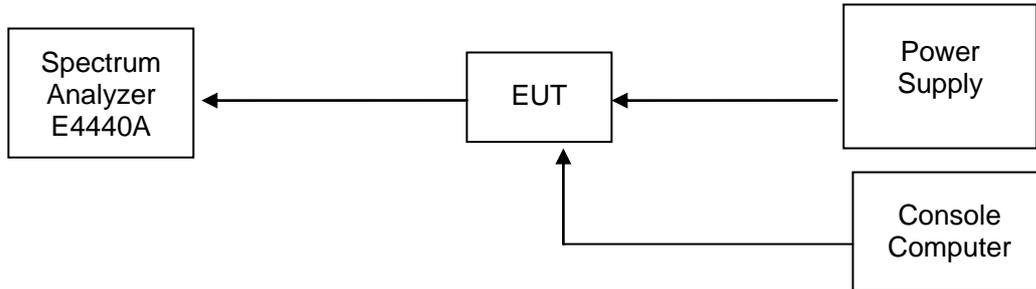


Figure 3. Test Set-up

### 8.3.4 Measurement Results

Table 21 Measurement Results

Test condition	Chain	Channel Position	Channel Number	Frequency [MHz]	Carrier Power [dBm]	Max. Spurious Level [dBm]	Limit [dBm]	Result
TM1	1	Low Edge	1	2412	4.53	-34.27	-15.5	Pass
		High Edge	11	2462	3.90	-33.13	-16.1	Pass
	2	Low Edge	1	2412	4.43	-36.59	-15.6	Pass
		High Edge	11	2462	4.30	-34.37	-15.7	Pass
TM2	1	Low Edge	1	2412	0.95	-34.77	-19.0	Pass
		High Edge	11	2462	1.99	-35.59	-18.0	Pass
	2	Low Edge	1	2412	1.18	-35.82	-18.8	Pass
		High Edge	11	2462	0.47	-38.73	-19.5	Pass
TM3	1	Low Edge	1	2412	-1.33	-39.20	-21.3	Pass
		High Edge	11	2462	0.08	-40.12	-20.0	Pass
	2	Low Edge	1	2412	-1.66	-39.92	-21.7	Pass
		High Edge	11	2462	-2.29	-41.45	-22.3	Pass
TM4	1	Low Edge	3	2422	-4.68	-34.78	-24.7	Pass
		High Edge	9	2452	-6.02	-35.06	-26.1	Pass
	2	Low Edge	3	2422	-4.85	-34.87	-25.0	Pass
		High Edge	9	2452	-6.54	-36.96	-26.7	Pass
TM5	1	Low Edge	1	2412	-1.03	-36.37	-21.0	Pass
		High Edge	11	2462	-1.42	-40.68	-21.4	Pass
	2	Low Edge	1	2412	-1.54	-40.06	-21.5	Pass
		High Edge	11	2462	-1.12	-39.91	-21.1	Pass
TM6	1	Low Edge	3	2422	-6.46	-36.89	-26.5	Pass
		High Edge	9	2452	-6.41	-36.65	-26.64	Pass
	2	Low Edge	3	2422	-6.47	-37.60	-26.5	Pass
		High Edge	9	2452	-5.13	-35.80	-25.1	Pass

### 8.3.5 Conclusion

The equipment **PASSED** the requirement of this clause.



For the measurement results refer to appendix C.



## 8.4 Conducted RF spurious

### 8.4.1 Test Conditions

Table 22 Test Conditions

Preconditioning:	0.5 hour
Measured at:	Antenna connector
Ambient temperature:	25°C
Relative humidity:	55%
Test Configurations:	TM1/TM2/TM3/TM4/TM5/TM6 at channel No. L, M, H

### 8.4.2 Test Specifications and Limits

#### 8.4.2.1 Specification

CFR 47 (FCC) part 15.247 (d) and KDB 558074

#### 8.4.2.2 Supporting Standards

Table 23 Supporting Standards:

ANSI C63.10-2009	American National Standard for Testing Unlicensed Wireless Devices
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#### 8.4.2.3 Limits

Comply with part 15.247 (d), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required.

Table 24 Limits

Band edge spurious:	20 dBc/100kHz
---------------------	---------------

### 8.4.3 Test Method and Setup

- (a) Connect test port of EUT to spectrum analyzer
- (b) Set the EUT to transmit maximum output power at 2.4GHz .
- (c) Then set the EUT to transmit at high, middle and low frequency and measure the conducted band edge spurious separately.

### Test setup

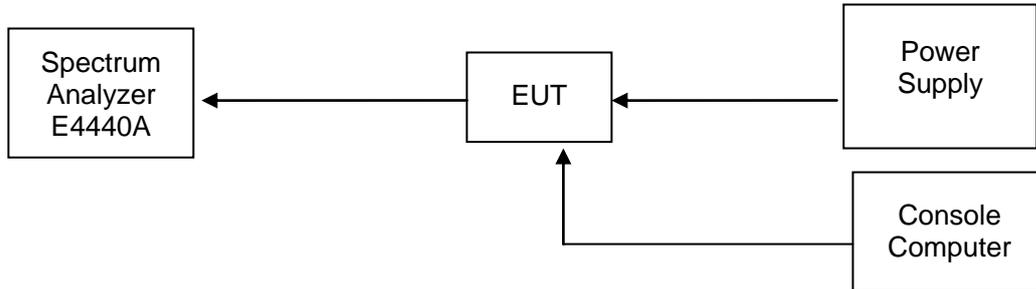


Figure 4. Test Set-up

### 8.4.4 Measurement Results

Table 25 Measurement Results

Test condition	Chain	Test Frequency Range	Channel No.	Carrier Frequency [MHz]	Carrier Power [dBm]	Max. Spurious Level [dBm]	Limit [dBm]	Result
TM1	1	9KHz-26GHz	1	2412	7.59	-42.11	-12.4	Pass
		9KHz-26GHz	6	2437	-6.98	-40.51	-13.0	Pass
		9KHz-26GHz	11	2462	6.89	-42.47	-13.1	Pass
	2	9KHz-26GHz	1	2412	7.27	-42.54	-12.7	Pass
		9KHz-26GHz	6	2437	7.11	-41.56	-12.9	Pass
		9KHz-26GHz	11	2462	7.17	-41.89	-12.8	Pass
TM2	1	9KHz-26GHz	1	2412	8.41	42.20	-11.6	Pass
		9KHz-26GHz	6	2437	6.85	-42.37	-13.1	Pass
		9KHz-26GHz	11	2462	7.36	-41.90	-12.6	Pass
	2	9KHz-26GHz	1	2412	9.48	-42.39	-10.5	Pass
		9KHz-26GHz	6	2437	9.94	-41.77	-10.1	Pass
		9KHz-26GHz	11	2462	7.77	-42.48	-12.2	Pass
TM3	1	9KHz-26GHz	1	2412	6.58	-42.43	-13.5	Pass
		9KHz-26GHz	6	2437	3.77	-42.72	-16.2	Pass
		9KHz-26GHz	11	2462	4.89	-42.00	-15.1	Pass
	2	9KHz-26GHz	1	2412	5.22	-42.16	-14.8	Pass
		9KHz-26GHz	6	2437	6.48	-43.00	-13.5	Pass
		9KHz-26GHz	11	2462	6.58	-42.87	-13.4	Pass
TM4	1	9KHz-26GHz	3	2422	2.83	-42.60	-7.2	Pass
		9KHz-26GHz	6	2437	3.34	-42.61	-16.7	Pass
		9KHz-26GHz	9	2452	2.95	-42.99	-17.0	Pass
	2	9KHz-26GHz	3	2422	3.21	-42.11	-16.8	Pass
		9KHz-26GHz	6	2437	2.34	-41.58	-17.7	Pass
		9KHz-26GHz	9	2452	2.62	-42.30	-17.4	Pass
TM5	1	9KHz-26GHz	1	2412	6.05	-42.62	-13.9	Pass
		9KHz-26GHz	6	2437	5.52	-42.06	-14.5	Pass
		9KHz-26GHz	11	2462	5.74	-42.08	-14.3	Pass



Test condition	Chain	Test Frequency Range	Channel No.	Carrier Frequency [MHz]	Carrier Power [dBm]	Max. Spurious Level [dBm]	Limit [dBm]	Result
	2	9KHz-26GHz	1	2412	5.98	-41.77	-14.0	Pass
		9KHz-26GHz	6	2437	5.53	-42.93	-14.5	Pass
		9KHz-26GHz	11	2462	5.60	-41.88	-14.4	Pass
TM6	1	9KHz-26GHz	3	2422	2.29	-42.74	-14.7	Pass
		9KHz-26GHz	6	2437	2.43	-42.02	-17.6	Pass
		9KHz-26GHz	9	2452	1.88	-42.73	-18.1	Pass
	2	9KHz-26GHz	3	2422	2.91	-42.95	-17.1	Pass
		9KHz-26GHz	6	2437	4.07	-42.21	-15.9	Pass
		9KHz-26GHz	9	2452	2.52	-42.40	-17.5	Pass

### 8.4.5 Conclusion

The equipment **PASSED** the requirement of this clause.  
For the measurement results refer to appendix D.



## 8.5 Power spectral density

### 8.5.1 Test Conditions

Table 26 Test Conditions

Preconditioning:	0.5 hour
Measured at:	Antenna connector
Ambient temperature:	25°C
Relative humidity:	55%
Test Configurations:	TM1/TM2/TM3/TM4/TM5/TM6 at channel No. L, M, H

### 8.5.2 Test Specifications and Limits

#### 8.5.2.1 Specification

CFR 47 (FCC) part 15.247 (e) and KDB 558074

#### 8.5.2.2 Supporting Standards

Table 27 Supporting Standards:

ANSI C63.10-2009	American National Standard for Testing Unlicensed Wireless Devices
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#### 8.5.2.3 Limits

Comply with part 15.247 (e), For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. The same method of determining the conducted output power shall be used to determine the power spectral density.

Table 28 Limits

Band edge spurious:	8 dBm/3kHz
---------------------	------------

### 8.5.3 Test Method and Setup

- (a) Connect test port of EUT to spectrum analyzer
- (b) Set the EUT to transmit maximum output power at 2.4GHz.
- (c) Then set the EUT to transmit at high, middle and low frequency and measure the conducted band edge spurious separately.

## Test setup

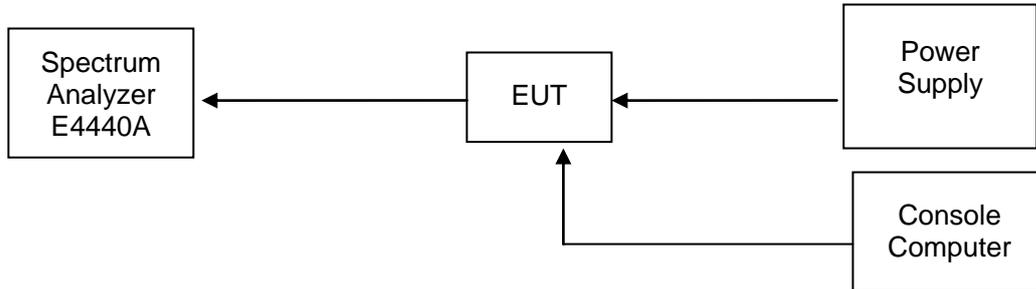


Figure 5. Test Set-up

## 8.5.4 Measurement Results

Table 29 Measurement Results

Test condition	Chain	Channel Position	Channel Number	Frequency [MHz]	Measured Power spectral density [dBm]	Limit [dBm]	Result
TM1	1	L	1	2412	-7.81	< 8	Pass
		M	6	2437	-8.18	< 8	Pass
		H	11	2462	-9.35	< 8	Pass
	2	L	1	2412	-8.22	< 8	Pass
		M	6	2437	-8.13	< 8	Pass
		H	11	2462	-9.38	< 8	Pass
TM2	1	L	1	2412	-11.66	< 8	Pass
		M	6	2437	-12.47	< 8	Pass
		H	11	2462	-11.61	< 8	Pass
	2	L	1	2412	-11.34	< 8	Pass
		M	6	2437	-11.40	< 8	Pass
		H	11	2462	-11.35	< 8	Pass
TM3	1	L	1	2412	-12.45	< 8	Pass
		M	6	2437	-13.76	< 8	Pass
		H	11	2462	-12.52	< 8	Pass
	2	L	1	2412	-14.64	< 8	Pass
		M	6	2437	-13.49	< 8	Pass
		H	11	2462	-13.68	< 8	Pass
TM4	1	L	3	2422	-17.16	< 8	Pass
		M	6	2437	-17.09	< 8	Pass
		H	9	2452	-17.29	< 8	Pass
	2	L	3	2422	-18.13	< 8	Pass
		M	6	2437	-15.08	< 8	Pass
		H	9	2452	-18.17	< 8	Pass
TM5	1	L	1	2412	-13.33	---	---
		M	6	2437	-14.00	---	---
		H	11	2462	-14.52	---	---



Test condition	Chain	Channel Position	Channel Number	Frequency [MHz]	Measured Power spectral density [dBm]	Limit [dBm]	Result
	2	L	1	2412	-14.63	---	---
		M	6	2437	-13.25	---	---
		H	11	2462	-13.41	---	---
	1+2	L	1	2412	-10.92	< 8	Pass
		M	6	2437	-10.60	< 8	Pass
		H	11	2462	-10.92	< 8	Pass
TM6	1	L	3	2422	-18.31	---	---
		M	6	2437	-18.42	---	---
		H	9	2452	-17.23	---	---
	2	L	3	2422	-18.52	---	---
		M	6	2437	-16.51	---	---
		H	9	2452	-19.23	---	---
	1+2	L	3	2422	-15.40	< 8	Pass
		M	6	2437	-14.35	< 8	Pass
		H	9	2452	-15.11	< 8	Pass

### 8.5.5 Conclusion

The equipment **PASSED** the requirement of this clause.  
For the measurement results refer to appendix E.



## 8.6 Radiated spurious emission & spurious in restricted band

### 8.6.1 Test Conditions

Table 30 Test Conditions

Preconditioning:	0.5 hour
Measured at:	enclosure
Ambient temperature:	25. °C
Relative humidity:	55%
Test Configurations:	TM1/TM2/TM3/TM4/TM5/TM6 at channel No. L, M, H

### 8.6.2 Test Specifications and Limits

#### 8.6.2.1 Specification

CFR 47 (FCC) part 15.247 (d), 15.205 & 15.209 and KDB 558074

#### 8.6.2.2 Supporting Standards

Table 31 Supporting Standards:

ANSI C63.10-2009	American National Standard for Testing Unlicensed Wireless Devices
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#### 8.6.2.3 Limits

According to part 15.247 (d) / 15.205 & 15.209, all spurious emission in the frequency range from 30MHz to 10<sup>th</sup> harmonics of carrier frequency should be meet the requirement of following table.

Table 32 Limits

Frequency (MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Measurement Distance (meters)	Detector
0.009 - 0.490	2400/F(kHz)	20*lg(2400/F(kHz))	300	QP
0.490 - 1.705	24000/F(kHz)	20*lg(24000/F(kHz))	30	QP
1.705 - 30	30	29.5	30	QP
30 – 88	100	40	3	QP
88 – 216	150	43.5	3	QP
216 – 960	200	46	3	QP
960 -1000	500	54	3	QP
Above 1000	500	54	3	AV
Above 1000	500	74	3	PK

In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), also should comply with the radiated emission limits specified in Section 15.209(a)(above table 42).

### 8.6.3 Test Method and Setup

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4dB according to the standards: ANSI C63.10 (2009). The EUT was set-up on insulator 80cm above the Ground Plane. The set-up and test methods were according to ANSI C63.10. The Radiated Disturbance measurements were made using a Rohde and Schwarz Test Receiver and control software.

A preliminary scan and a final scan of the emissions were made by using test script of software; the emissions were measured using a Quasi-Peak Detector below 1GHz, and AV detector above 1GHz. The maximal emission value was acquired by adjusting the antenna height, polarisation and turntable azimuth in accordance with the software setup. Normally, the height range of antenna was 1m to 4m, and the azimuth range of turntable was 0° to 360°. The receive antenna has two polarizations V and H.

A portable or small unlicensed wireless device shall be placed on a non-metallic test fixture or other nonmetallic support during testing. The supporting fixture shall permit orientation of the EUT in each of three orthogonal (x, y, z) axis positions such that emissions from the EUT are maximized.

The EUT communicates with the BTS simulator through Air interface. The EUT operated on the typical channel.

Measurement bandwidth: 30 MHz – 1000 MHz: 120 kHz  
 Measurement bandwidth: 1000 MHz – 10<sup>th</sup> Carrier Frequency: 1 MHz

#### Test set up

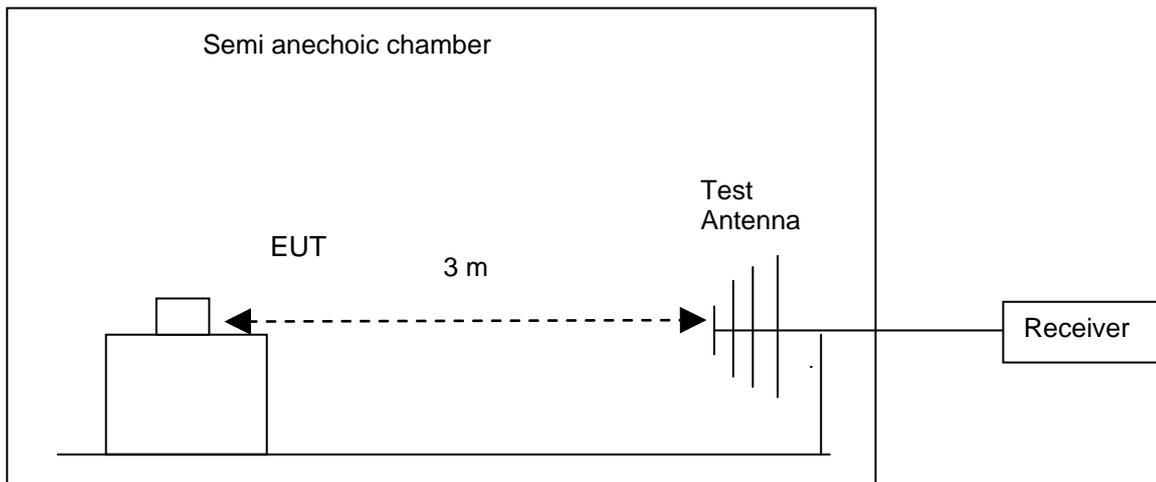


Figure 6. Test Set up

### 8.6.4 Measurement Results

Note 1: The following measurement results exceed the limit line is the carrier frequency.  
 Note 2: This test was carried out in all test modes, here only the worst test result was shown.

Test condition	Channel No.	Carrier Frequency [MHz]	Measured	Result
TM1	1	2412	Refer to Appendix F	Pass
	6	2437	Refer to Appendix F	Pass
	11	2462	Refer to Appendix F	Pass
TM2	1	2412	Refer to Appendix F	Pass
	6	2437	Refer to Appendix F	Pass
	11	2462	Refer to Appendix F	Pass



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TM3	1	2412	Refer to Appendix F	Pass
	6	2437	Refer to Appendix F	Pass
	11	2462	Refer to Appendix F	Pass
TM4	3	2422	Refer to Appendix F	Pass
	6	2437	Refer to Appendix F	Pass
	9	2452	Refer to Appendix F	Pass
TM5	1	2412	Refer to Appendix F	Pass
	6	2437	Refer to Appendix F	Pass
	11	2462	Refer to Appendix F	Pass
TM6	3	2422	Refer to Appendix F	Pass
	6	2437	Refer to Appendix F	Pass
	9	2452	Refer to Appendix F	Pass

### 8.6.5 Conclusion

The equipment **PASSED** the requirement of this clause.  
For the measurement results refer to appendix F.



## 8.7 Conducted Emission at Power Port

### 8.7.1 Test Conditions

Table 33 Test Conditions

Preconditioning:	0.5 hour
Measured at:	Power port
Ambient temperature:	25. °C
Relative humidity:	55%
Test Configurations:	TM1 at channel No. M

### 8.7.2 Test Specifications and Limits

#### 8.7.2.1 Specification

CFR 47 (FCC) part 15.207 and KDB 558074

#### 8.7.2.2 Supporting Standards

Table 34 Supporting Standards:

ANSI C63.10-2009	American National Standard for Testing Unlicensed Wireless Devices
------------------	--

#### 8.7.2.3 Limits

Comply with part15.207, conducted emission must meet the requirement of following table.

Table 35 Limits

Frequency of Emission (MHz)	Conducted Limit (dB $\mu$ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

Note: \* Decreases with the logarithm of the frequency.

### 8.7.3 Test Method and Setup

The Table-top EUT was placed upon a non-metallic table 0.8 m above the horizontal metal reference ground plane. EUT was connected to LISN and LISN was connected to reference Ground Plane. EUT was 80cm from LISN. The set-up and test methods were according to ANSI C63.10: 2009.

Conducted Disturbance at AC Port measurements were undertaken on the Land N Lines. The emissions were measured using a Quasi-Peak Detector and Average Detector.

The EUT communicates with the BTS simulator through Air interface, the BTS simulator controls the

Wireless Modem to transmitter the maximum power which defined in specification of product. The Wireless Modem operated on the typical channel.

Measurement bandwidth (RBW) for 150kHz to 30 MHz: 9 kHz;

### Test Set-up

The EUT was set in the screened chamber and operated under nominal conditions.

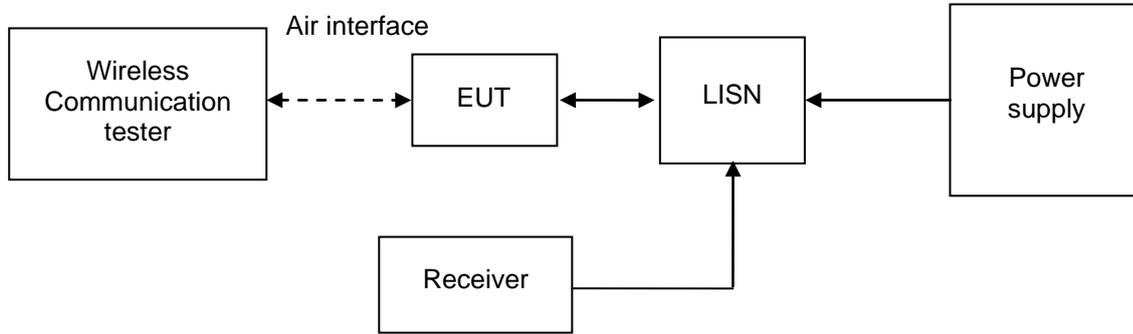


Figure 7. Test Set-up

### 8.7.4 Measurement Results

Table 36 MEASUREMENT RESULT:QP DECTER

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Line	PE
0.224077	36.9	9.7	62.7	25.8	L1	FLO
0.330252	41.8	9.7	59.4	17.6	L1	FLO
0.335902	41.6	9.7	59.3	17.7	L1	FLO
0.854070	31.4	9.7	56.0	24.6	L1	FLO
0.862234	31.0	9.7	56.0	25.0	L1	FLO
1.250021	28.1	9.7	56.0	27.9	L1	FLO

Table 37 MEASUREMENT RESULT:AV DECTER

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Line	PE
0.238829	29.3	9.7	52.1	22.8	L1	FLO
0.329378	33.3	9.7	49.5	16.2	L1	FLO
0.329396	33.2	9.7	49.5	16.3	L1	FLO
0.806325	22.5	9.7	46.0	23.5	L1	FLO
0.854111	21.4	9.7	46.0	24.6	L1	FLO
1.186392	22.3	9.7	46.0	23.7	L1	FLO

### 8.7.5 Conclusion

The equipment **PASSED** the requirement of this clause.  
 For the measurement results refer to appendix G.



## 9 System Measurement Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 as following:

Table 38 System Measurement Uncertainty

Items		Extended Uncertainty
Bandwidth measurement	Magnitude (%)	U=0.2%; k=2
Peak output power	Power(dBm)	U=0.39dB; k=2
Band edge compliance measurement	Disturbance Power(dBm)	U=2.0dB; k=2
Conducted RF spurious	Disturbance Power(dBm)	U=0.4dB; k=2
Power spectral density	Disturbance Power(dBm)	U=0.4dB; k=2
Radiated spurious emission & Radiated restricted band measurement	Field strength (dB $\mu$ V/m)	U=4.1dB; k=2 U=4.1dB; k=2
Conducted emission test for power port	Disturbance Voltage(dB $\mu$ V)	U=3.4dB; k=2

END



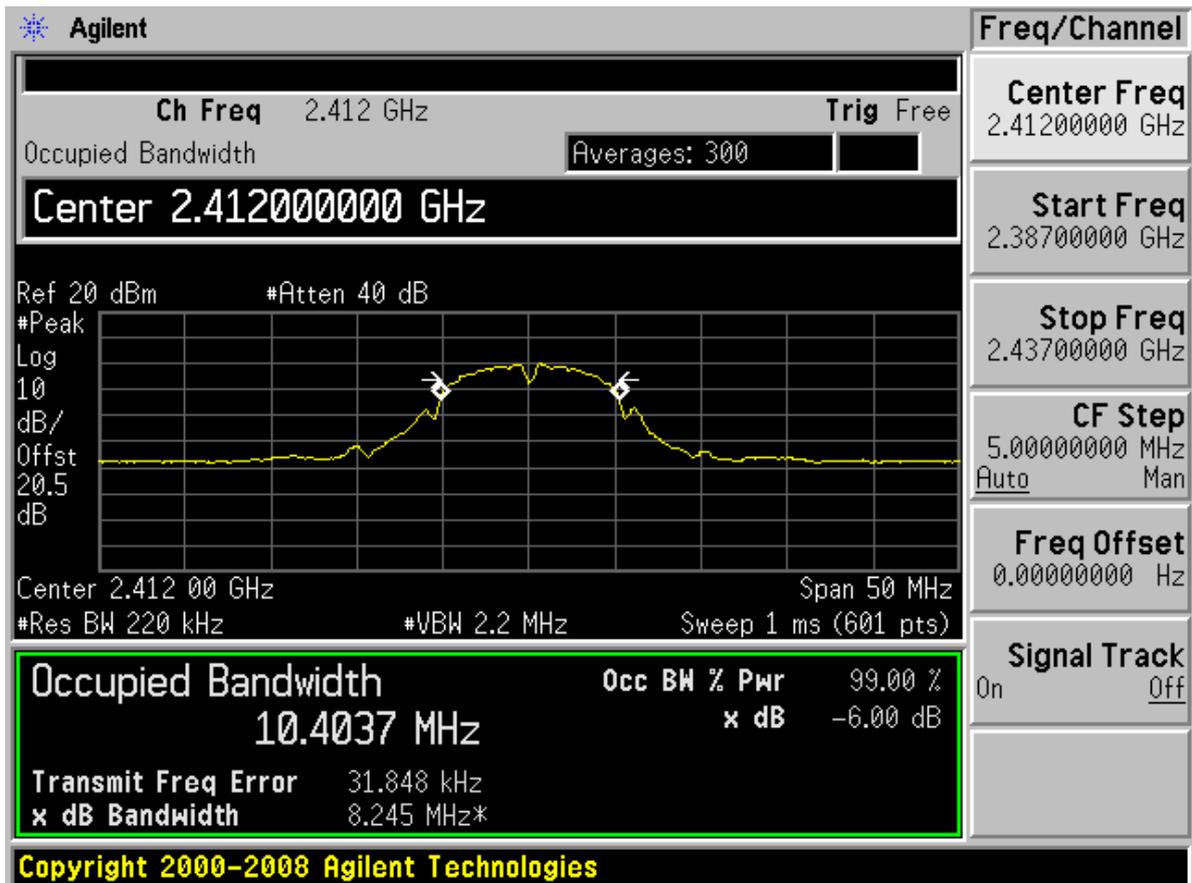
# **Appendix A**

## Bandwidth measurement

According to FCC Part 15.247 (a) (2) & RSS-210

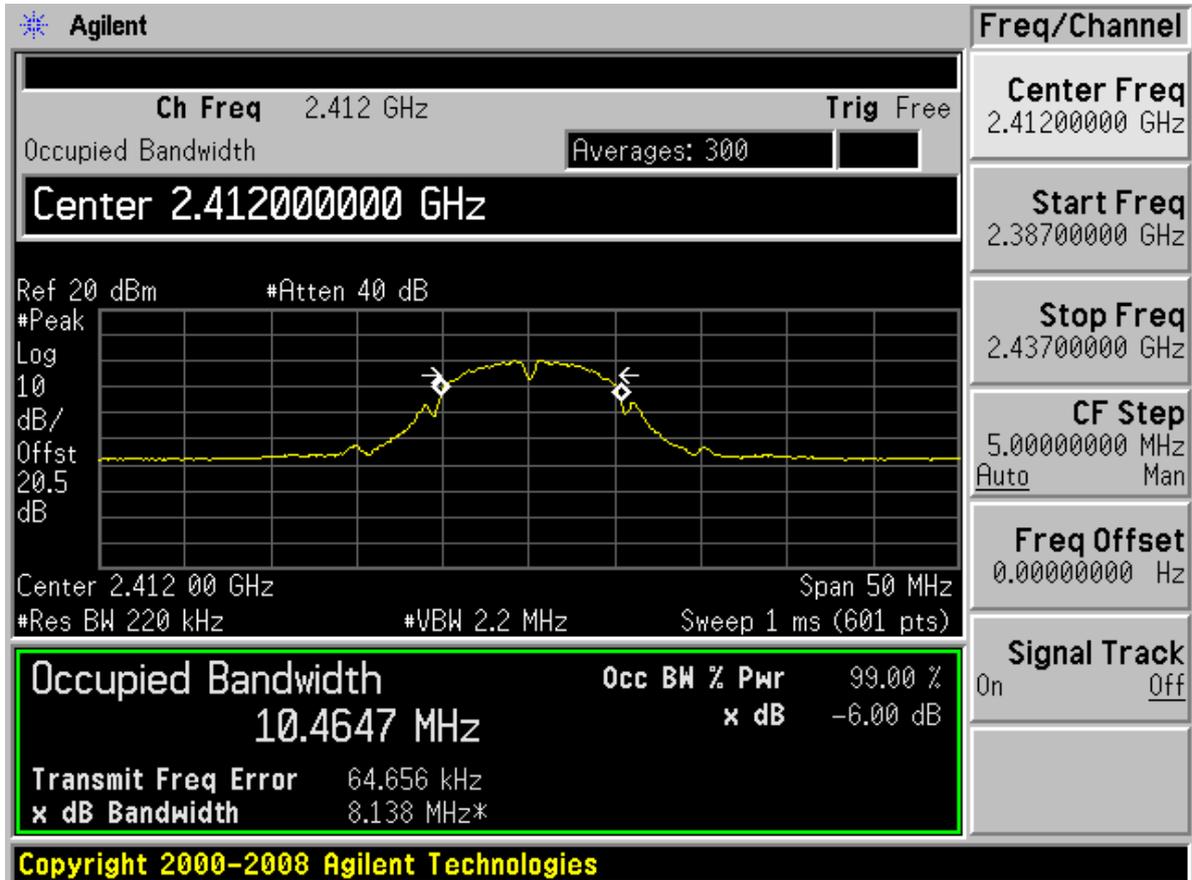


# 11B Chain 1&2 Channel 01 Chain 1



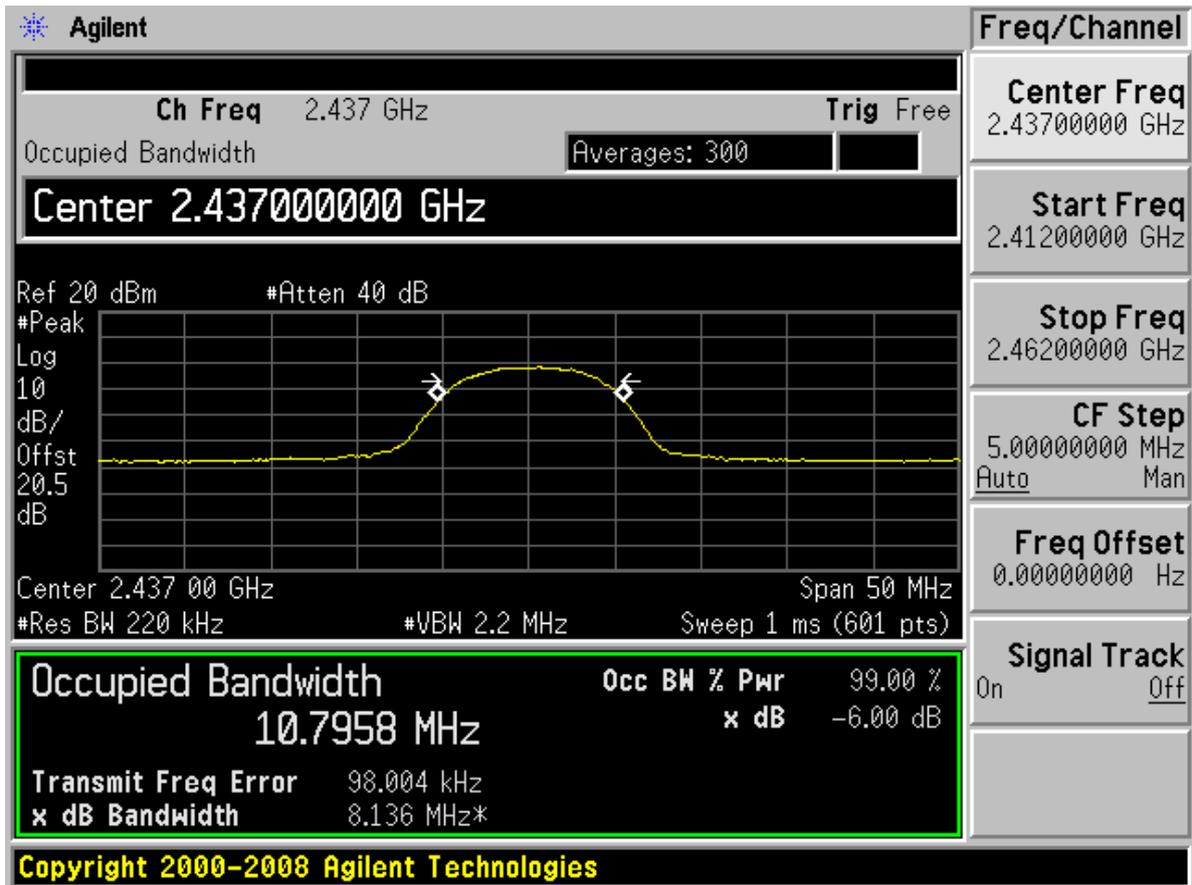


## Chain 2



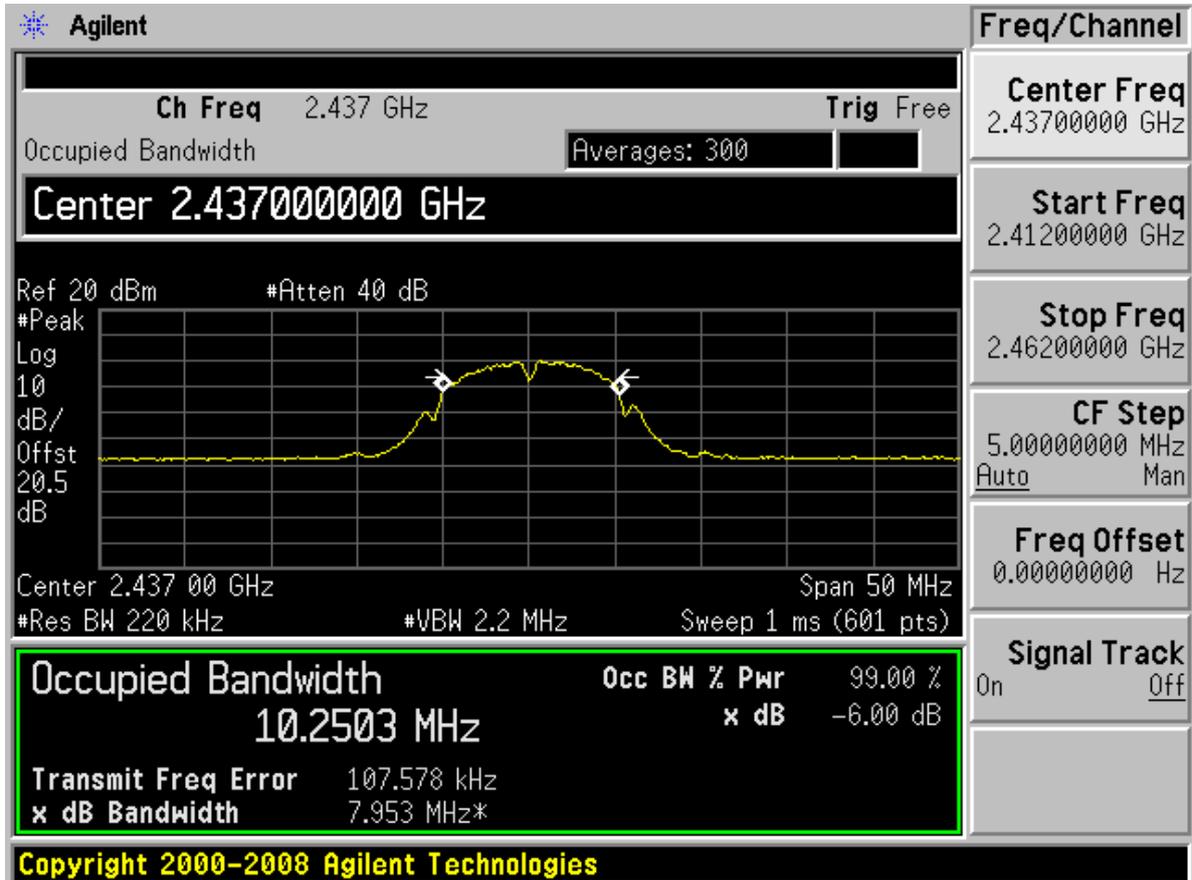


# Channel 06 Chain 1





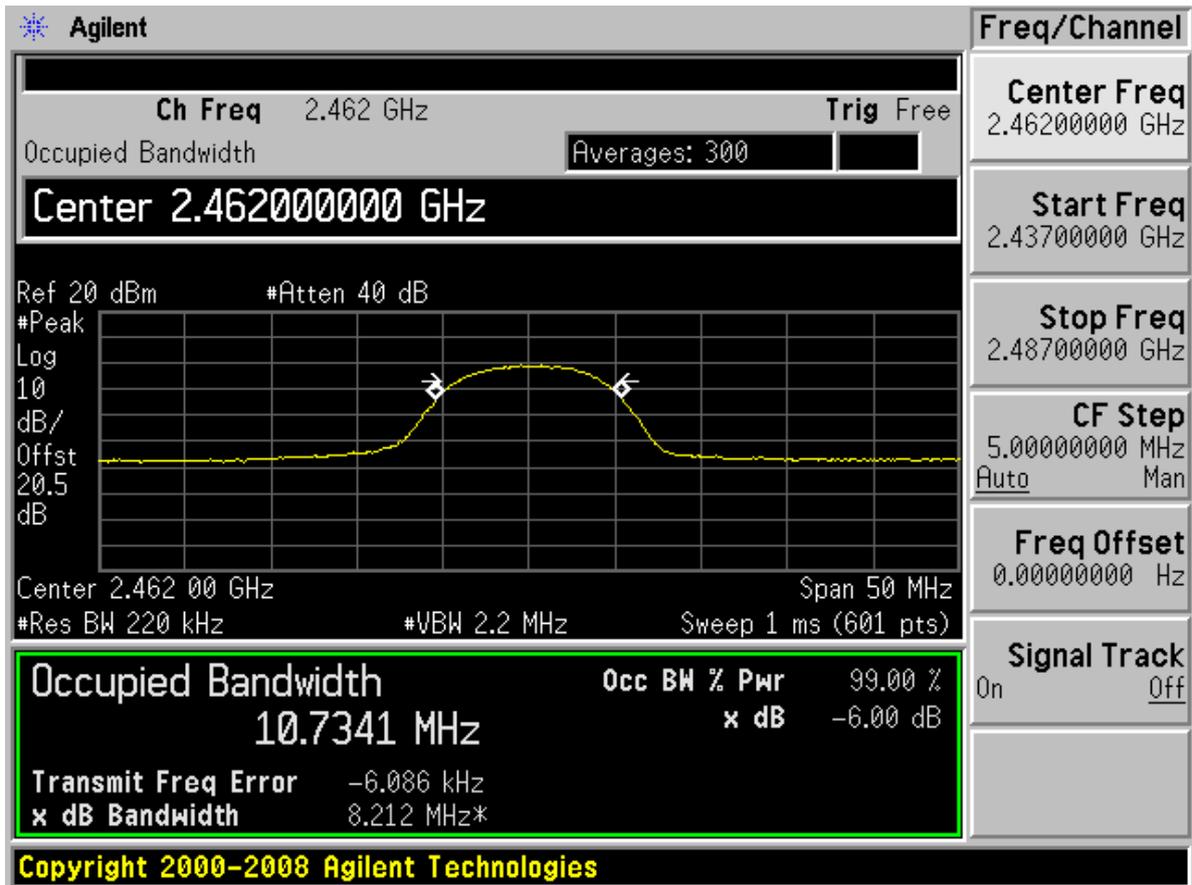
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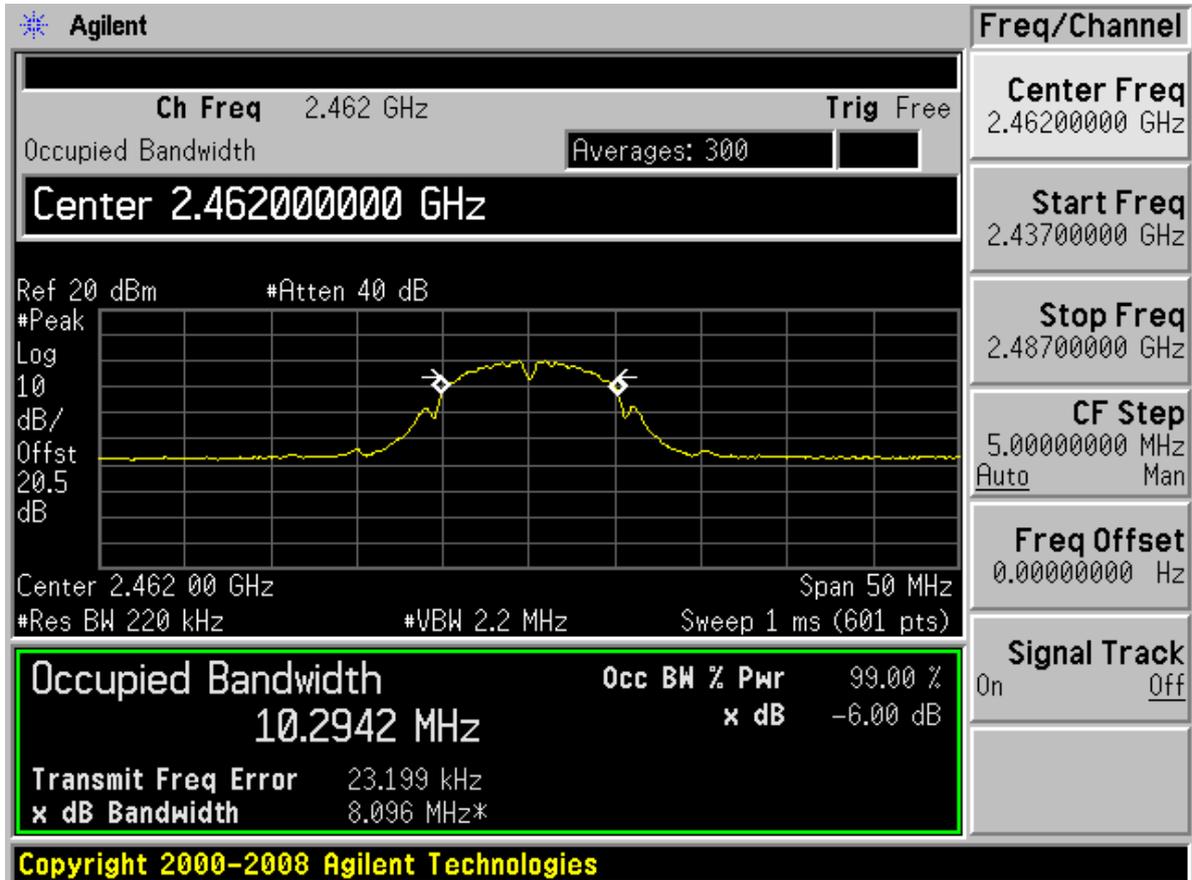
# Channel 11

## Chain 1



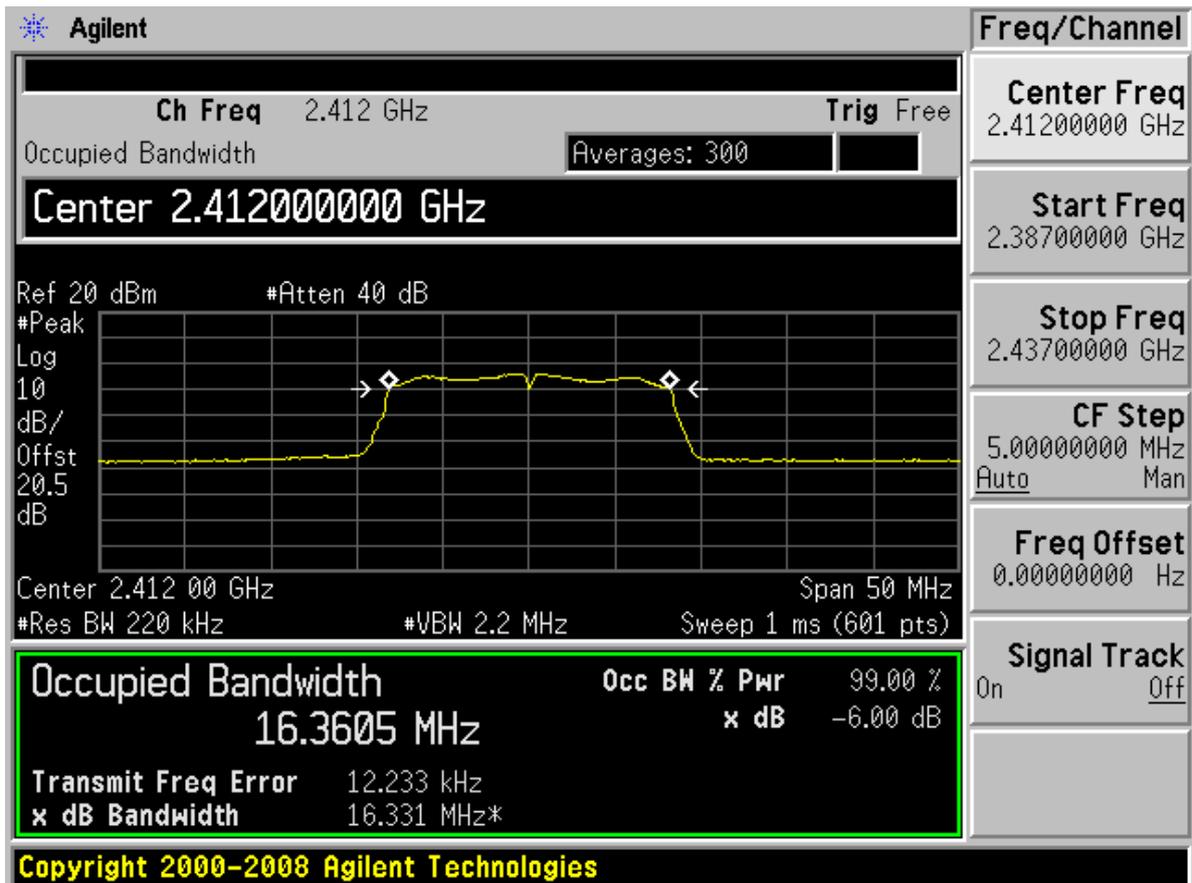


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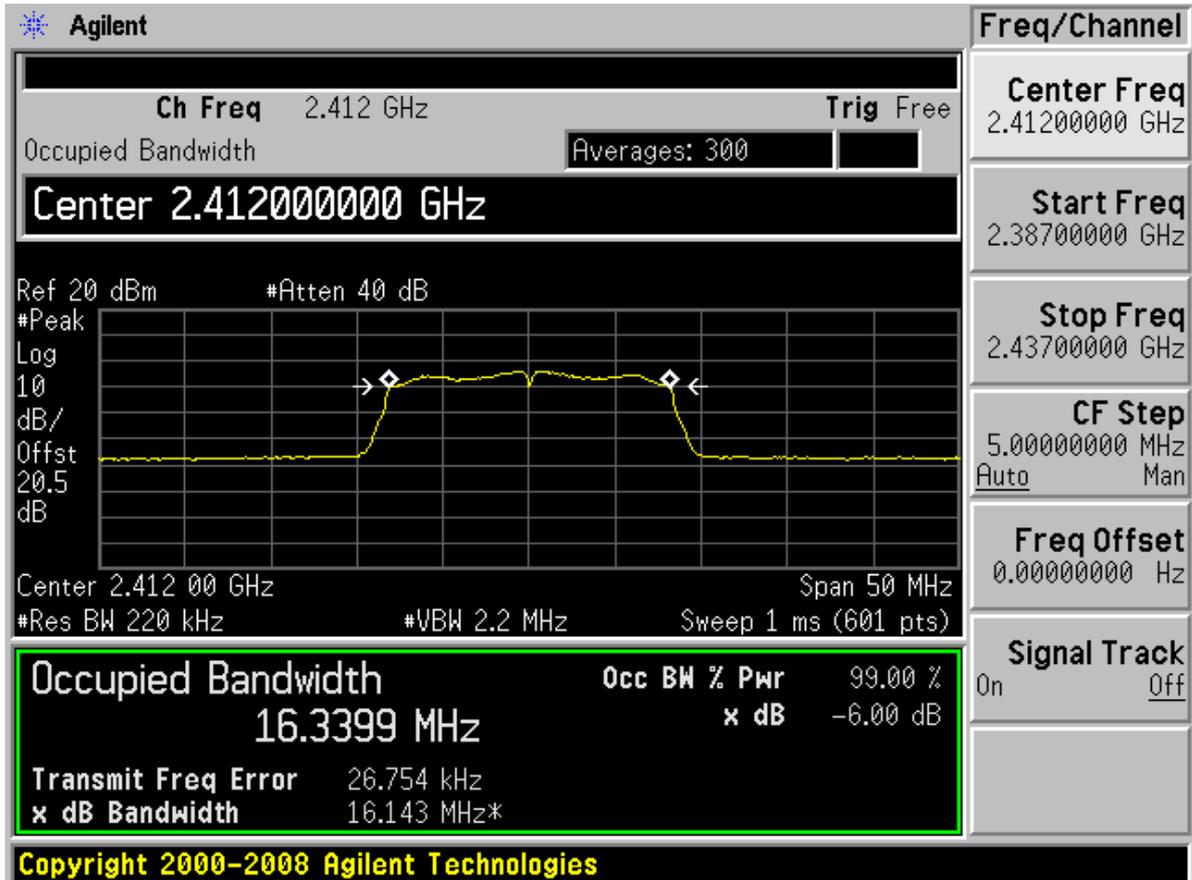


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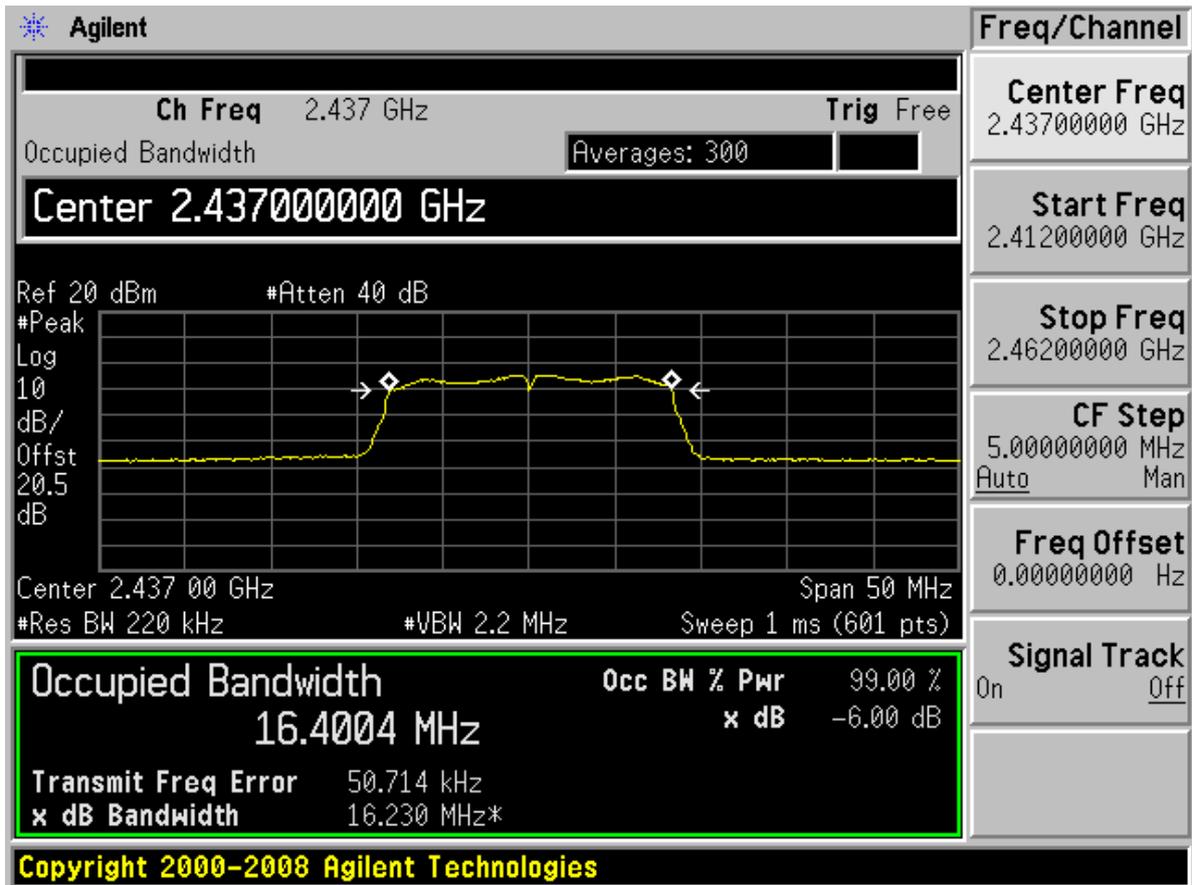


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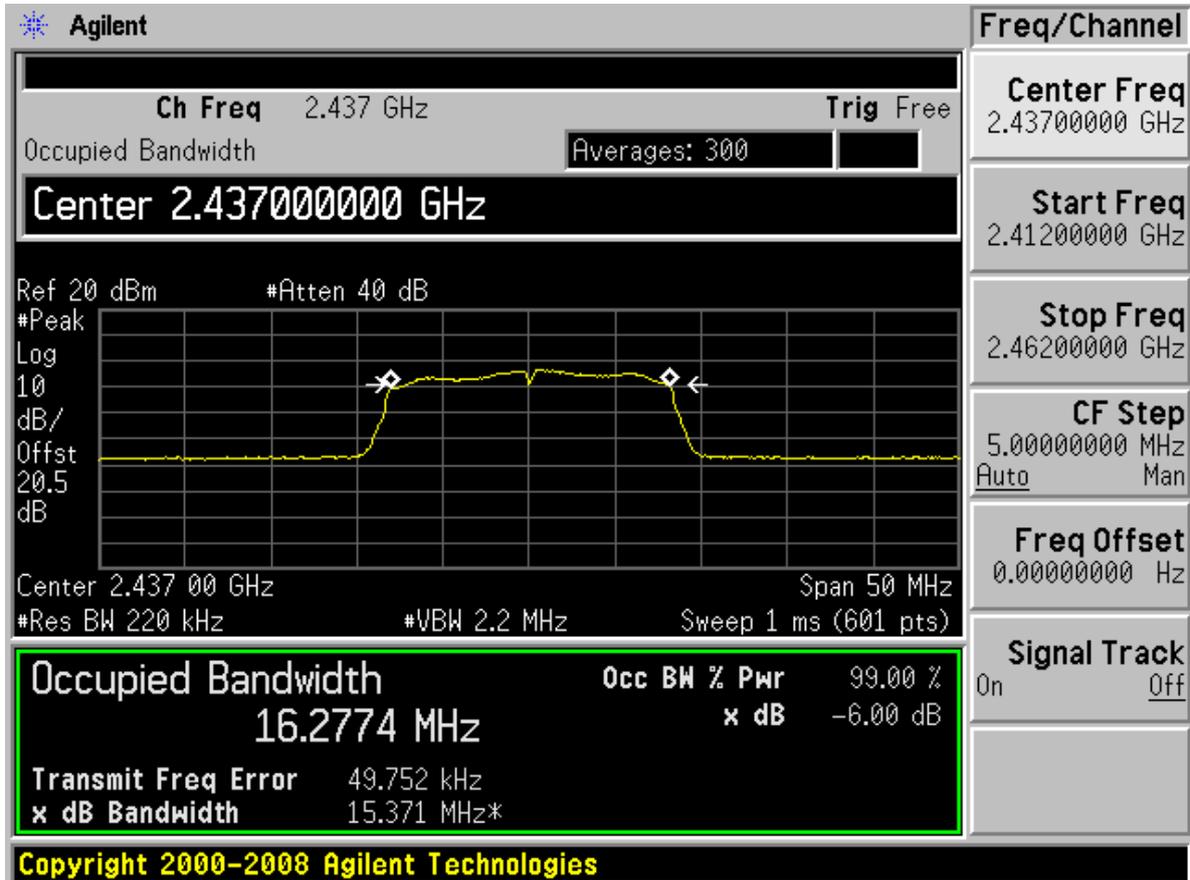


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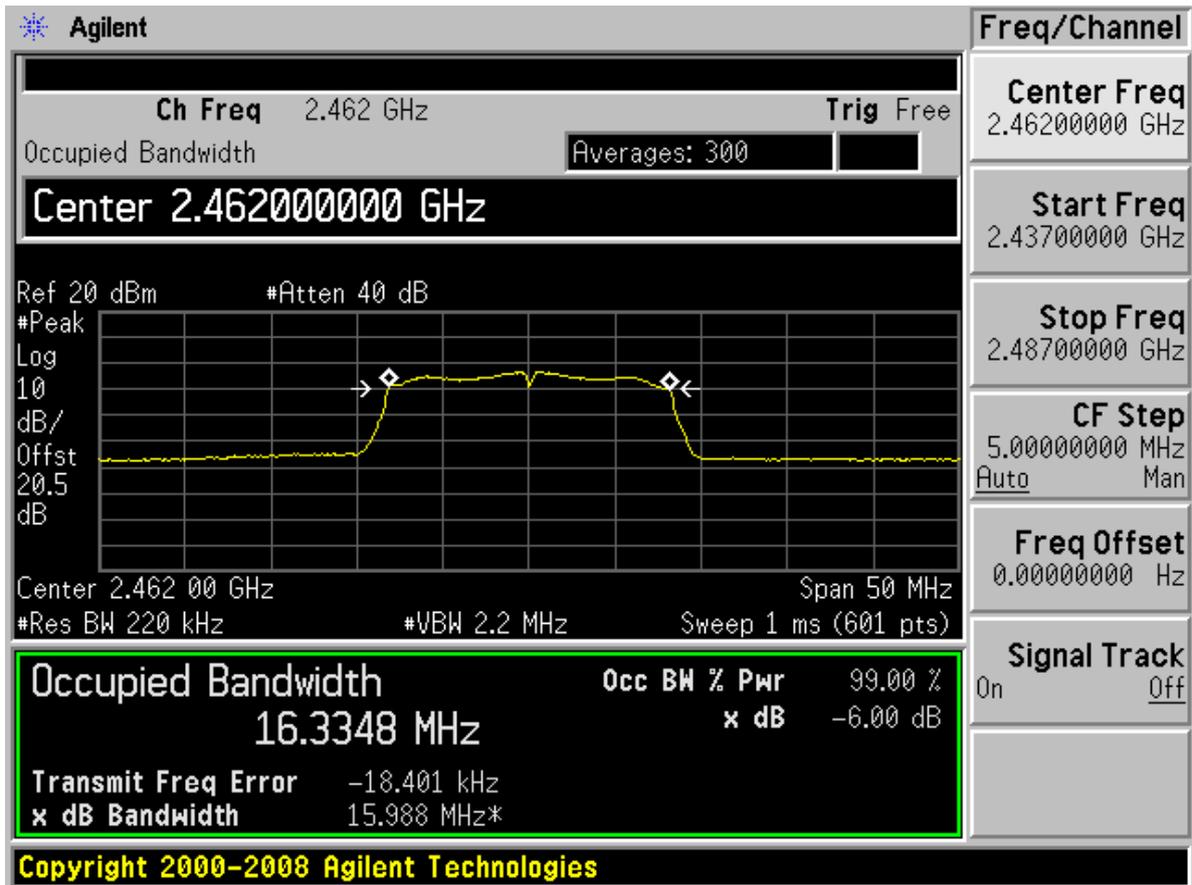
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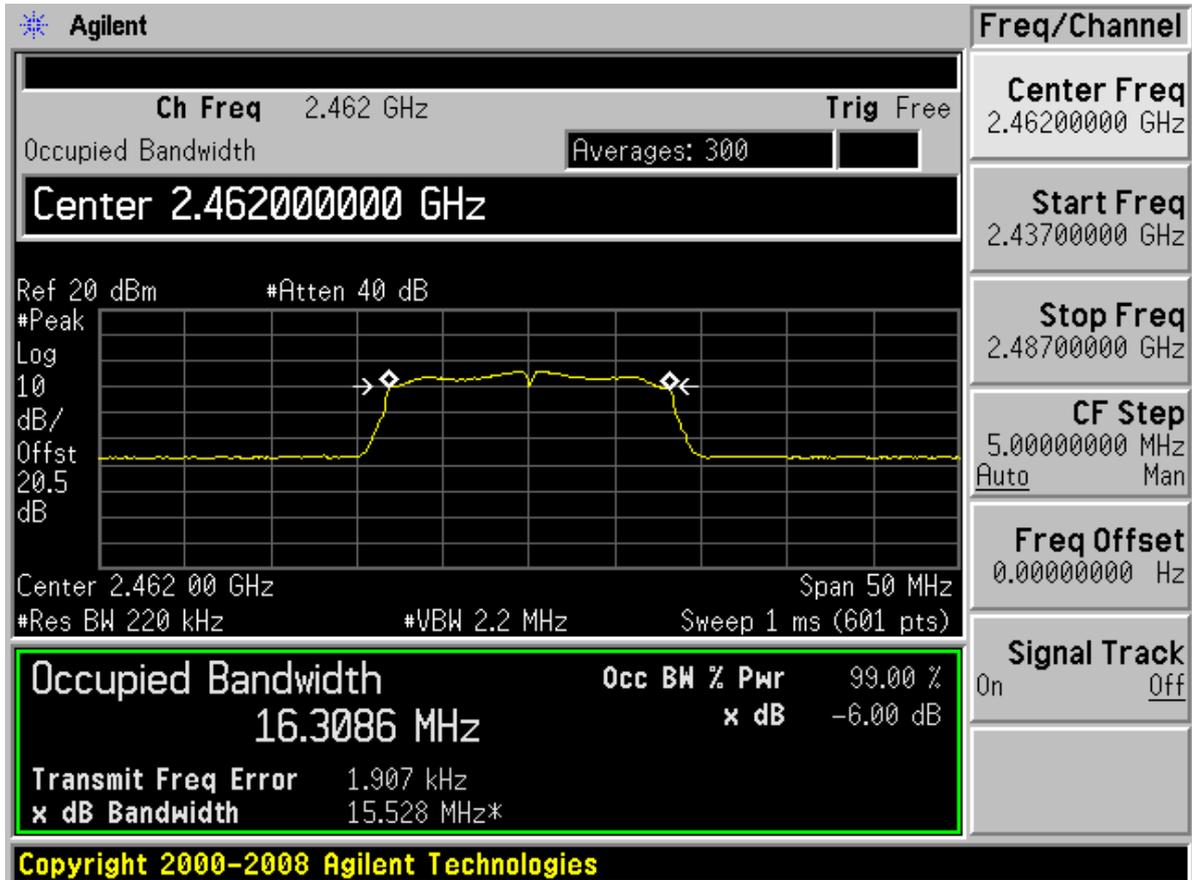
# Channel 11

## Chain 1



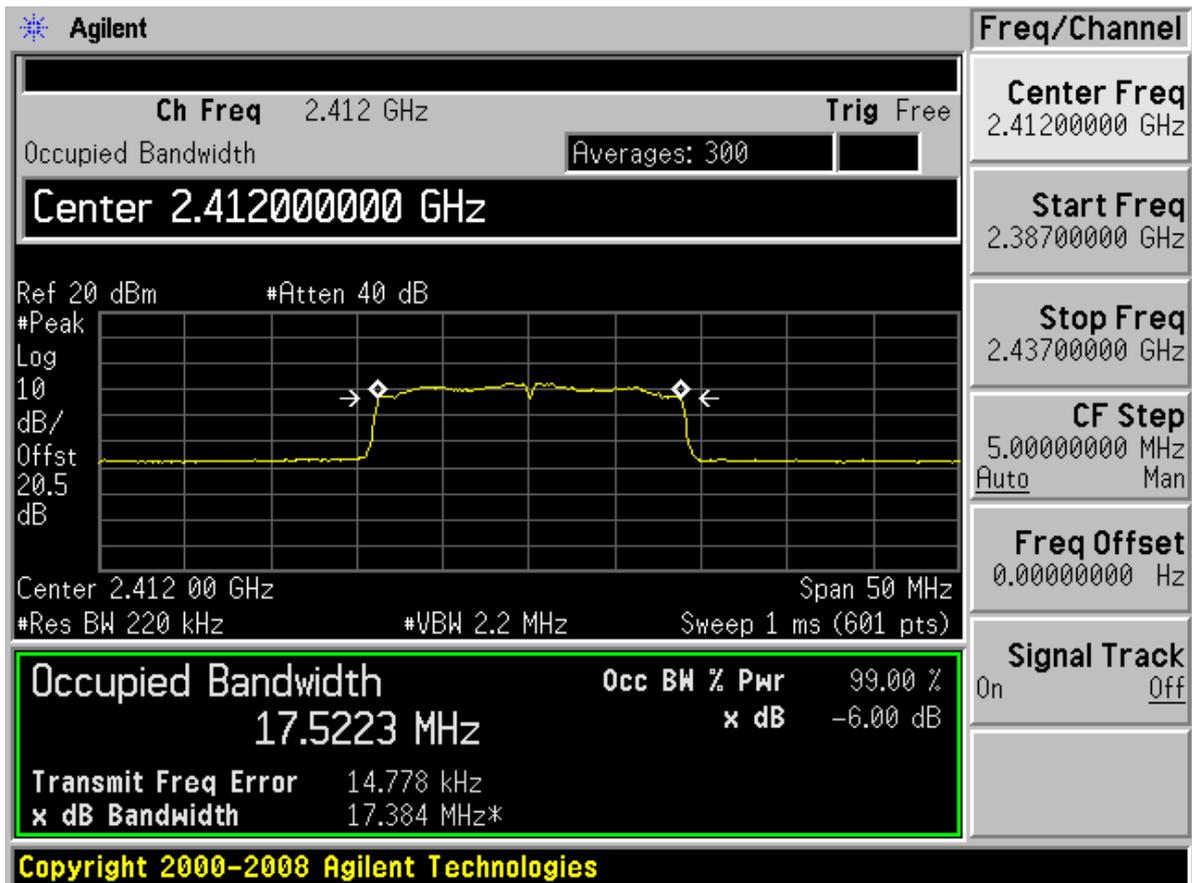


## Chain 2



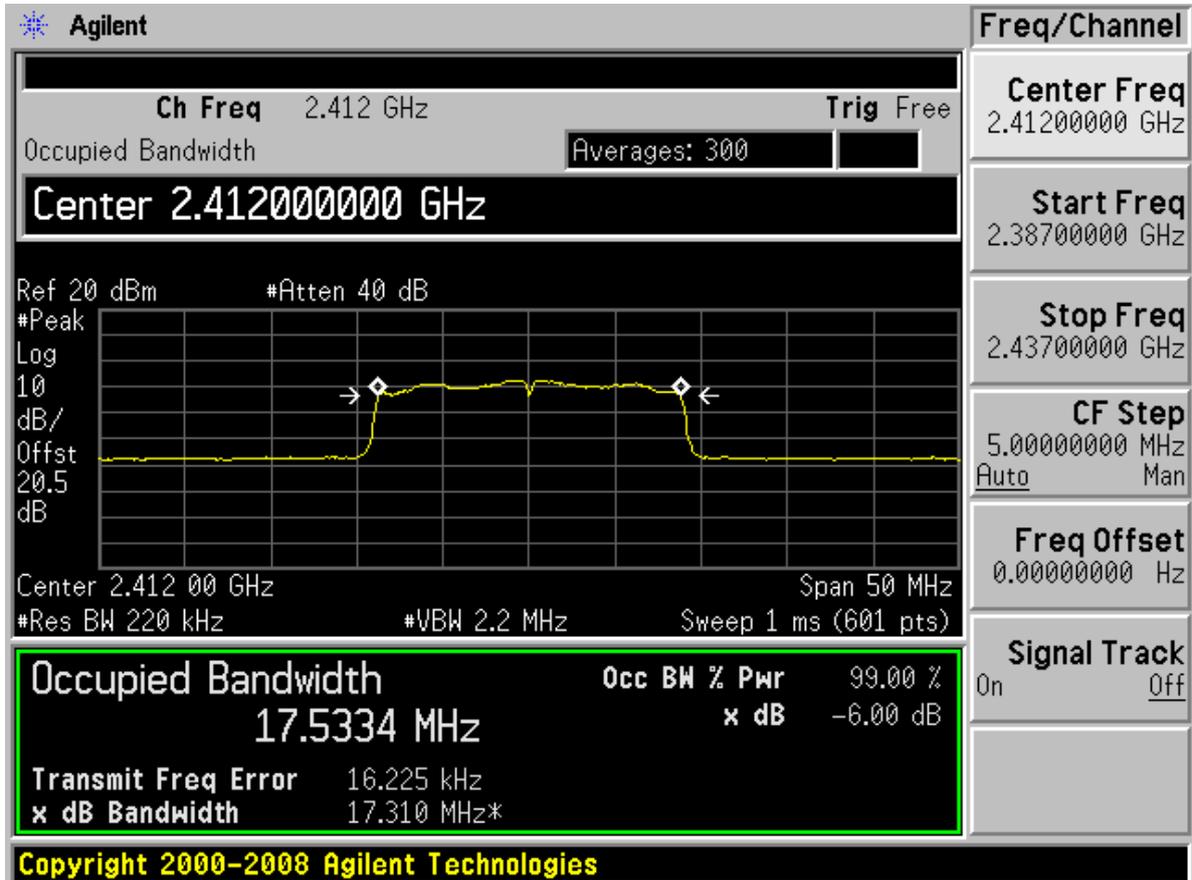


# 11N20M Chain 1&2 Channel 01 Chain 1





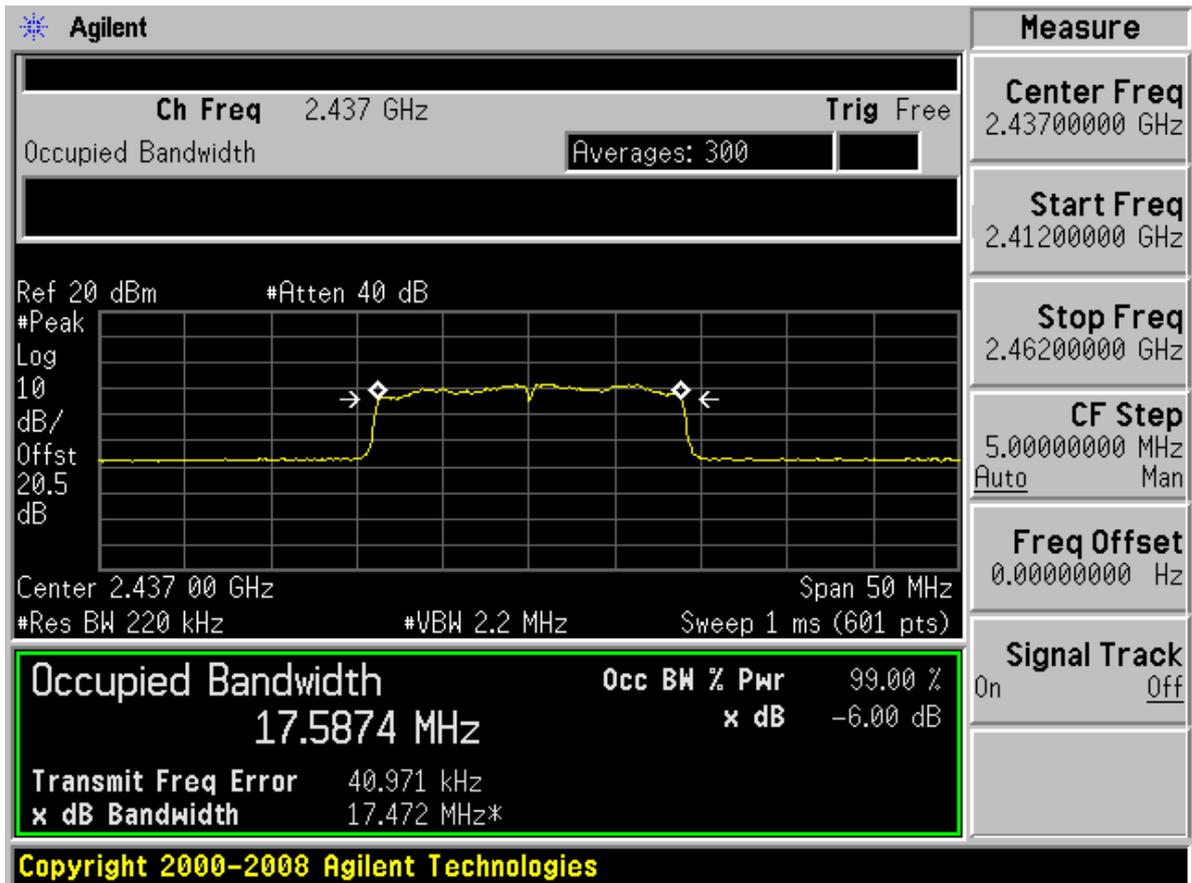
## Chain 2





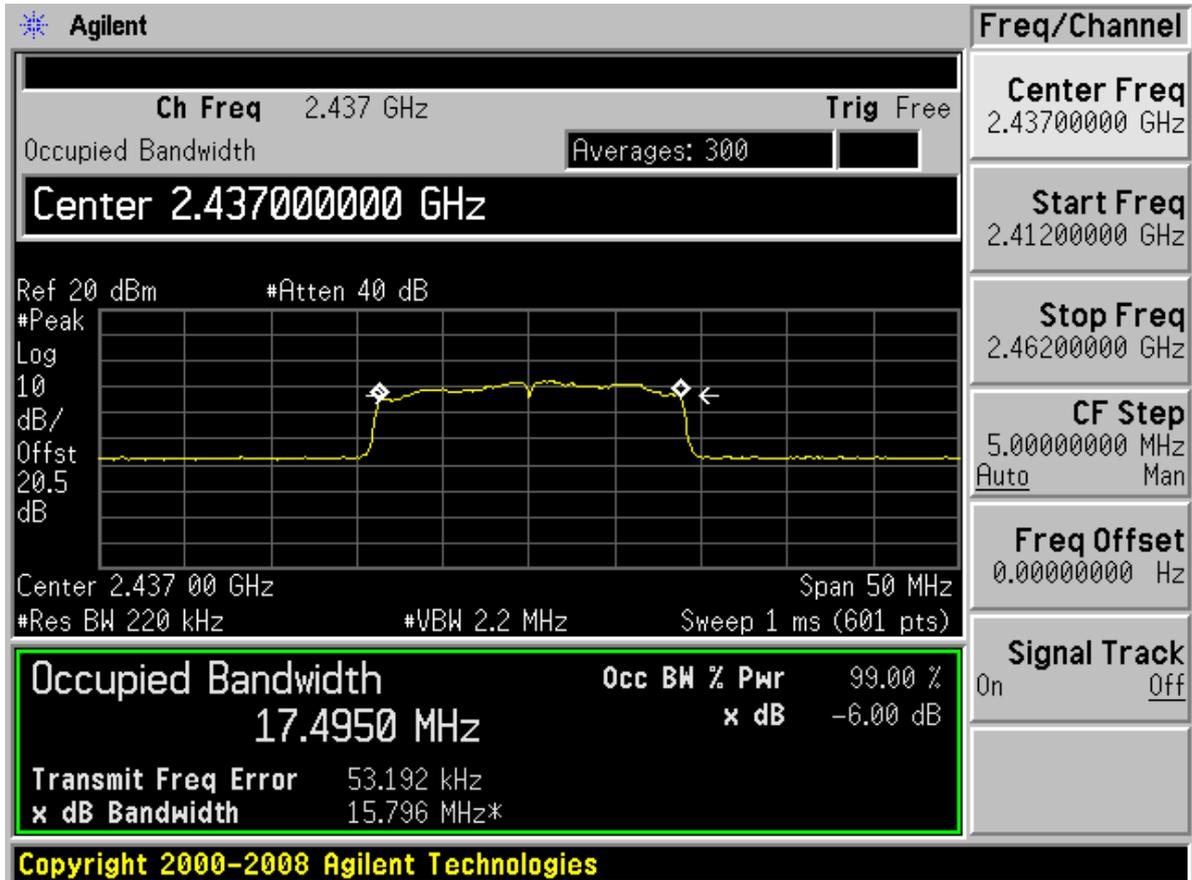
# Channel 06

## Chain 1





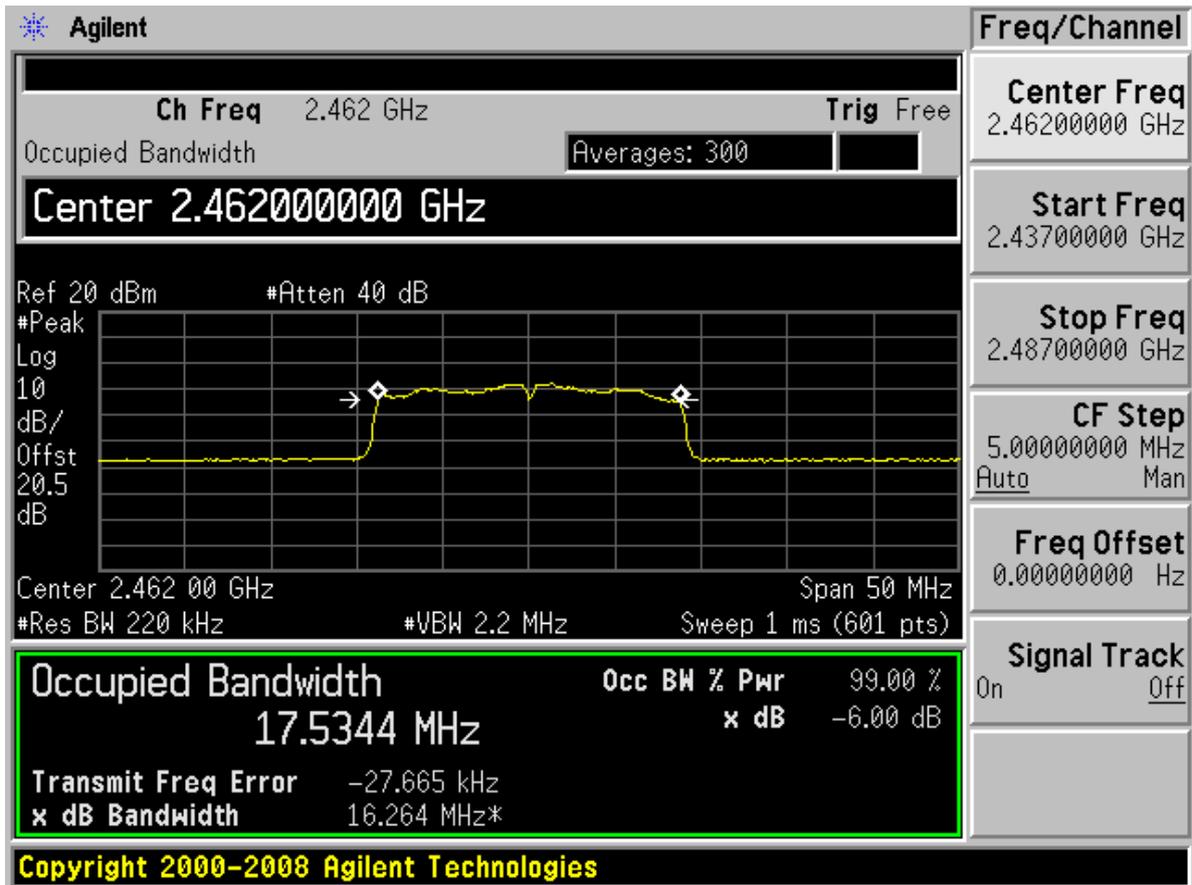
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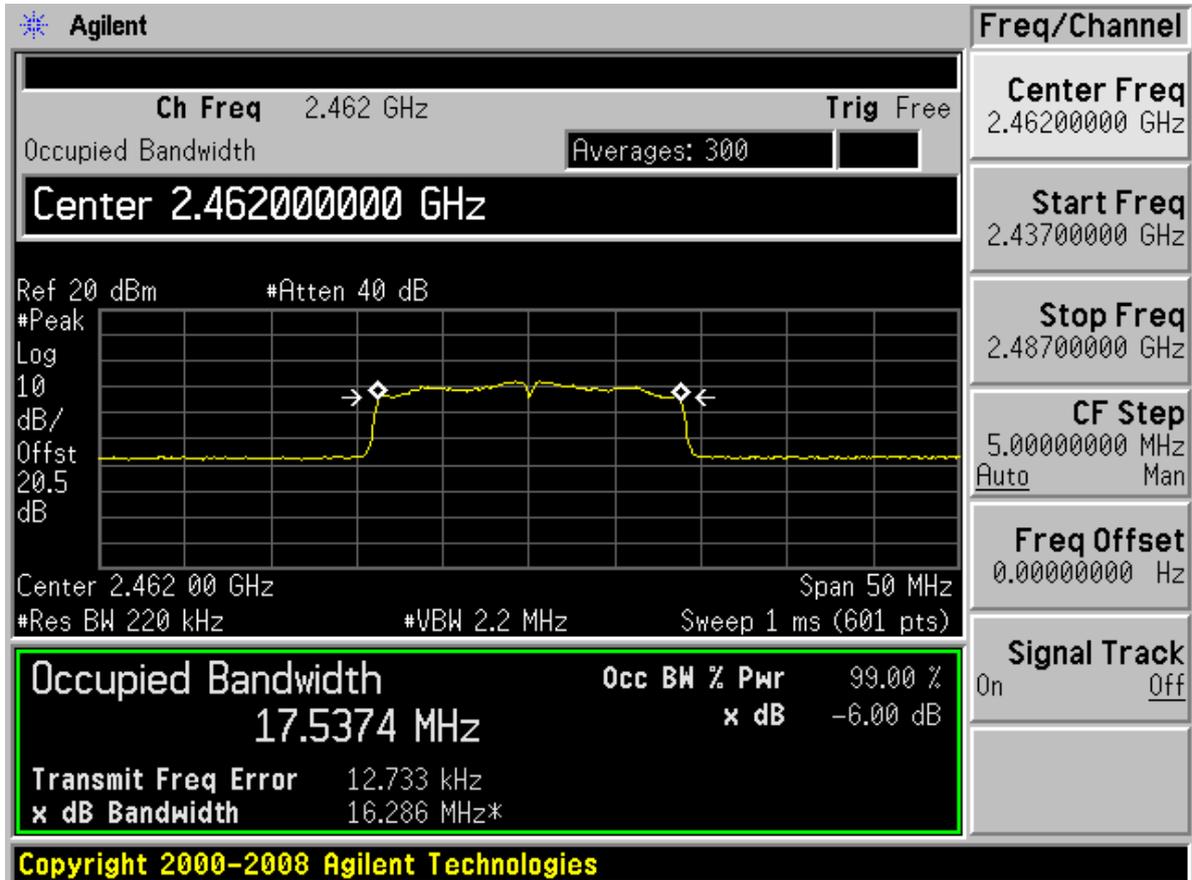
# Channel 11

## Chain 1



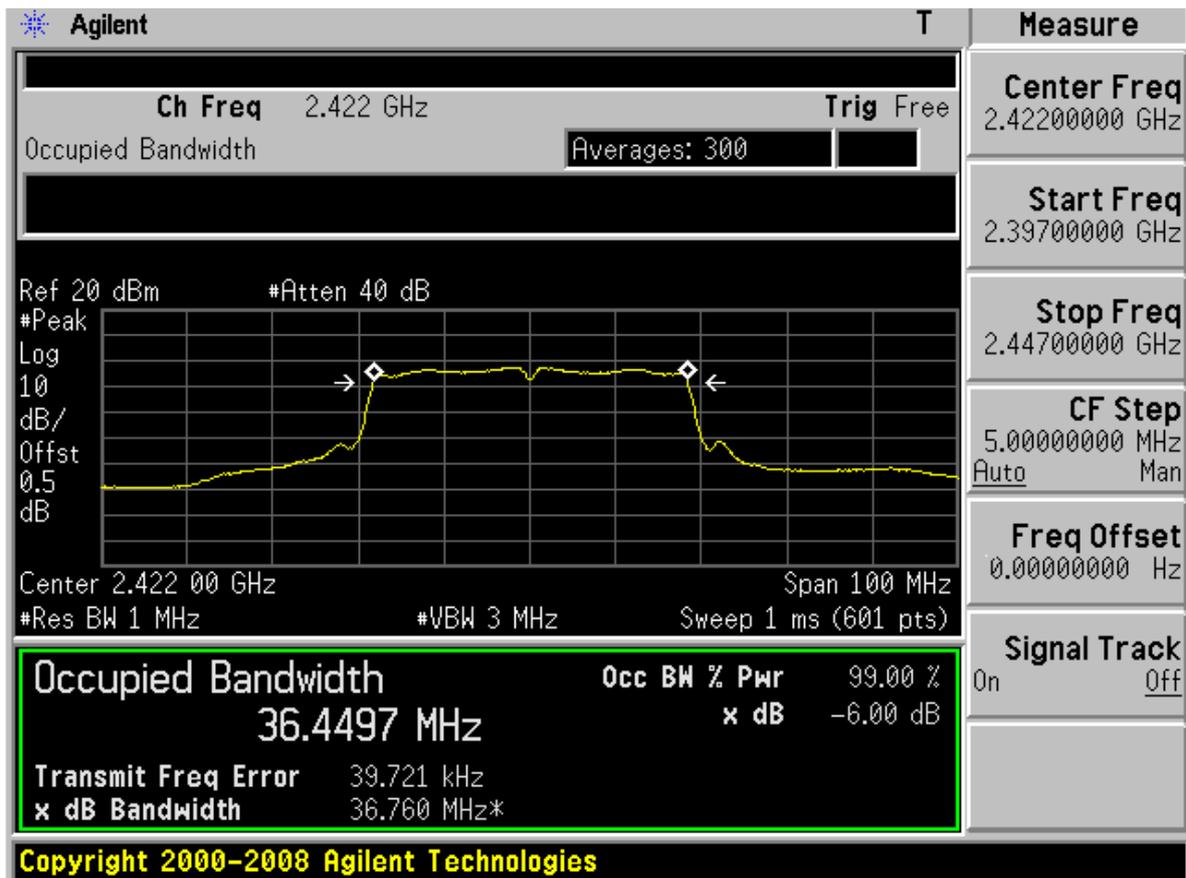


## Chain 2



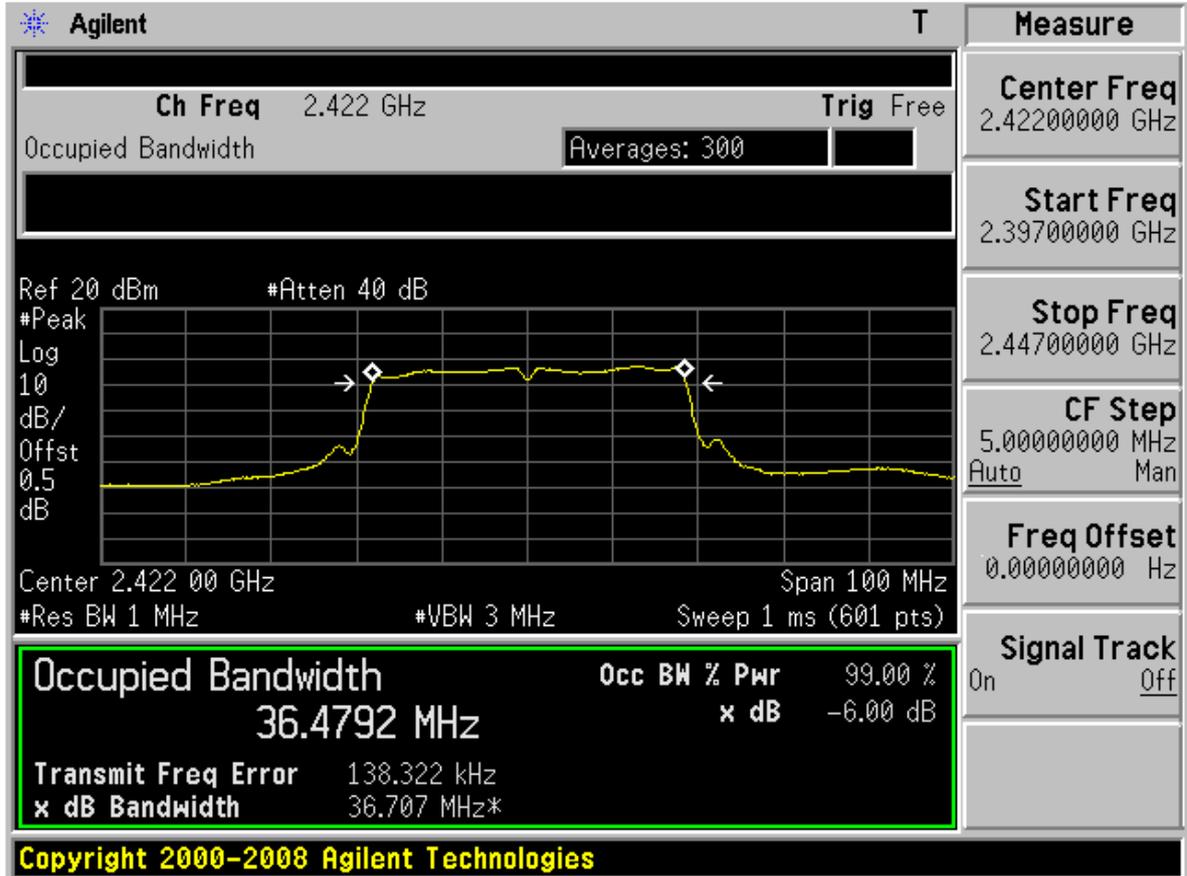


# 11N40M Chain 1&2 Channel 03 Chain 1





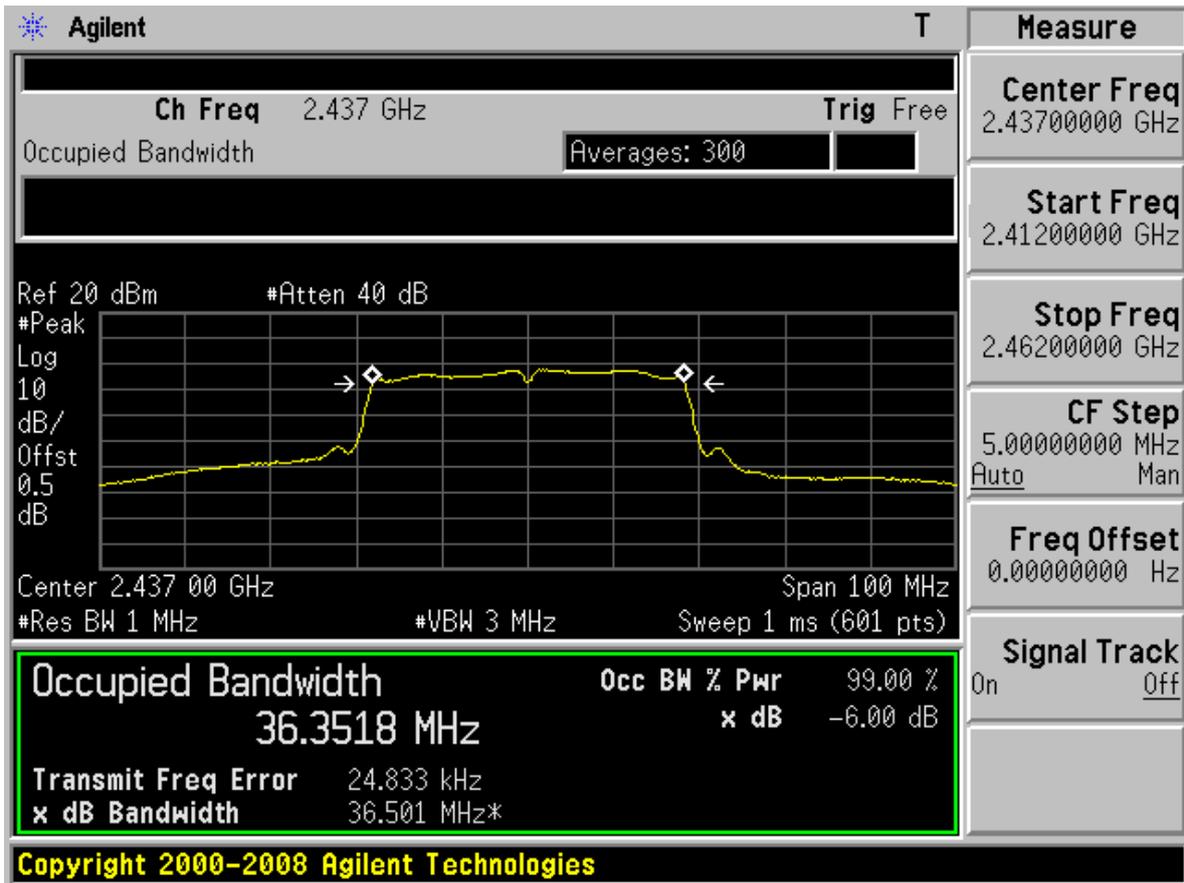
## Chain 2





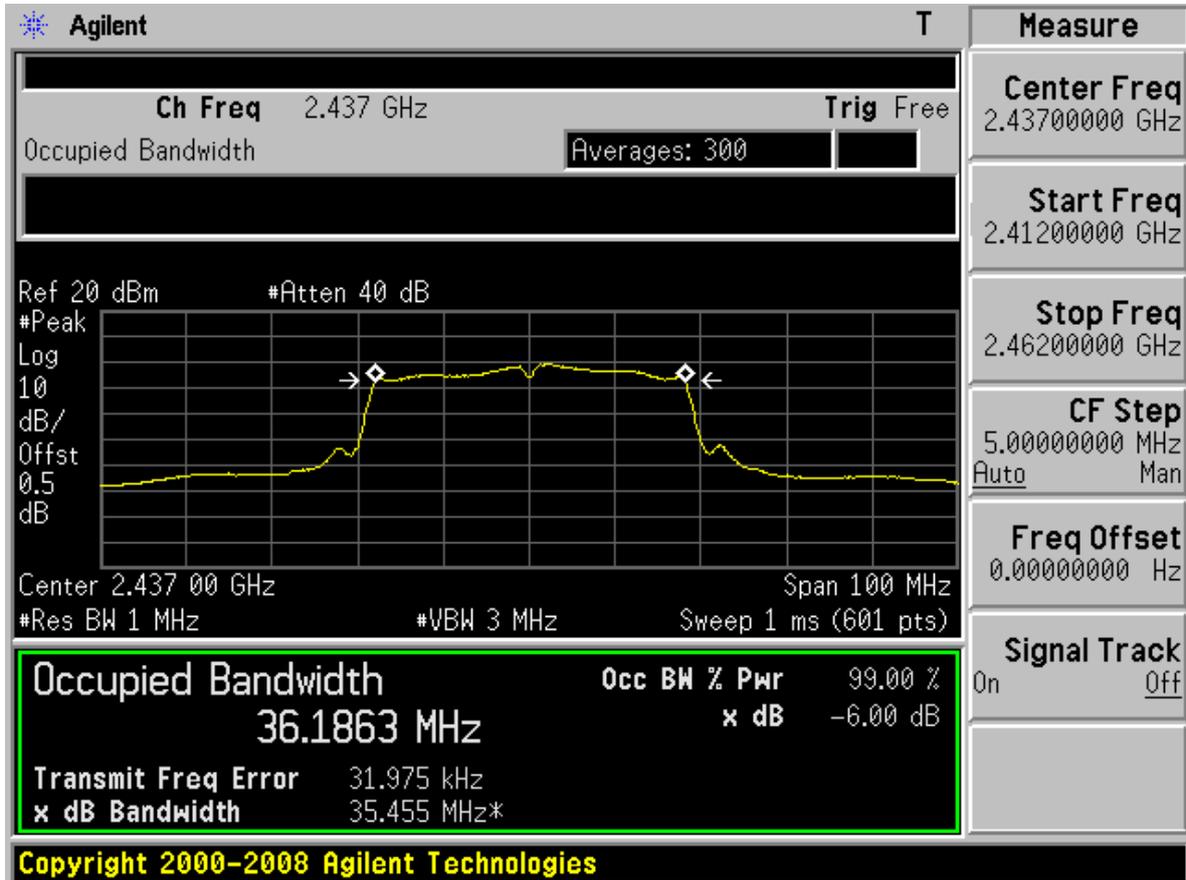
# Channel 06

## Chain 1





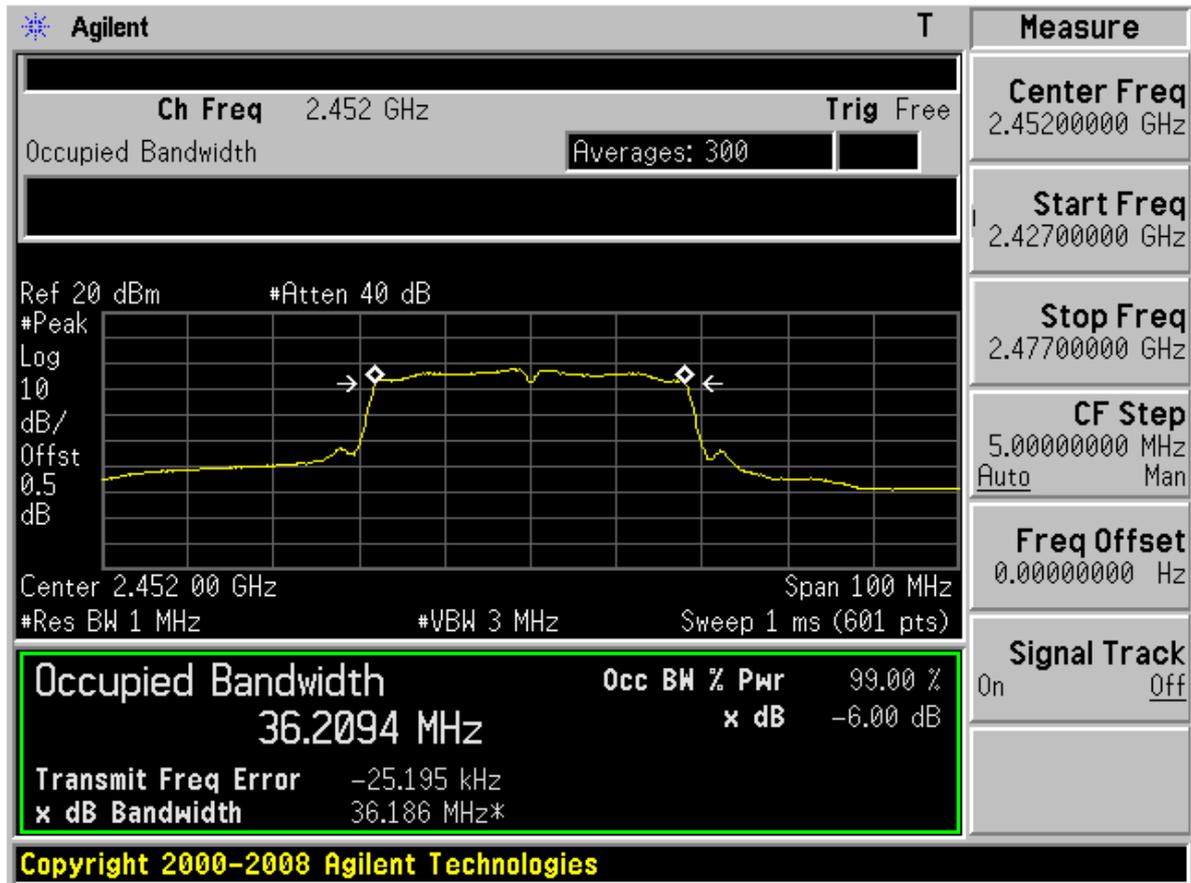
## Chain 2





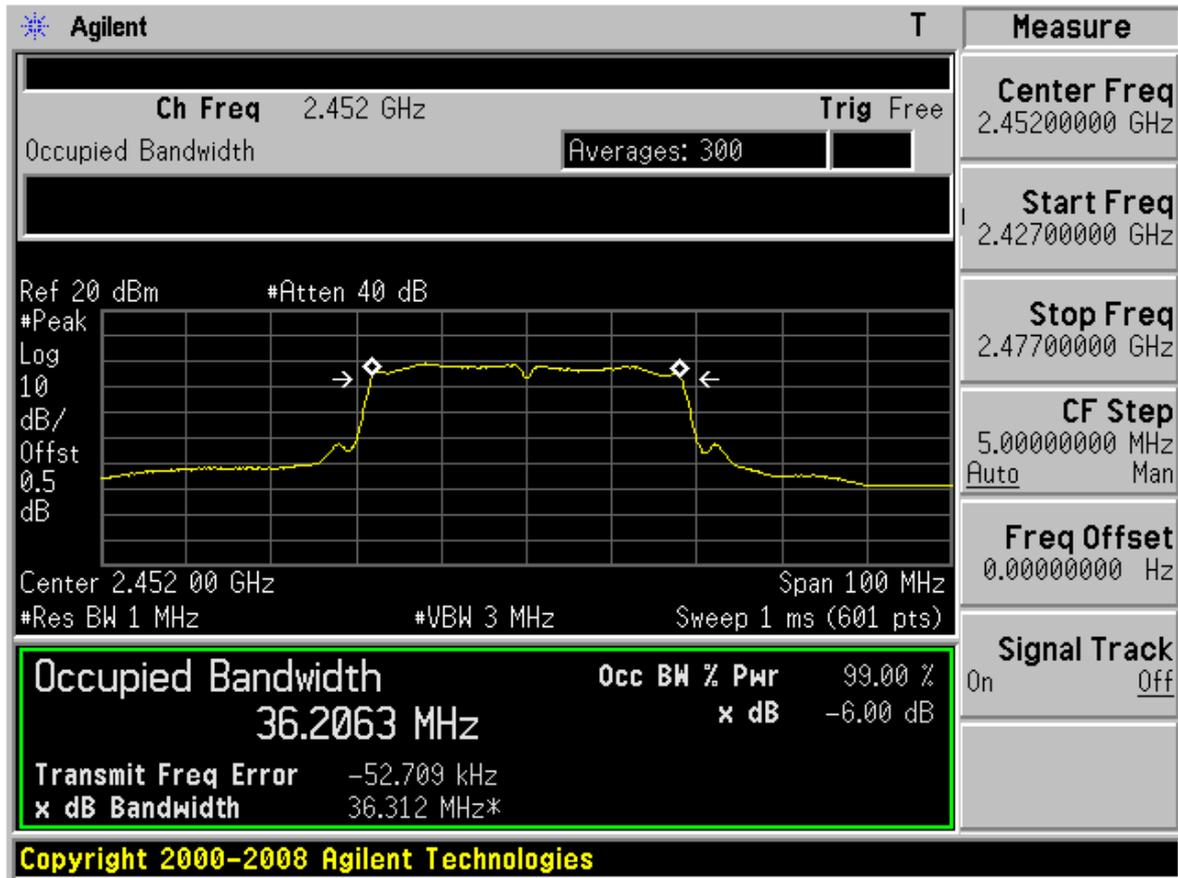
# Channel 09

## Chain 1



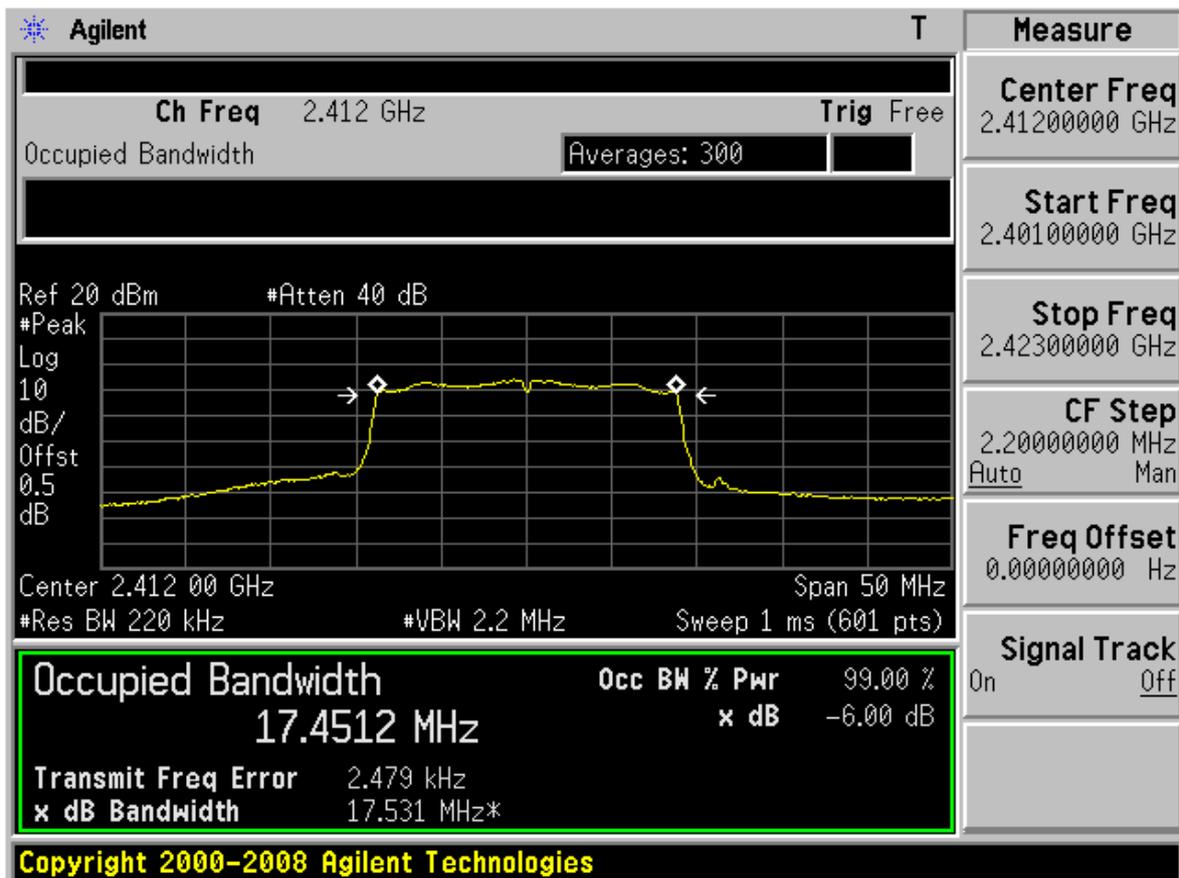


## Chain 2



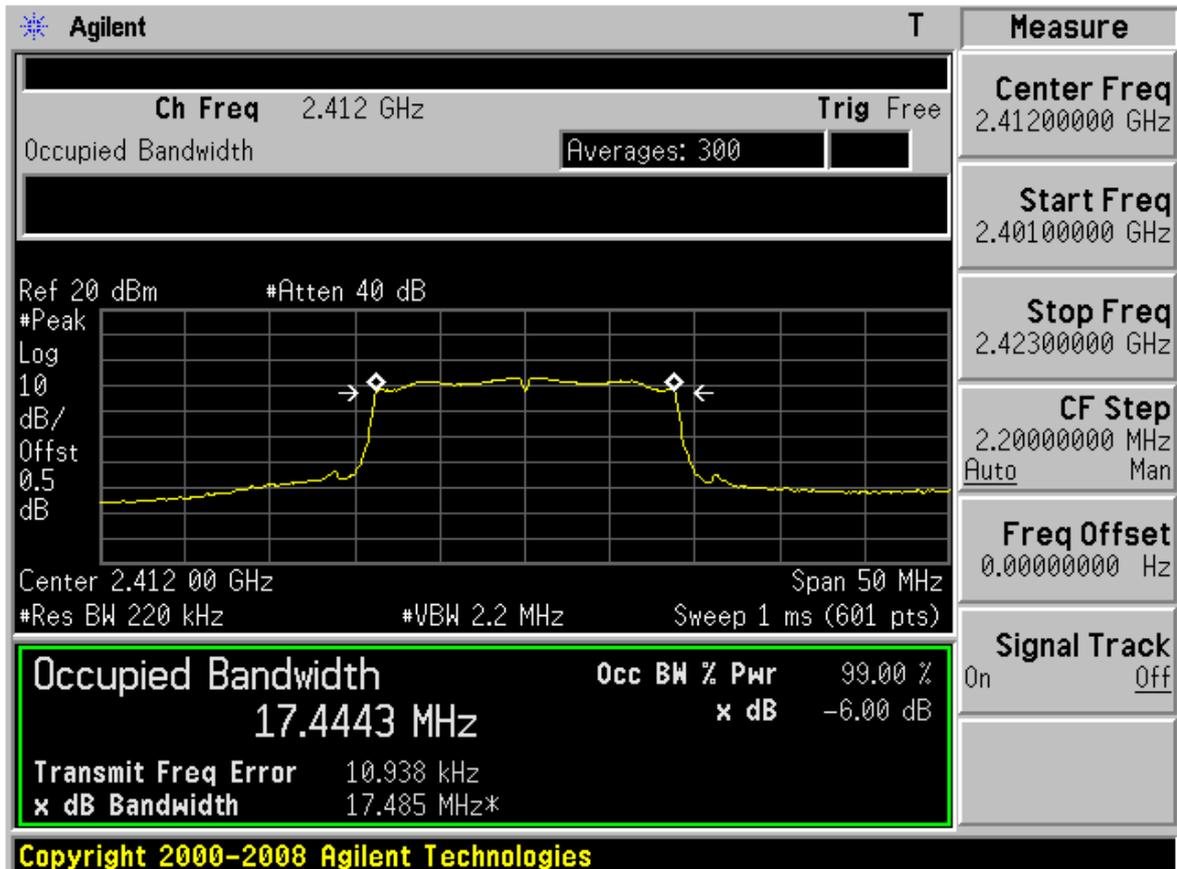


# 11N20M(MIMO) Chain 1&2 Channel 01 Chain 1





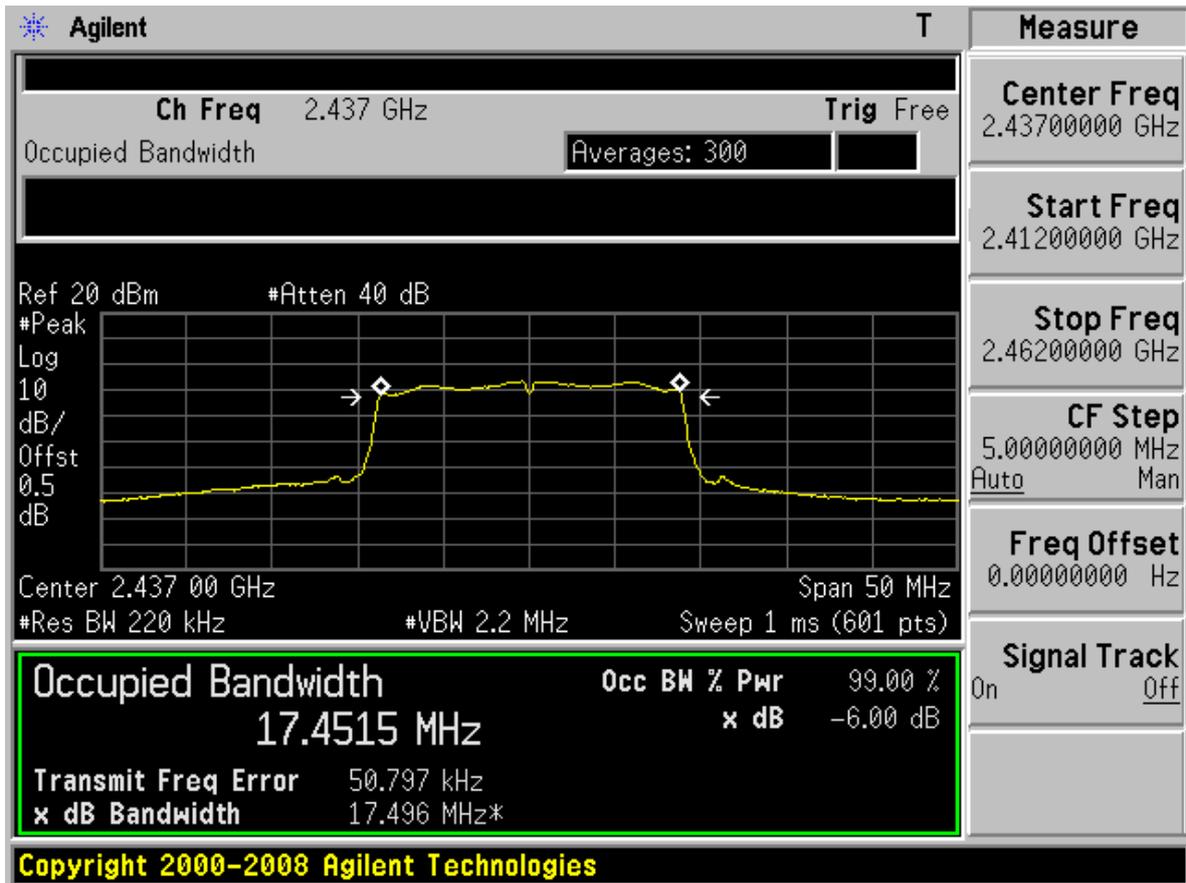
## Chain 2





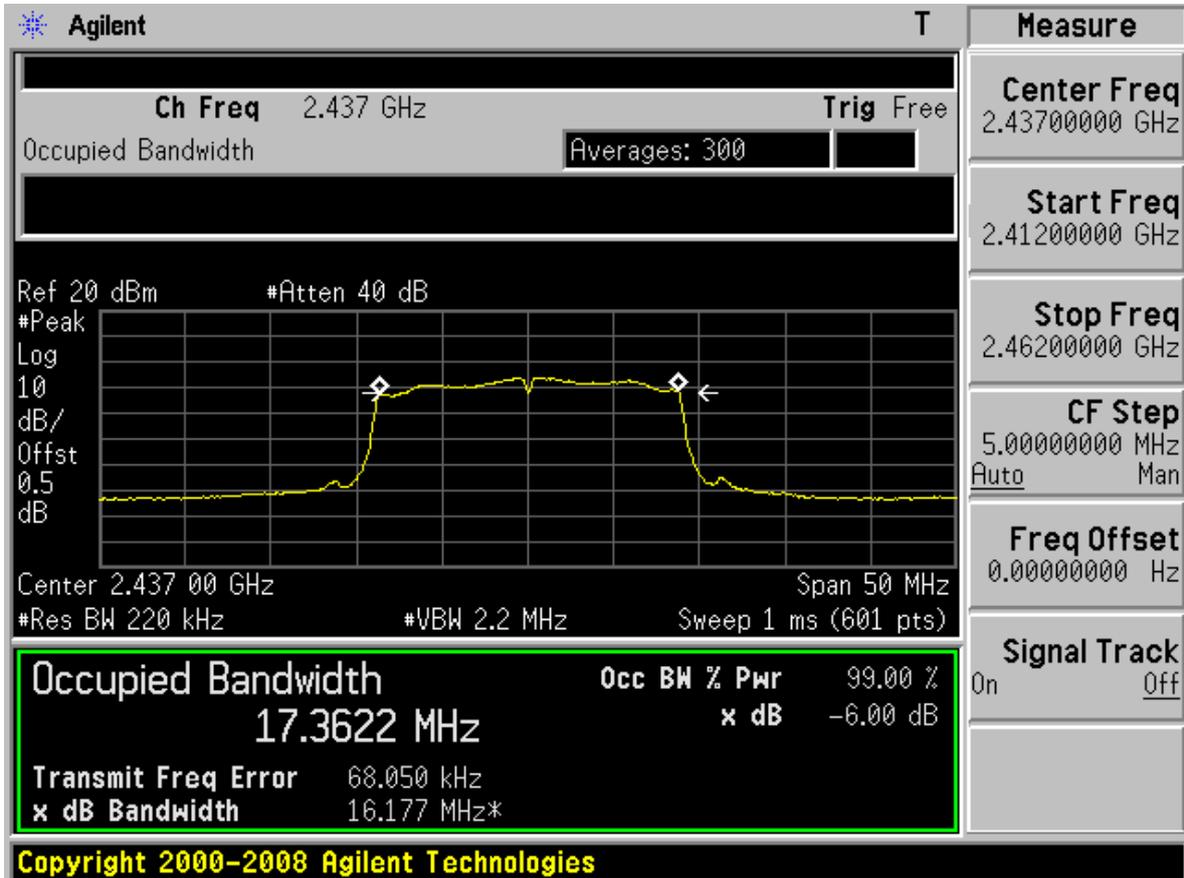
# Channel 06

## Chain 1





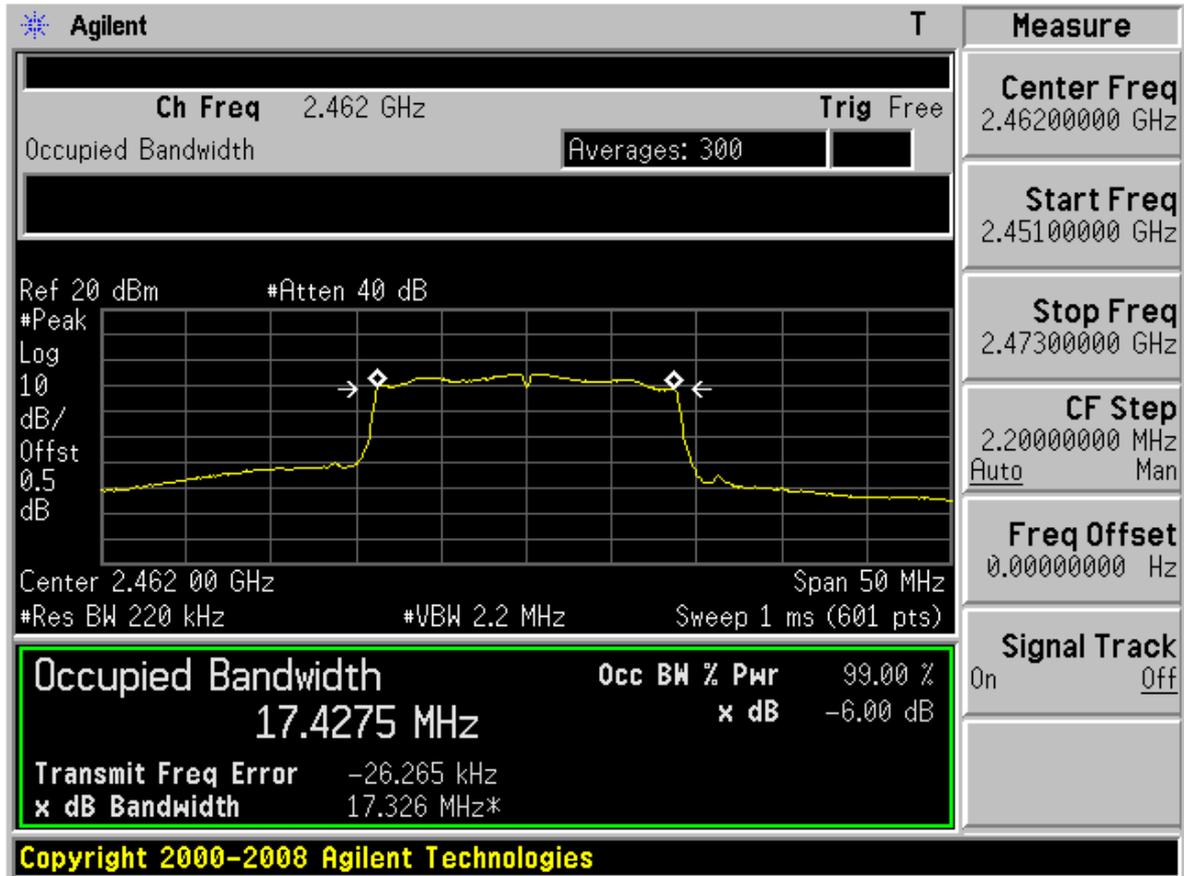
## Chain 2





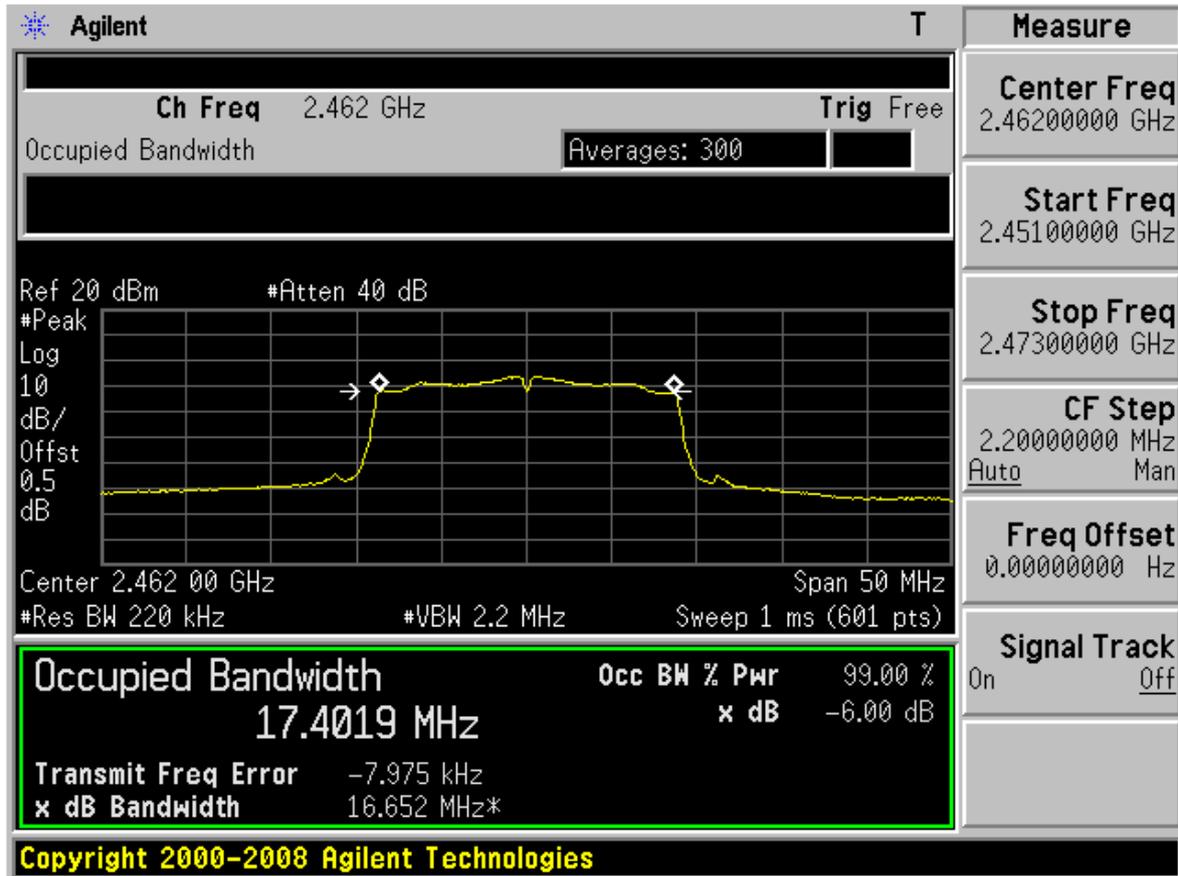
# Channel 11

## Chain 1



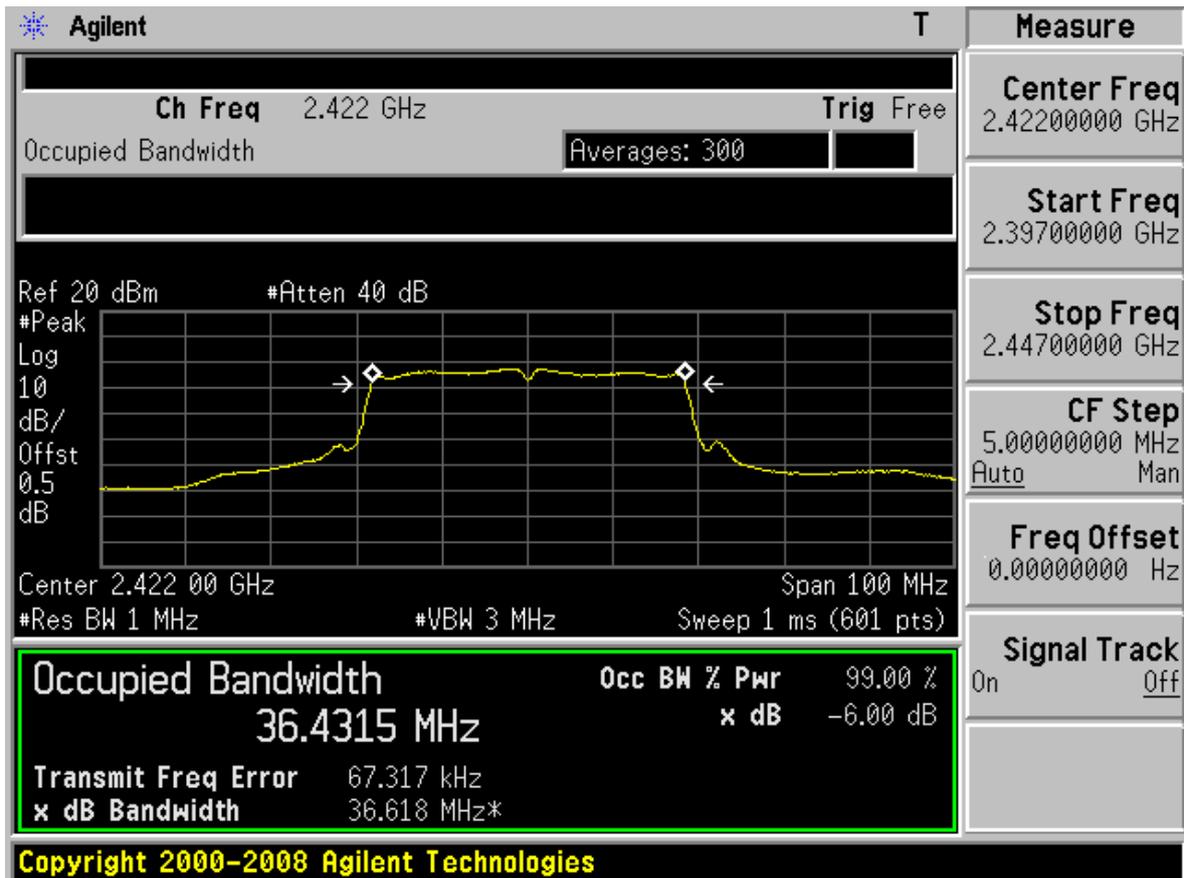


## Chain 2



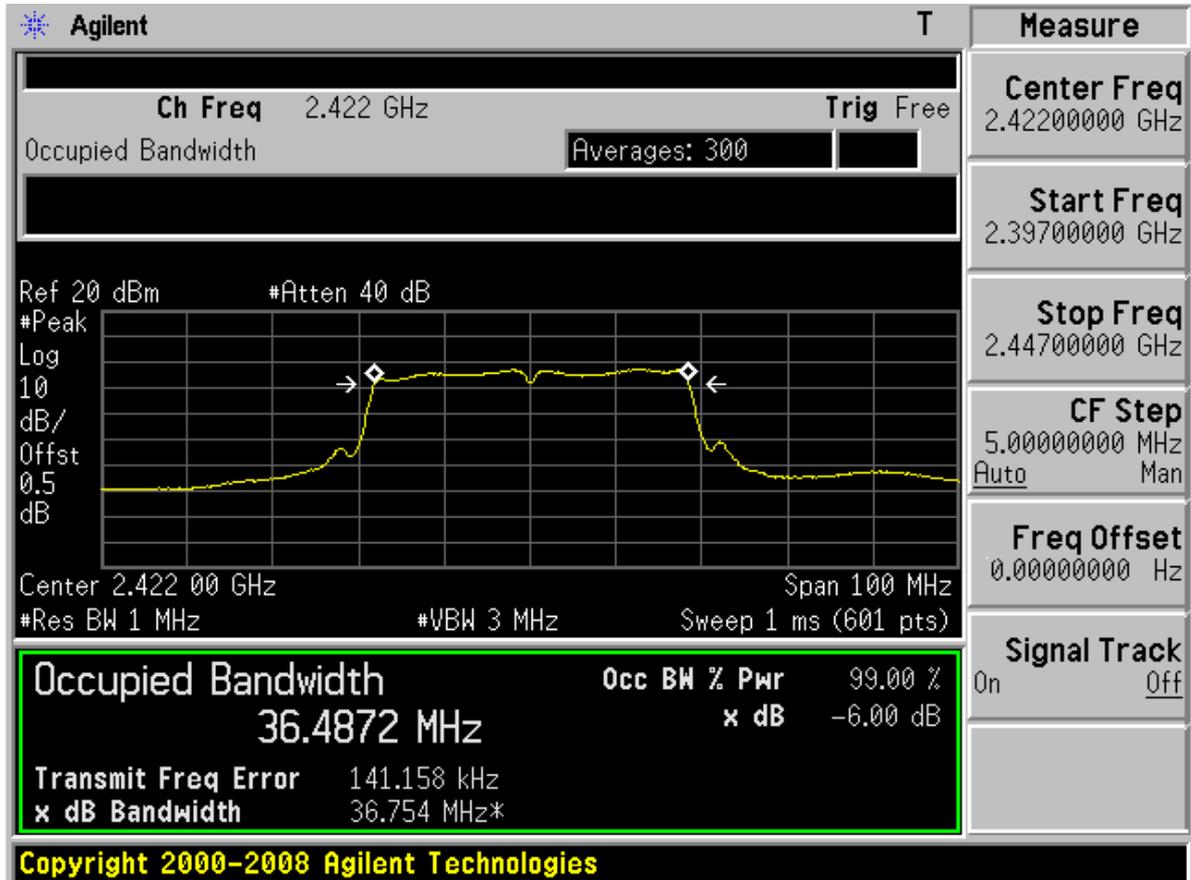


# 11N40M(MIMO) Chain 1&2 Channel 03 Chain 1





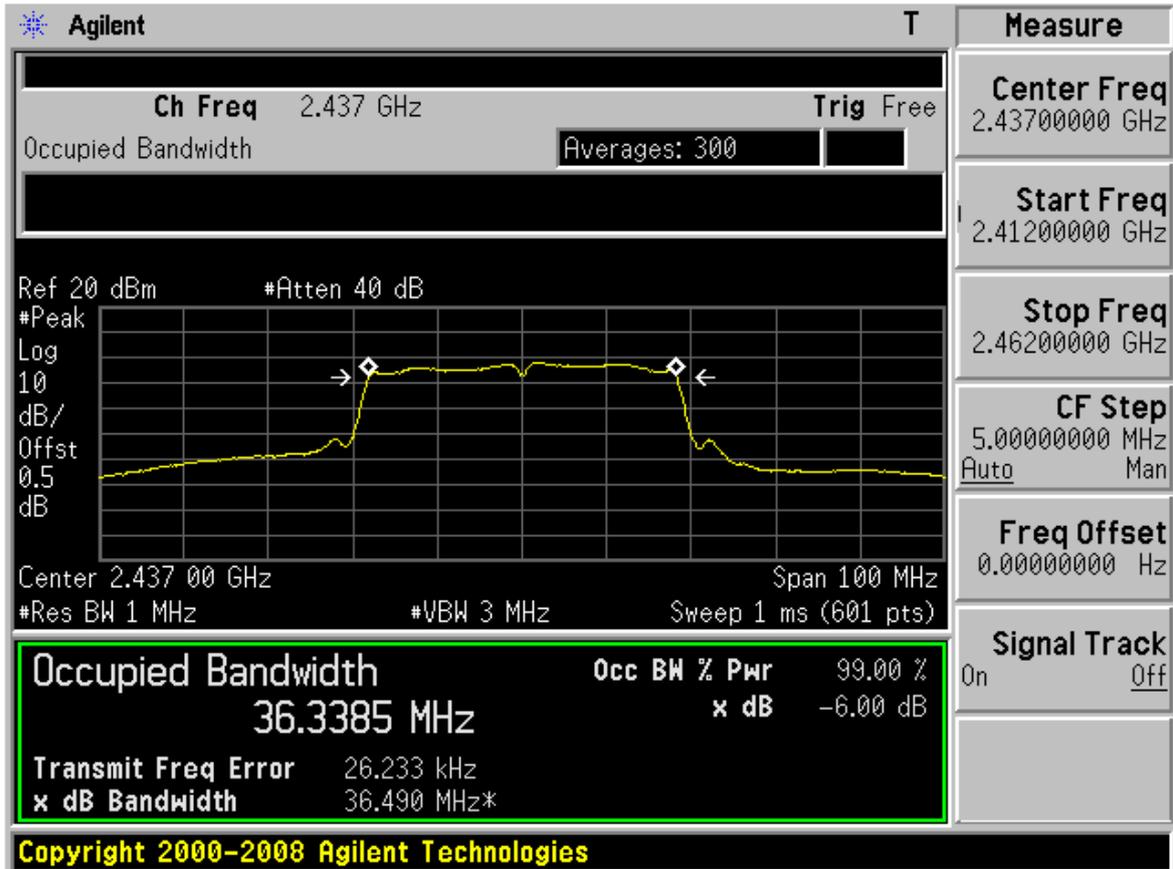
## Chain 2





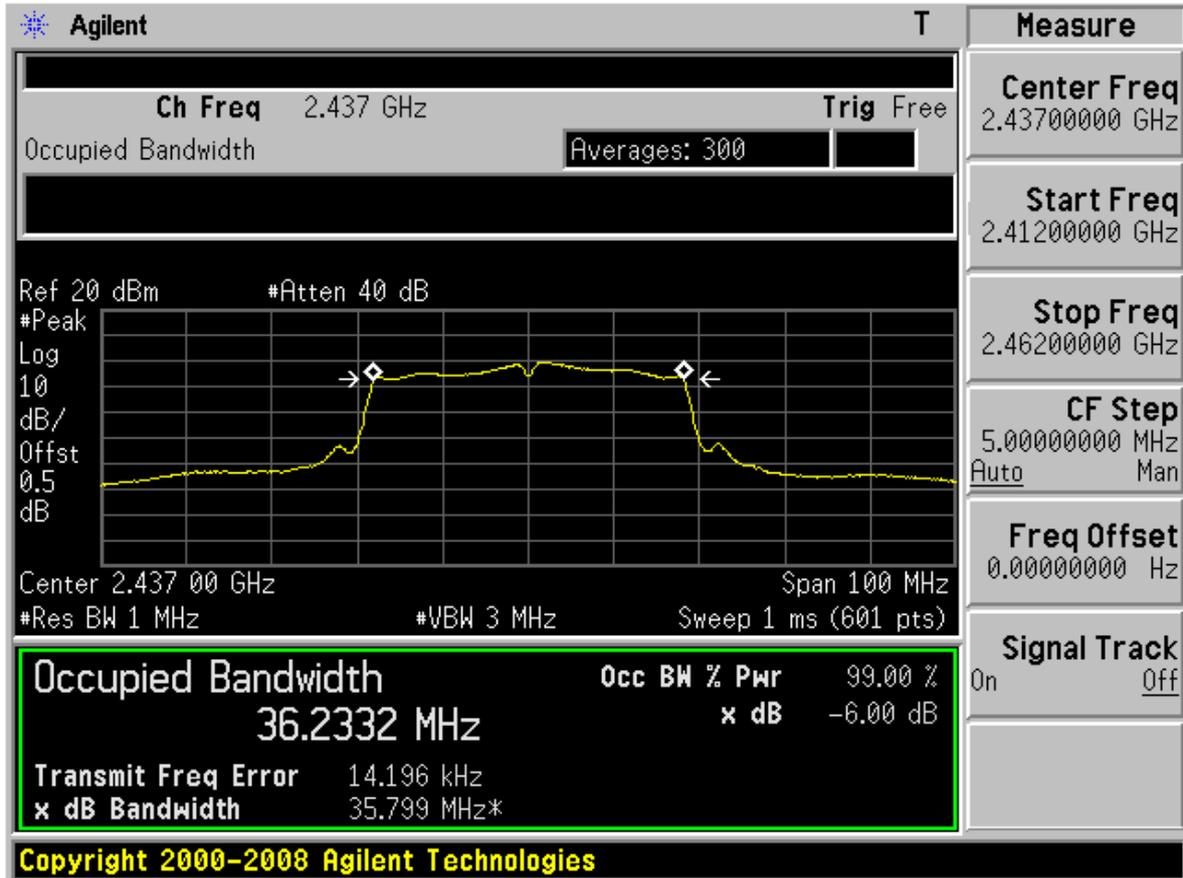
# Channel 06

## Chain 1





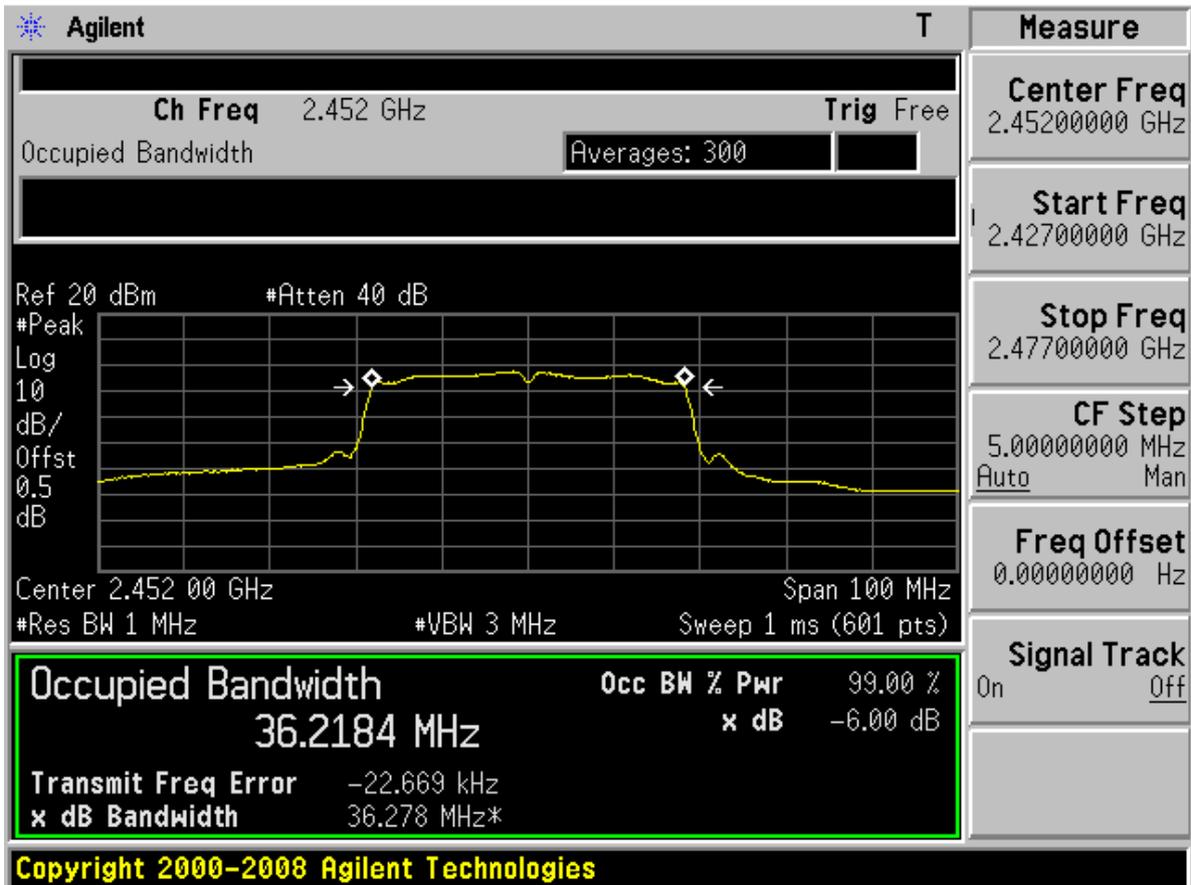
## Chain 2





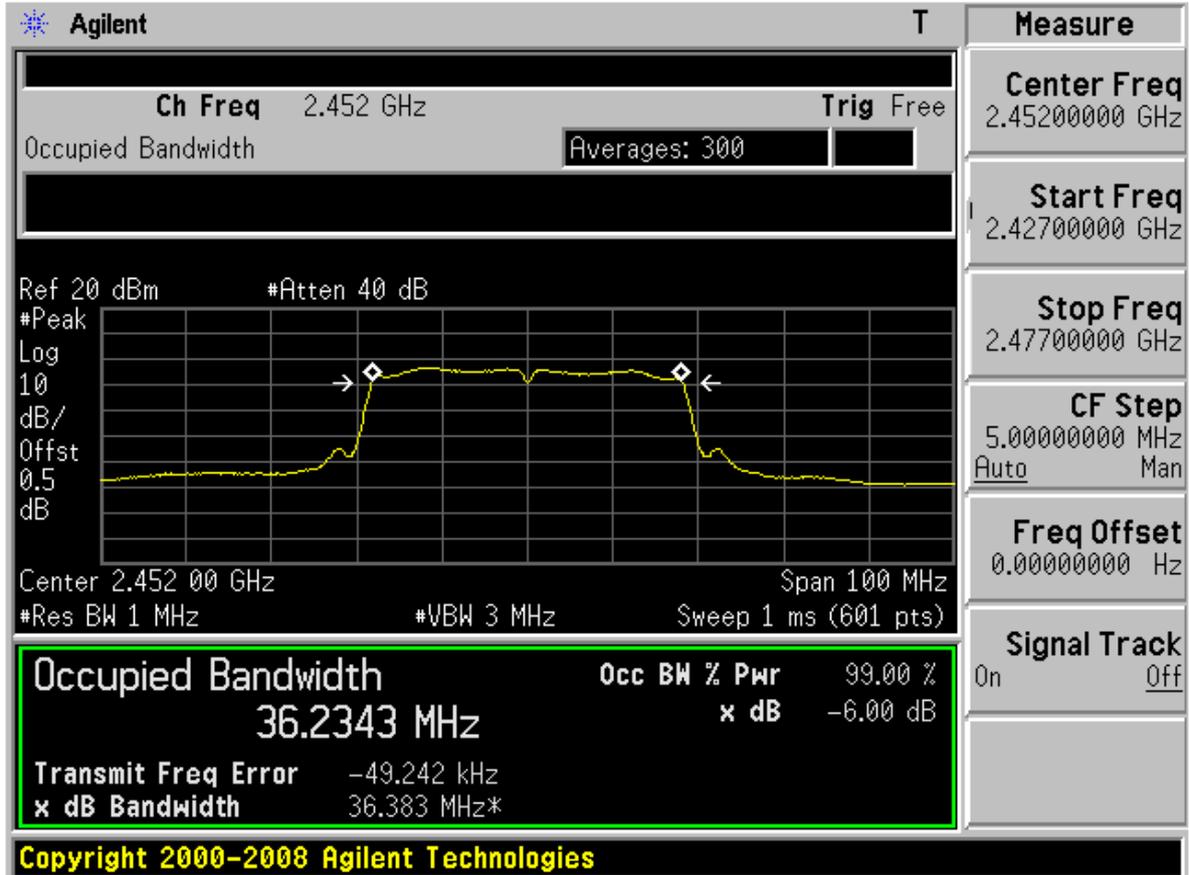
# Channel 09

## Chain 1





## Chain 2



END



## **Appendix B**

### Conducted Peak output power

According to FCC Part 15.247 (b) (3) & RSS-210

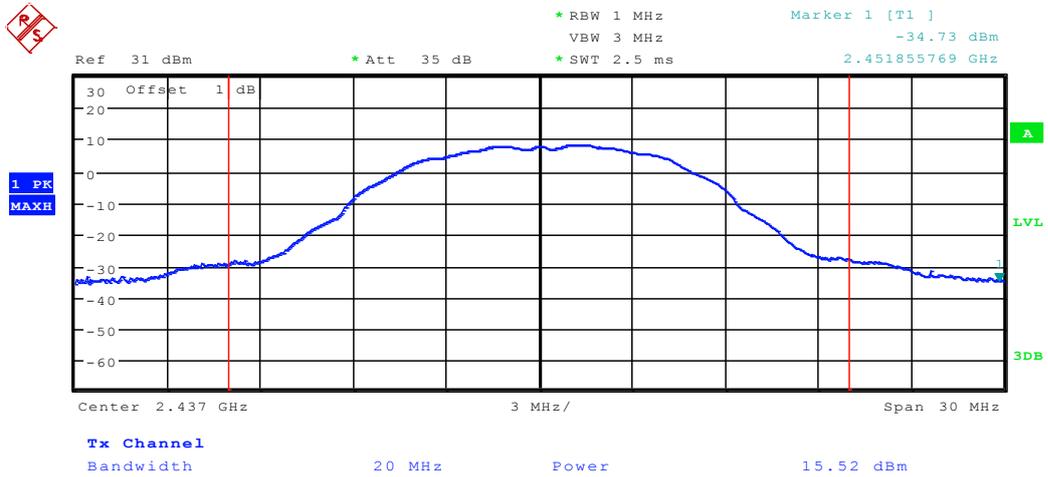








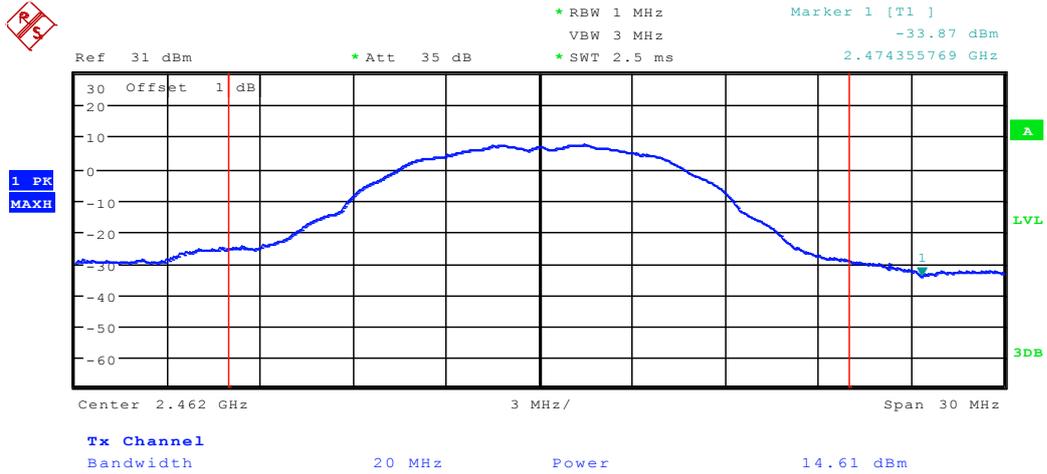
# Chain 2



Date: 24.OCT.2012 18:31:31



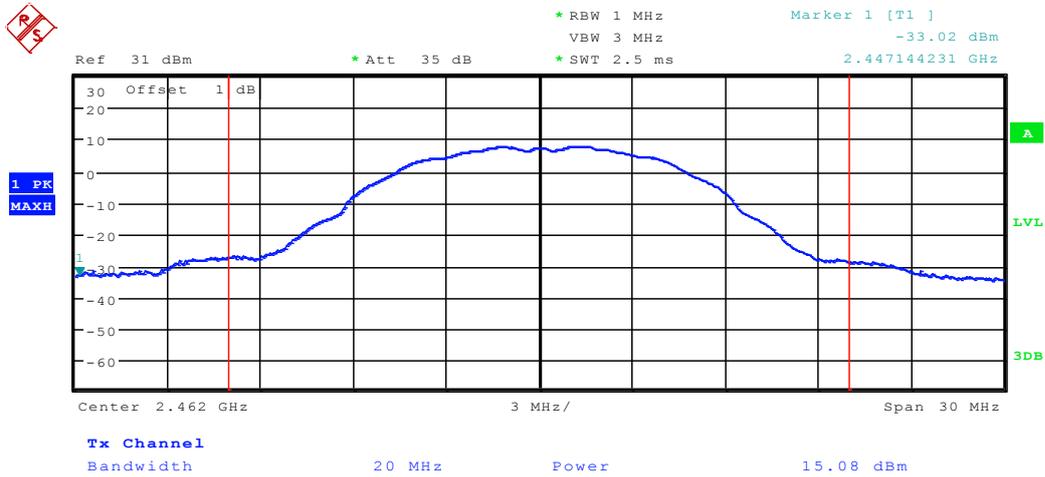
# Channel 11 Chain 1



Date: 24.OCT.2012 18:29:56



## Chain 2

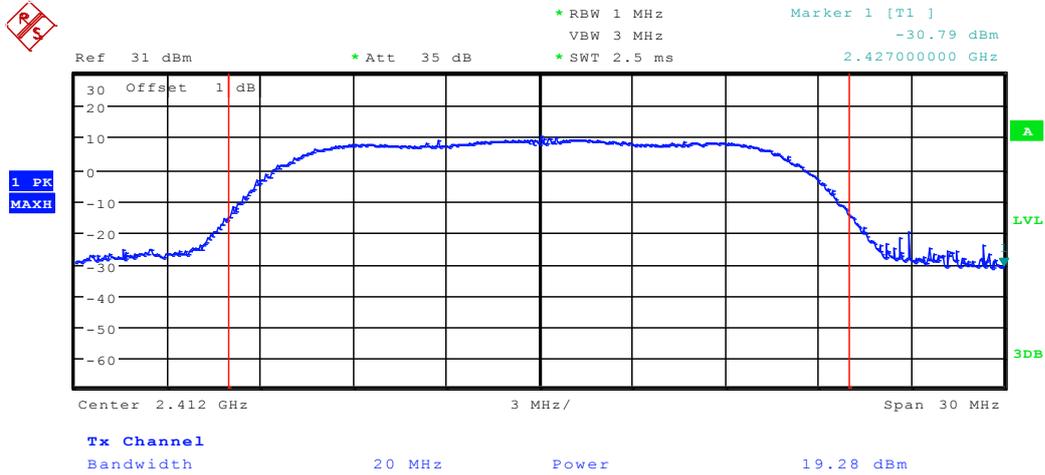


Date: 24.OCT.2012 18:32:01





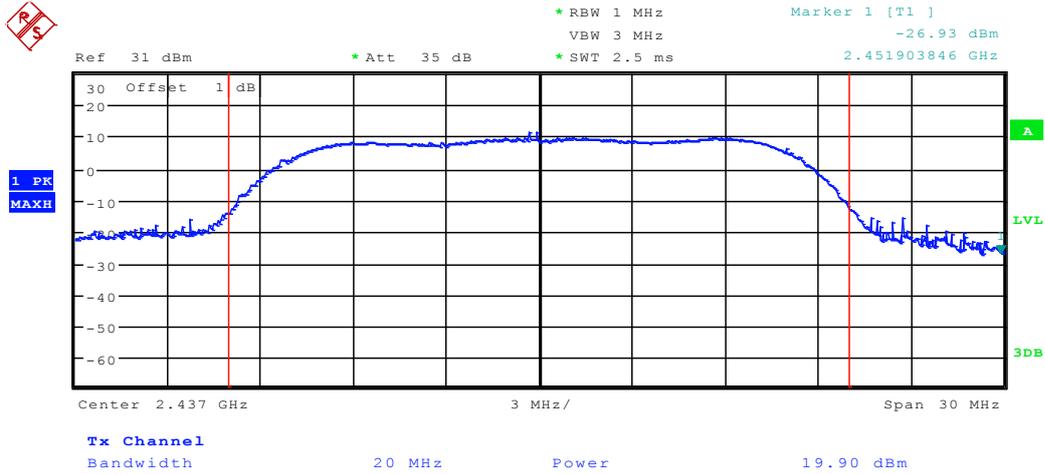
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Date: 24.OCT.2012 18:36:23



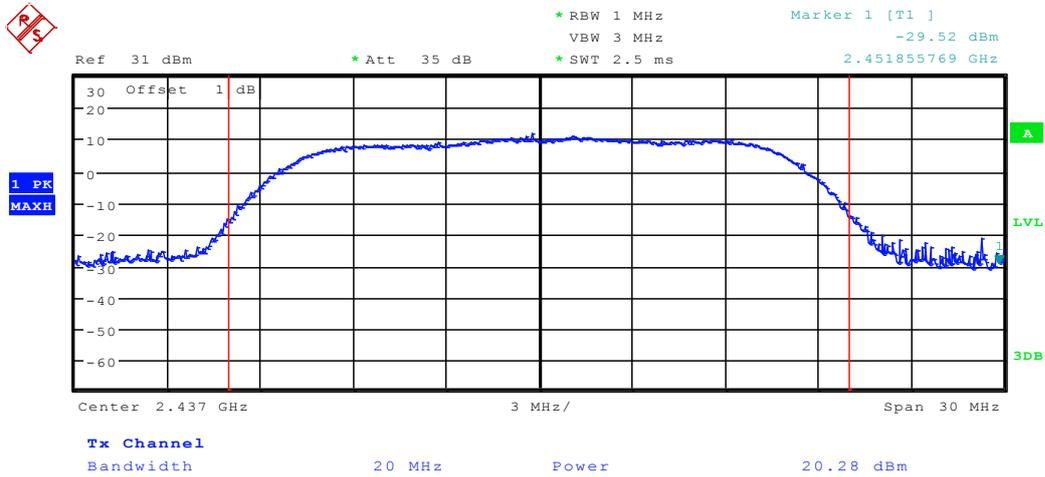
# Channel 06 Chain 1



Date: 24.OCT.2012 18:34:26



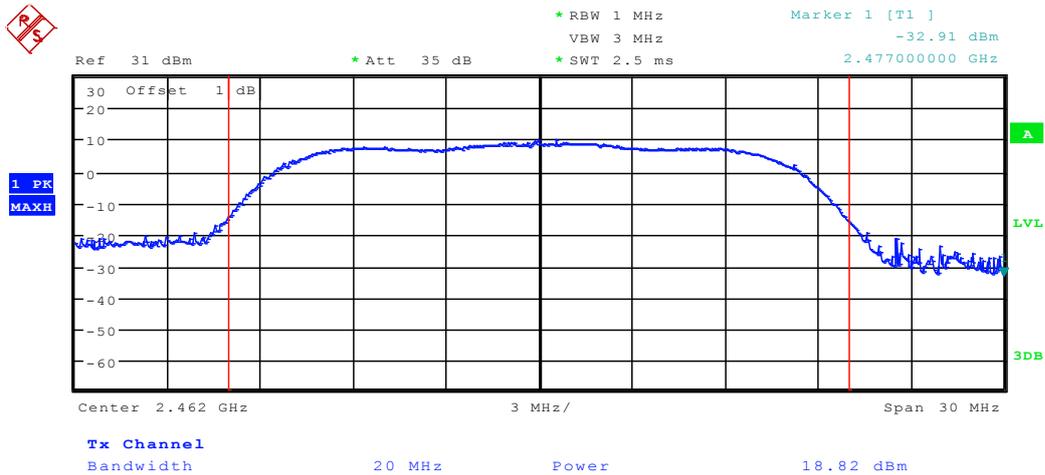
# Chain 2



Date: 24.OCT.2012 18:39:41



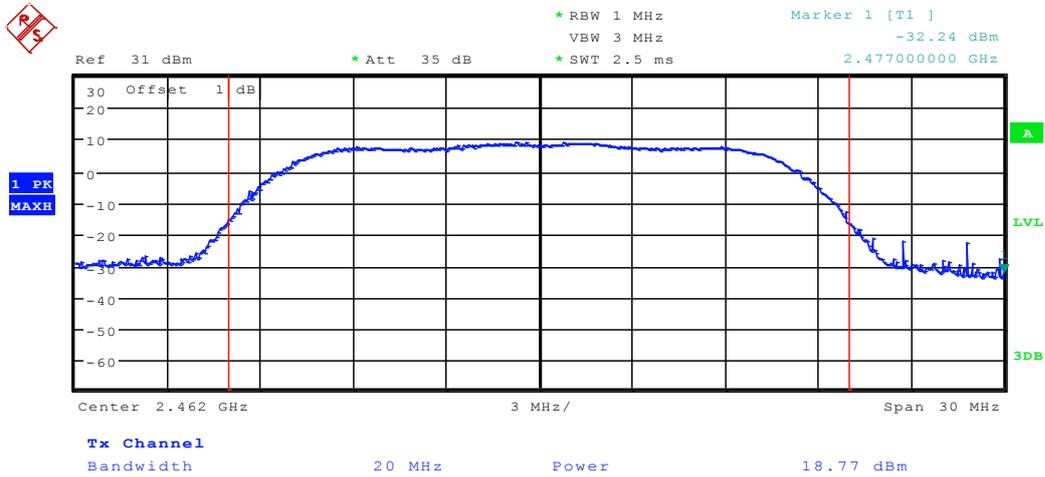
# Channel 11 Chain 1



Date: 24.OCT.2012 18:35:38



# Chain 2



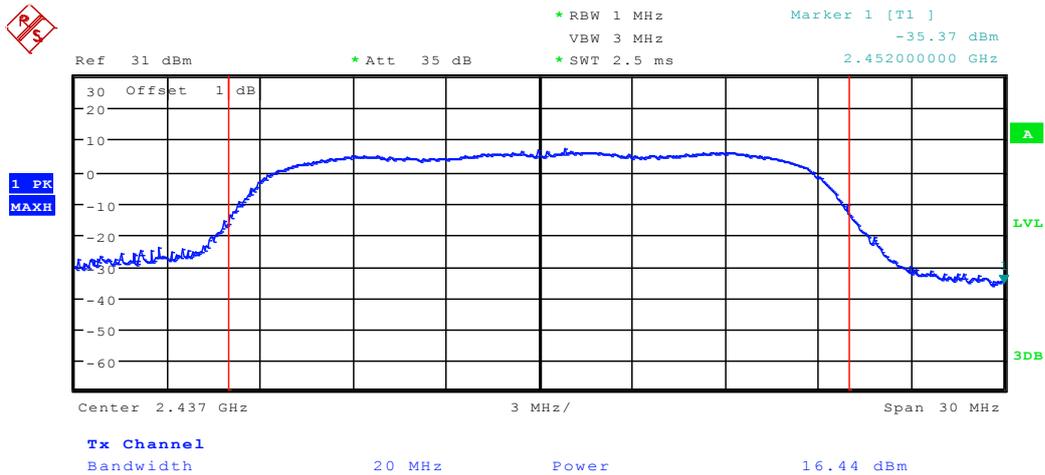
Date: 24.OCT.2012 18:40:15







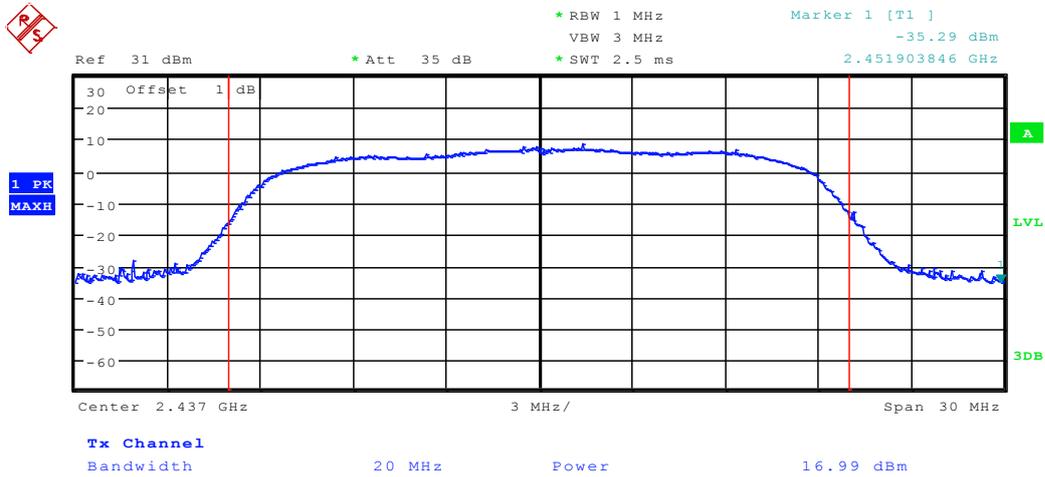
# Channel 06 Chain 1



Date: 24.OCT.2012 18:42:18



# Chain 2

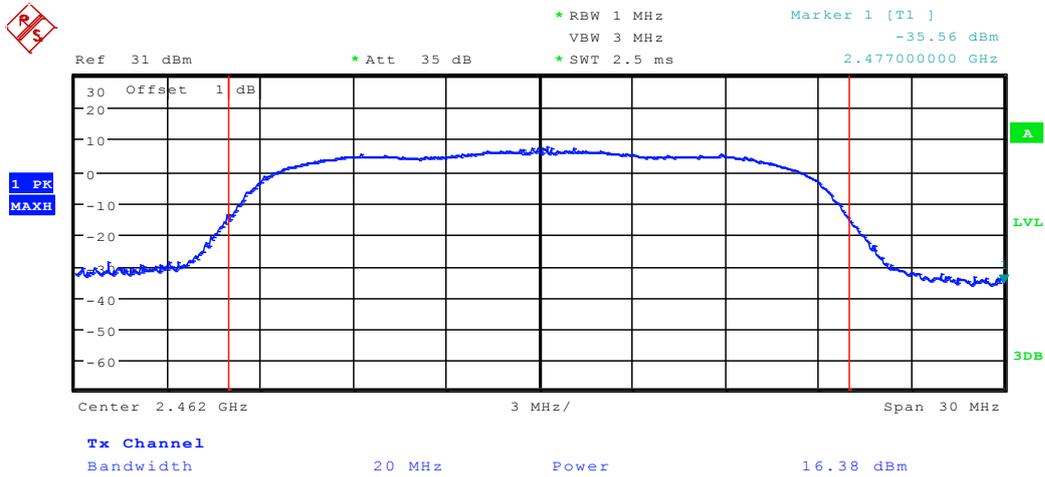


Date: 24.OCT.2012 18:44:06





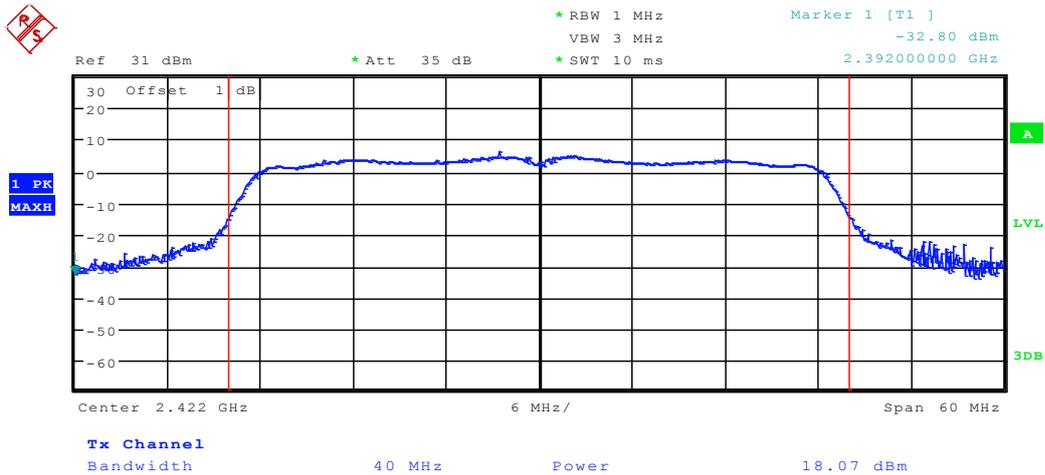
## Chain 2



Date: 24.OCT.2012 18:44:39



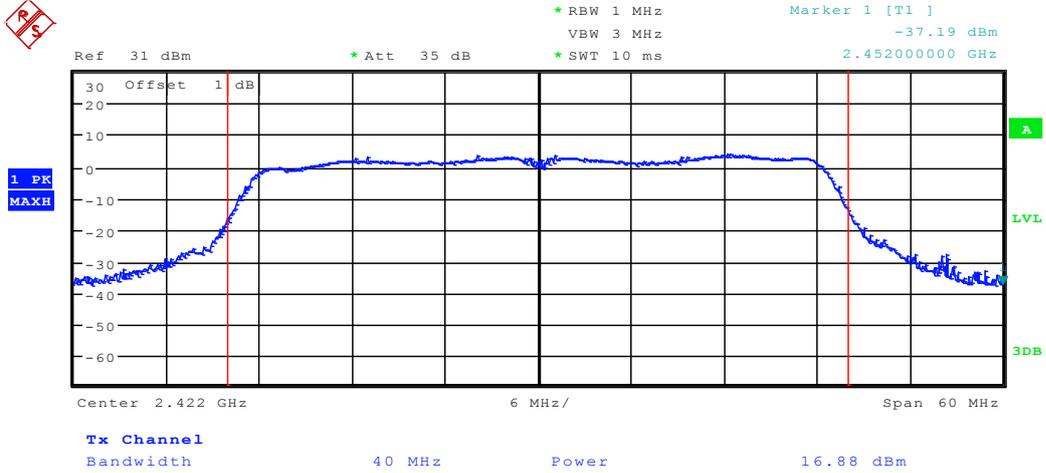
# 11N40M chain 1&2 Channel 03 Chain 1



Date: 24.OCT.2012 18:50:28



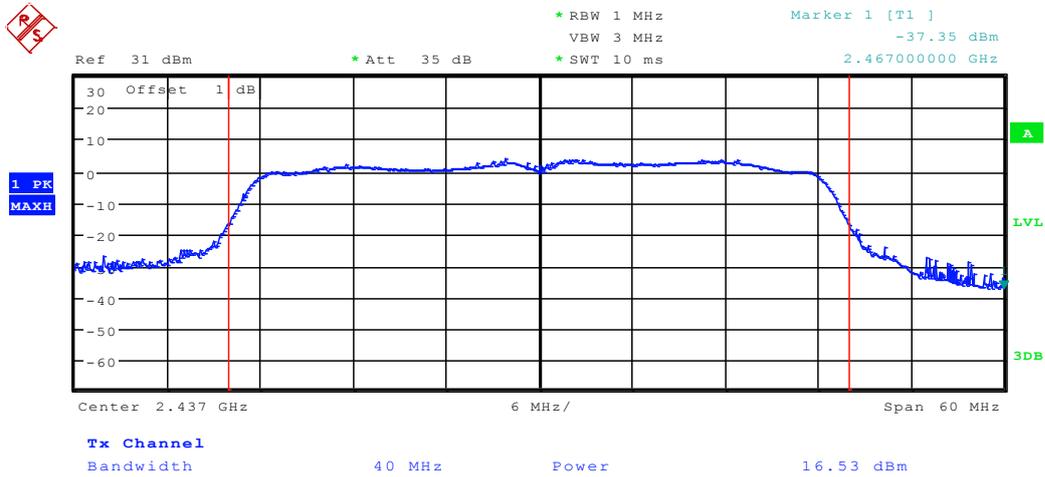
# Chain 2



Date: 24.OCT.2012 18:52:18



# Channel 06 Chain 1

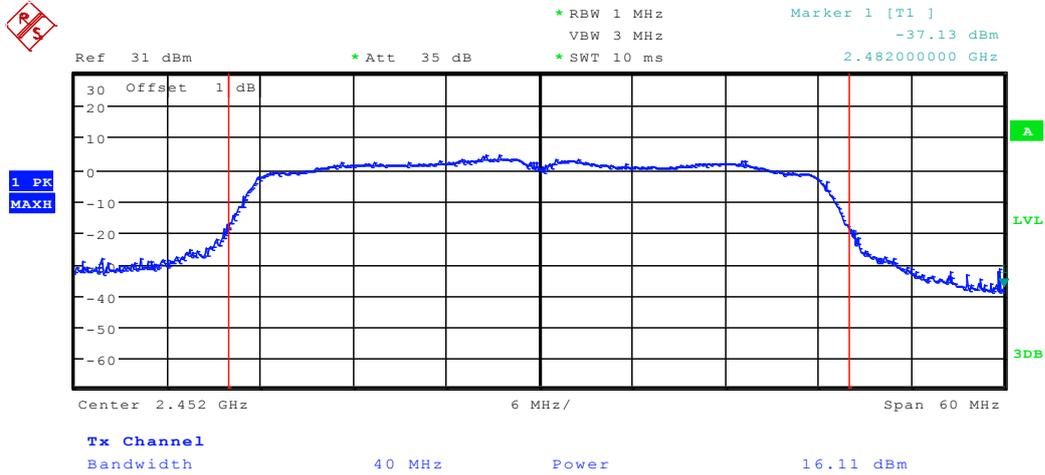


Date: 24.OCT.2012 18:51:02





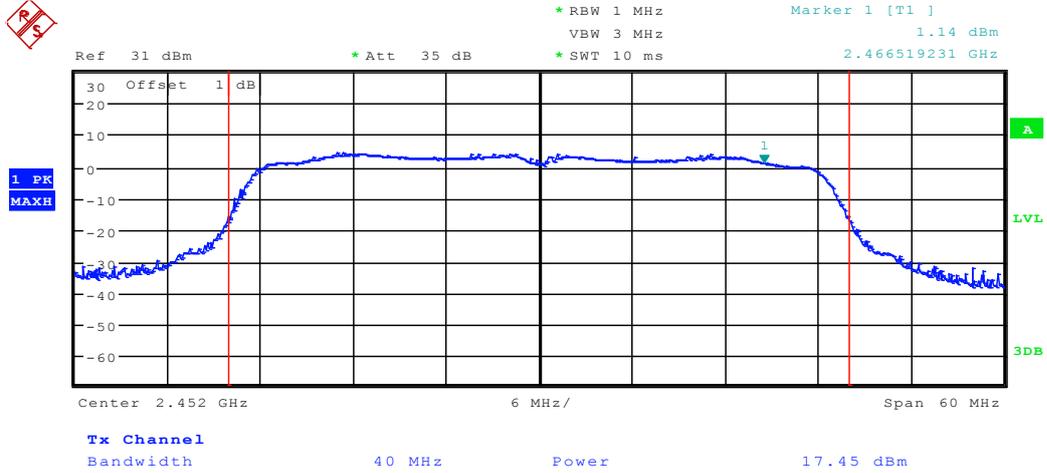
# Channel 09 Chain 1



Date: 24.OCT.2012 18:51:33



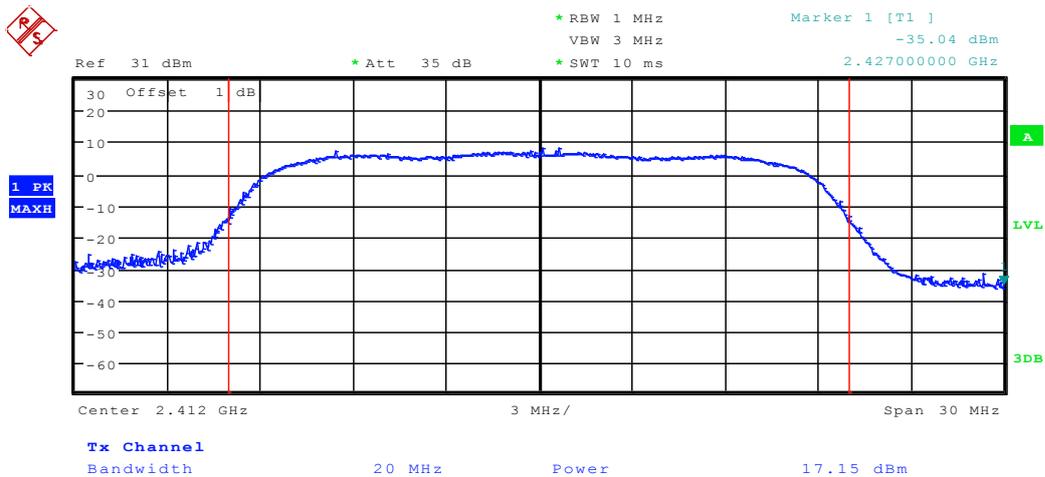
# Chain 2



Date: 24.OCT.2012 18:53:13



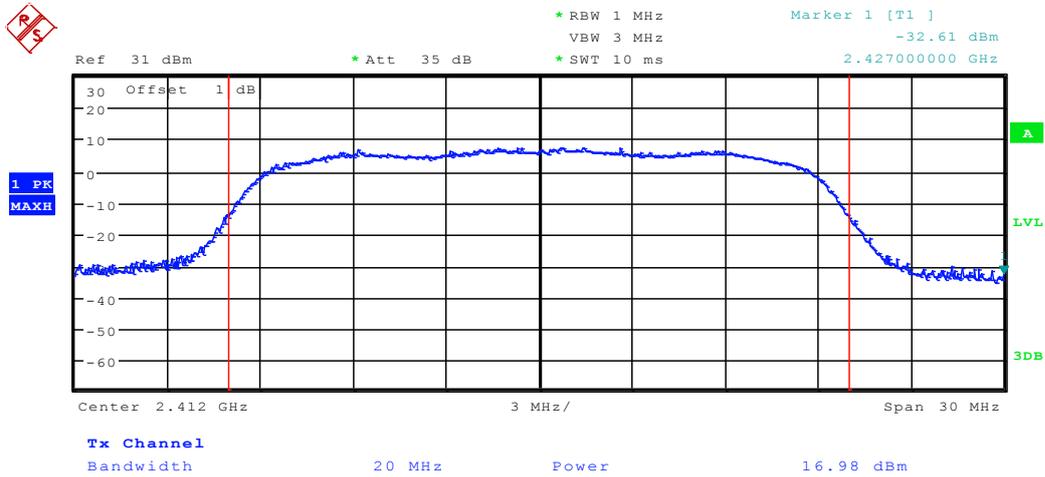
# 11N20M(MIMO) Chain 1&2 Channel 01 Chain 1



Date: 24.OCT.2012 18:55:07



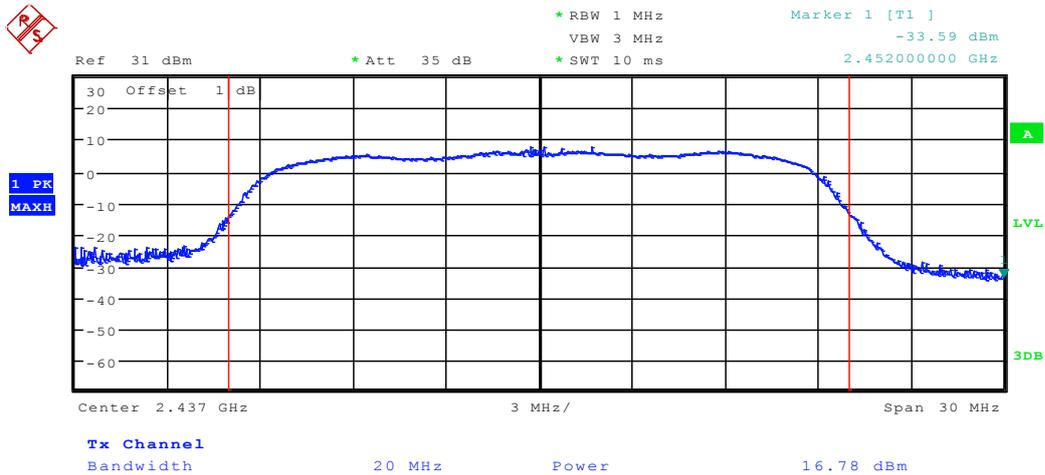
# Chain 2



Date: 24.OCT.2012 18:55:49



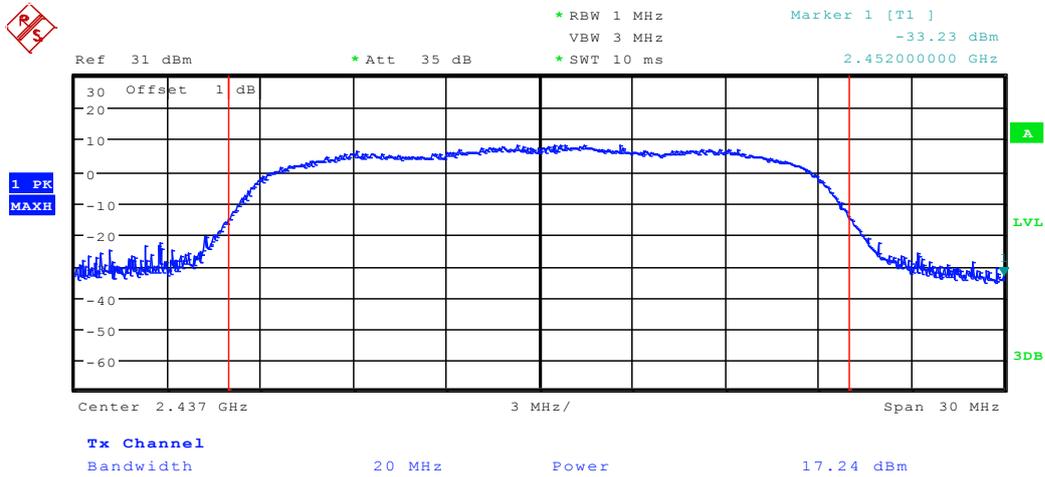
# Channel 06 Chain 1



Date: 24.OCT.2012 18:56:26



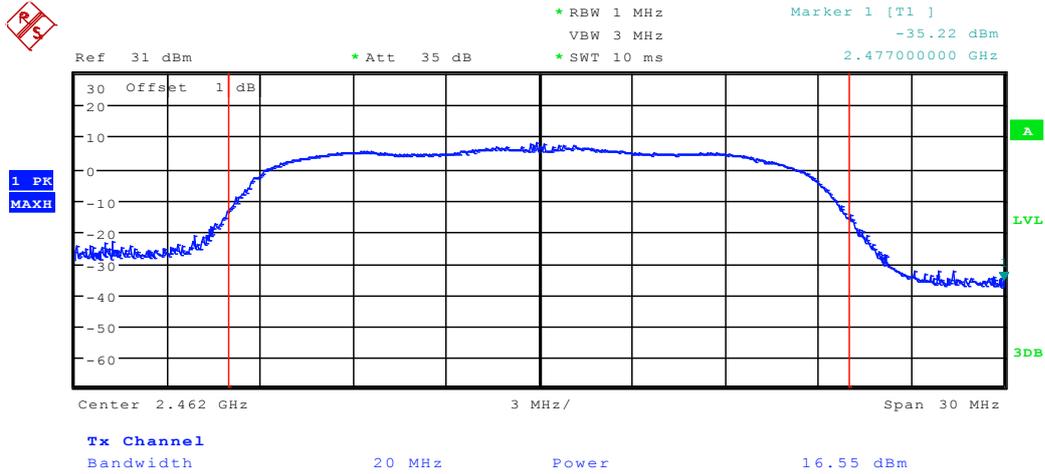
# Chain 2



Date: 24.OCT.2012 18:56:54



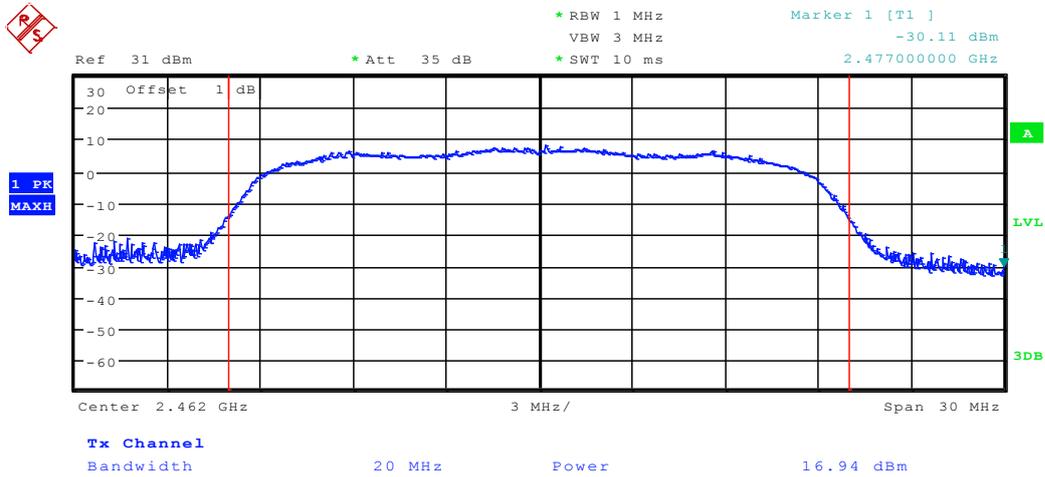
# Channel 11 Chain 1



Date: 24.OCT.2012 18:57:31



# Chain 2

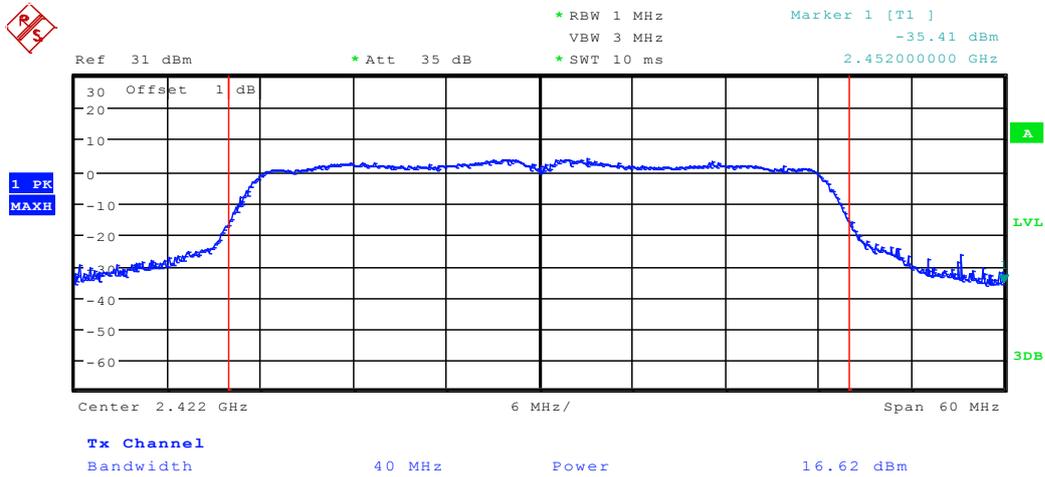


Date: 24.OCT.2012 18:57:50





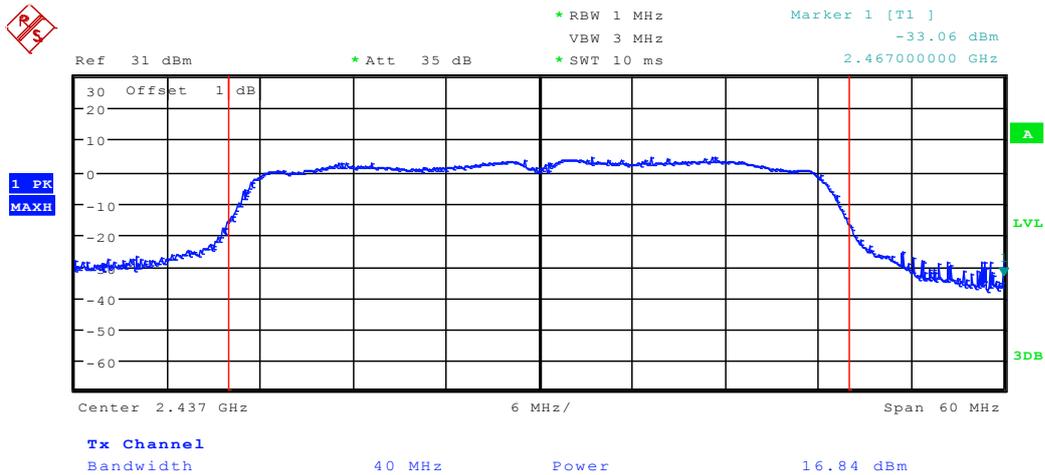
## Chain 2



Date: 24.OCT.2012 18:59:37



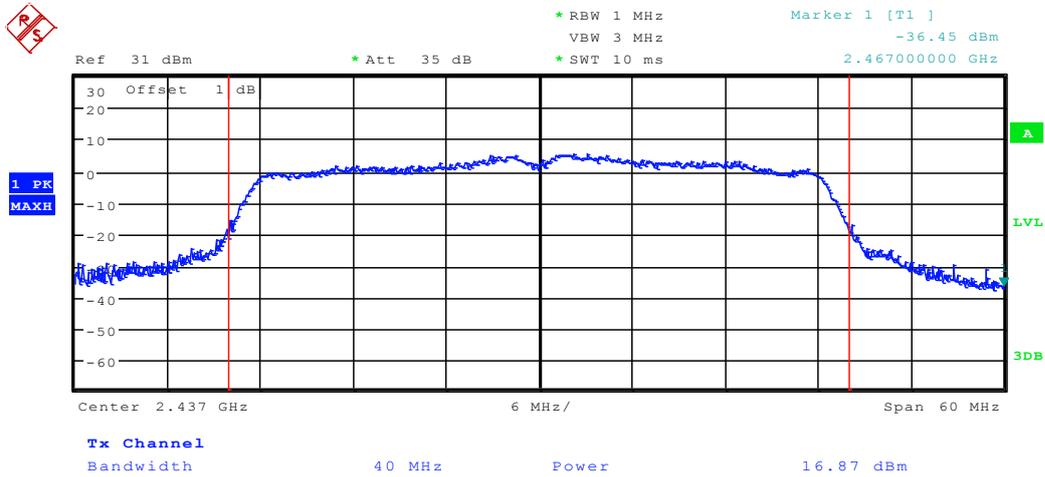
# Channel 06 Chain 1



Date: 24.OCT.2012 19:00:04



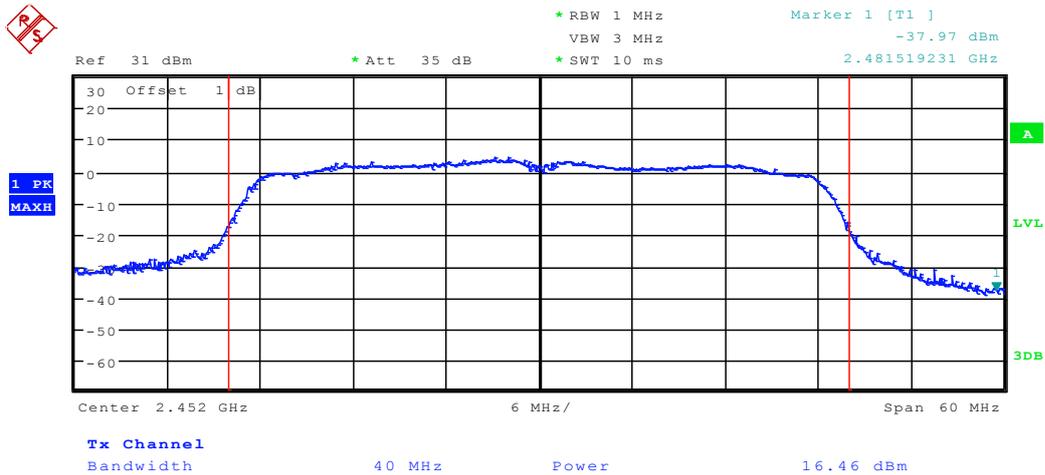
# Chain 2



Date: 24.OCT.2012 19:00:46



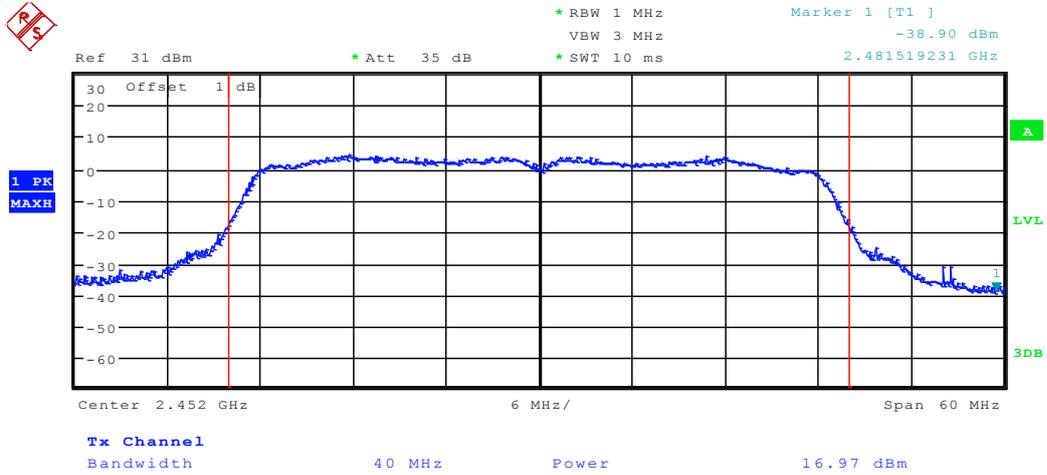
# Channel 09 Chain 1



Date: 24.OCT.2012 19:01:15



# Chain 2



Date: 24.OCT.2012 19:02:23

END



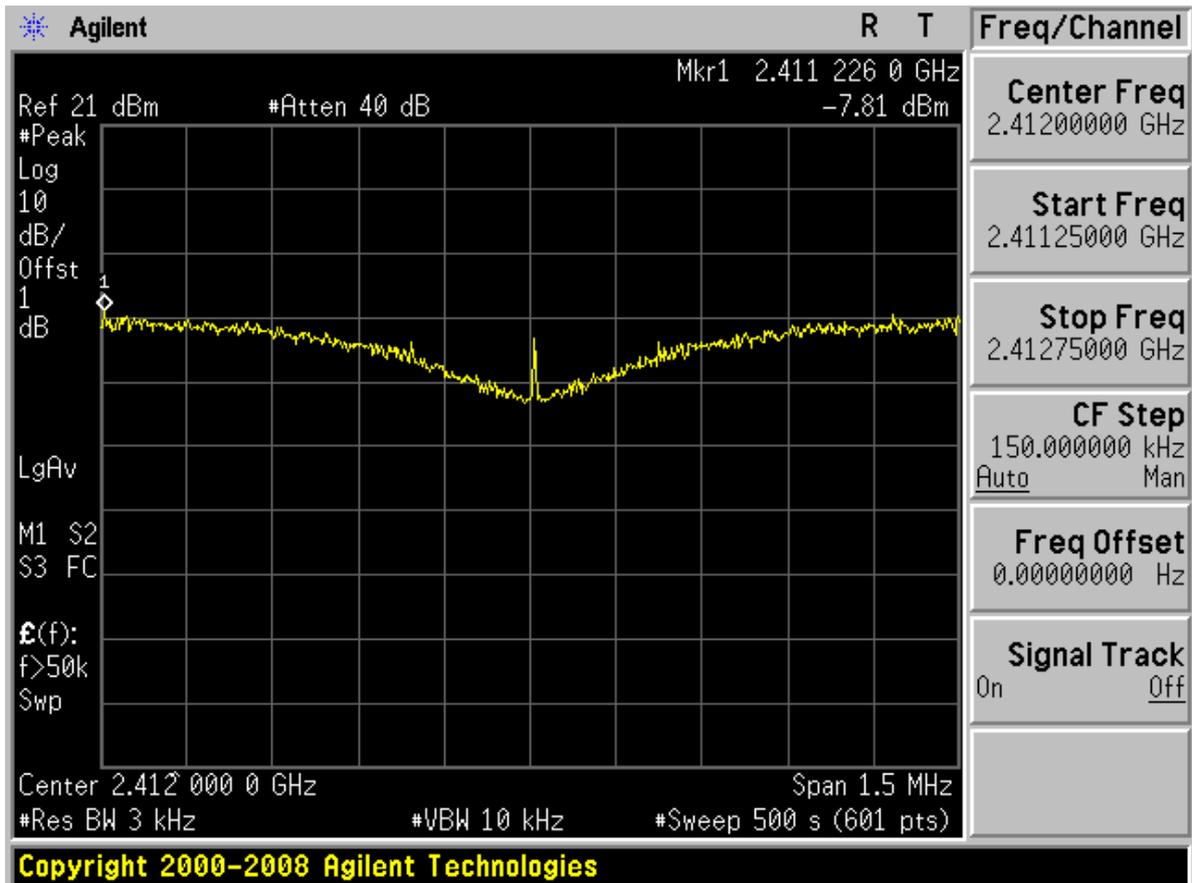
# **Appendix C**

## Power spectral density

According to FCC Part 15.247 (e) & RSS-210

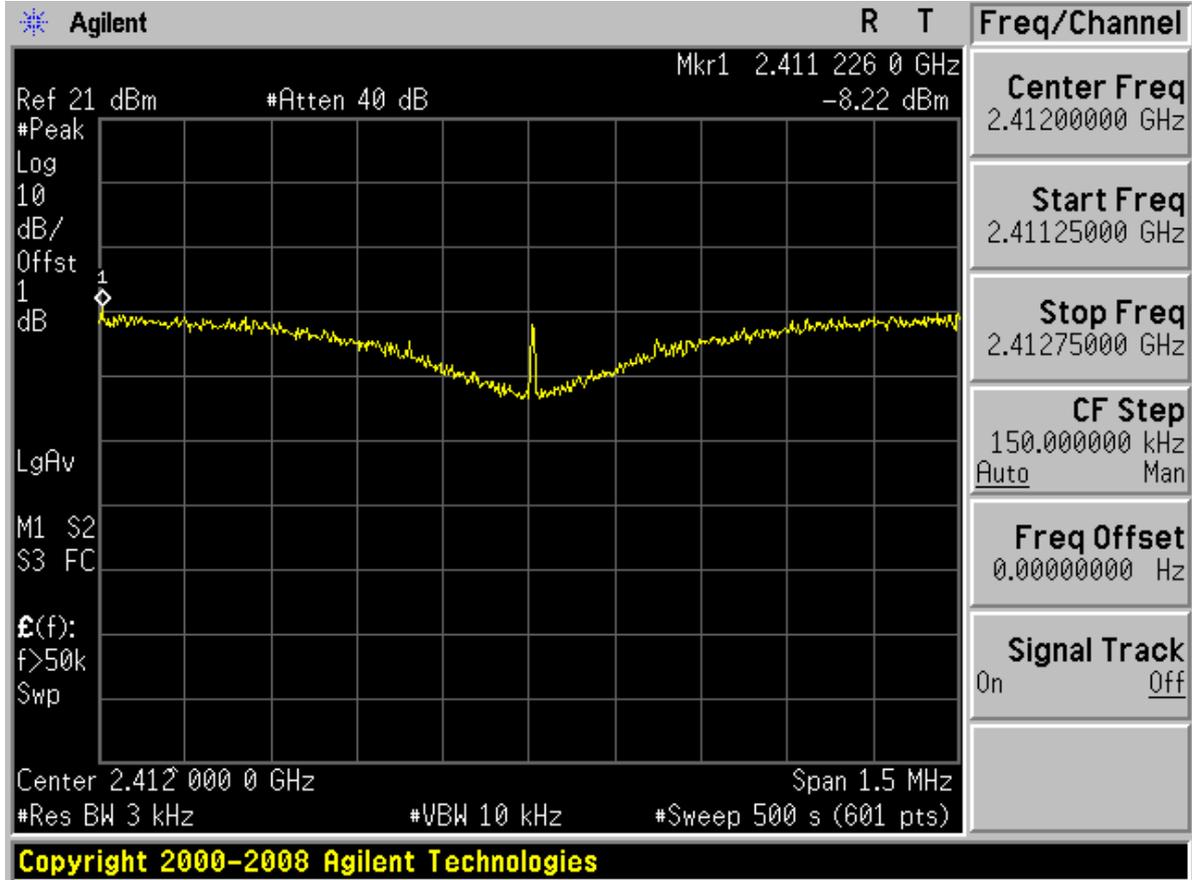


# 11B Chain 1&2 Channel 01 Chain 1



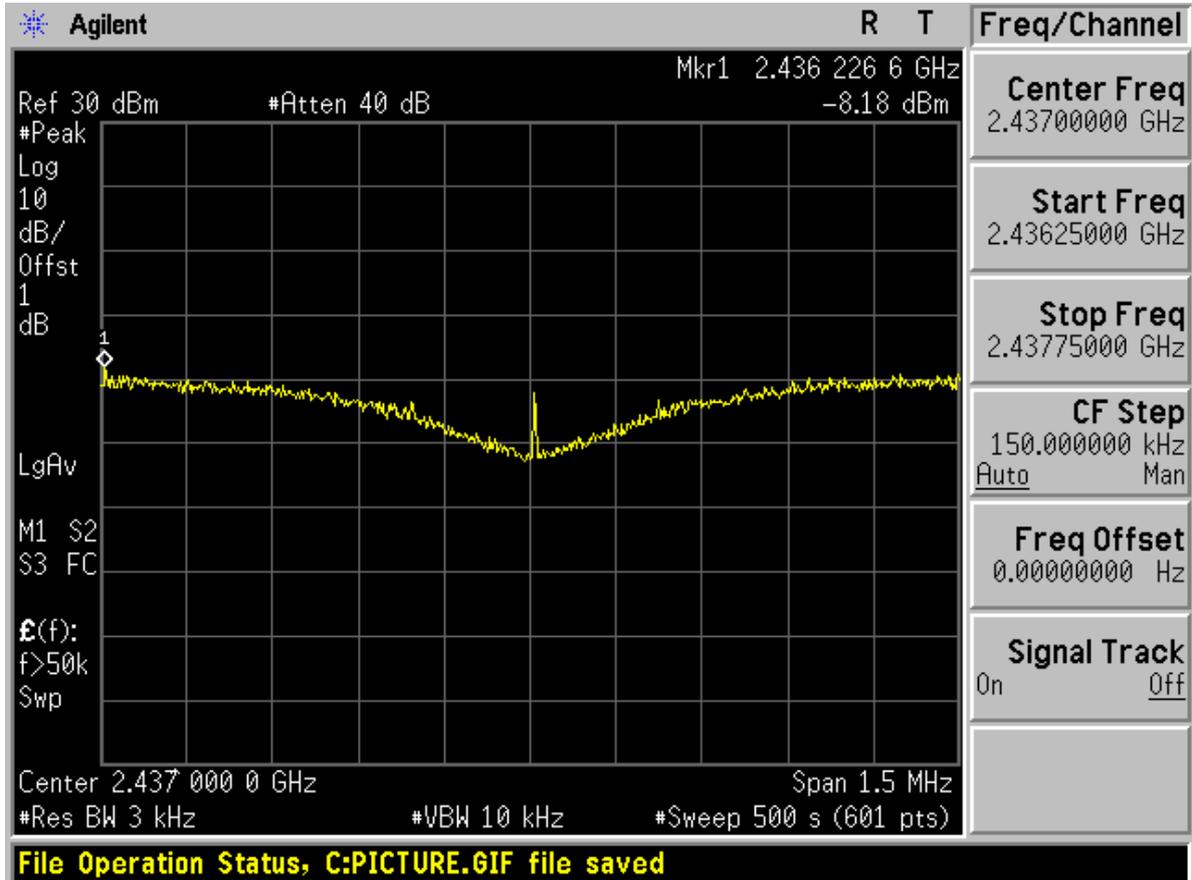


## Chain 2



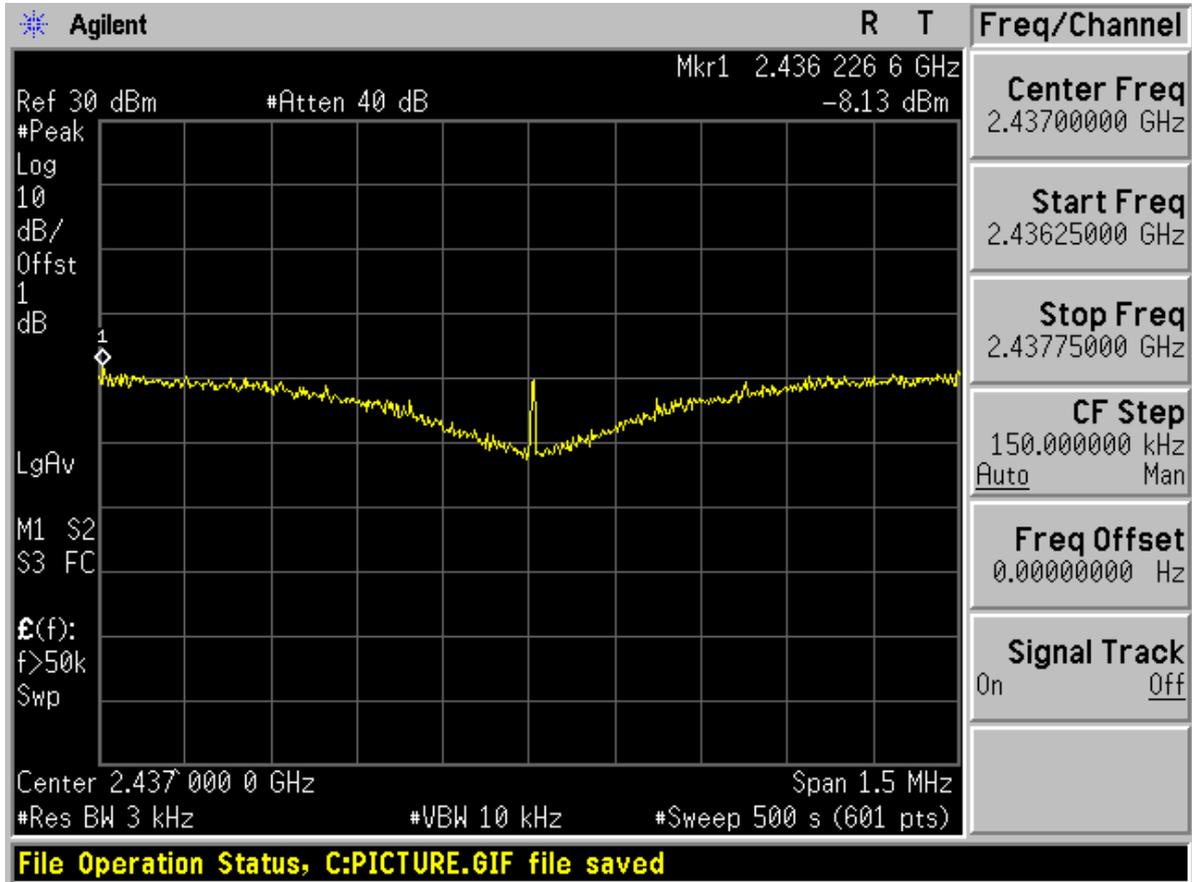


# Channel 06 Chain 1



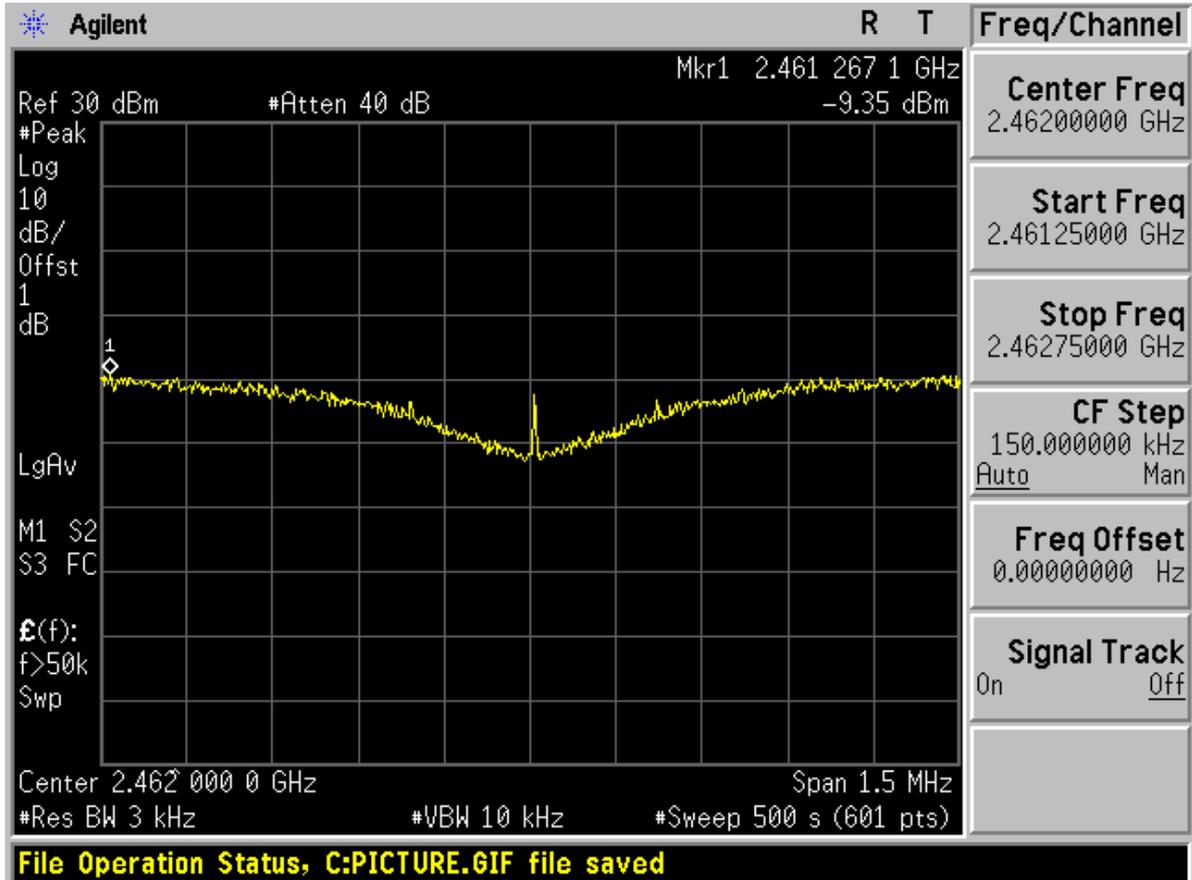


## Chain 2



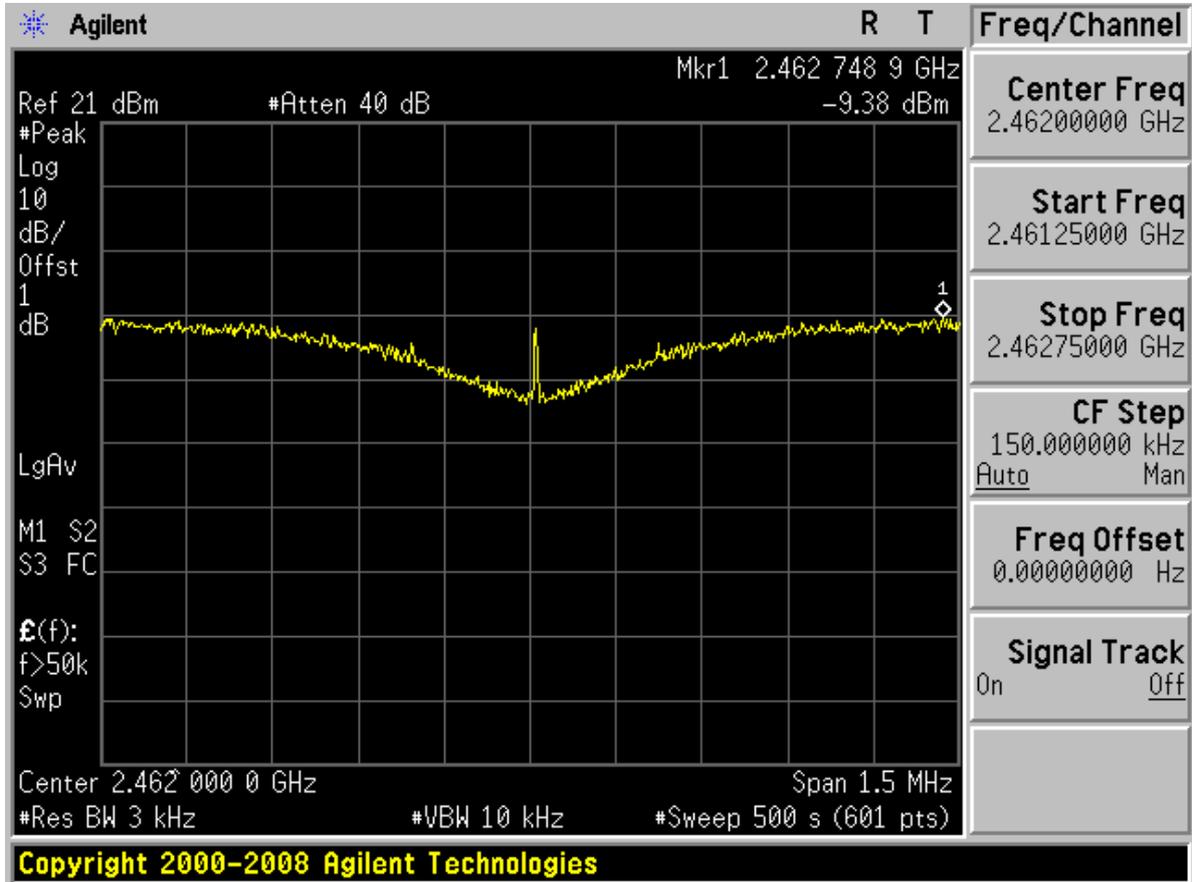


# Channel 11 Chain 1



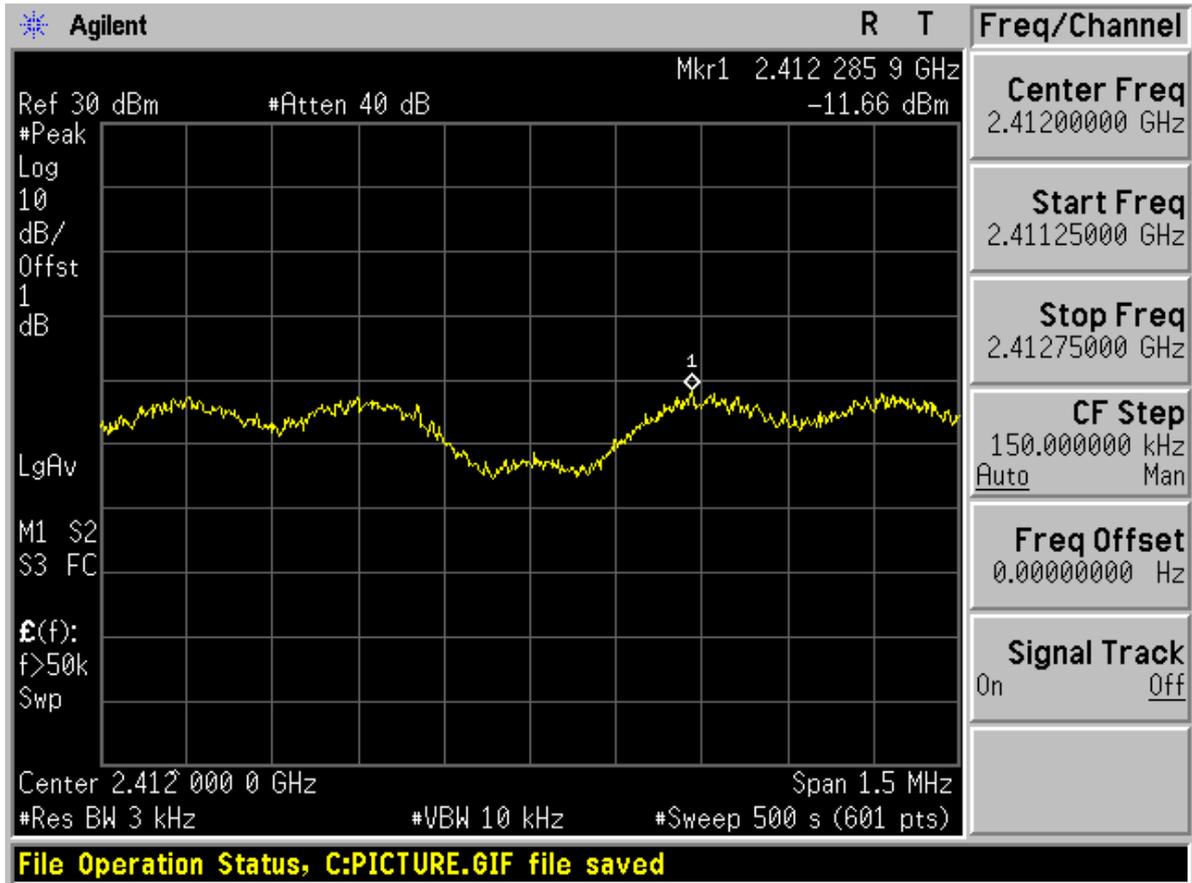


## Chain 2



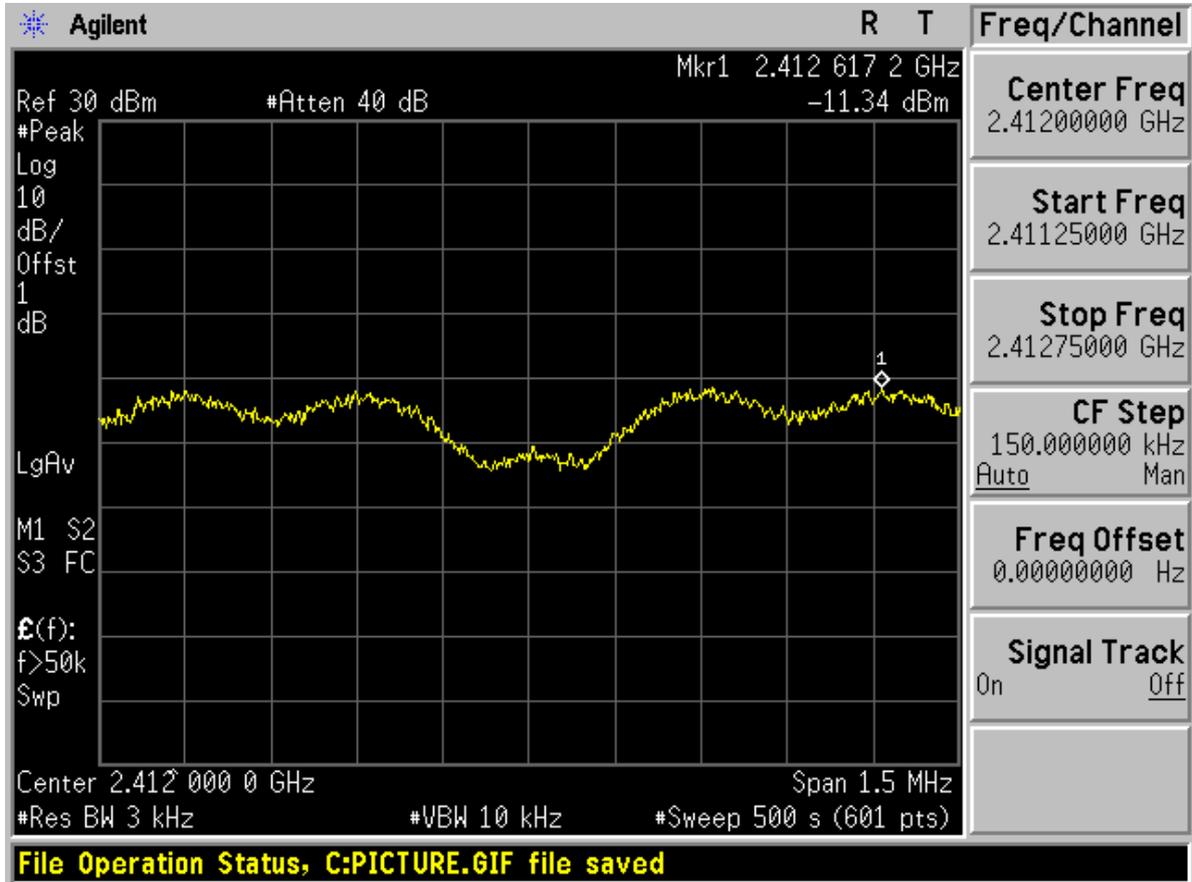


# 11G Chain 1&2 Channel 01 Chain 1



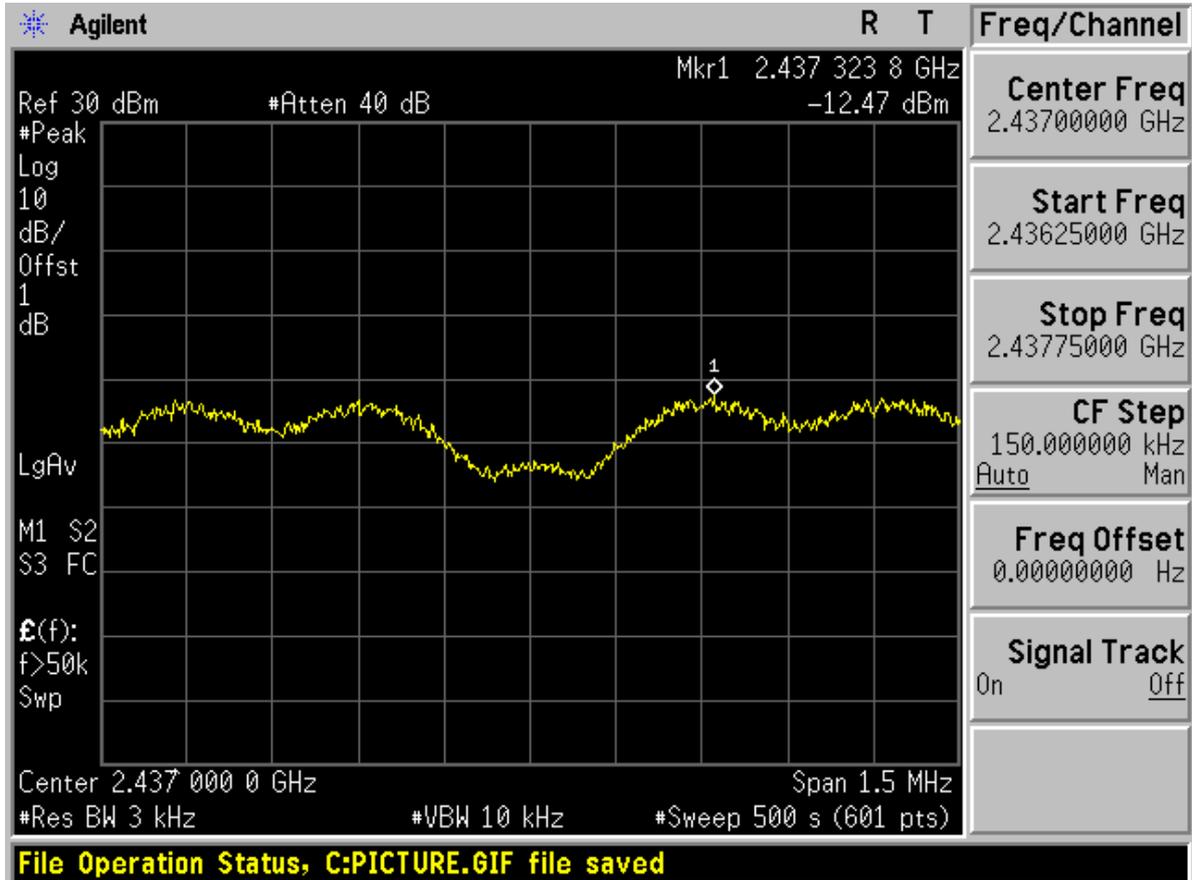


## Chain 2



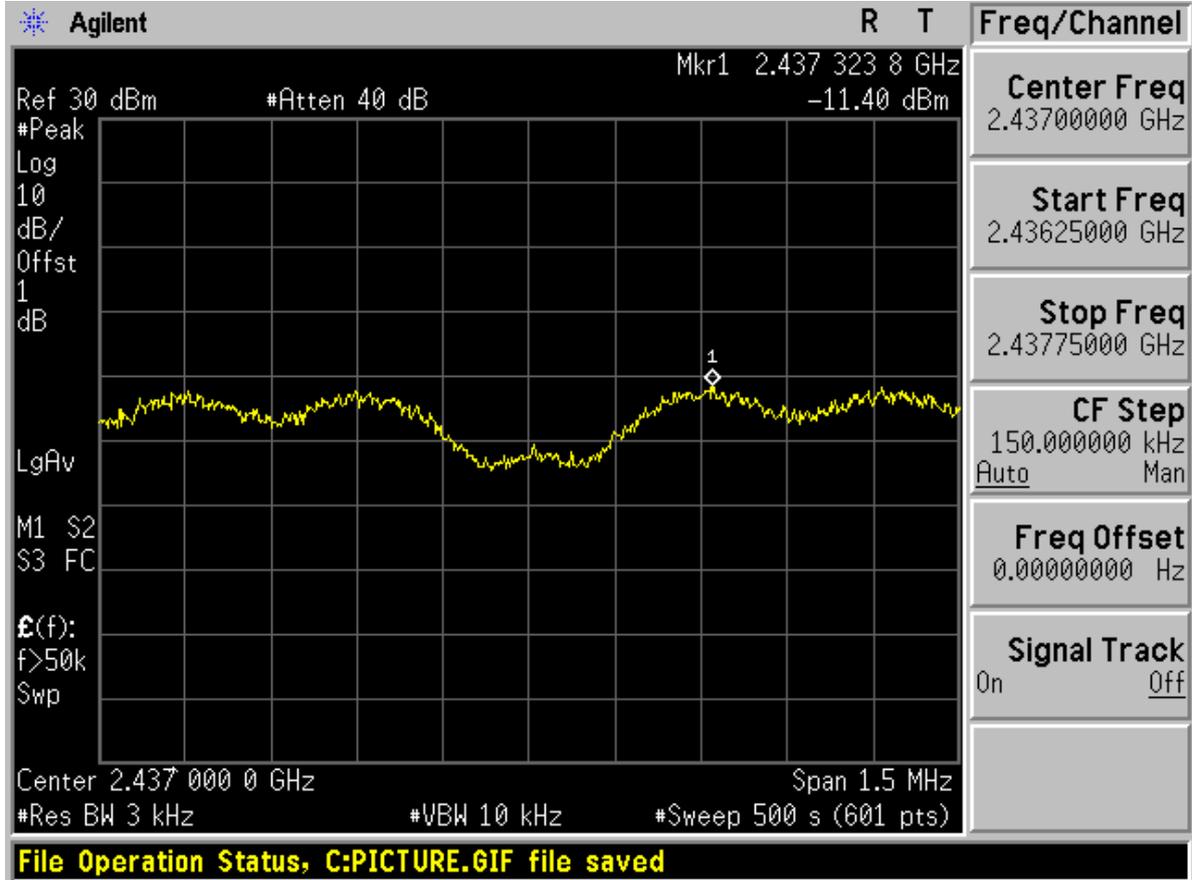


# Channel 06 Chain 1



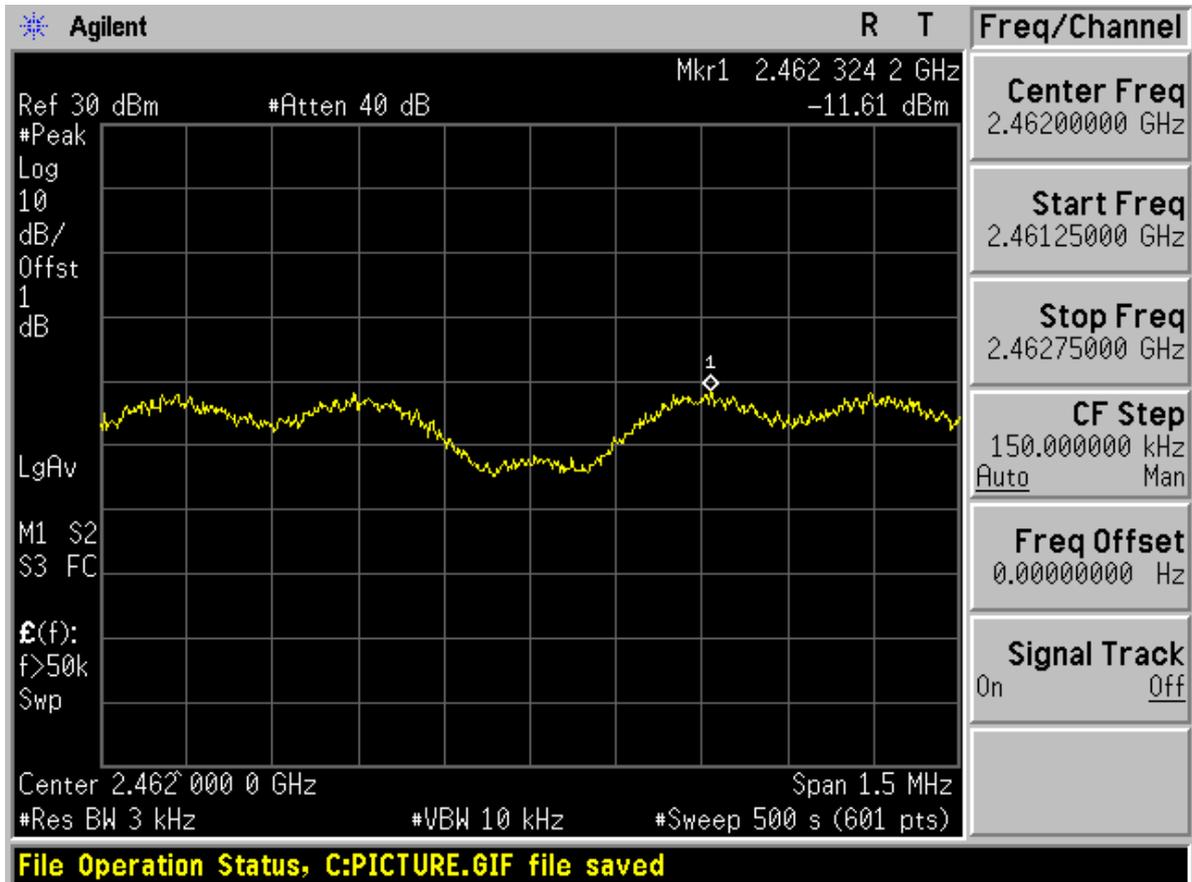


## Chain 2



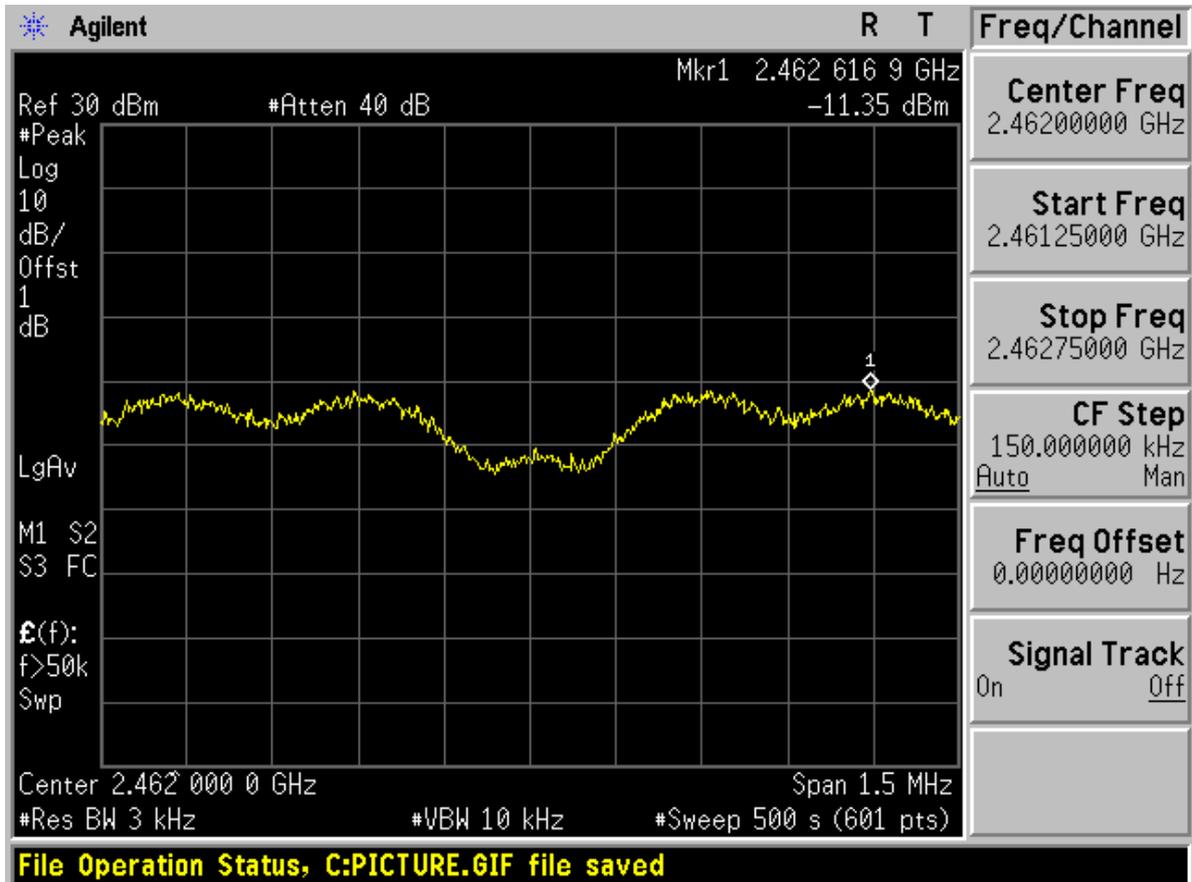


# Channel 11 Chain 1



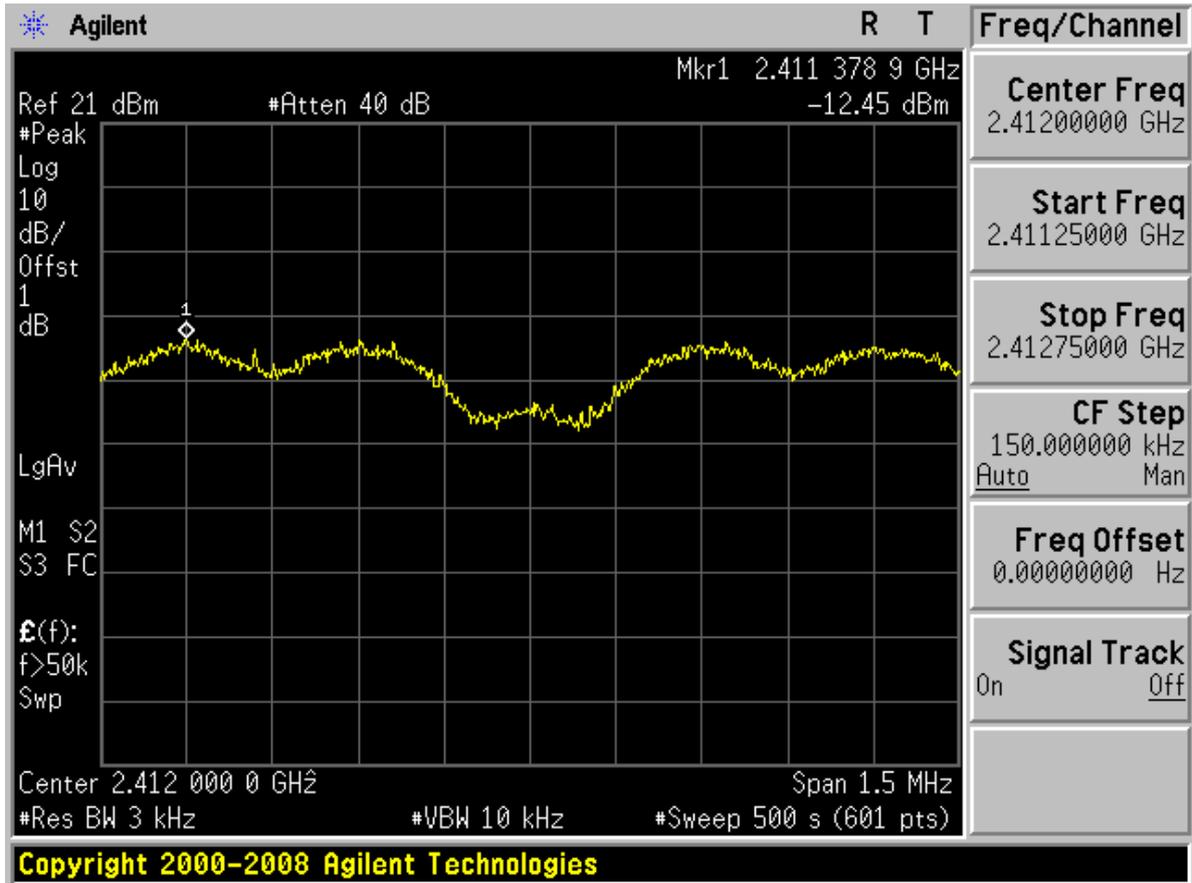


## Chain 2



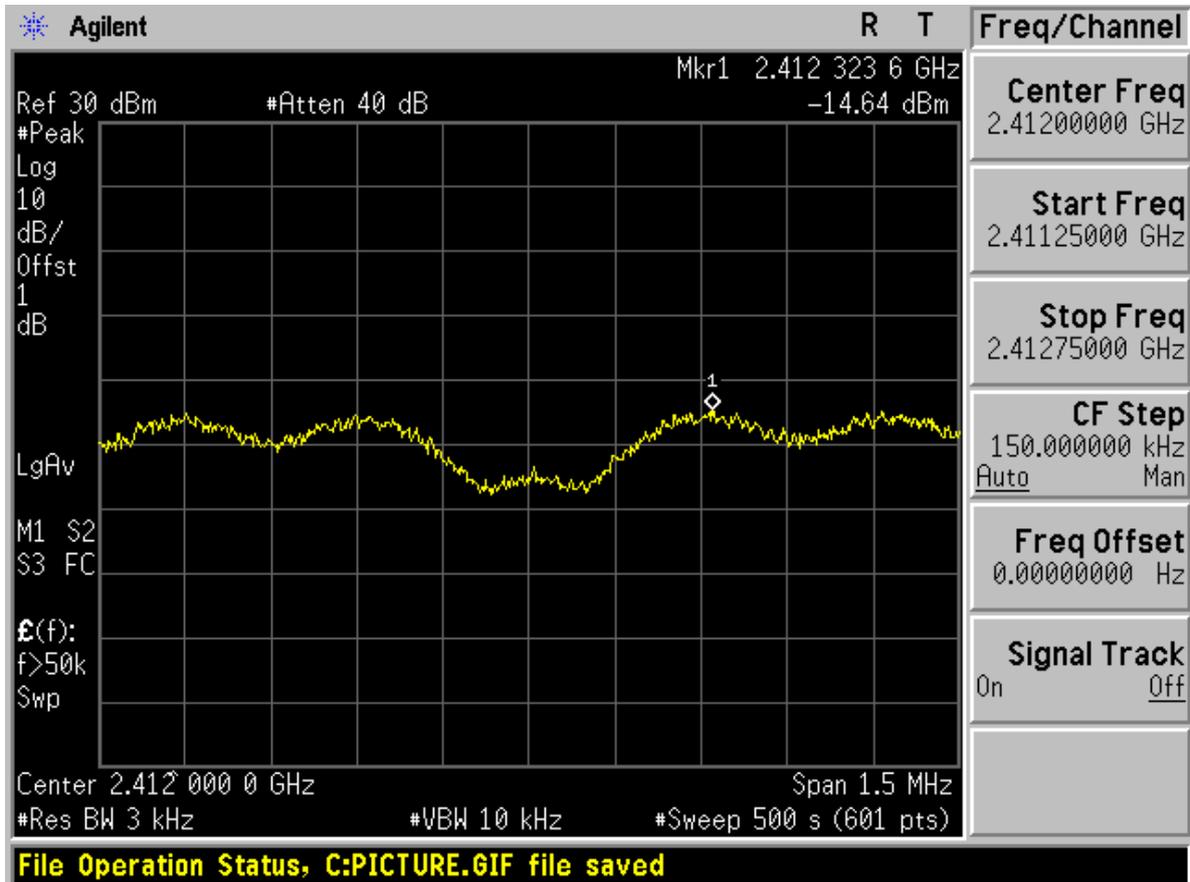


# 11N20M Chain 1&2 Channel 01 Chain 1





## Chain 2



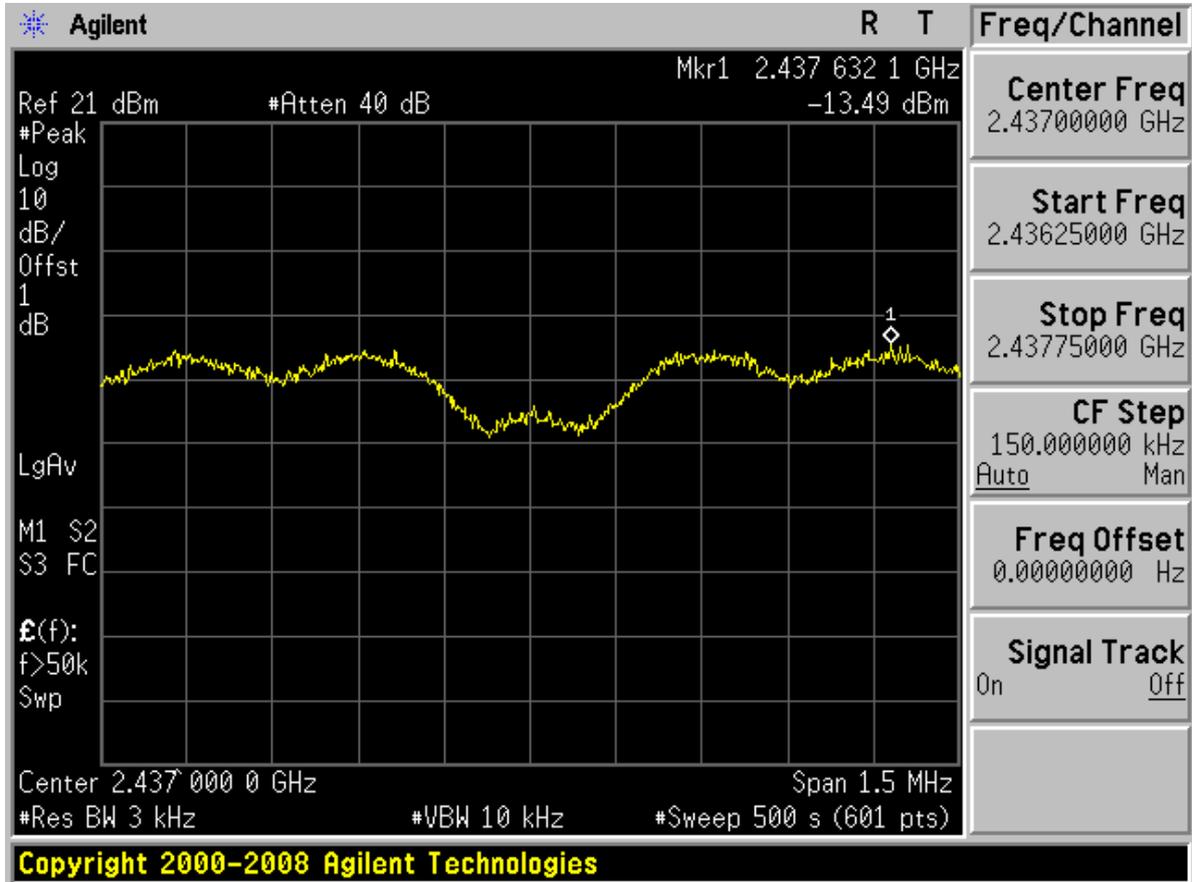


# Channel 06 Chain 1



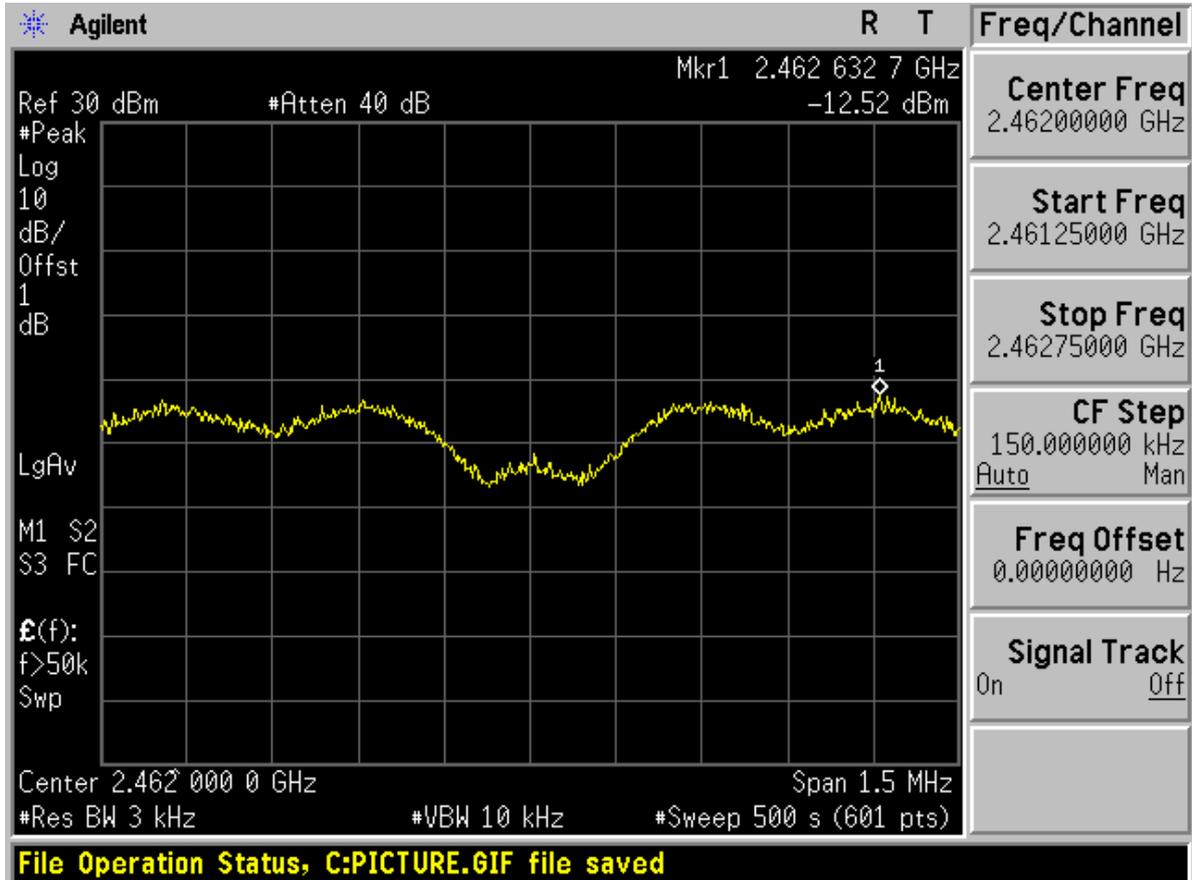


## Chain 2



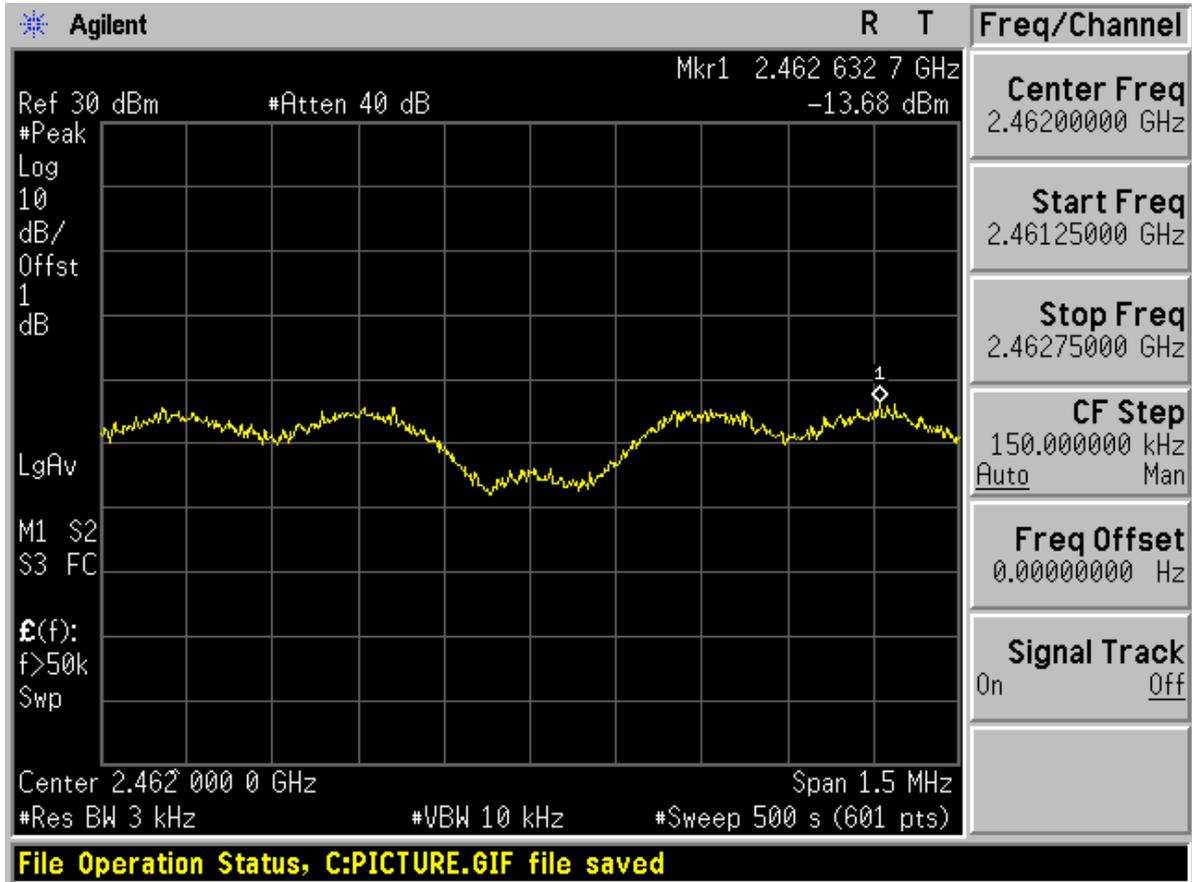


# Channel 11 Chain 1



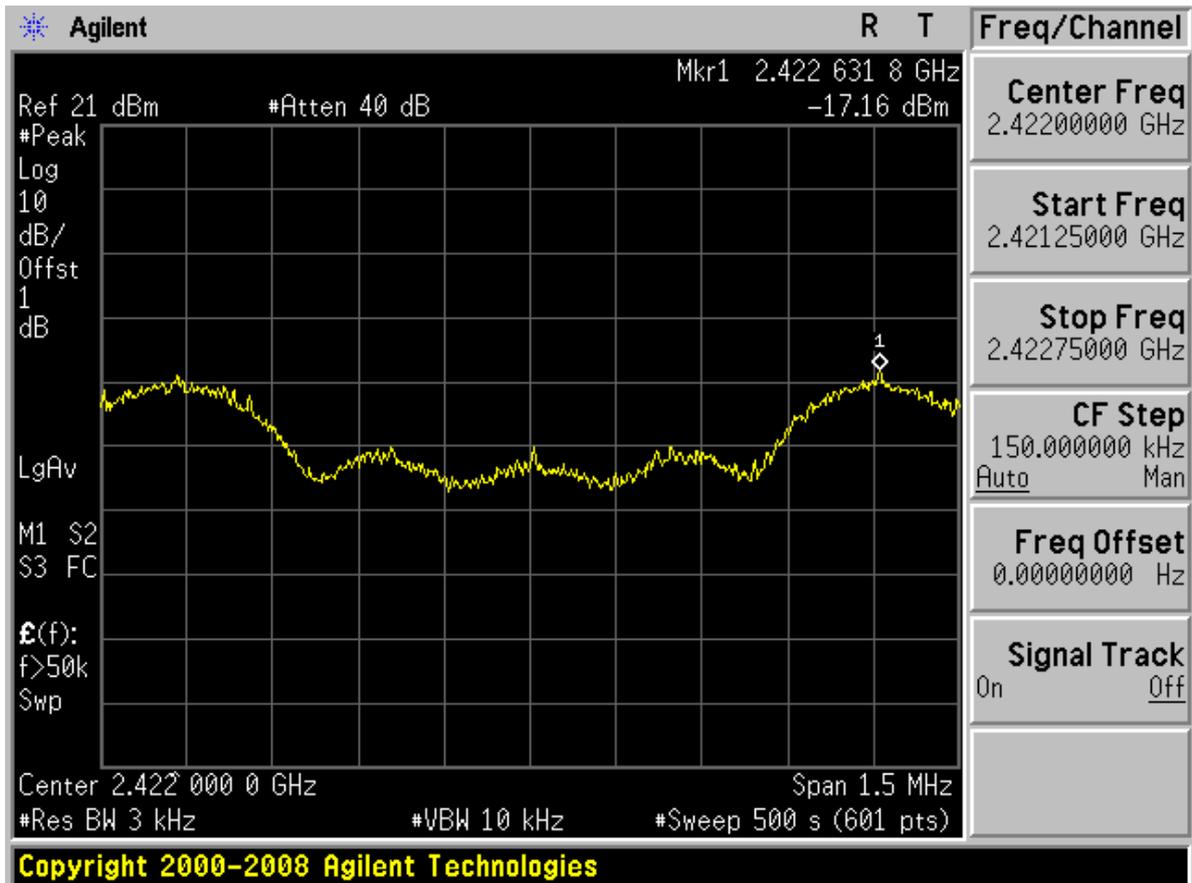


## Chain 2



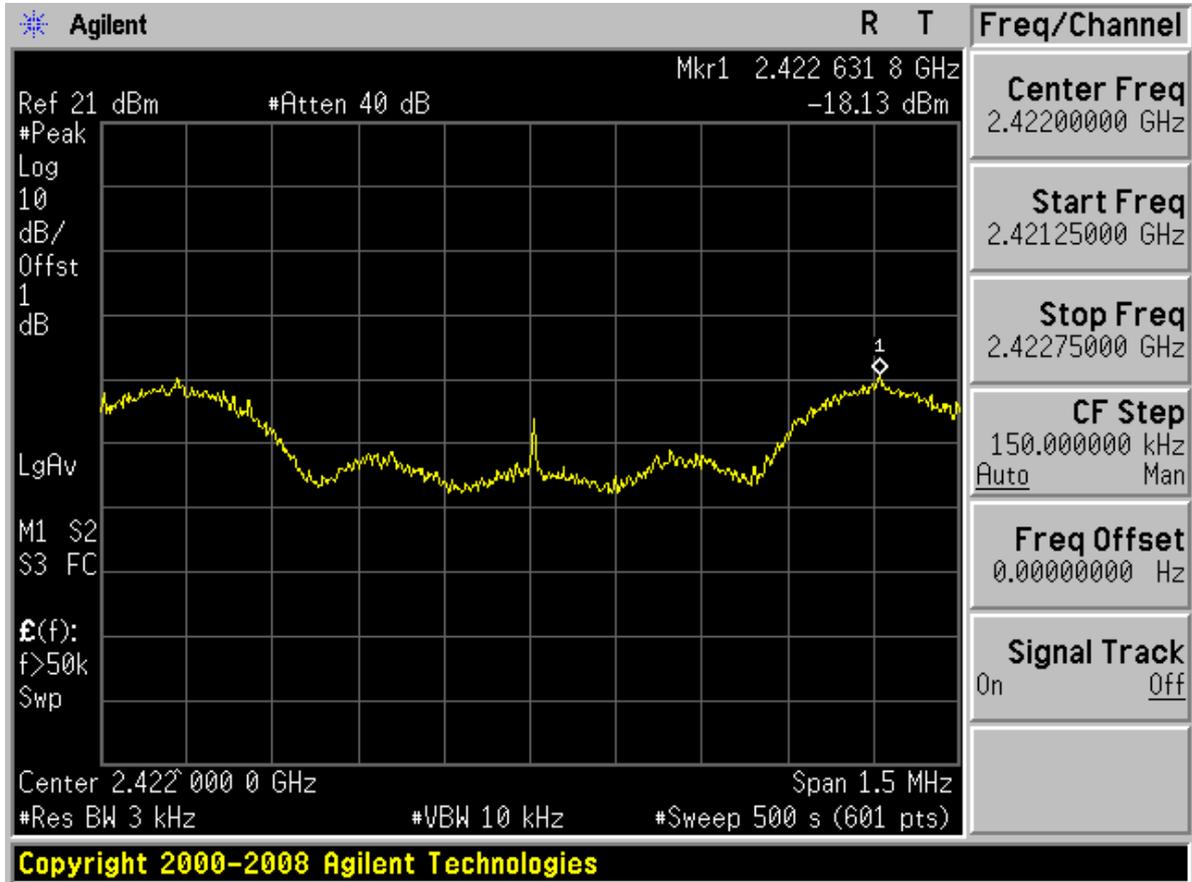


# 11N40M Chain 1&2 Channel 03 Chain 1





## Chain 2



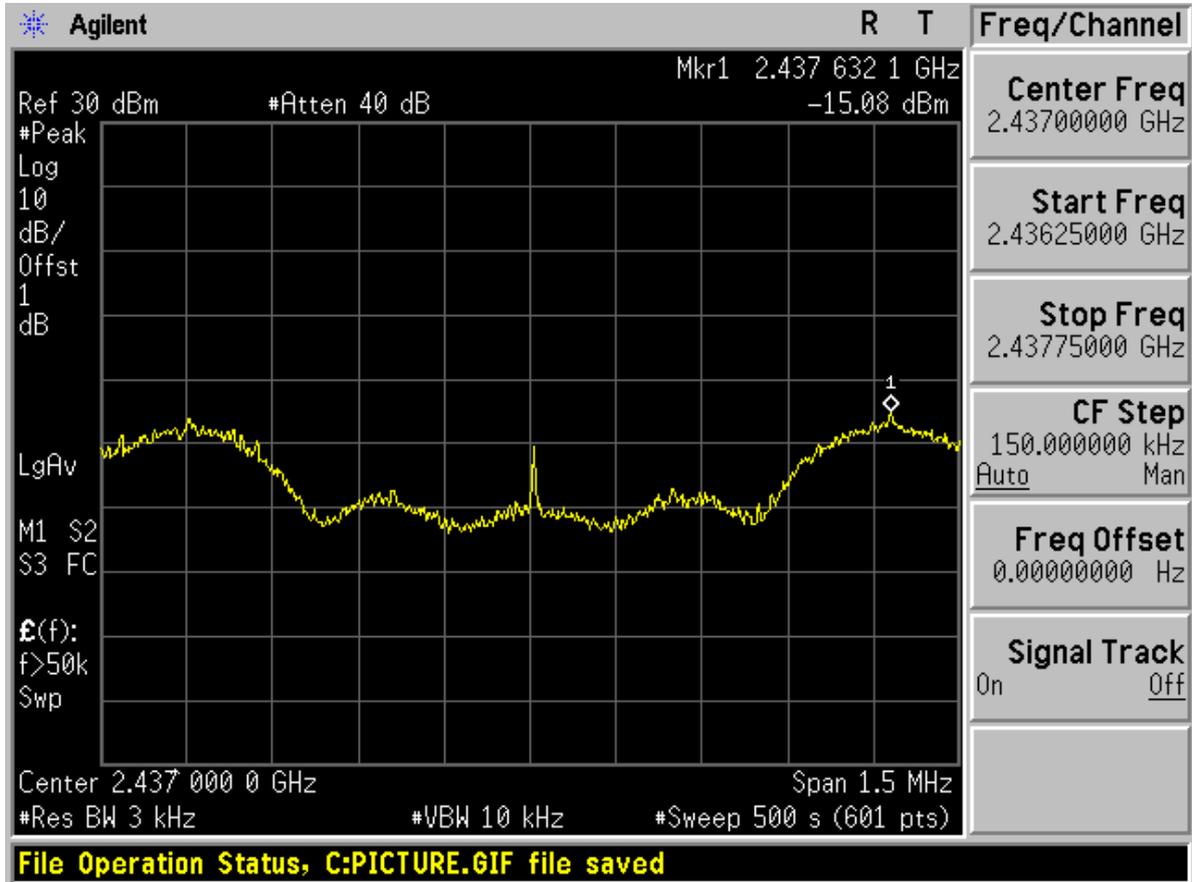


# Channel 06 Chain 1





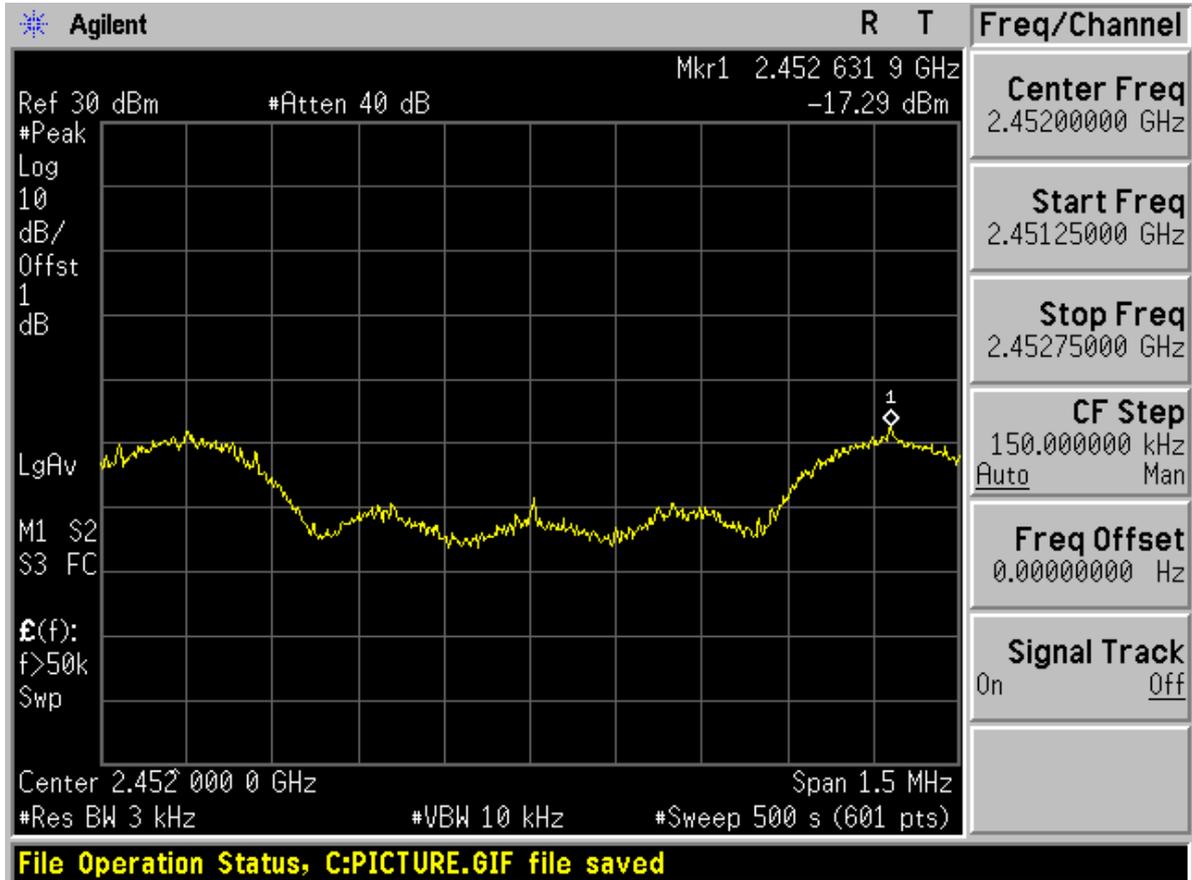
## Chain 2





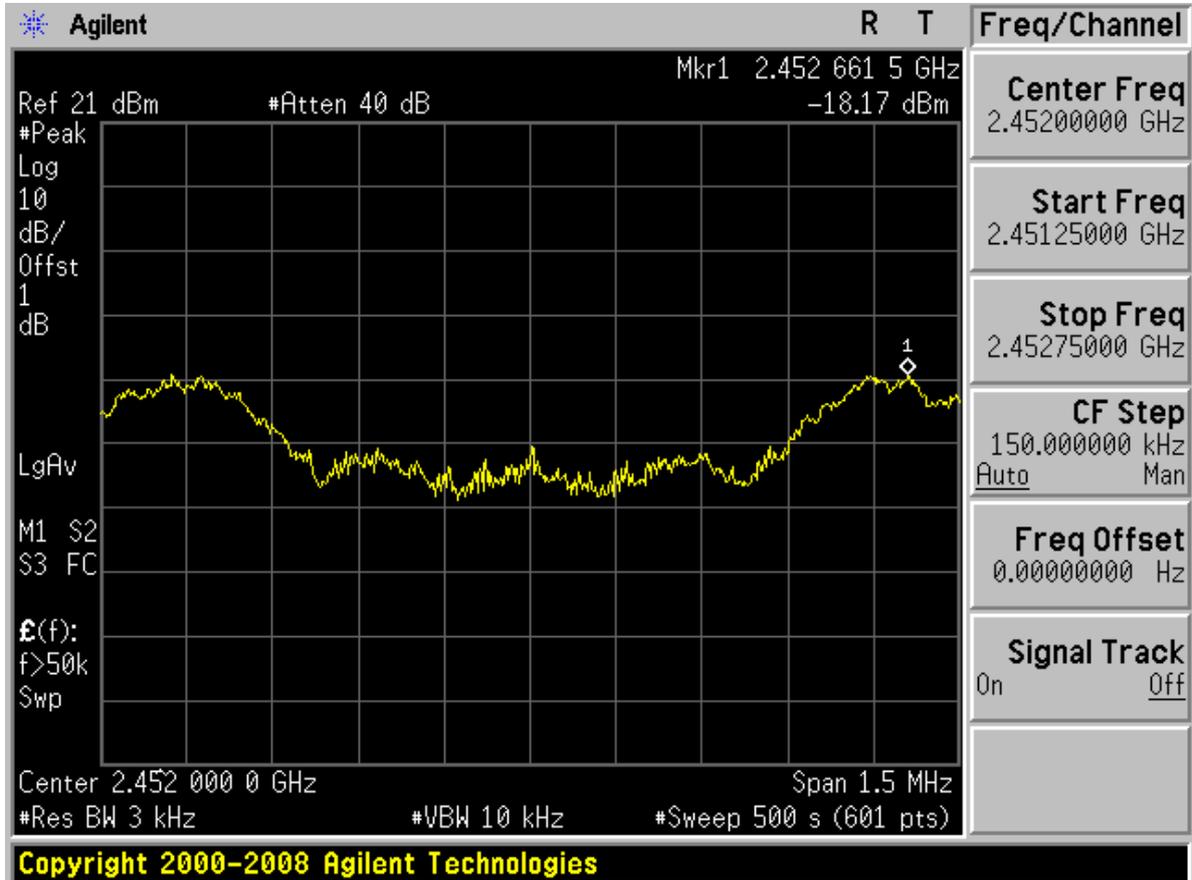
# Channel 11

## Chain 1



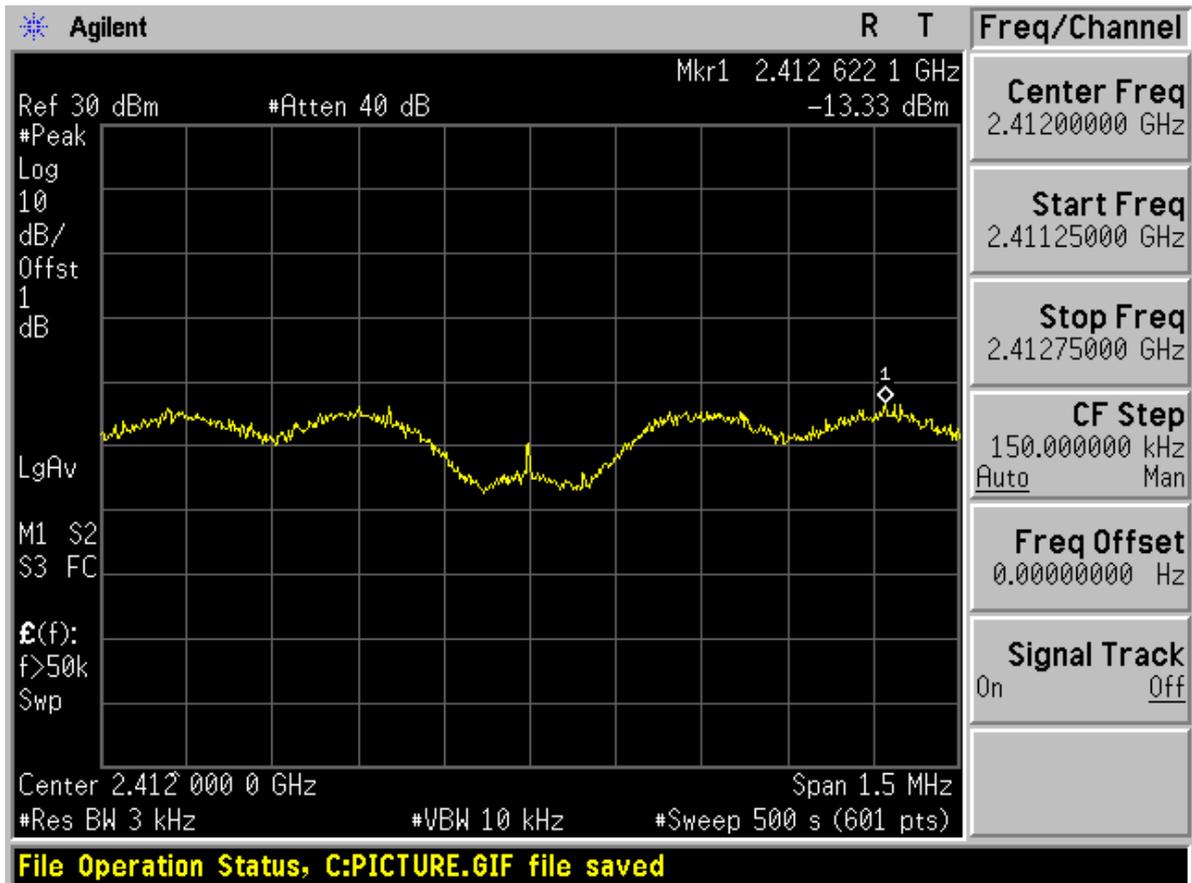


## Chain 2



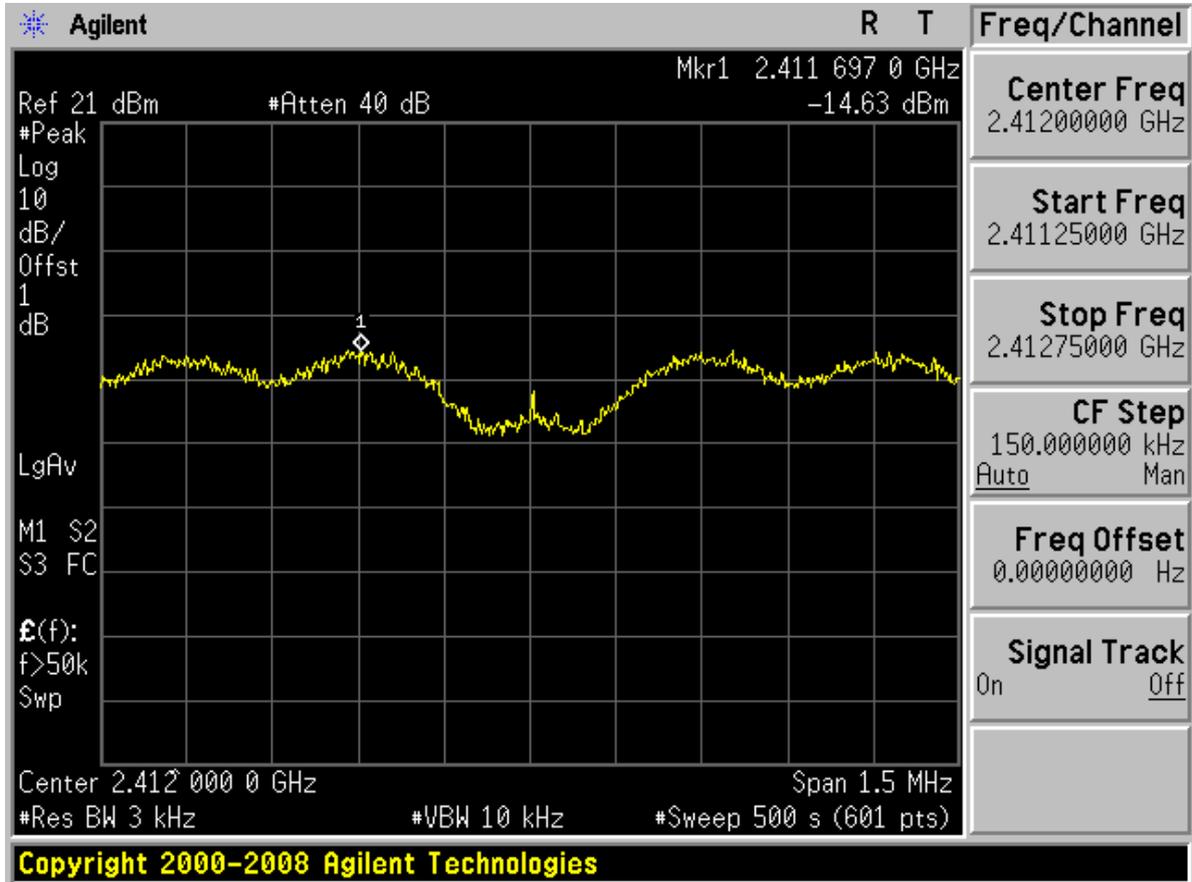


# 11N20M(MIMO) Chain 1&2 Channel 01 Chain 1





## Chain 2



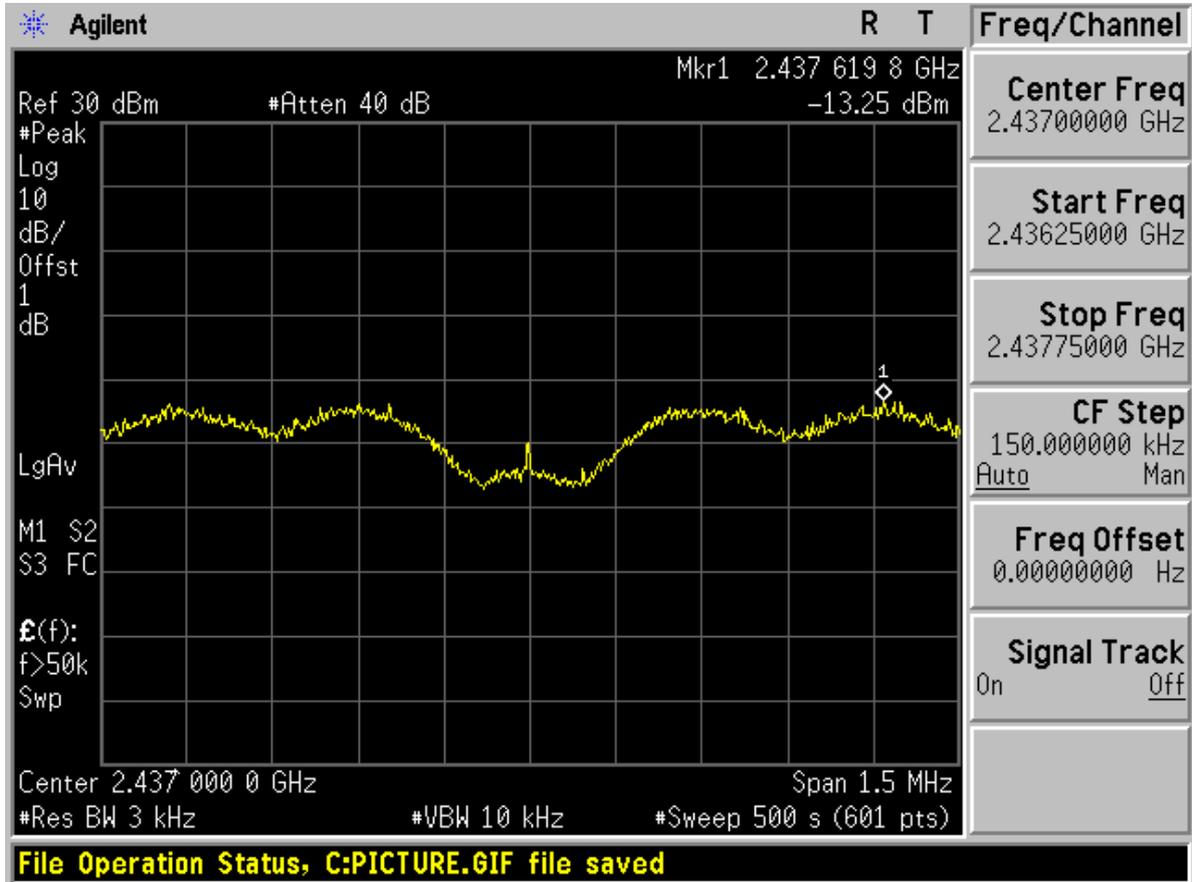


# Channel 06 Chain 1



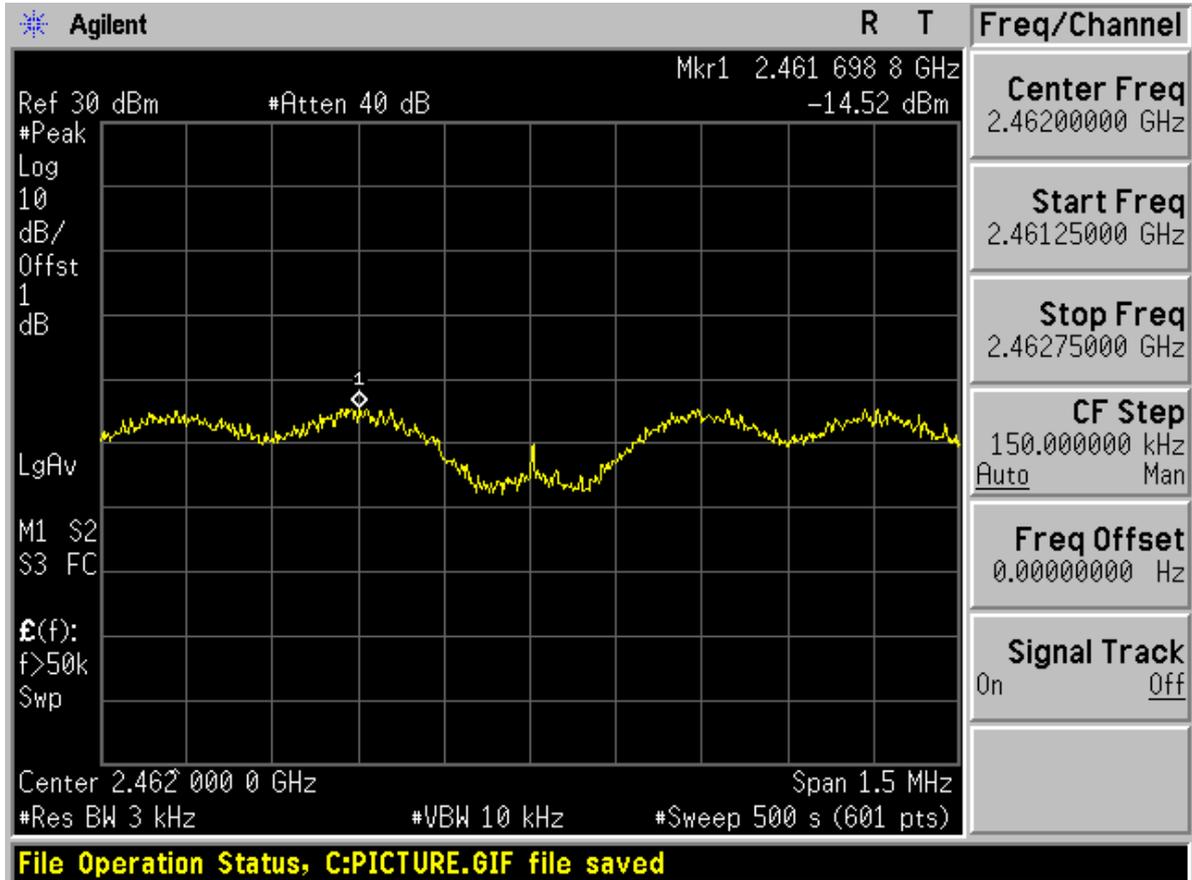


## Chain 2



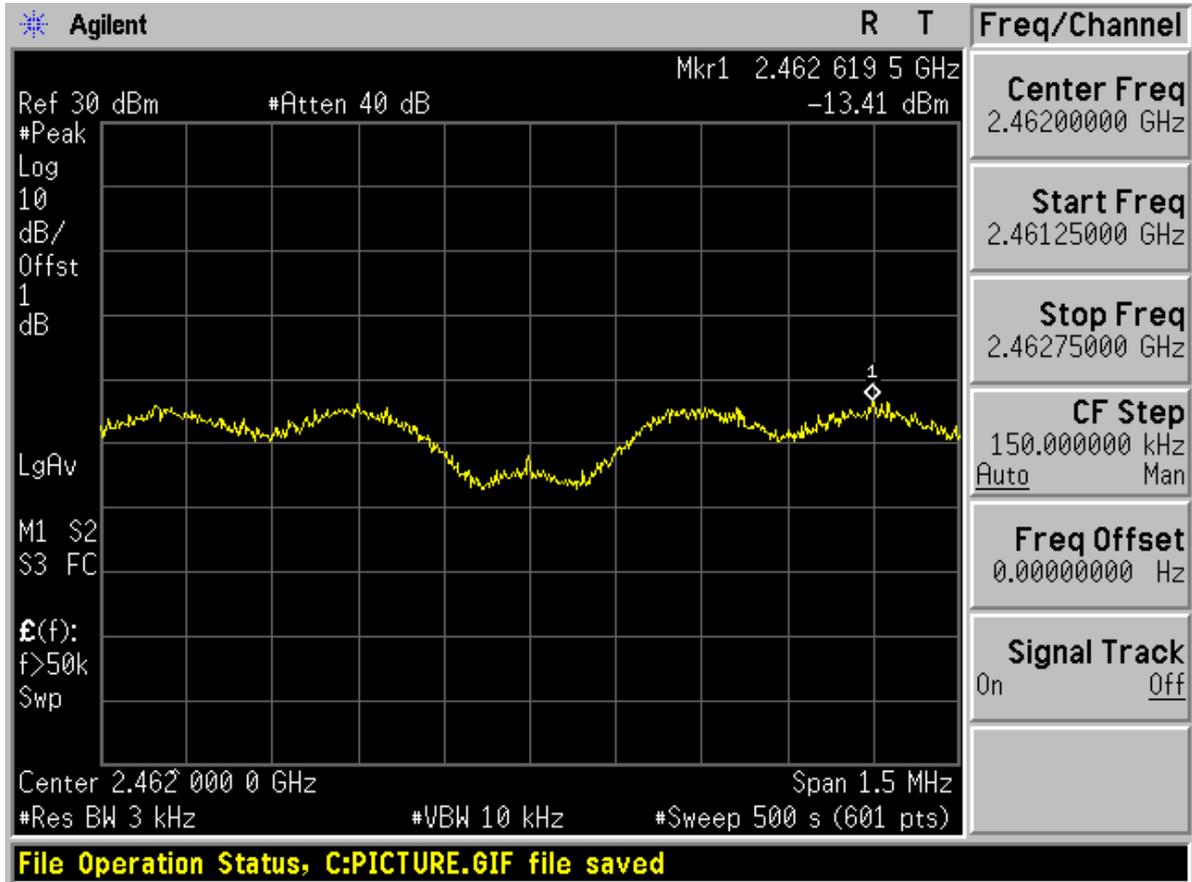


# Channel 11 Chain 1



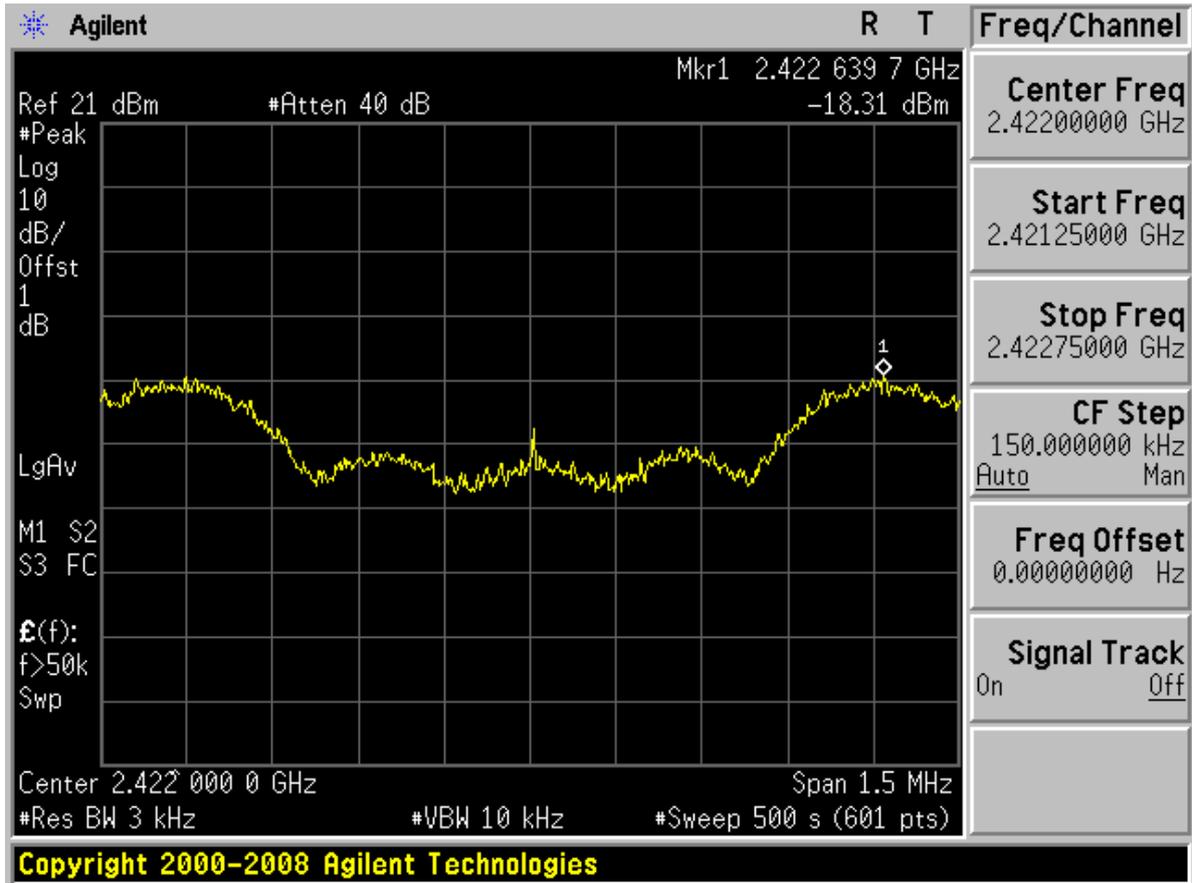


## Chain 2



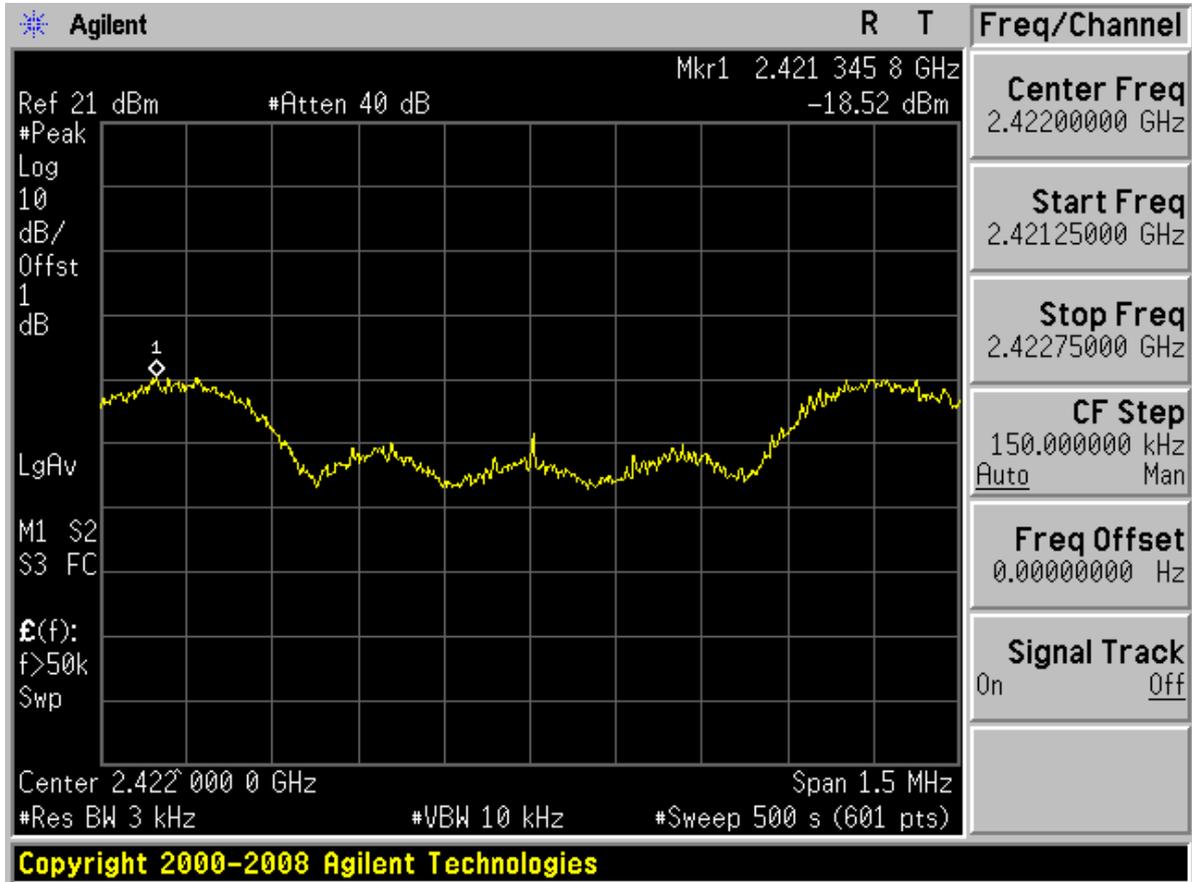


# 11N40M(MIMO) Chain1&2 Channel 03 Chain 1



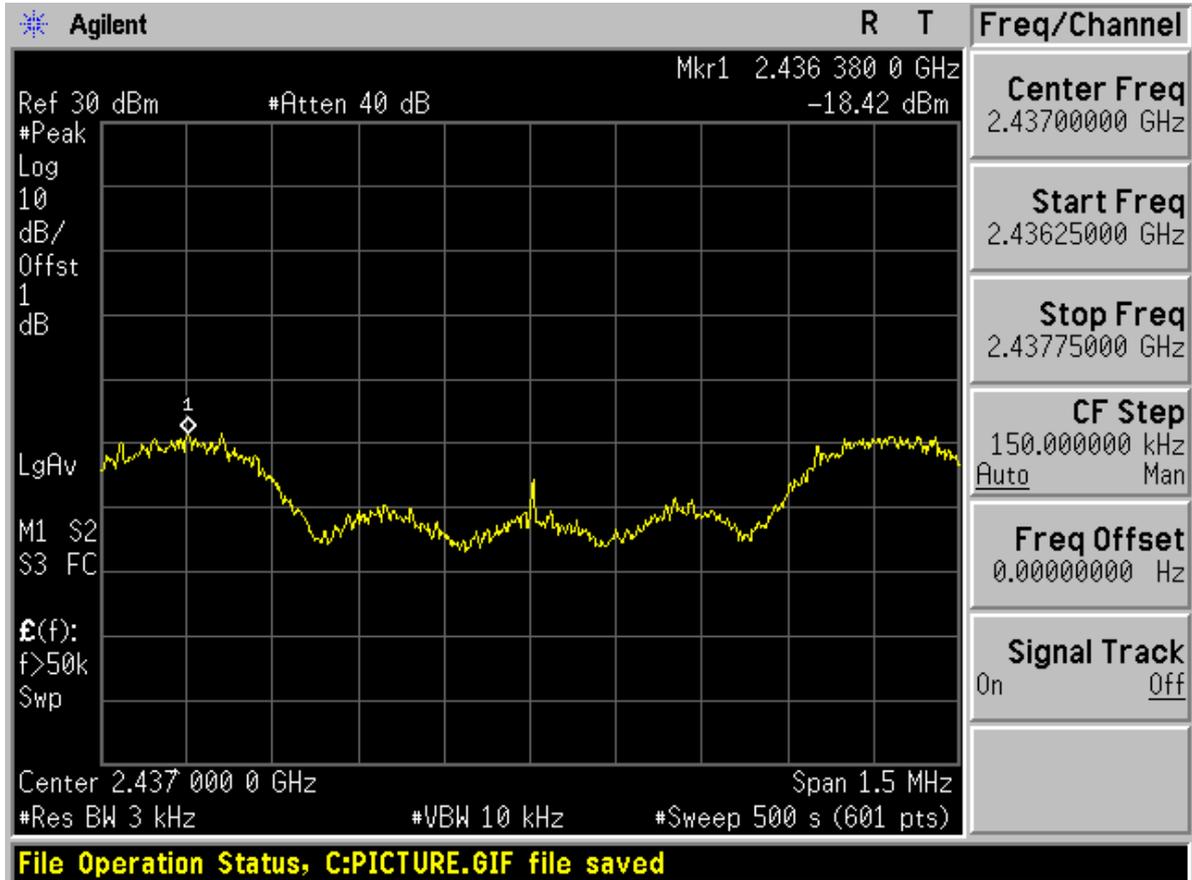


## Chain 2



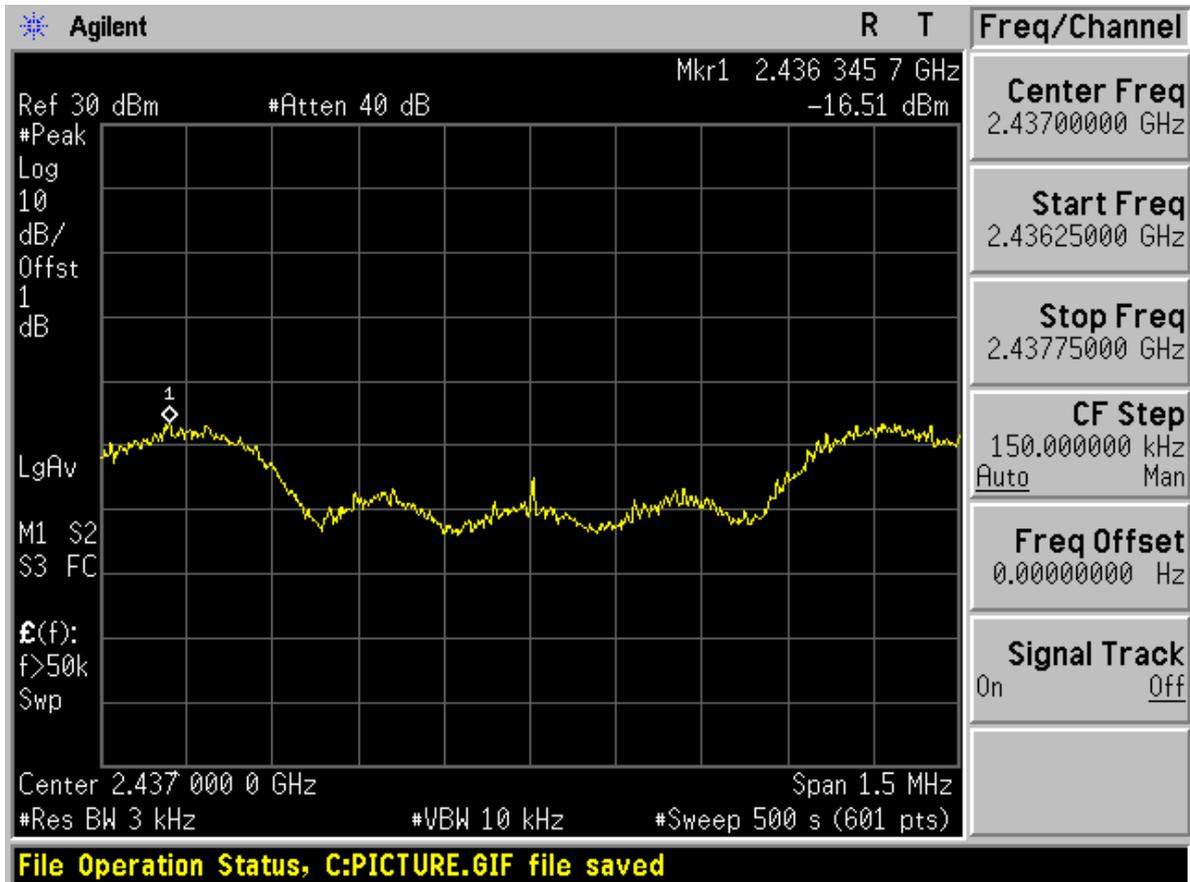


# Channel 06 Chain 1



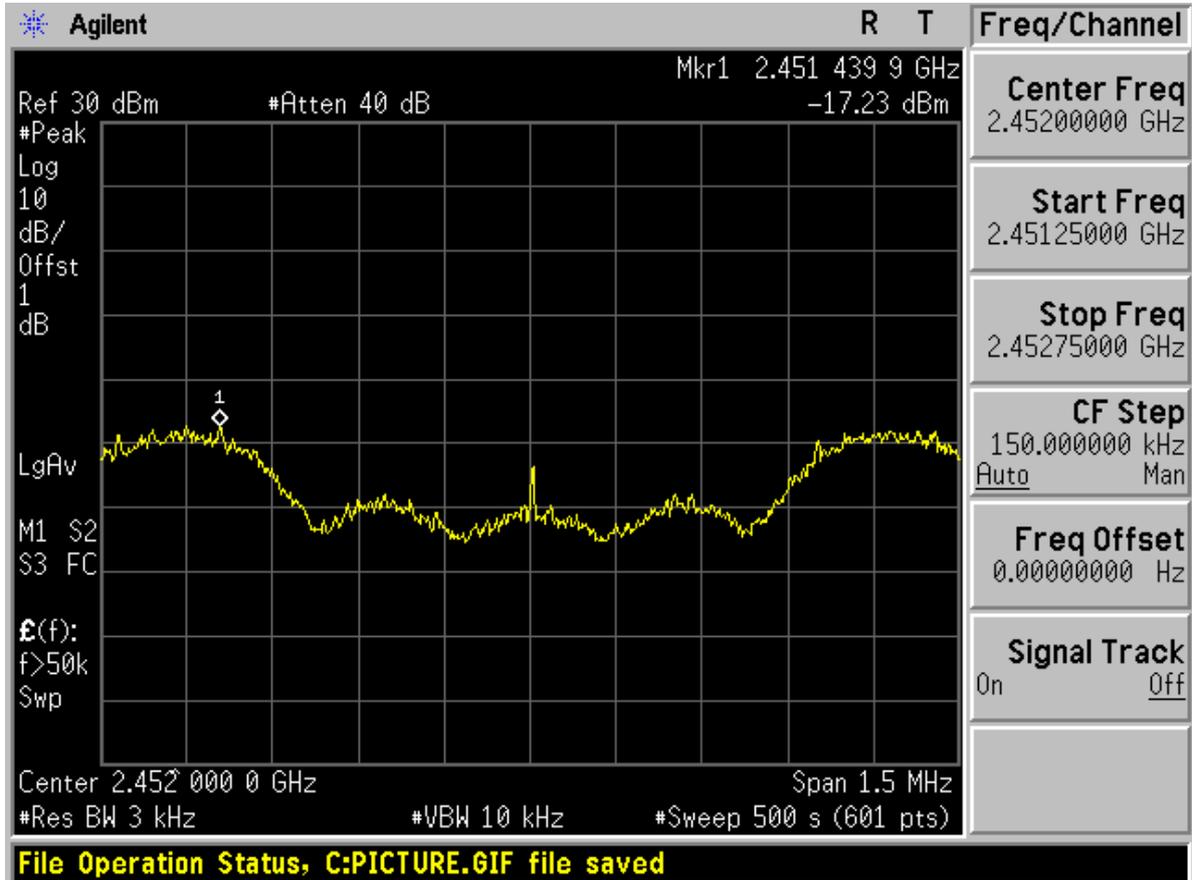


## Chain 2



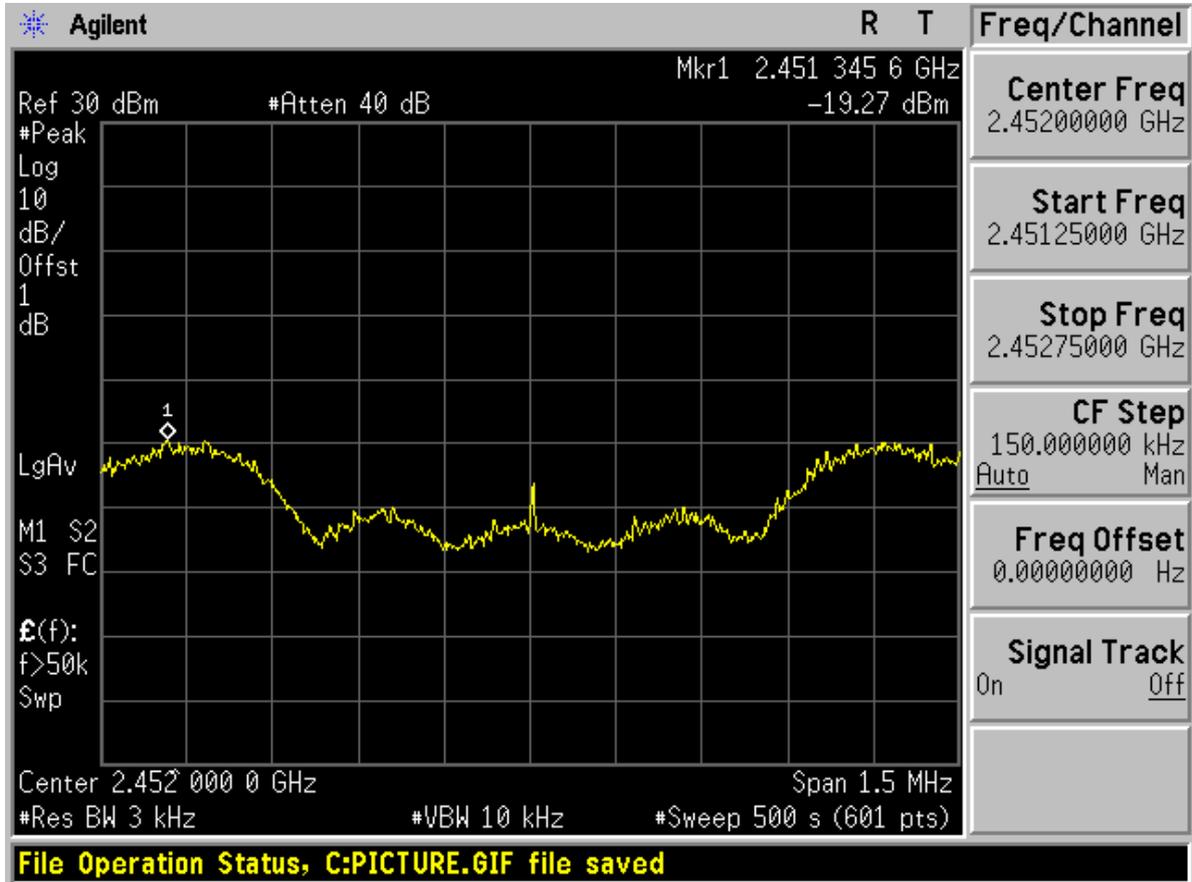


# Channel 09 Chain 1





## Chain 2



END



FCC&IC Test Report of E5776s-501  
FCC ID: QISE5776S-501  
IC : 6369A-E5776S

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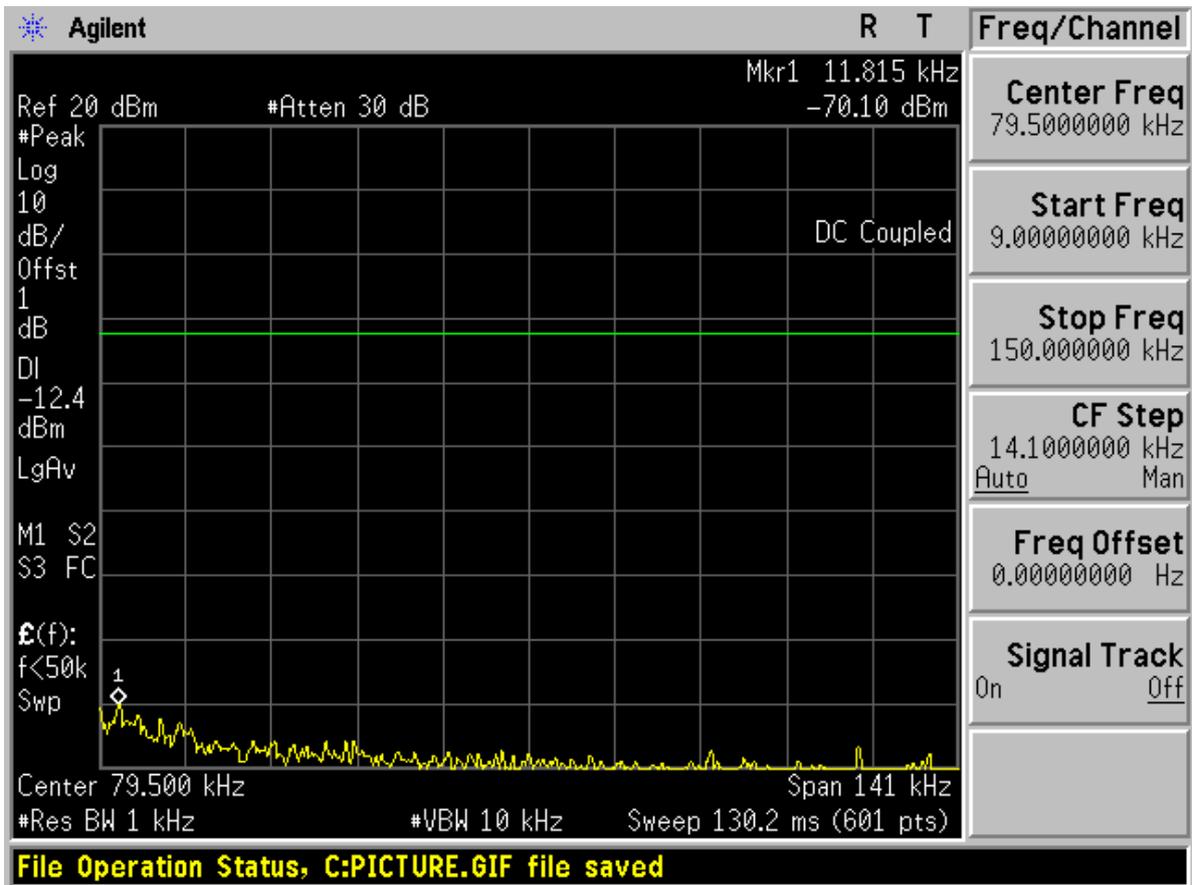
## **Appendix D**

# Conducted RF spurious

According to FCC Part 15.247 (d) & RSS-210

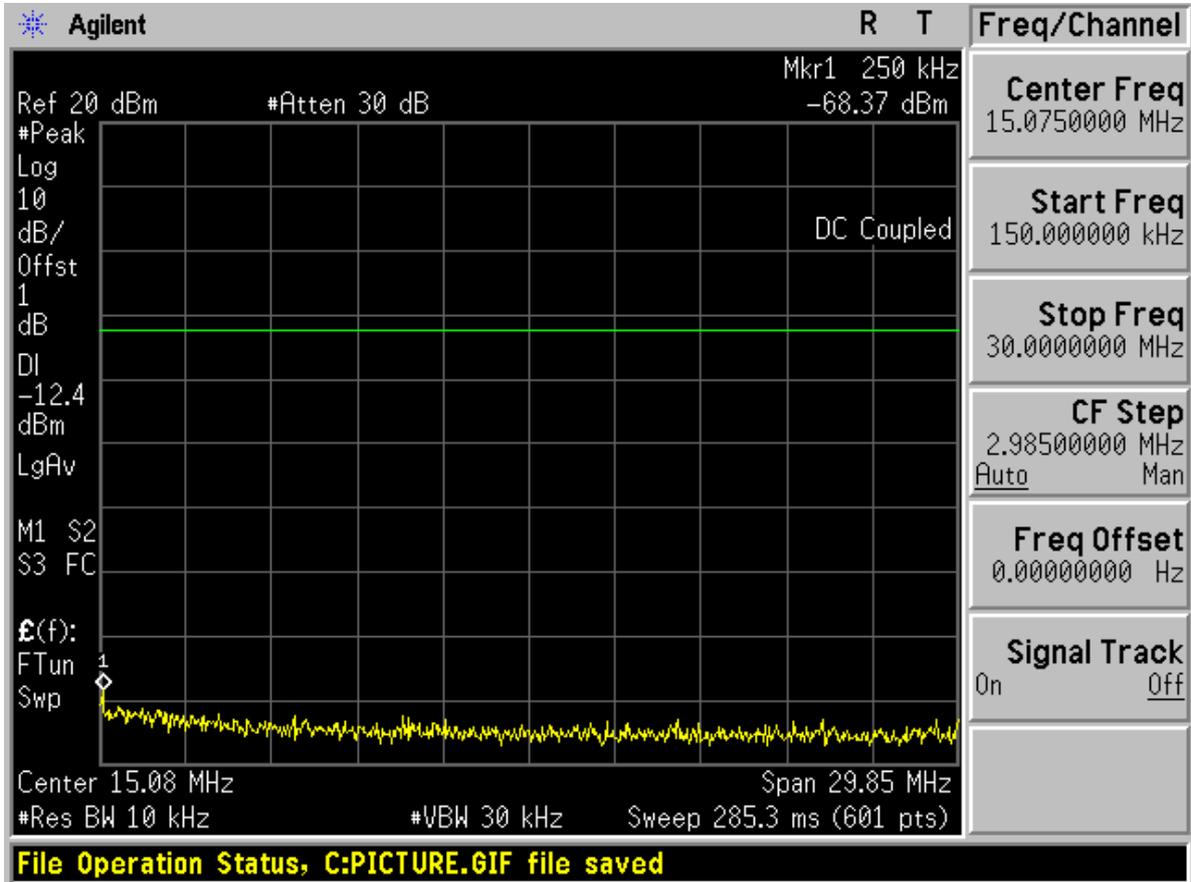


# 11B Chain 1&2 Channel 01 Chain 1 9K~150K



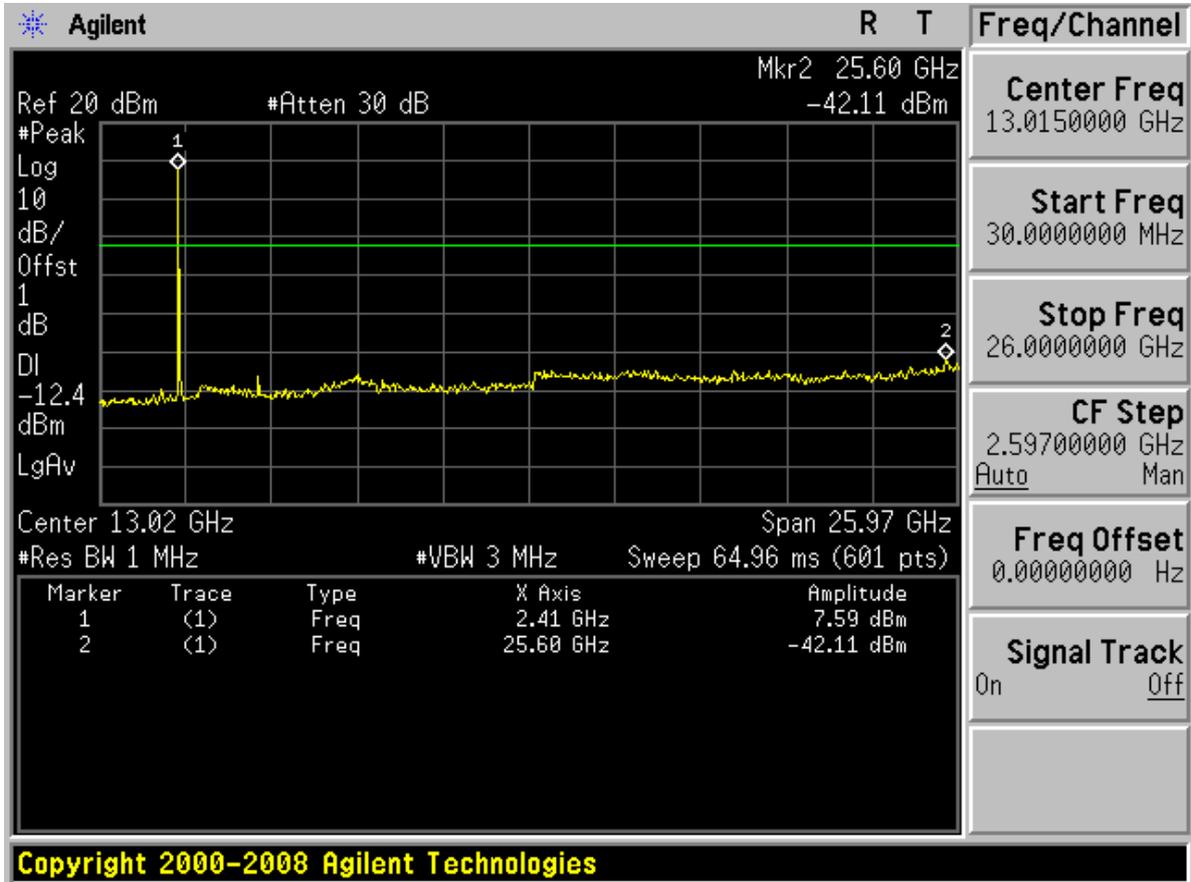


# 150K~30M



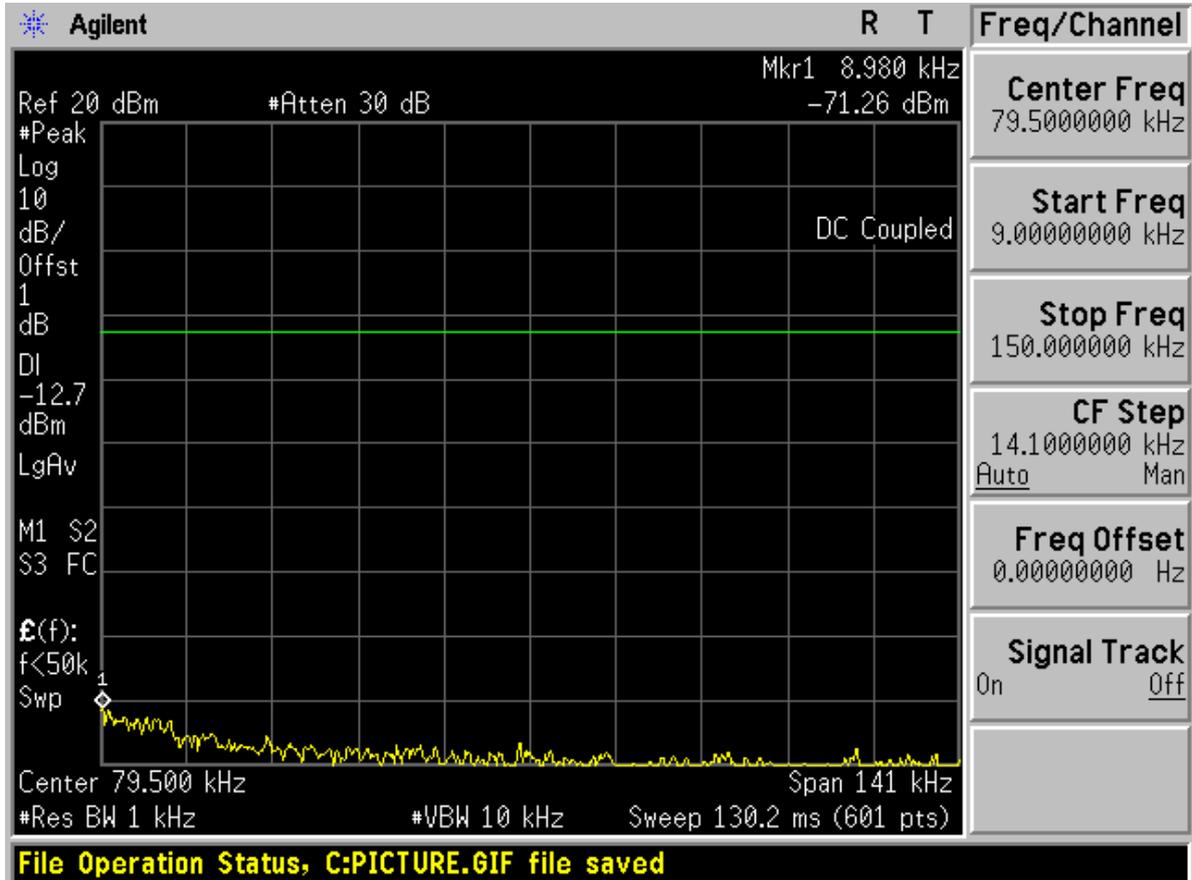


# 30M~26G



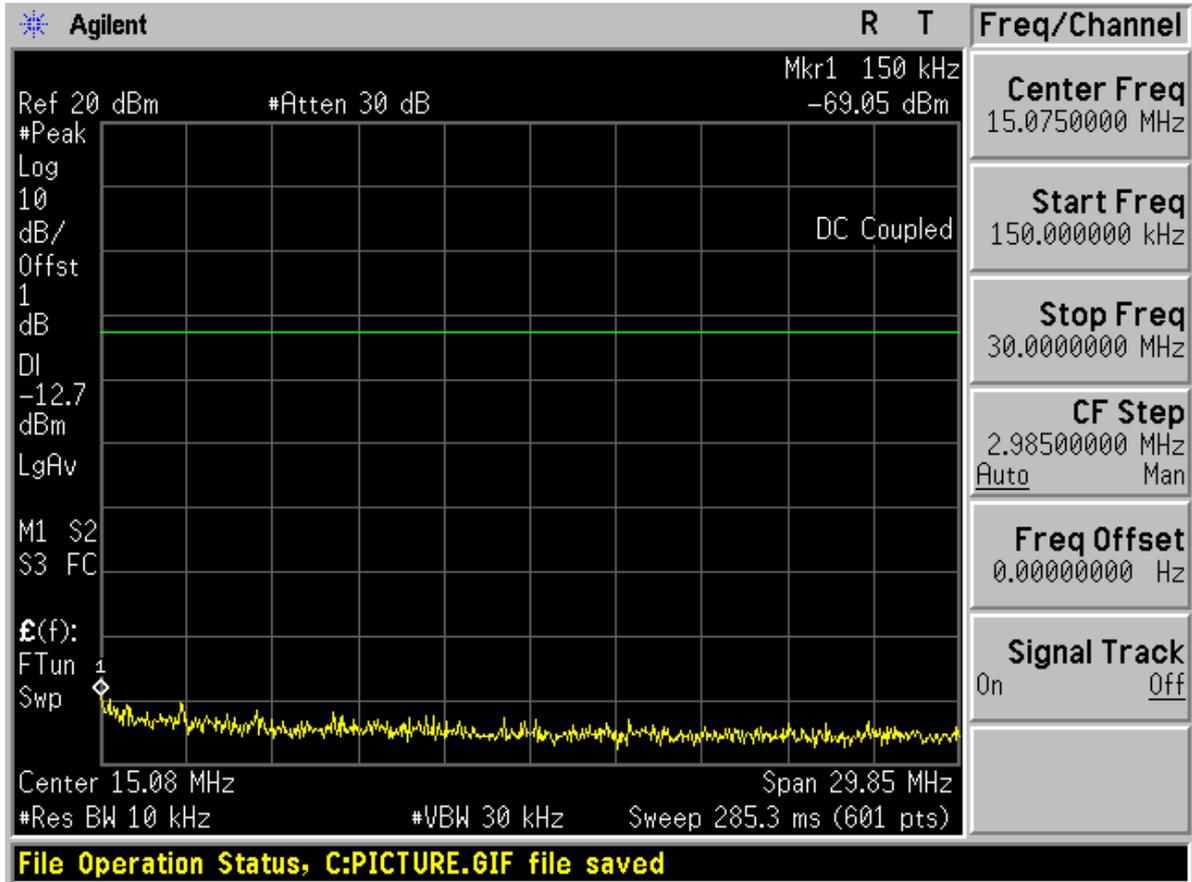


## Chain 2 9K~150K



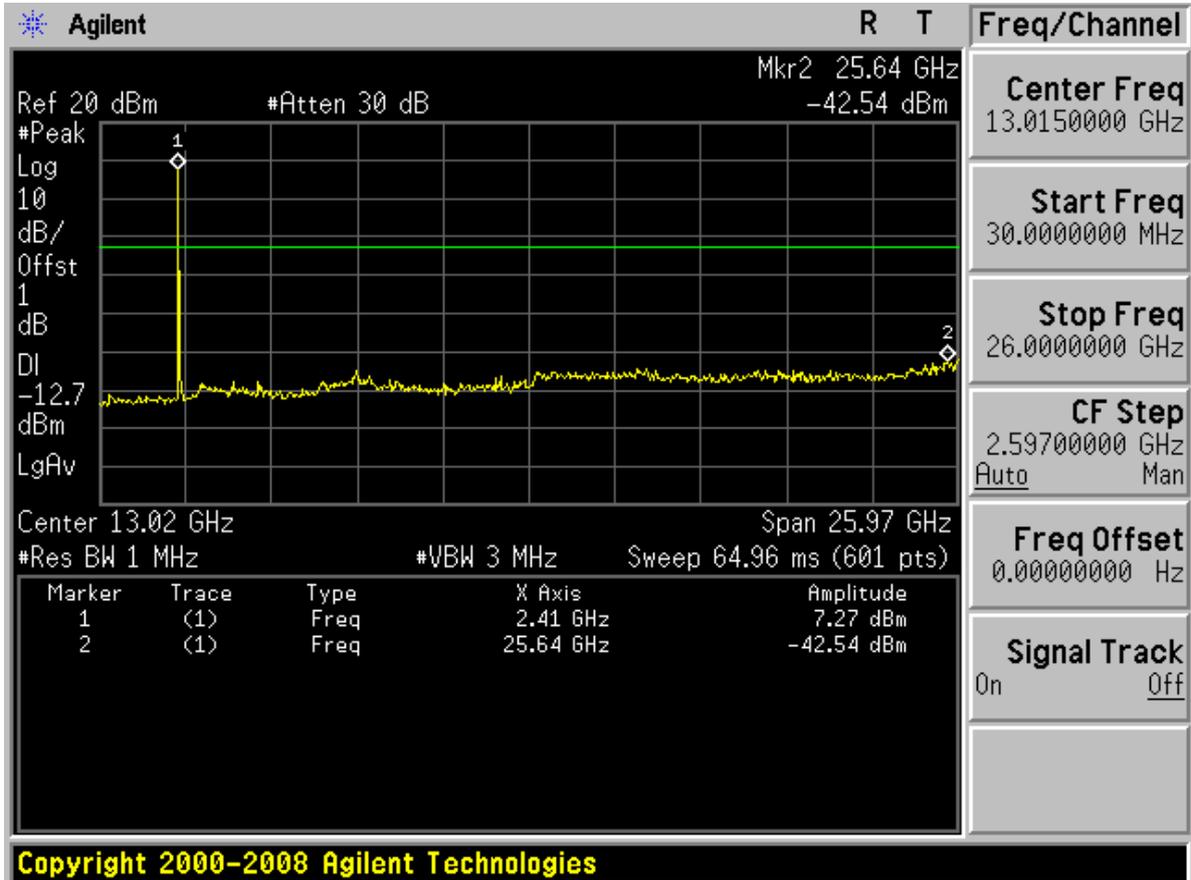


# 150K~30M





# 30M~26G

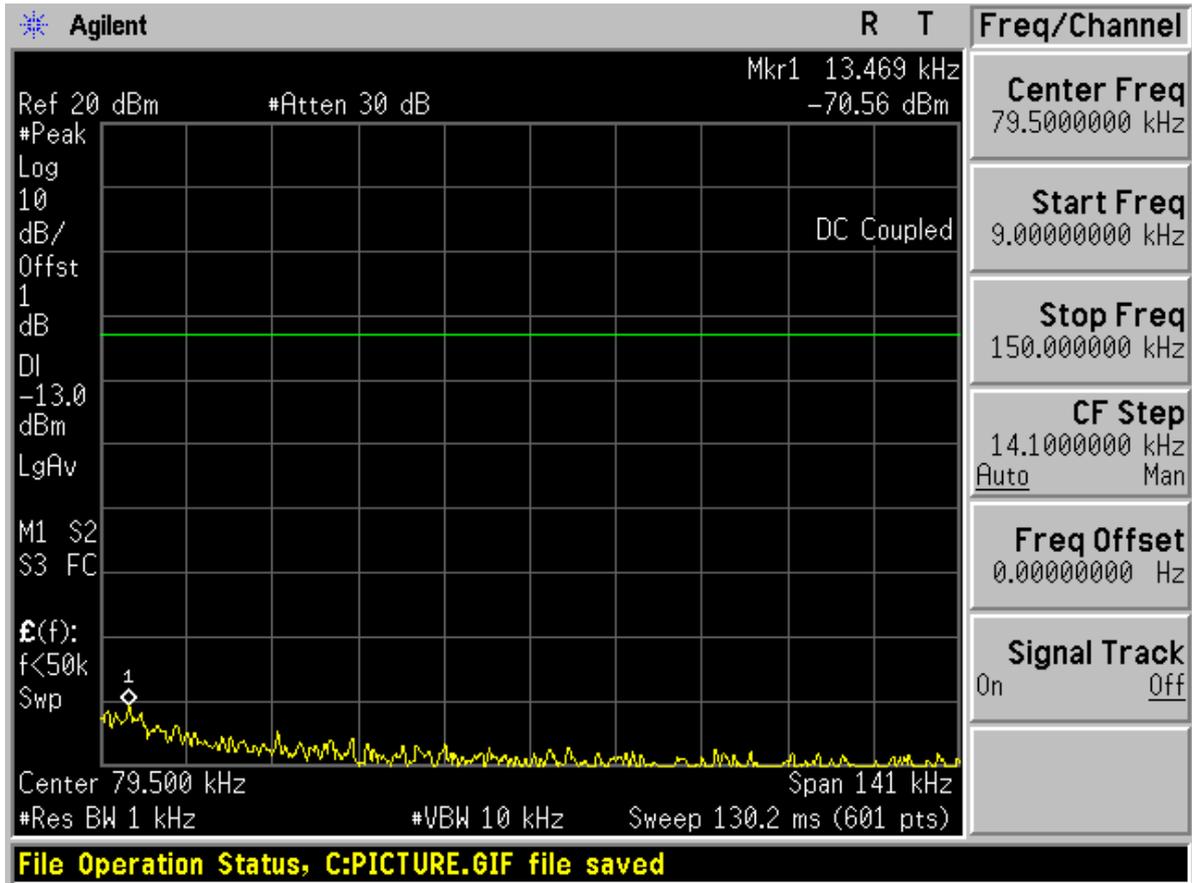




# Channel 06

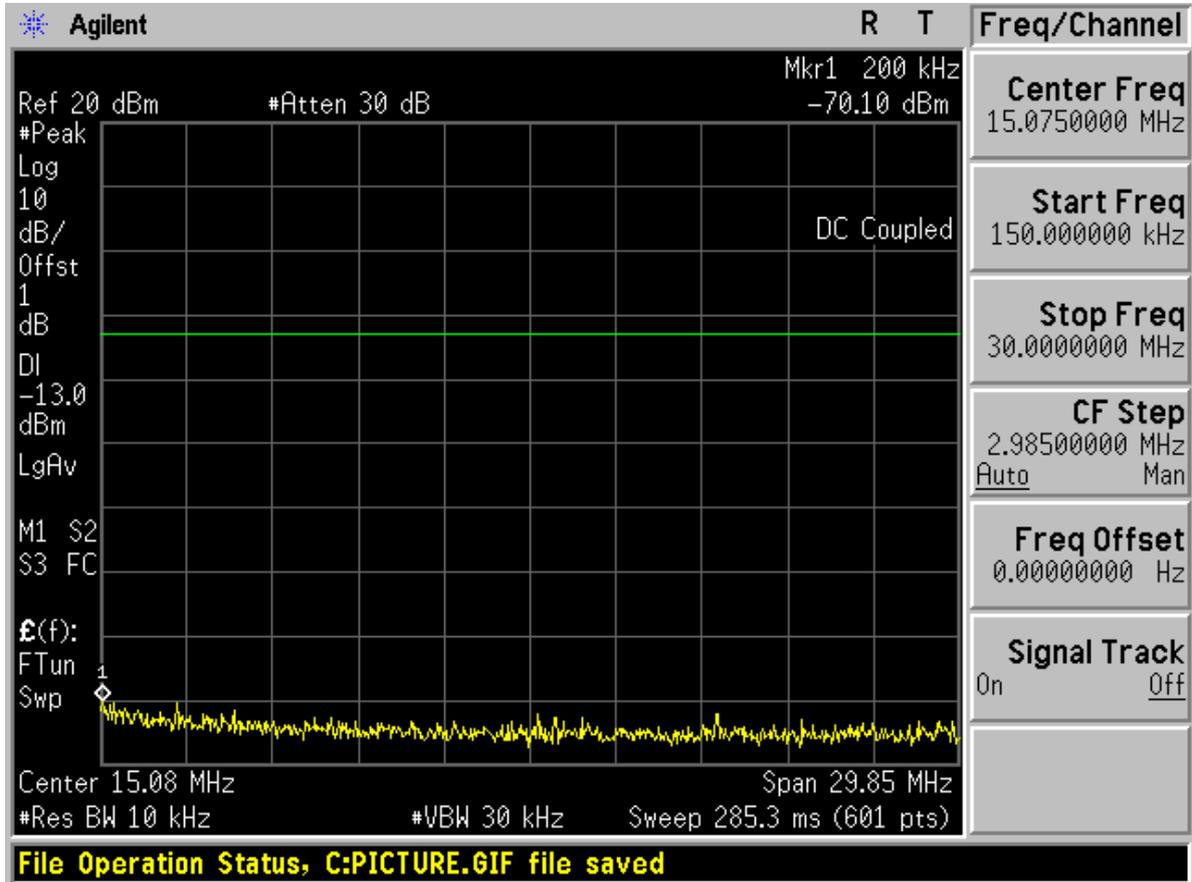
## Chain 1

### 9K~150K



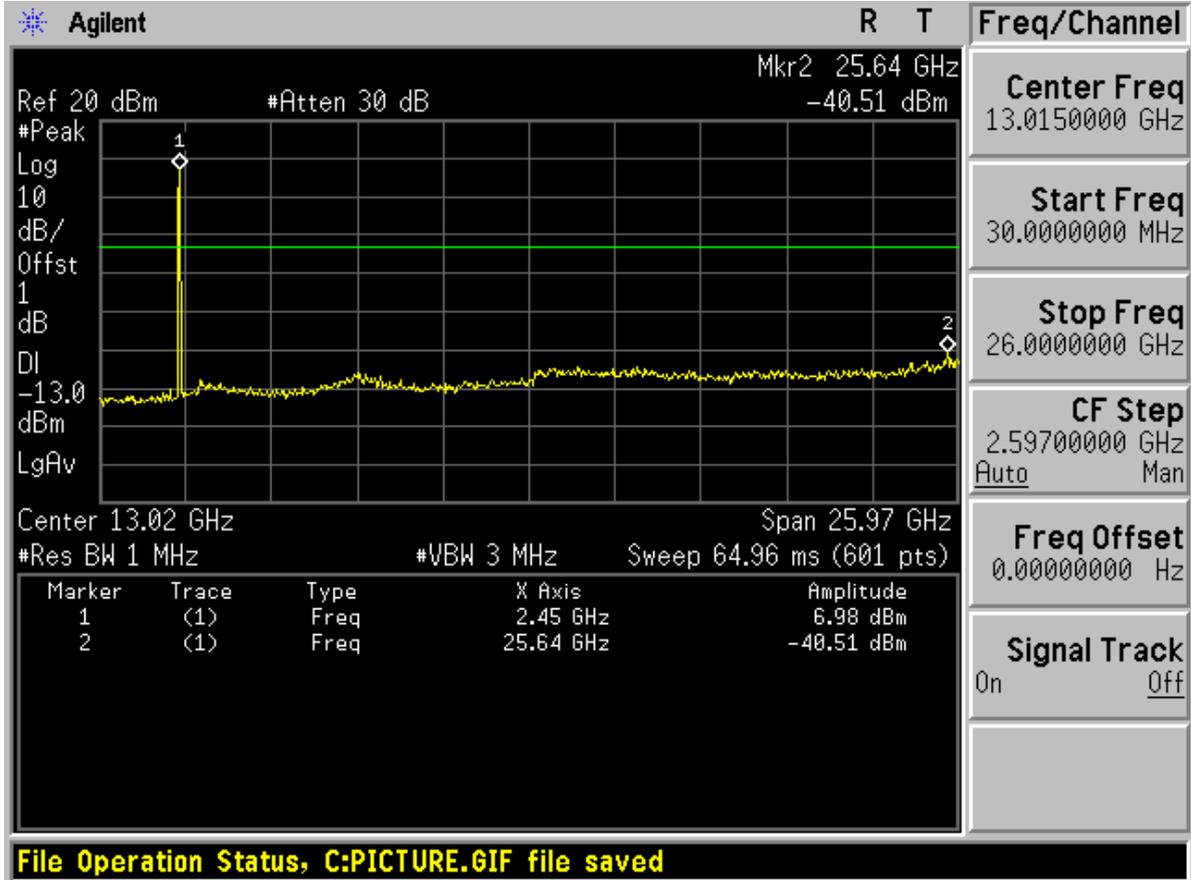


# 150K~30M



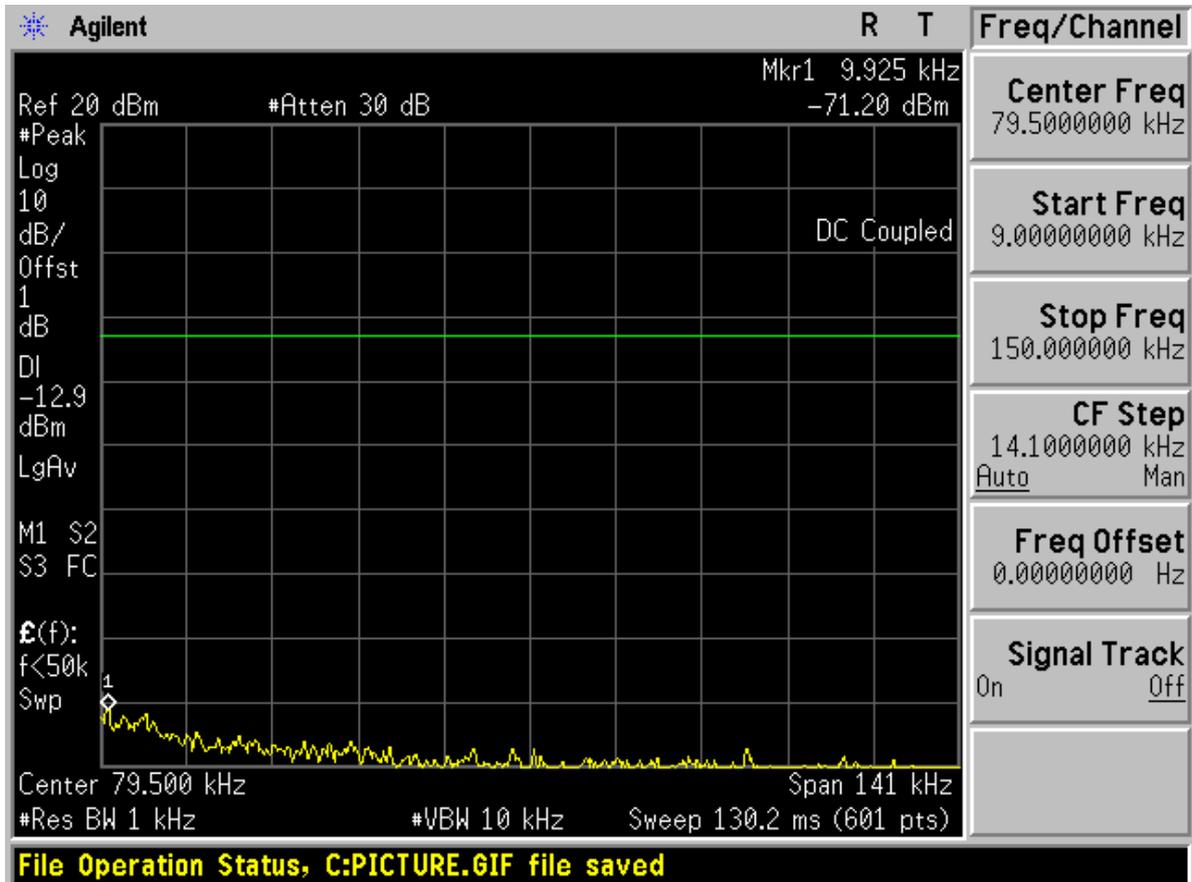


# 30M~26G



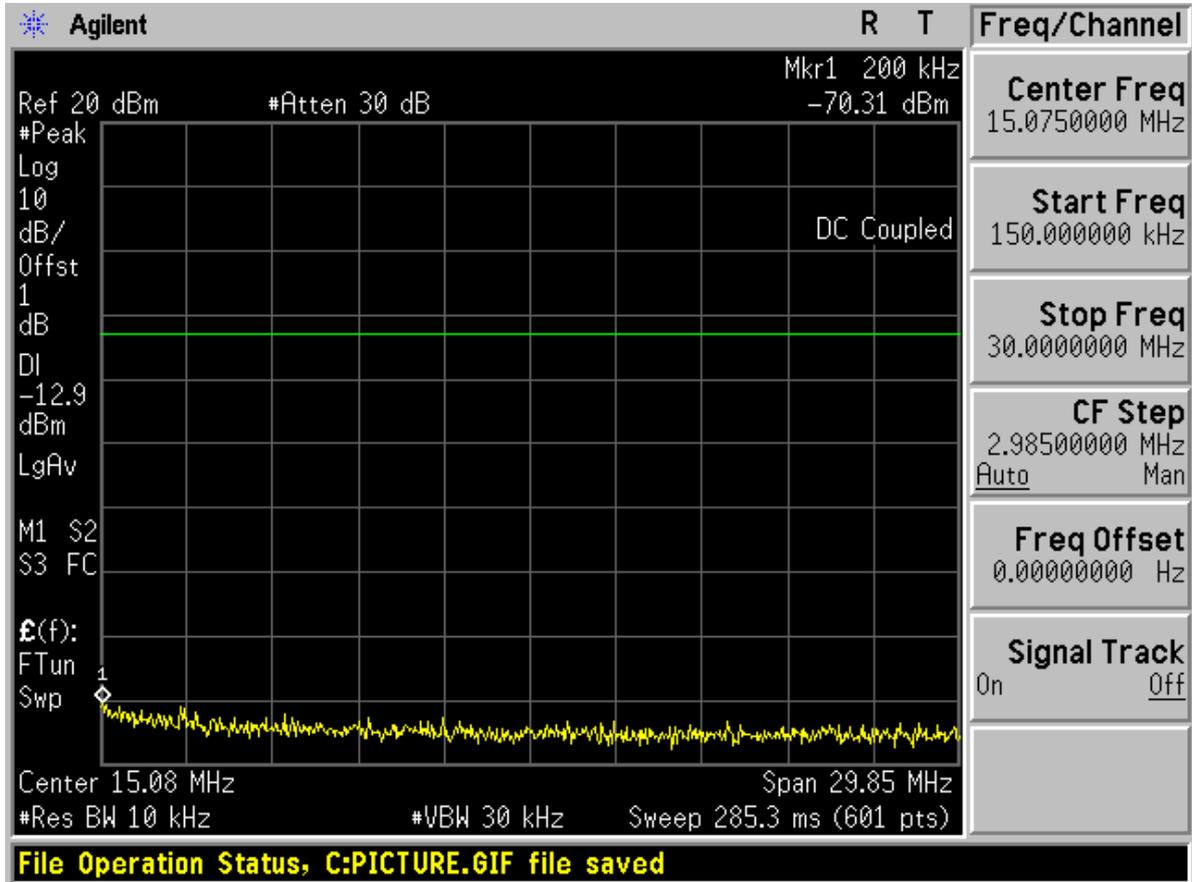


## Chain 2 9K~150K



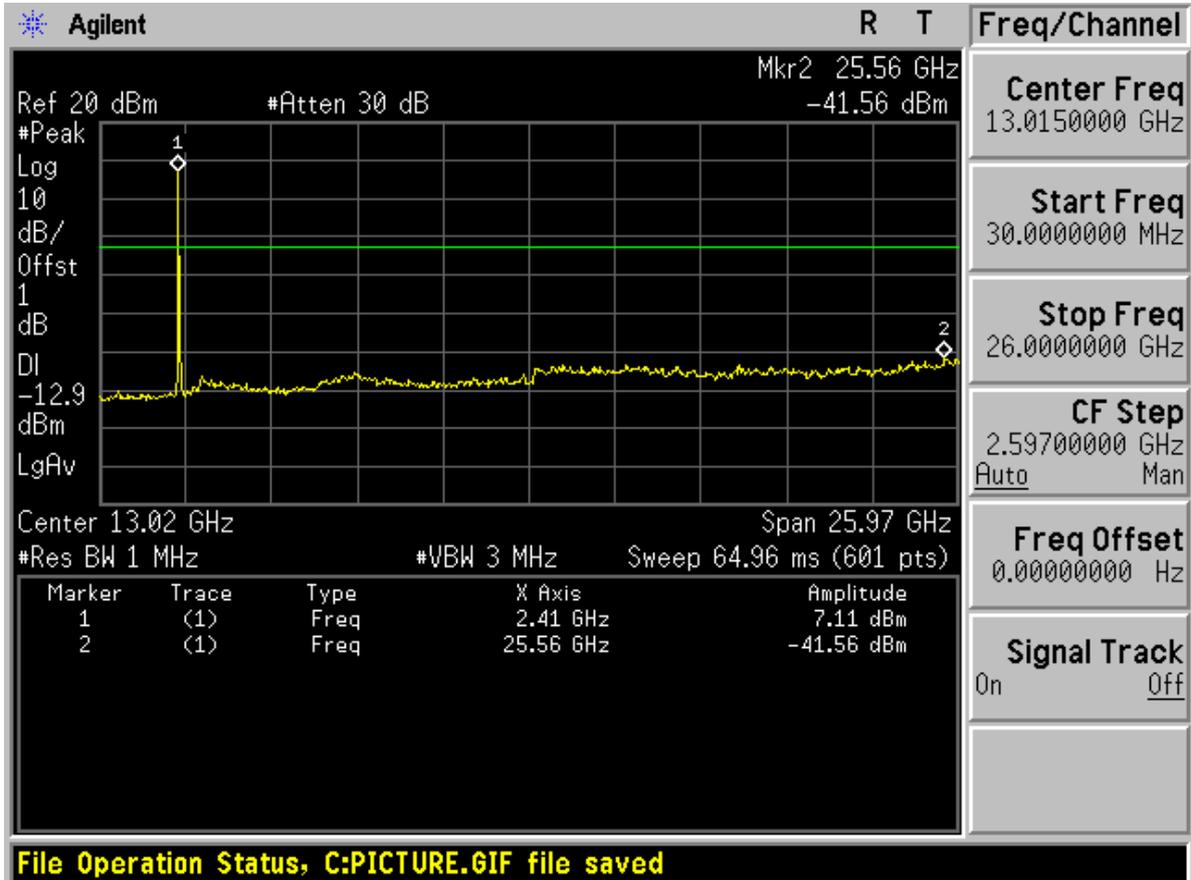


# 150K~30M





# 30M~26G

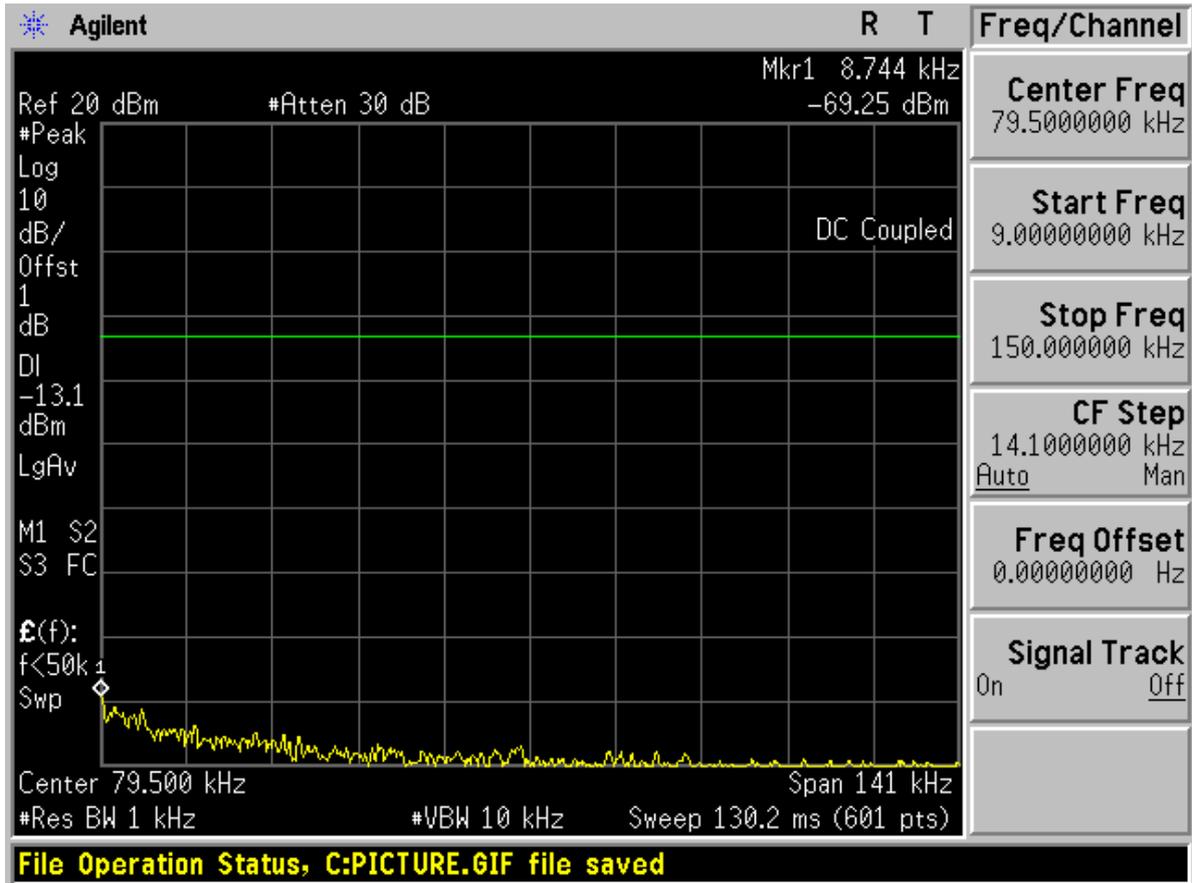




# Channel 11

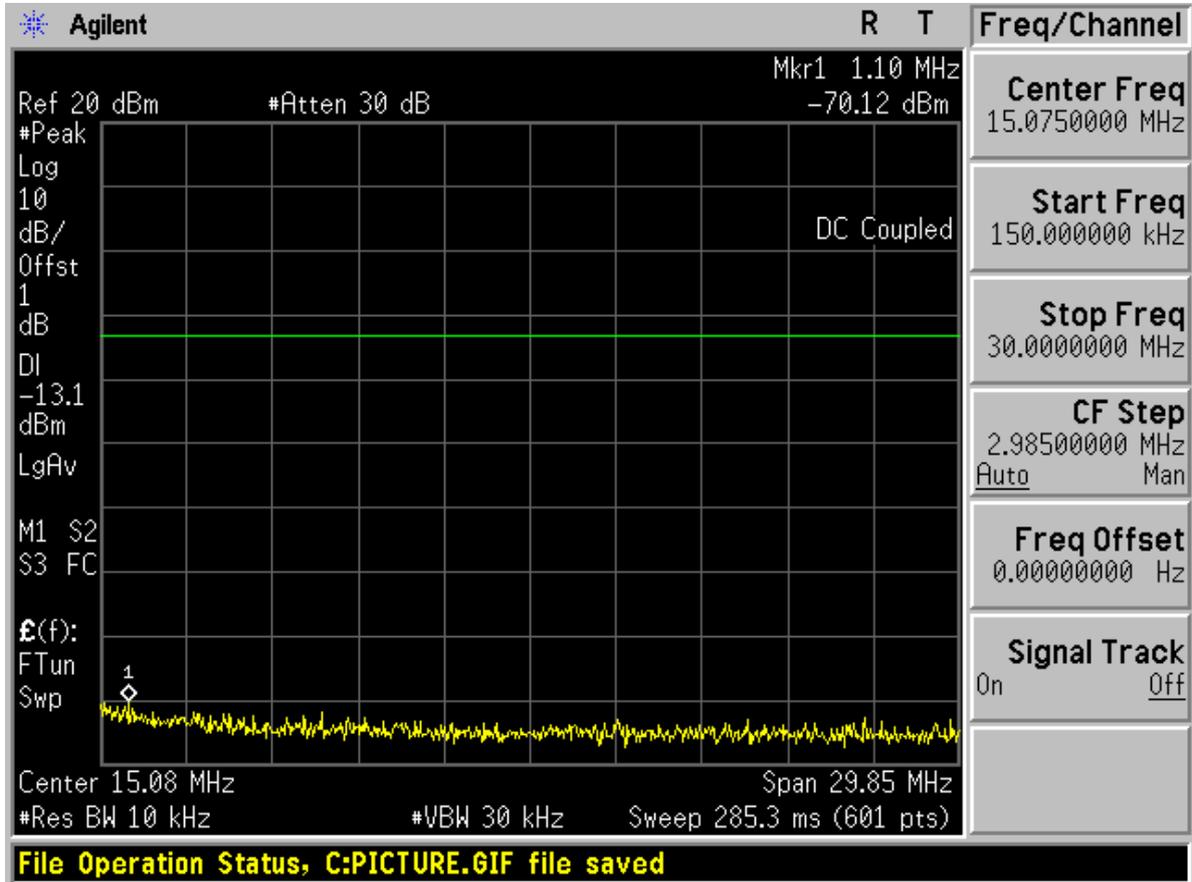
## Chain 1

### 9K~150K



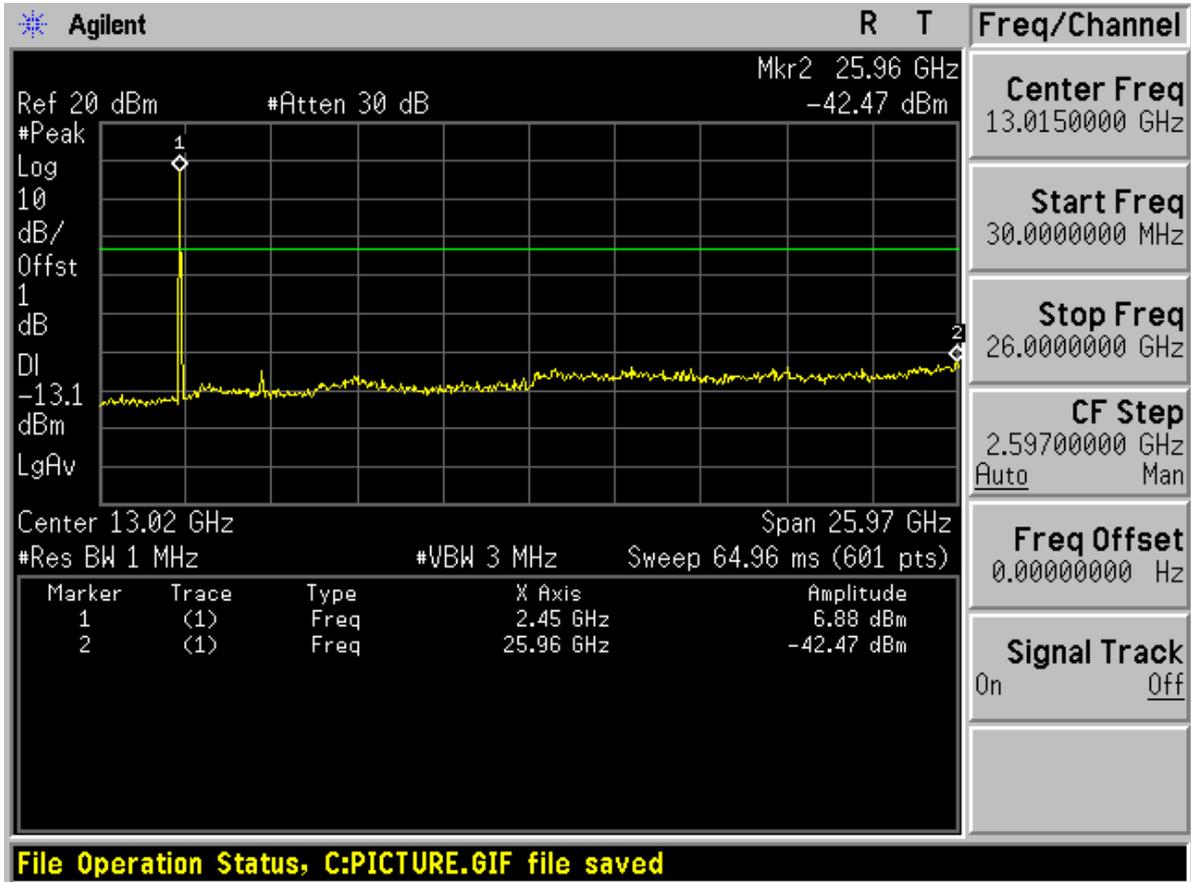


# 150K~30M



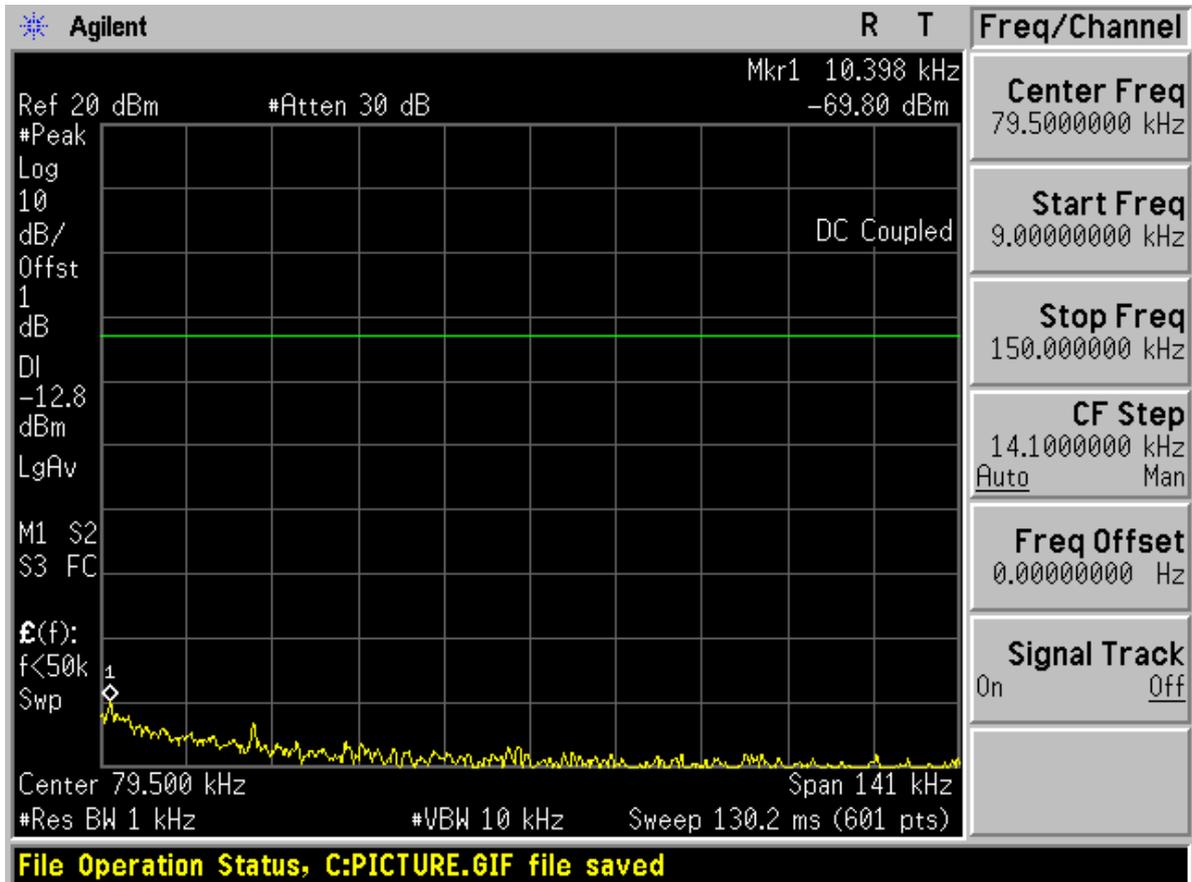


# 30M~26G



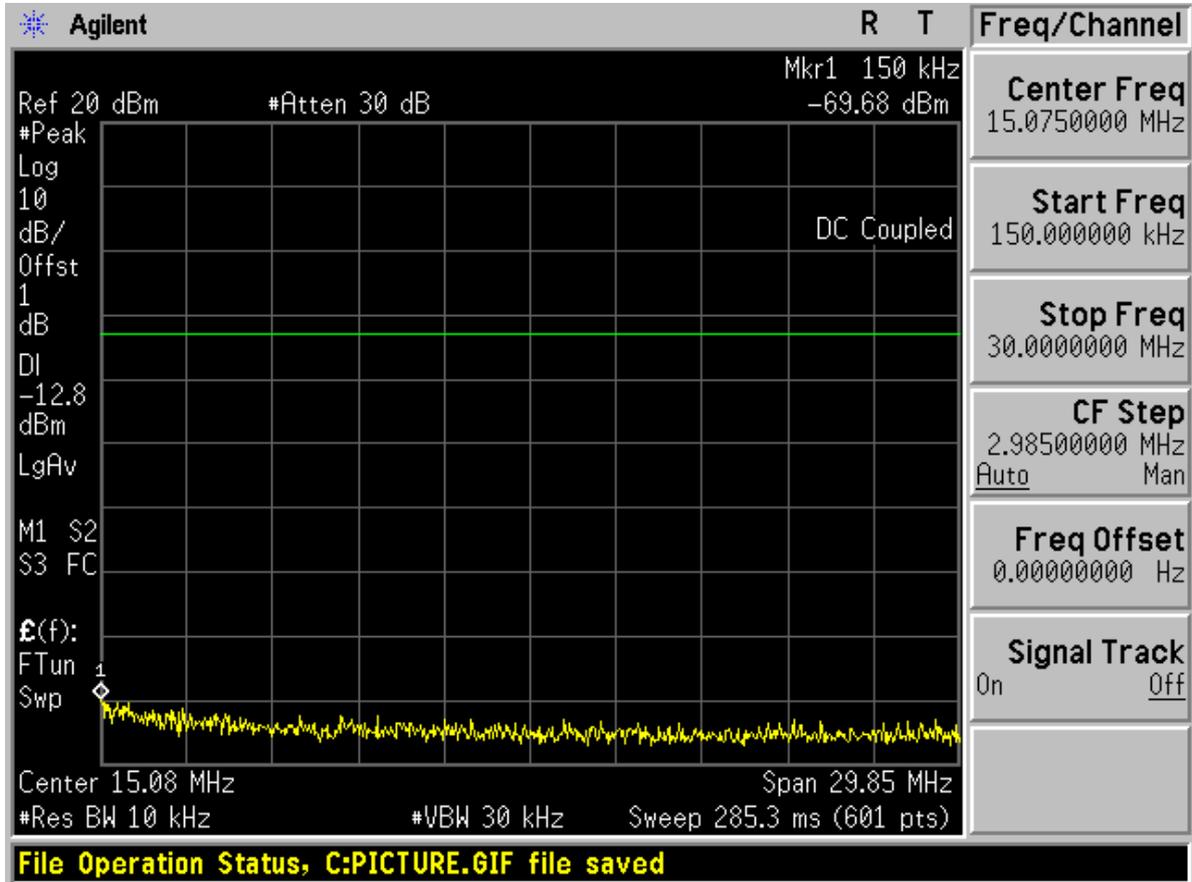


## Chain 2 9K~150K



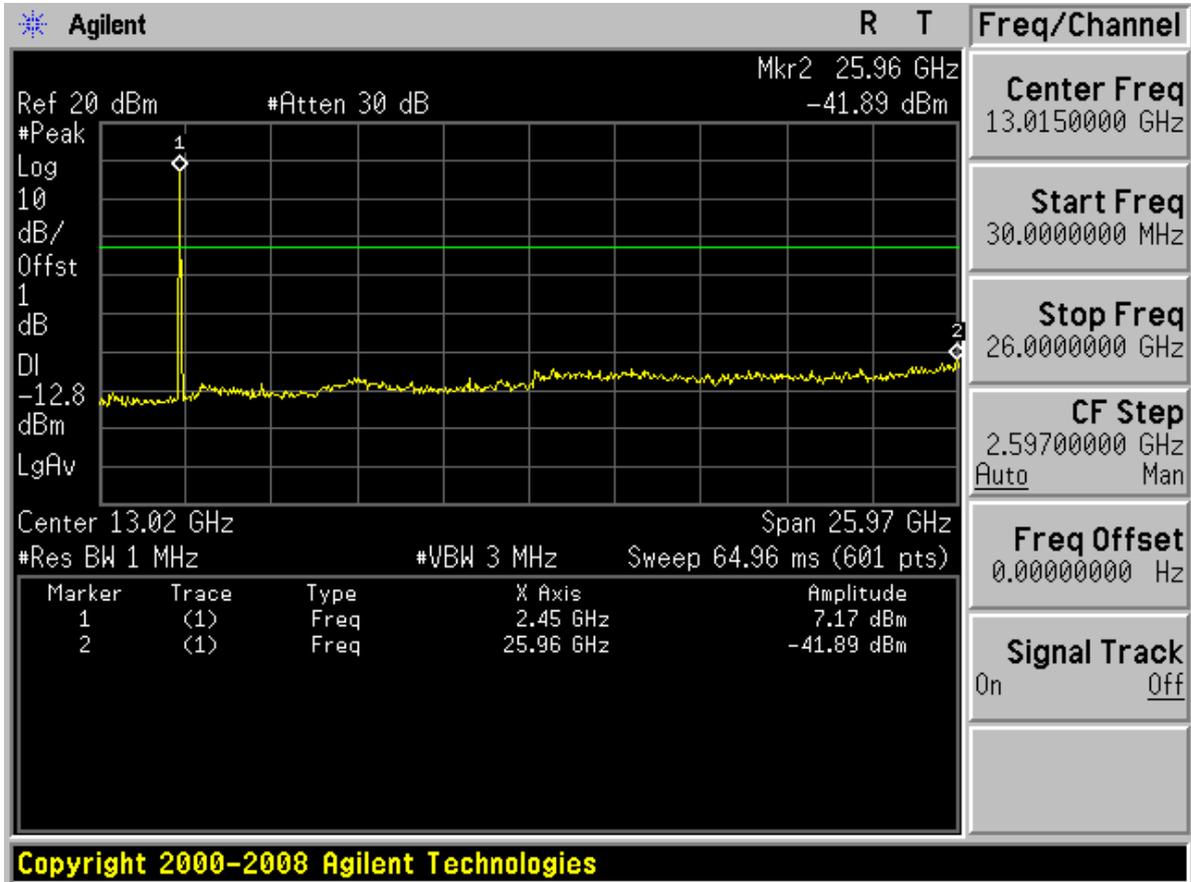


# 150K~30M



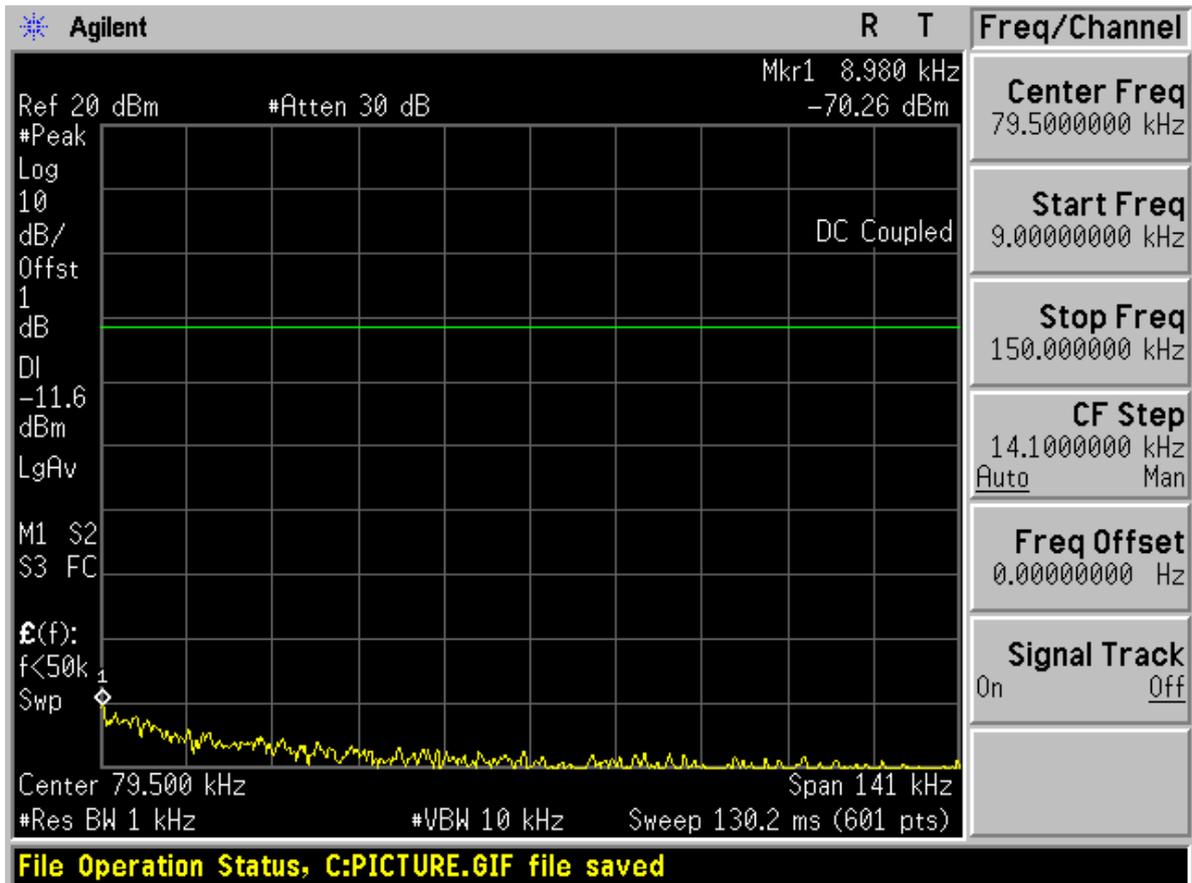


# 30M~26G



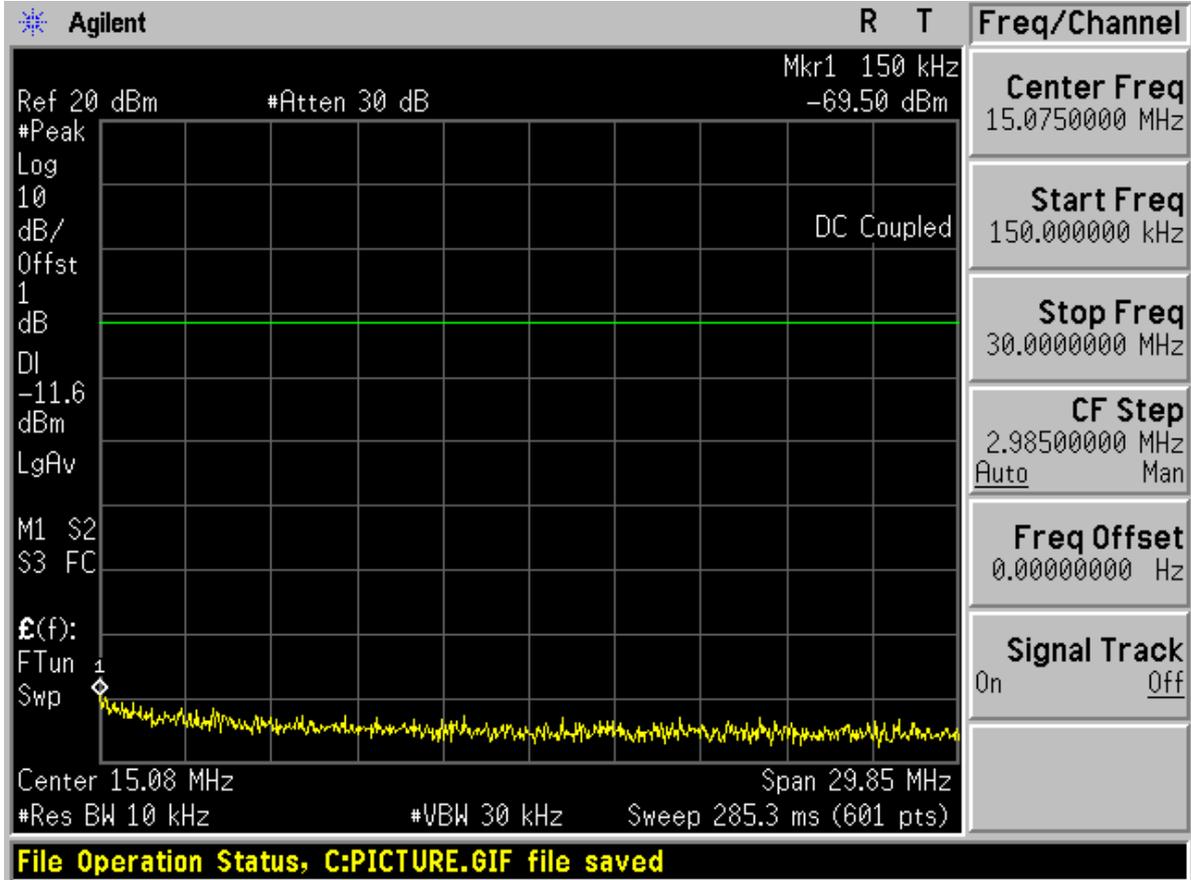


# 11G Chain 1&2 Channel 01 Chain 1 9K~150K



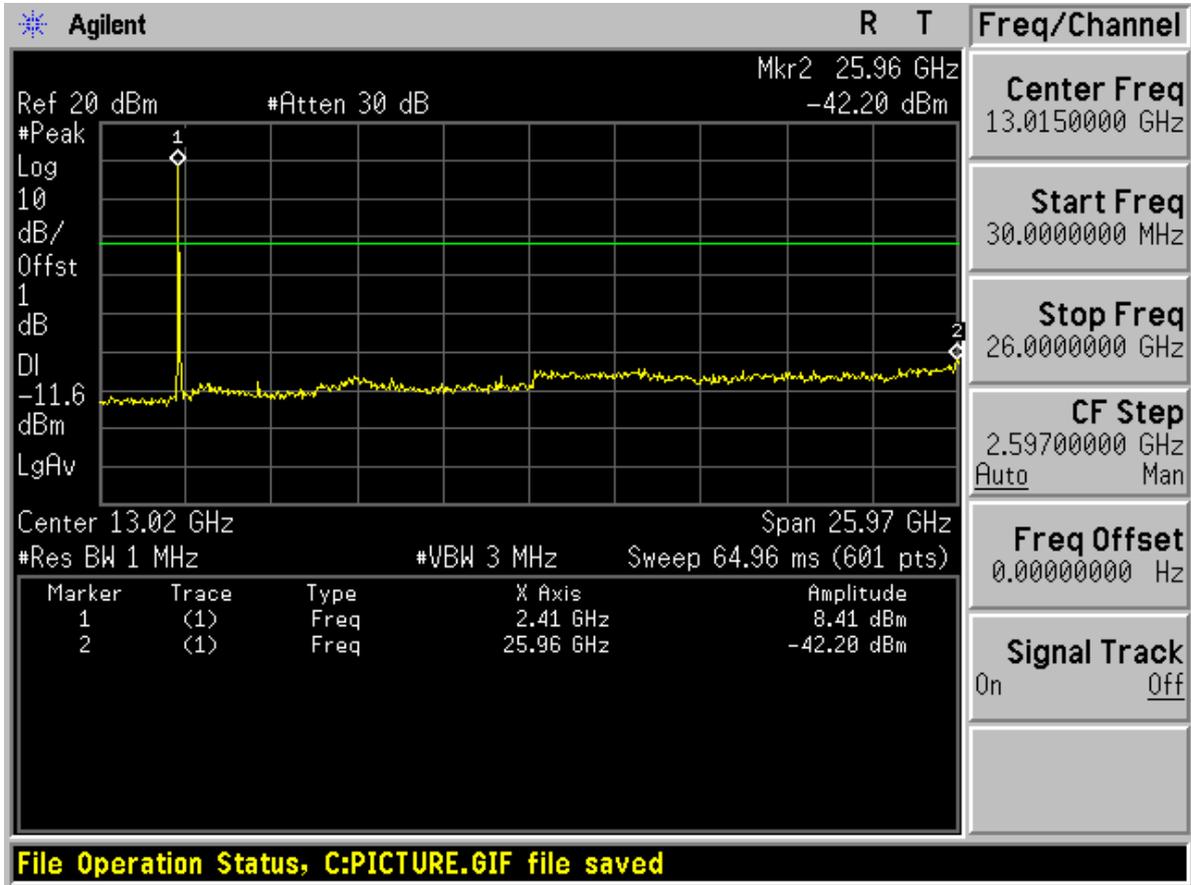


# 150K~30M



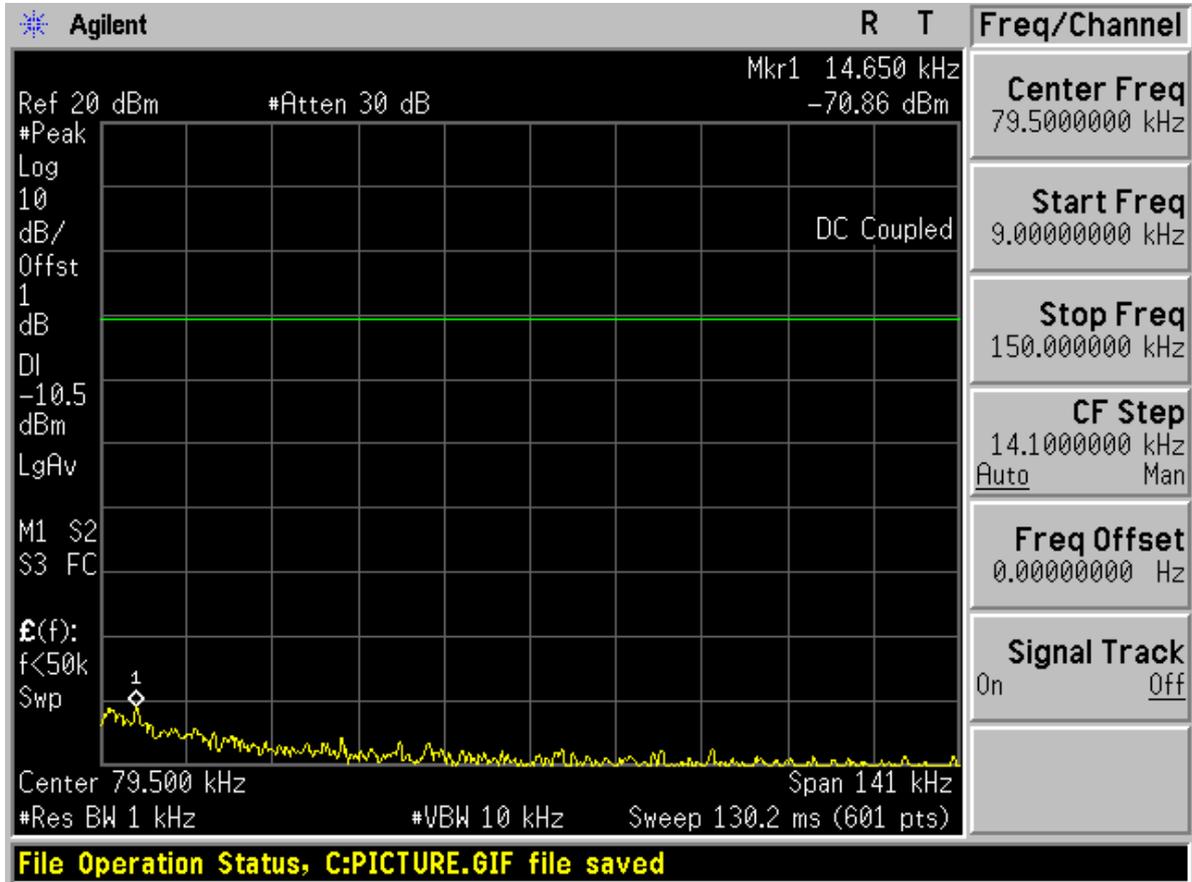


# 30M~26G



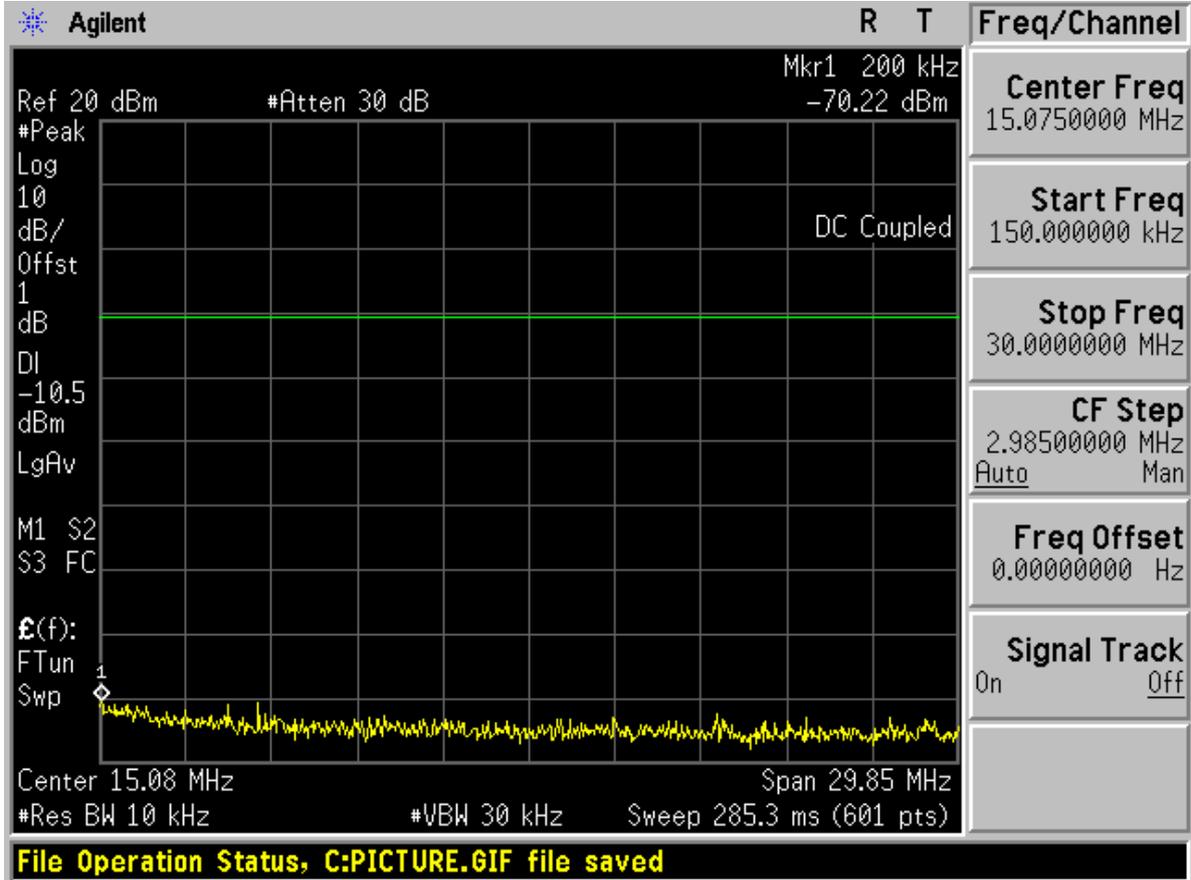


## Chain 2



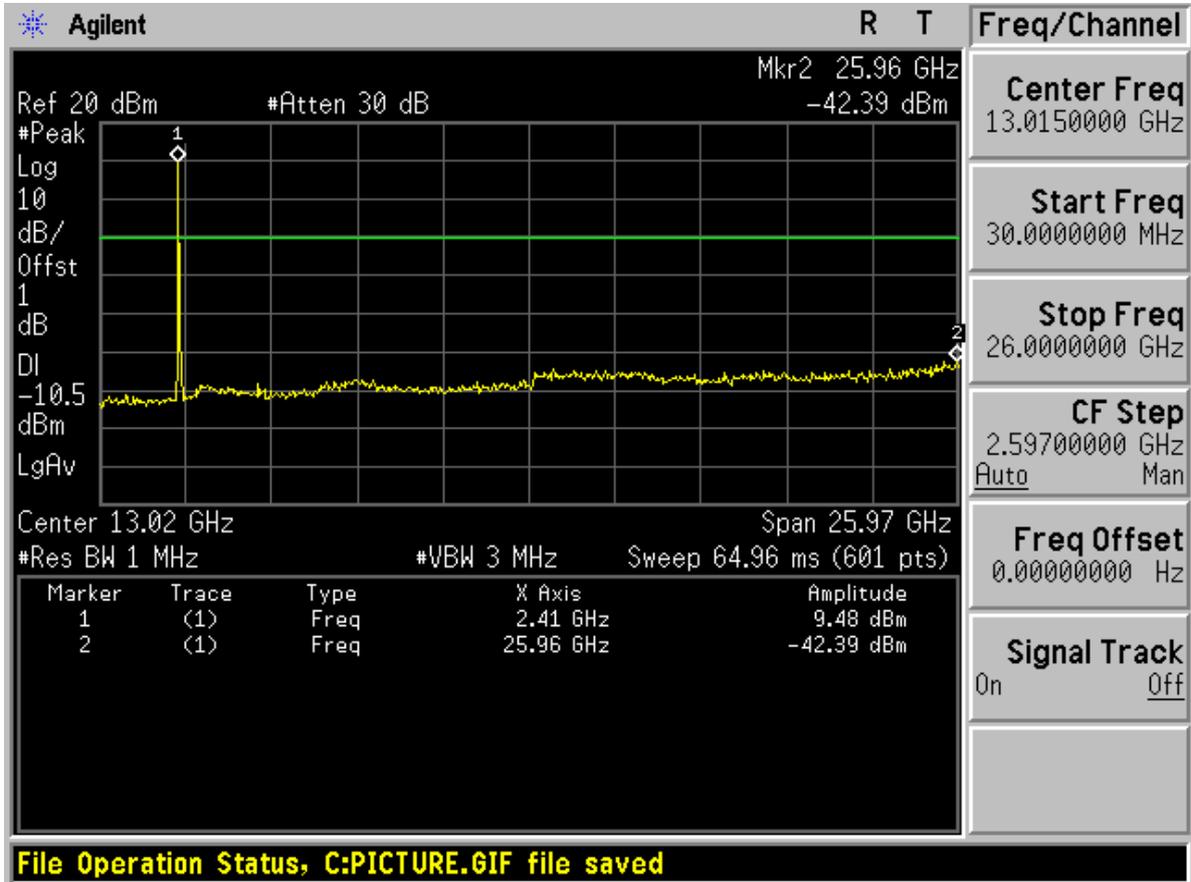


# 150K~30M





# 30M~26G

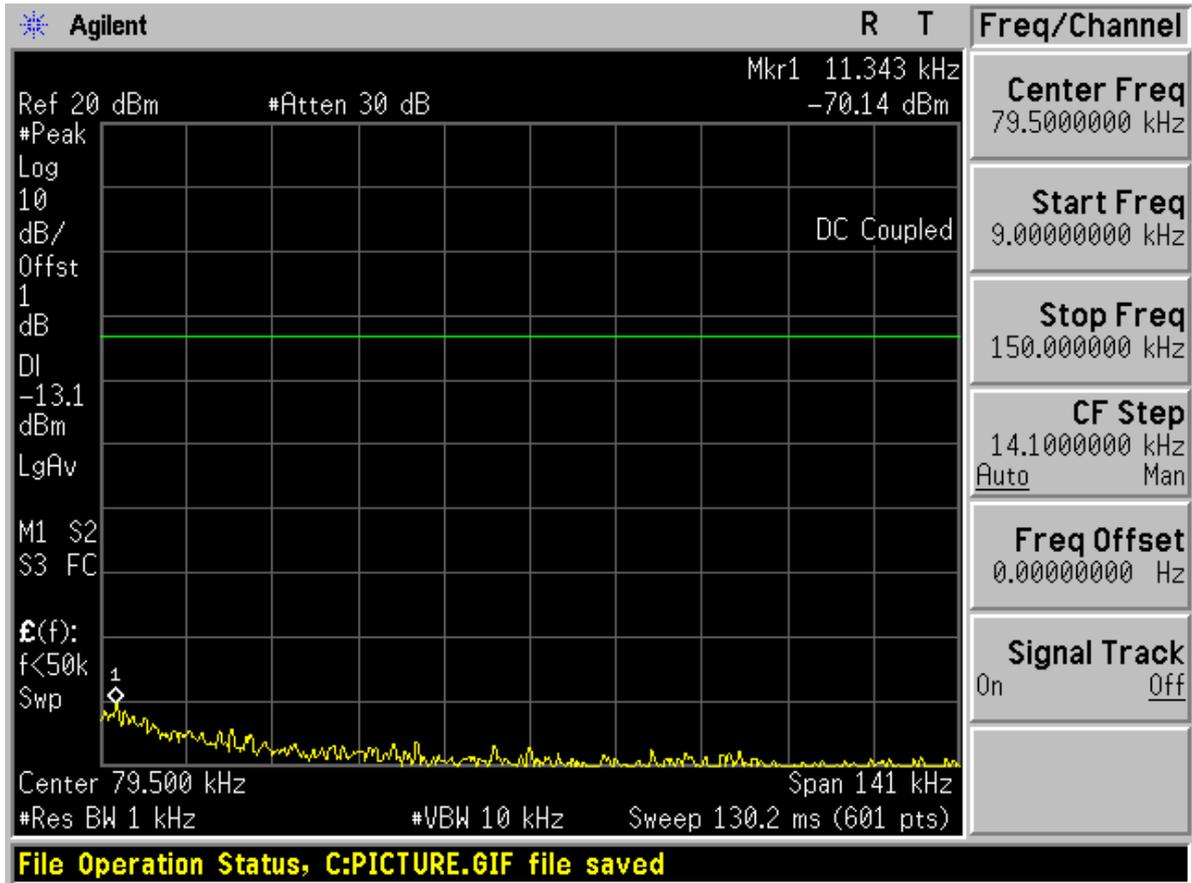




# Channel 06

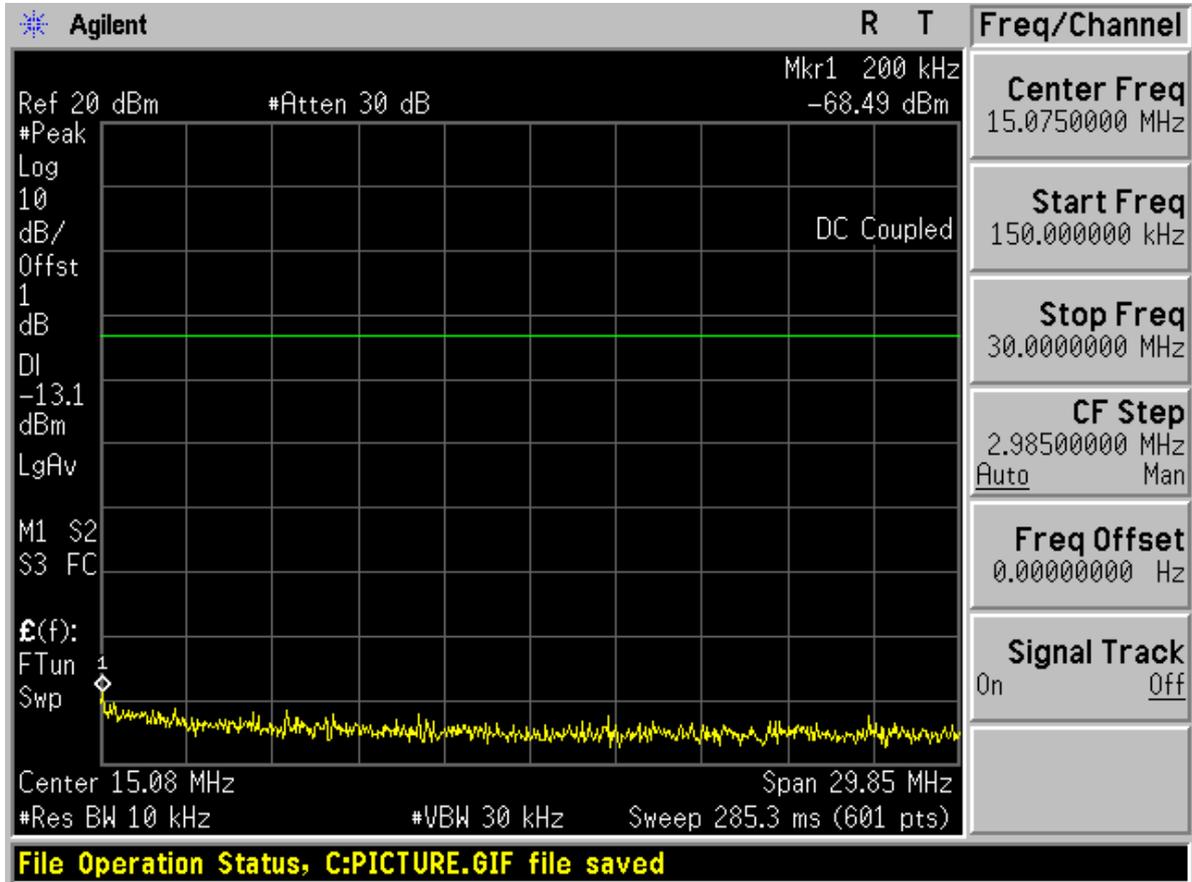
## Chain 1

### 9K~150K



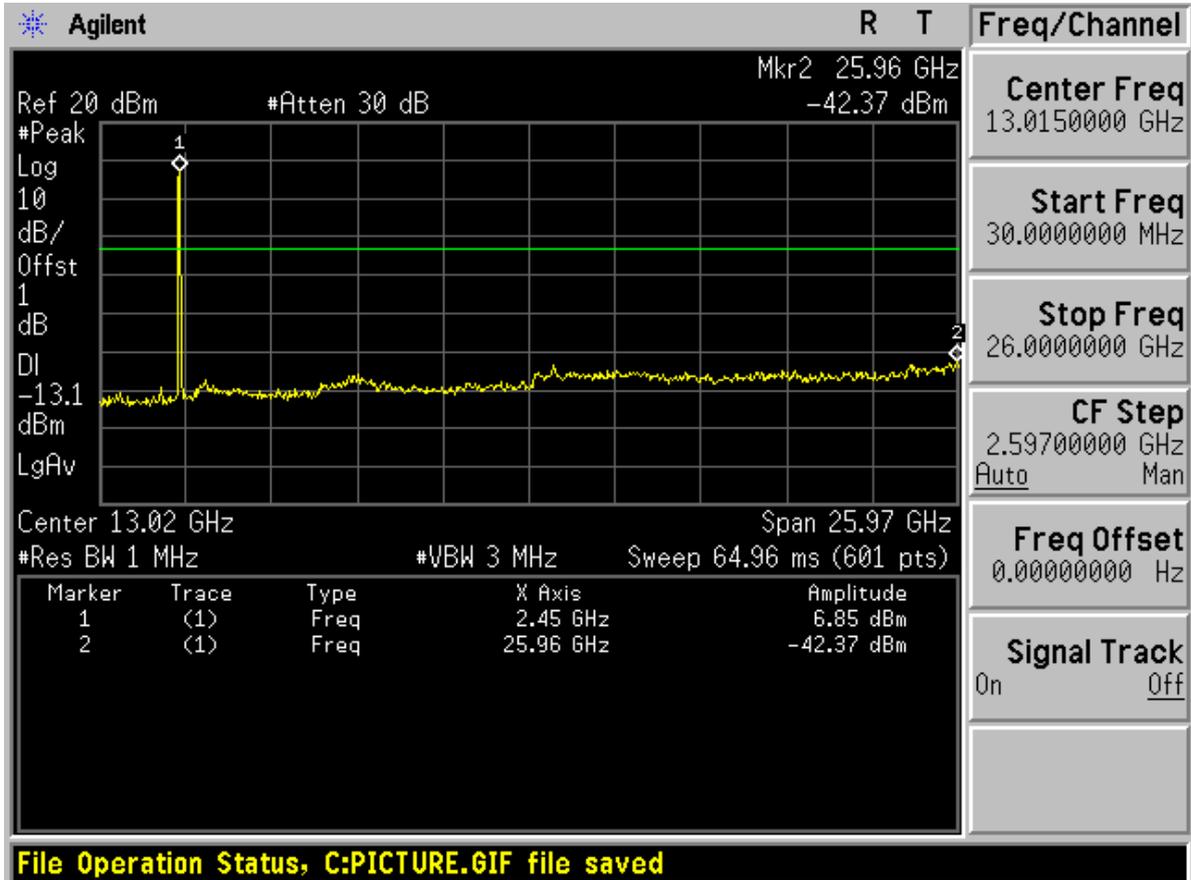


# 150K~30M



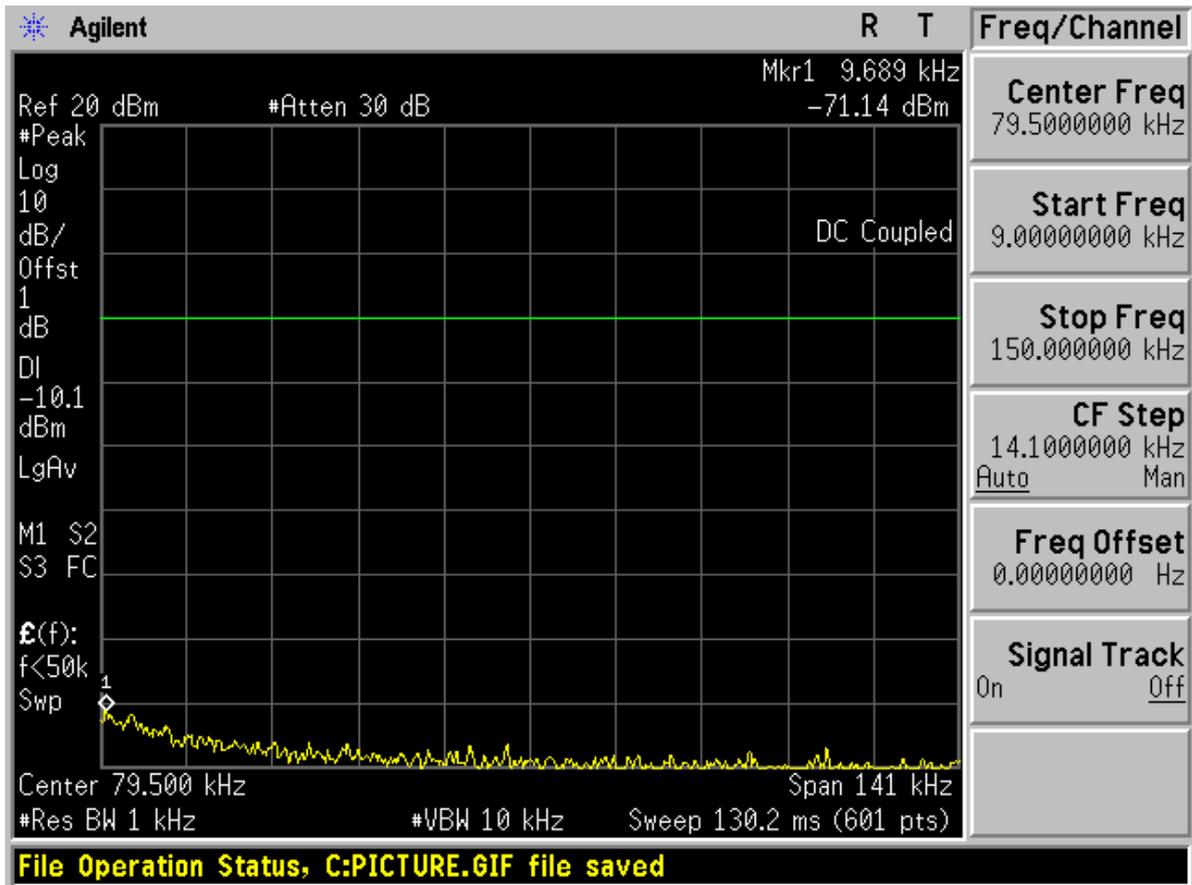


# 30M~26G



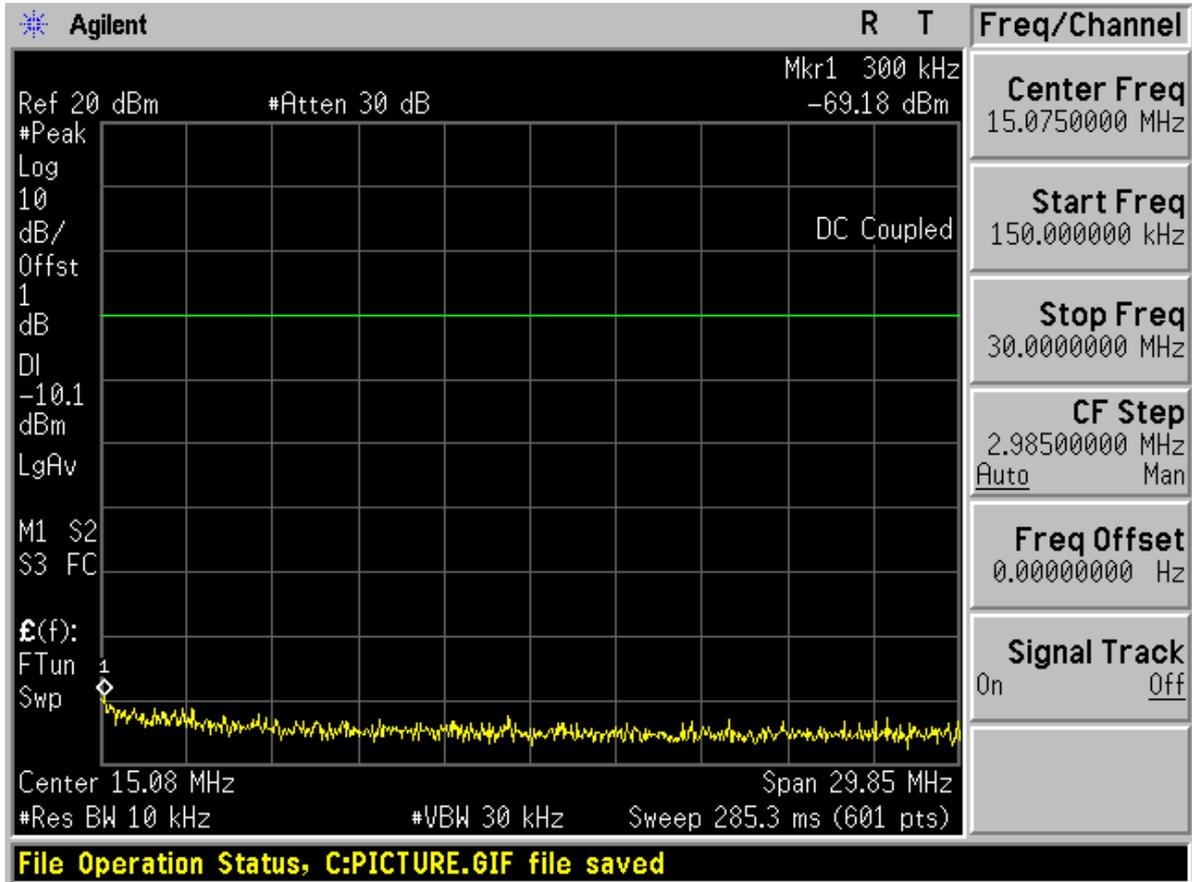


## Chain 2 9K~150K



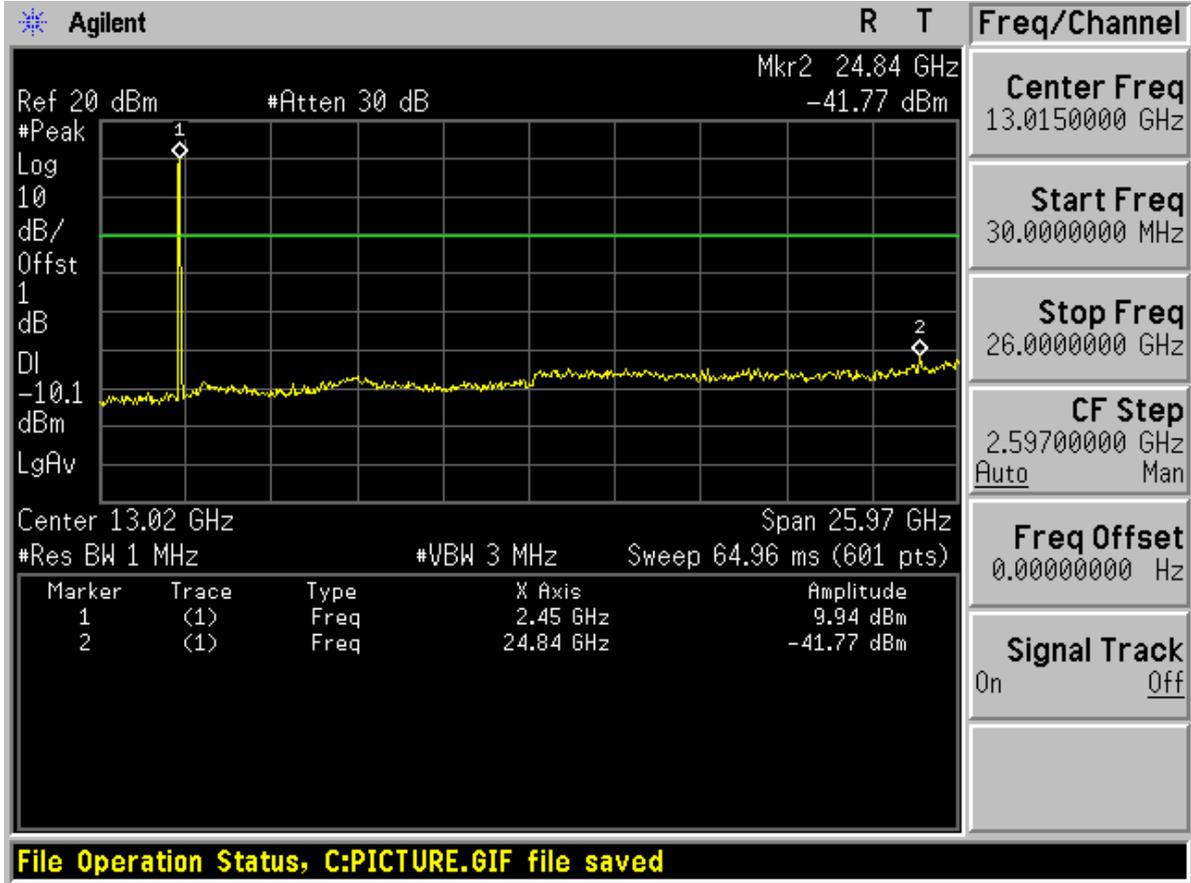


# 150K~30M





# 30M~26G

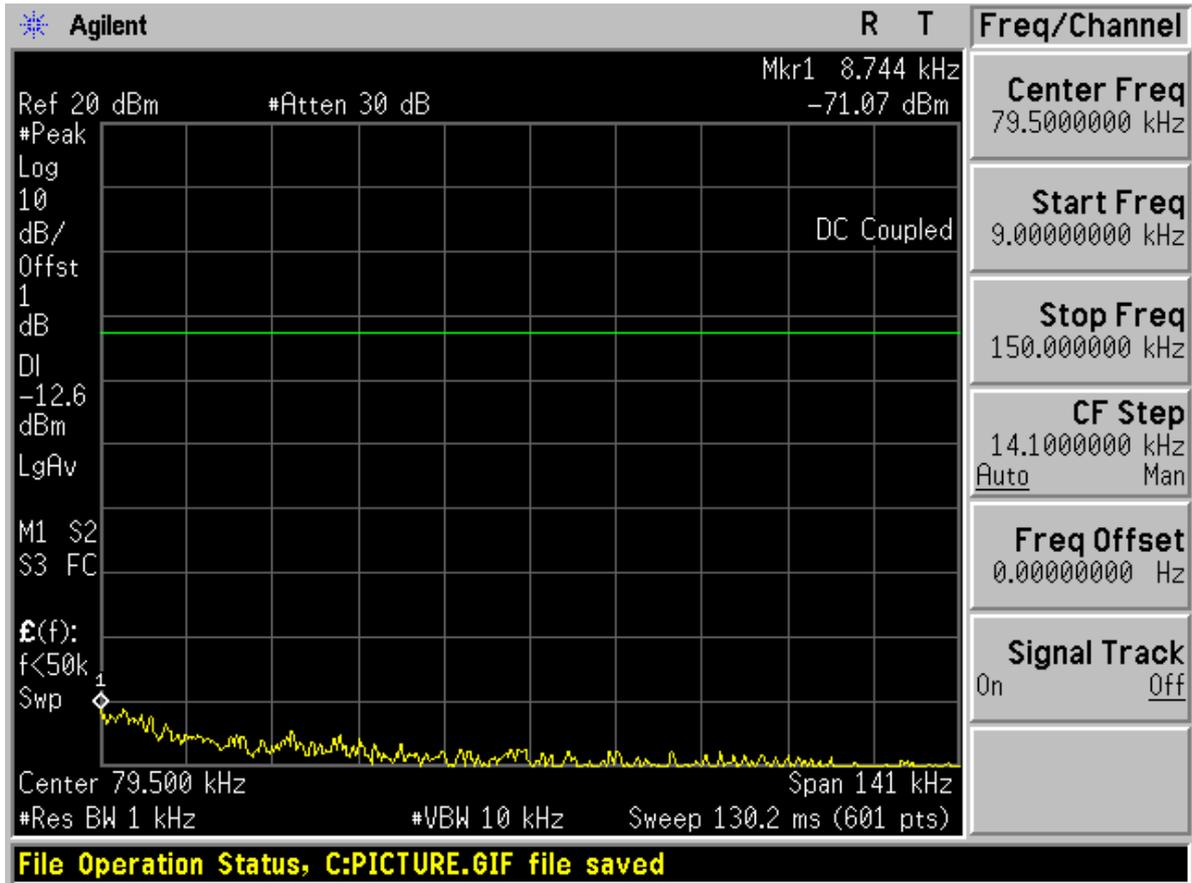




# Channel 11

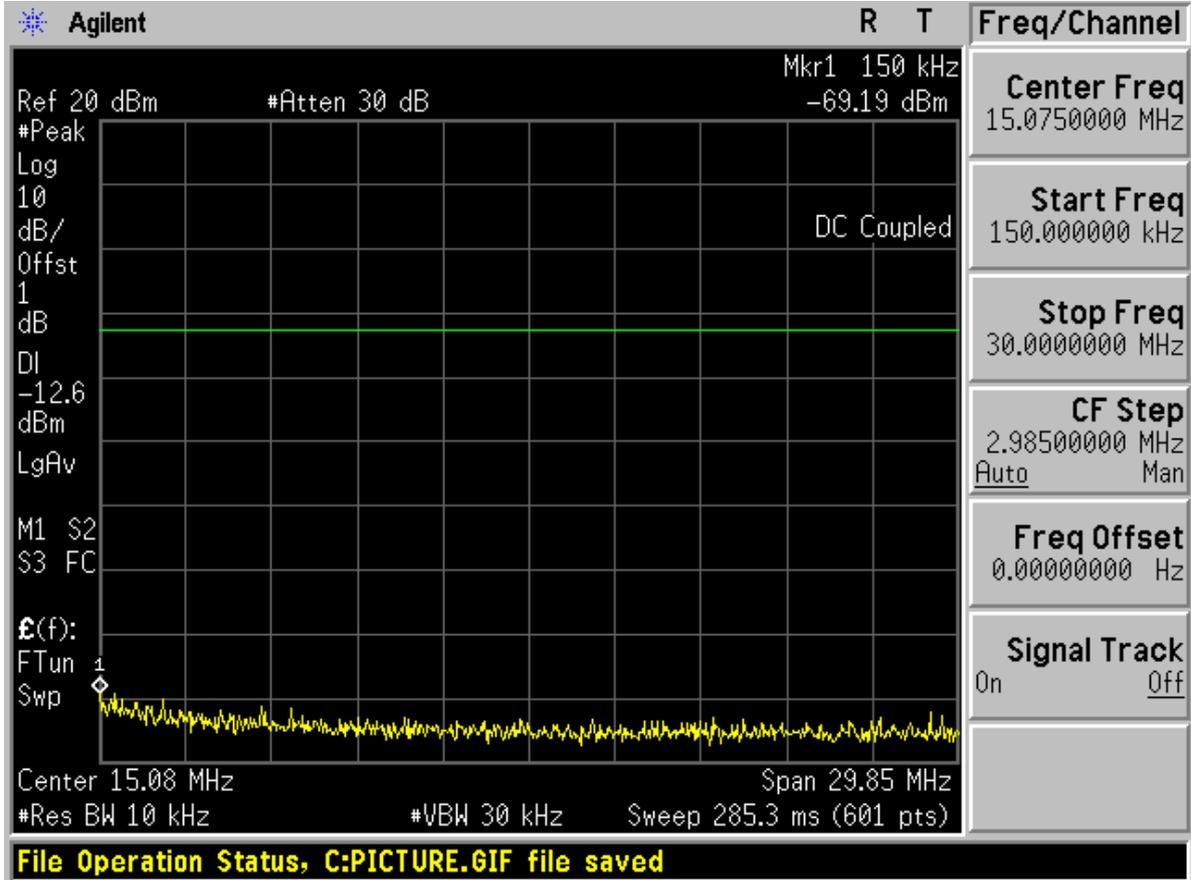
## Chain 1

### 9K~150K



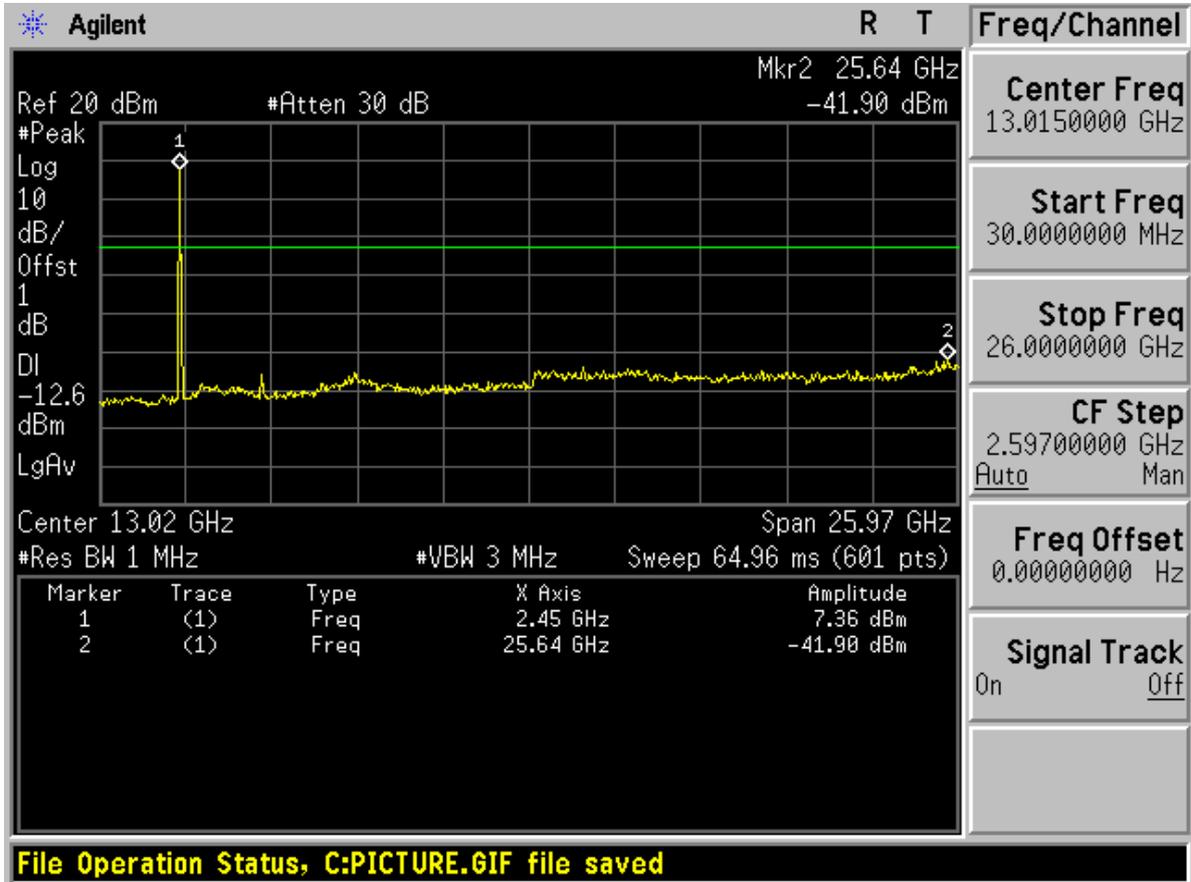


# 150K~30M



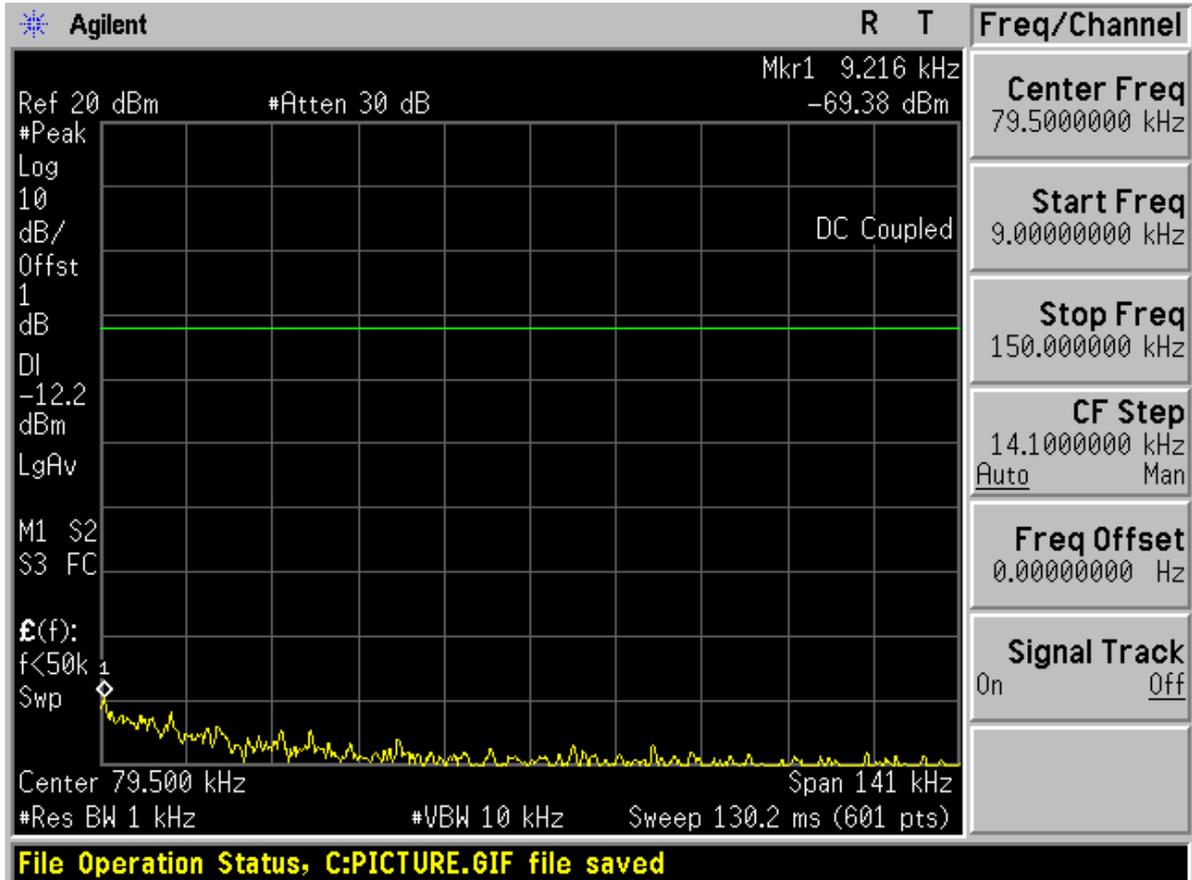


# 30M~26G



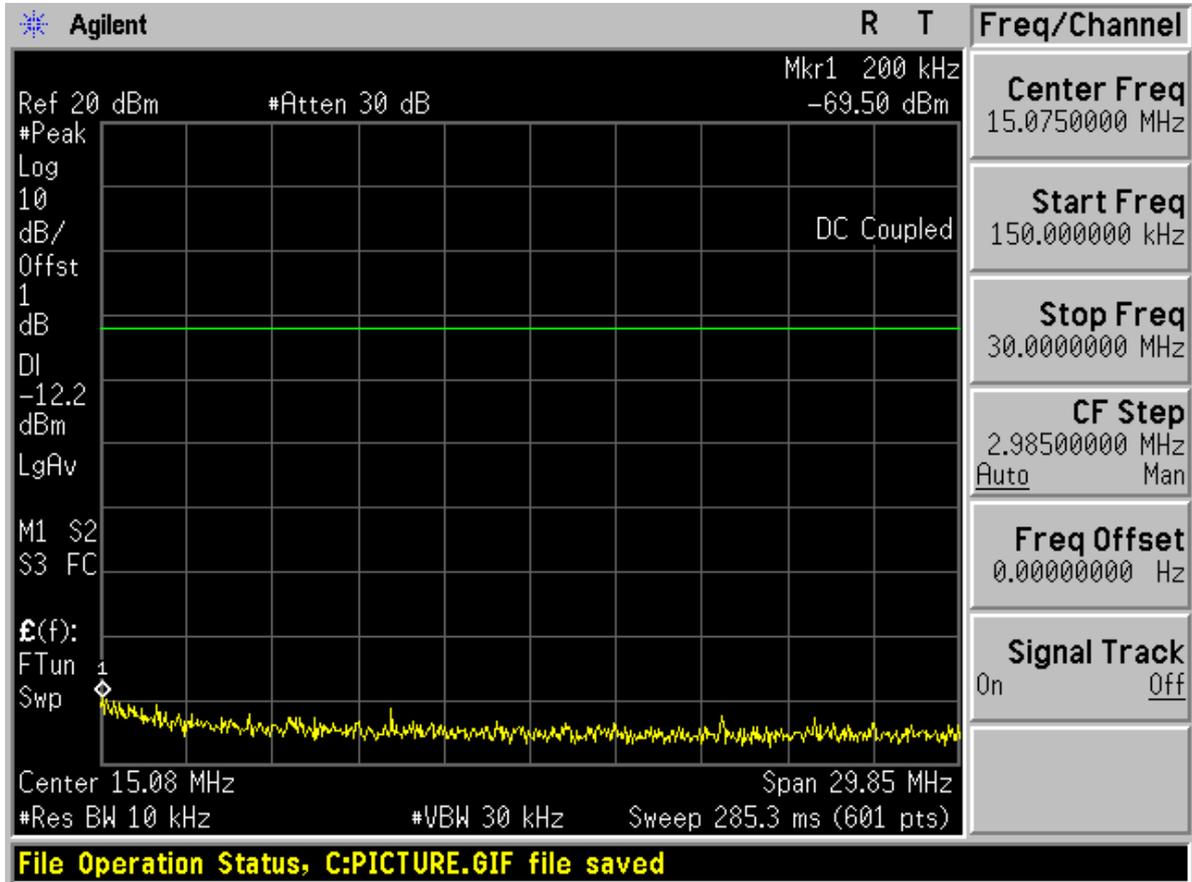


## Chain 2 9K~150K



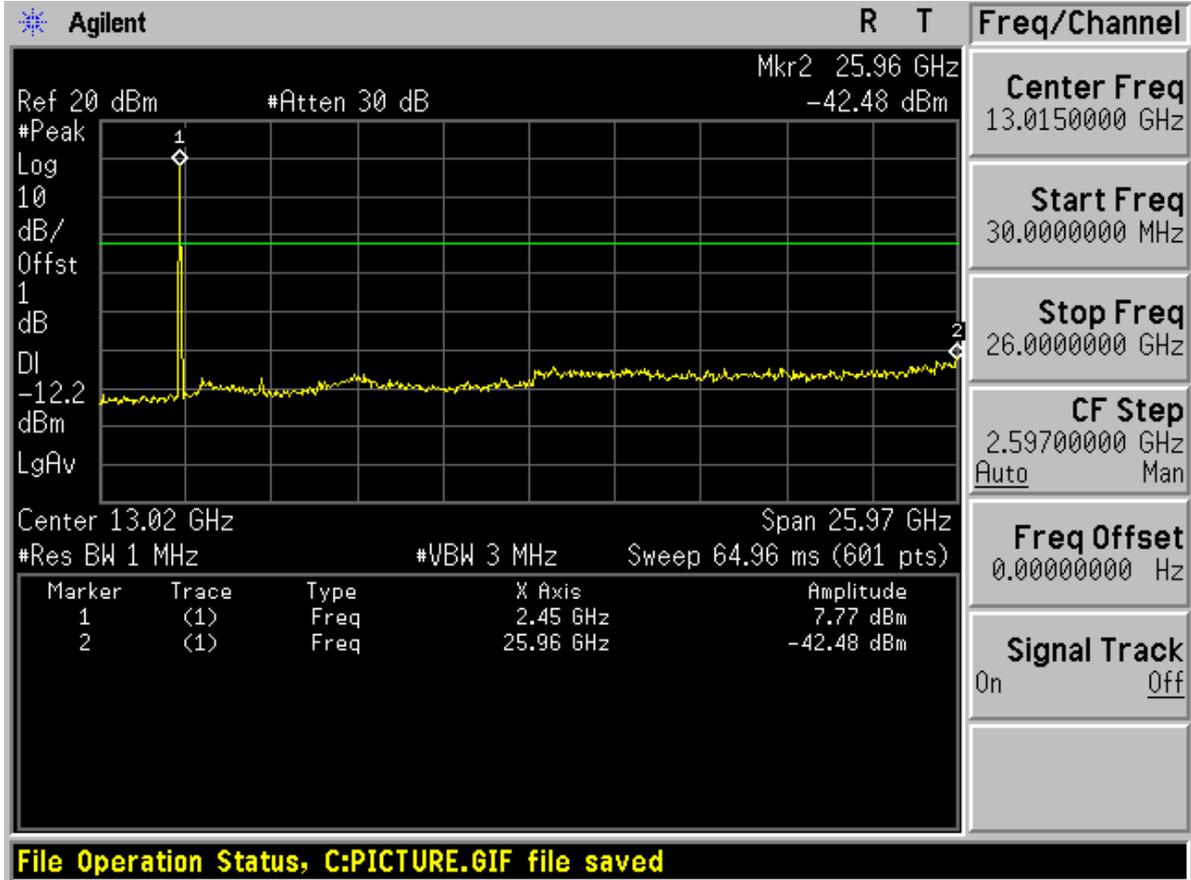


# 150K~30M



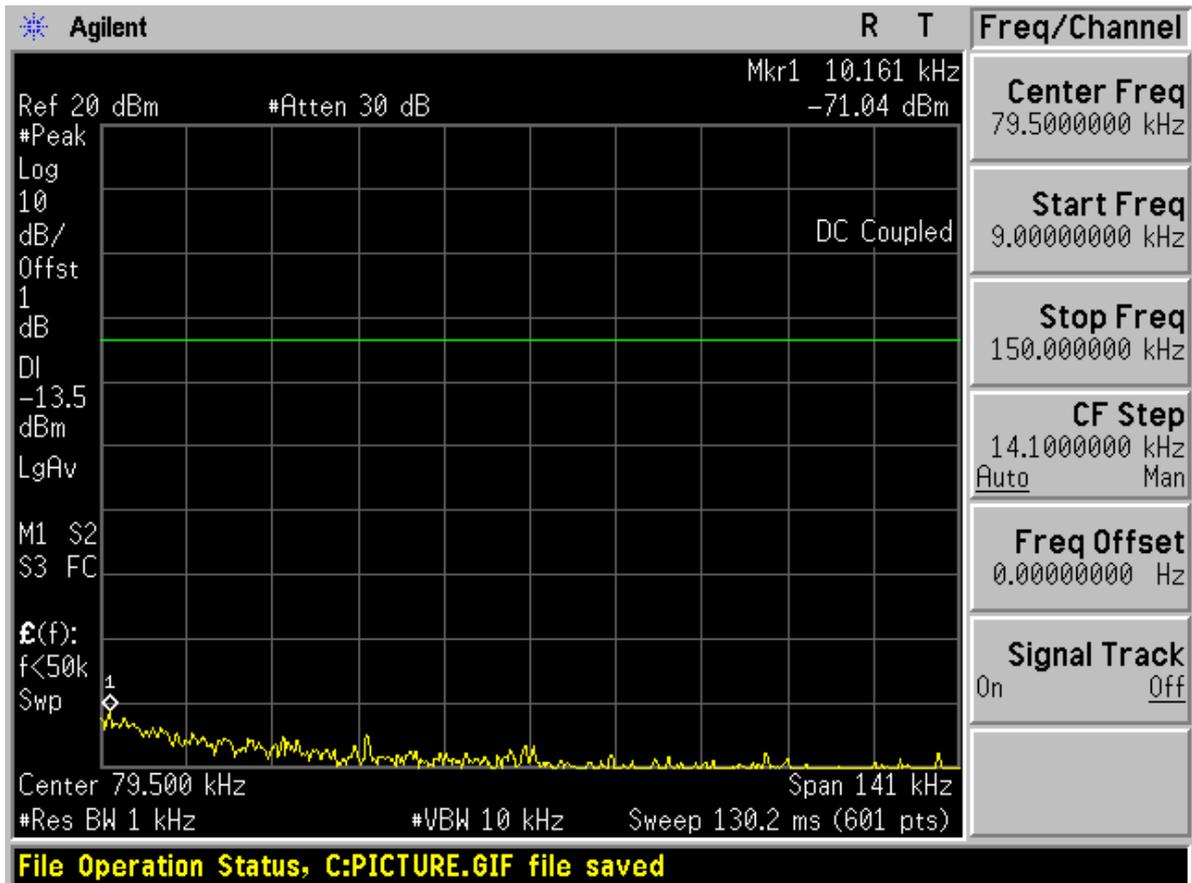


# 30M~26G



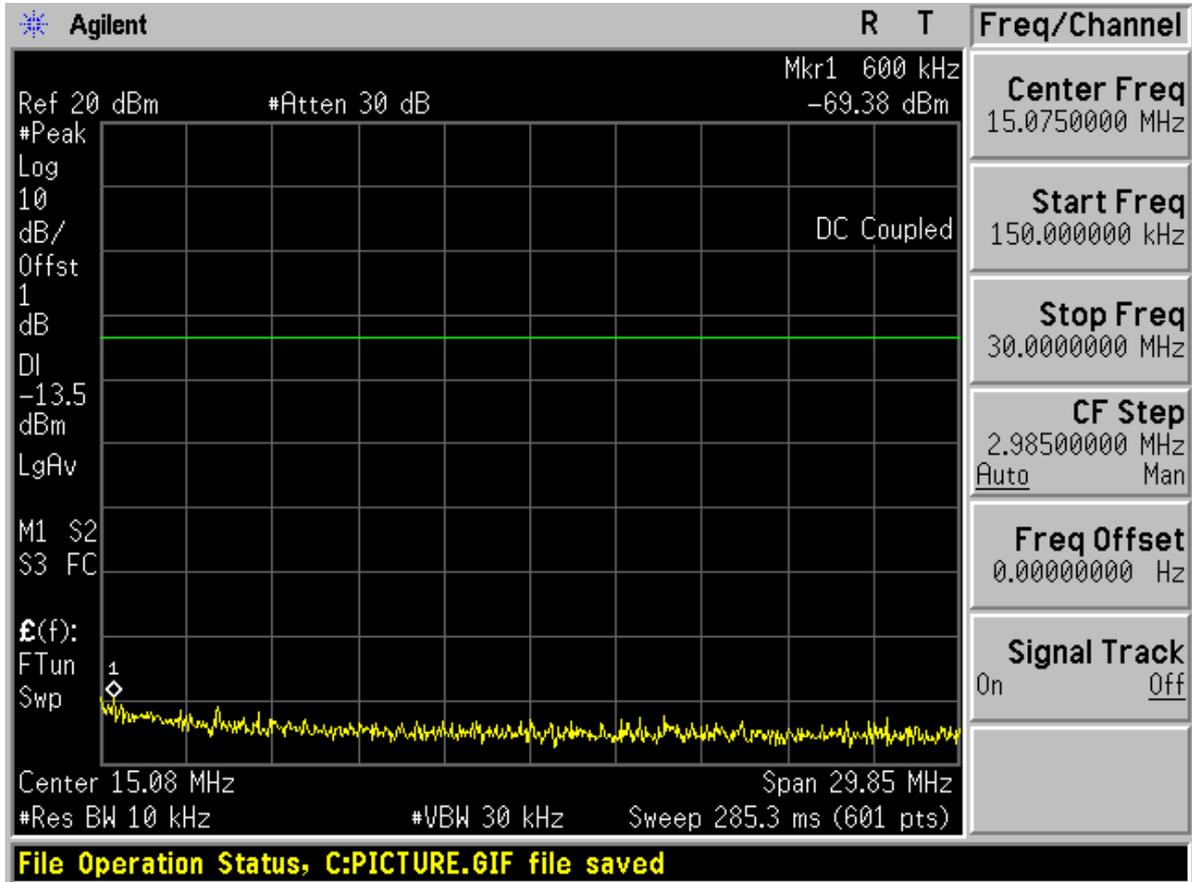


# 11N20M Chain 1&2 Channel 01 Chain 1 9K~150K



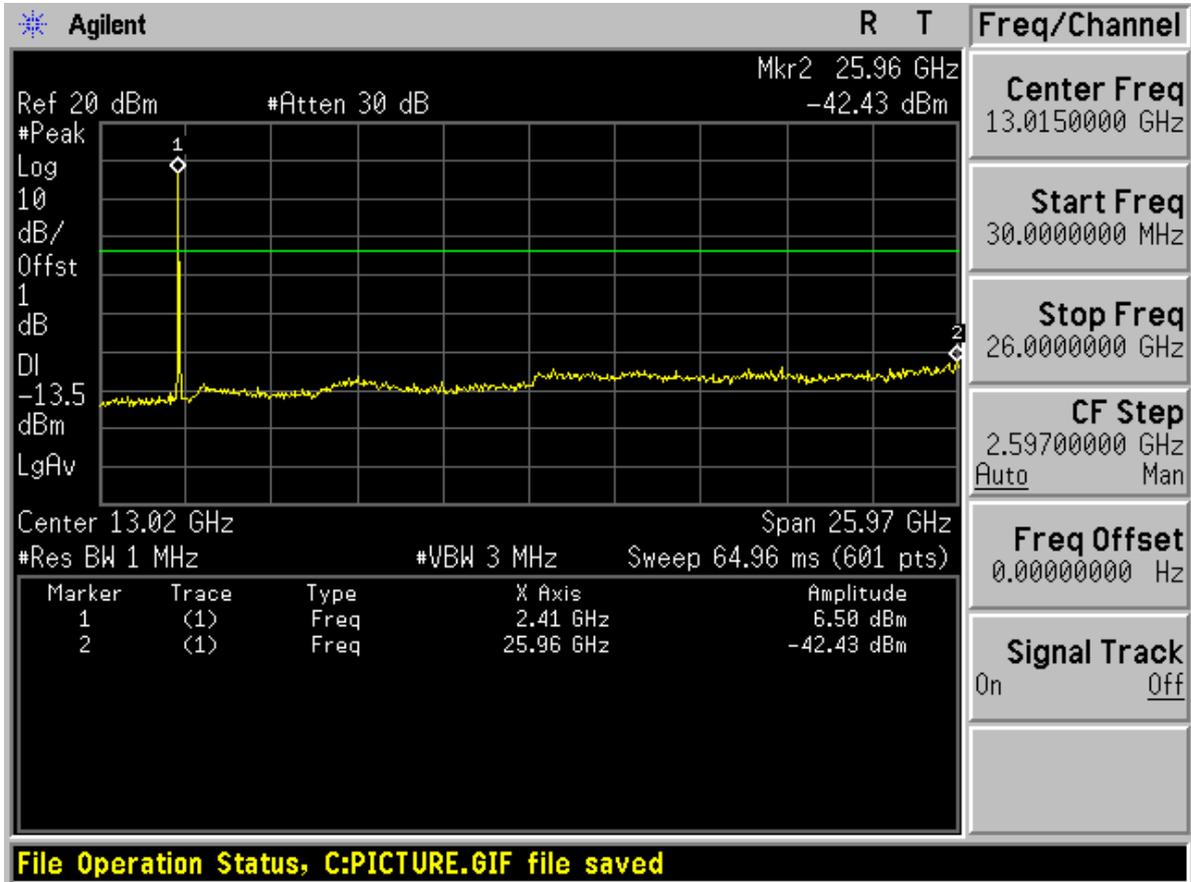


# 150K~30M



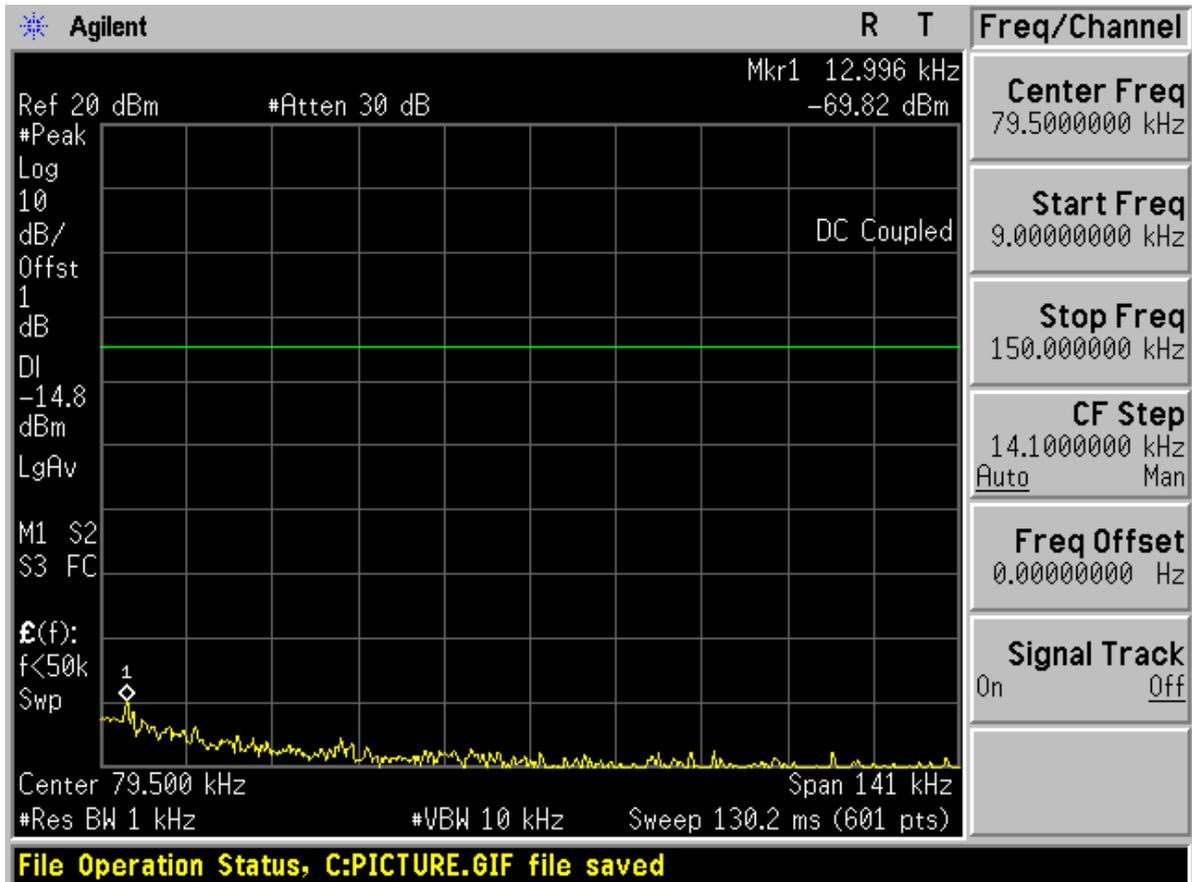


# 30M~26G



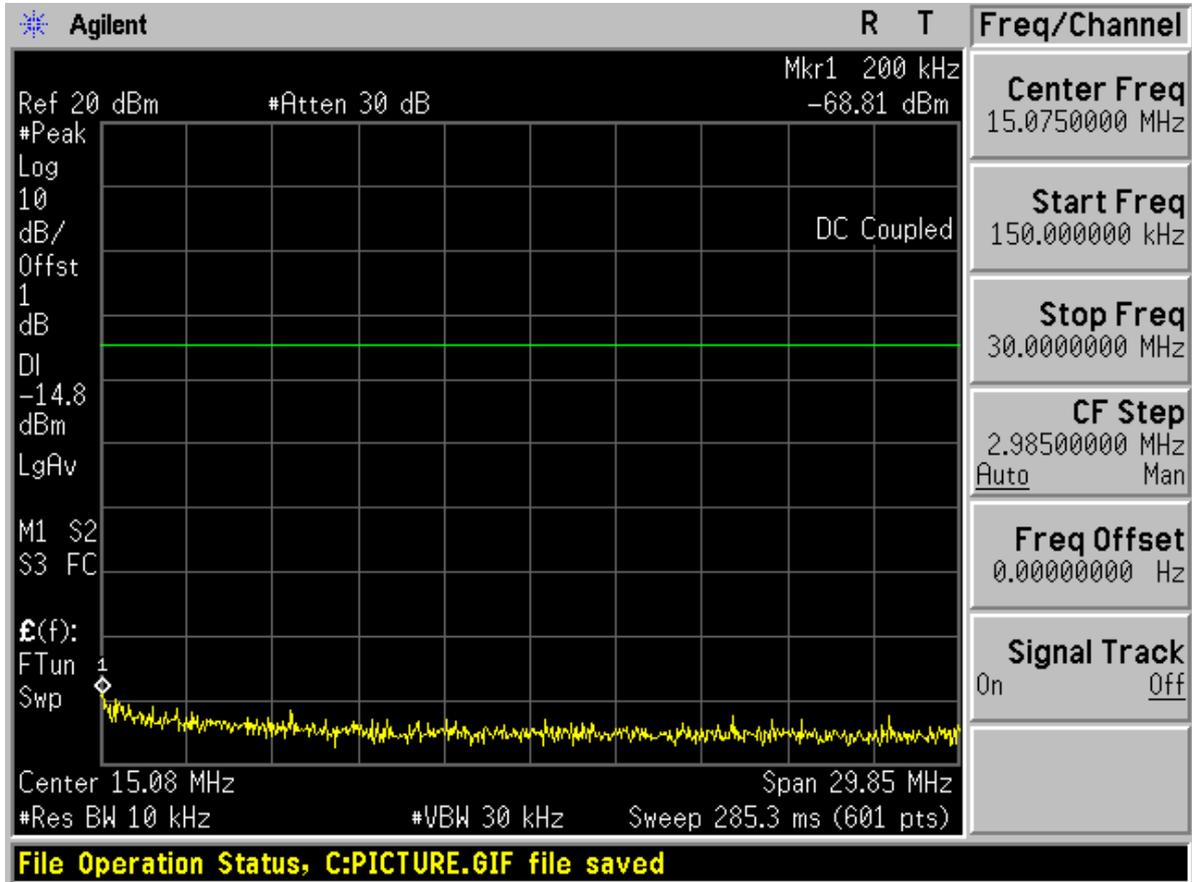


## Chain 2 9K~150K



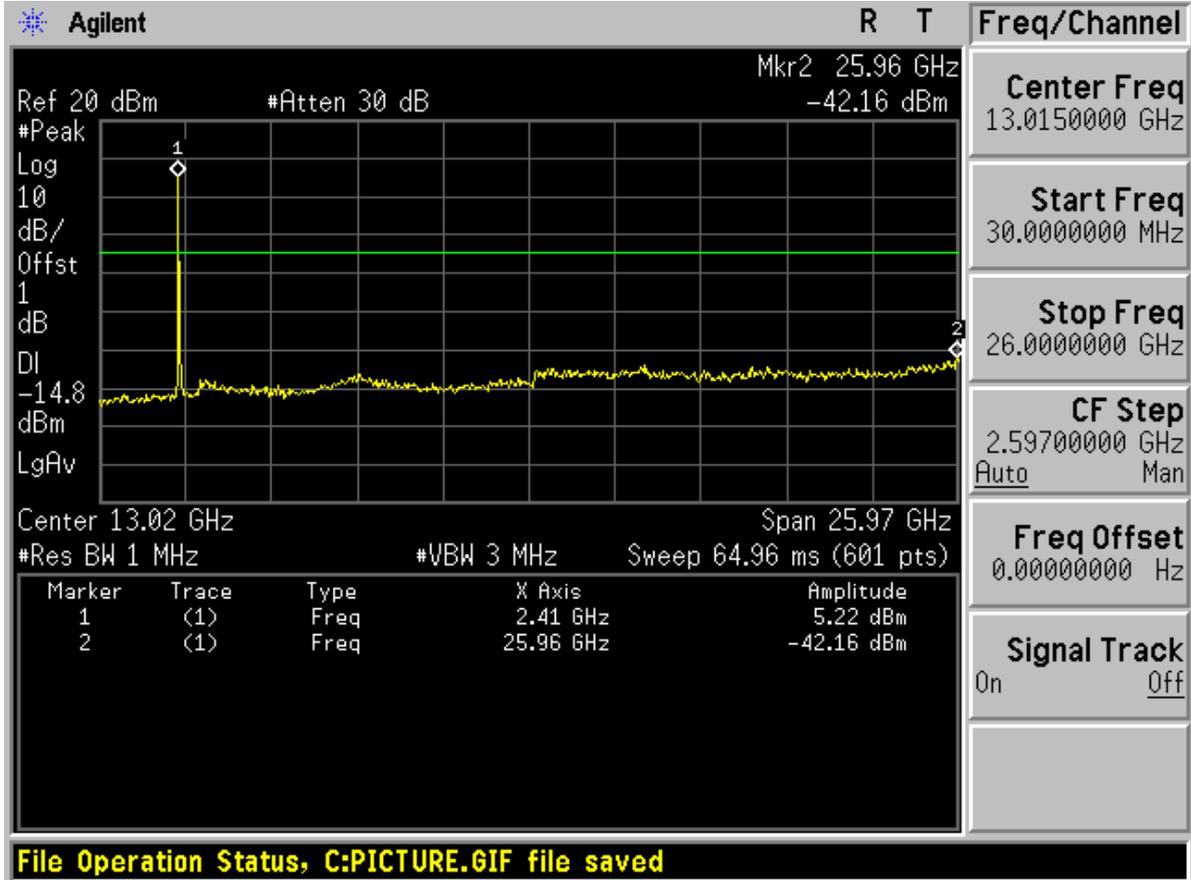


# 150K~30M





# 30M~26G

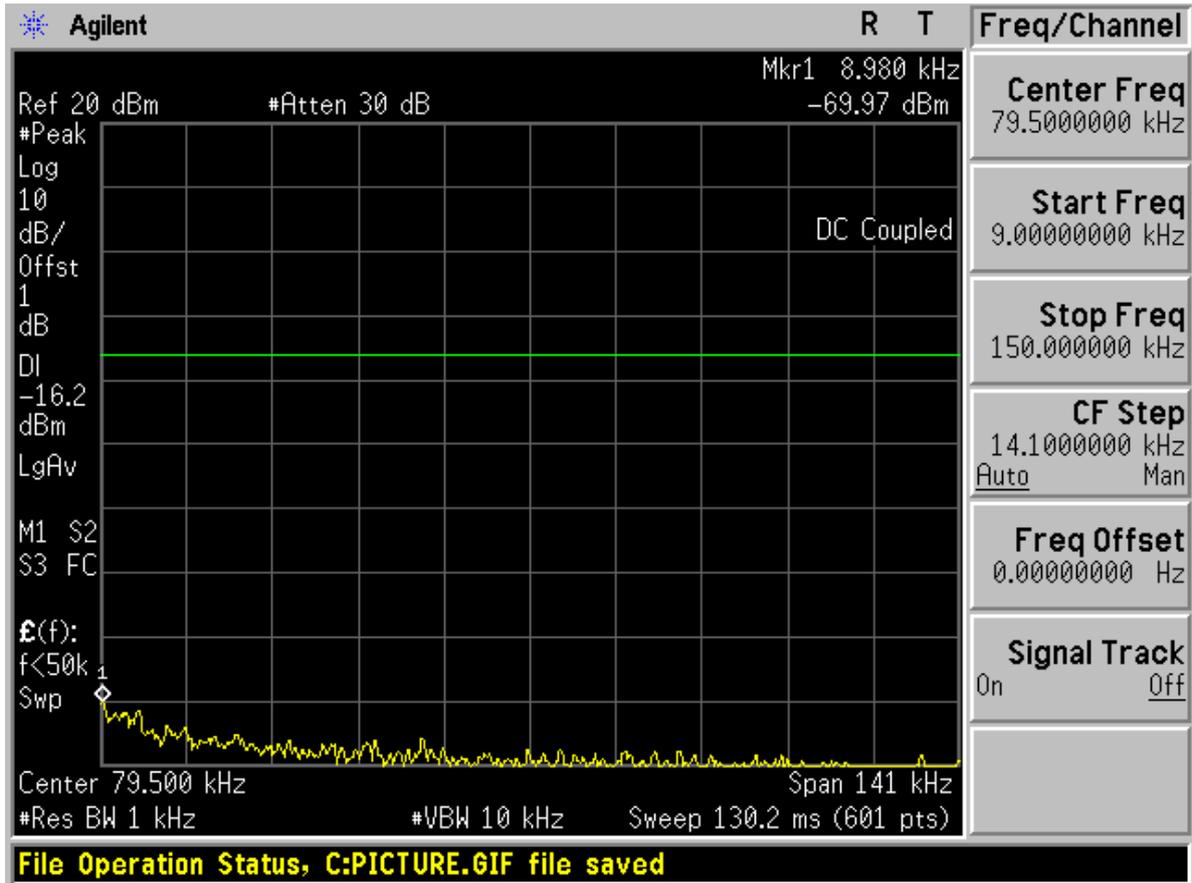




# Channel 06

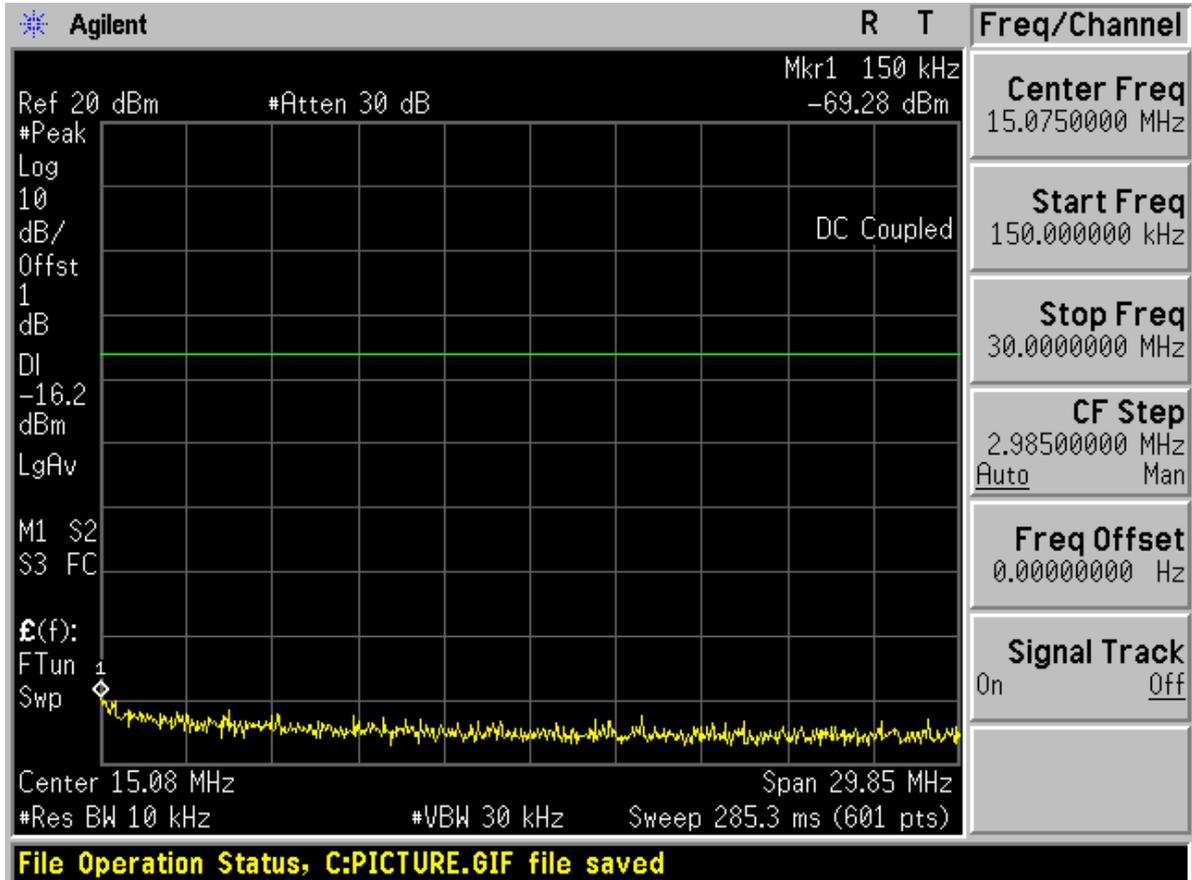
## Chain 1

### 9K~150K



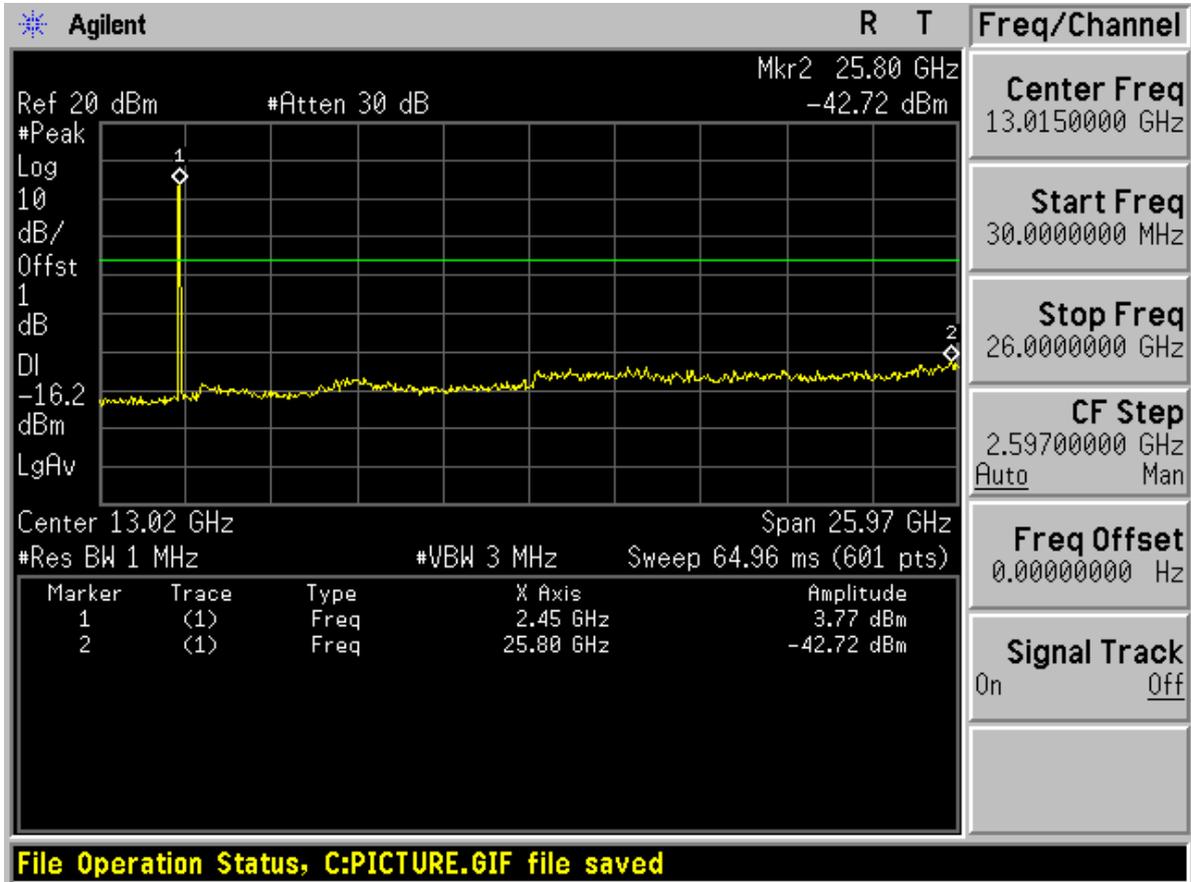


# 150K~30M



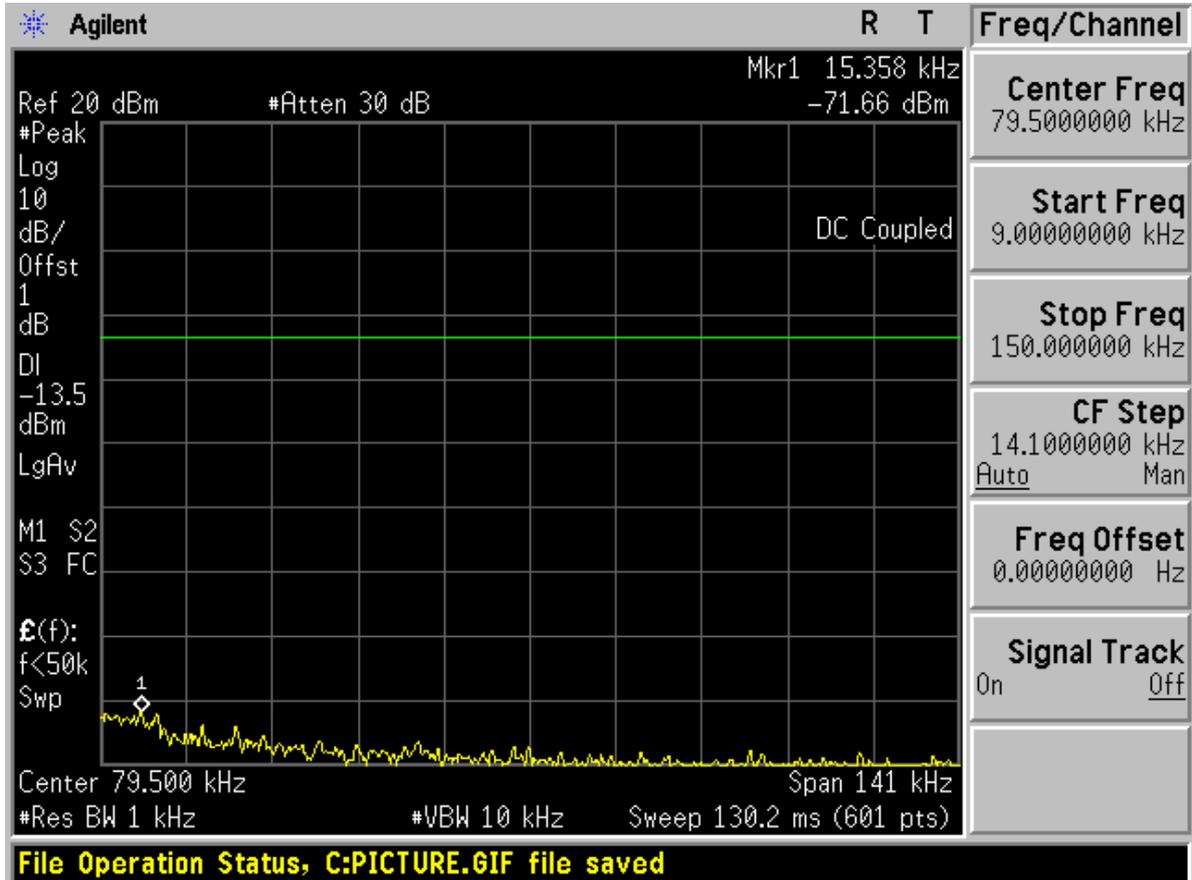


# 30M~26G



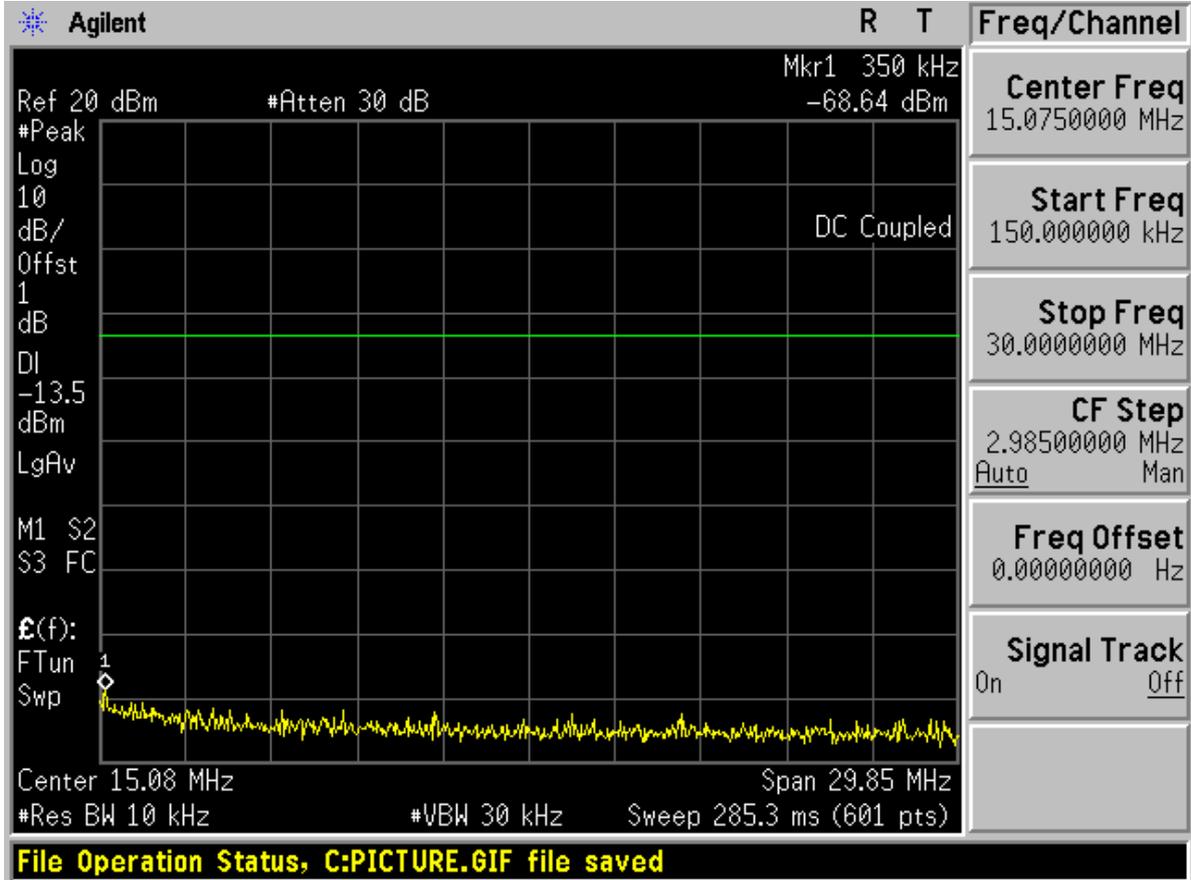


## Chain 2 9K~150K



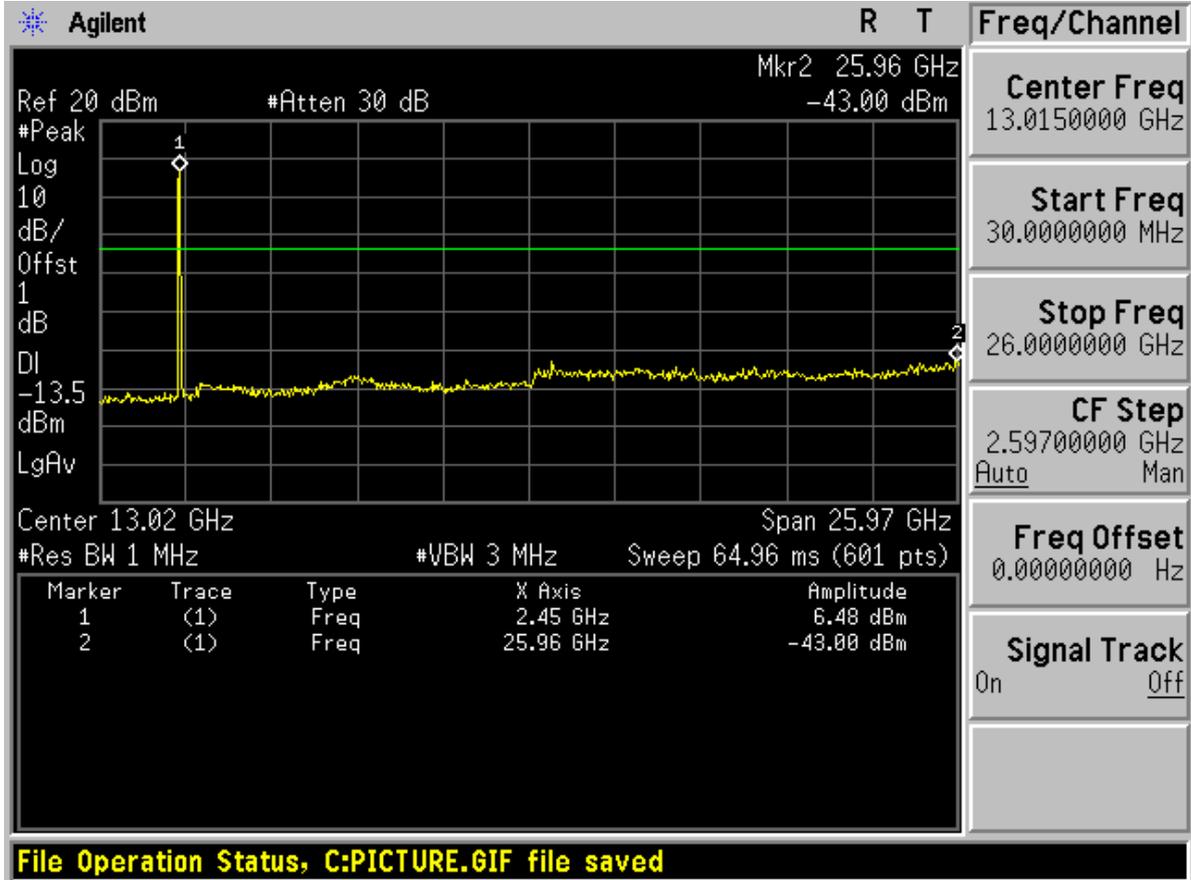


# 150K~30M





# 30M~26G

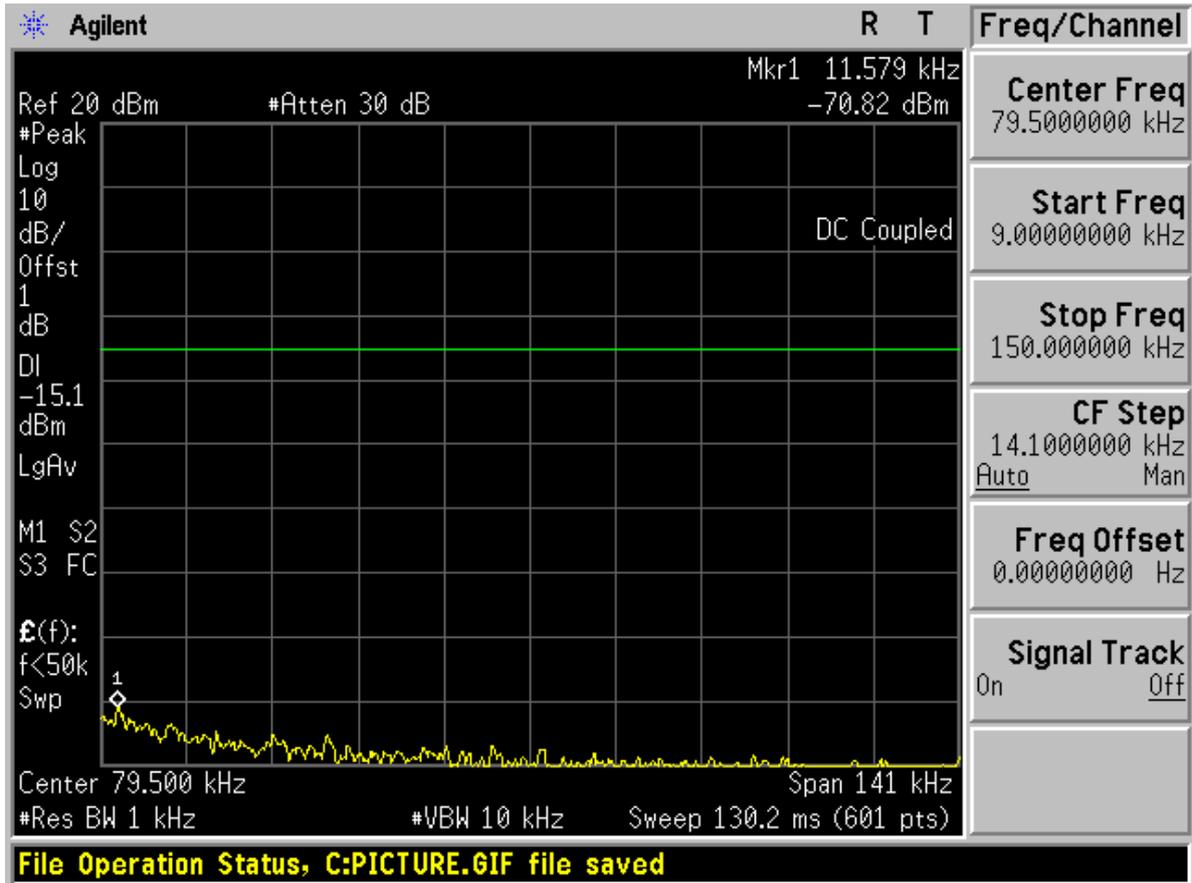




# Channel 11

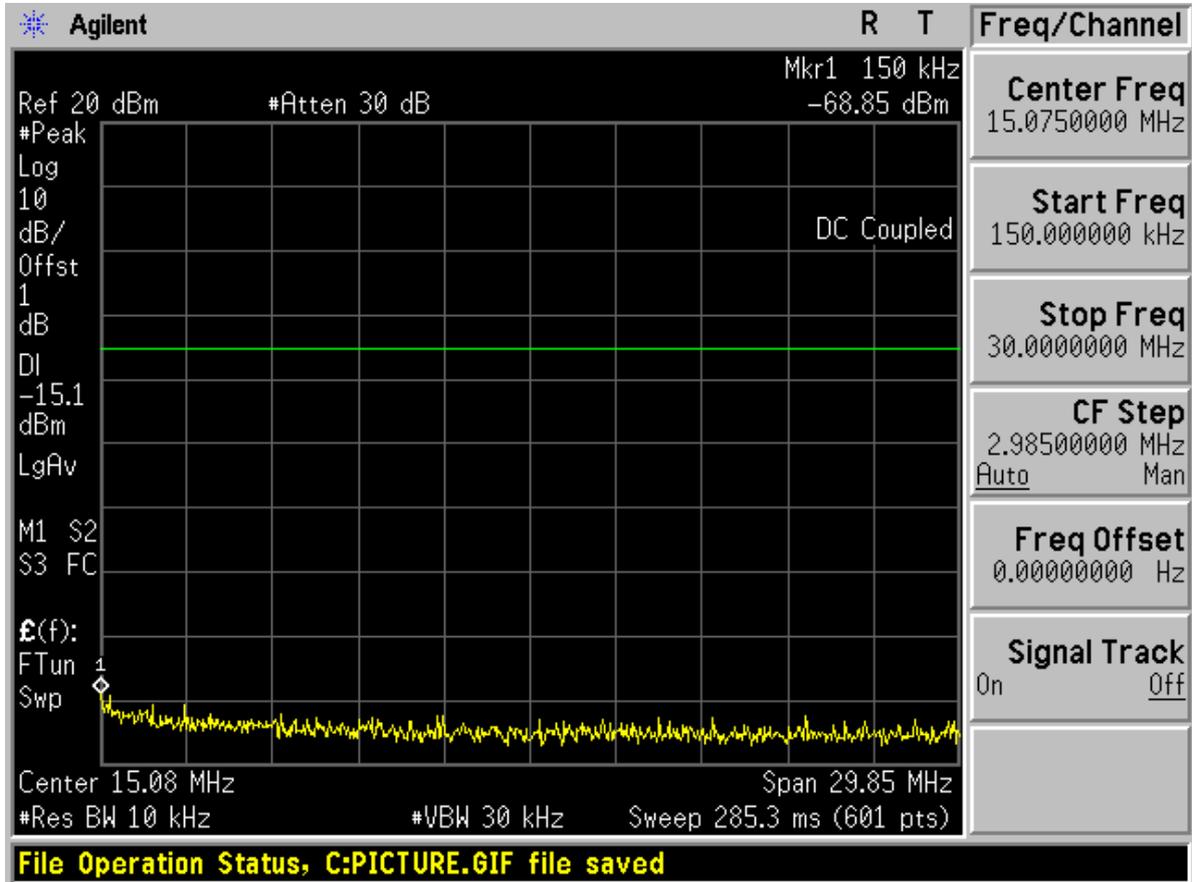
## Chain 1

### 9K~150K



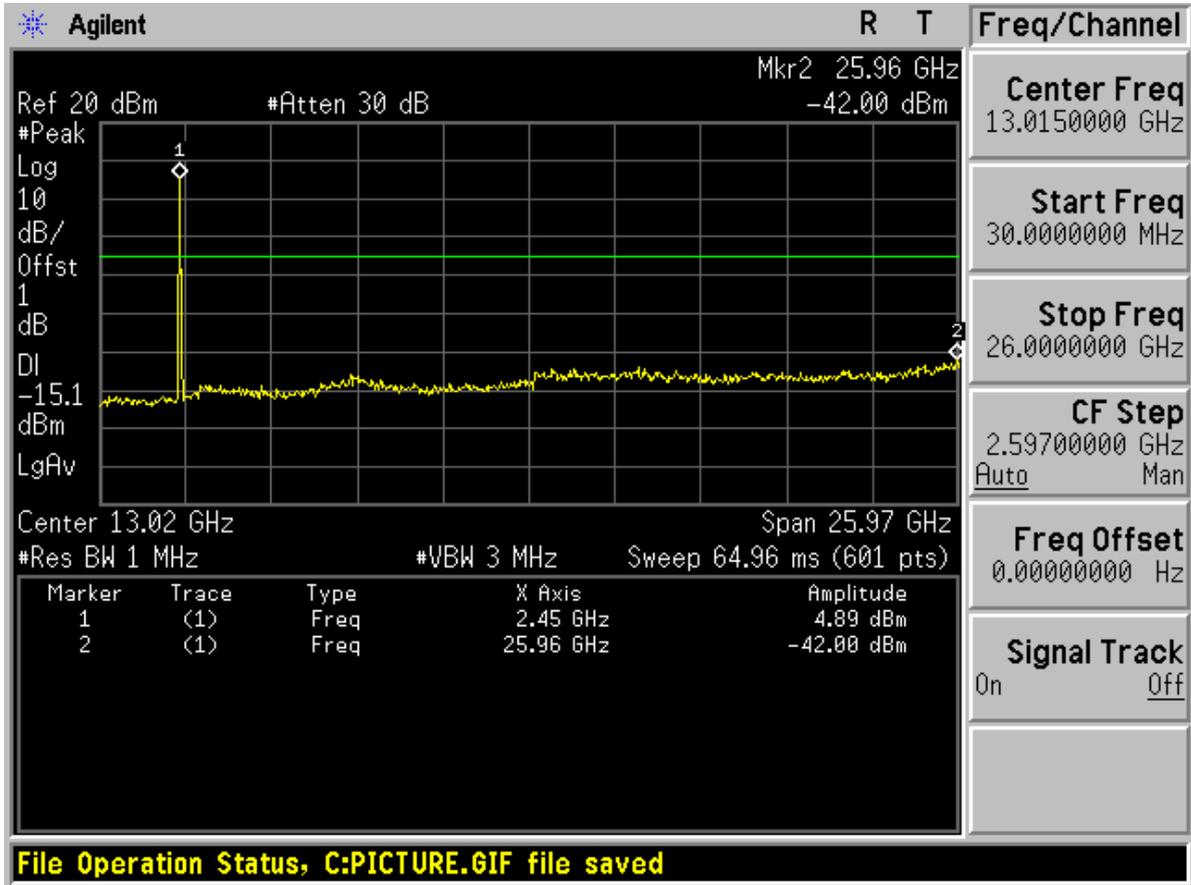


# 150K~30M



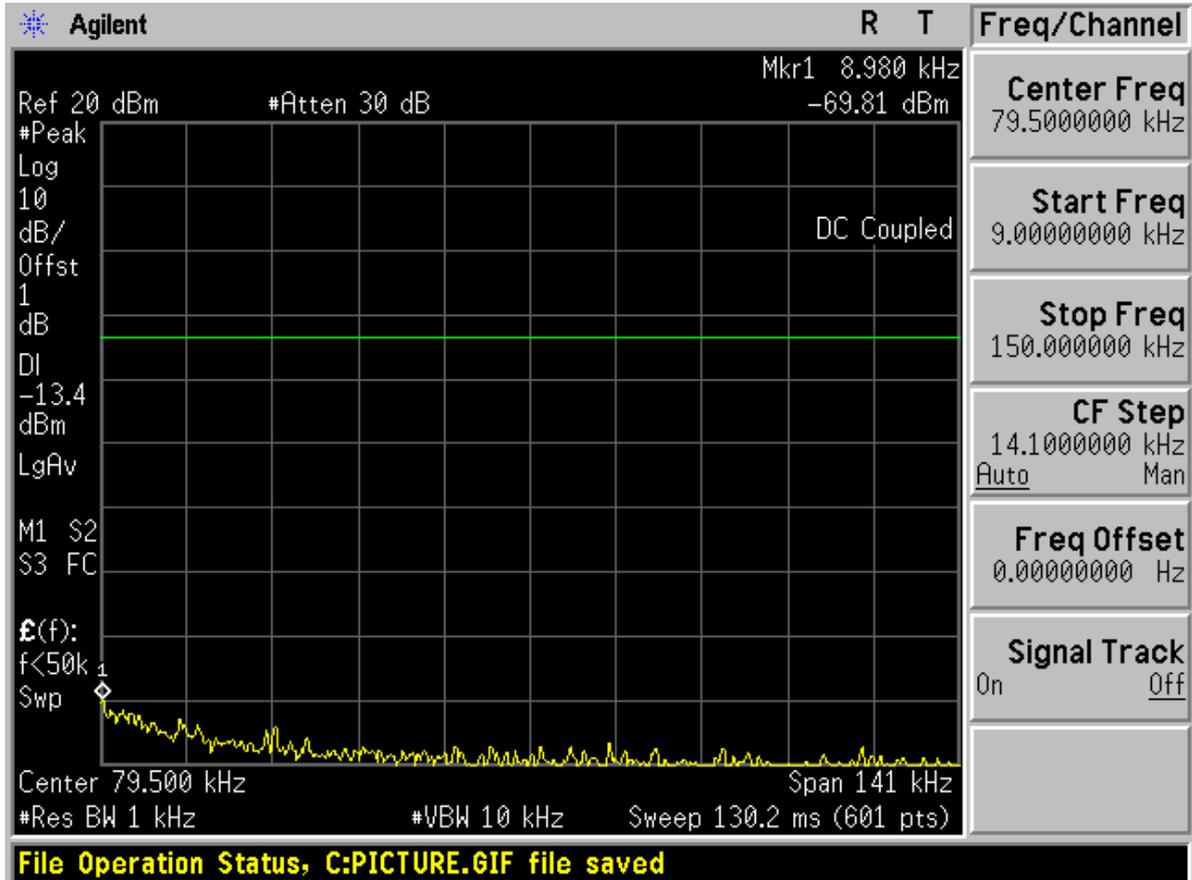


# 30M~26G



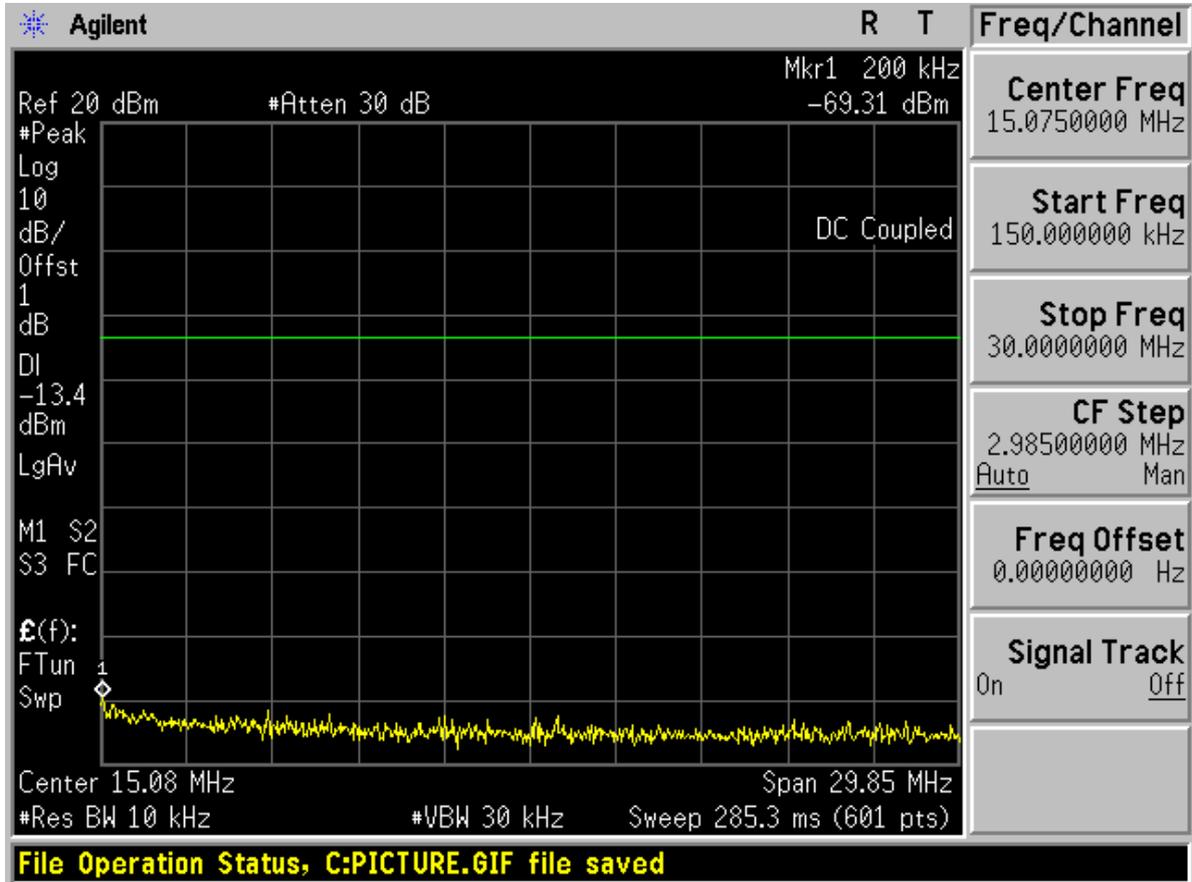


## Chain 2 9K~150K



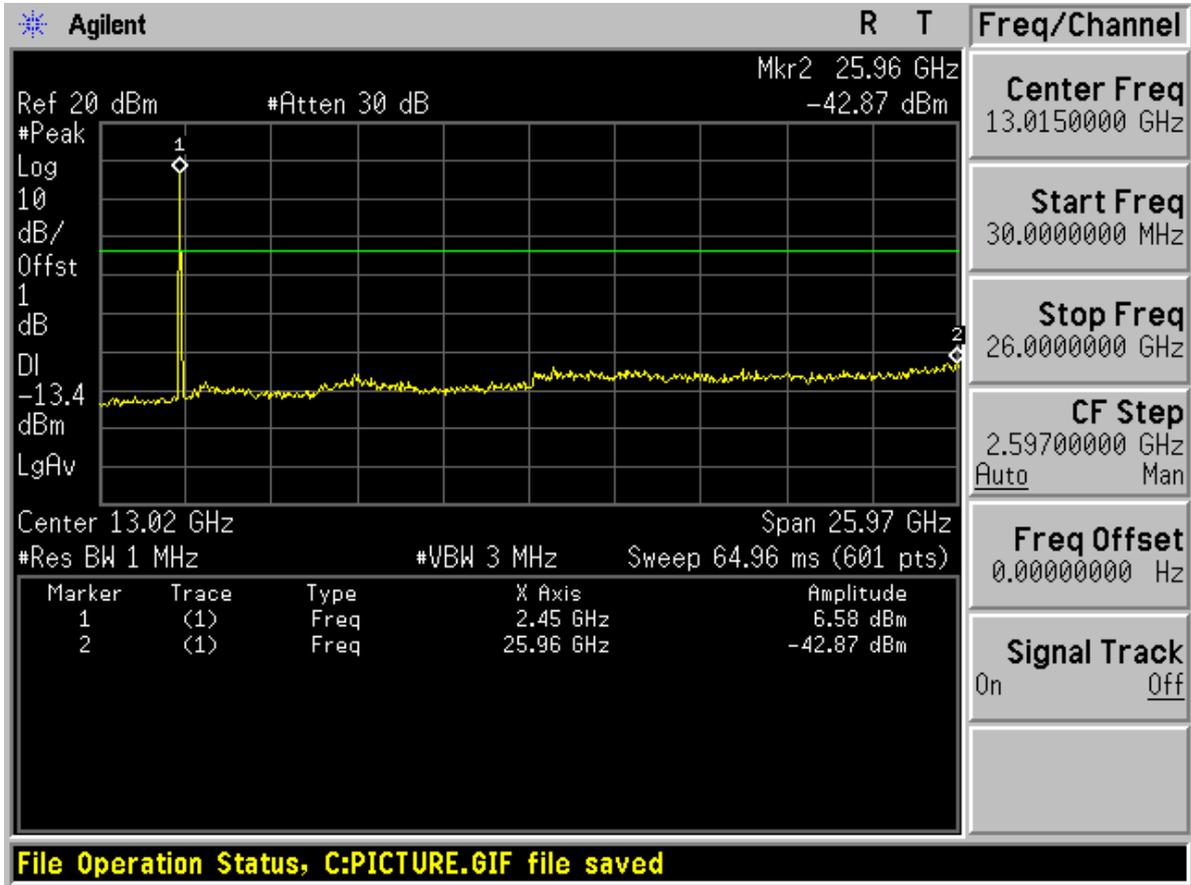


# 150K~30M



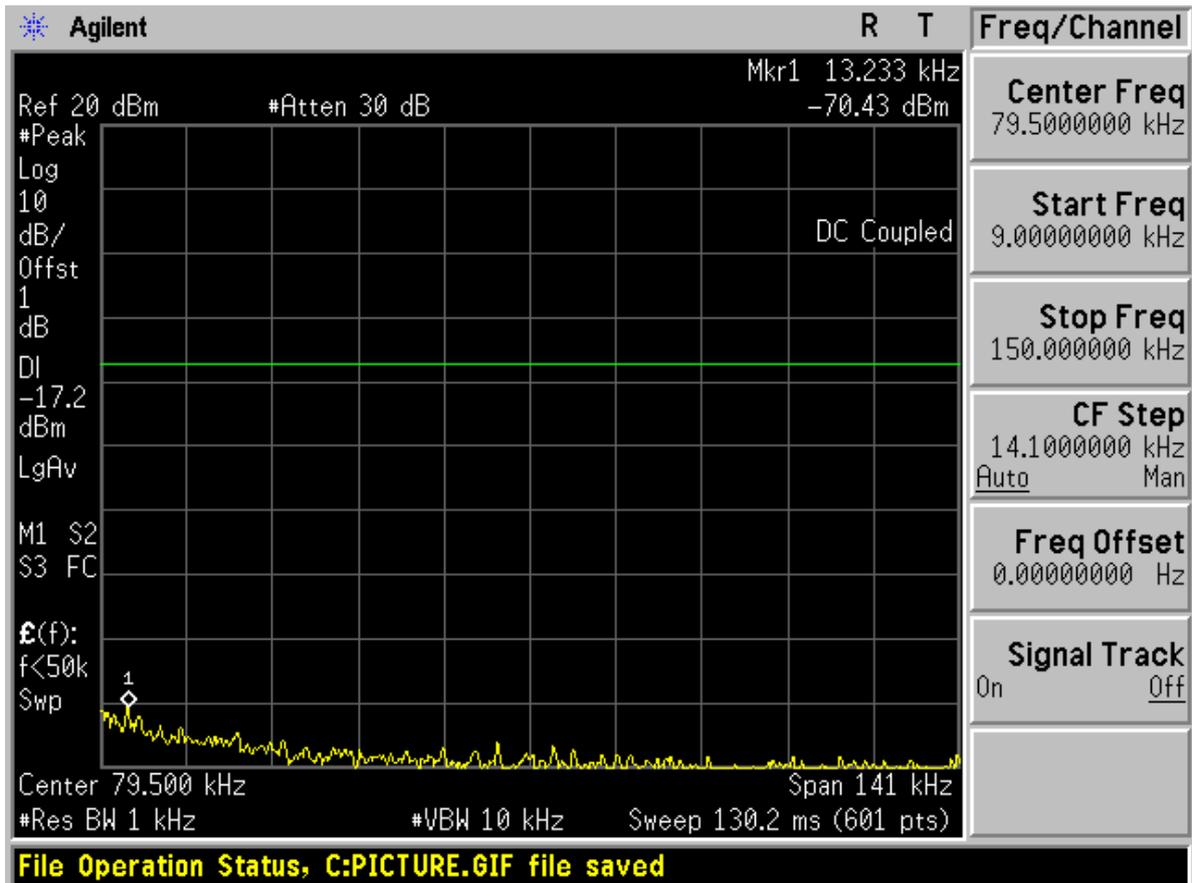


# 30M~26G



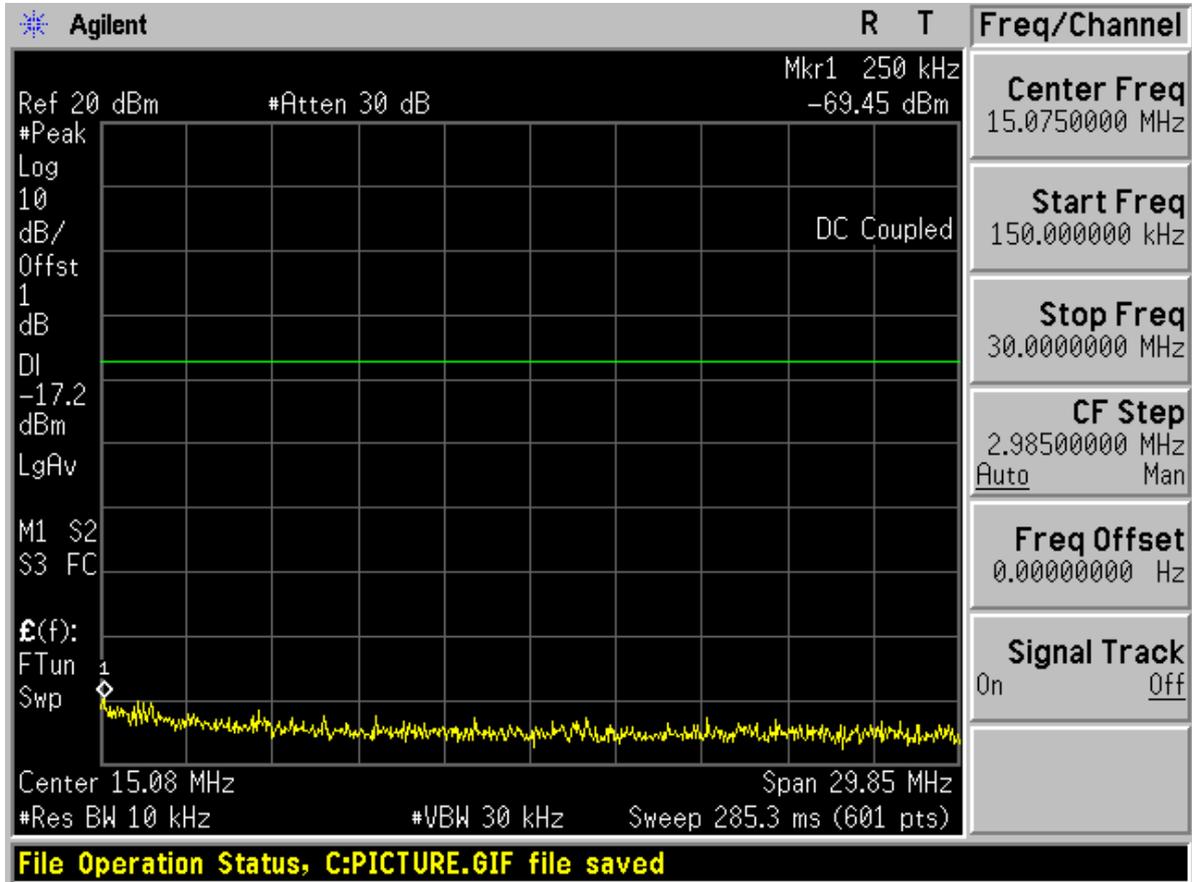


# 11N40M Chain 1&2 Channel 03 Chain 1 9K~150K



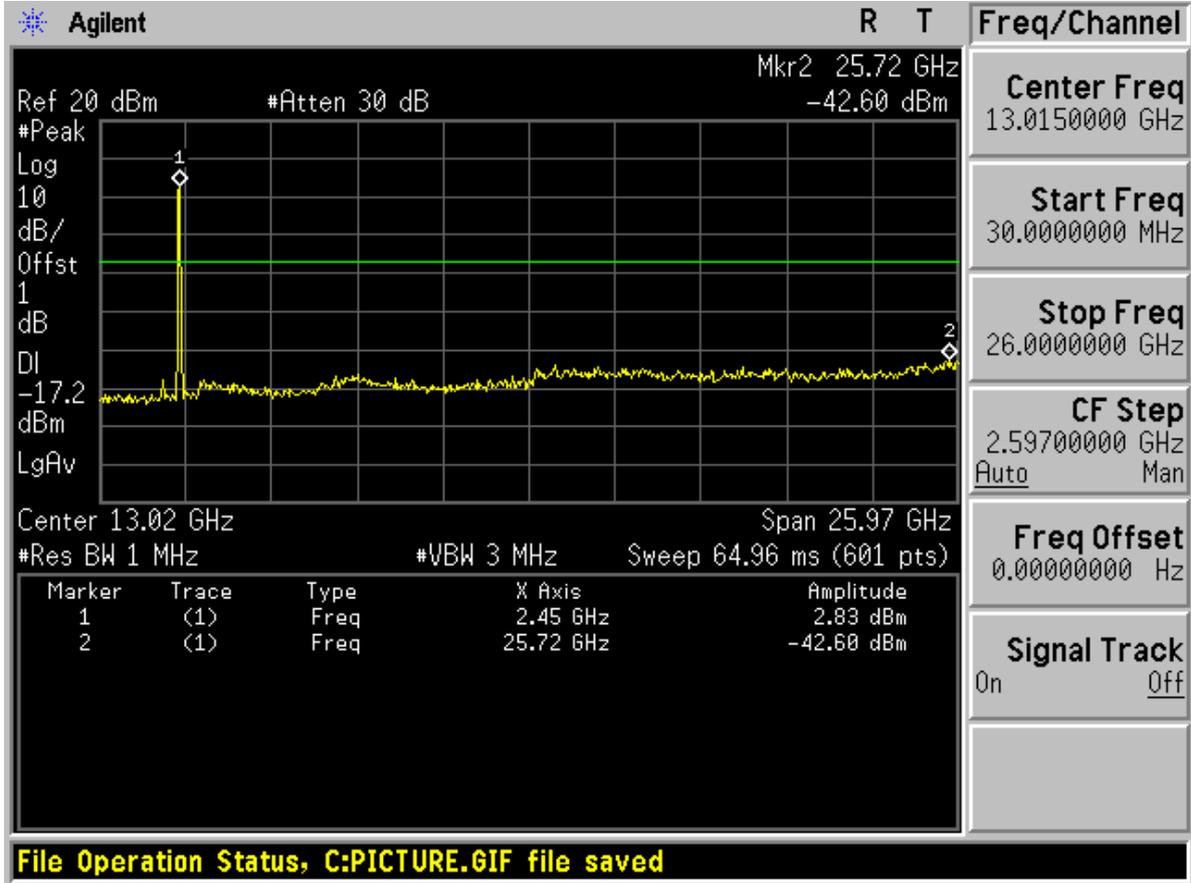


# 150K~30M



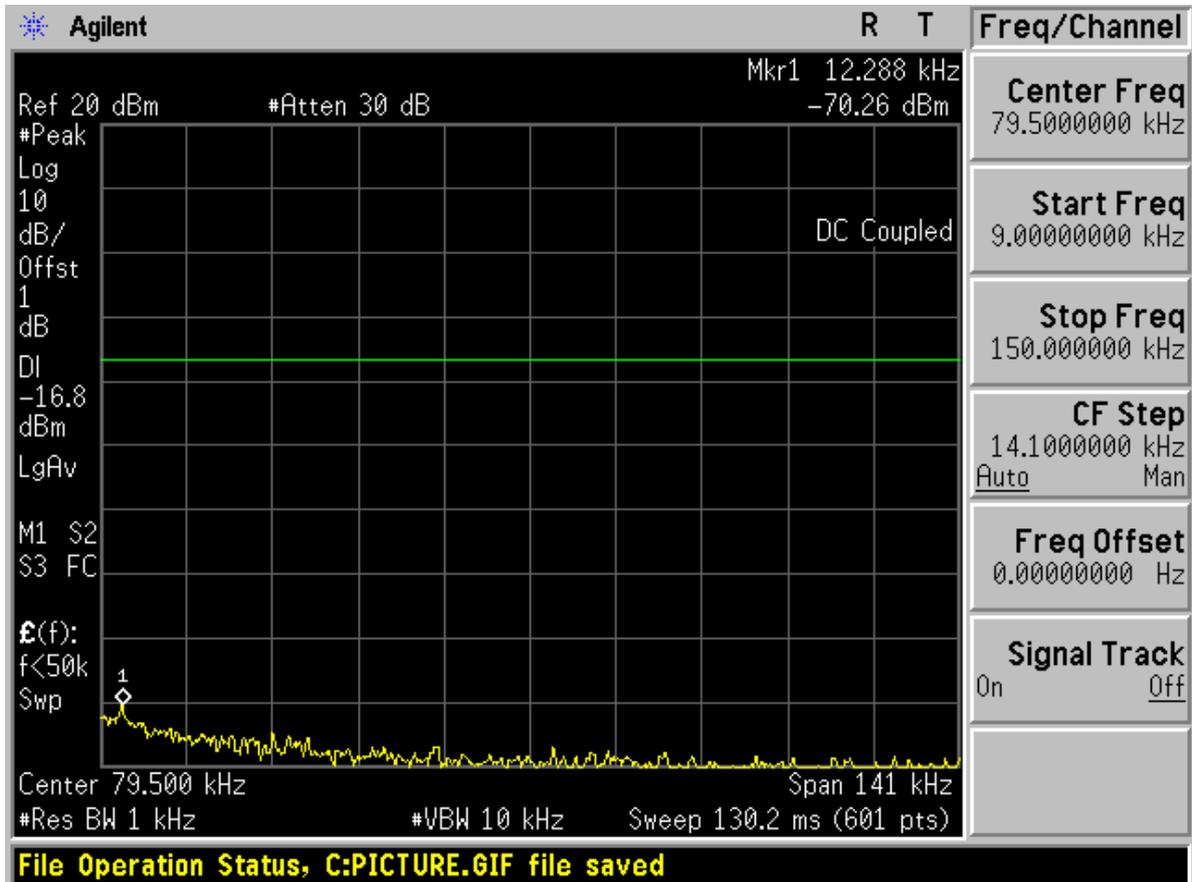


# 30M~26G



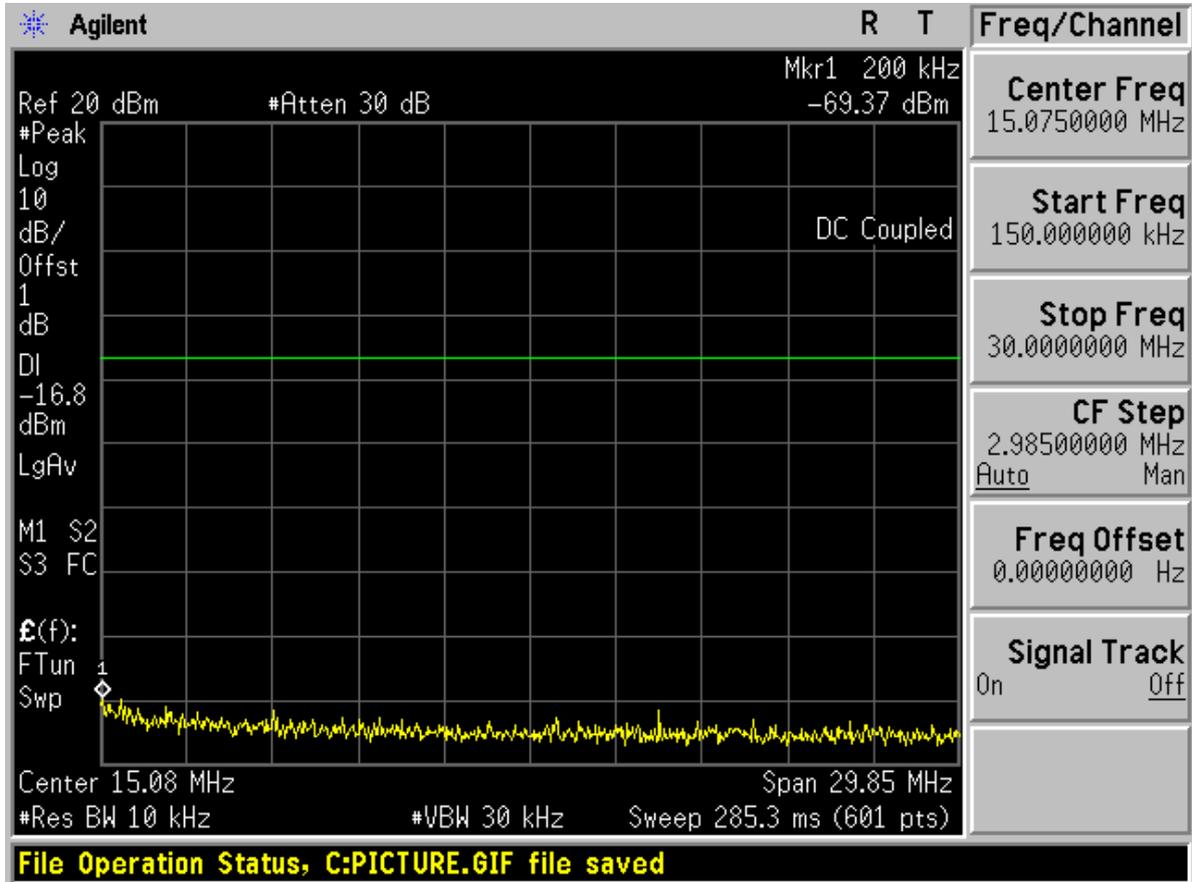


## Chain 2 9K~150K



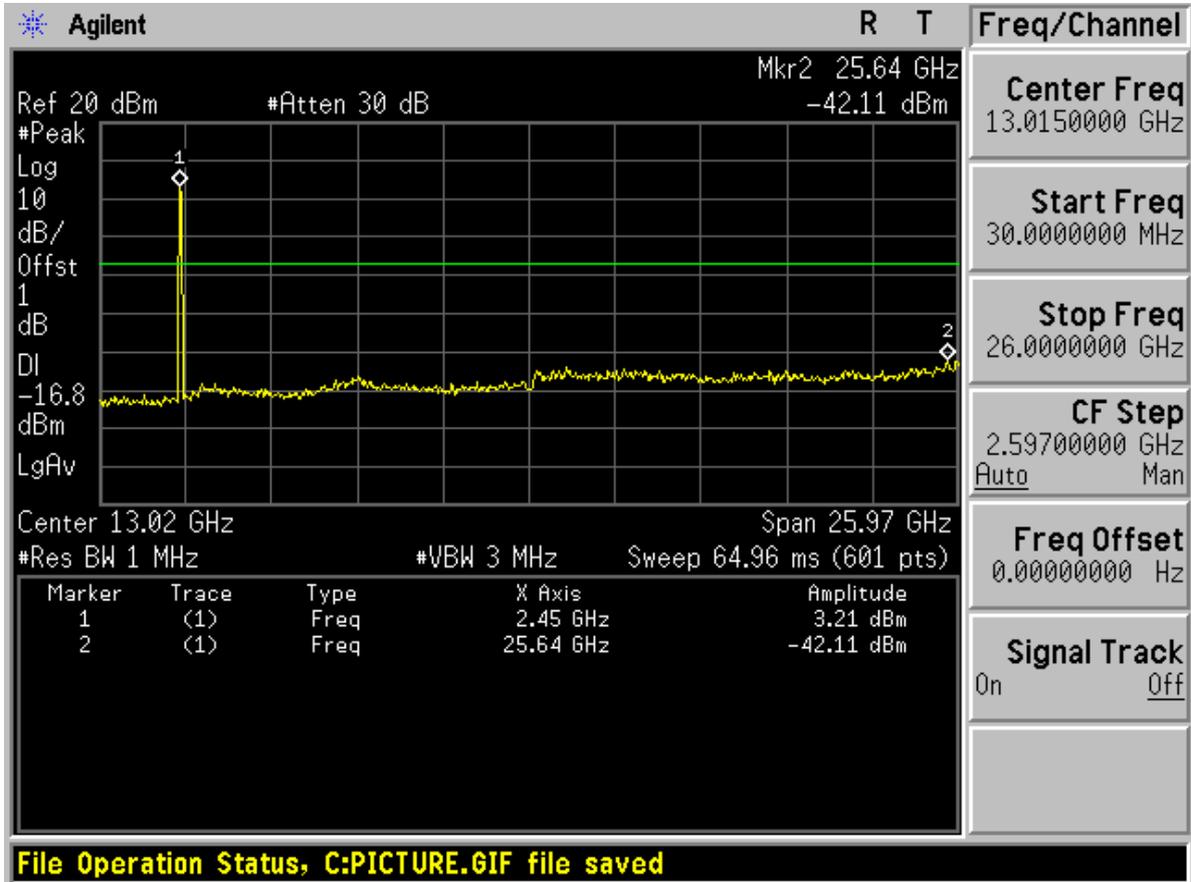


# 150K~30M





# 30M~26G

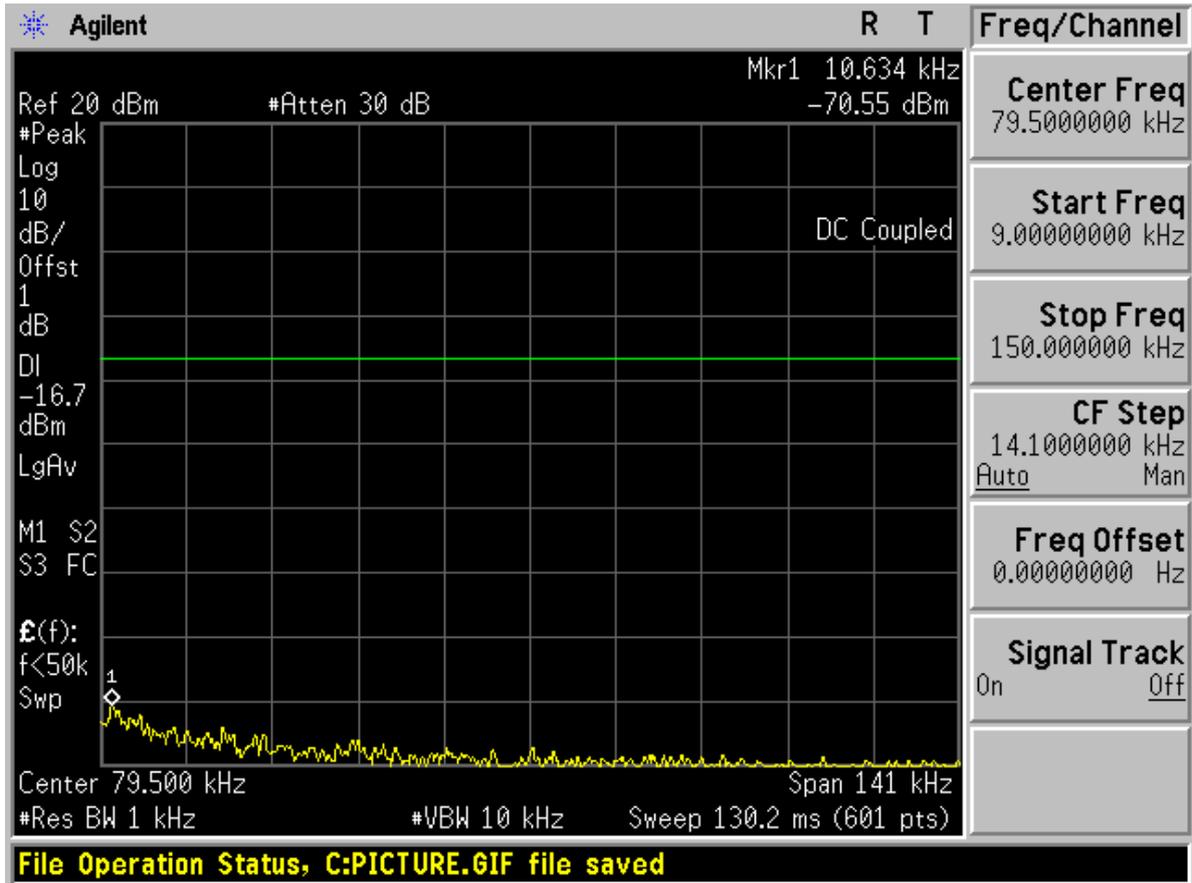




# Channel 06

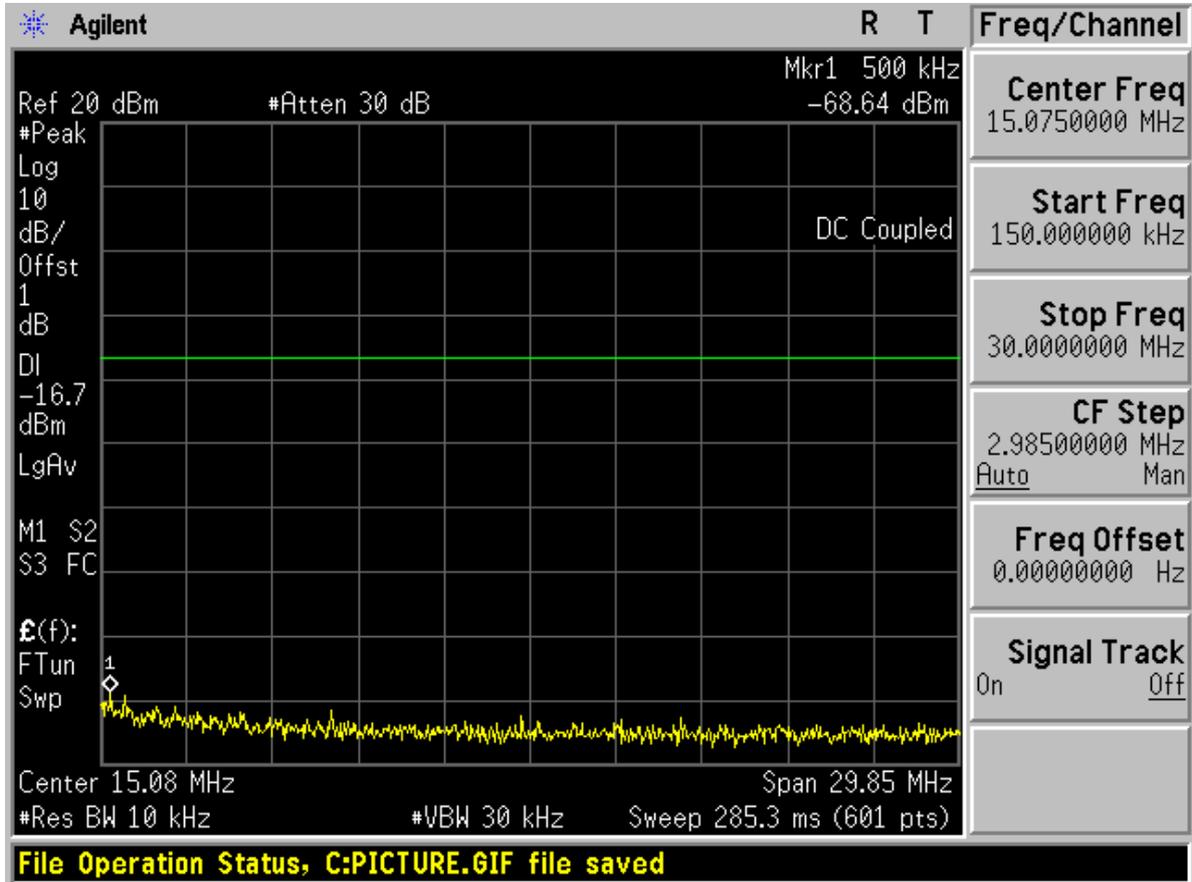
## Chain 1

### 9K~150K



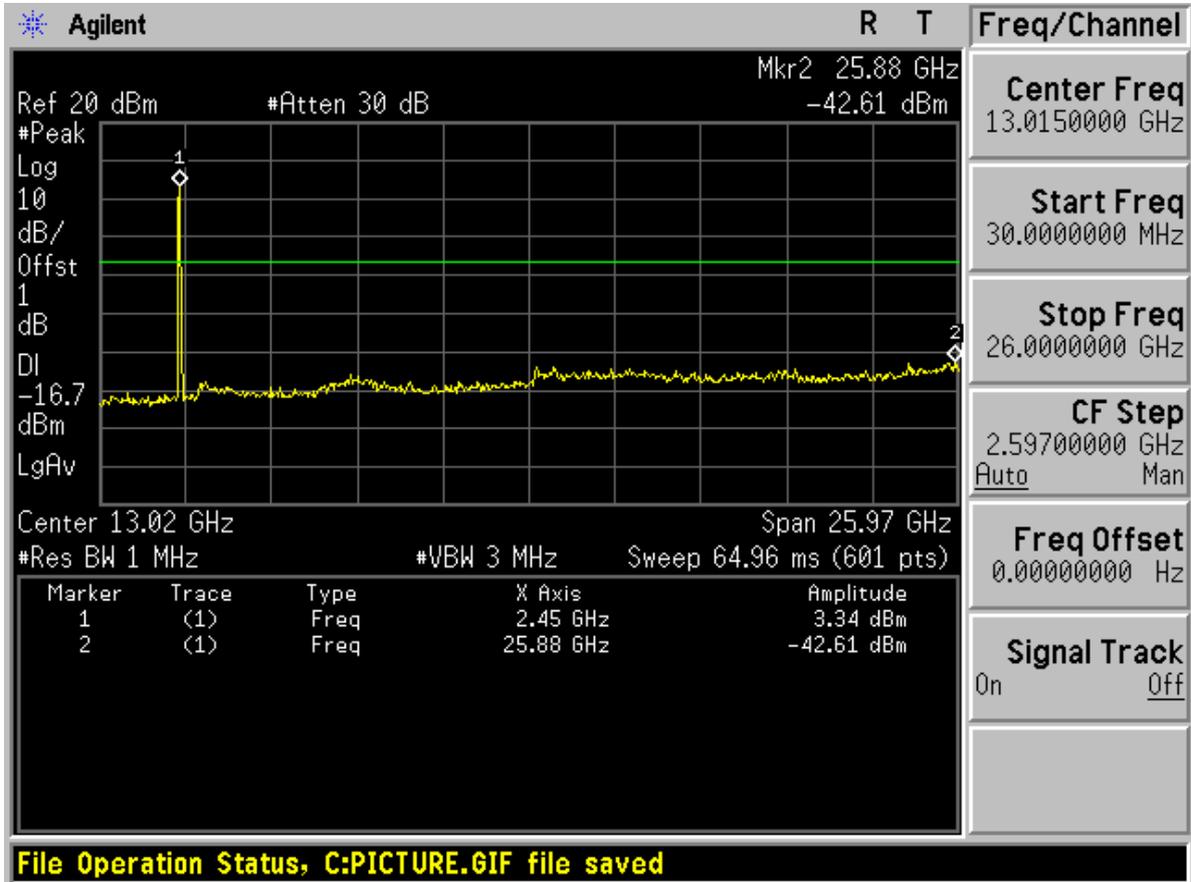


# 150K~30M



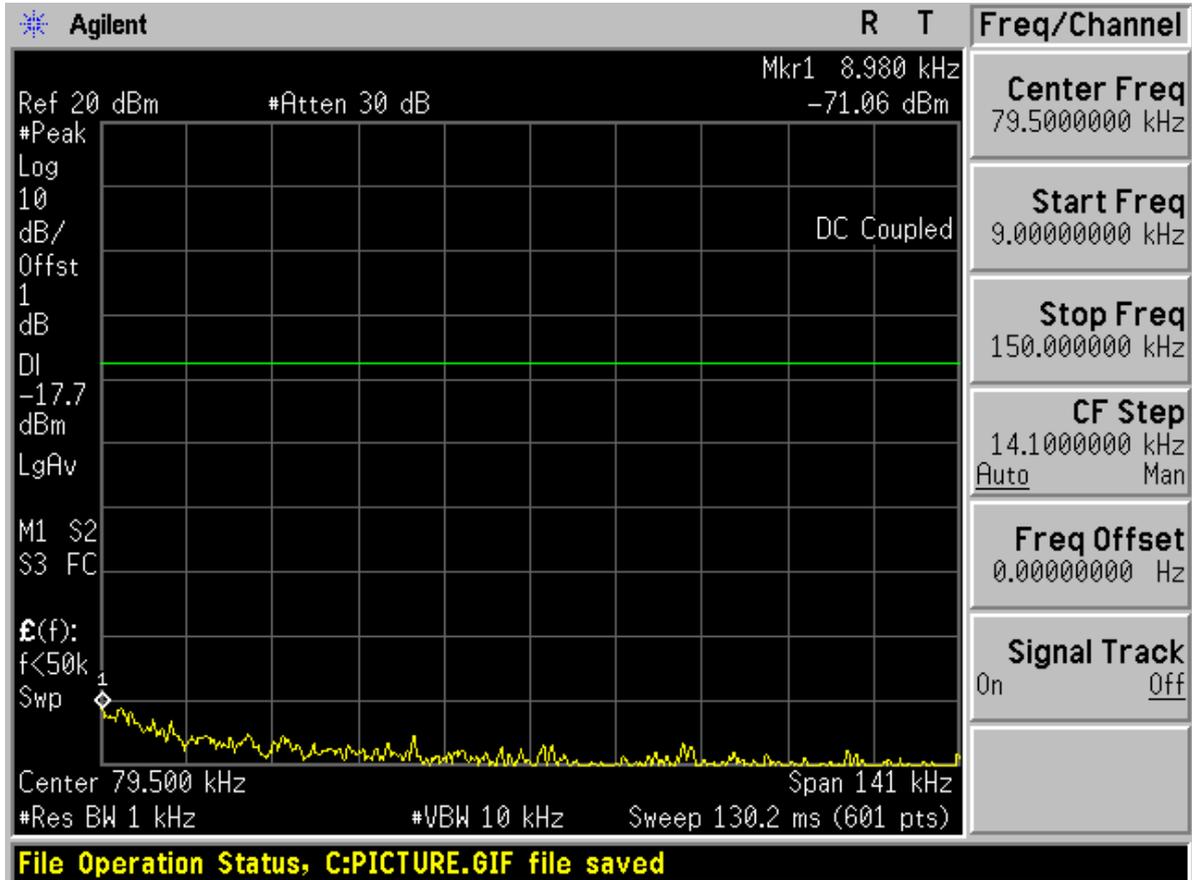


# 30M~26G



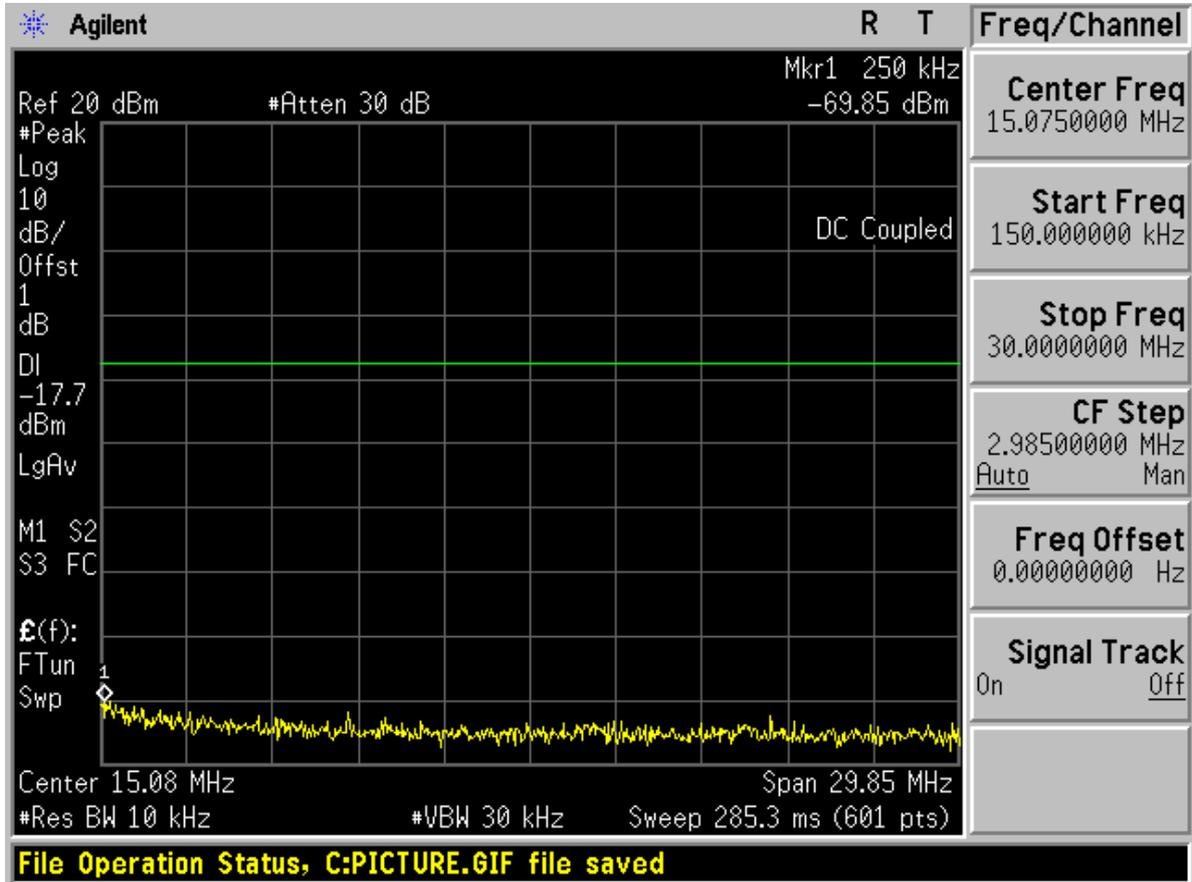


## Chain 2 9K~150K



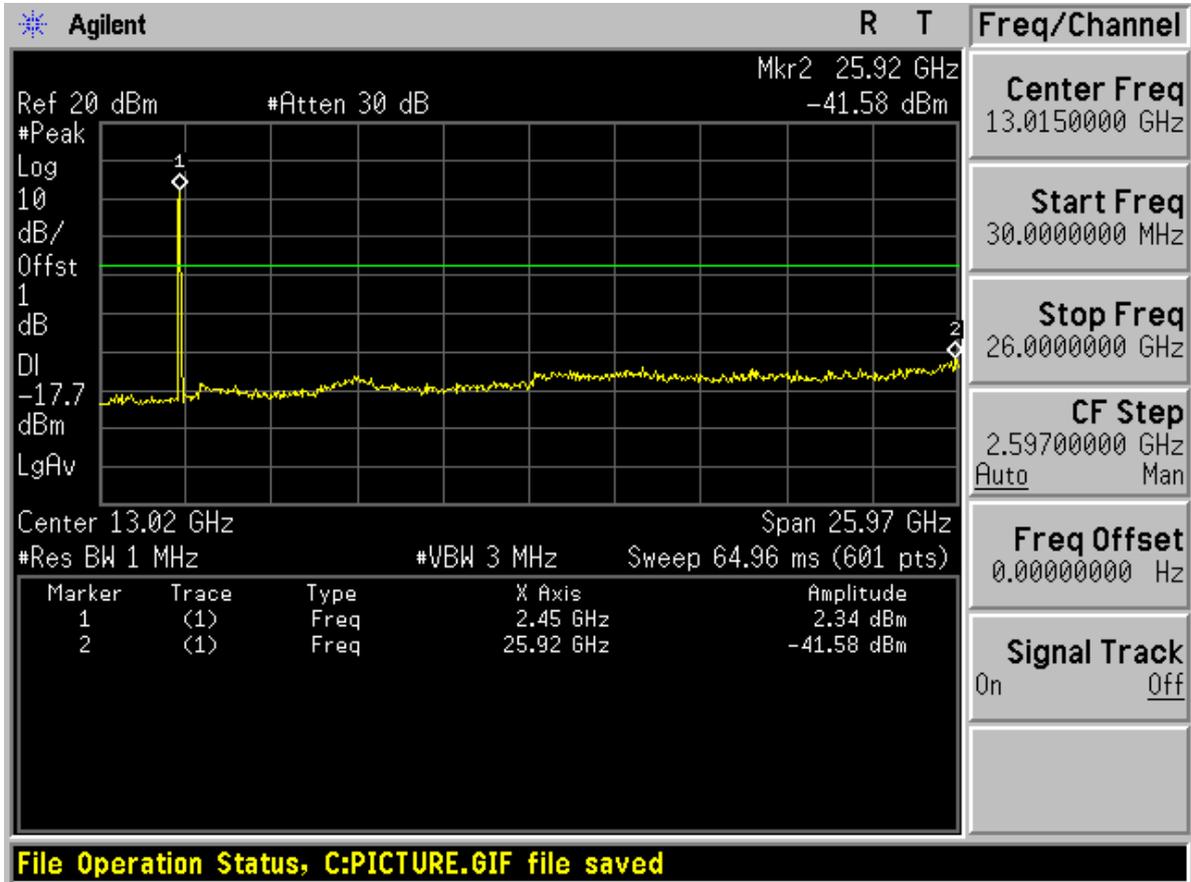


# 150K~30M





# 30M~26G

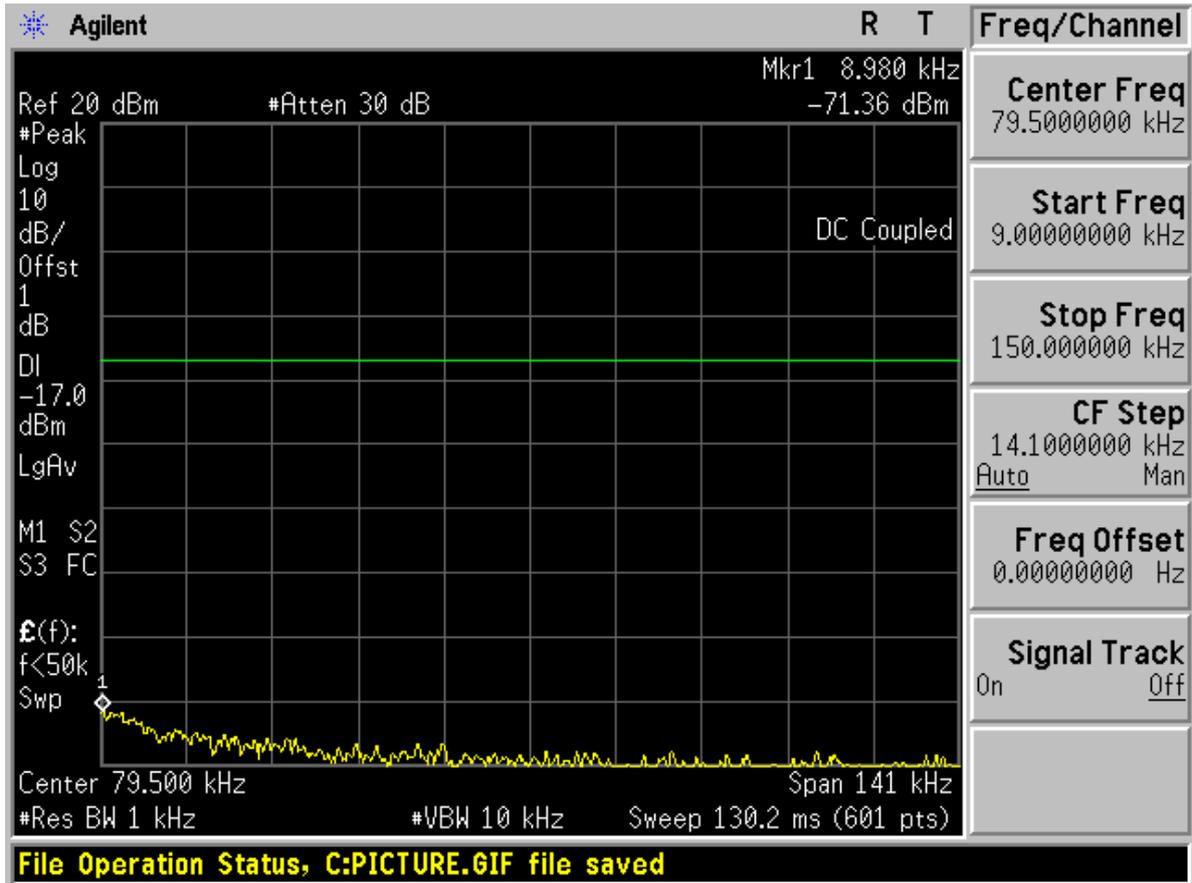




# Channel 09

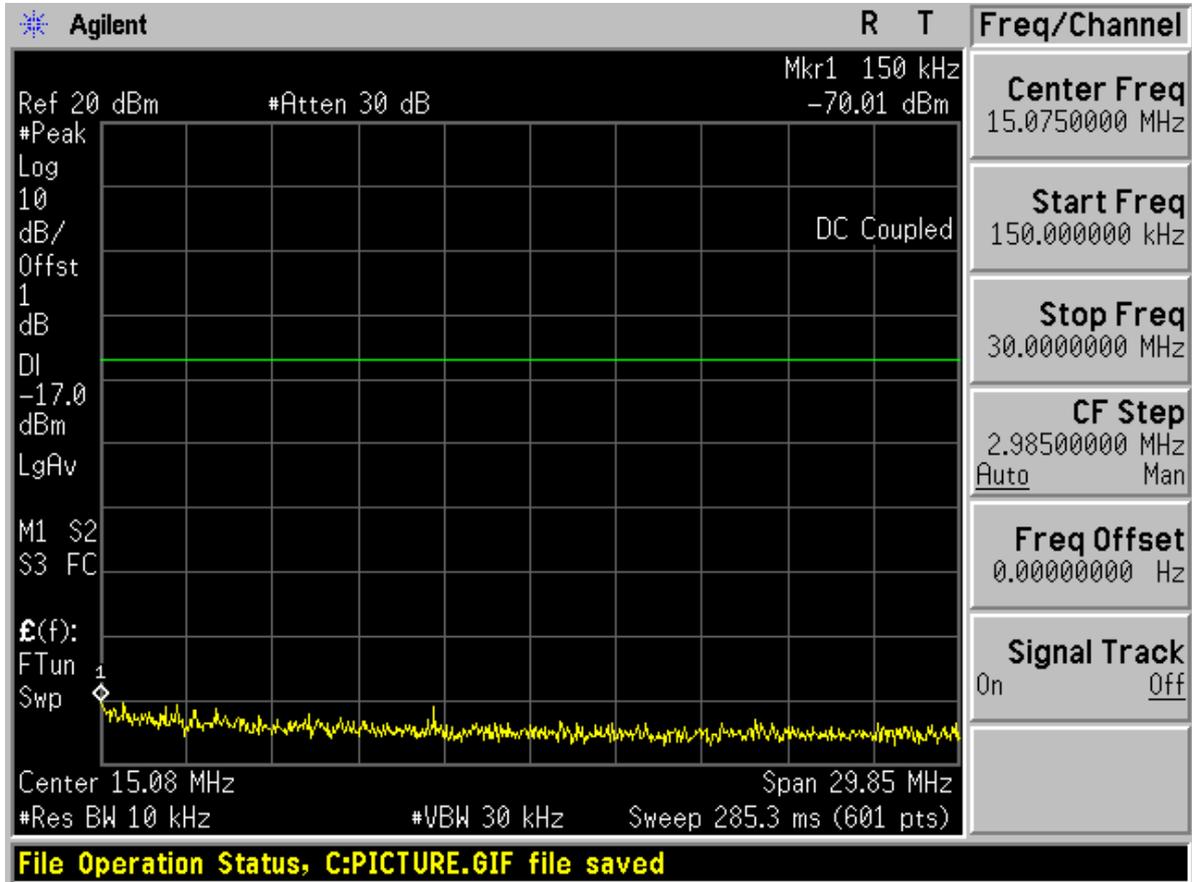
## Chain 1

### 9K~150K



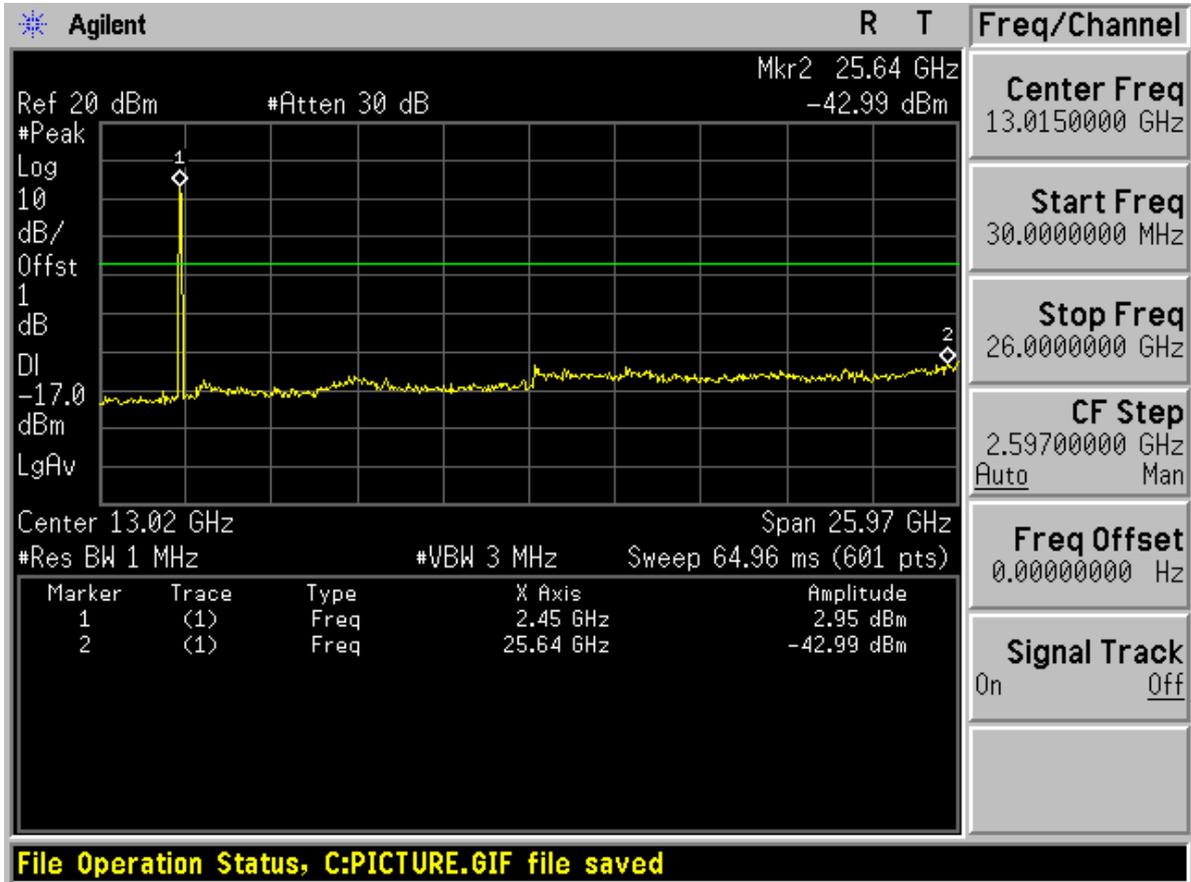


# 150K~30M



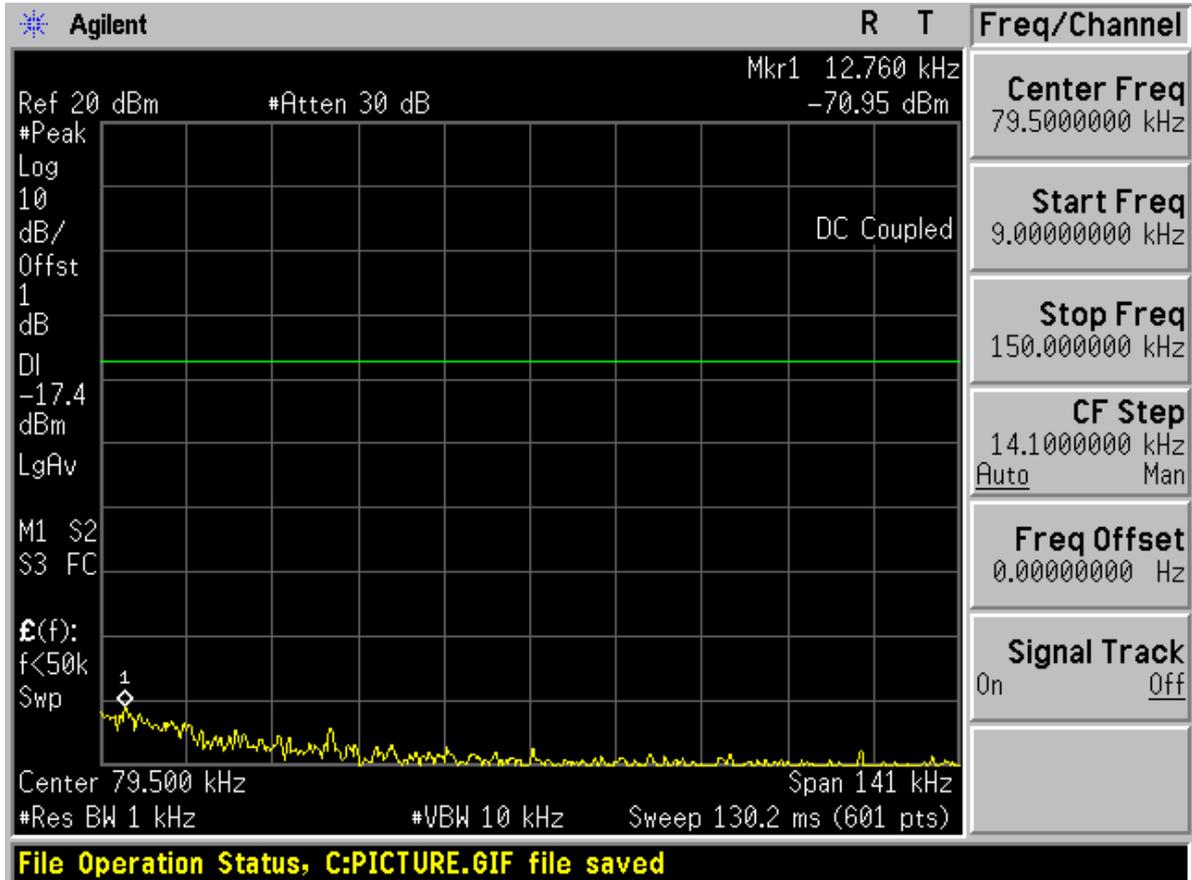


# 30M~26G



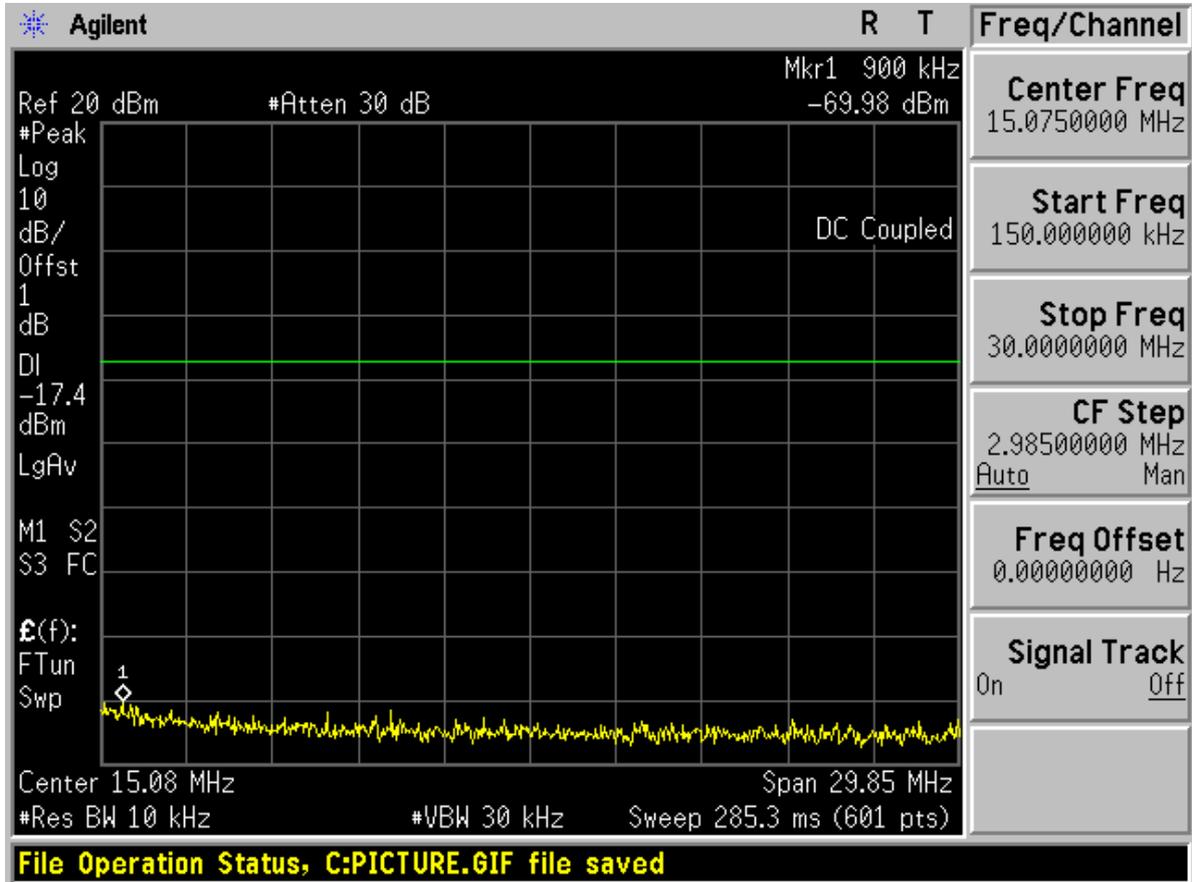


## Chain 2 9K~150K



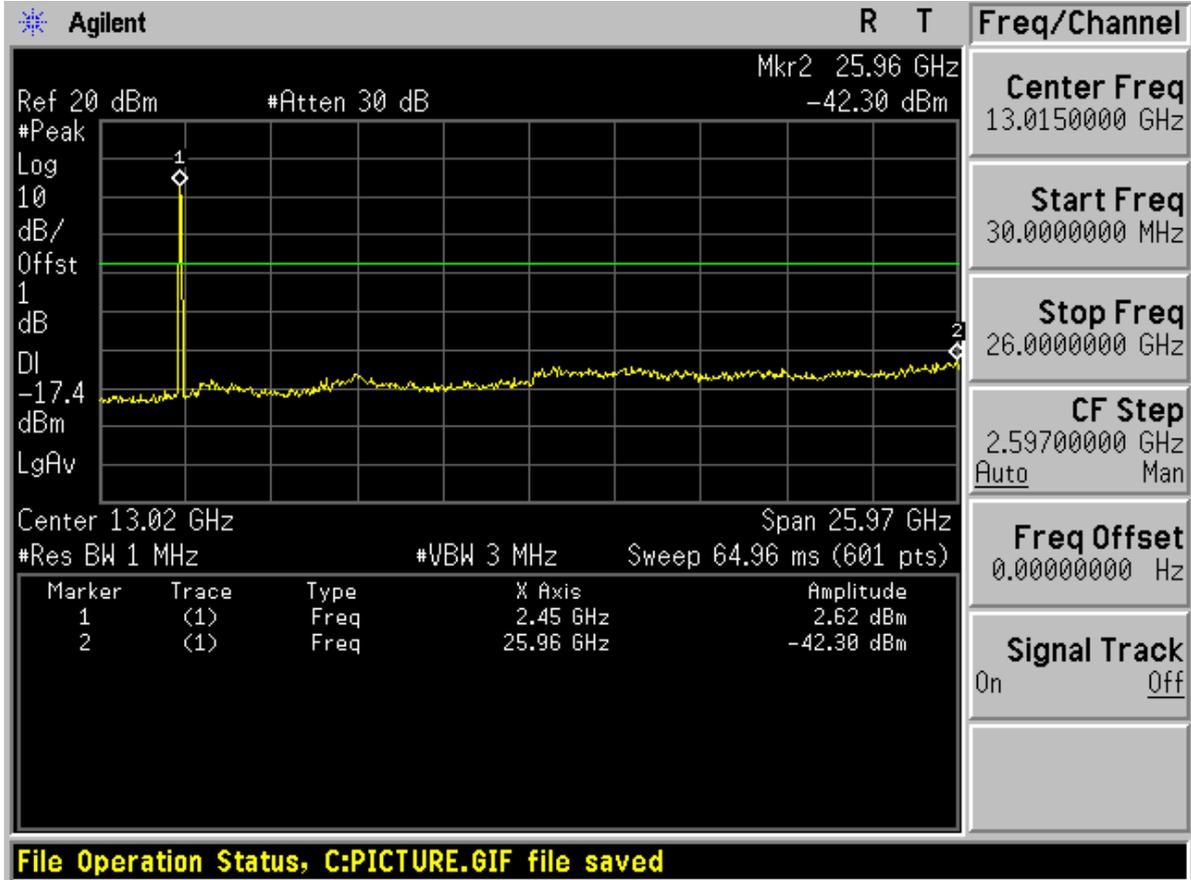


# 150K~30M



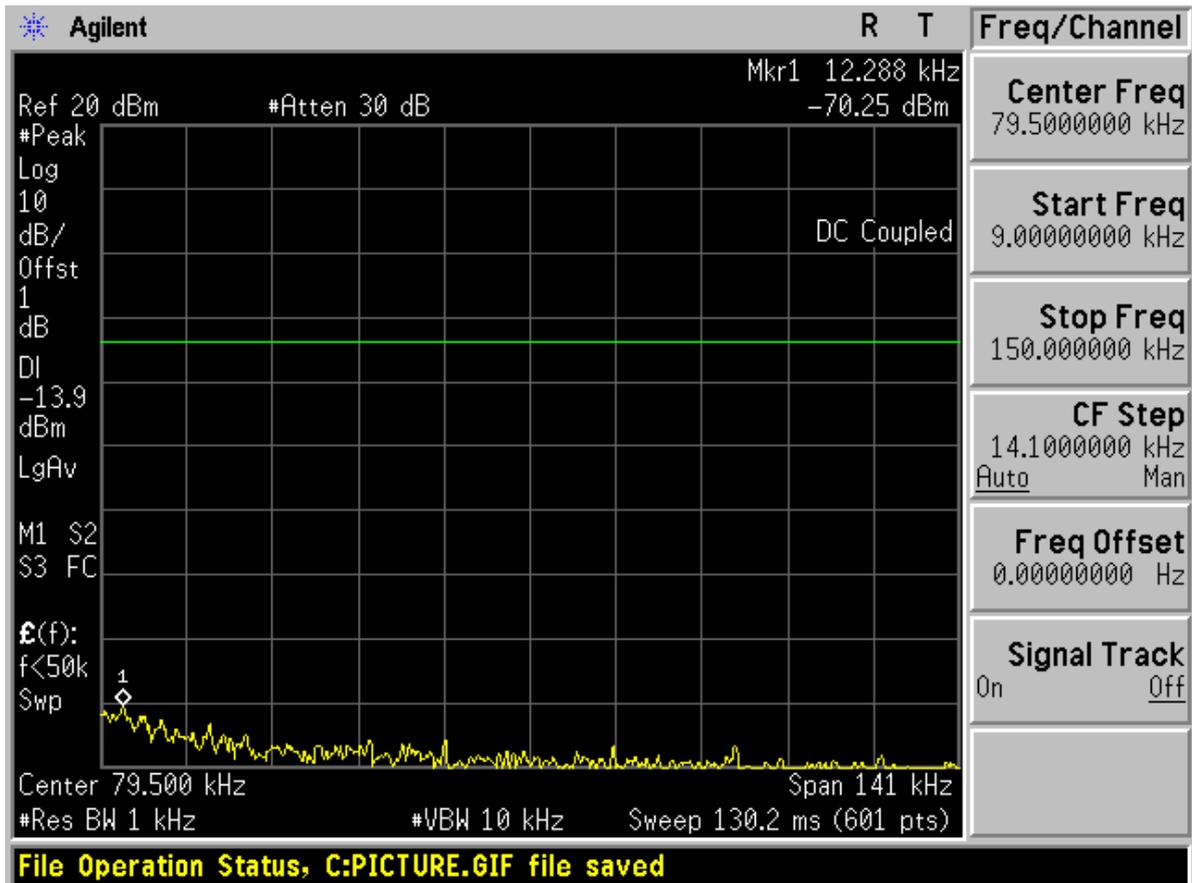


# 30M~26G



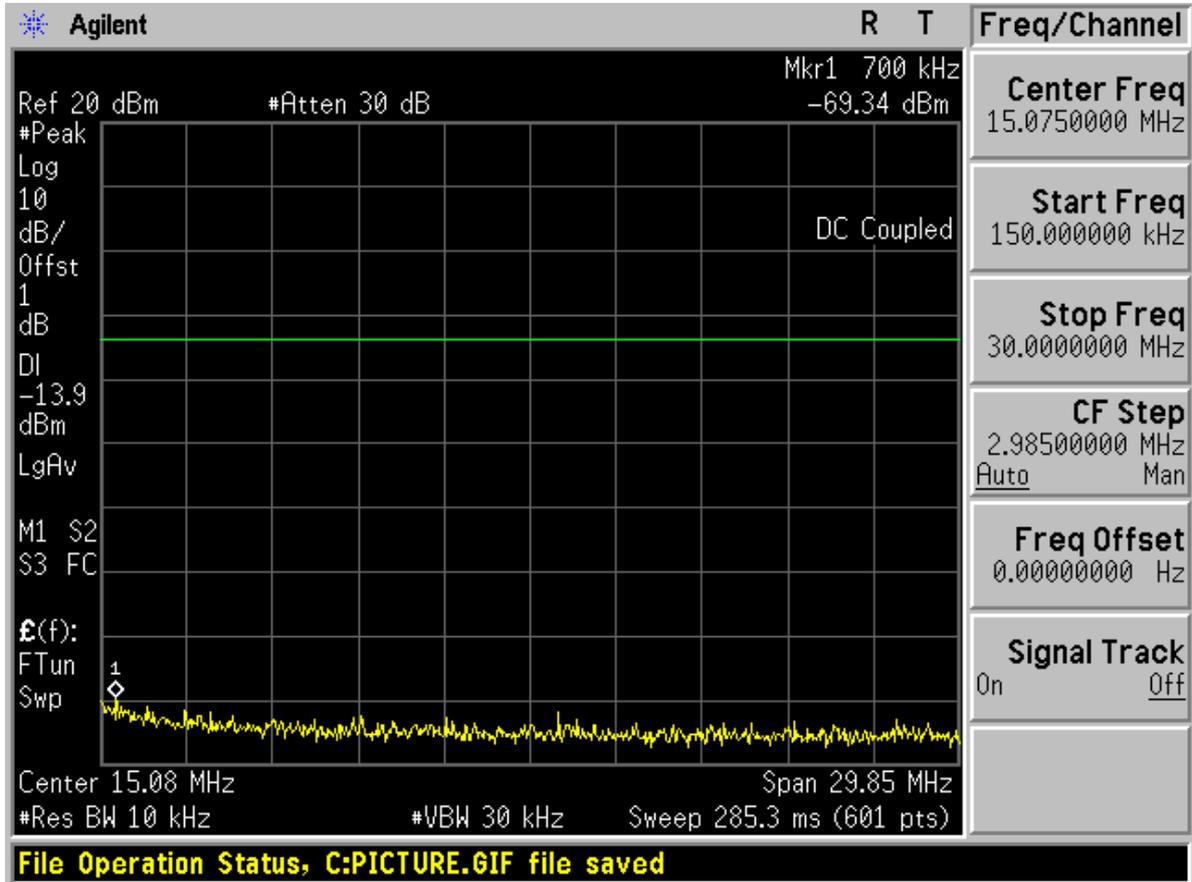


# 11N20M(MIMO) Chain 1&2 Channel 01 Chain 1 9K~150K



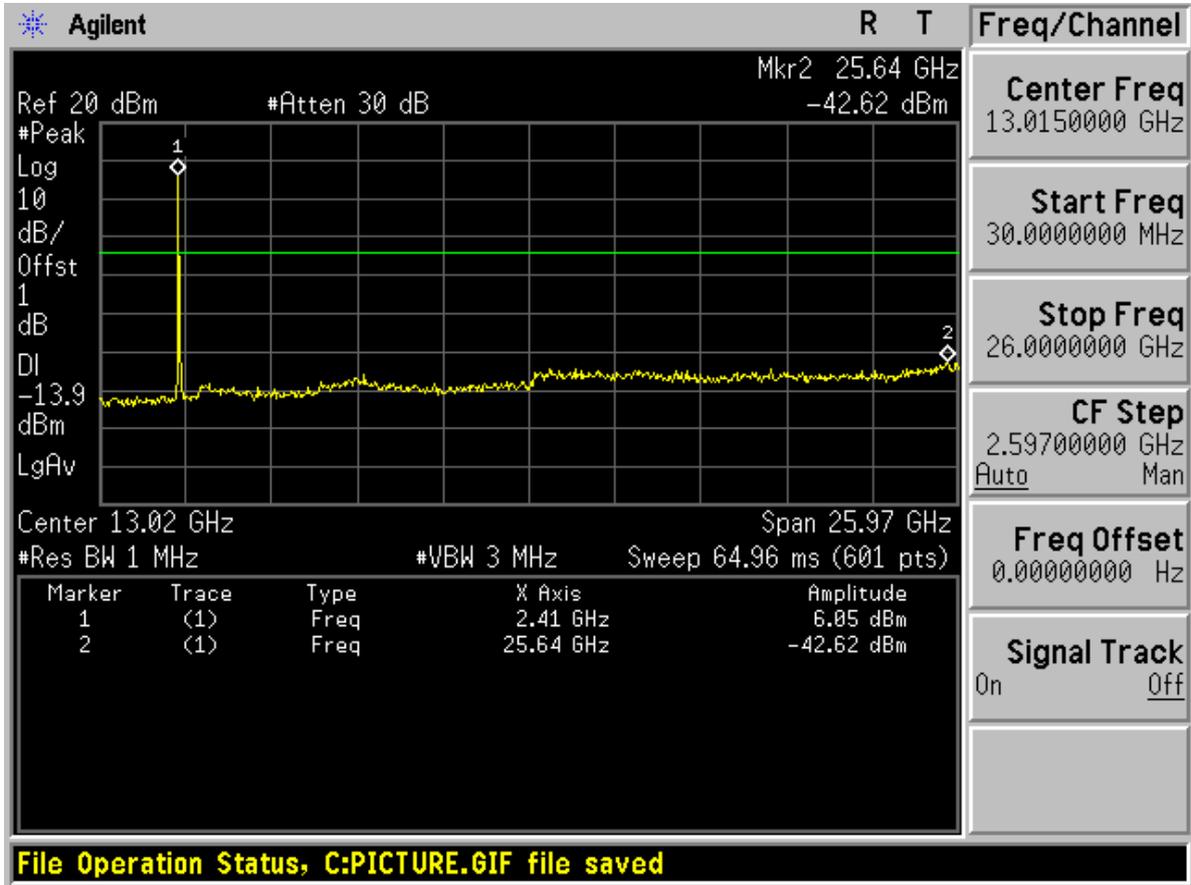


# 150K~30M



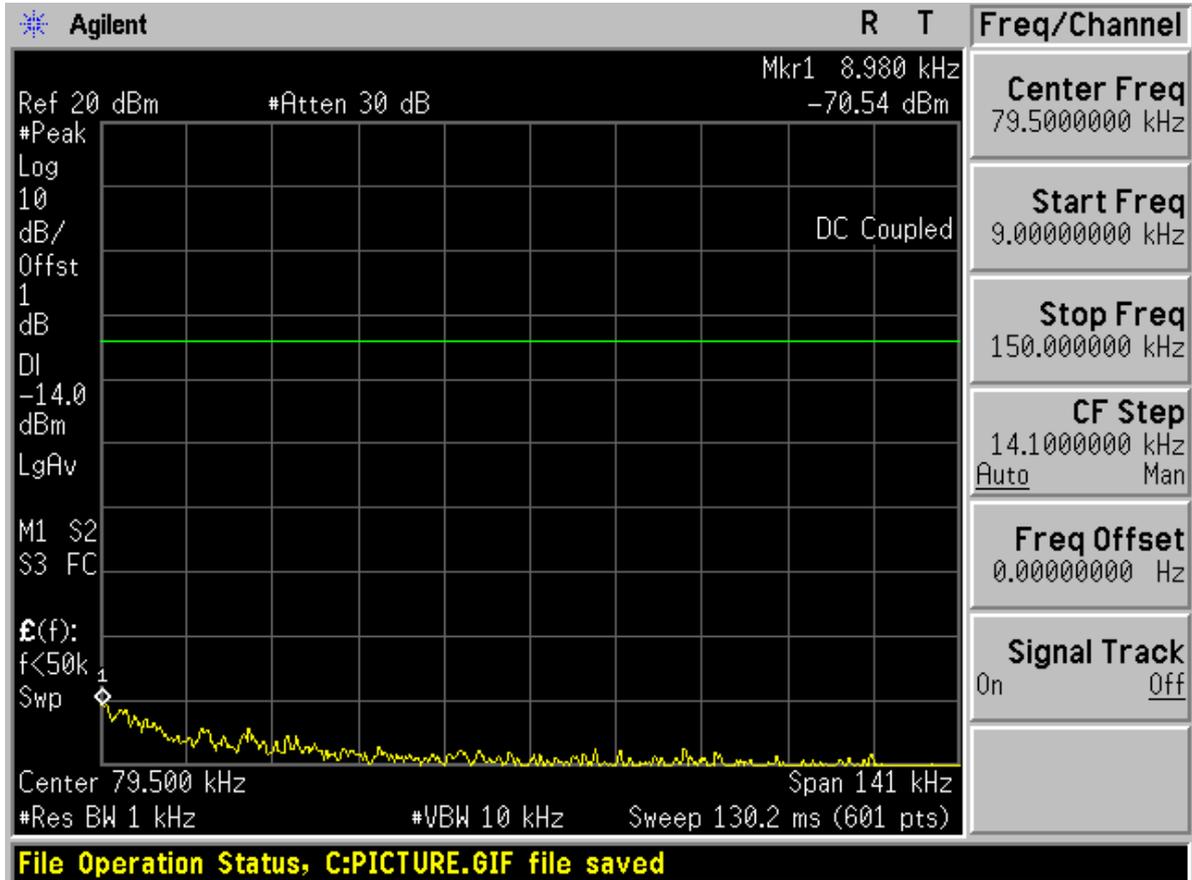


# 30M~26G



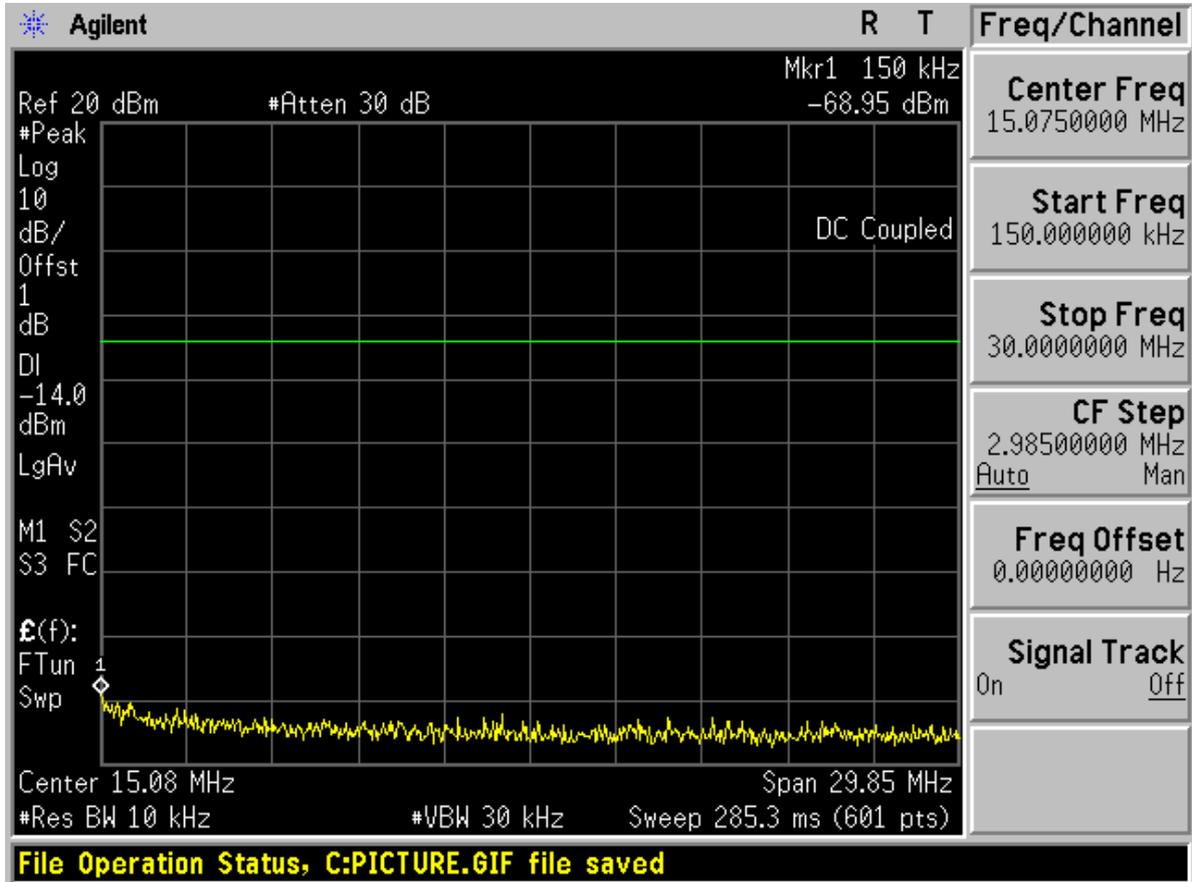


## Chain 2 9K~150K



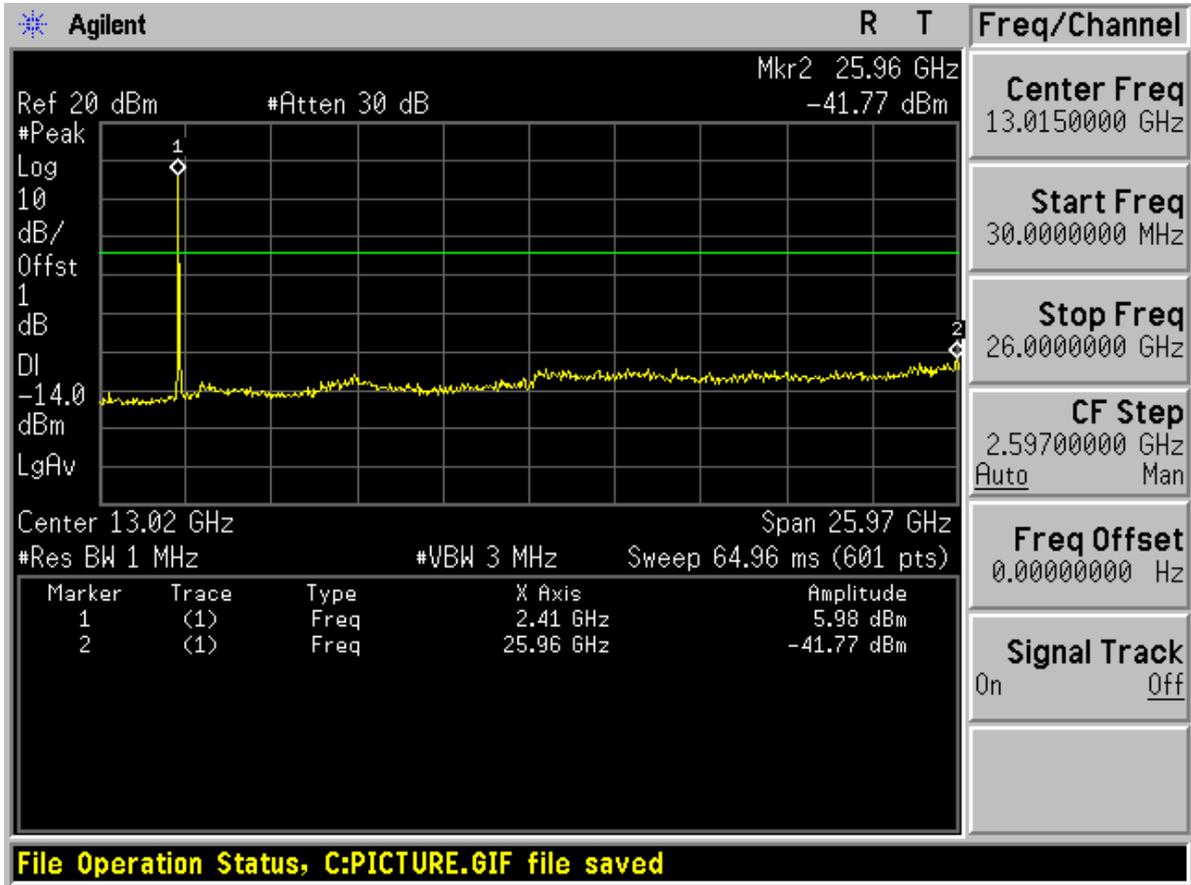


# 150K~30M





# 30M~26G

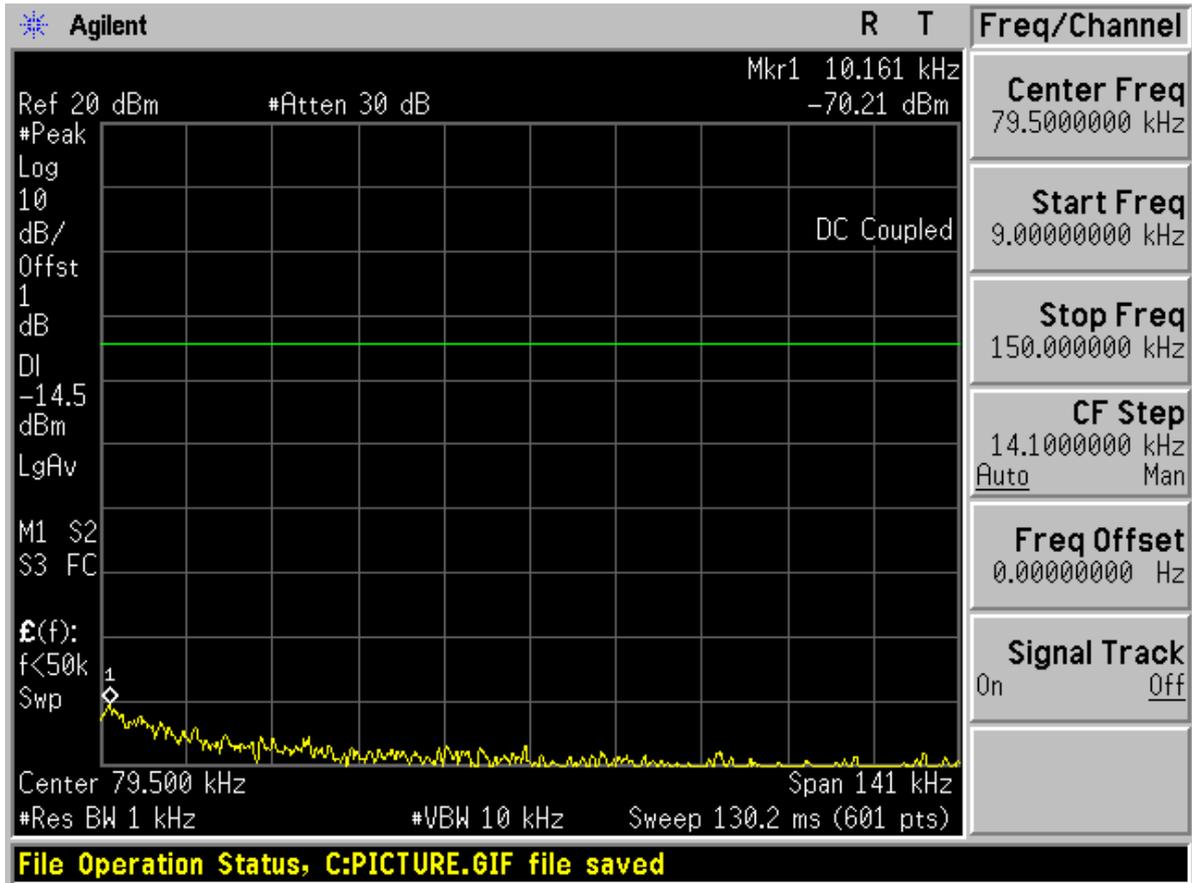




# Channel 06

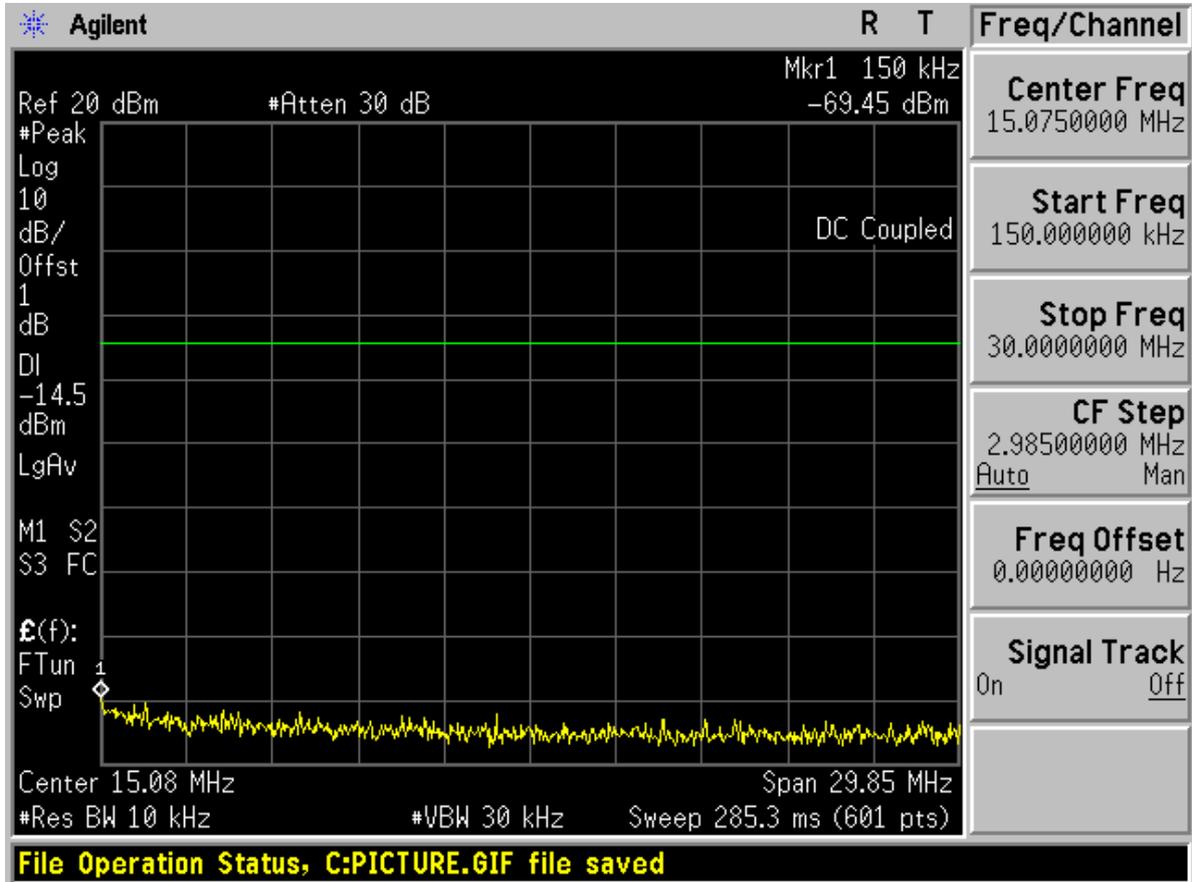
## Chain 1

### 9K~150K



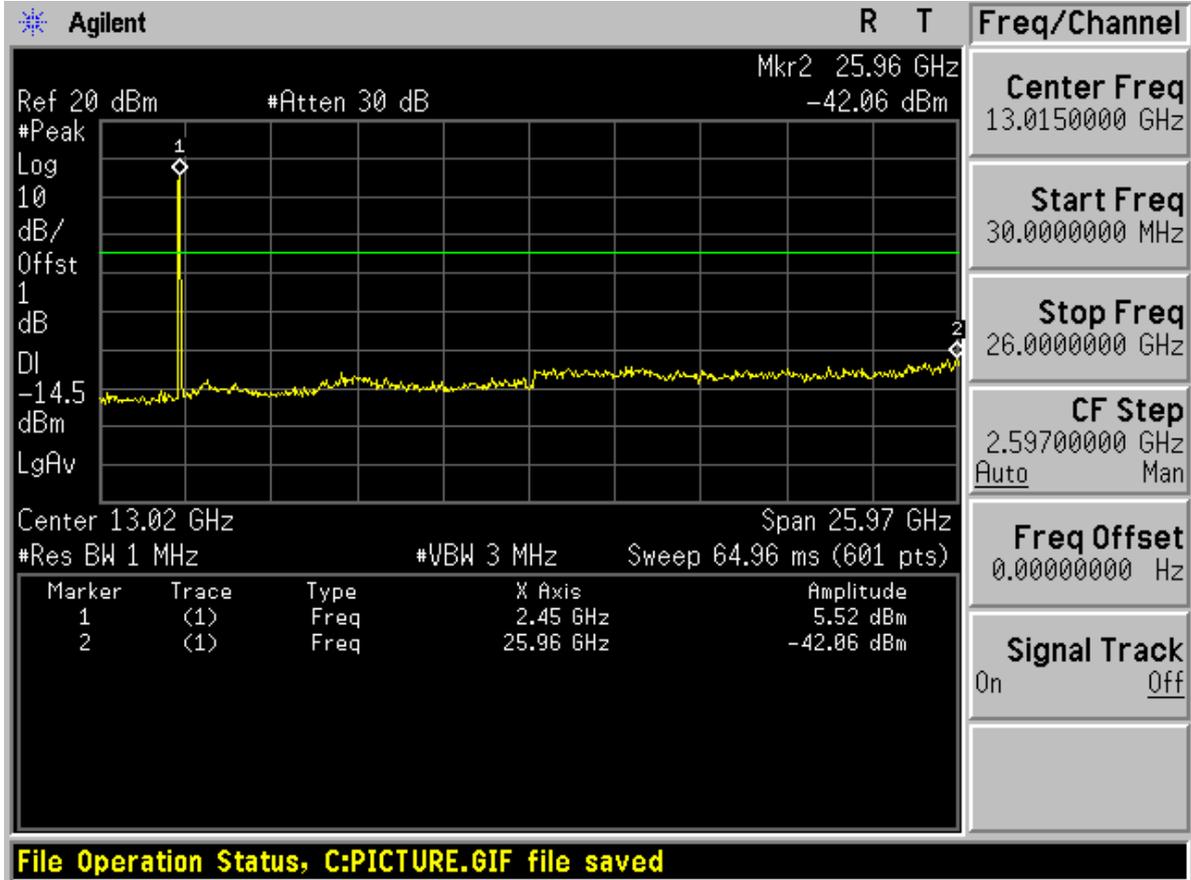


# 150K~30M



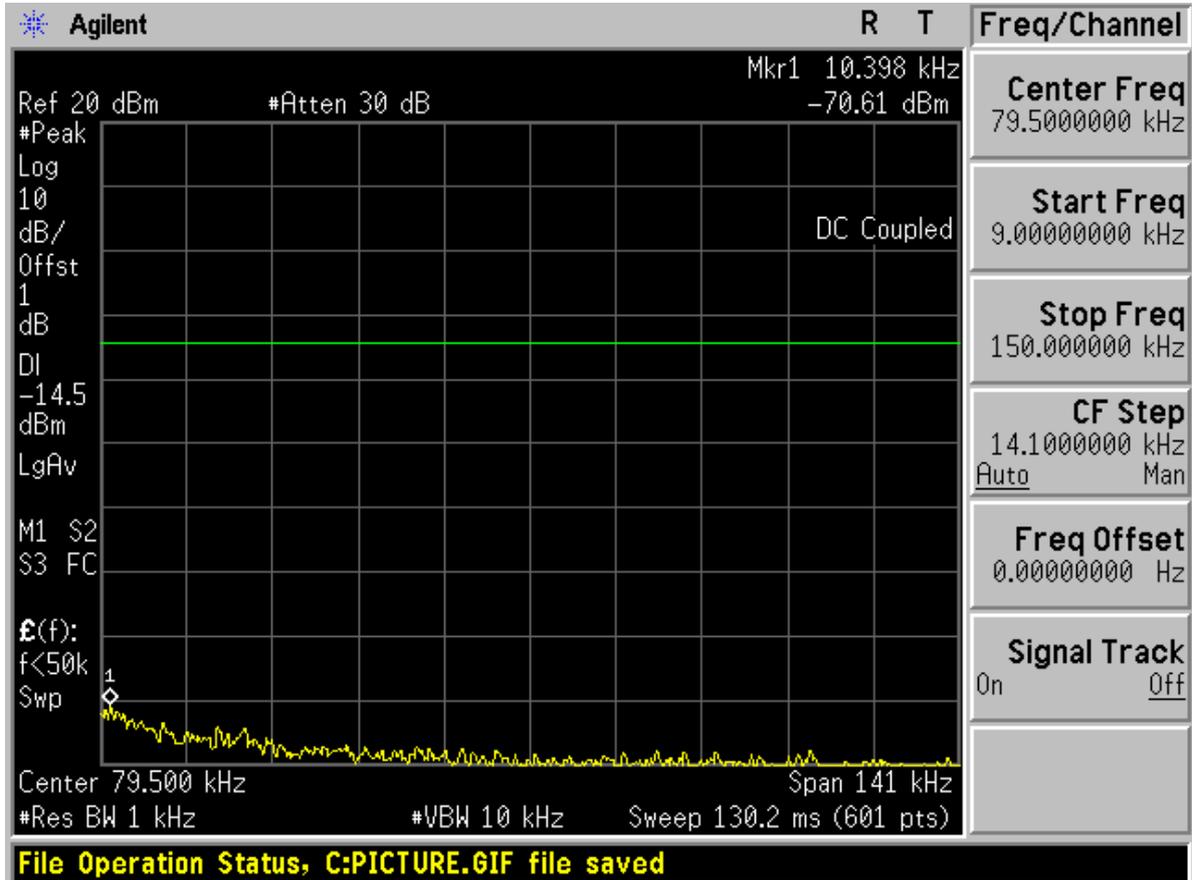


# 30M~26G



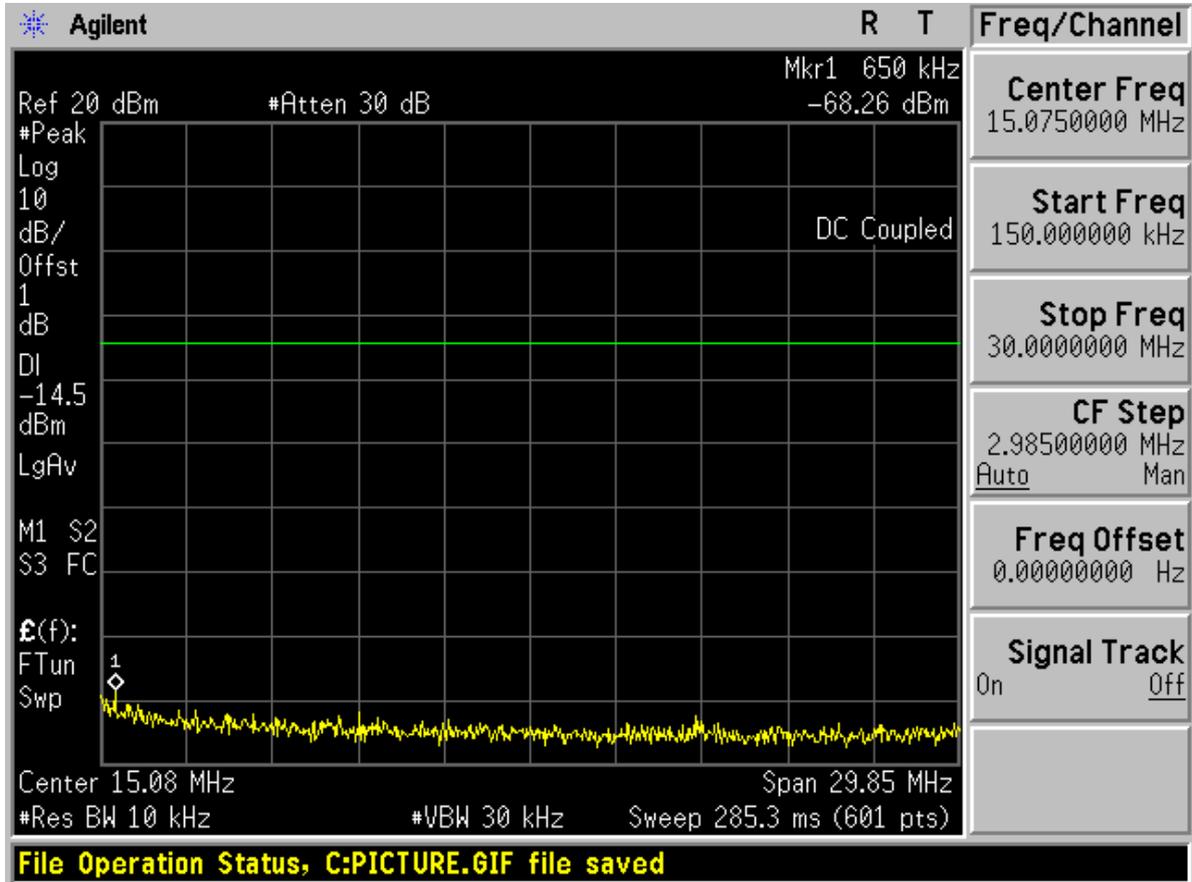


## Chain 2 9K~150K



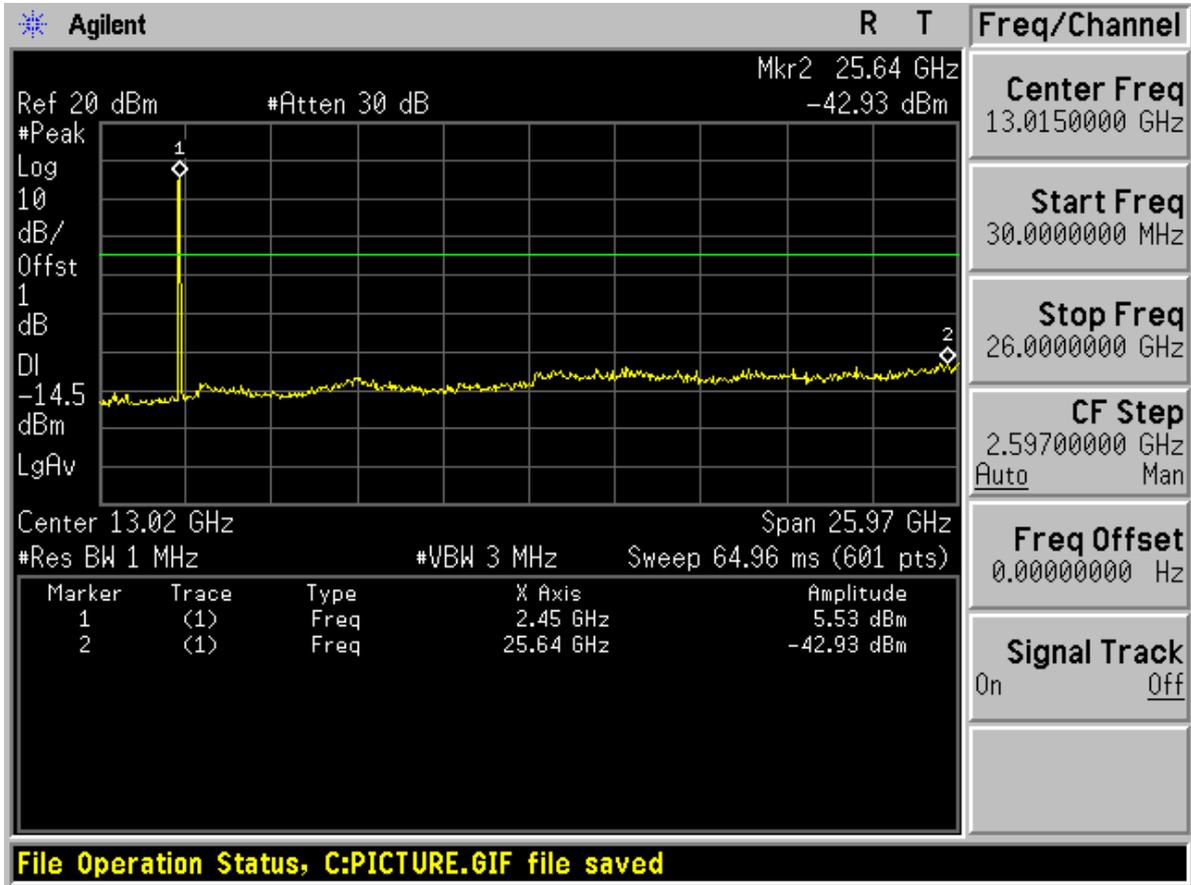


# 150K~30M





# 30M~26G

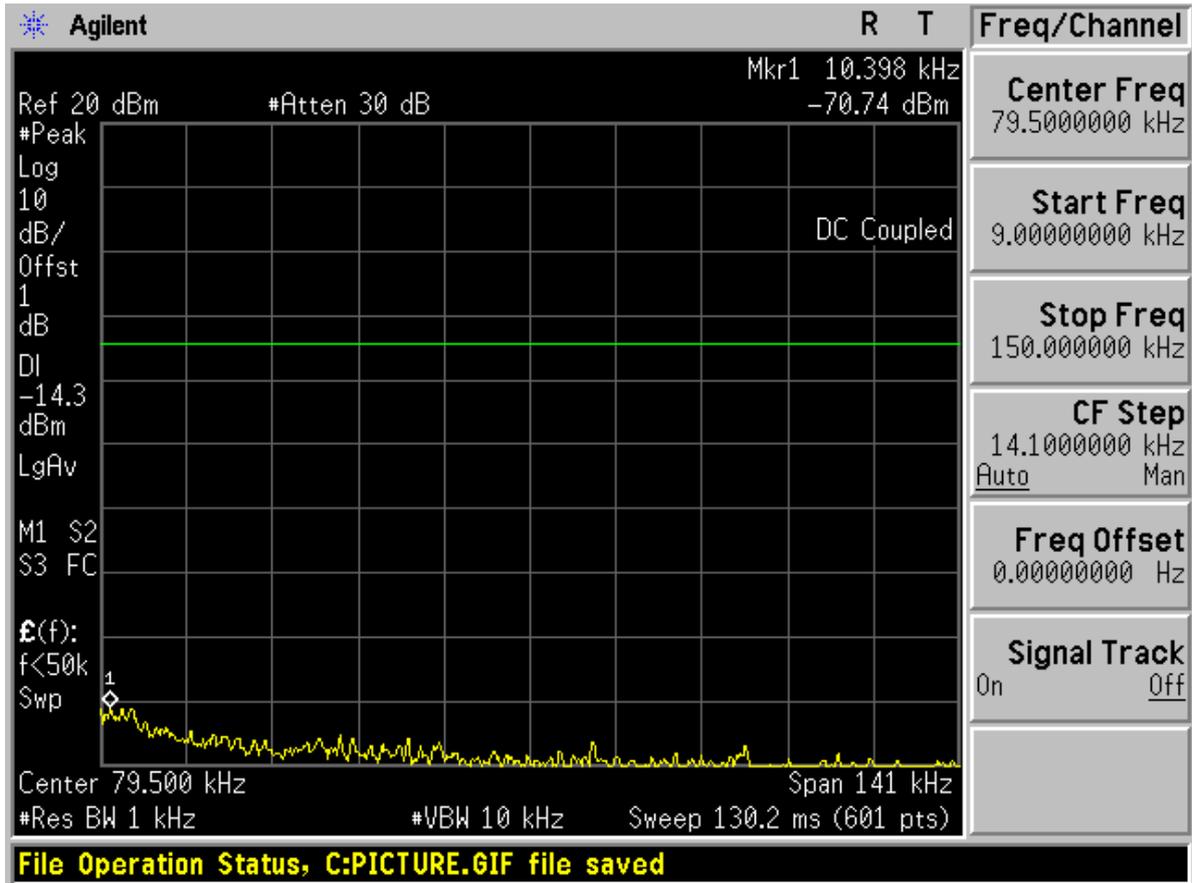




# Channel 11

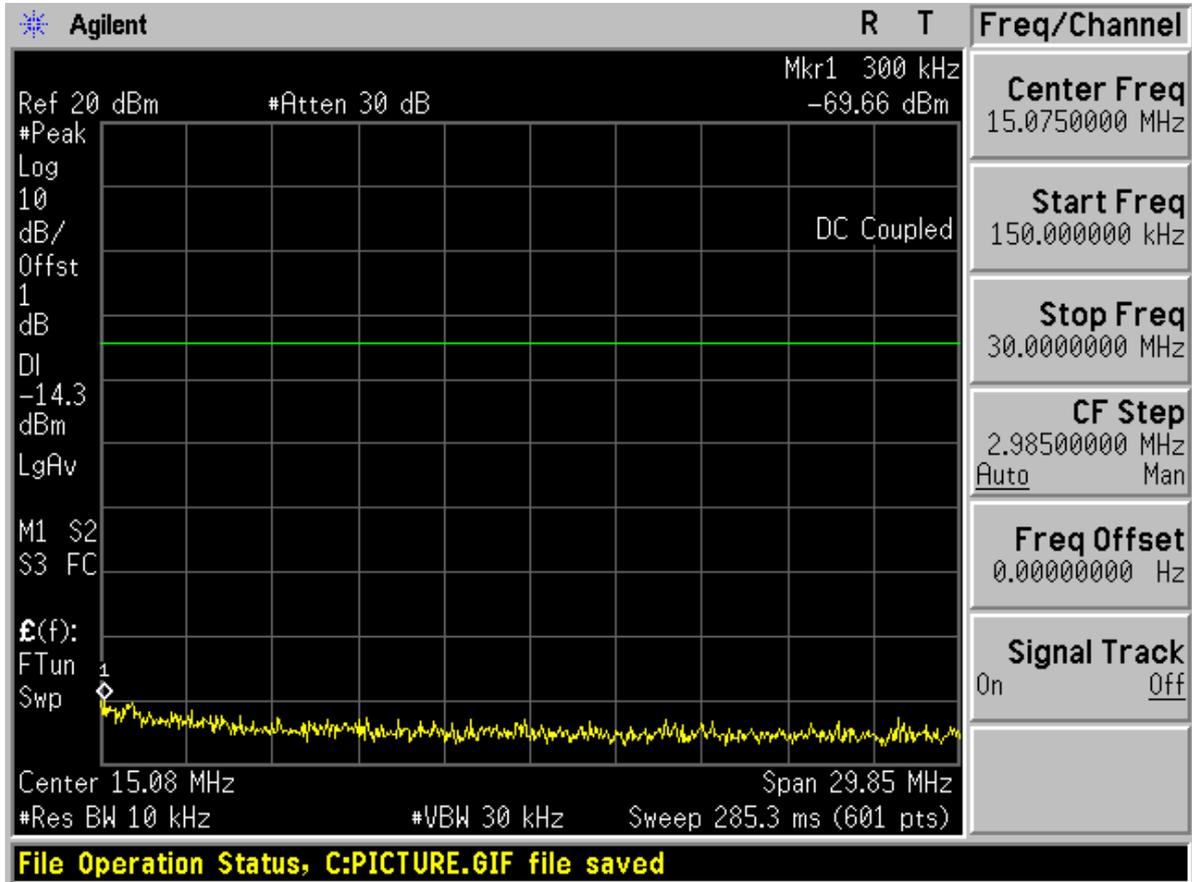
## Chain 1

### 9K~150K



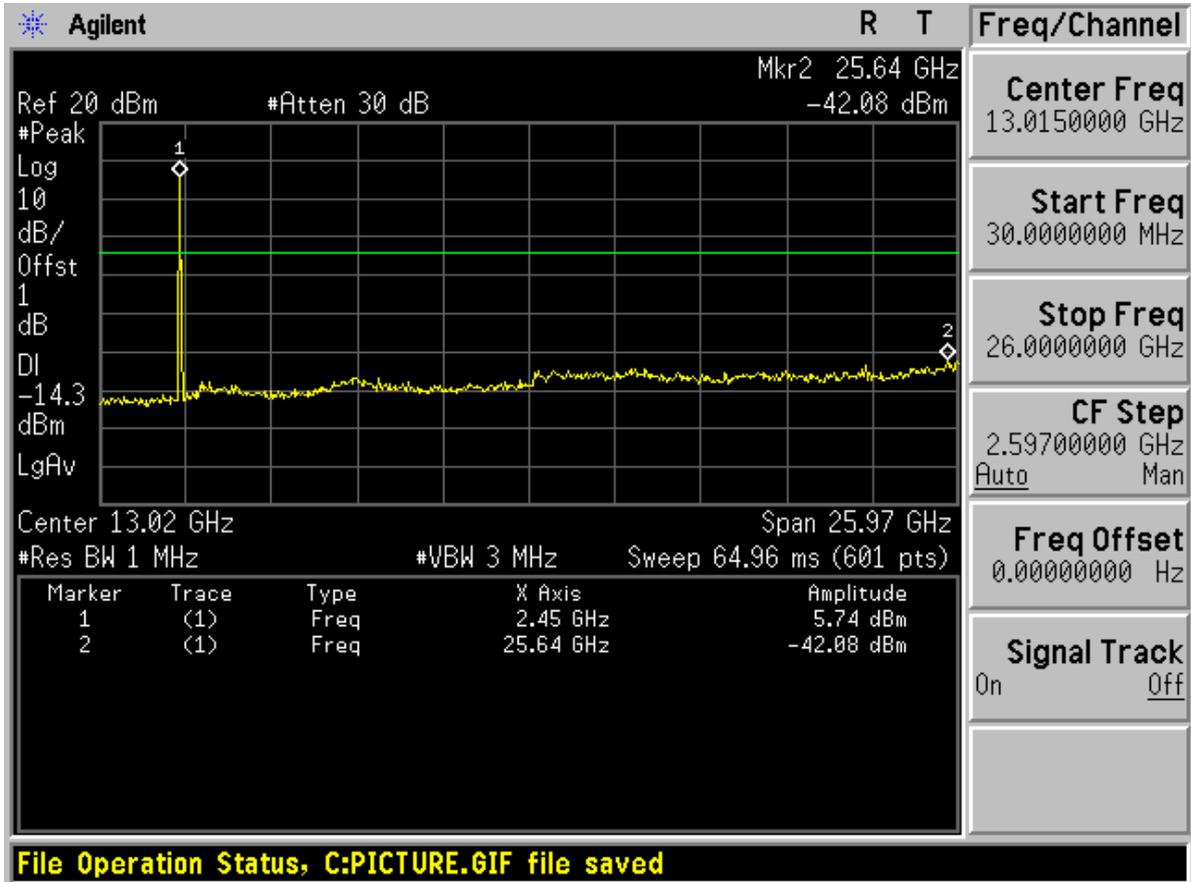


# 150K~30M



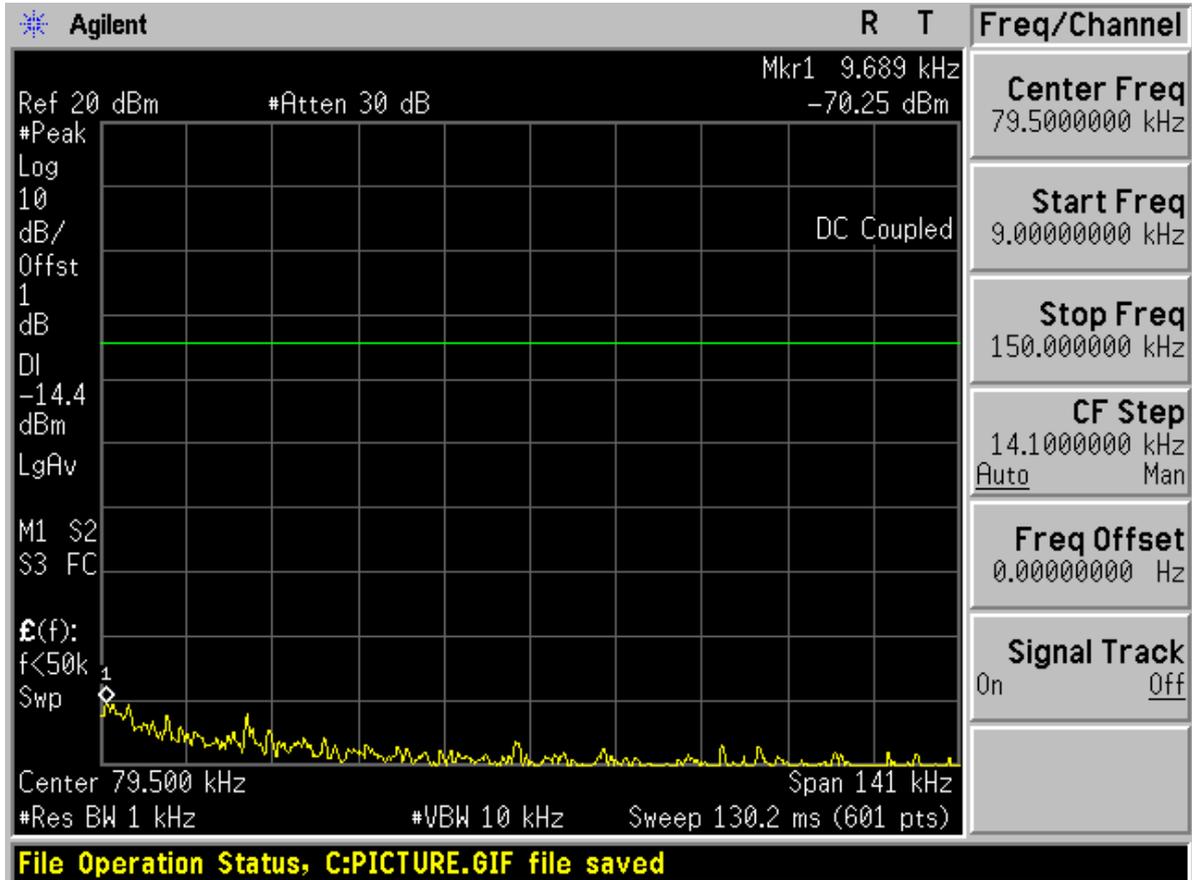


# 30M~26G



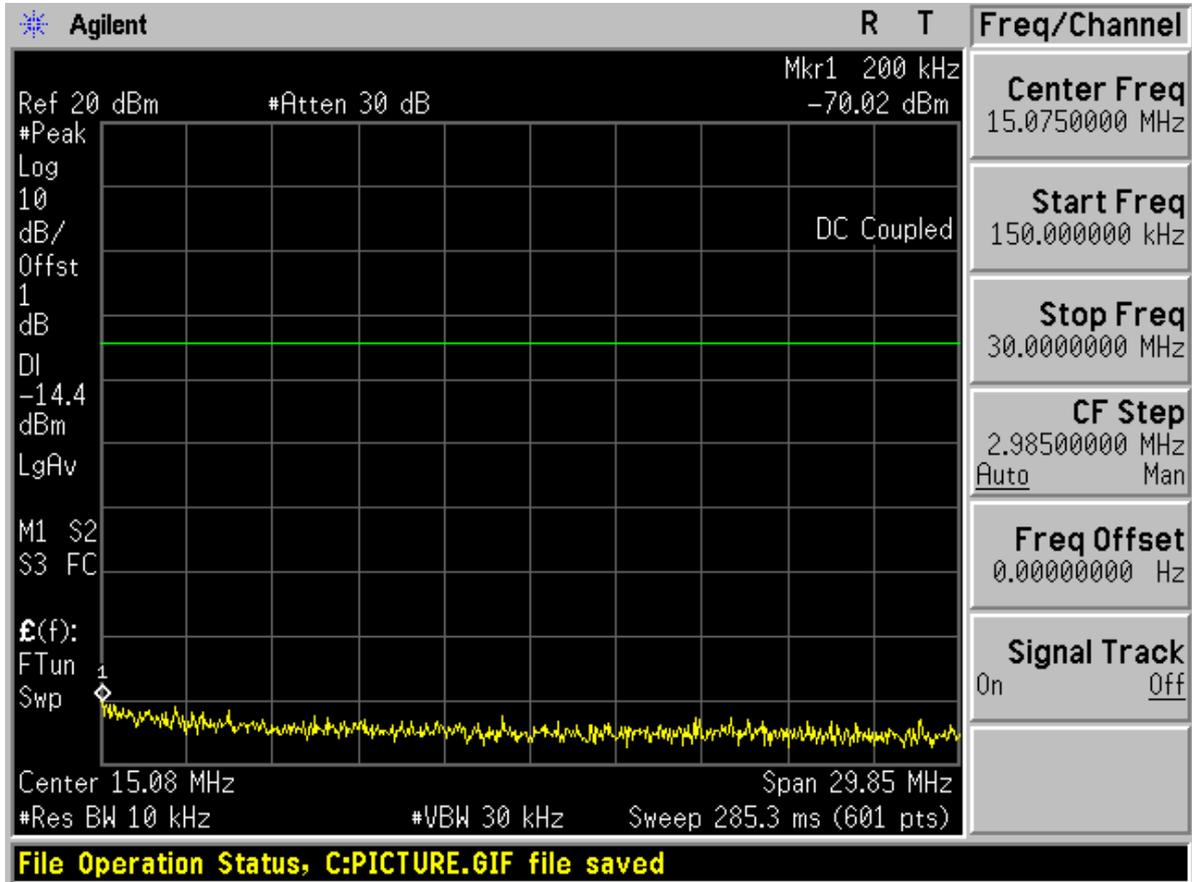


## Chain 2 9K~150K



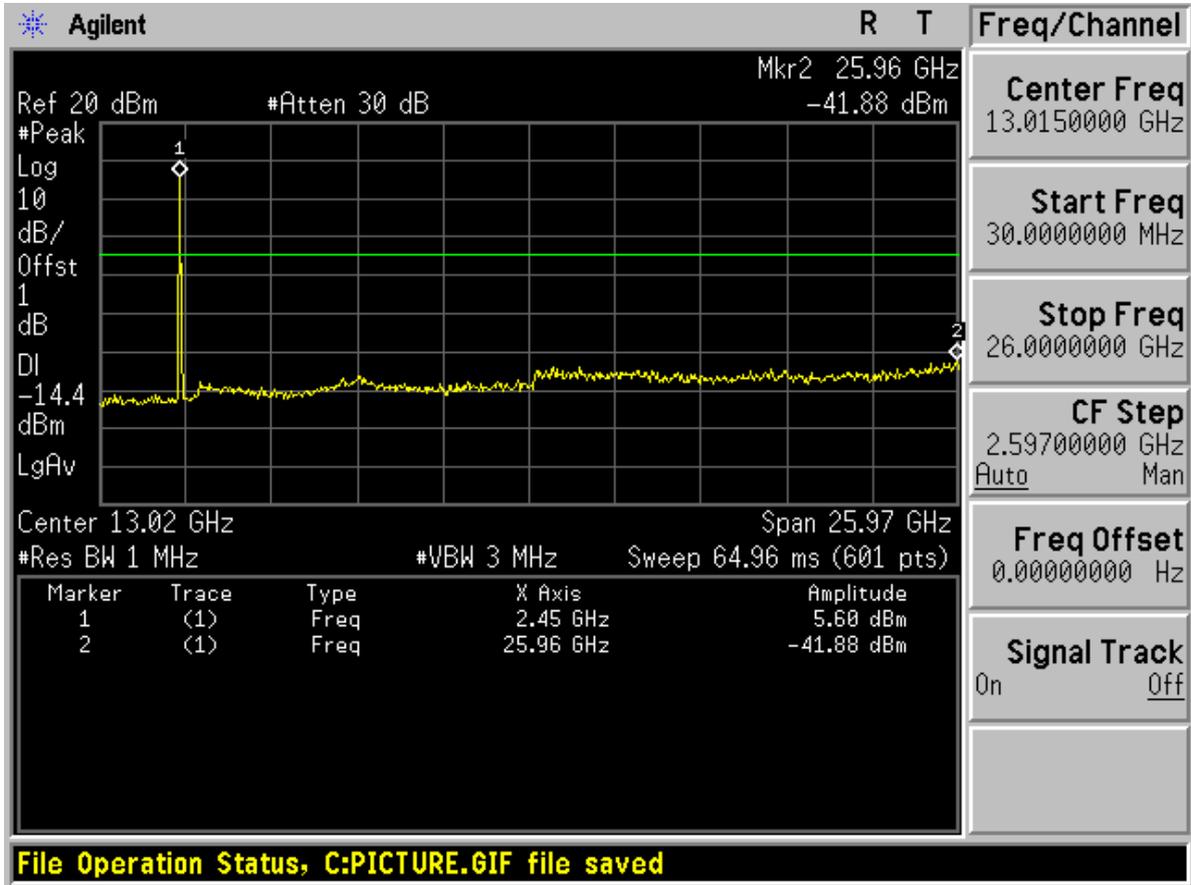


# 150K~30M



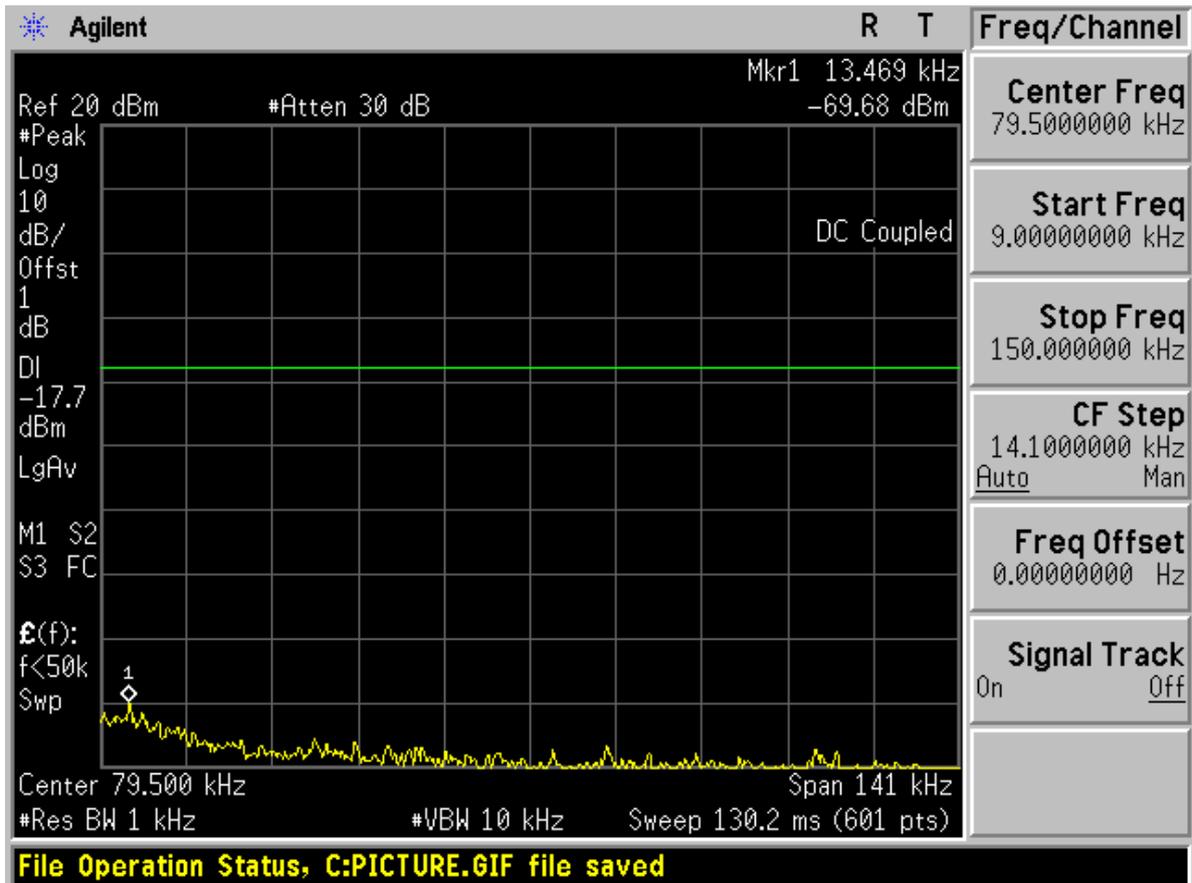


# 30M~26G



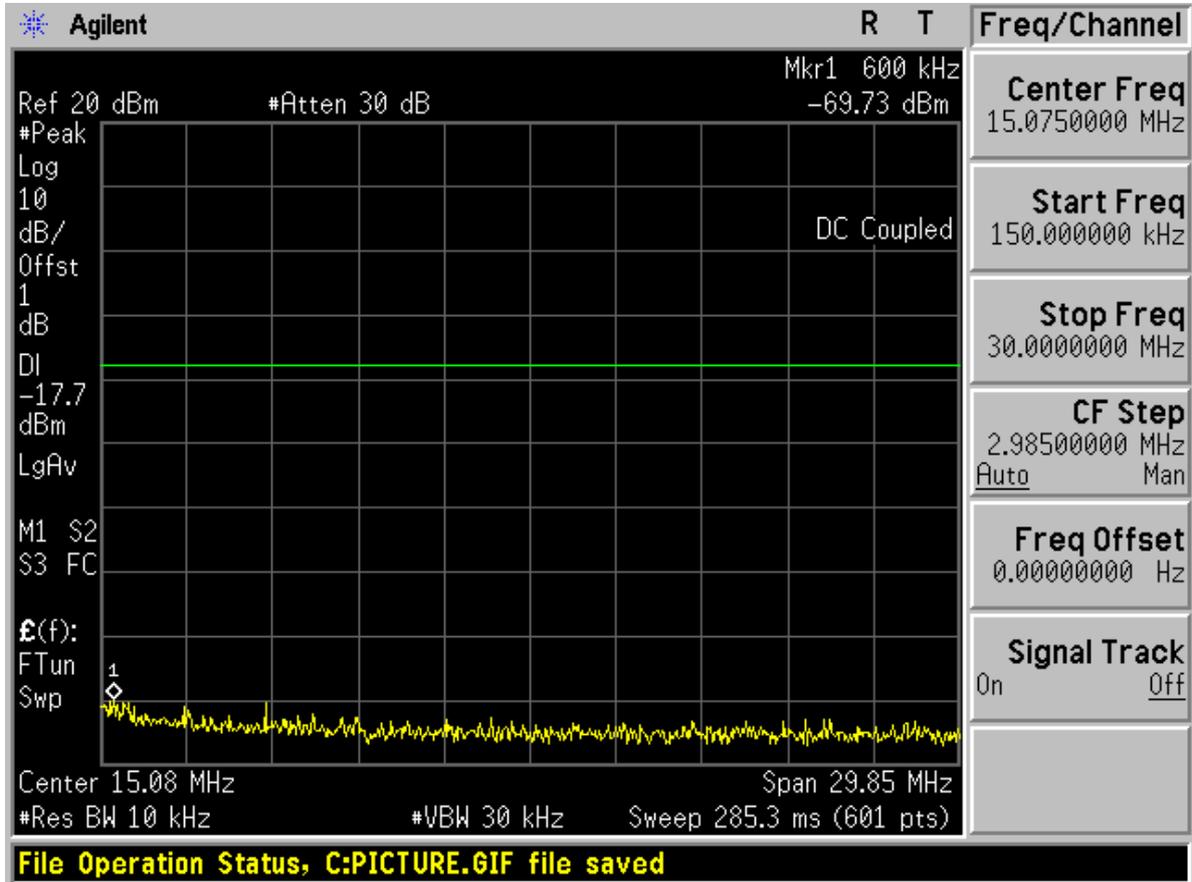


# 11N40M(MIMO) Chain 1&2 Channel 03 Chain 1 9K~150K



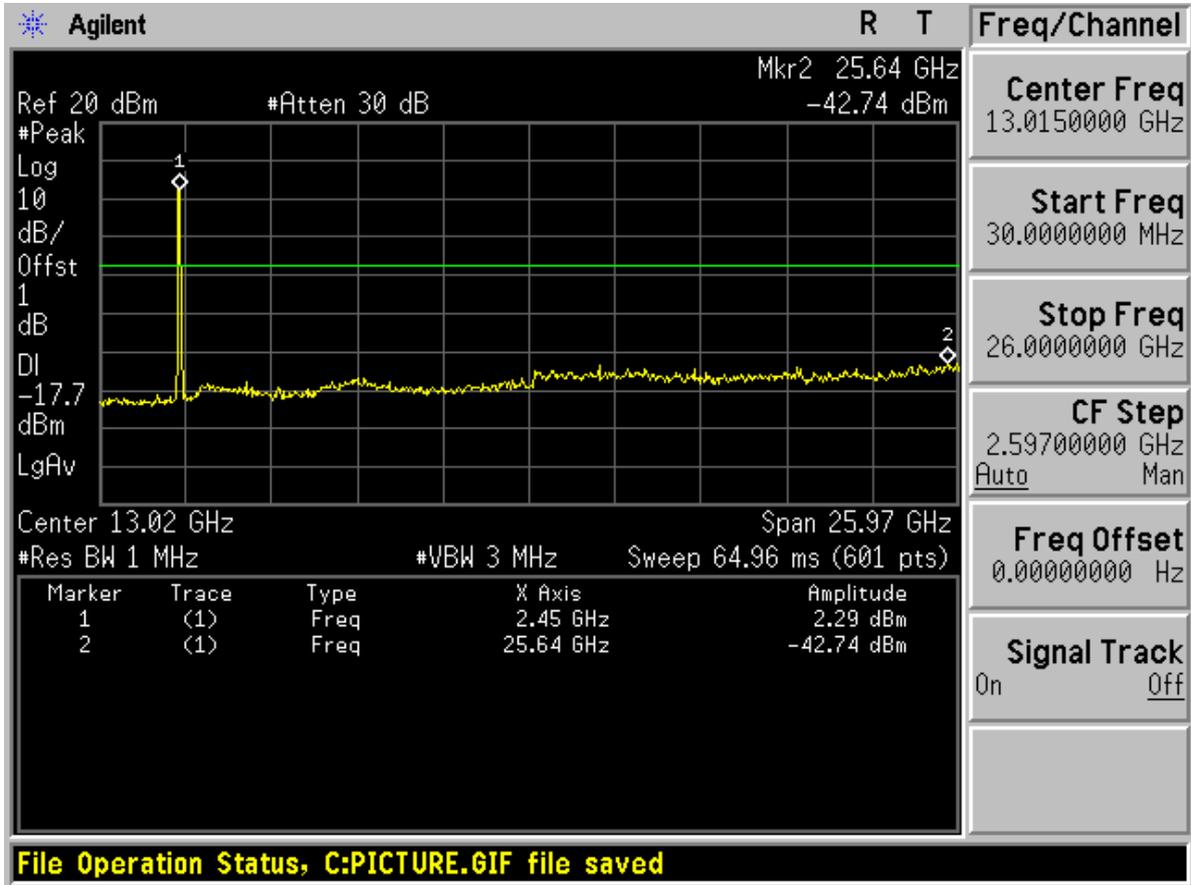


# 150K~30M



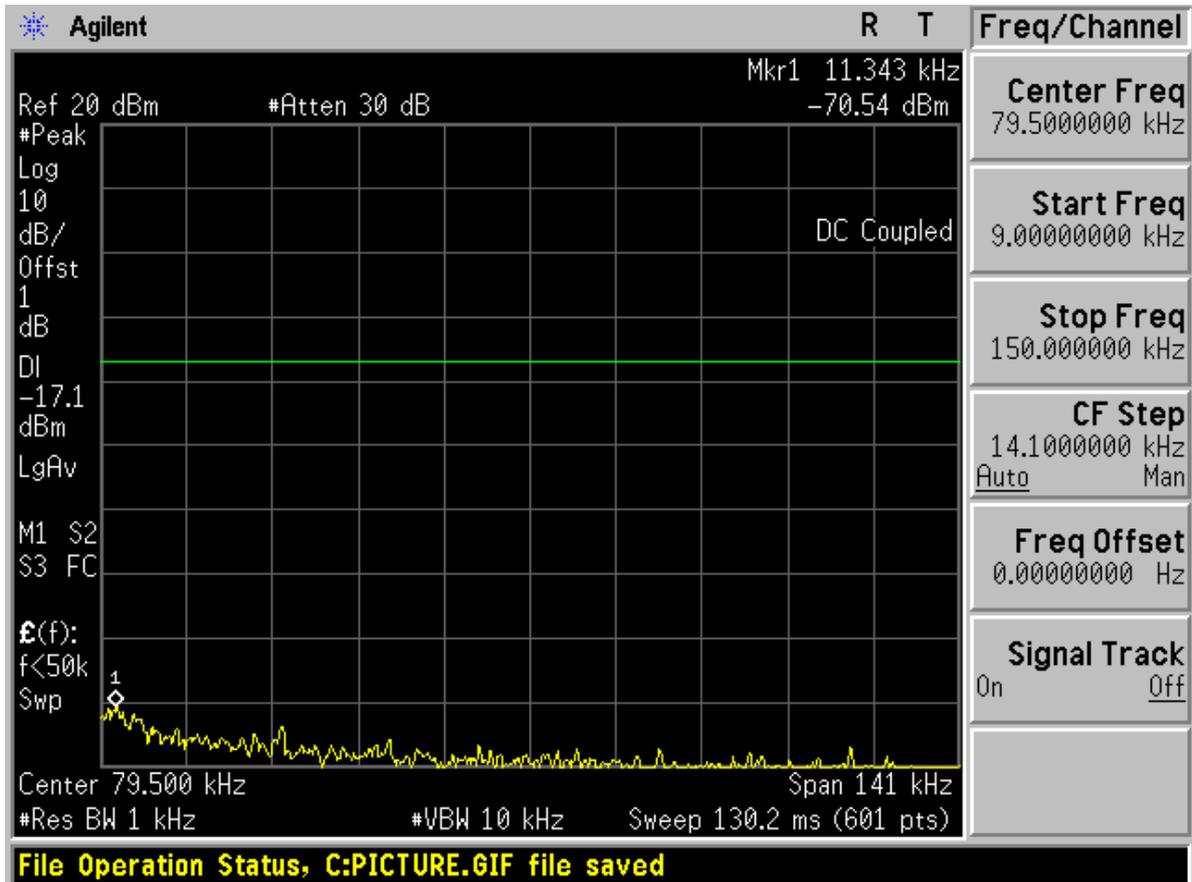


# 30M~26G



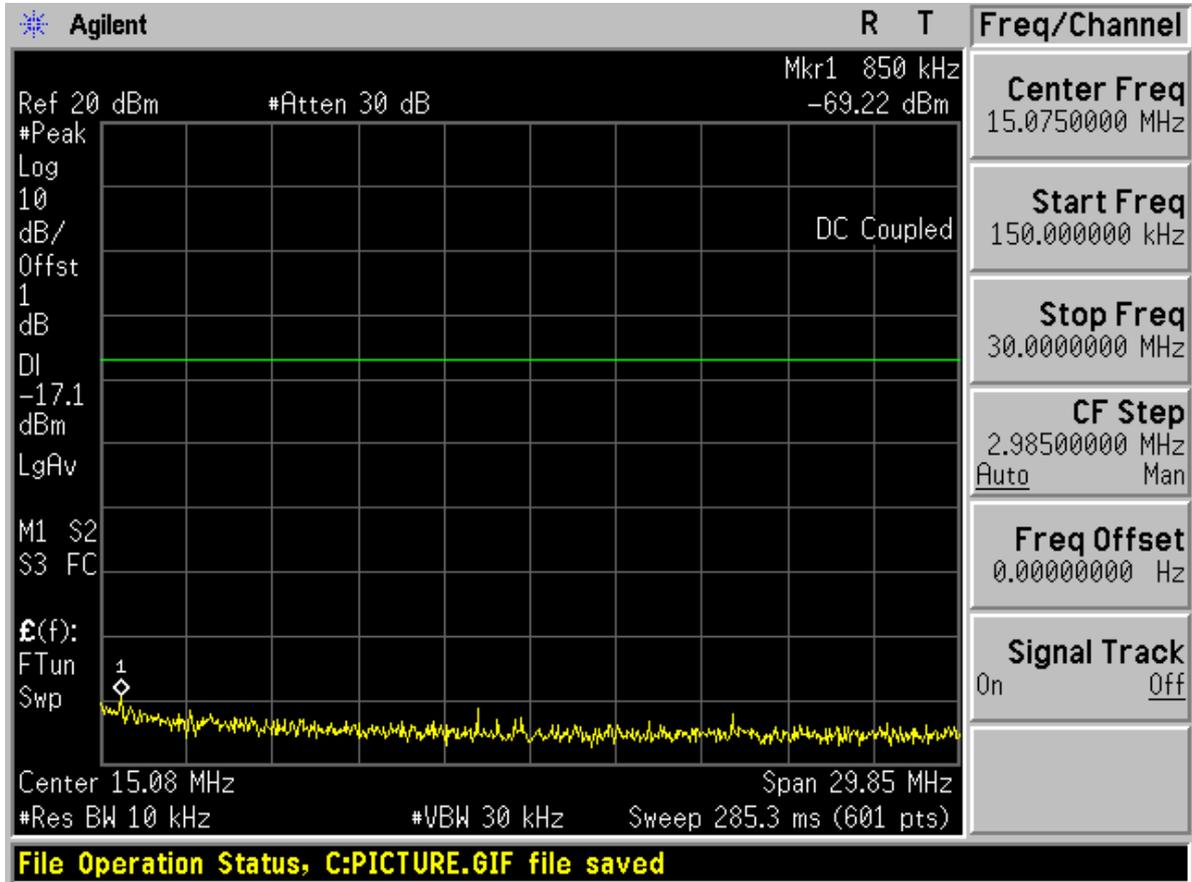


## Chain 2 9K~150K



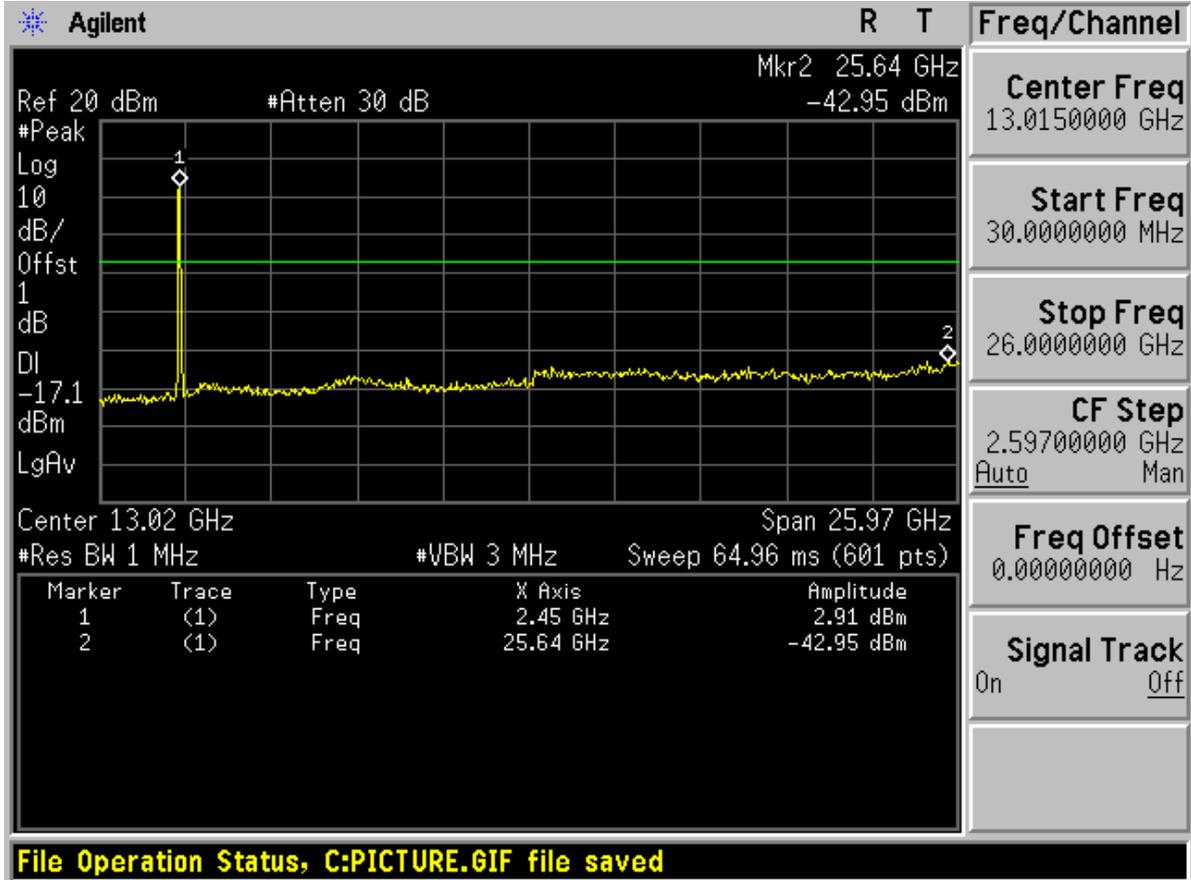


# 150K~30M





# 30M~26G

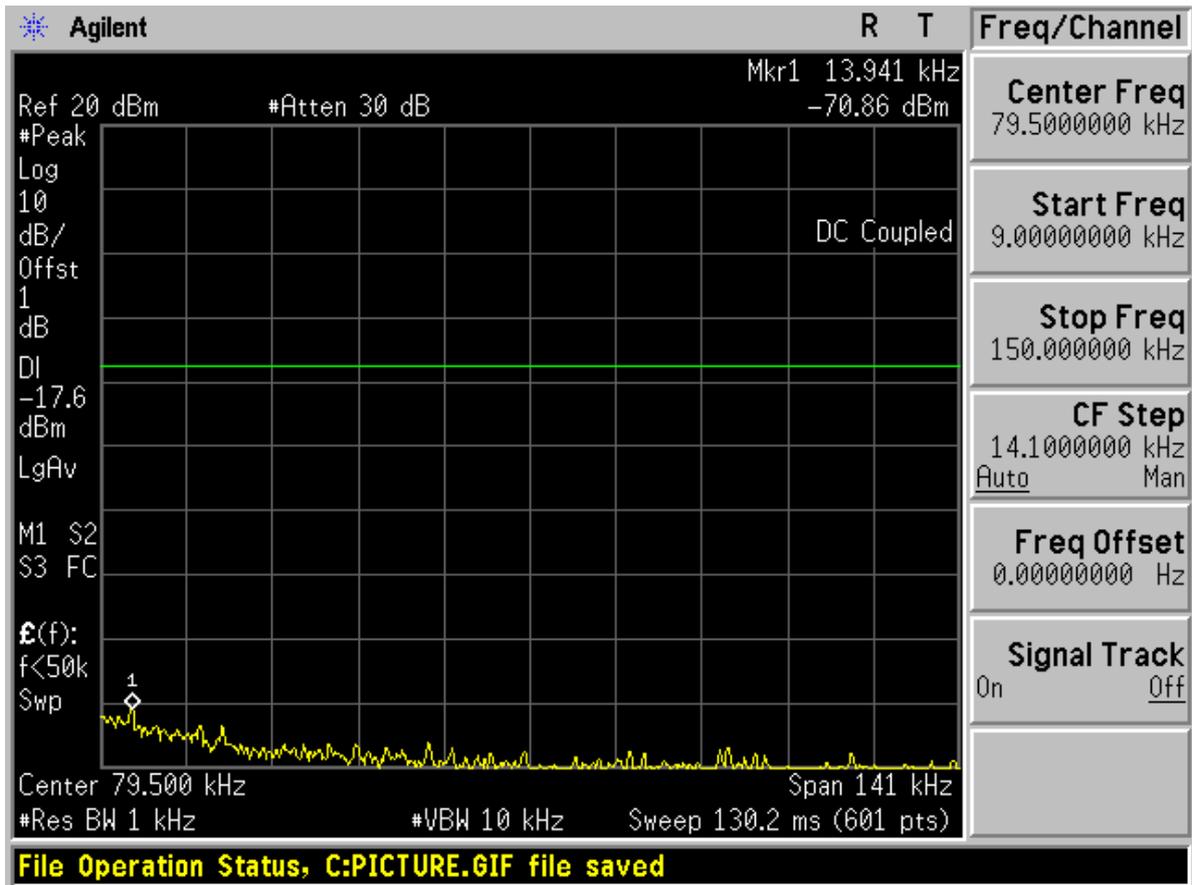




# Channel 06

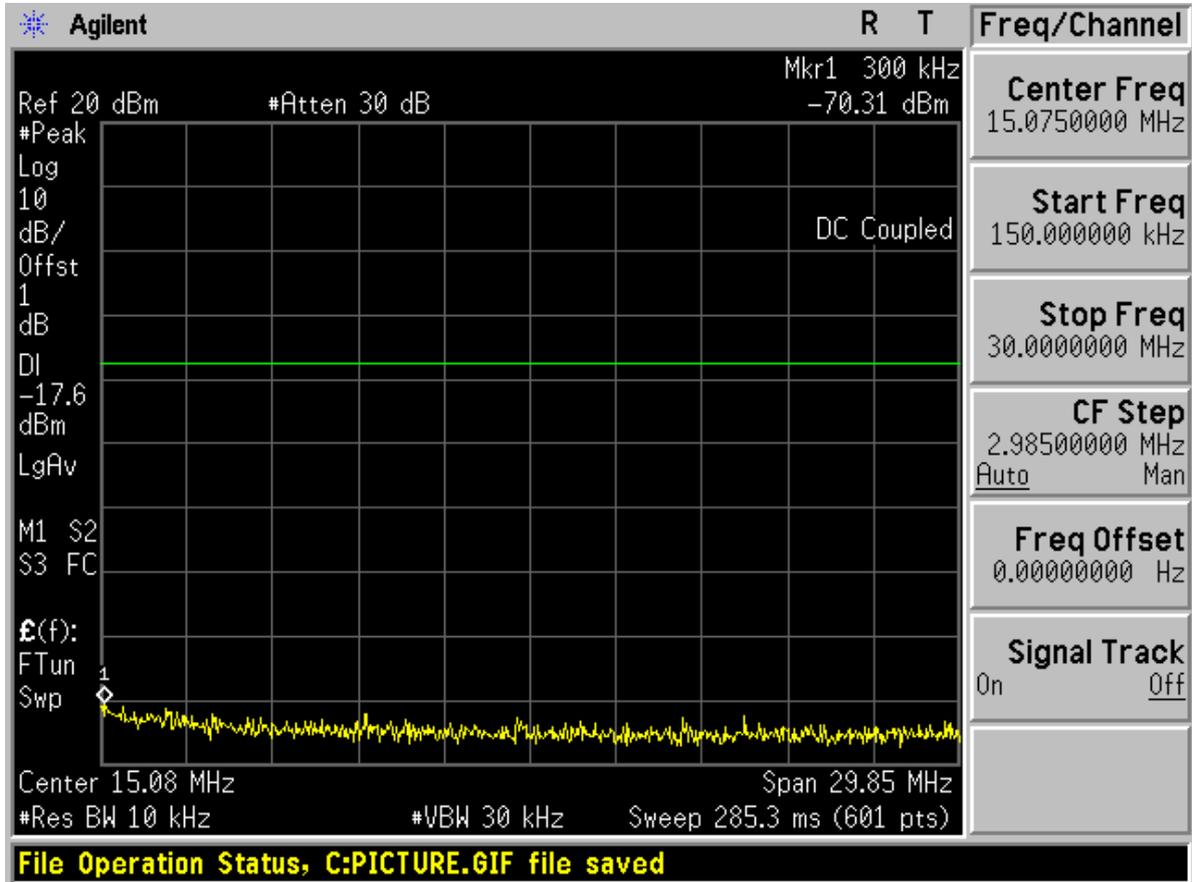
## Chain 1

### 9K~150K



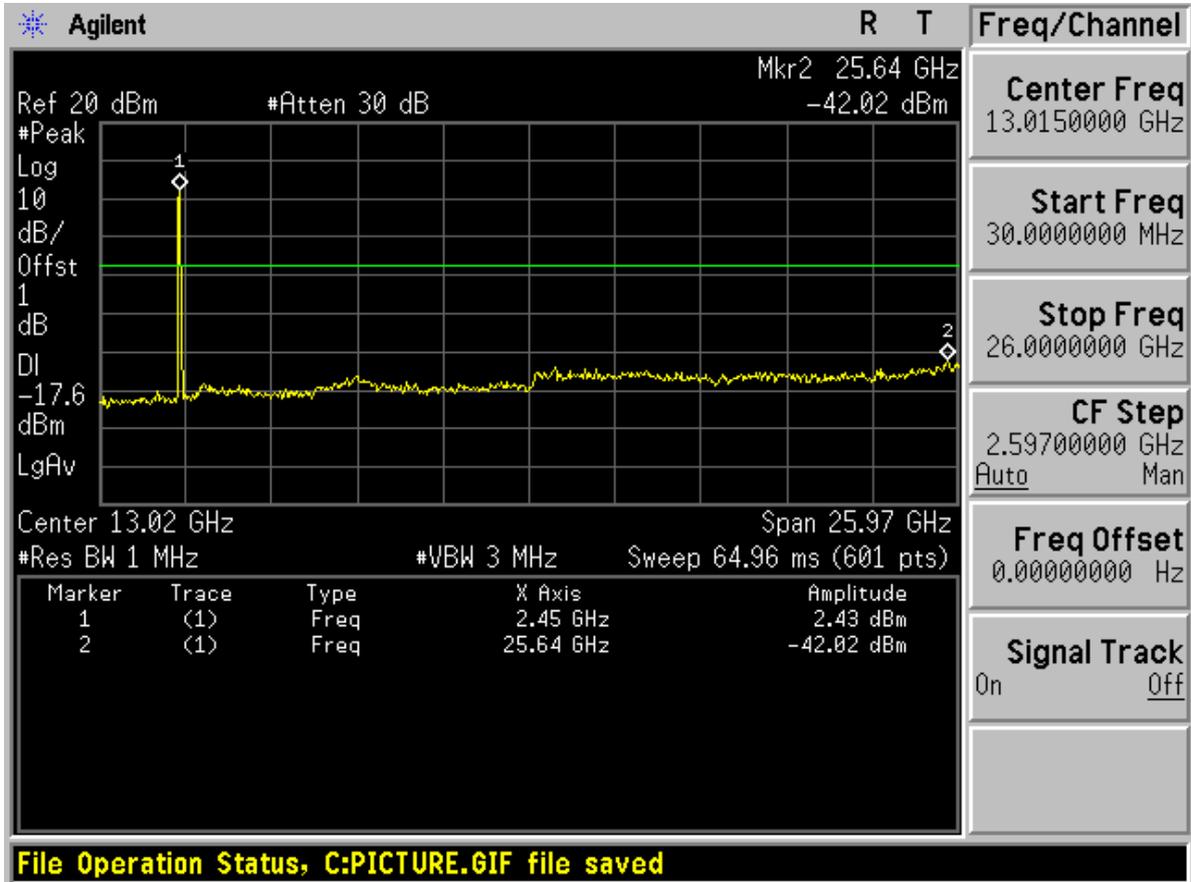


# 150K~30M



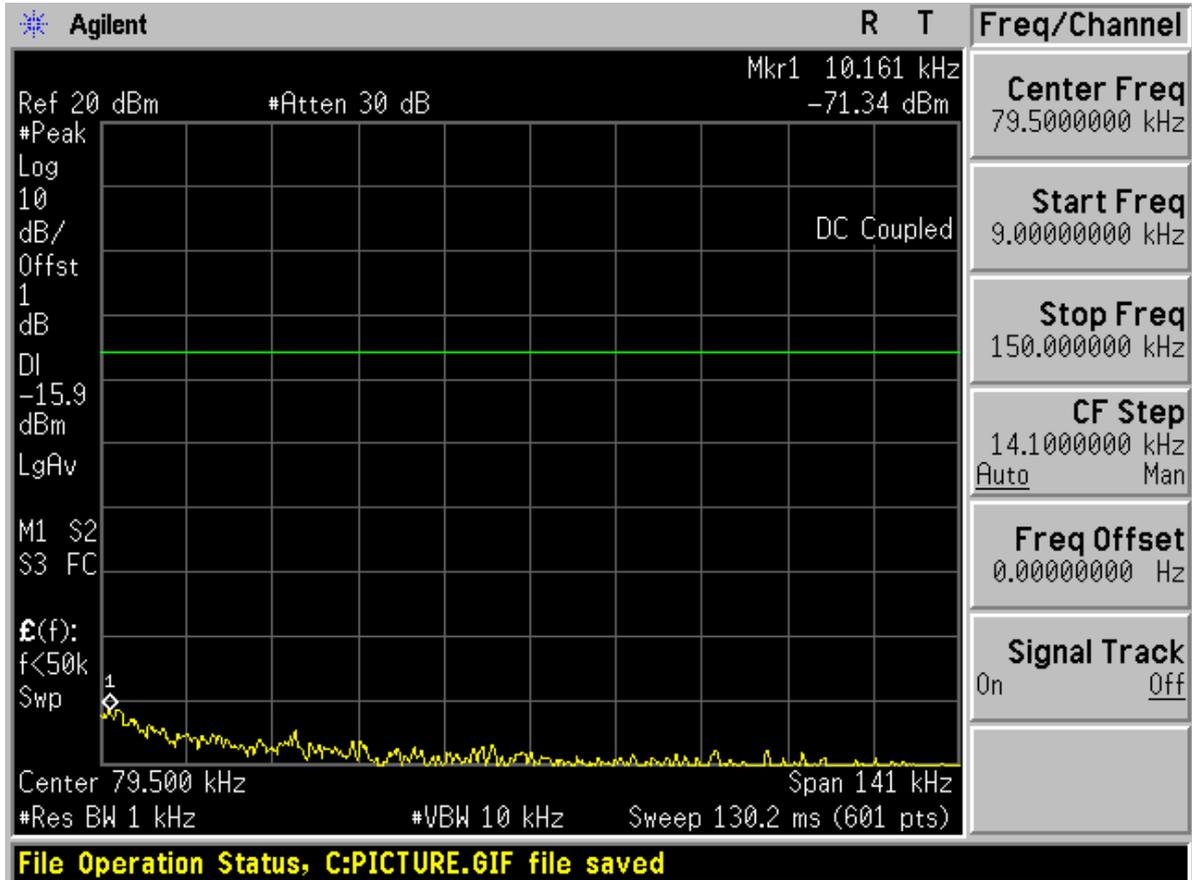


# 30M~26G



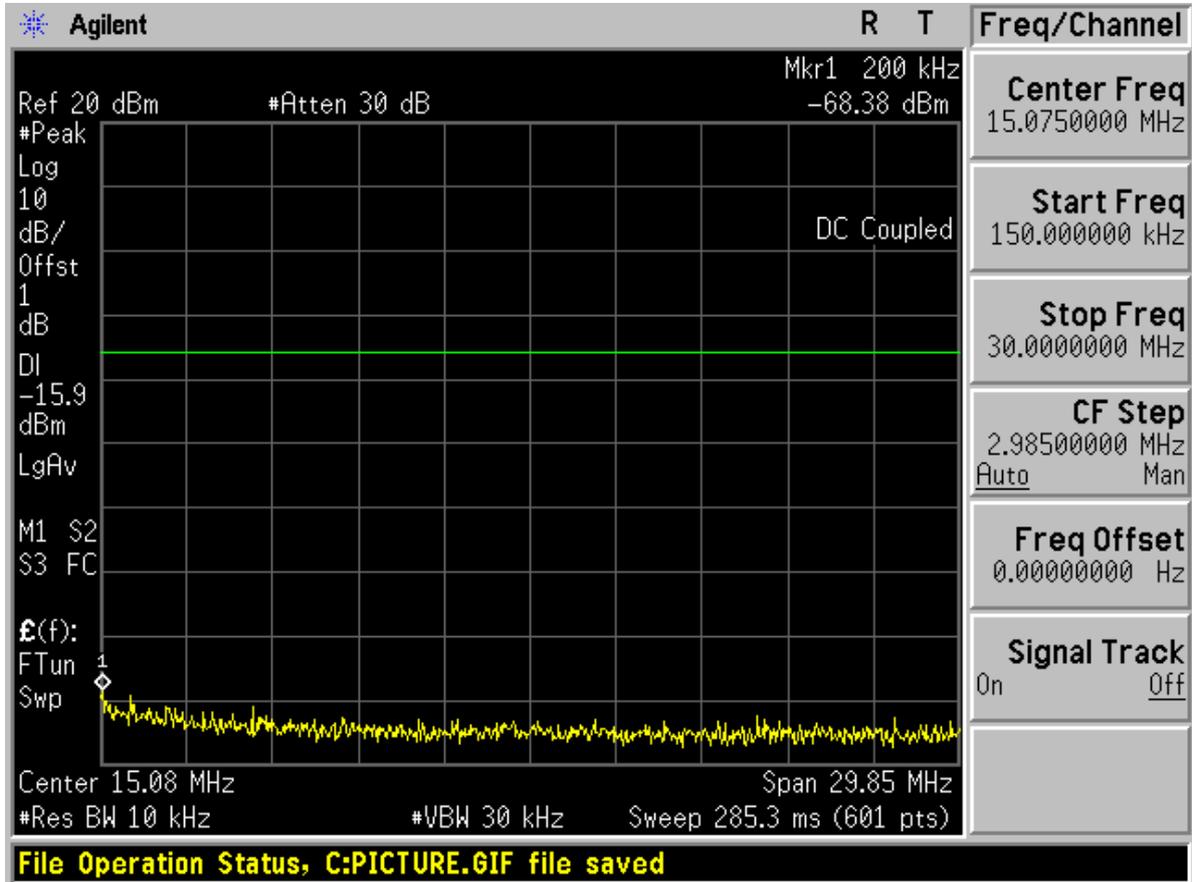


## Chain 2 9K~150K



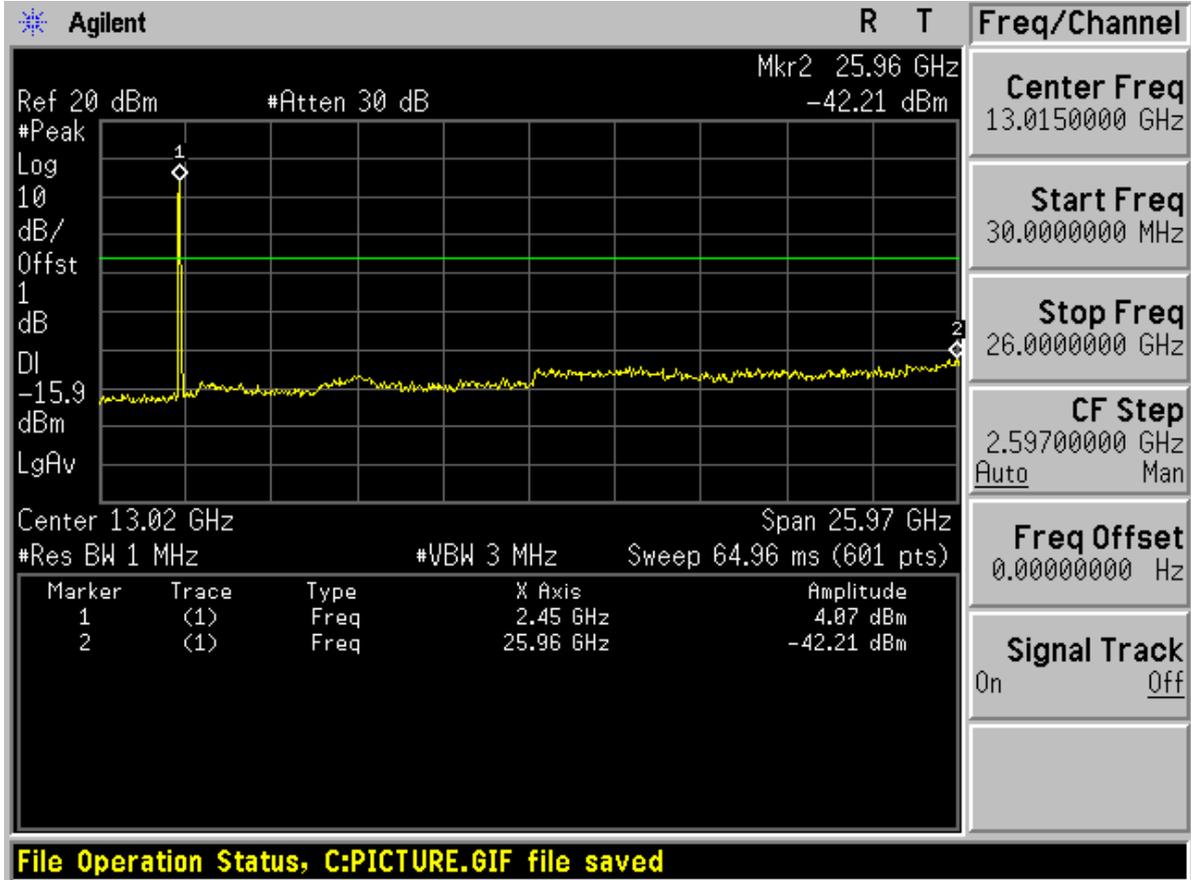


# 150K~30M





# 30M~26G

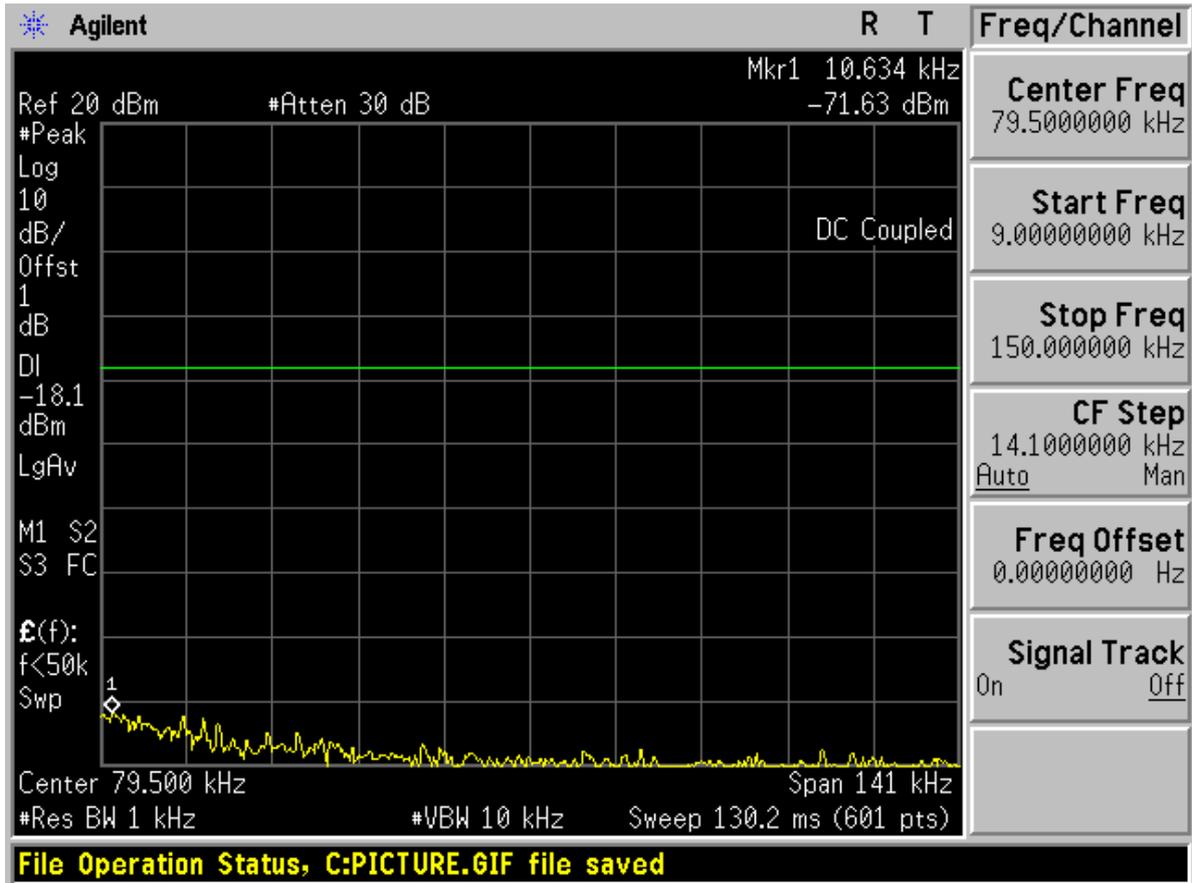




# Channel 09

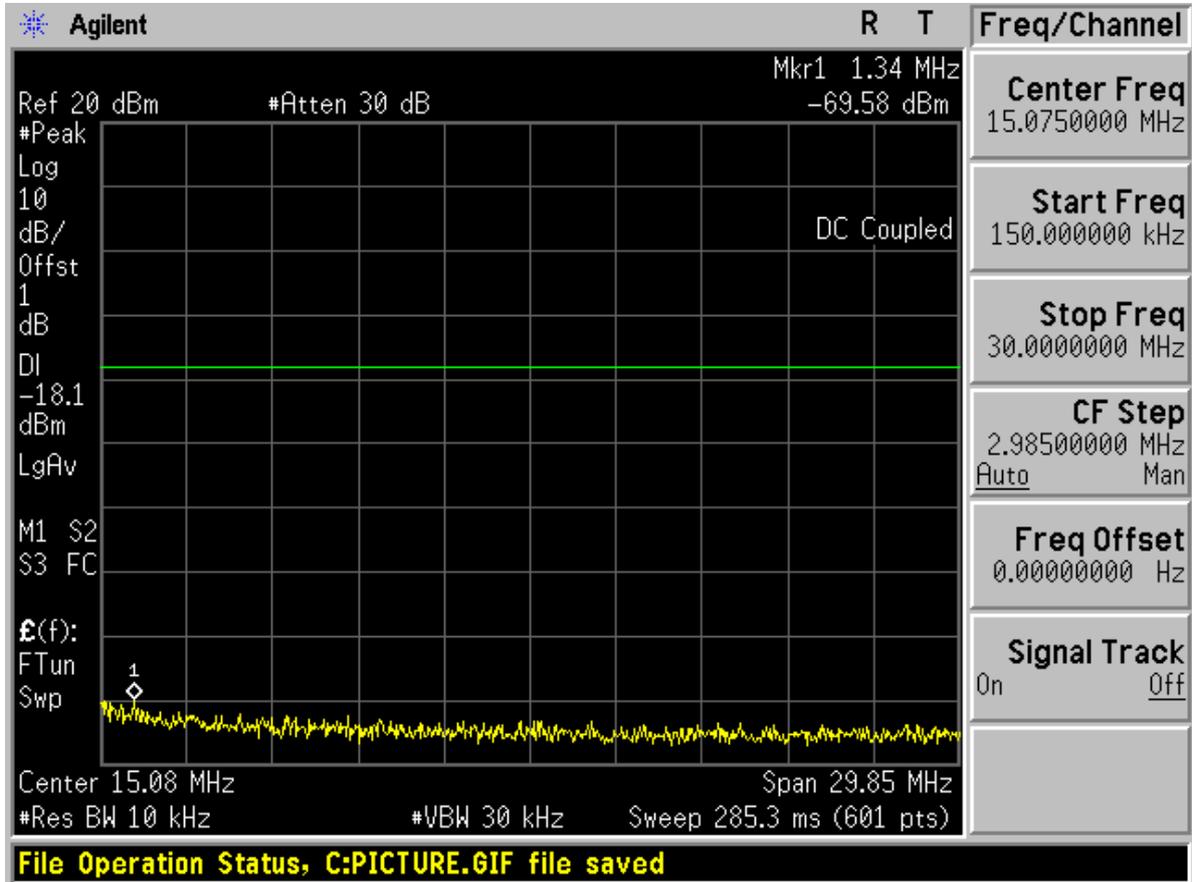
## Chain 1

### 9K~150K



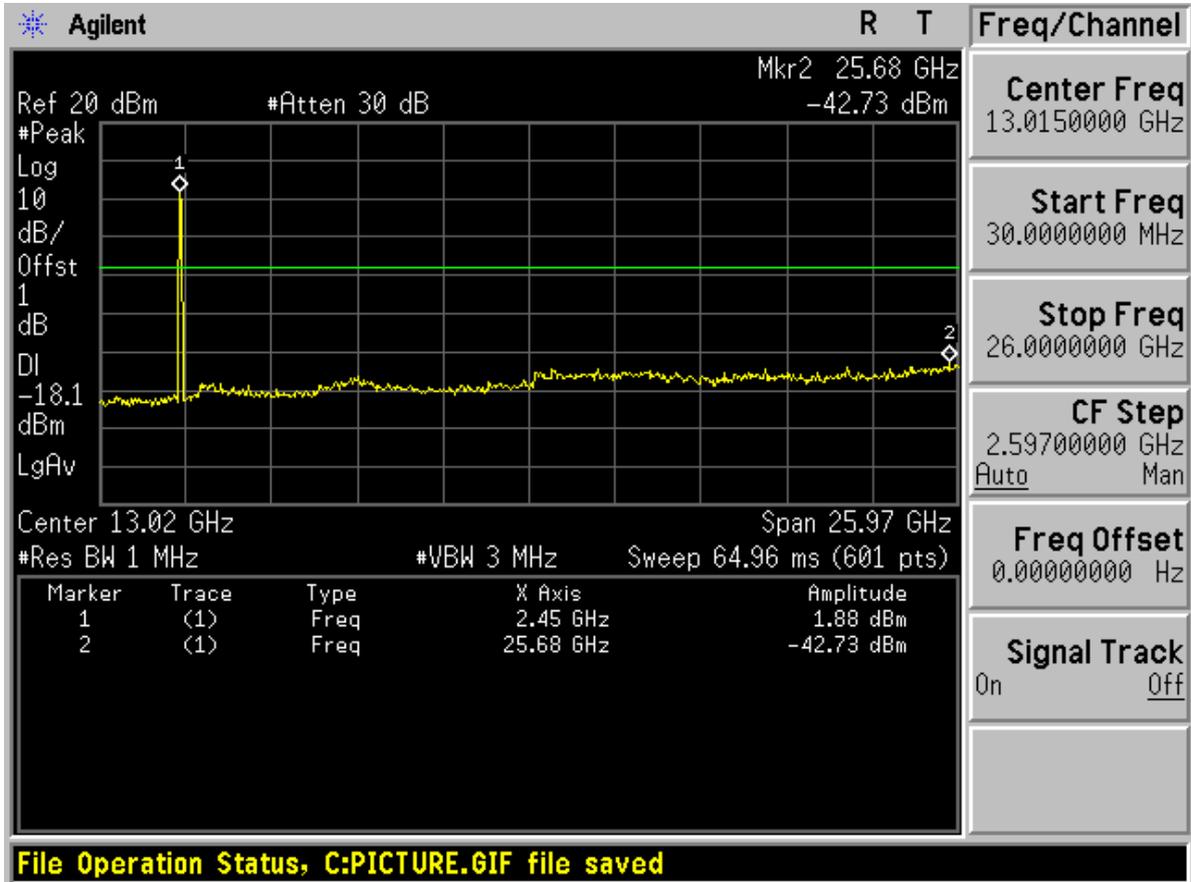


# 150K~30M



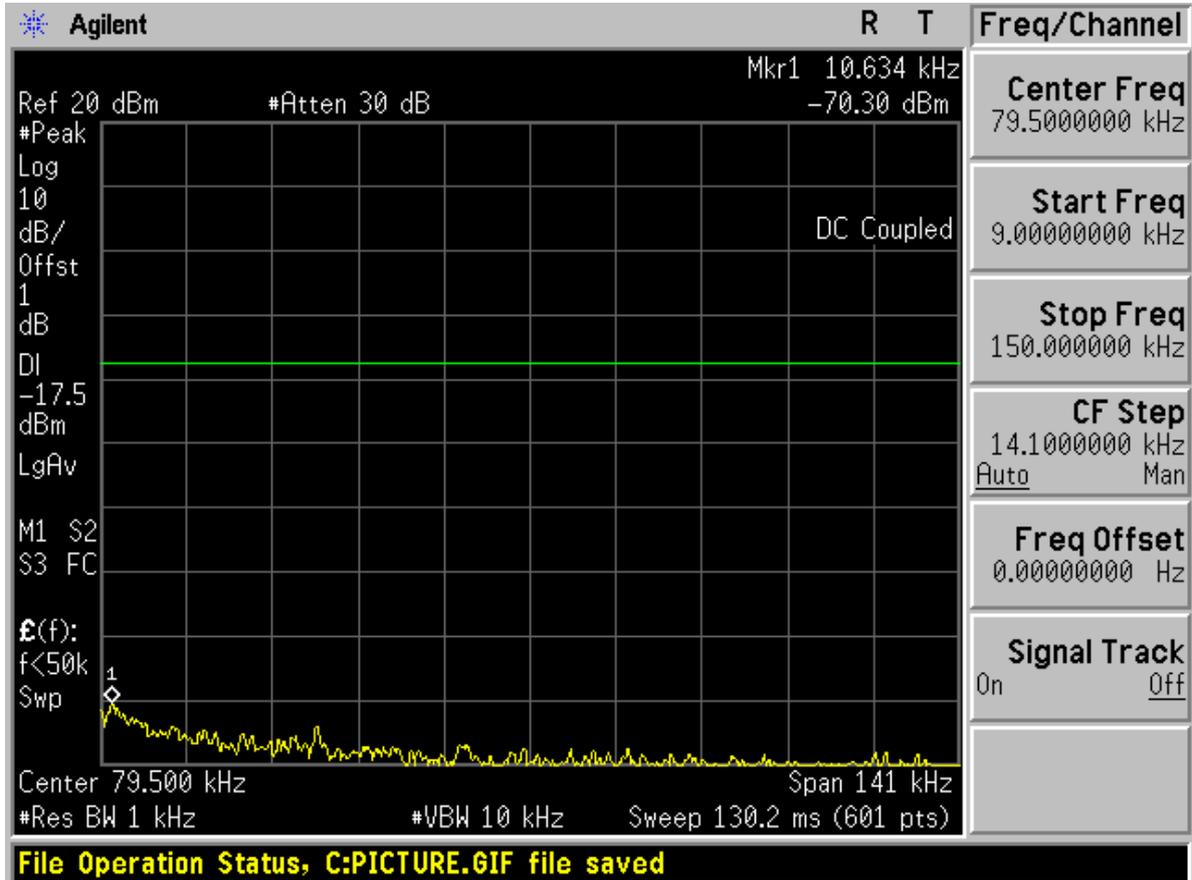


# 30M~26G



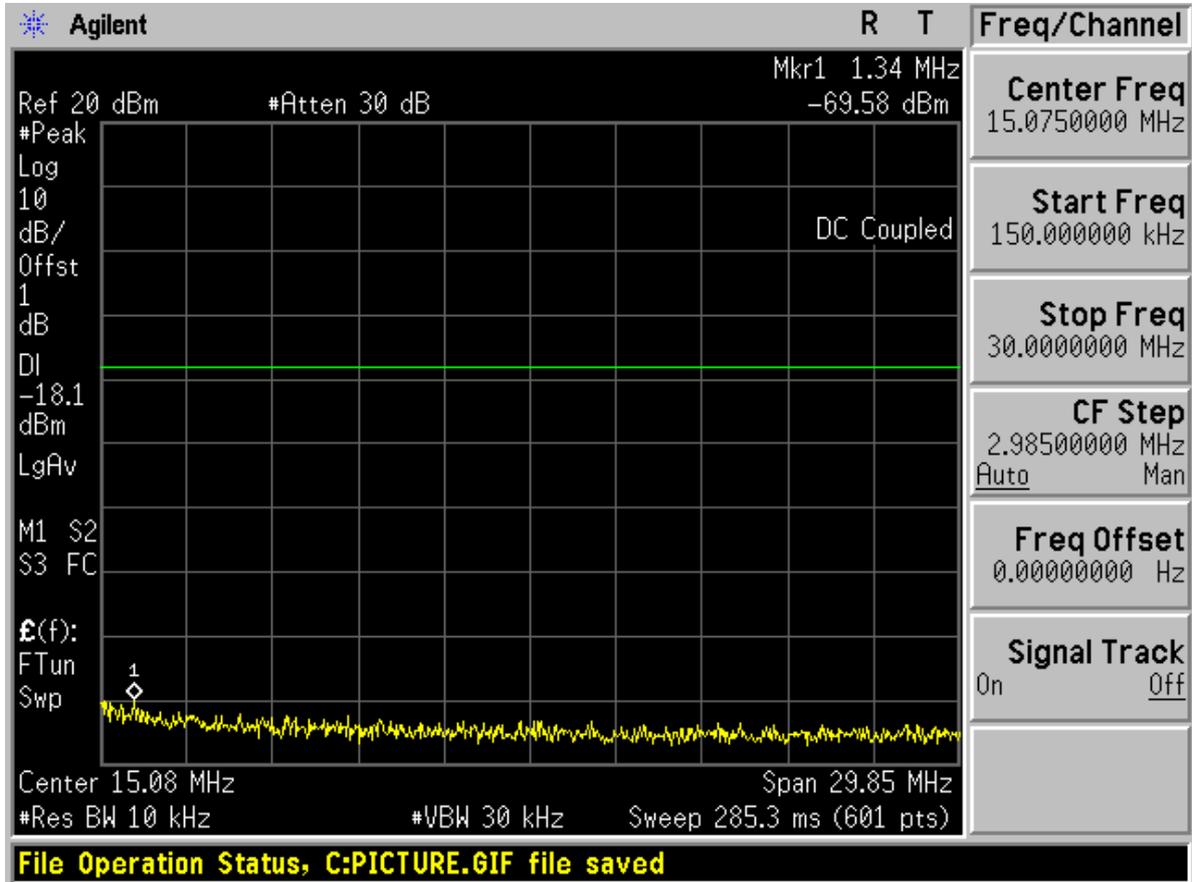


## Chain 2 9K~150K



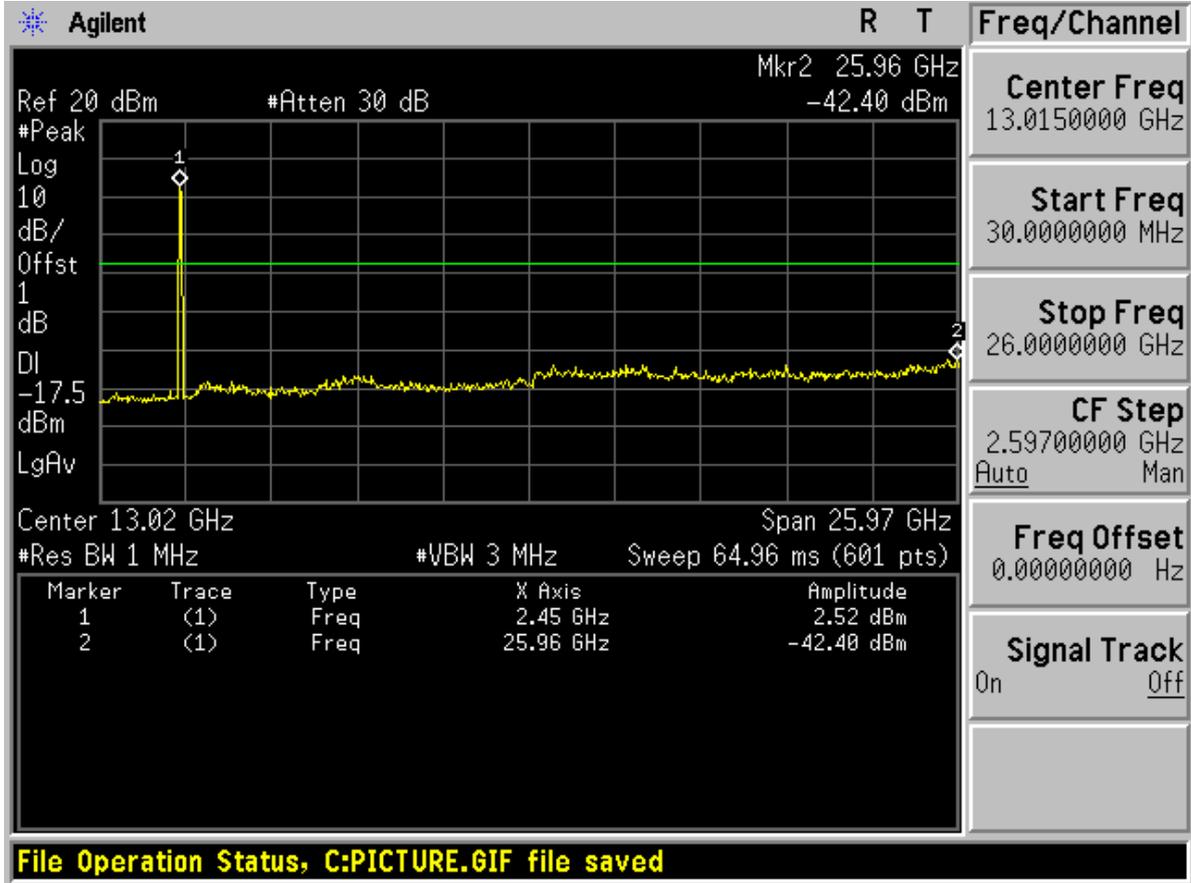


# 150K~30M





# 30M~26G



END



# **Appendix E**

## **Band Edges Compliance**

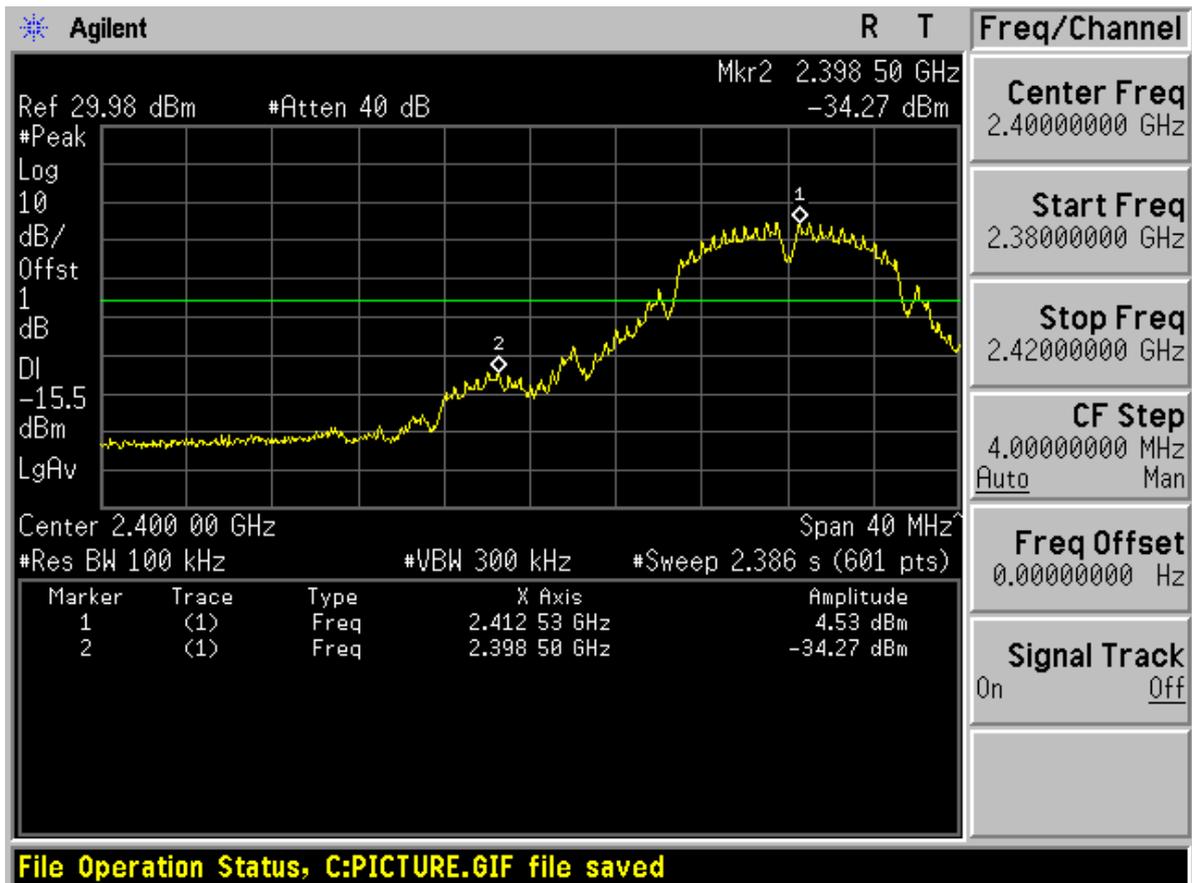
According to FCC Part 15.247 (d) & RSS-210



# 11B Chain 1&2

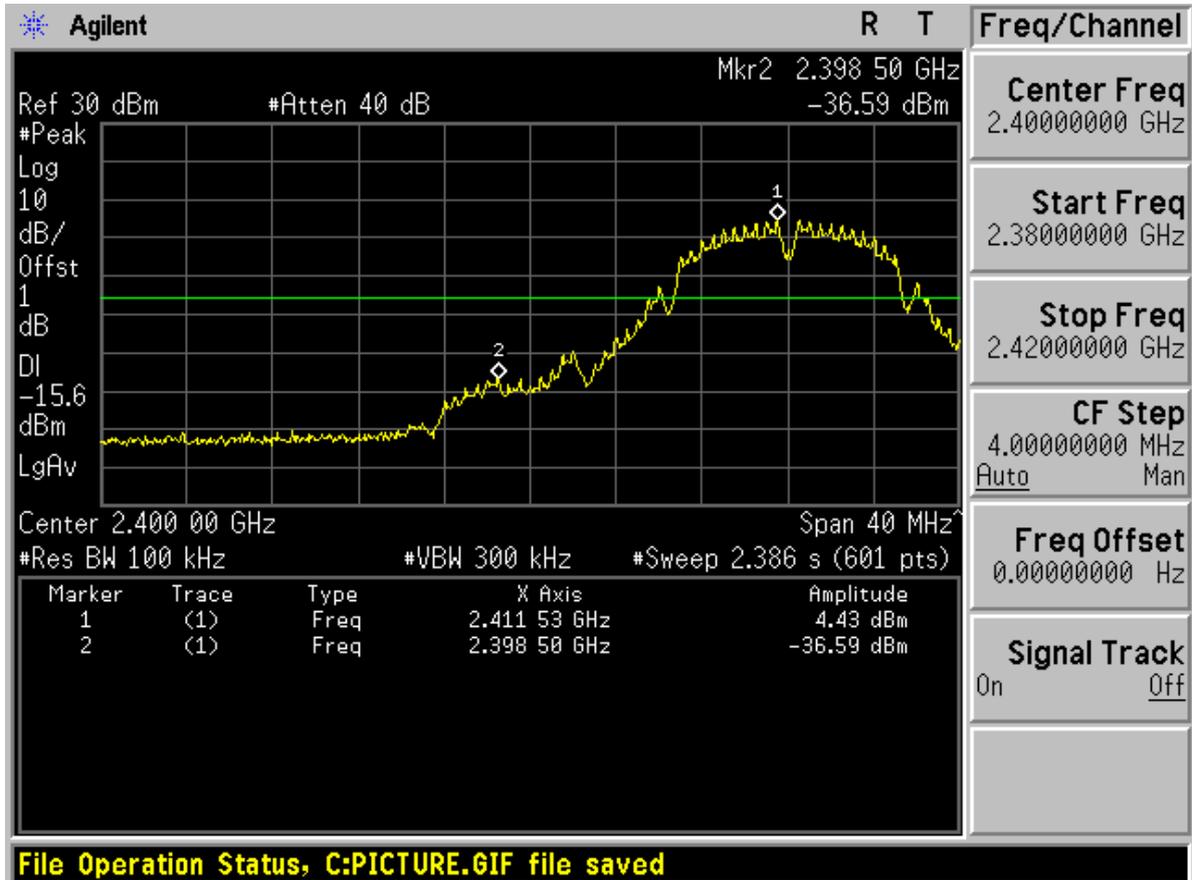
## Low edge

### Chain 1



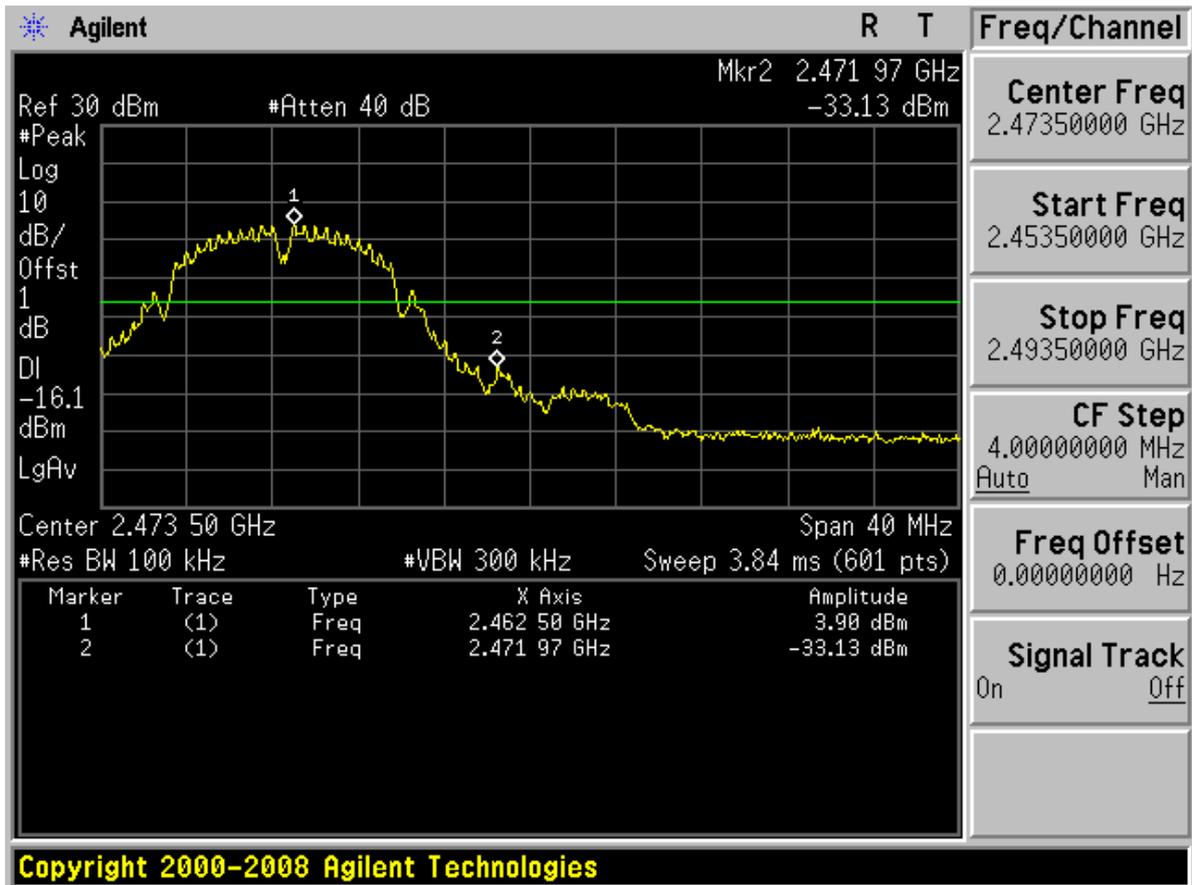


## Chain 2



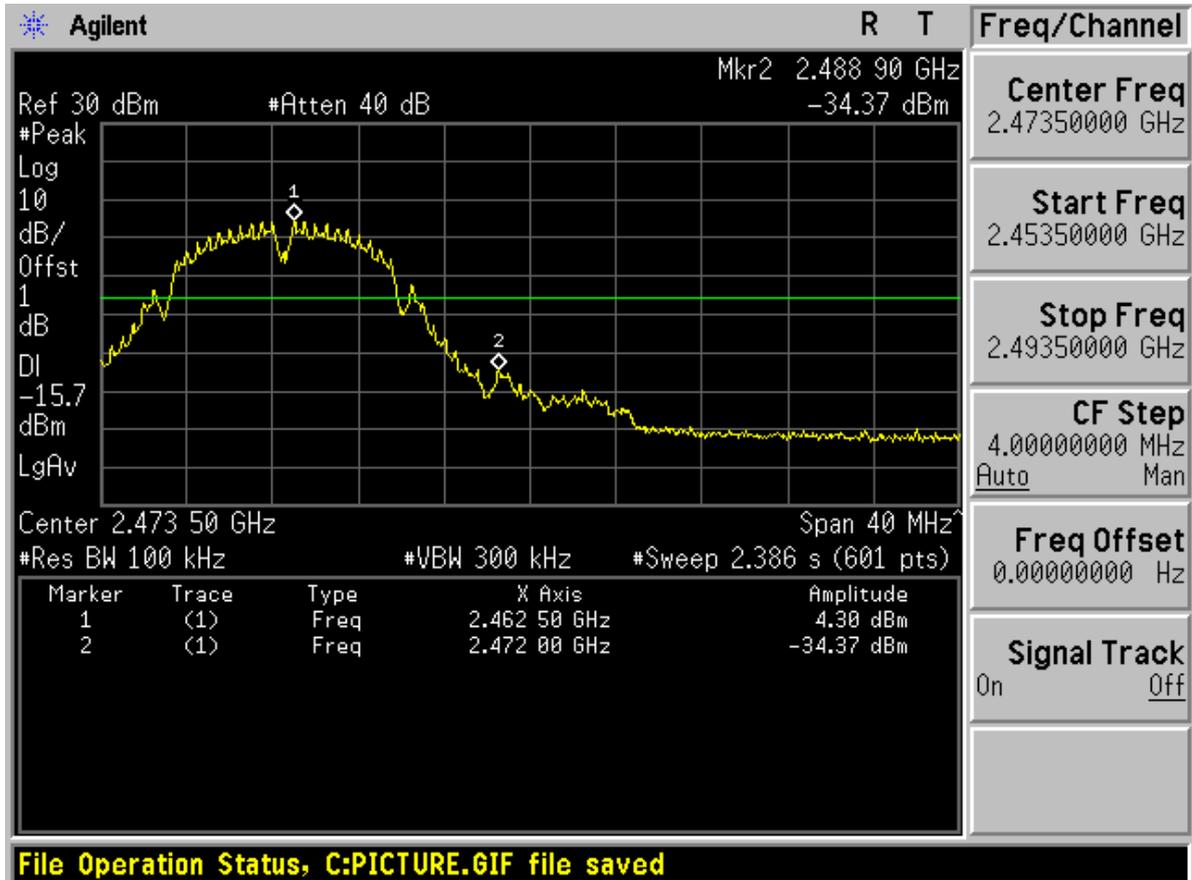


# High edge Chain 1





## Chain 2

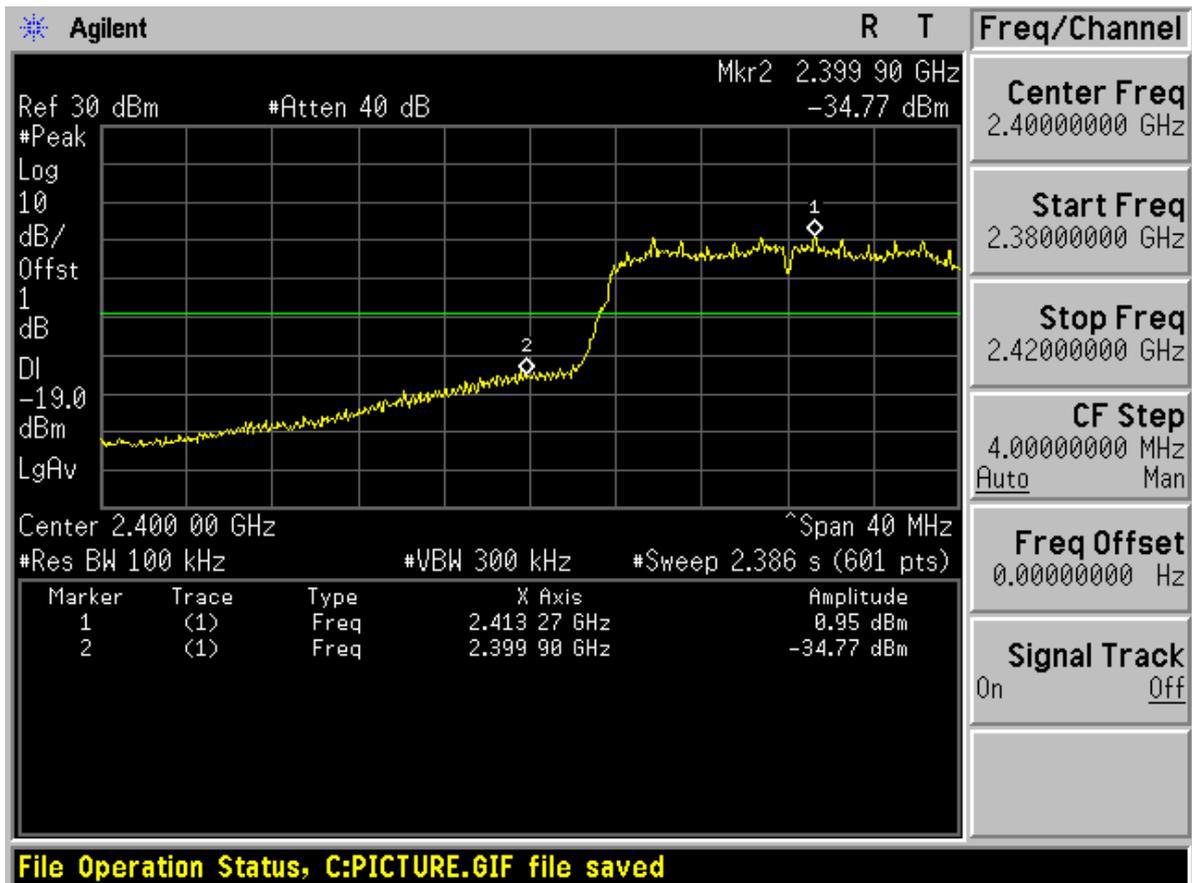




# 11G Chain 1&2

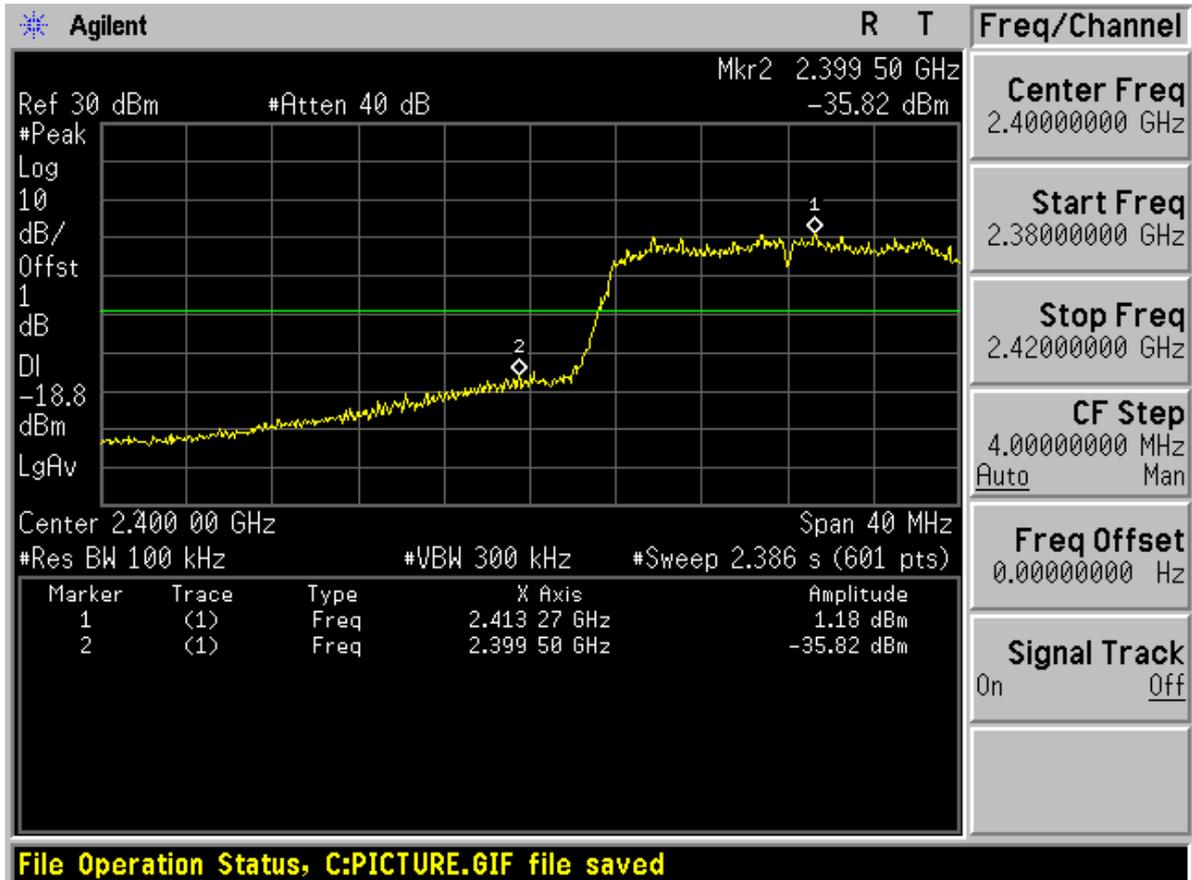
## Low edge

### Chain 1



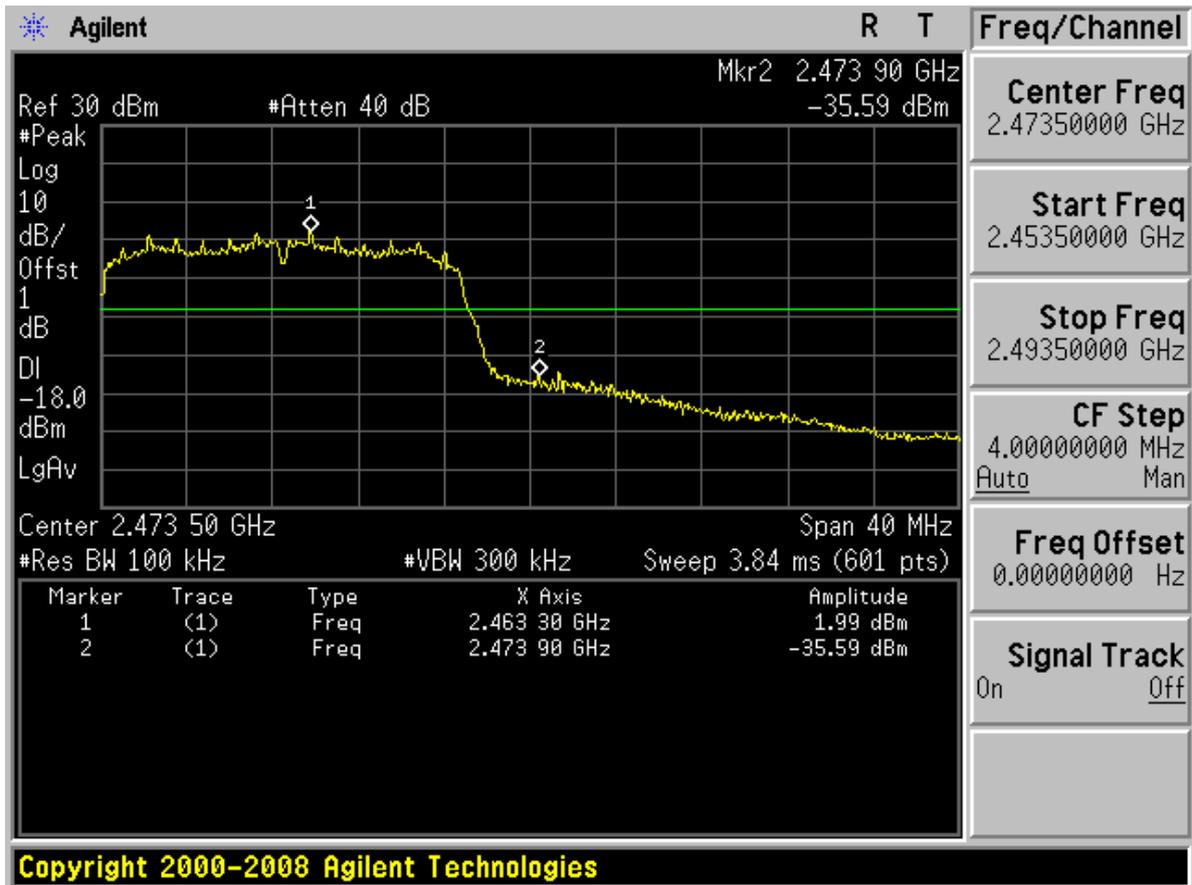


## Chain 2



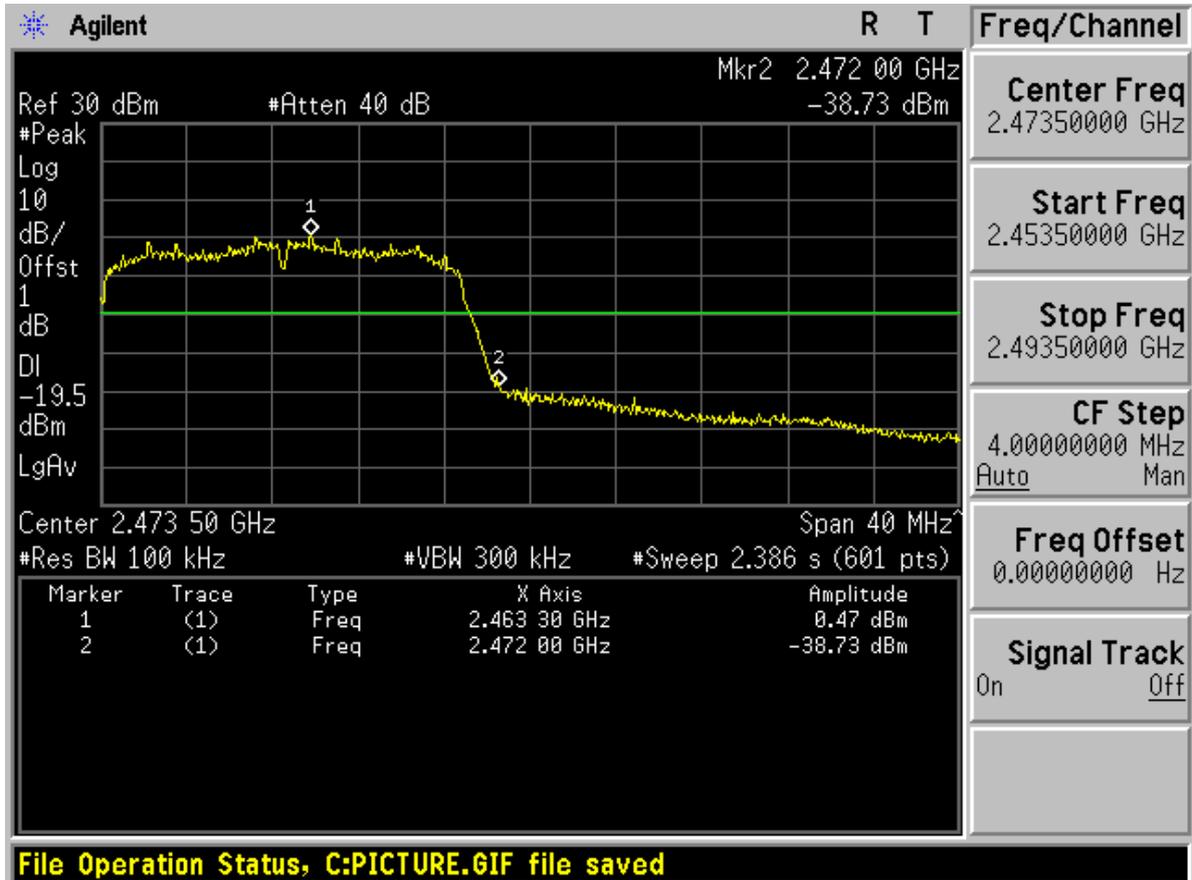


# High edge Chain 1





## Chain 2

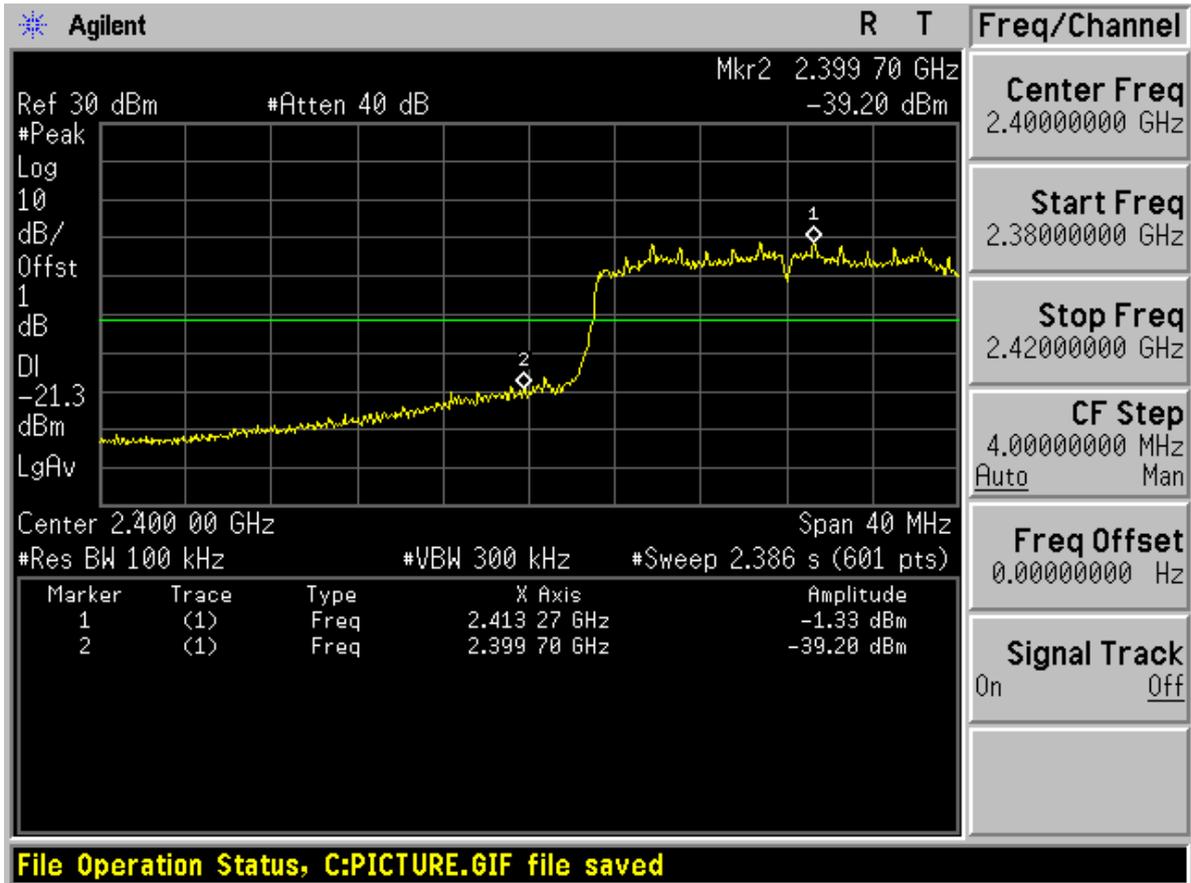




# 11N20M Chain 1&2

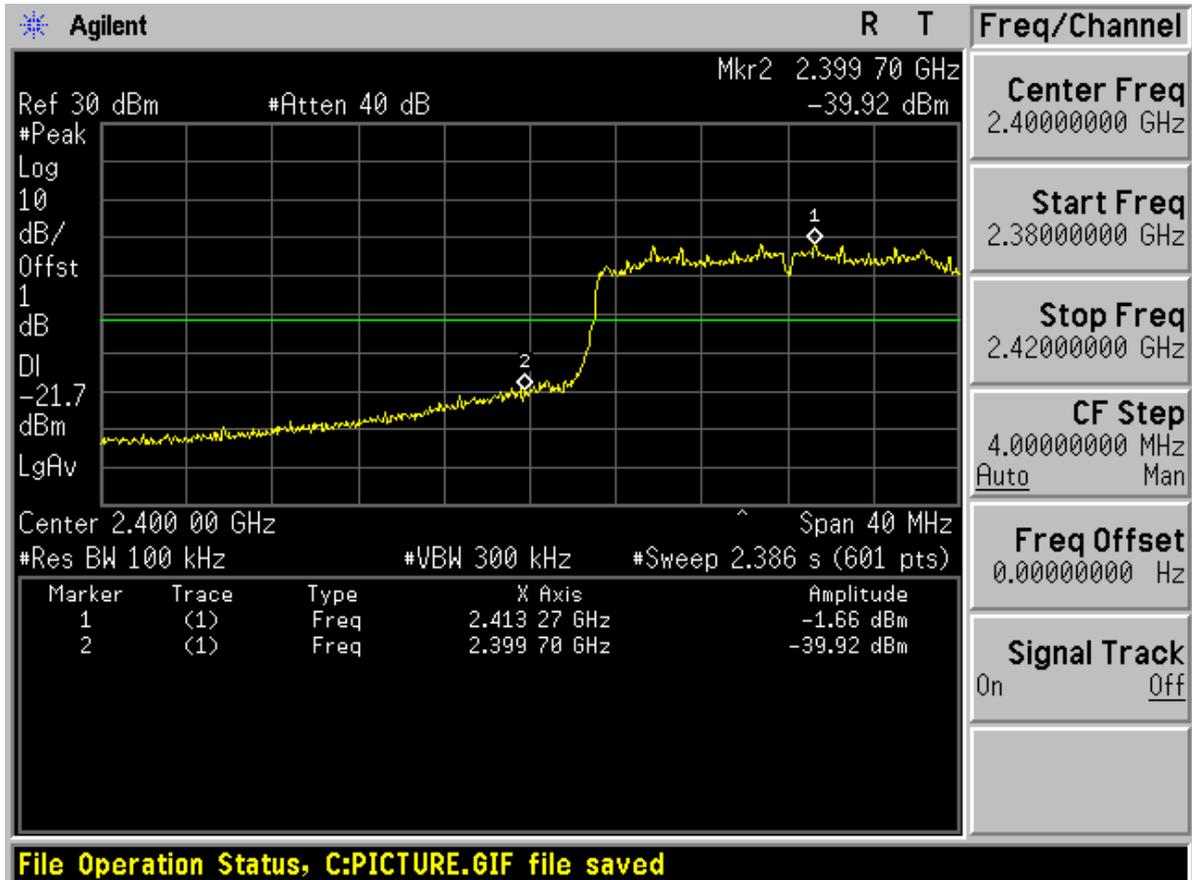
## Low edge

### Chain 1



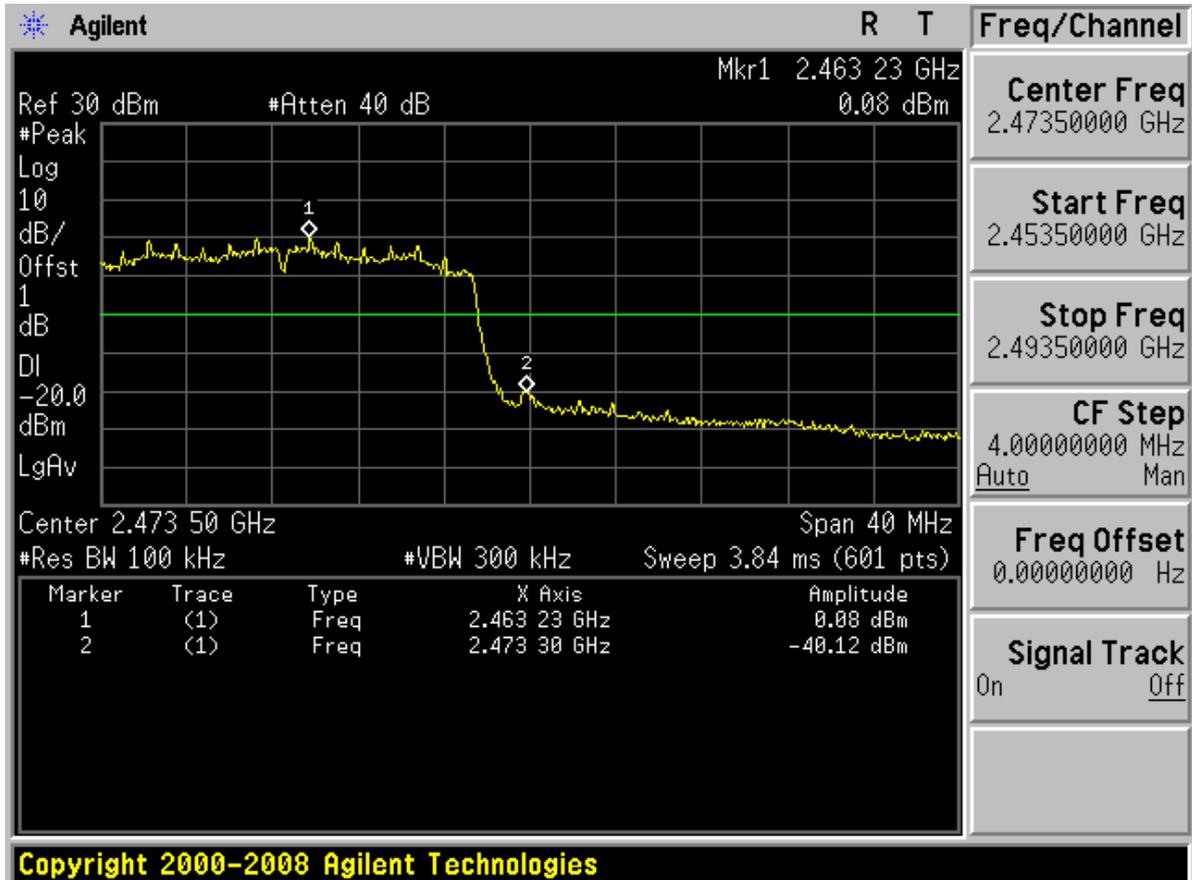


## Chain 2



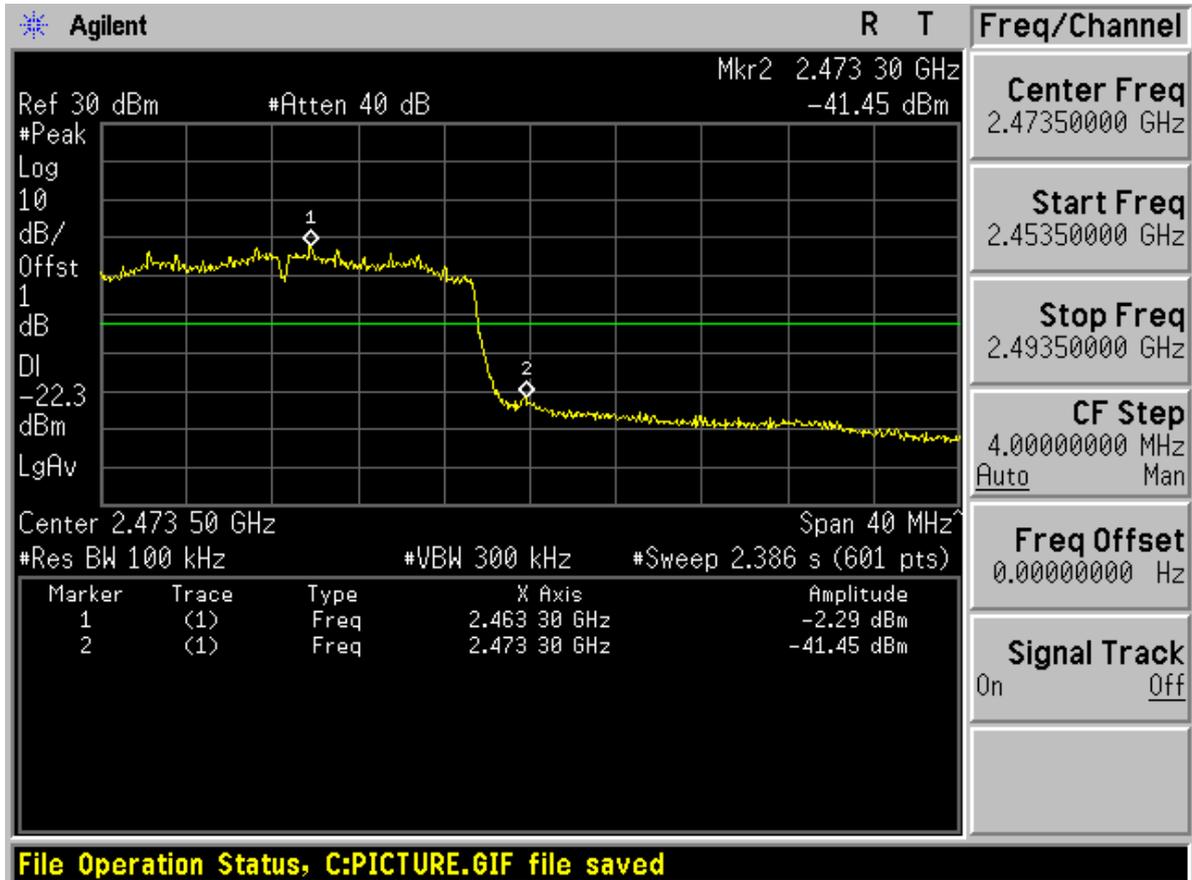


# High edge Chain 1





## Chain 2

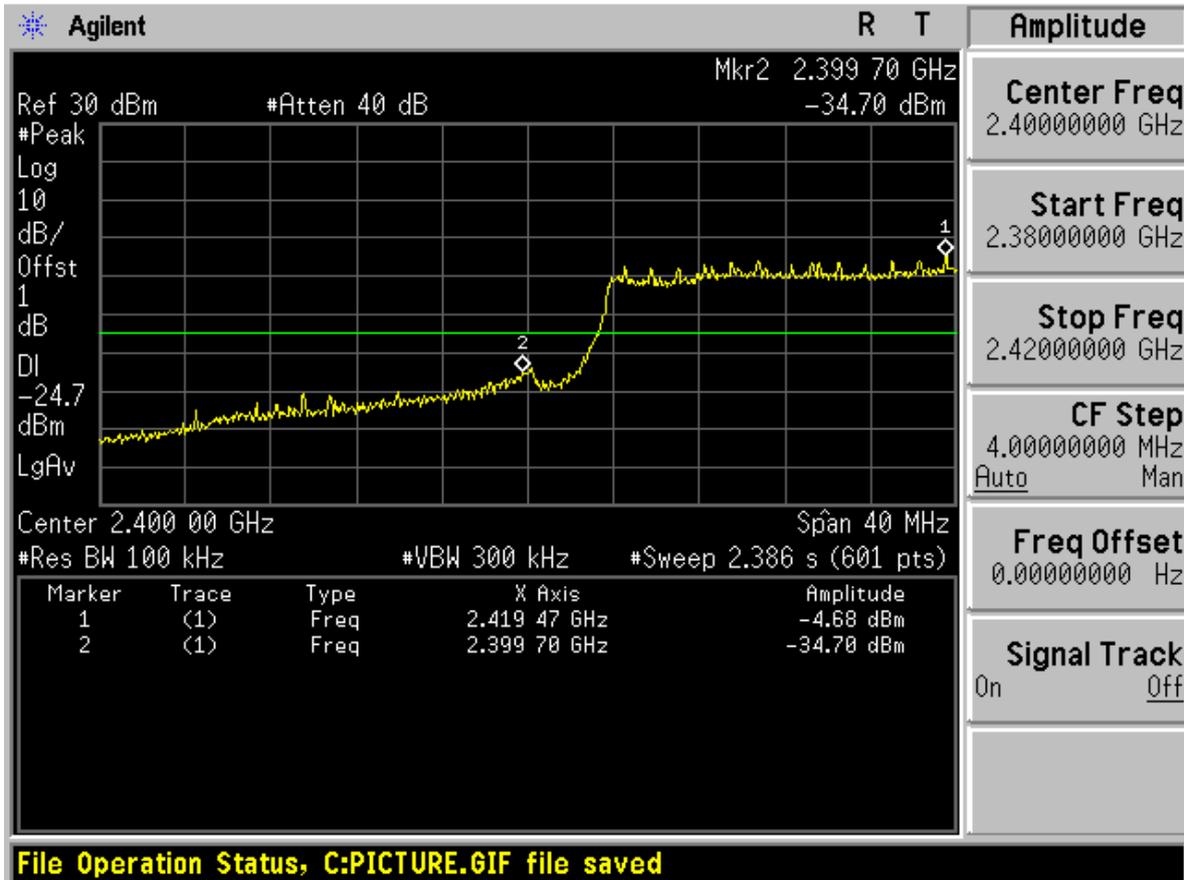




# 11N40M Chain 1&2

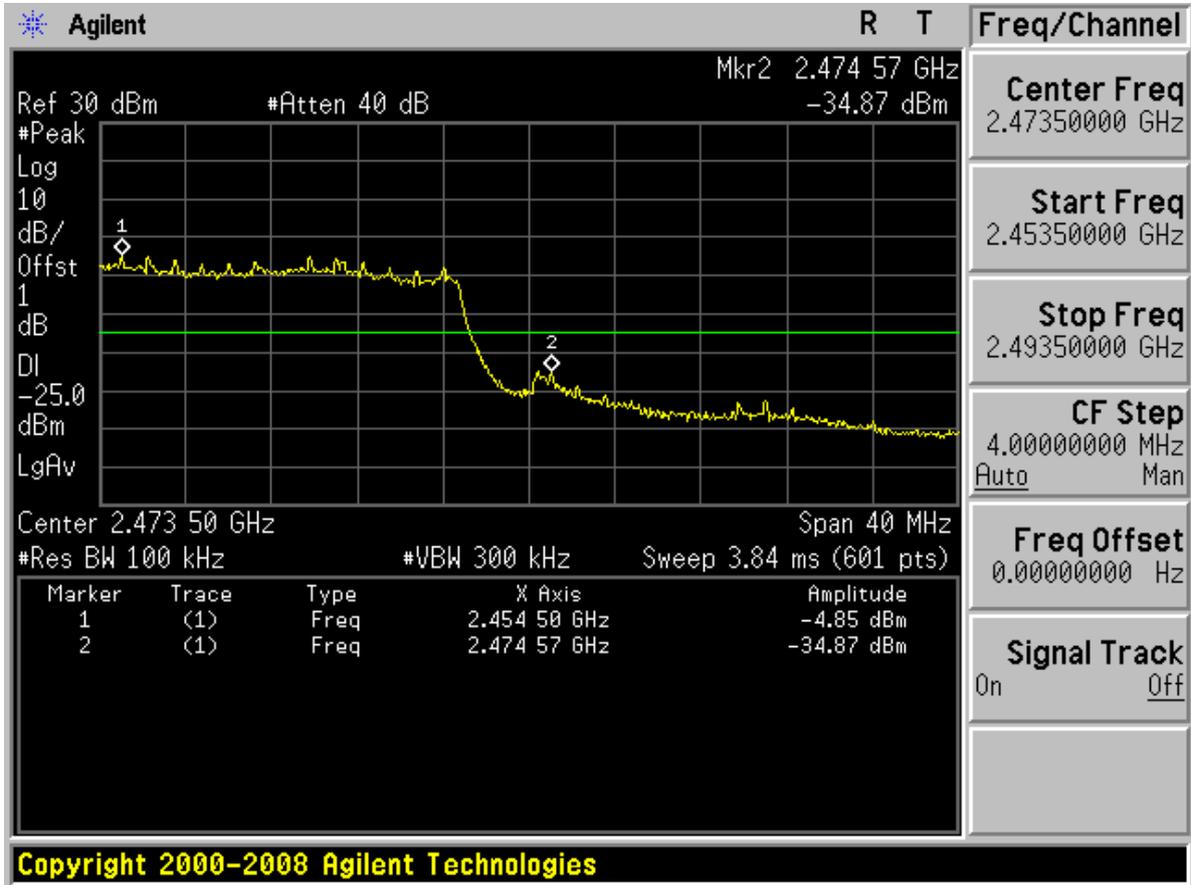
## Low edge

### Chain 1



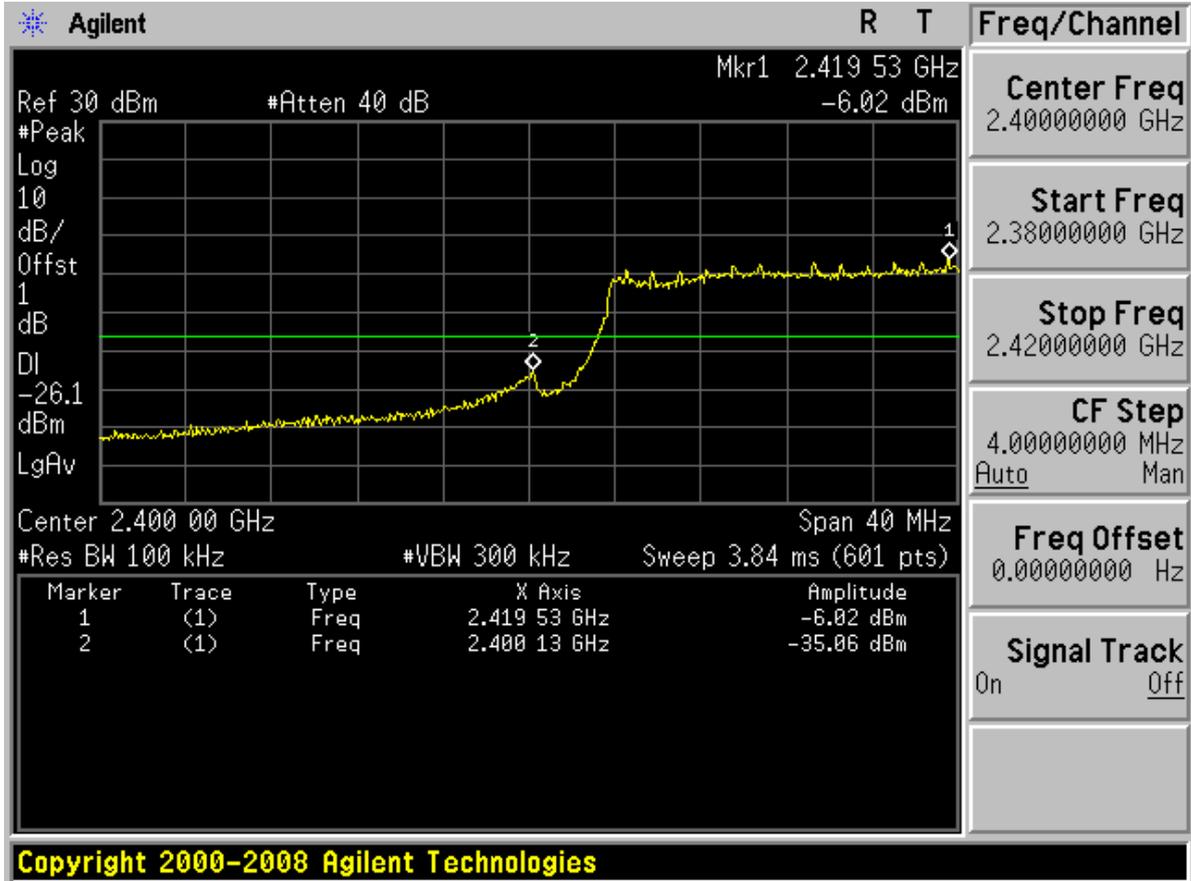


## Chain 2



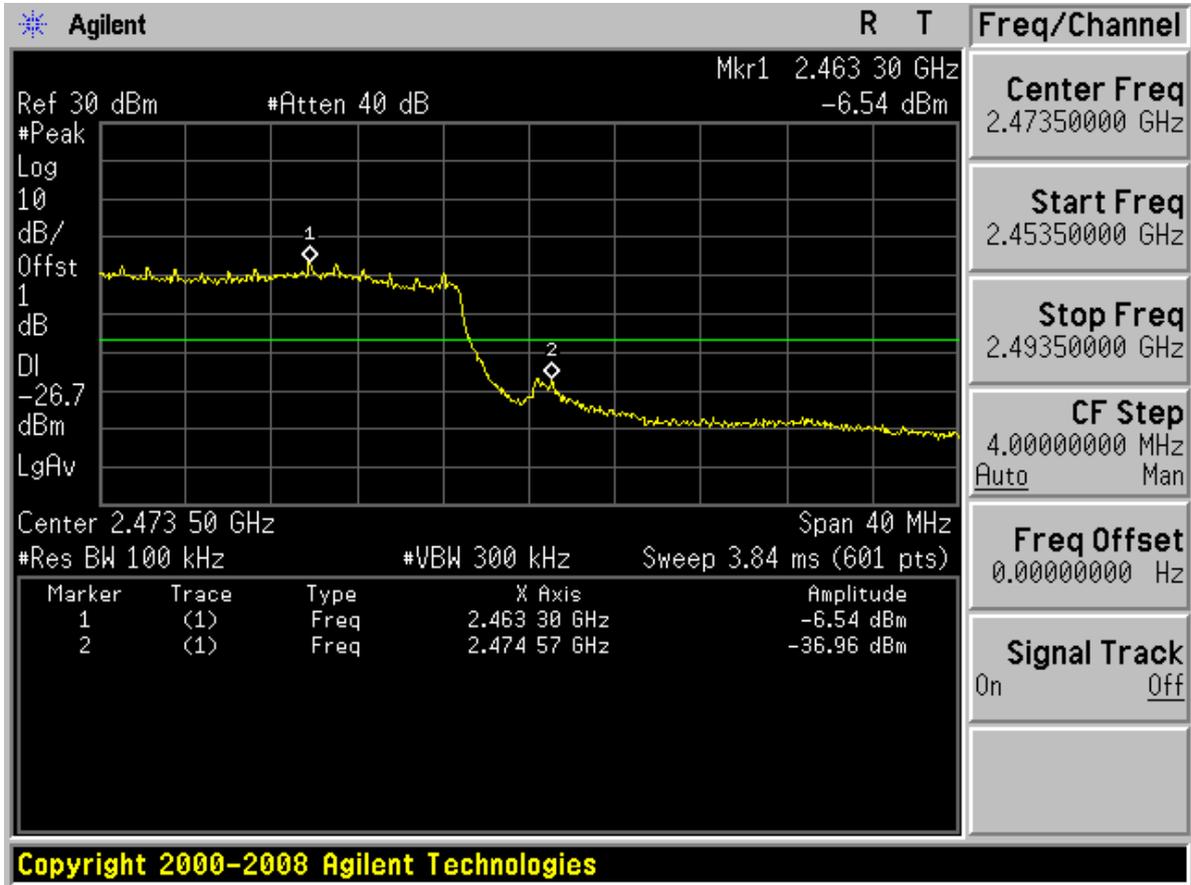


# High edge Chain 1





## Chain 2

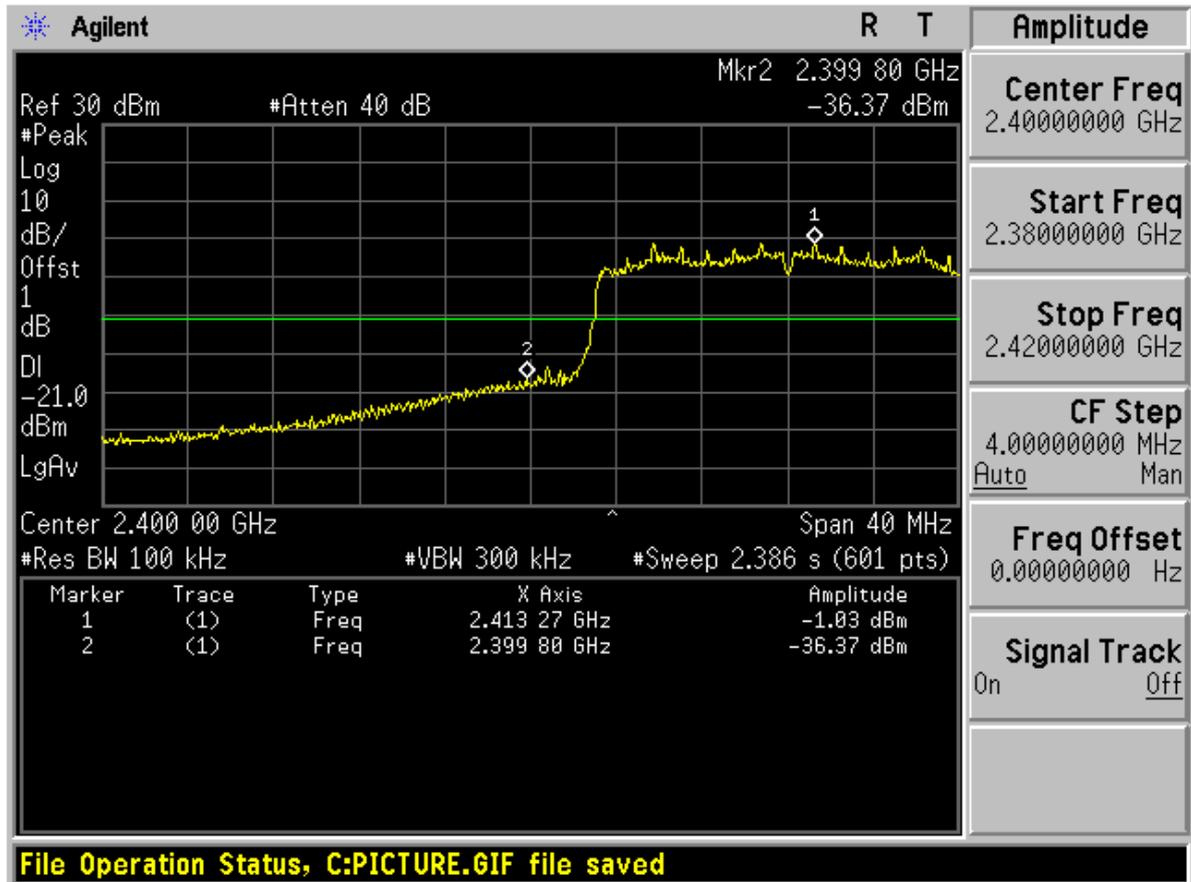




# 11N20M(MIMO) Chain 1&2

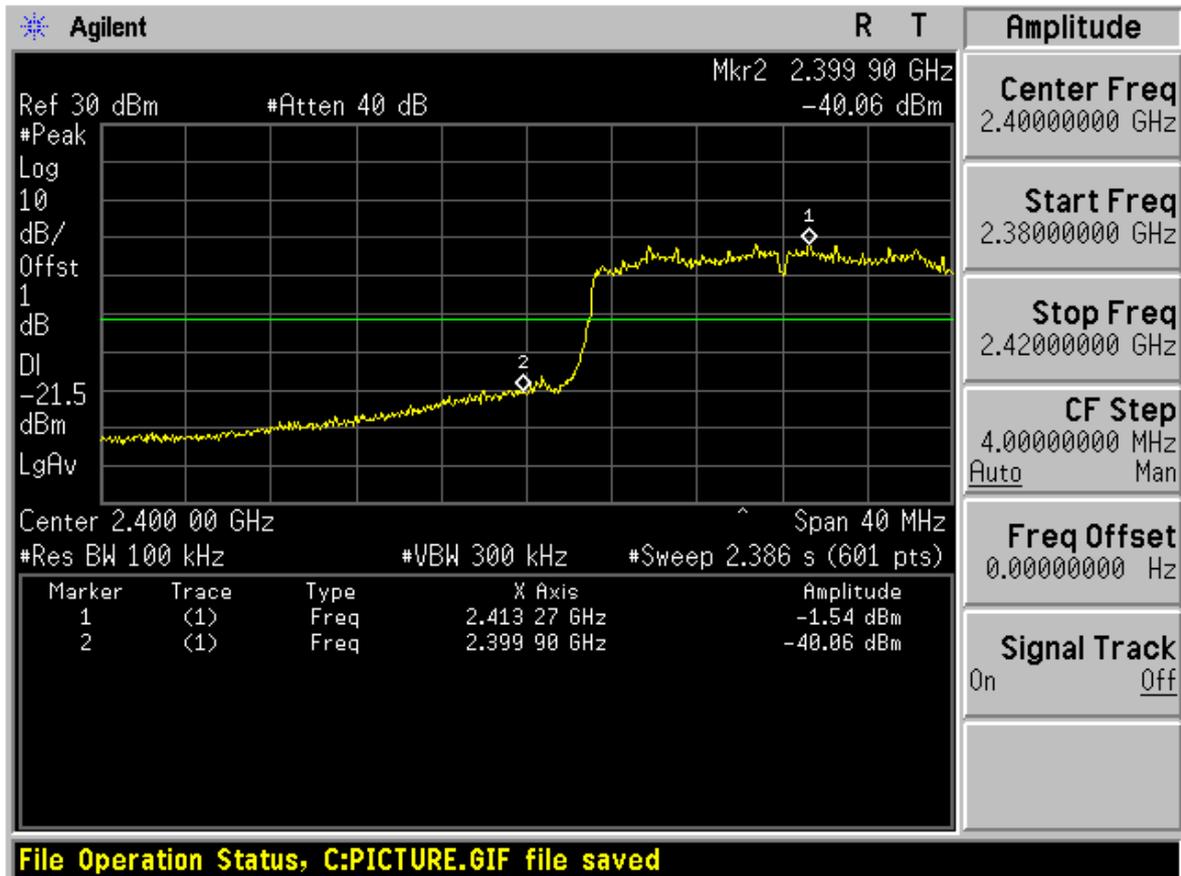
## Low edge

### Chain 1



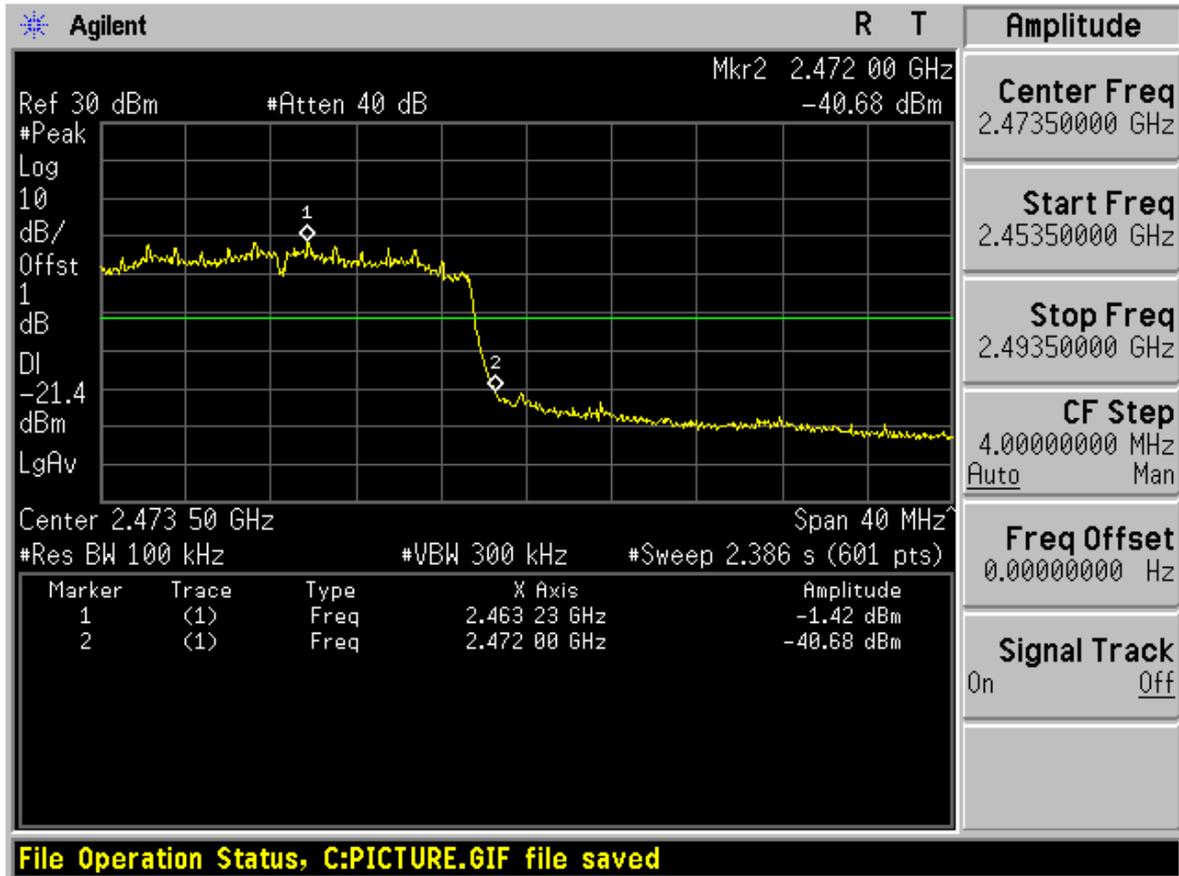


## Chain 2



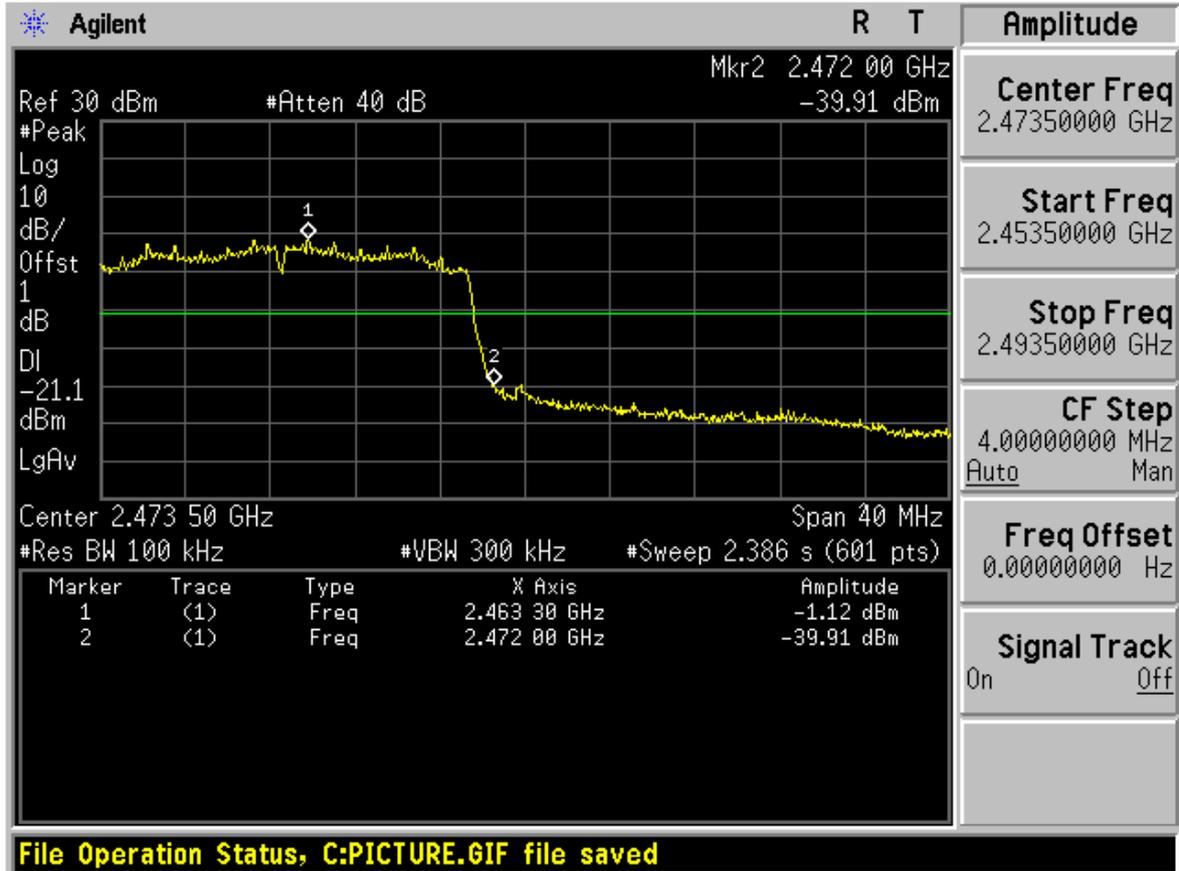


# High edge Chain 1





## Chain 2

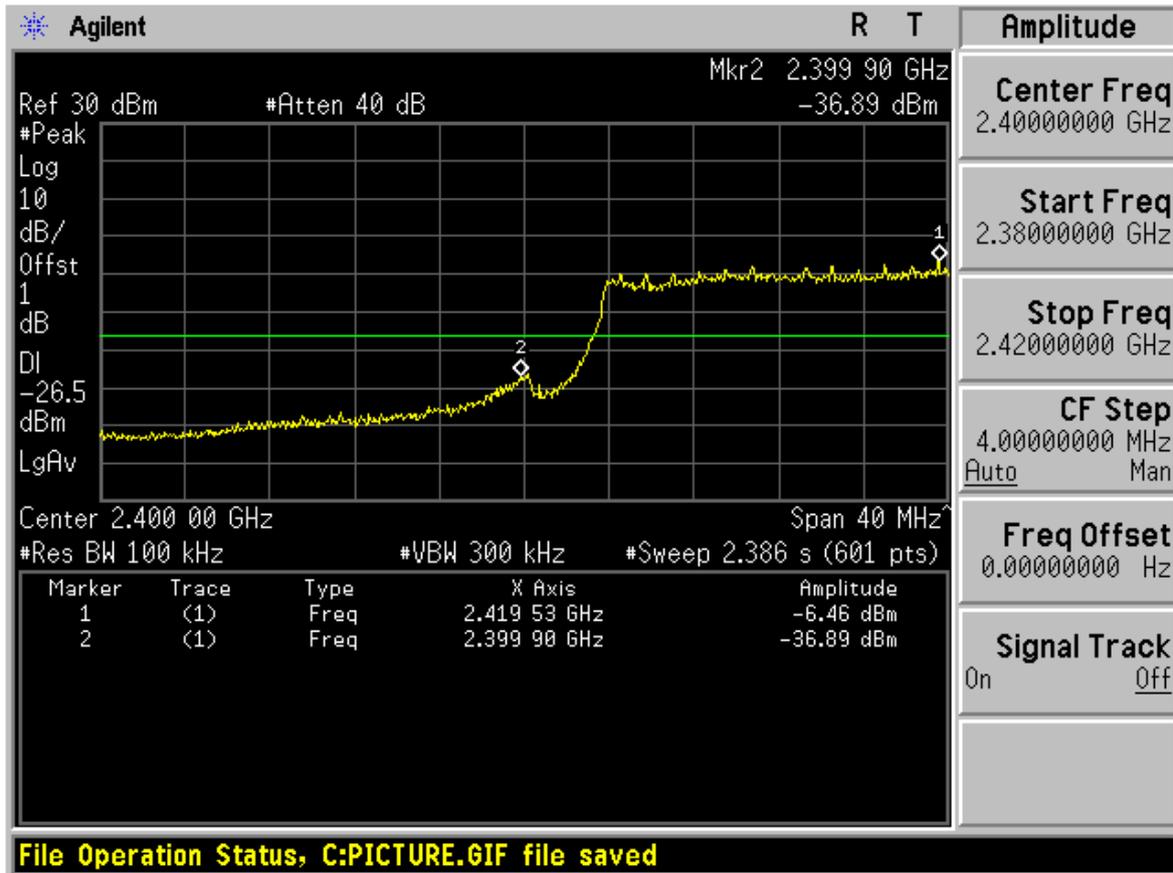




# 11N40M(MIMO) Chain 1&2

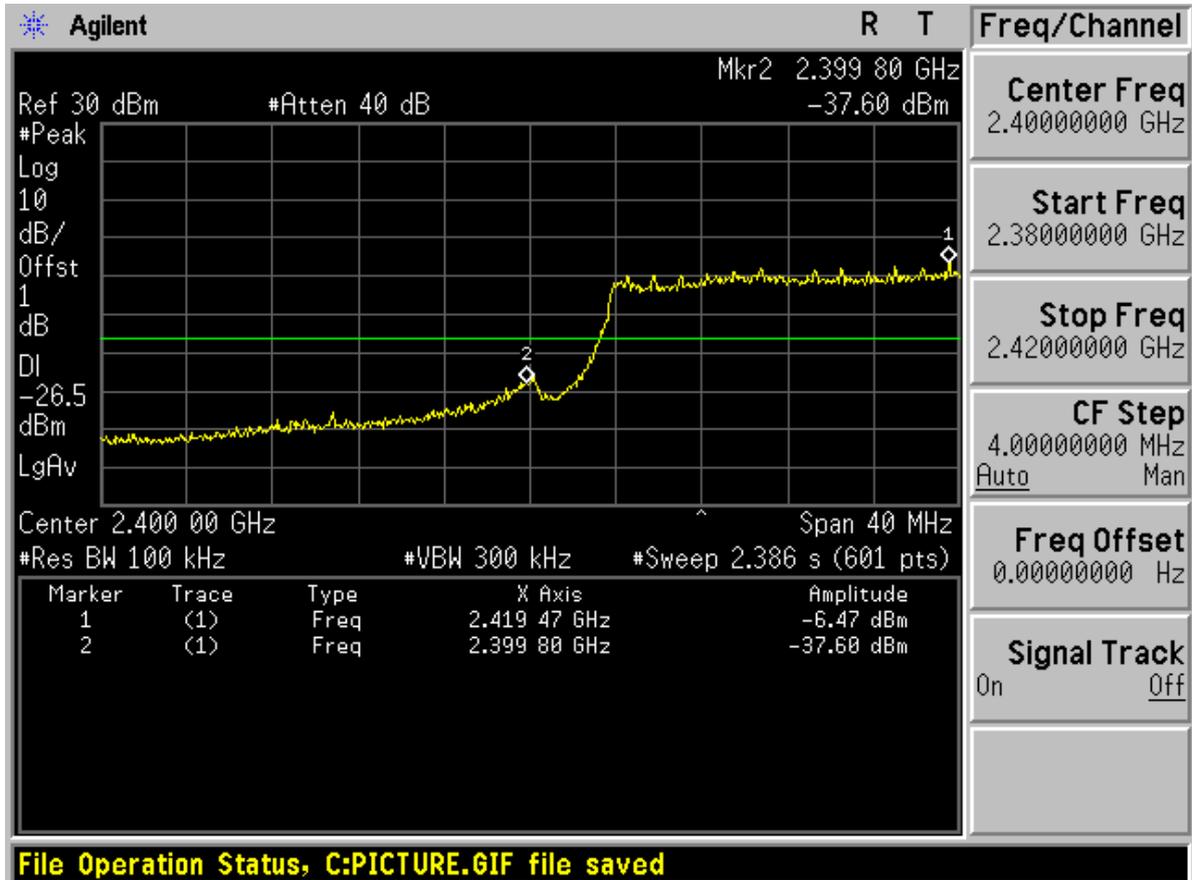
## Low edge

### Chain 1



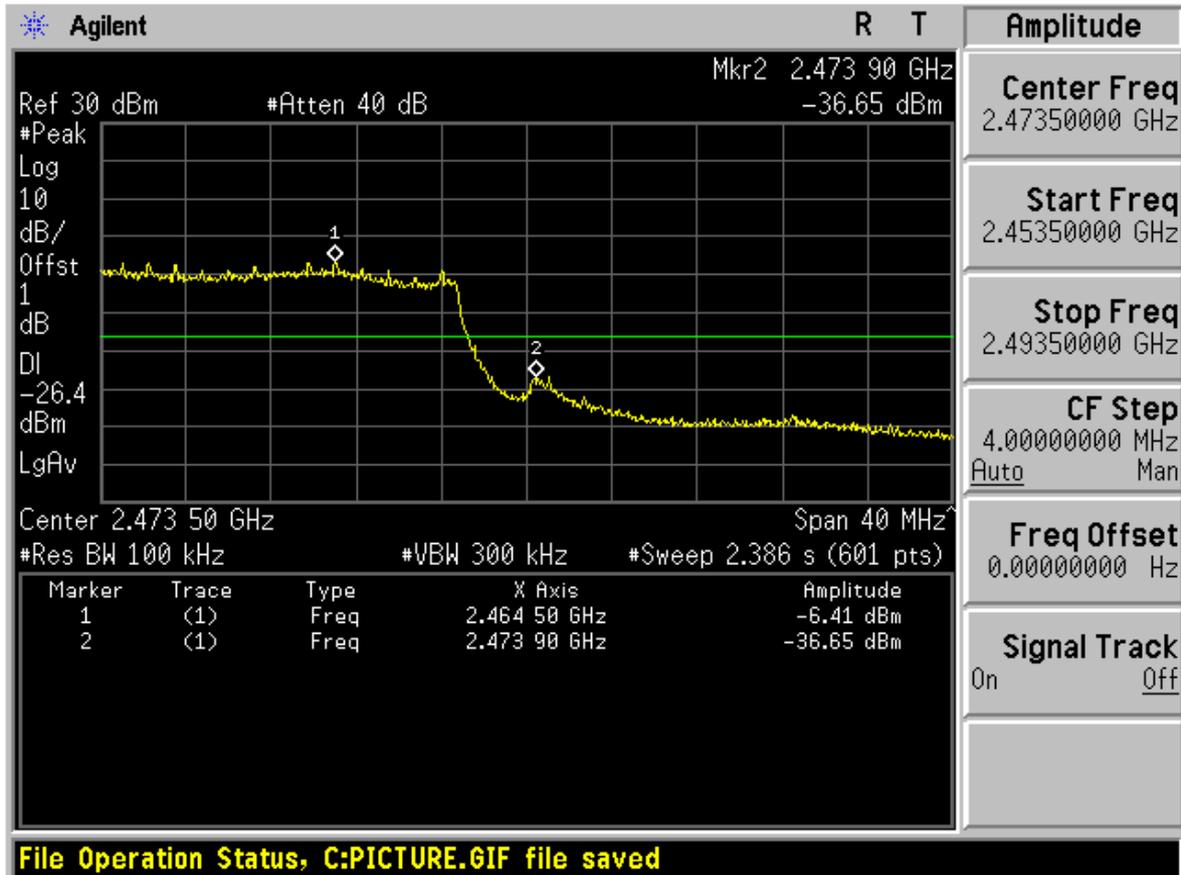


## Chain 2



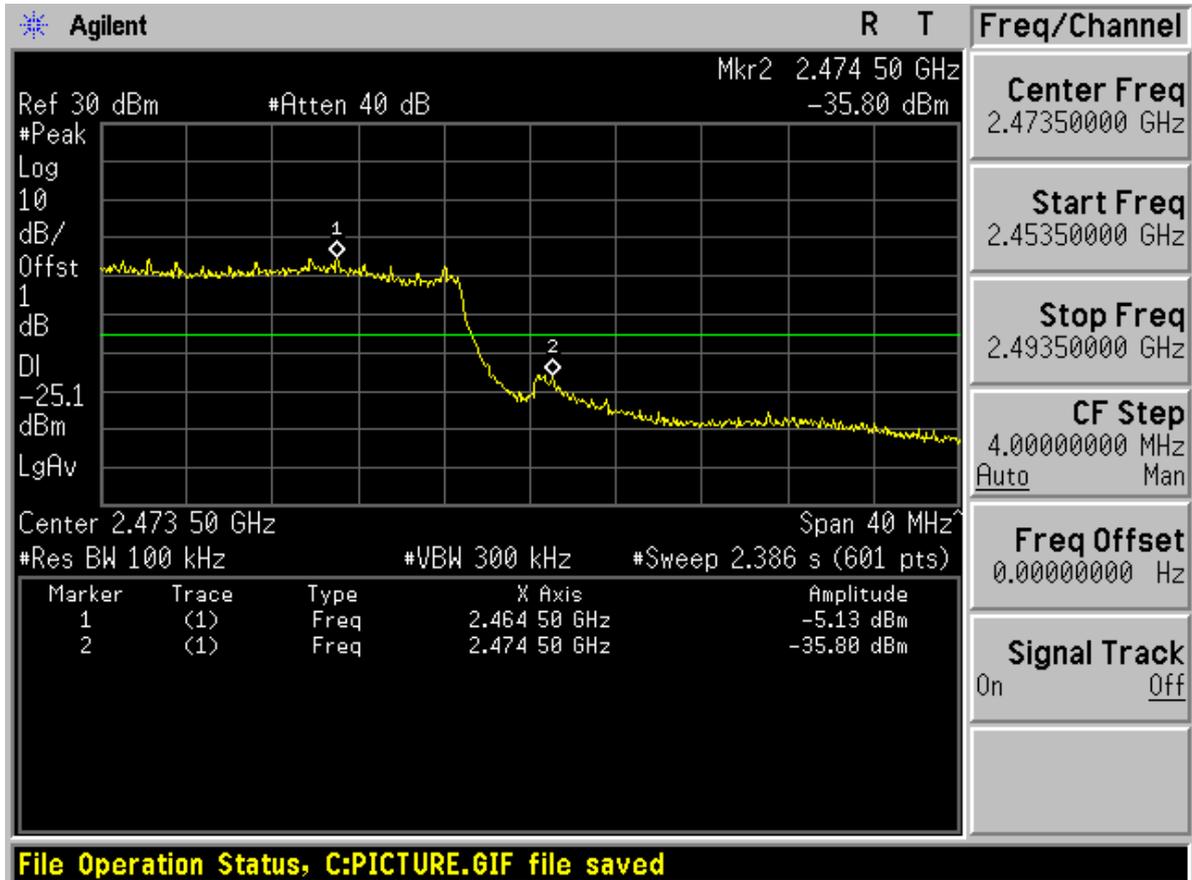


# High edge Chain 1





## Chain 2



END



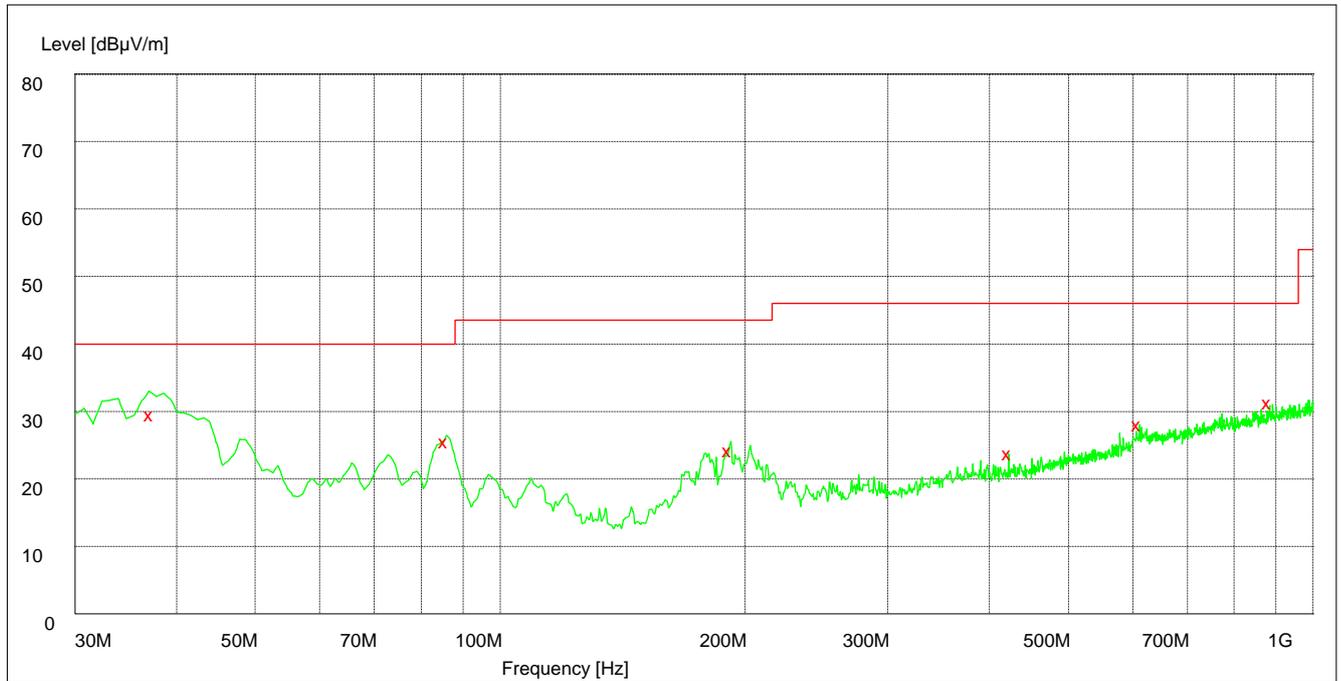
## **Appendix F**

# **Radiated Spurious Emission & Spurious in Restricted Band (according to FCC Part 15.247(d) & 15.205 & 15.209)**



**Part 1: Testing Range of “30 MHz to 1 GHz”**

- Note 1: The test results and plot for testing range of “30 MHz to 1 GHz” showed as below is **the WORST case for all Test Modes and Channels**. This range will not be presented for each Test Mode and each Channel.
- Note 2: **The emissions in this range are mainly from the Platform Device (Notepad PC and its ancillary components).**

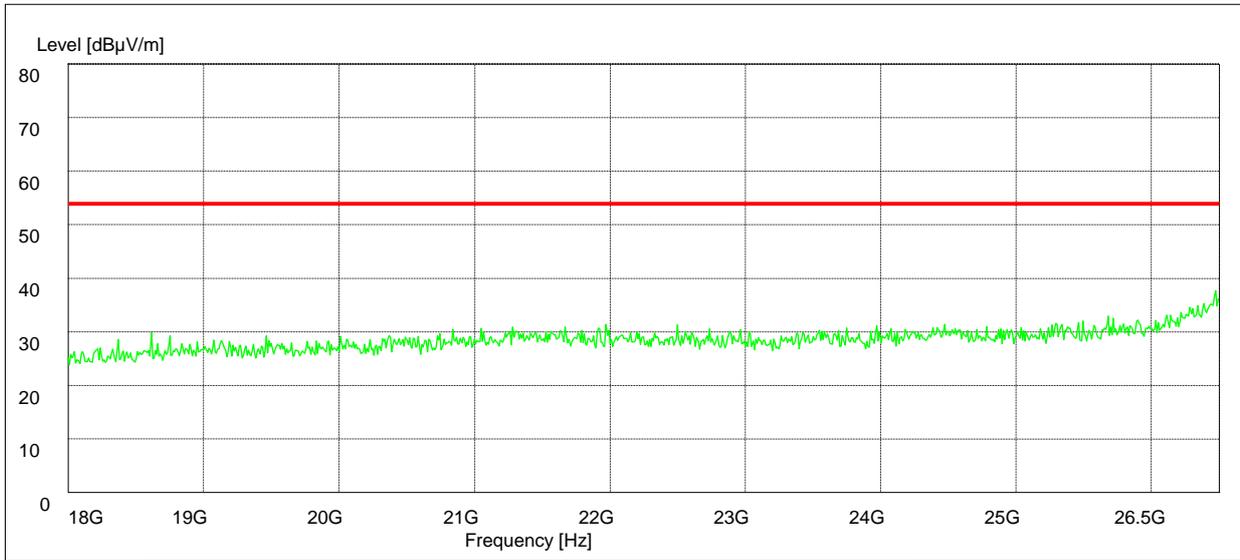


MEASUREMENT RESULT: QP Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarisation
37.320000	30.90	15.2	40.0	9.1	100.0	360.00	VERTICAL
85.980000	26.80	11.2	40.0	13.2	114.0	198.00	VERTICAL
192.000000	25.50	12.1	43.5	18.0	100.0	352.00	VERTICAL
423.540000	25.10	18.0	46.0	20.9	100.0	236.00	VERTICAL
611.640000	29.40	21.5	46.0	16.6	121.0	142.00	VERTICAL
884.940000	32.70	24.8	46.0	13.3	125.0	219.00	VERTICAL



**Part 2: Testing Range of “18 GHz to 26.5 GHz”**



Note: No peak found in pre- test.

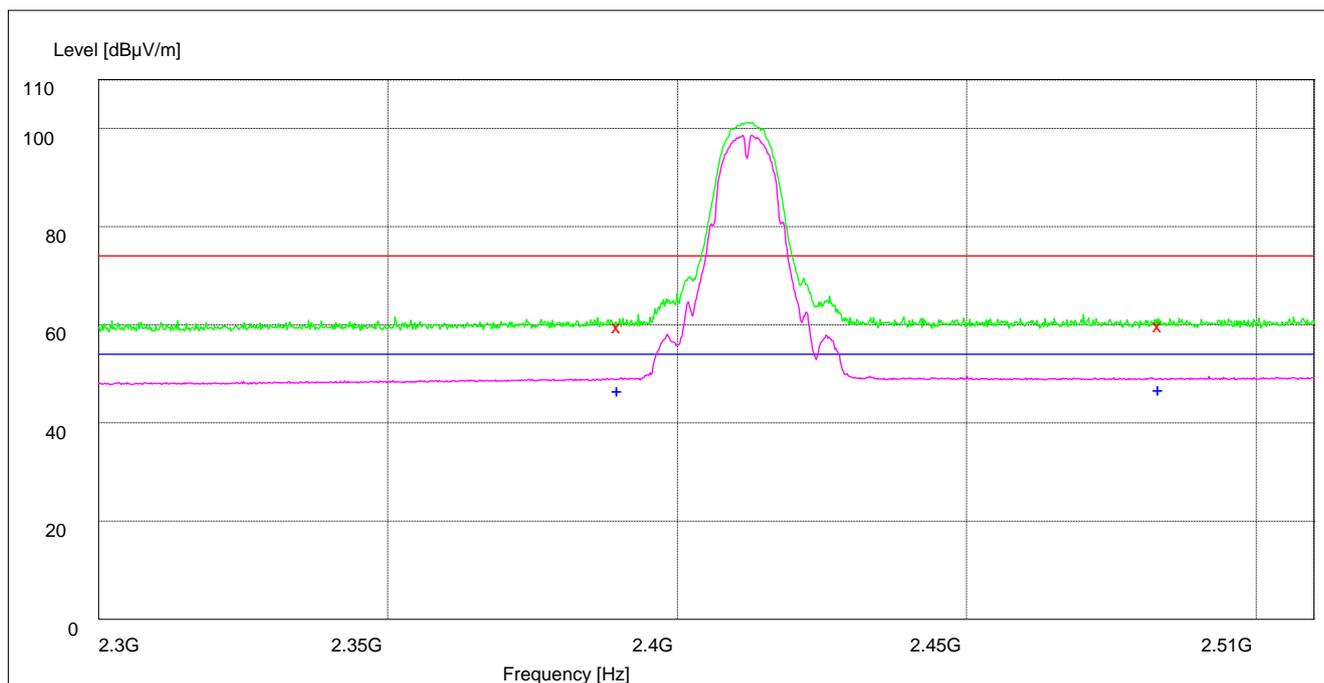


### Part 3: Testing Range of “2.3GHz to 2.5GHz”

- Note 1: The testing range of “1 GHz to 3 GHz” is for checking radiated emissions located in restricted bands near the EUT operating bands.
- Note 2: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB $\mu$ V/m) and Average Limit (54 dB $\mu$ V/m).
- Note 3: The peak spike exceeds the limit line is EUT’s operating frequency.

#### 1 Test Mode: 11B / SISO-Antenna 1

##### 1.1 Channel 01



Note: The peak exceeds the limit line is carrier frequency.

#### MEASUREMENT RESULT: PK Detector

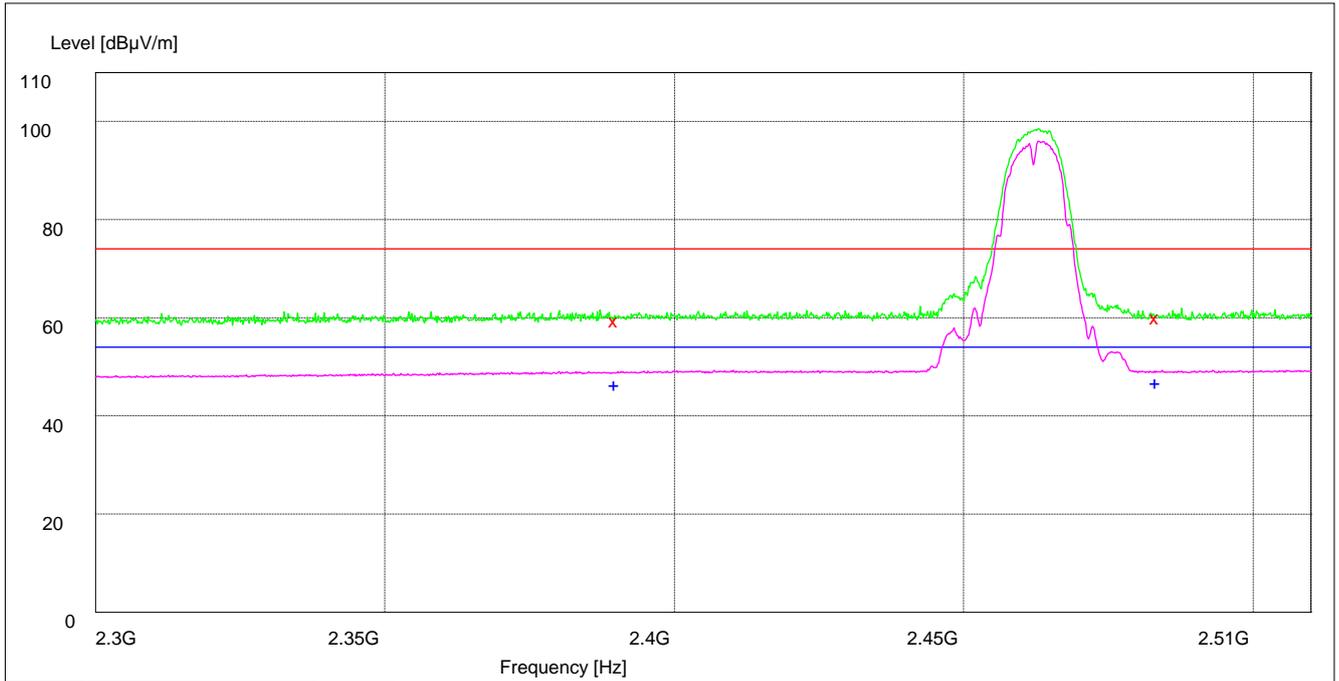
Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	61.50	34.8	74.0	12.5	100.0	356.00	VERTICAL
2483.500000	61.80	35.1	74.0	12.2	100.0	308.00	HORIZONTAL

#### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.50	34.8	54.0	5.5	100.0	356.00	VERTICAL
2483.500000	48.70	35.1	54.0	5.3	119.0	192.00	VERTICAL



## 1.2 Channel 11



Note: The peak exceeds the limit line is carrier frequency.

### MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	61.20	34.8	74.0	12.8	143.0	297.00	HORIZONTAL
2483.500000	62.00	35.1	74.0	12.0	137.0	184.00	HORIZONTAL

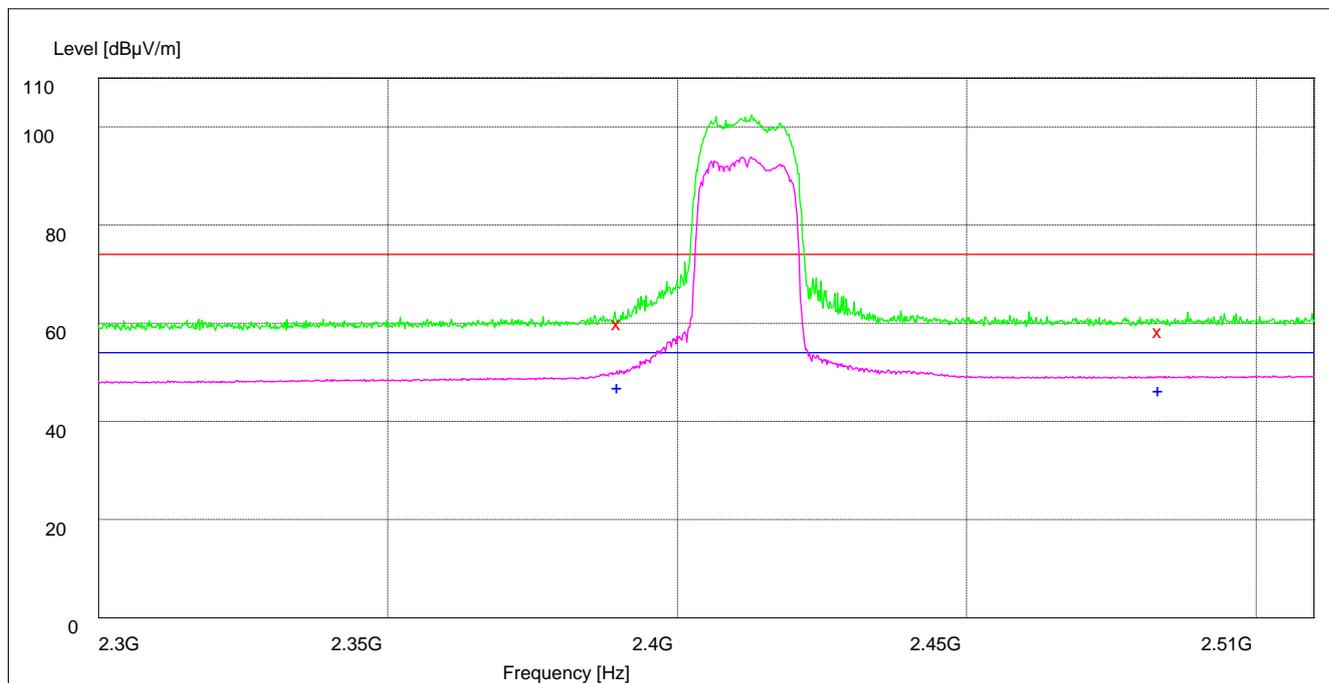
### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.20	34.8	54.0	5.8	100.0	155.00	VERTICAL
2483.500000	48.60	35.1	54.0	5.4	147.0	329.00	VERTICAL



## 2 Test Mode: 11G / SISO-Antenna 1

### 2.1 Channel 01



Note: The peak exceeds the limit line is carrier frequency.

#### MEASUREMENT RESULT: PK Detector

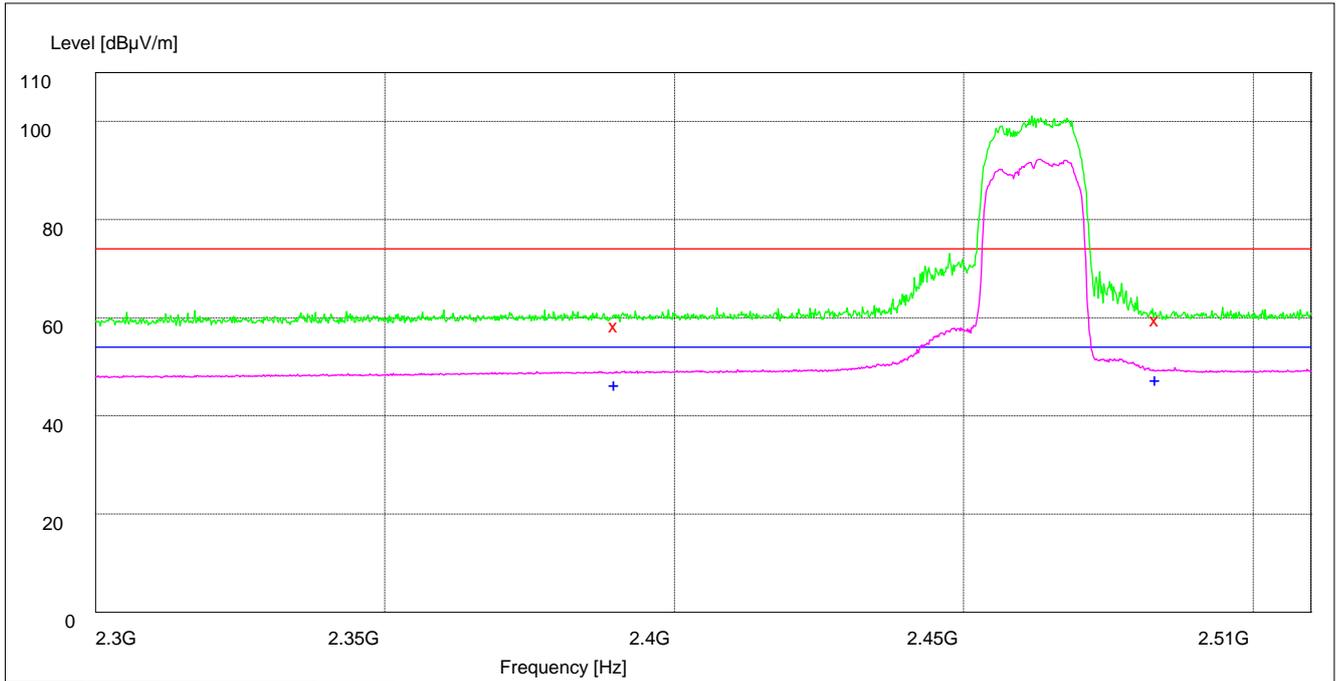
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	61.90	34.8	74.0	12.1	150.0	359.00	HORIZONTAL
2483.500000	60.30	35.1	74.0	13.7	147.0	233.00	VERTICAL

#### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.90	34.8	54.0	5.1	100.0	67.00	HORIZONTAL
2483.500000	48.20	35.1	54.0	5.8	118.0	347.00	VERTICAL



## 2.2 Channel 11



Note: The peak exceeds the limit line is carrier frequency.

### MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	60.30	34.8	74.0	13.7	102.0	123.00	VERTICAL
2483.500000	61.60	35.1	74.0	12.4	122.0	354.00	VERTICAL

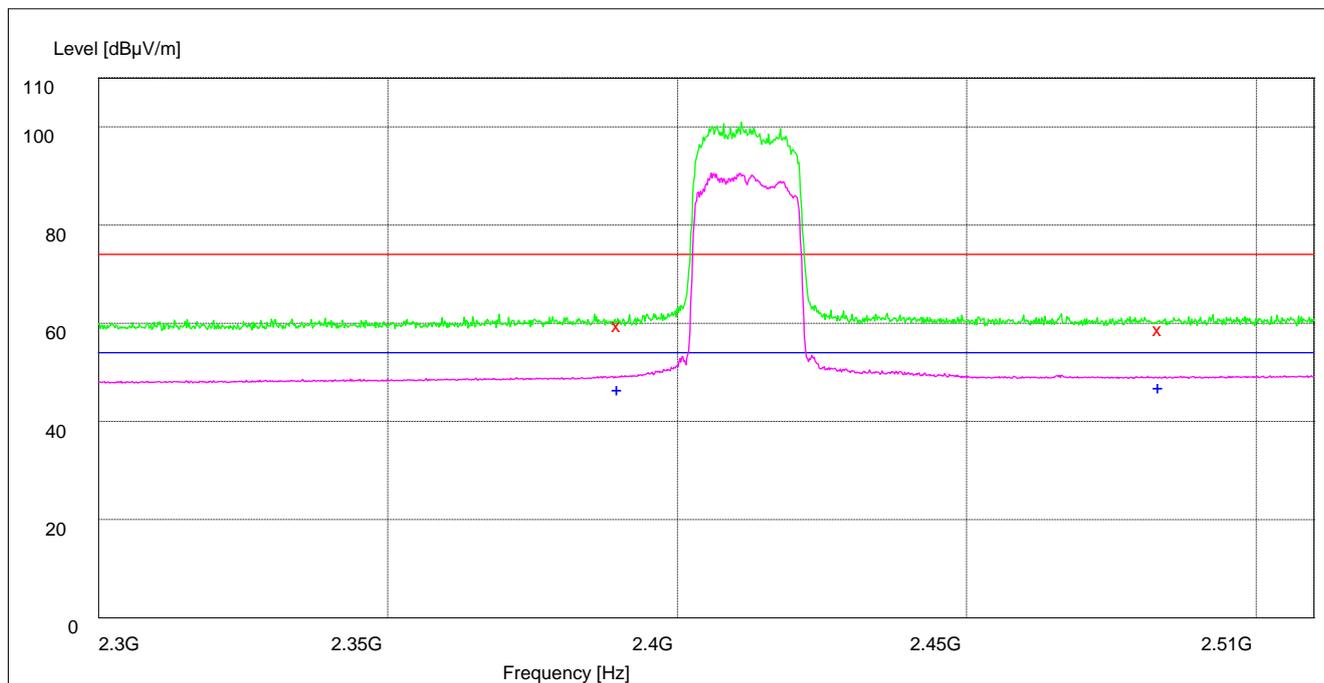
### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.30	34.8	54.0	5.7	102.0	356.00	VERTICAL
2483.500000	49.20	35.1	54.0	4.8	102.0	144.00	HORIZONTAL



### 3 Test Mode: 11N-20M / SISO-Antenna 1

#### 3.1 Channel 01



Note: The peak exceeds the limit line is carrier frequency.

#### MEASUREMENT RESULT: PK Detector

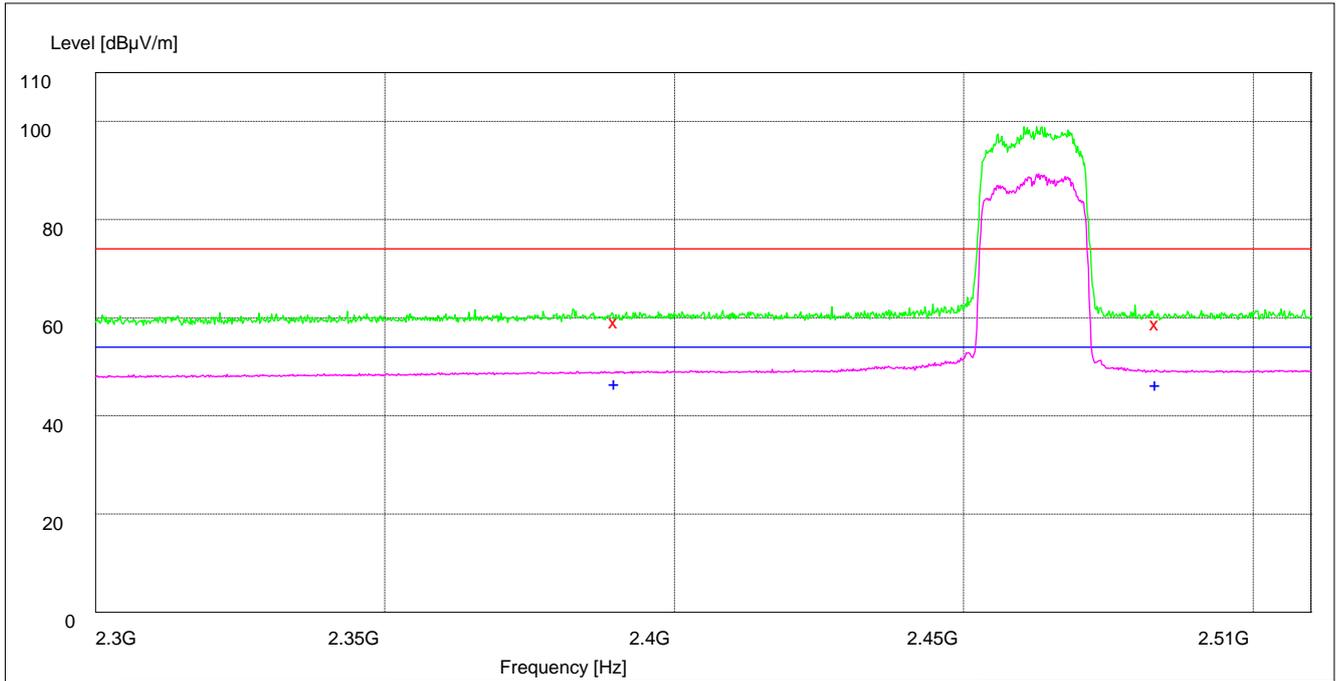
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	61.60	34.8	74.0	12.4	100.0	136.00	VERTICAL
2483.500000	60.80	35.1	74.0	13.2	117.0	208.00	VERTICAL

#### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.50	34.8	54.0	5.5	100.0	22.00	VERTICAL
2483.500000	48.80	35.1	54.0	5.2	123.0	300.00	VERTICAL



### 3.2 Channel 11



Note: The peak exceeds the limit line is carrier frequency.

#### MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	61.10	34.8	74.0	12.9	113.0	192.00	VERTICAL
2483.500000	60.80	35.1	74.0	13.2	100.0	97.00	VERTICAL

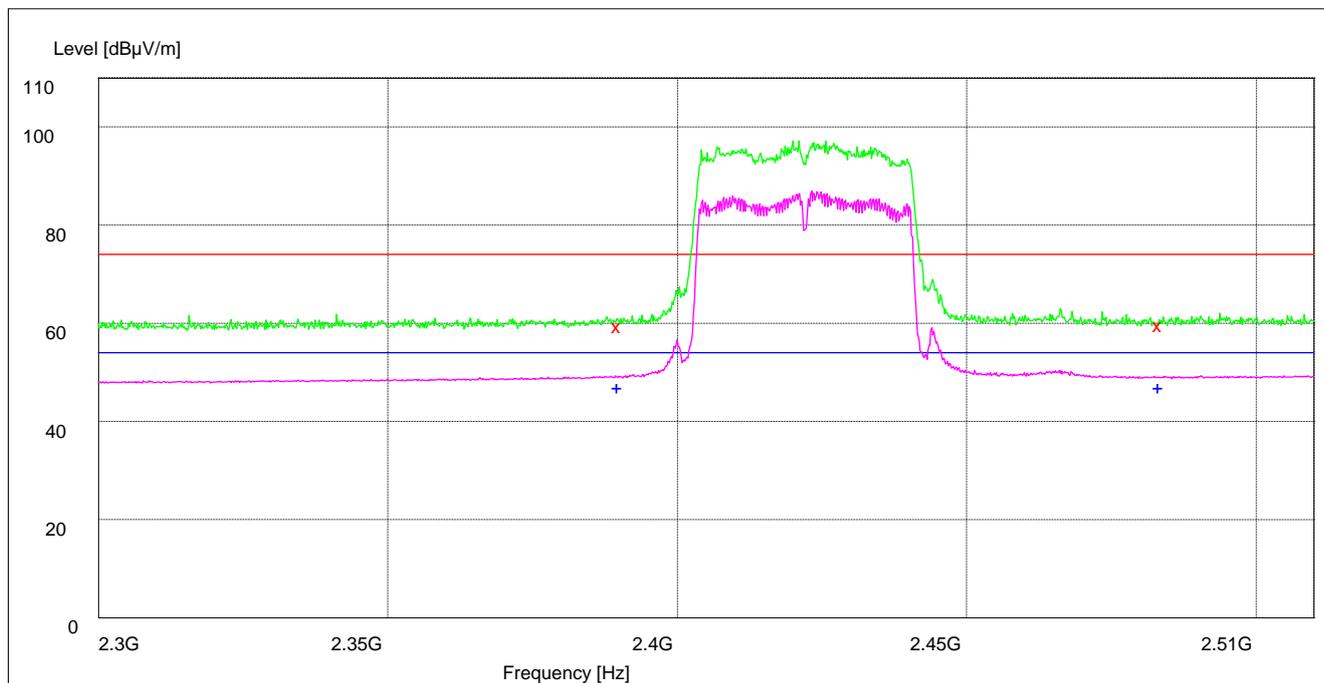
#### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.50	34.8	54.0	5.5	100.0	173.00	HORIZONTAL
2483.500000	48.20	35.1	54.0	5.8	100.0	158.00	HORIZONTAL



#### 4 Test Mode: 11N-40M / SISO-Antenna 1

##### 4.1 Channel 03



Note: The peak exceeds the limit line is carrier frequency.

##### MEASUREMENT RESULT: PK Detector

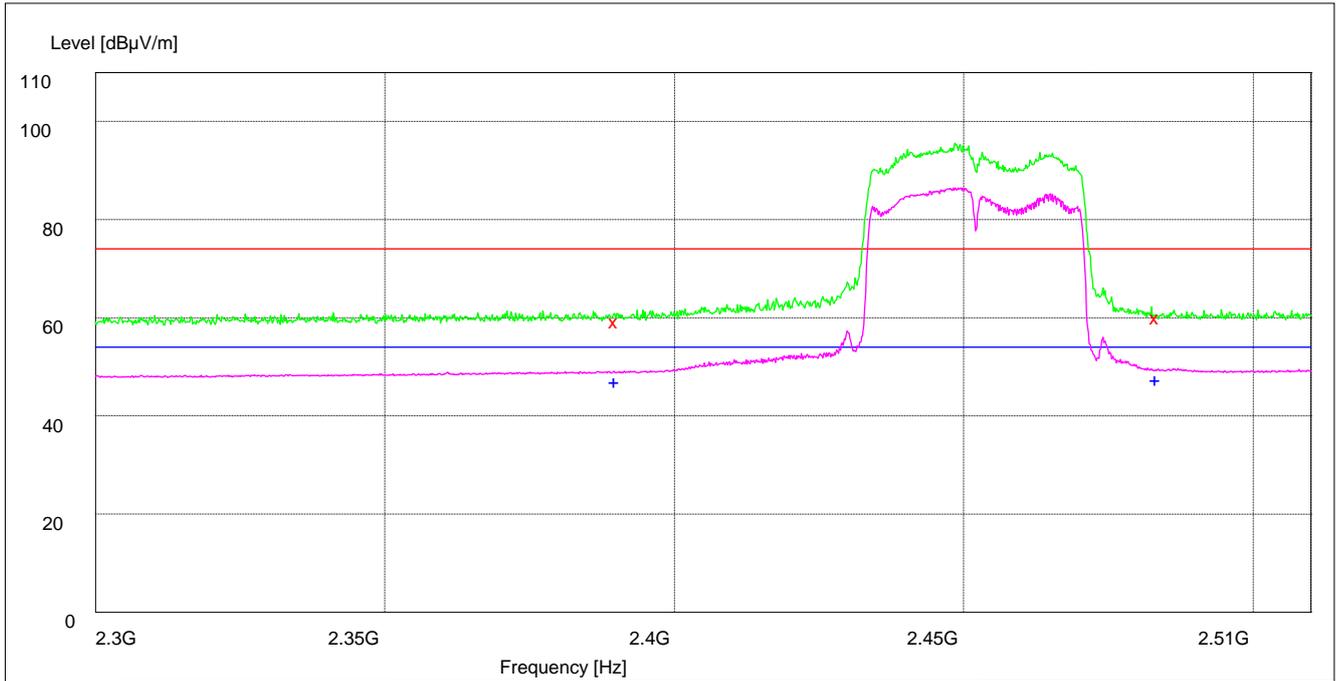
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	61.30	34.8	74.0	12.7	100.0	300.00	VERTICAL
2483.500000	61.50	35.1	74.0	12.5	114.0	353.00	VERTICAL

##### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.80	34.8	54.0	5.2	100.0	146.00	HORIZONTAL
2483.500000	48.90	35.1	54.0	5.1	100.0	304.00	VERTICAL



## 4.2 Channel 09



Note: The peak exceeds the limit line is carrier frequency.

### MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	61.10	34.8	74.0	12.9	100.0	9.00	VERTICAL
2483.500000	62.00	35.1	74.0	12.0	130.0	218.00	VERTICAL

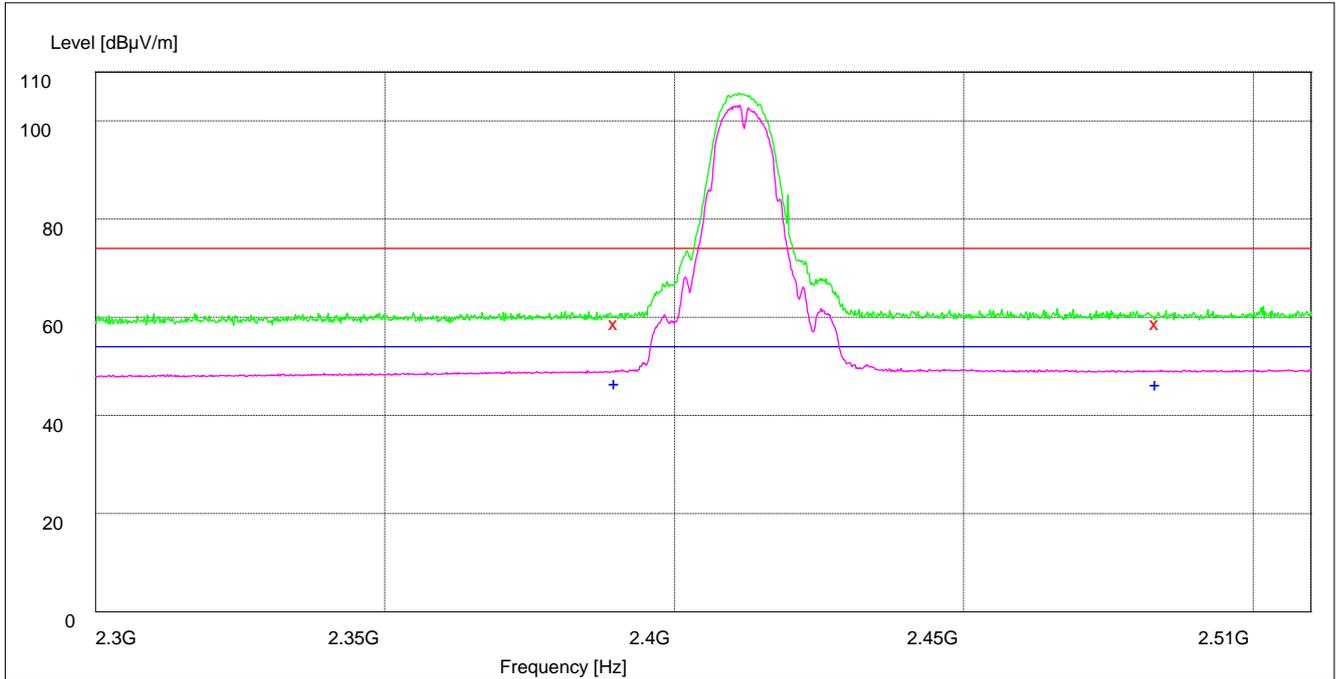
### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.90	34.8	54.0	5.1	101.0	41.00	VERTICAL
2483.500000	49.20	35.1	54.0	4.8	109.0	48.00	HORIZONTAL



## 5 Test Mode: 11B / SISO-Antenna 2

### 5.1 Channel 01



Note: The peak exceeds the limit line is carrier frequency.

#### MEASUREMENT RESULT: PK Detector

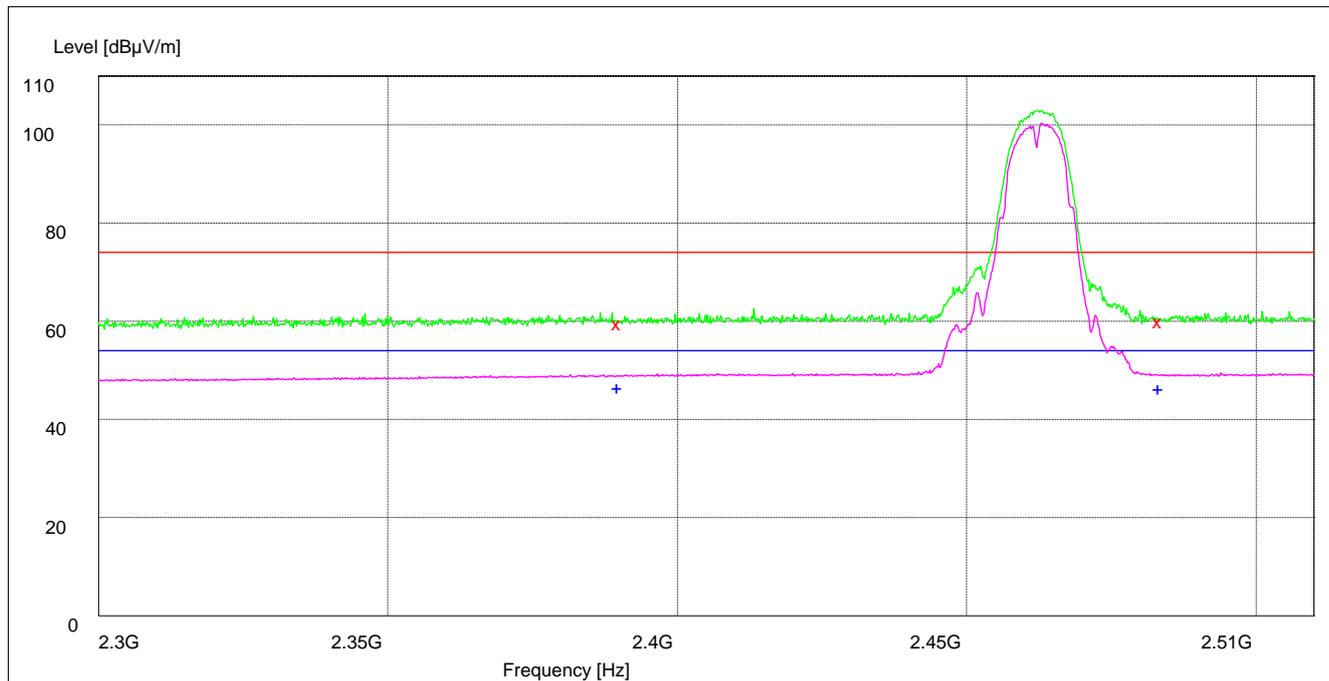
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	60.80	34.8	74.0	13.2	102.0	173.00	HORIZONTAL
2483.500000	60.70	35.1	74.0	13.3	102.0	142.00	HORIZONTAL

#### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.50	34.8	54.0	5.5	103.0	173.00	HORIZONTAL
2483.500000	48.20	35.1	54.0	5.8	103.0	232.00	VERTICAL



## 5.2 Channel 11



Note: The peak exceeds the limit line is carrier frequency.

### MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	61.40	34.8	74.0	12.6	125.0	190.00	HORIZONTAL
2483.500000	61.90	35.1	74.0	12.1	100.0	332.00	VERTICAL

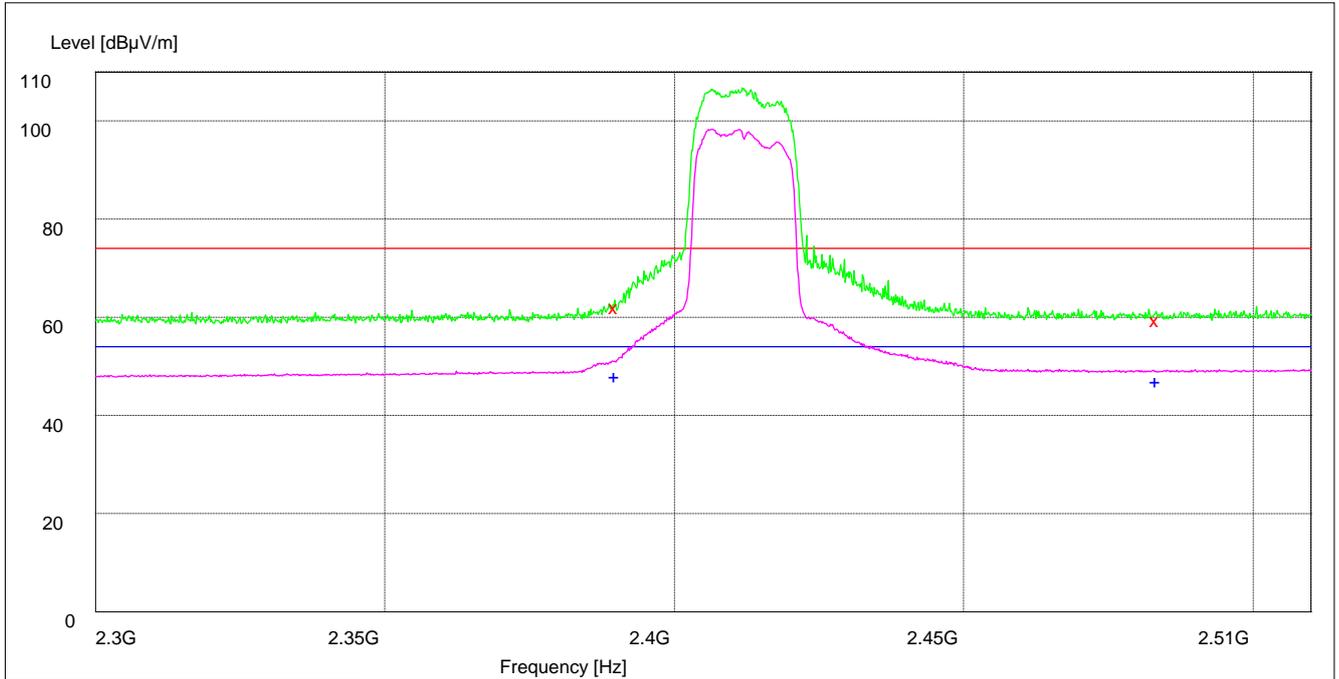
### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.50	34.8	54.0	5.5	144.0	303.00	HORIZONTAL
2483.500000	48.20	35.1	54.0	5.8	115.0	44.00	VERTICAL



## 6 Test Mode: 11G / SISO-Antenna 2

### 6.1 Channel 01



Note: The peak exceeds the limit line is carrier frequency.

#### MEASUREMENT RESULT: PK Detector

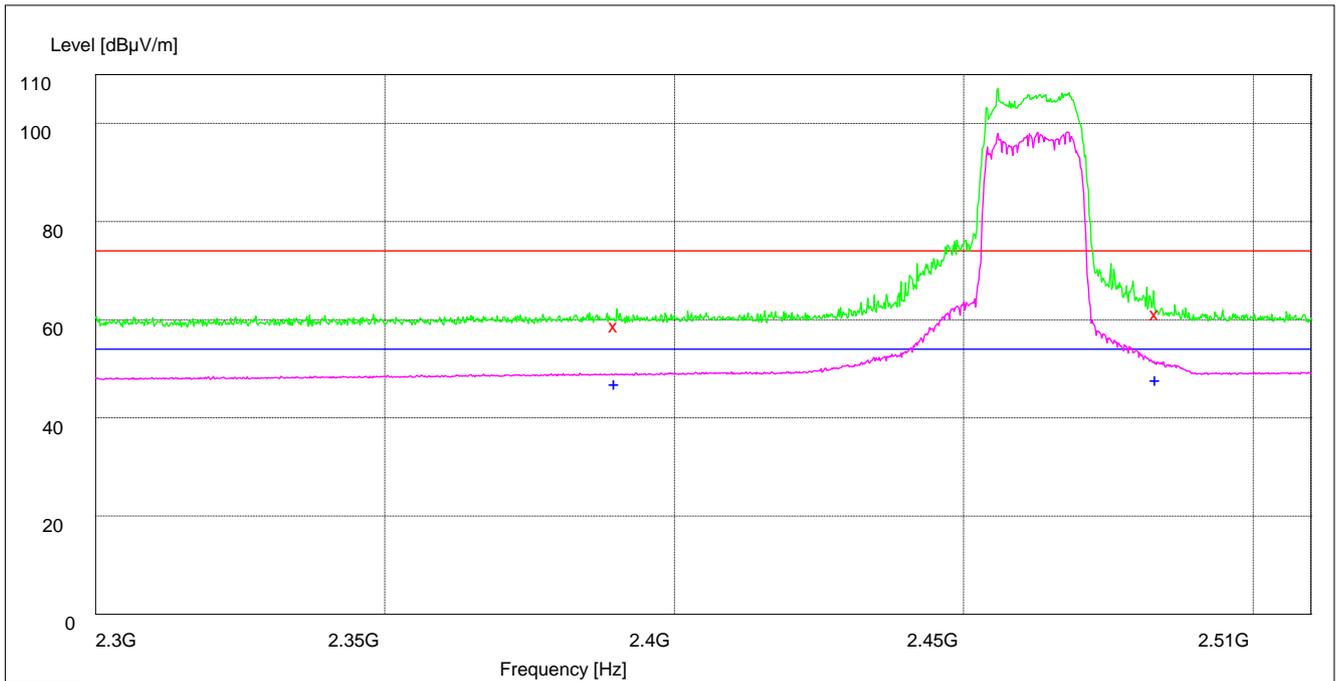
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	64.00	34.8	74.0	10.0	102.0	144.00	HORIZONTAL
2483.500000	61.30	35.1	74.0	12.7	141.0	0.00	HORIZONTAL

#### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	49.80	34.8	54.0	4.2	100.0	143.00	HORIZONTAL
2483.500000	48.90	35.1	54.0	5.1	100.0	126.00	HORIZONTAL



## 6.2 Channel 11



Note: The peak exceeds the limit line is carrier frequency.

### MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	60.70	34.8	74.0	13.3	109.0	128.00	VERTICAL
2483.500000	63.10	35.1	74.0	10.9	107.0	156.00	VERTICAL

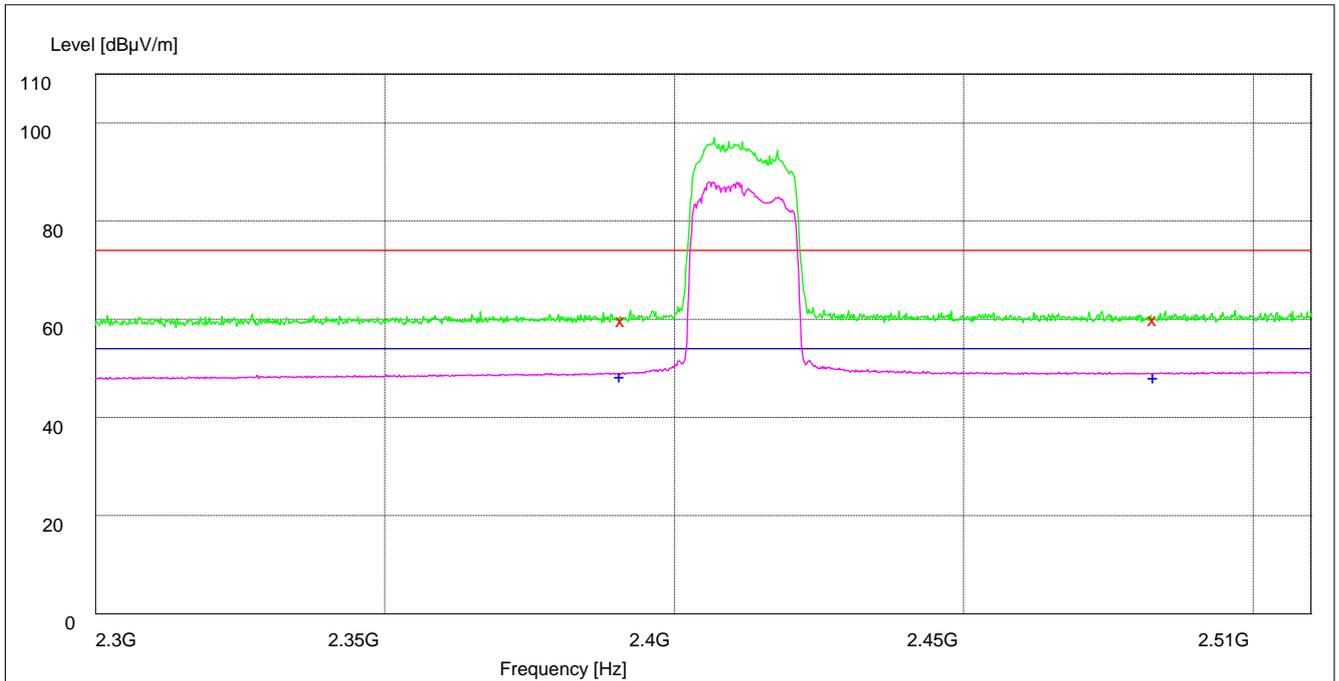
### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.90	34.8	54.0	5.1	100.0	359.00	VERTICAL
2483.500000	49.80	35.1	54.0	4.2	100.0	147.00	HORIZONTAL



## 7 Test Mode: 11N-20M / SISO-Antenna 2

### 7.1 Channel 01



Note: The peak exceeds the limit line is carrier frequency.

#### MEASUREMENT RESULT: PK Detector

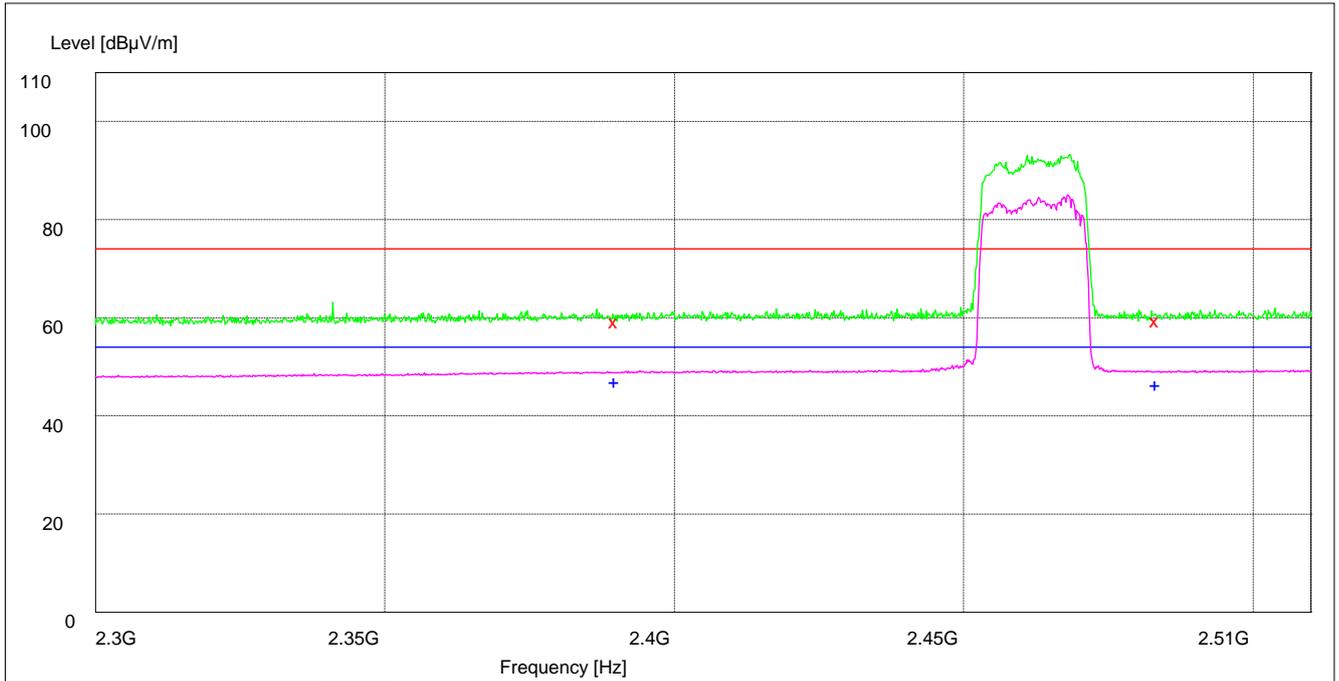
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	61.90	34.8	74.0	12.1	100.0	143.00	HORIZONTAL
2483.500000	61.30	35.1	74.0	12.7	115.0	41.00	VERTICAL

#### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.60	34.8	54.0	5.4	121.0	279.00	HORIZONTAL
2483.500000	48.20	35.1	54.0	5.8	134.0	0.00	HORIZONTAL



## 7.2 Channel 11



Note: The peak exceeds the limit line is carrier frequency.

### MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	61.00	34.8	74.0	13.0	148.0	334.00	HORIZONTAL
2483.500000	61.30	35.1	74.0	12.7	140.0	286.00	HORIZONTAL

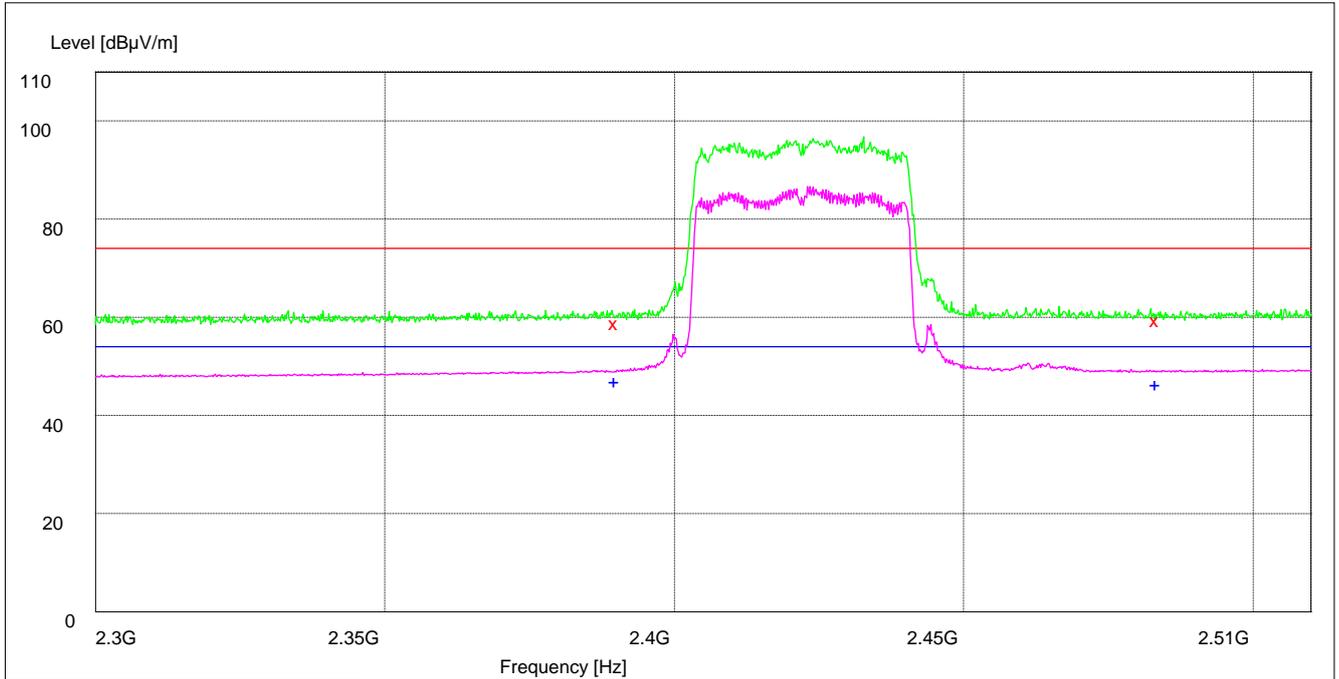
### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.90	34.8	54.0	5.1	128.0	90.00	VERTICAL
2483.500000	48.40	35.1	54.0	5.6	140.0	19.00	HORIZONTAL



## 8 Test Mode: 11N-40M / SISO-Antenna 2

### 8.1 Channel 03



Note: The peak exceeds the limit line is carrier frequency.

MEASUREMENT RESULT: PK Detector

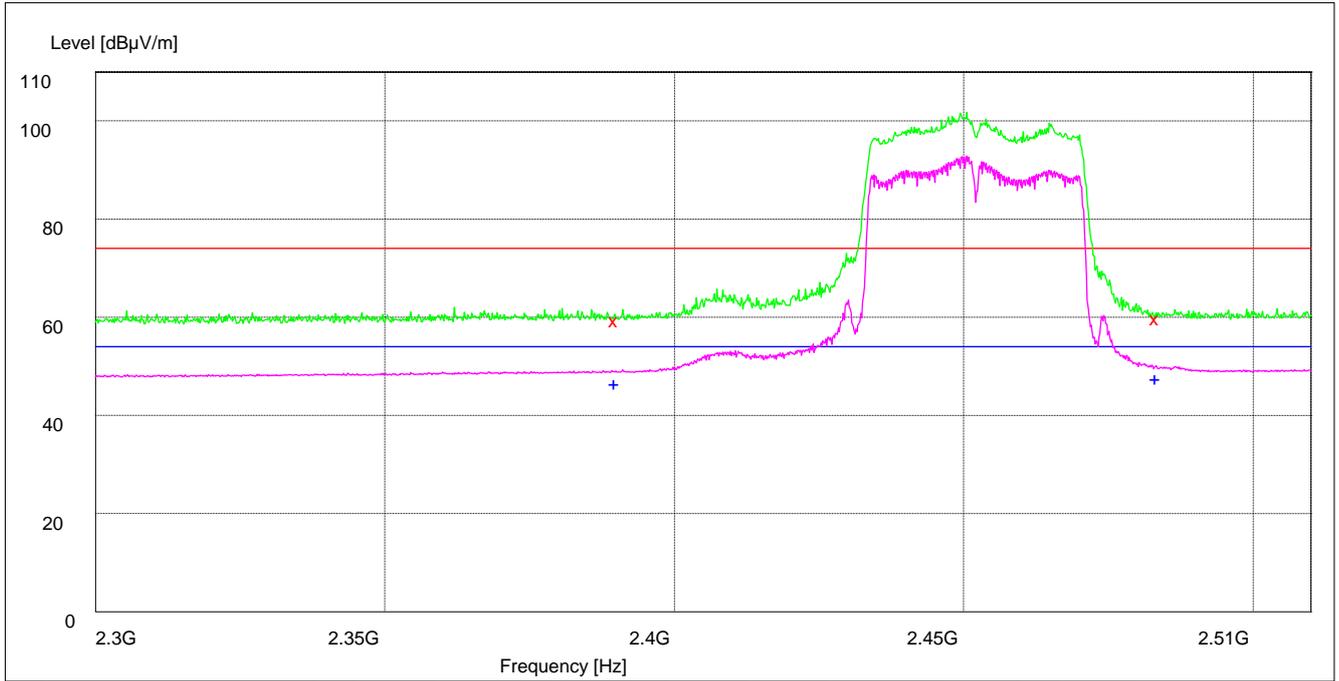
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	60.80	34.8	74.0	13.2	100.0	123.00	HORIZONTAL
2483.500000	61.30	35.1	74.0	12.7	135.0	26.00	HORIZONTAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.90	34.8	54.0	5.1	100.0	155.00	HORIZONTAL
2483.500000	48.30	35.1	54.0	5.7	100.0	243.00	HORIZONTAL



## 8.2 Channel 09



Note: The peak exceeds the limit line is carrier frequency.

### MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	61.10	34.8	74.0	12.9	100.0	184.00	VERTICAL
2483.500000	61.50	35.1	74.0	12.5	100.0	306.00	VERTICAL

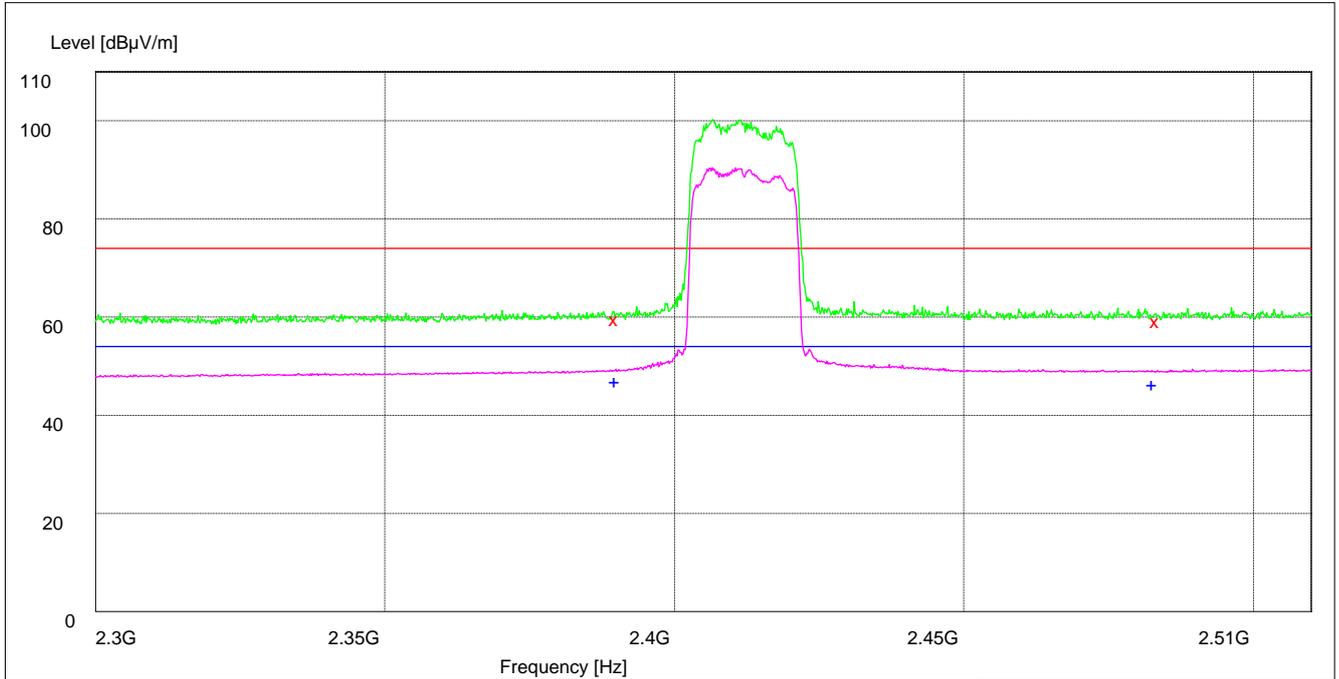
### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.50	34.8	54.0	5.5	100.0	279.00	HORIZONTAL
2483.500000	49.30	35.1	54.0	4.7	100.0	151.00	HORIZONTAL



## 9 Test Mode: 11N-20M / MIMO

### 9.1 Channel 01



Note: The peak exceeds the limit line is carrier frequency.

MEASUREMENT RESULT: PK Detector

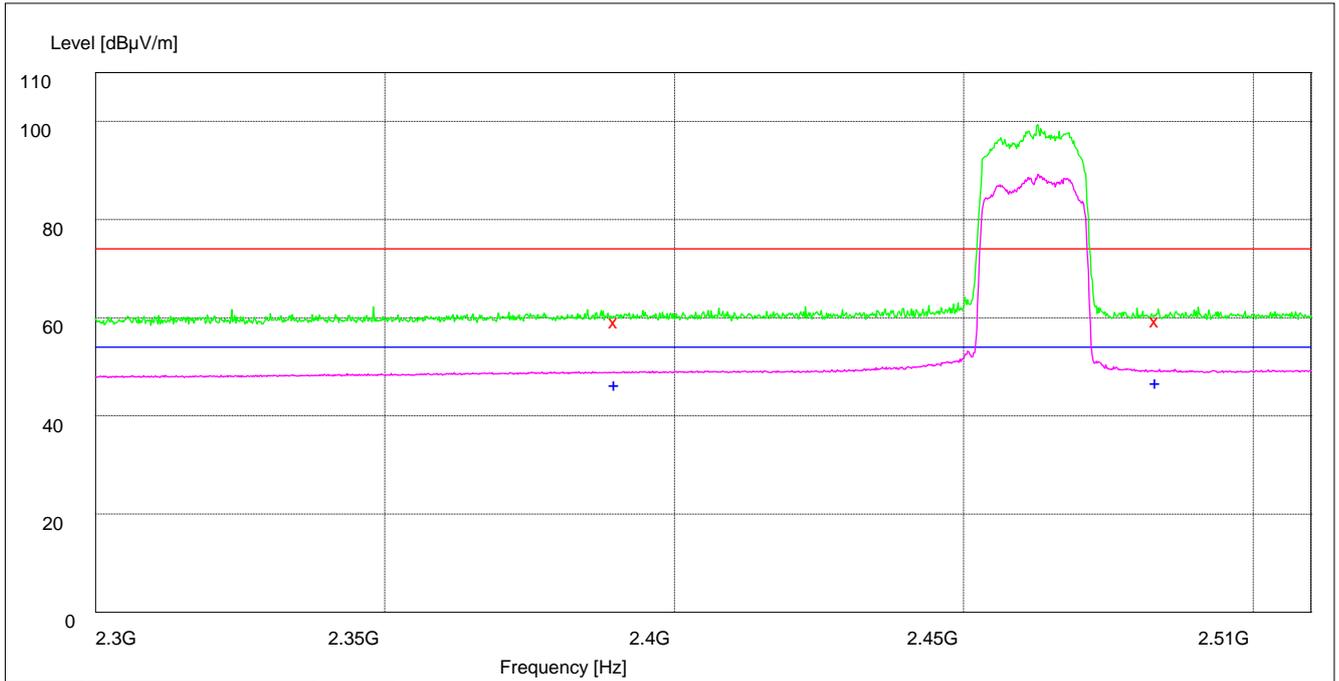
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	61.40	34.8	74.0	12.6	128.0	231.00	HORIZONTAL
2483.500000	61.00	35.1	74.0	13.0	100.0	293.00	VERTICAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.80	34.8	54.0	5.2	100.0	151.00	HORIZONTAL
2483.500000	48.20	35.1	54.0	5.8	138.0	345.00	HORIZONTAL



## 9.2 Channel 11



Note: The peak exceeds the limit line is carrier frequency.

### MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	61.00	34.8	74.0	13.0	127.0	323.00	VERTICAL
2483.500000	61.20	35.1	74.0	12.8	100.0	159.00	HORIZONTAL

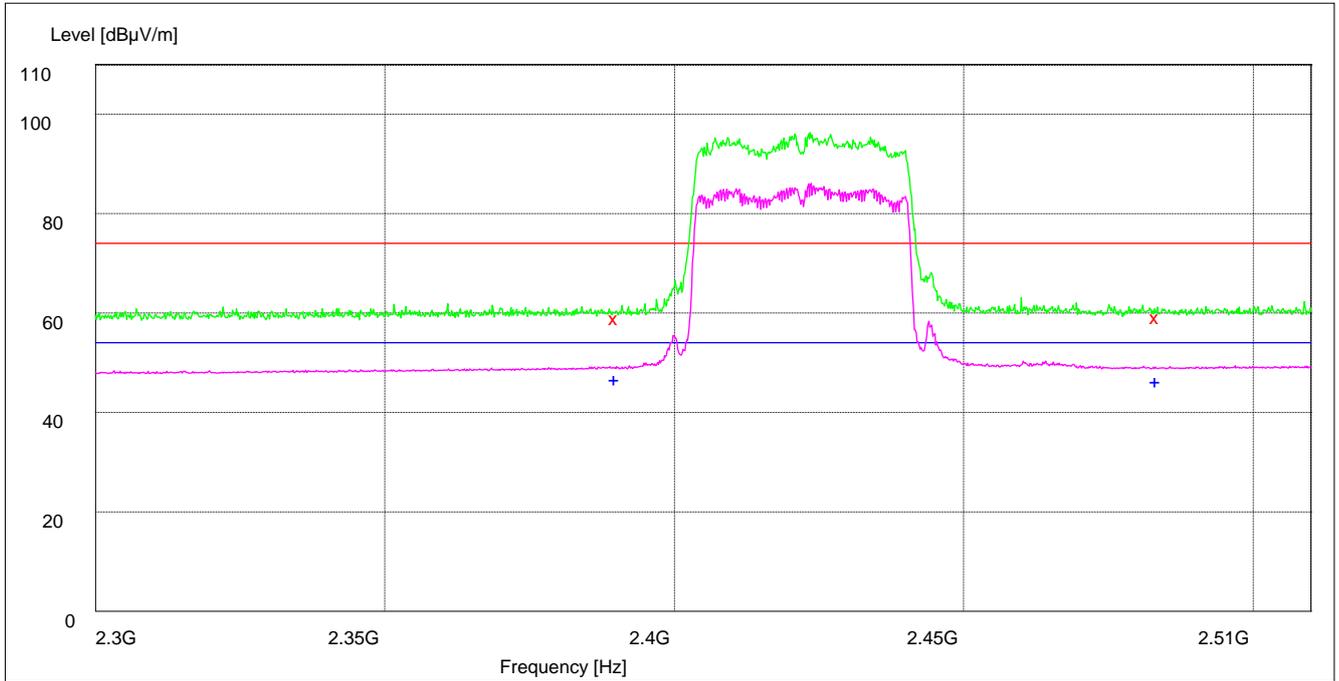
### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.30	34.8	54.0	5.7	100.0	184.00	HORIZONTAL
2483.500000	48.60	35.1	54.0	5.4	100.0	152.00	HORIZONTAL



## 10 Test Mode: 11N-40M / MIMO

### 10.1 Channel 03



Note: The peak exceeds the limit line is carrier frequency.

#### MEASUREMENT RESULT: PK Detector

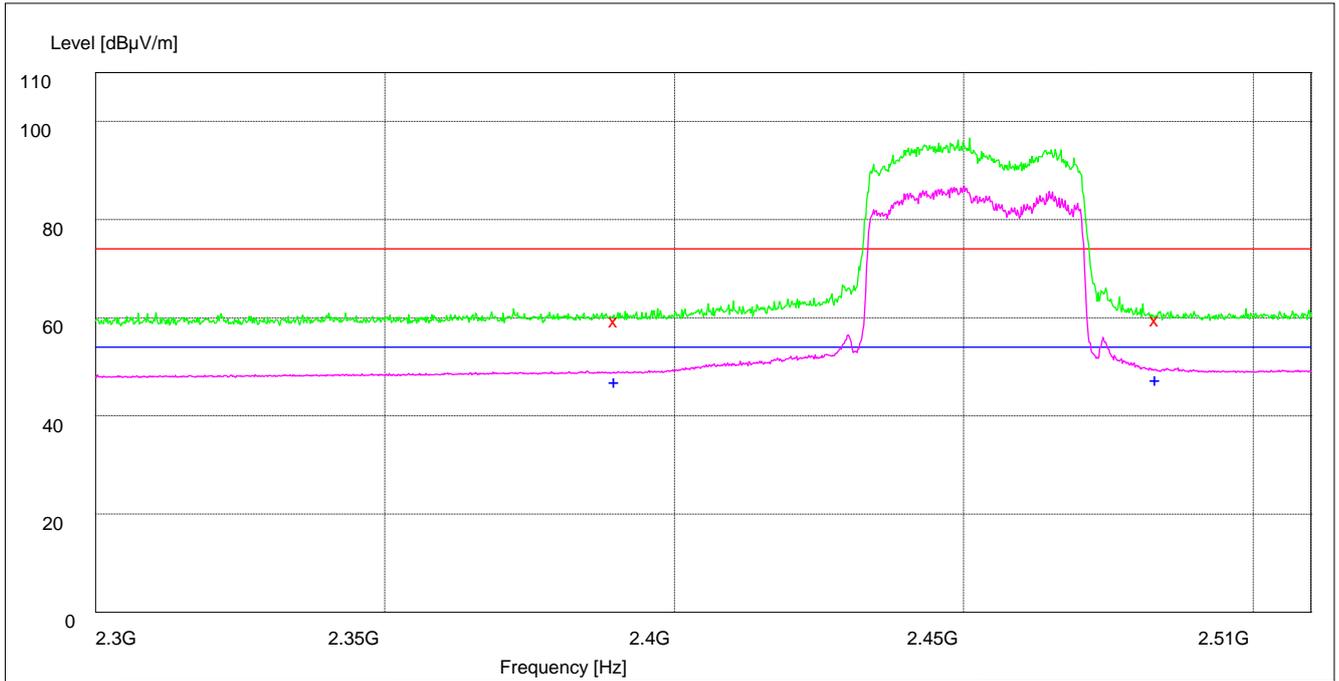
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	60.90	34.8	74.0	13.1	101.0	154.00	HORIZONTAL
2483.500000	61.00	35.1	74.0	13.0	100.0	256.00	VERTICAL

#### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.50	34.8	54.0	5.5	102.0	109.00	VERTICAL
2483.500000	48.20	35.1	54.0	5.8	108.0	21.00	HORIZONTAL



## 10.2 Channel 09



Note: The peak exceeds the limit line is carrier frequency.

### MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	61.20	34.8	74.0	12.8	150.0	112.00	HORIZONTAL
2483.500000	61.50	35.1	74.0	12.5	121.0	37.00	VERTICAL

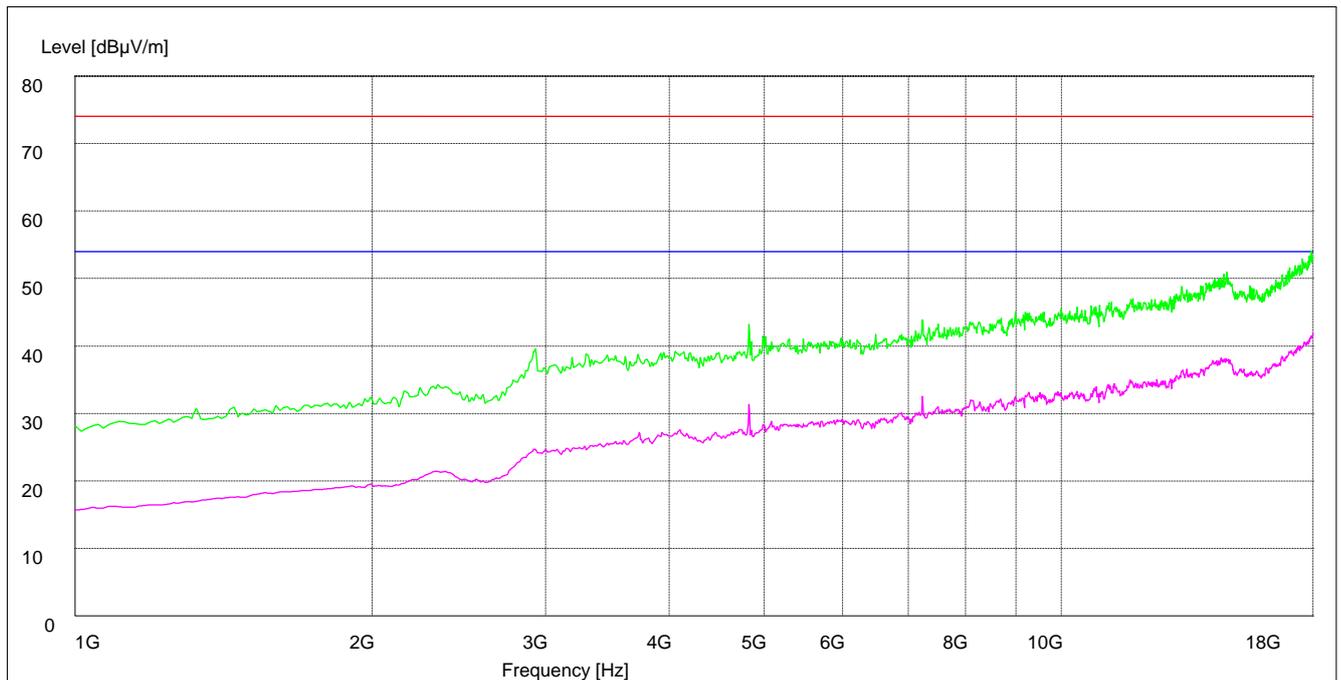
### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.90	34.8	54.0	5.1	100.0	93.00	VERTICAL
2483.500000	49.20	35.1	54.0	4.8	118.0	19.00	VERTICAL



#### **Part 4: Testing Range of “1 GHz to 18 GHz”**

- Note 1: The test results and plot for testing range of “30 MHz to 1 GHz” showed as below is **the WORST case for all Test Modes and Channels**. This range will not be presented for each Test Mode and each Channel.
- Note 2: The testing range of “1 GHz to 18 GHz” is for checking radiated emissions located in restricted bands faraway from the EUT operating bands.
- Note 3: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB $\mu$ V/m) and Average Limit (54 dB $\mu$ V/m).



END



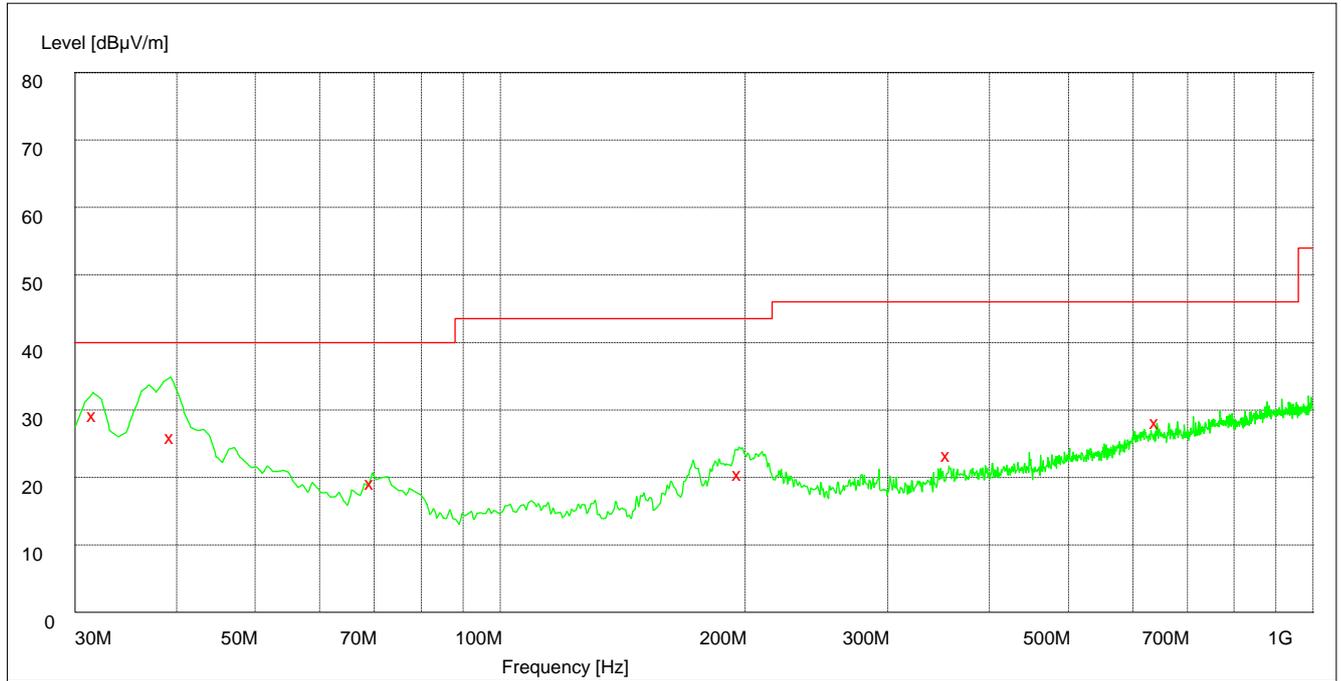
## Appendix G

# Receiver Spurious Emission



This test was carried out in all the test modes. Here only the worst test result was shown.

### 30MHz-1GHz

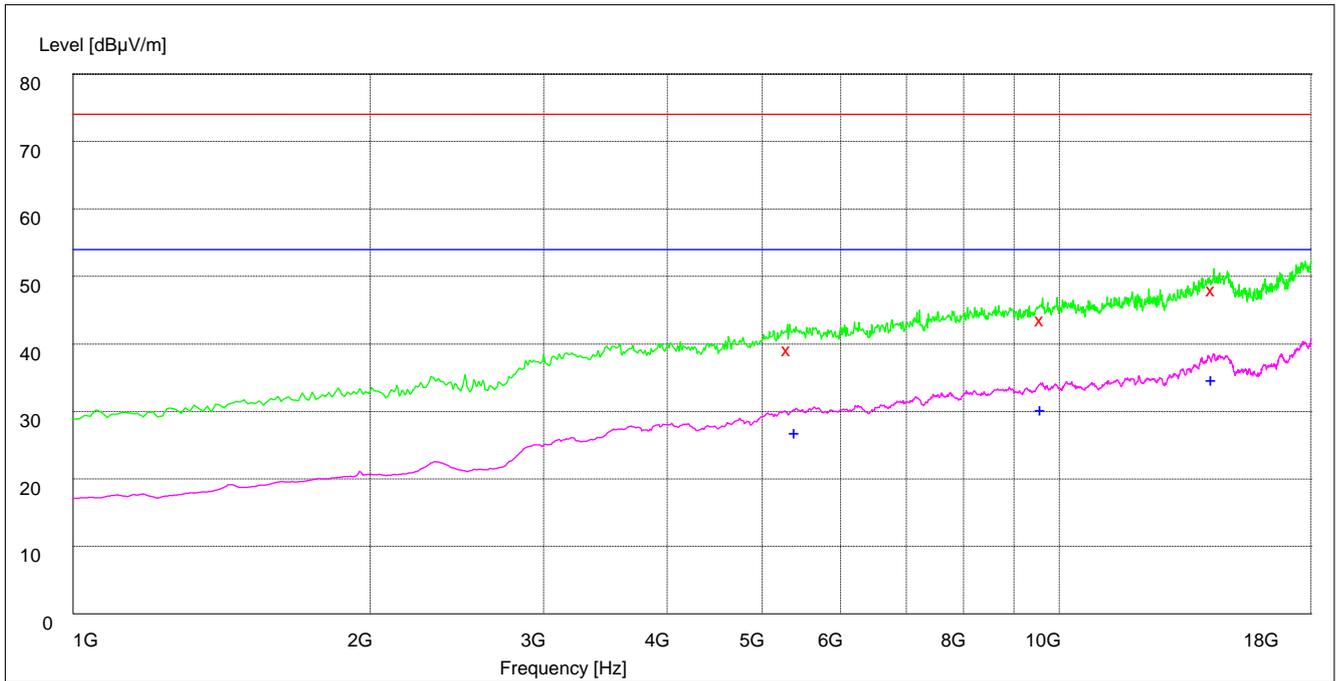


#### MEASUREMENT RESULT: QP Detector

Frequency	Level	Transducer	Limit	Margin	Height	Azimuth	Polarisation
MHz	dBµV/m	dB	dBµV/m	dB	cm	deg	
31.740000	30.50	14.7	40.0	9.5	100.0	272.00	VERTICAL
39.540000	27.30	15.3	40.0	12.7	100.0	289.00	VERTICAL
69.780000	20.50	11.0	40.0	19.5	126.0	46.00	VERTICAL
197.580000	21.80	12.3	43.5	21.7	100.0	340.00	VERTICAL
356.760000	24.70	16.8	46.0	21.3	100.0	231.00	HORIZONTAL
643.740000	29.60	21.8	46.0	16.4	200.0	212.00	VERTICAL



**1GHz to 18 GHz”**



**MEASUREMENT RESULT: PK Detector**

Frequency	Level	Transducer	Limit	Margin	Height	Azimuth	Polarisation
MHz	dBµV/m	dB	dBµV/m	dB	cm	deg	
5321.800000	40.60	-1.1	74.0	33.4	148.0	0.00	VERTICAL
9615.400000	44.90	6.0	74.0	29.1	100.0	26.00	VERTICAL
14349.100000	49.40	16.6	74.0	24.6	117.0	60.00	HORIZONTAL

**MEASUREMENT RESULT: AV Detector**

Frequency	Level	Transducer	Limit	Margin	Height	Azimuth	Polarisation
MHz	dBµV/m	dB	dBµV/m	dB	cm	deg	
5413.400000	28.20	-0.8	54.0	25.8	135.0	136.00	VERTICAL
9614.900000	31.60	6.0	54.0	22.4	100.0	99.00	VERTICAL
14323.500000	36.10	16.5	54.0	17.9	148.0	176.00	VERTICAL

END



FCC&IC Test Report of E5776s-501  
FCC ID: QISE5776S-501  
IC : 6369A-E5776S

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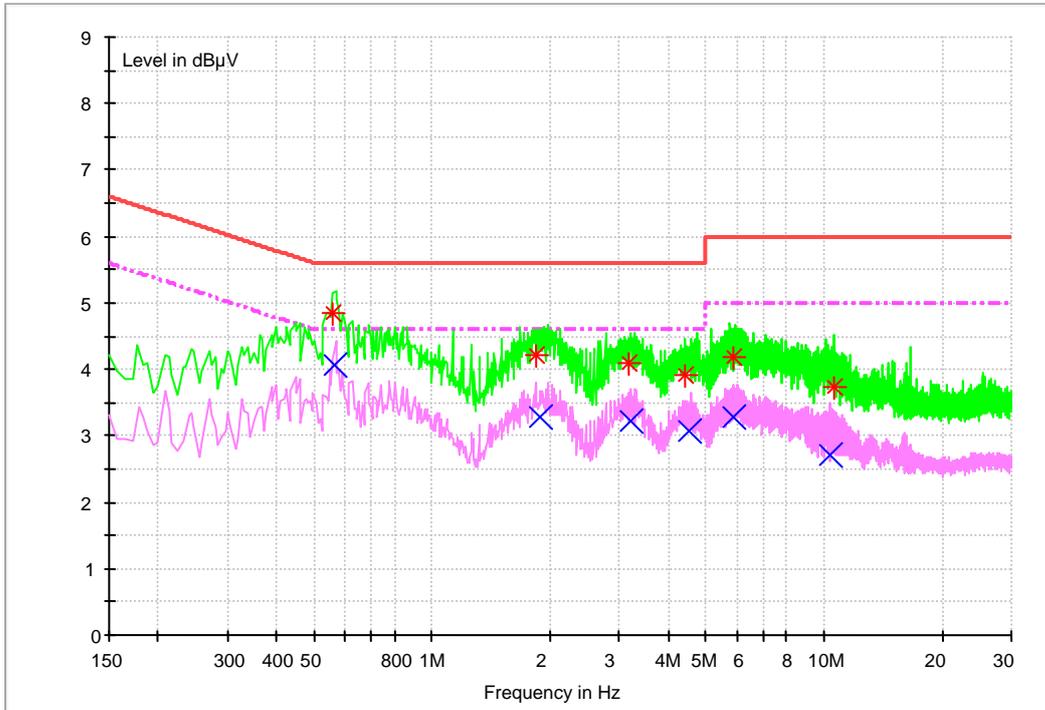
## Appendix H

# Conducted Emission at Power Port

According to FCC Part 15.207



## Channel 6



### MEASUREMENT RESULT: QP Detector

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.556470	48.5	9.7	56.0	7.5	N	FLO
1.845158	42.1	9.7	56.0	13.9	N	FLO
3.162818	40.9	9.7	56.0	15.1	N	FLO
4.393934	39.2	9.8	56.0	16.8	N	FLO
5.832135	41.7	9.8	60.0	18.3	N	FLO
10.542806	37.2	9.9	60.0	22.8	N	FLO



---

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Line	PE
0.566752	40.6	9.7	46.0	5.4	N	FLO
1.885556	32.8	9.7	46.0	13.2	N	FLO
3.221674	32.2	9.7	46.0	13.8	N	FLO
4.523434	30.8	9.8	46.0	15.2	N	FLO
5.875395	32.8	9.8	50.0	17.2	N	FLO
10.359285	27.1	9.9	50.0	22.9	N	FLO

---

END