



# **Appendix A**

## Bandwidth measurement

According to FCC Part 15.247 (a) (1)



# Channel 0 (2402MHz)





# Channel 40 (2442MHz)

<b>Agilent</b> <span style="float: right;">R T</span>		<b>Freq/Channel</b>	
<b>Ch Freq</b> 2.442 GHz <span style="float: right;"><b>Trig</b> Free</span>		<b>Center Freq</b> 2.44200000 GHz	
Occupied Bandwidth <span style="float: right;">[ ] [ ]</span>		<b>Start Freq</b> 2.44100000 GHz	
Ref 20 dBm <span style="margin-left: 50px;">Atten 30 dB</span>		<b>Stop Freq</b> 2.44300000 GHz	
		<b>CF Step</b> 200.000000 kHz Auto Man	
Start 2.441 000 GHz <span style="float: right;">Stop 2.443 000 GHz</span>		<b>Freq Offset</b> 0.00000000 Hz	
#Res BW 30 kHz <span style="margin-left: 100px;">#VBW 100 kHz</span> <span style="margin-left: 100px;">#Sweep 2.12 ms (601 pts)</span>		<b>Signal Track</b> On Off	
<b>Occupied Bandwidth</b> <span style="float: right;"><b>Occ BW % Pwr</b> 99.00 %</span>			
<span style="font-size: 1.2em;">863.2045 kHz</span> <span style="float: right;"><b>x dB</b> -20.00 dB</span>			
<b>Transmit Freq Error</b> 6.542 kHz			
<b>x dB Bandwidth</b> 941.992 kHz			
<b>Copyright 2000-2008 Agilent Technologies</b>			



## Channel 78 (2480MHz)



-----The End -----



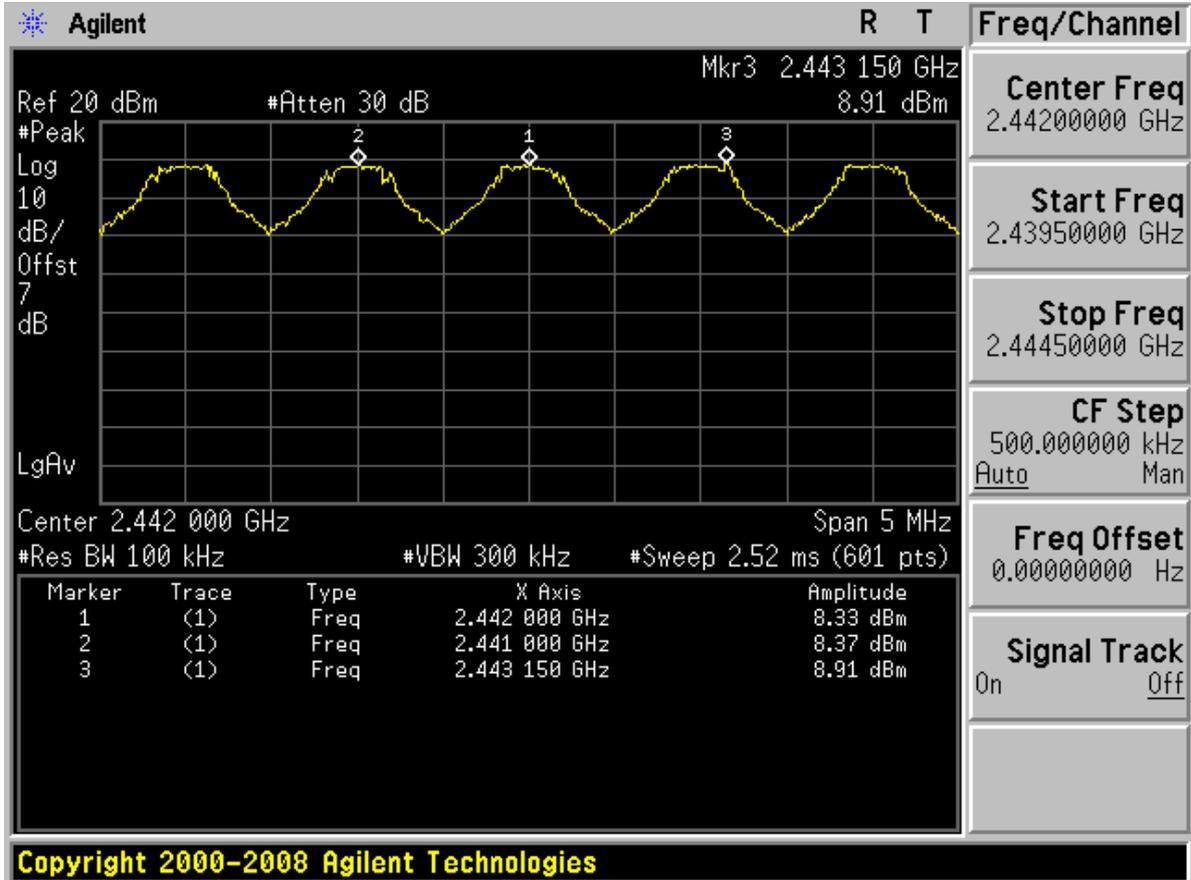
## **Appendix B**

# Carrier frequency separation measurement

According to FCC Part 15.247 (a) (1)



## Centred at Channel 40



-----The End -----



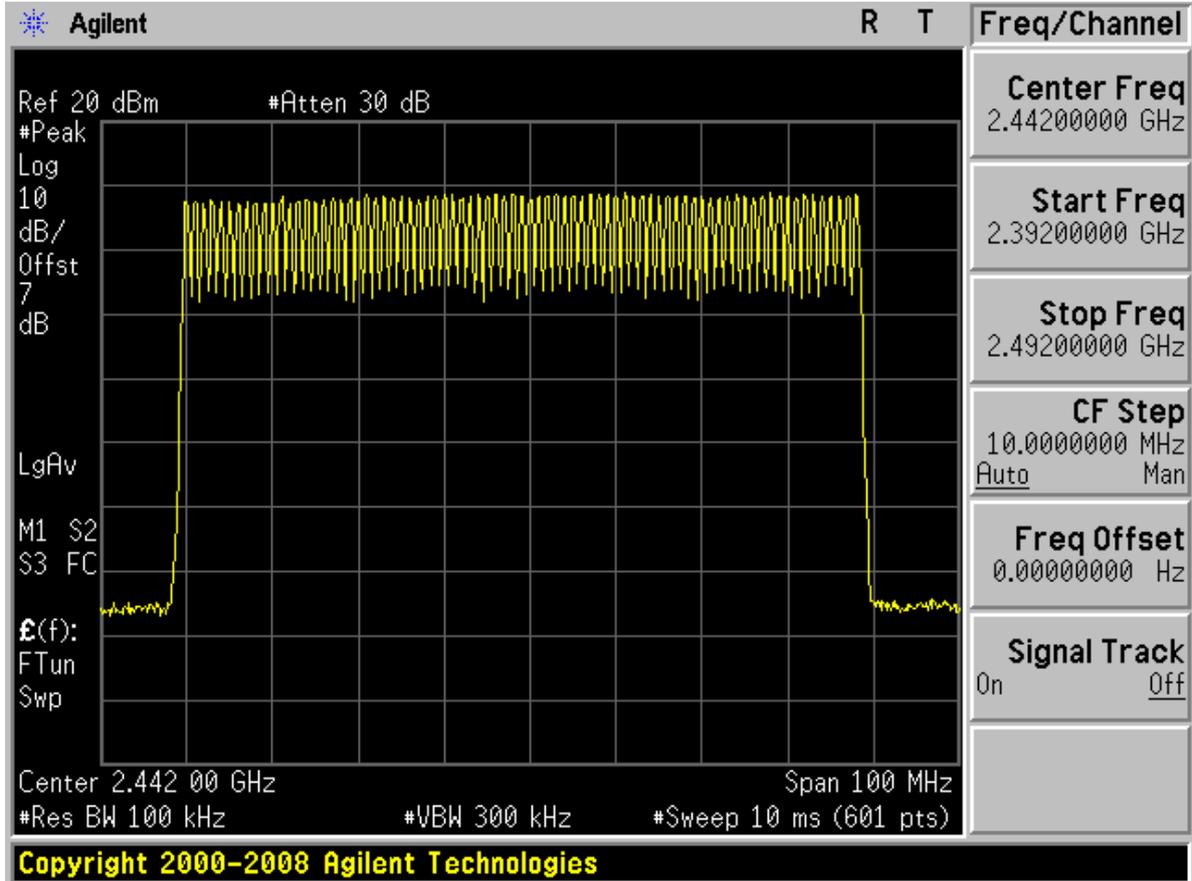
## Appendix C

# Number of hopping channel

According to FCC Part 15.247 (a) (1) iii



# Total hopping channels = 79



-----The End -----



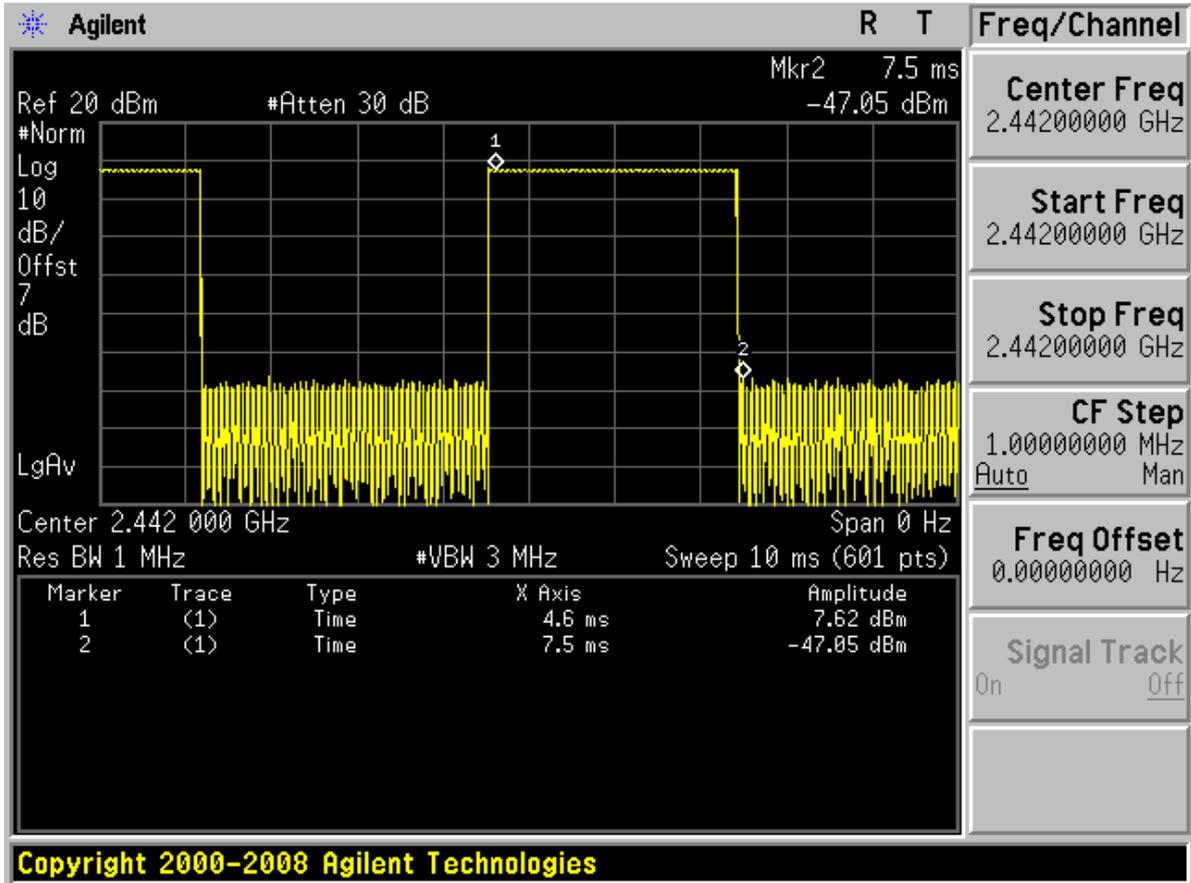
# Appendix D

## Time of occupancy

According to FCC Part 15.247 (a) (1) iii

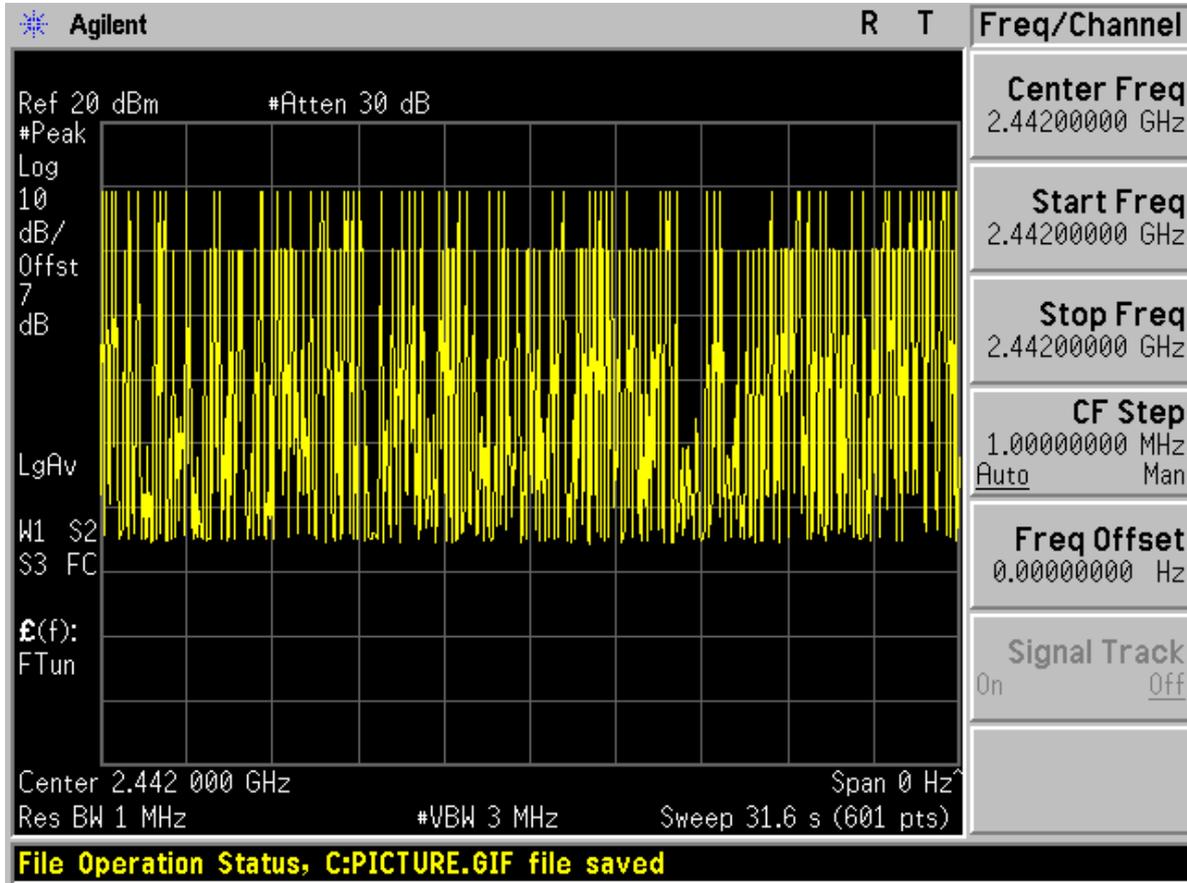


# A burst (One time slot)





## A period (Less than 106.7 burst)



Note:

Typically, Bluetooth 2.0/EDR mode has a channel hopping rate of 1600 hops/s. Since 1x/EDR modes use 5 transmit and 1 receive slot, for a total of 6 slots, the Bluetooth transmitter is actually hopping at a rate of  $1600 / 6 = 266.67$  hops/s/slot.

- o  $400\text{ms} \times 79$  hopping channels = 31.6 sec (Time of Occupancy Limit)

- o Worst case BT has 266.67 hops/second (for 1x/EDR modes with DH5 operation)

- o  $266.67 \text{ hops/second} / 79 \text{ channels} = 3.38 \text{ hops/second}$  (# of hops/second on one channel)

- o  $3.38 \text{ hops/second/channel} \times 31.6 \text{ seconds} = 106.7 \text{ hops}$  (# hops over a 31.6 second period)

-----The End -----



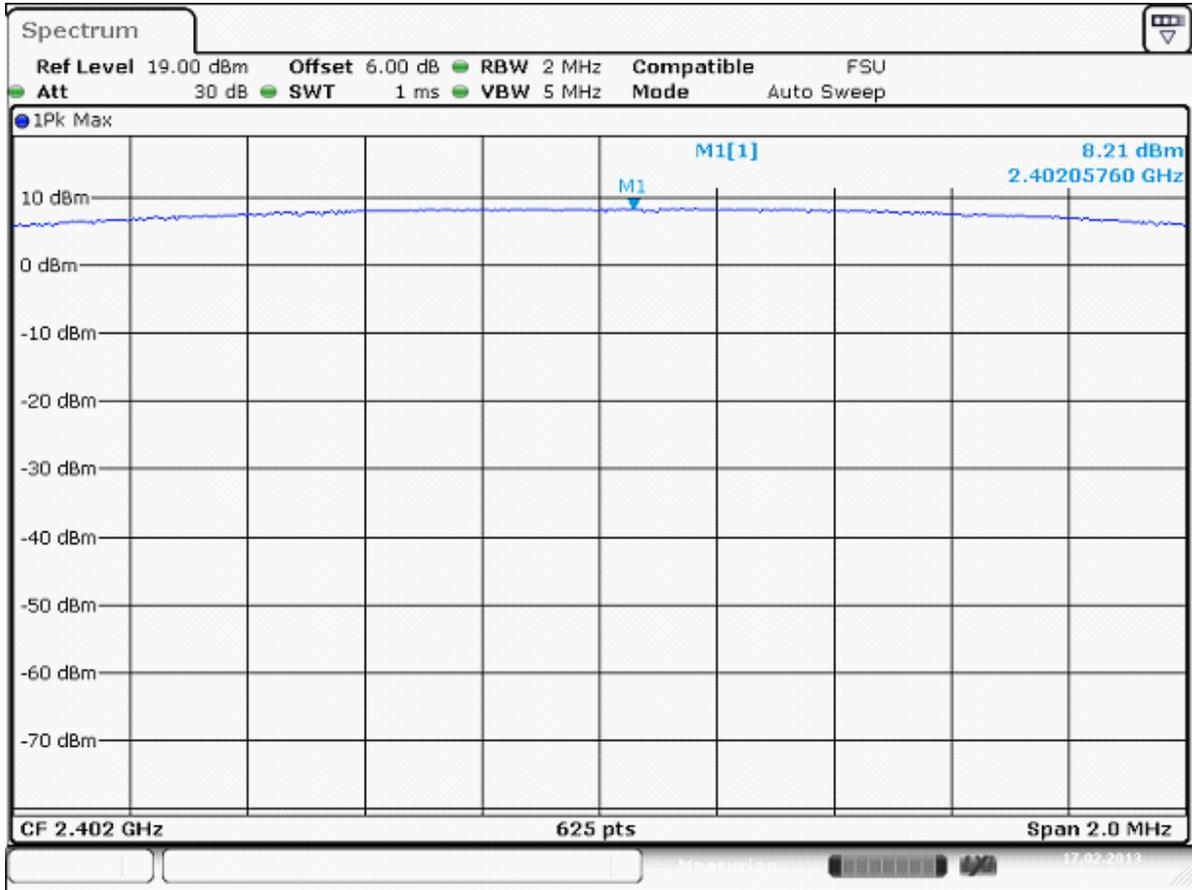
# Appendix E

## Peak output power

According to FCC Part 15.247 (b) (1)

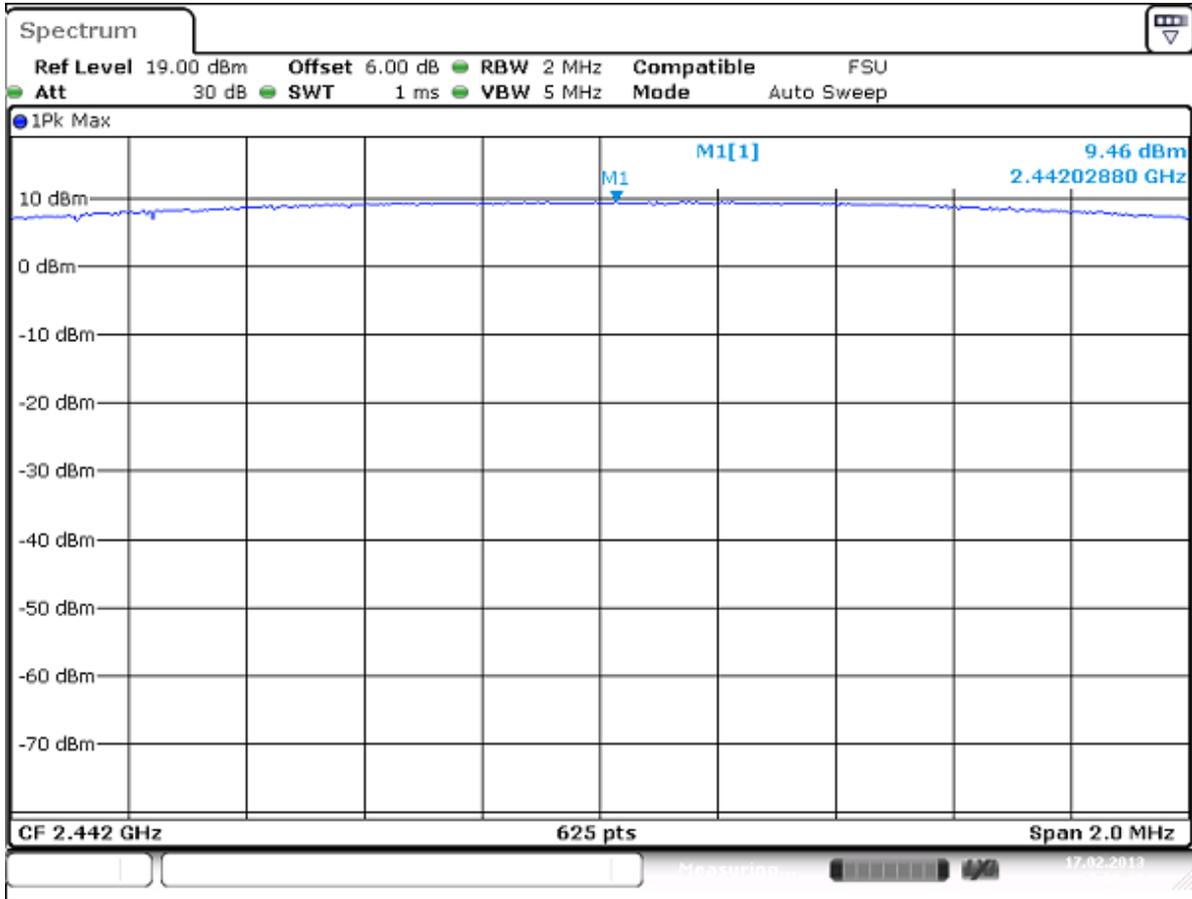


# Channel 0 (2402MHz)



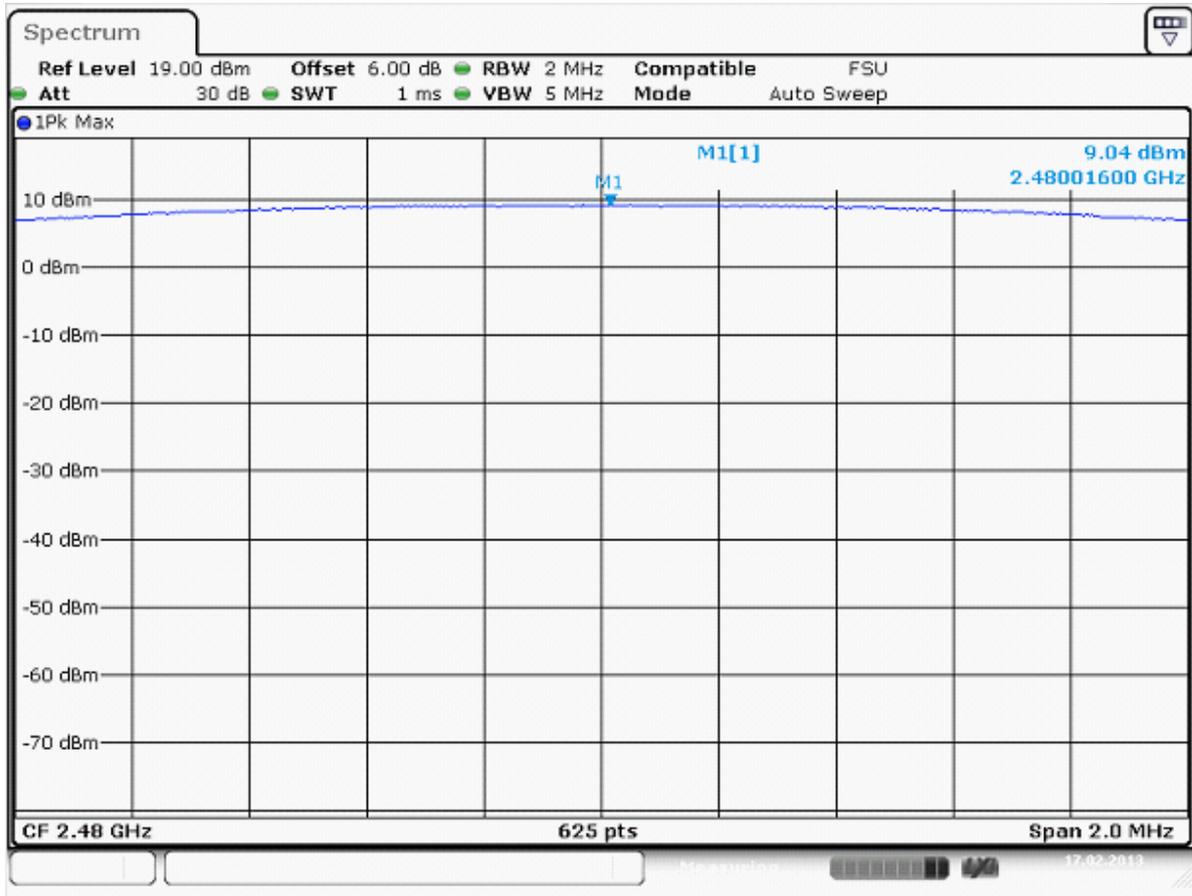


# Channel 40 (2442MHz)





# Channel 78 (2480MHz)



-----The End -----



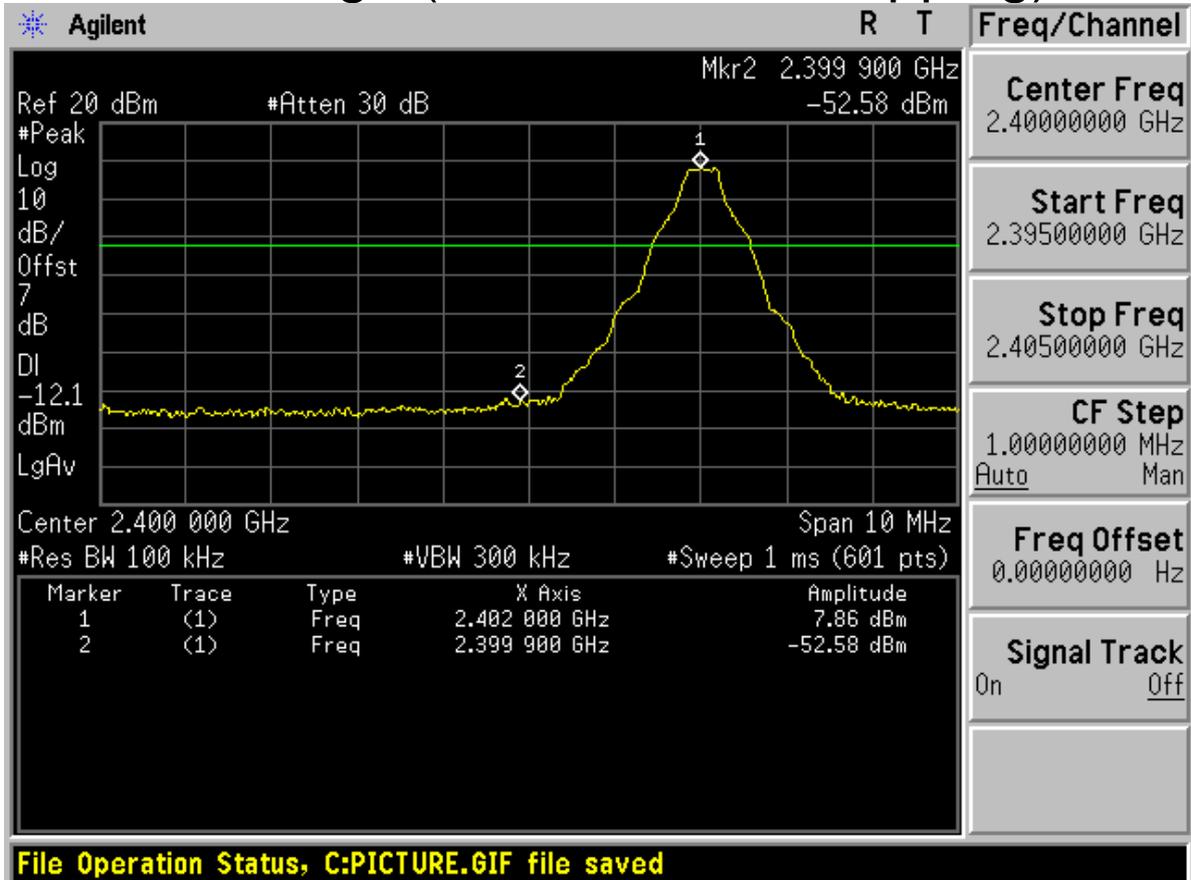
# Appendix F

## Band edge spurious emission

According to FCC Part 15.247 (d)

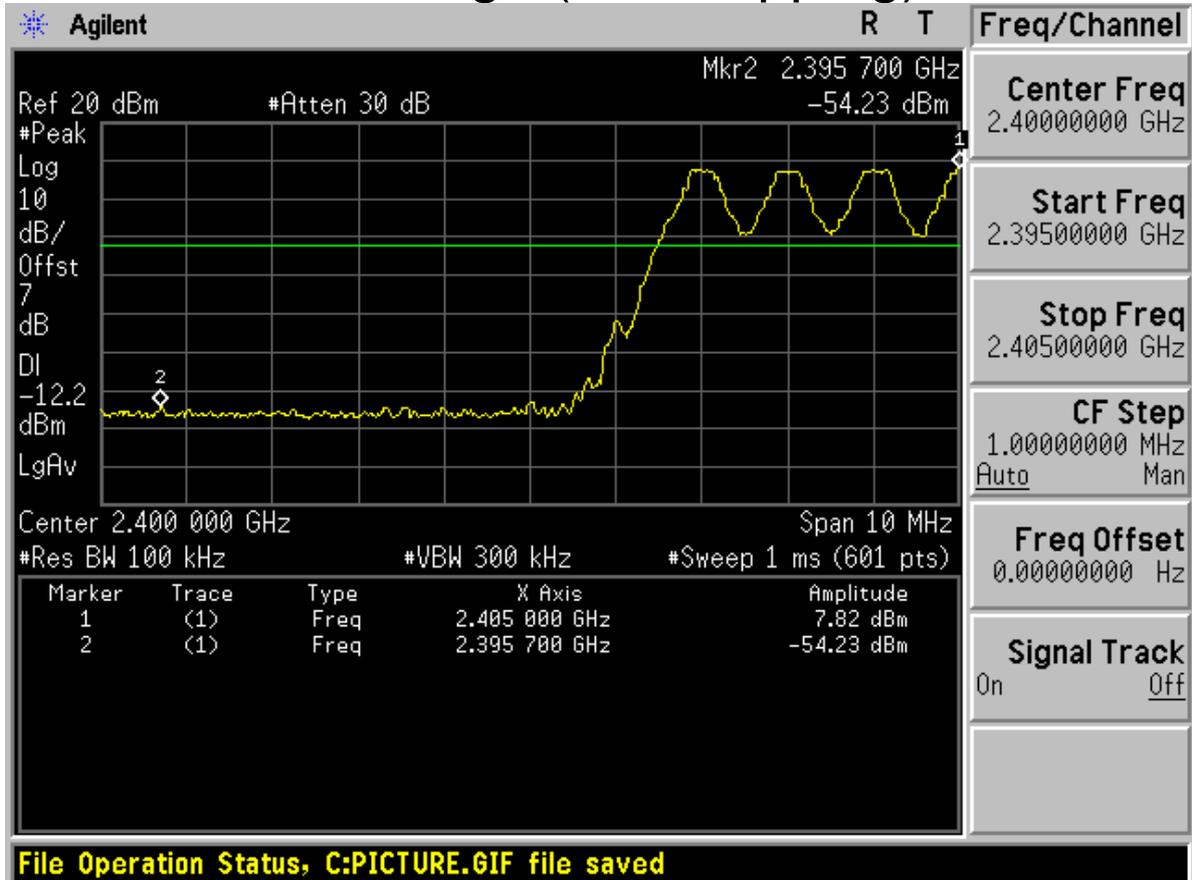


# Low edge (Channel 0, no hopping)



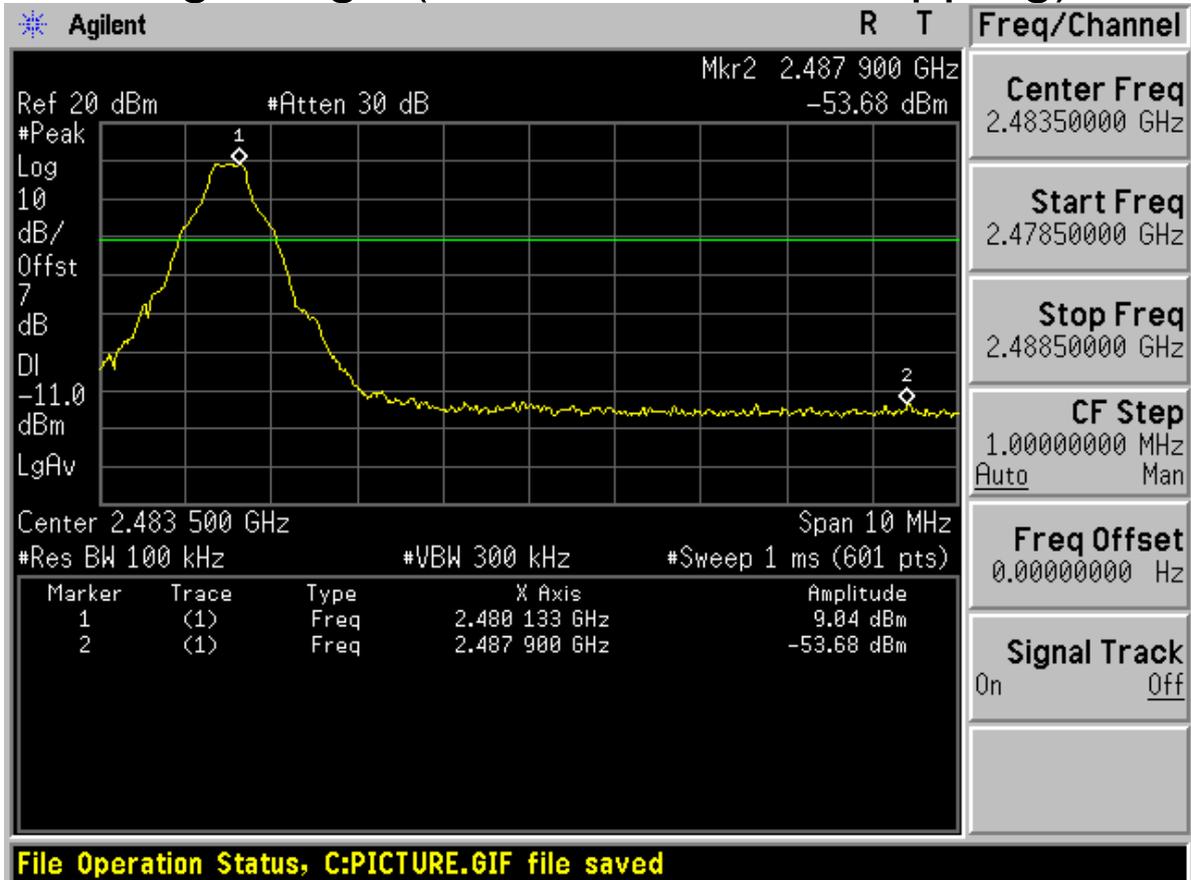


# Low edge (with hopping)



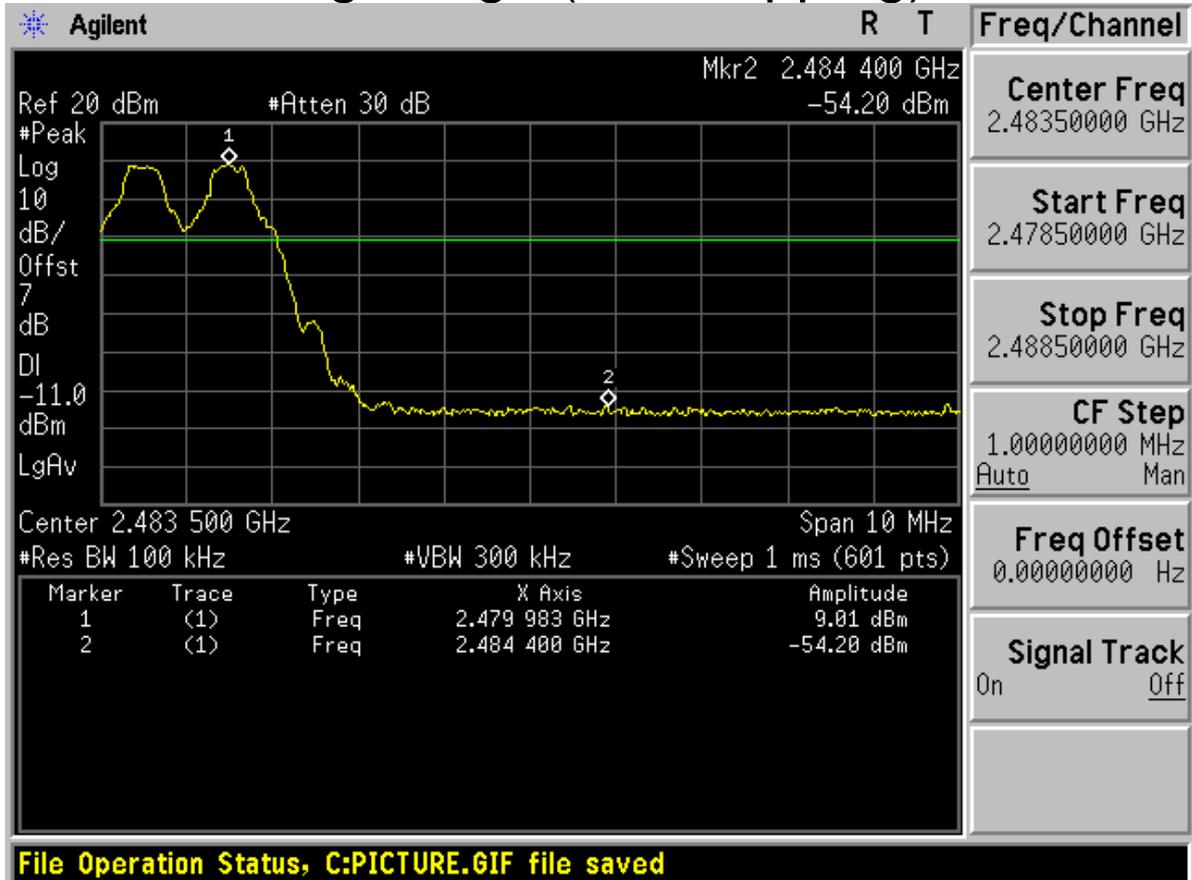


# High edge (Channel 78, no hopping)





# High edge (with hopping)



**File Operation Status, C:PICTURE.GIF file saved**

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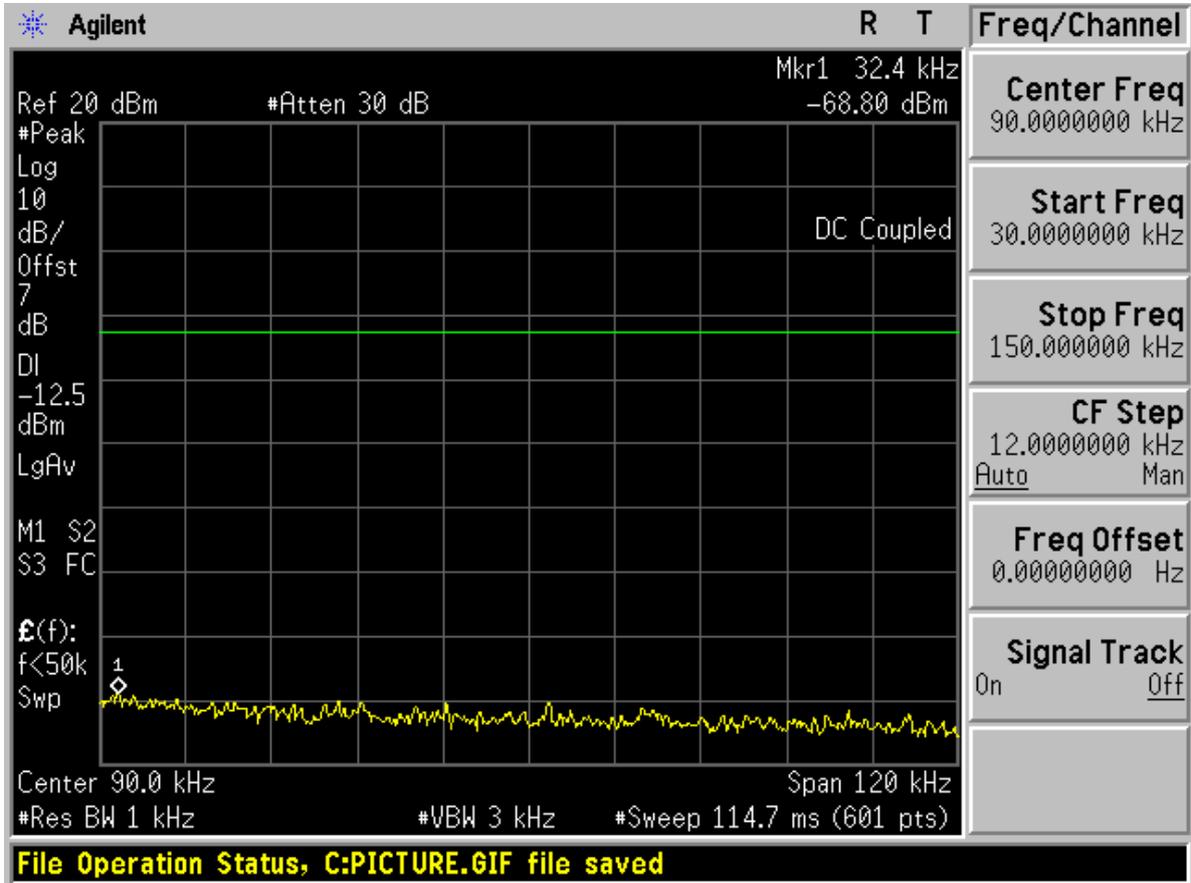
# Appendix G

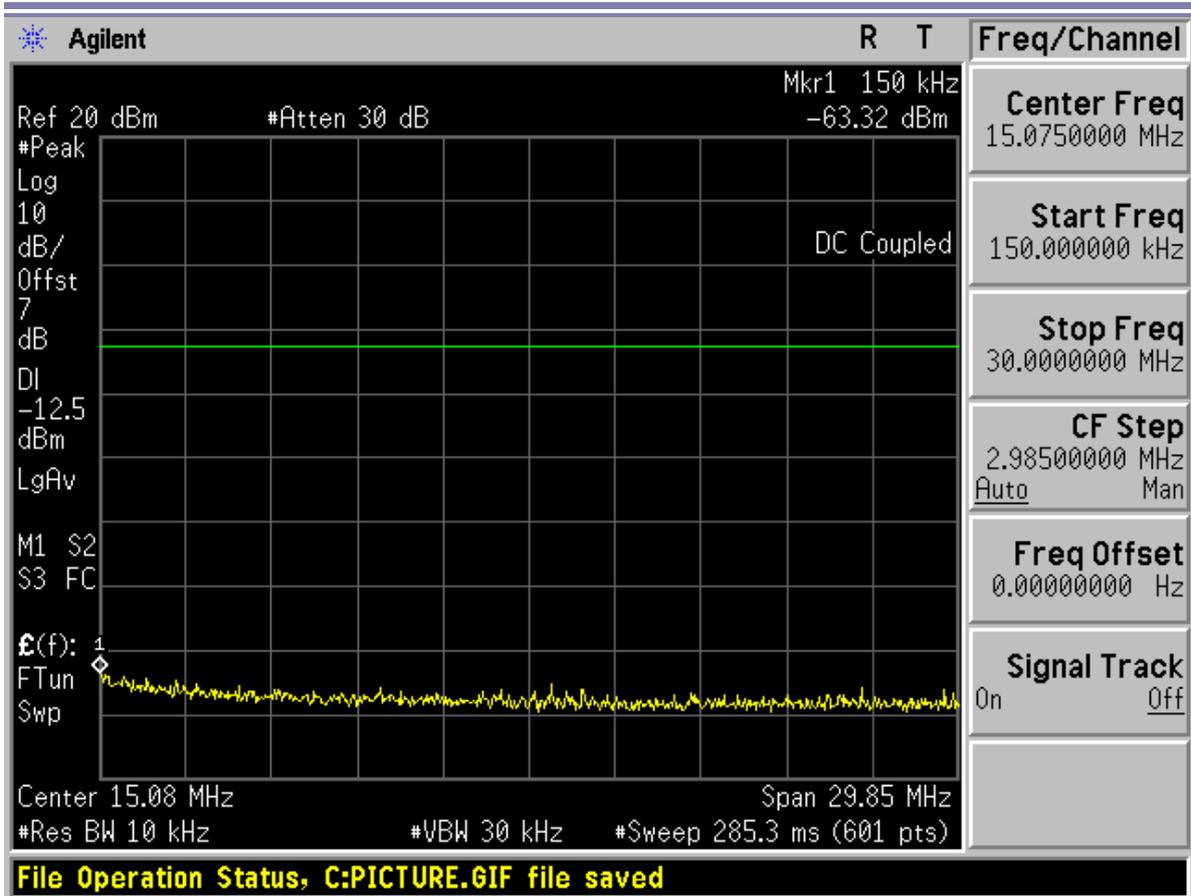
## Conducted RF spurious

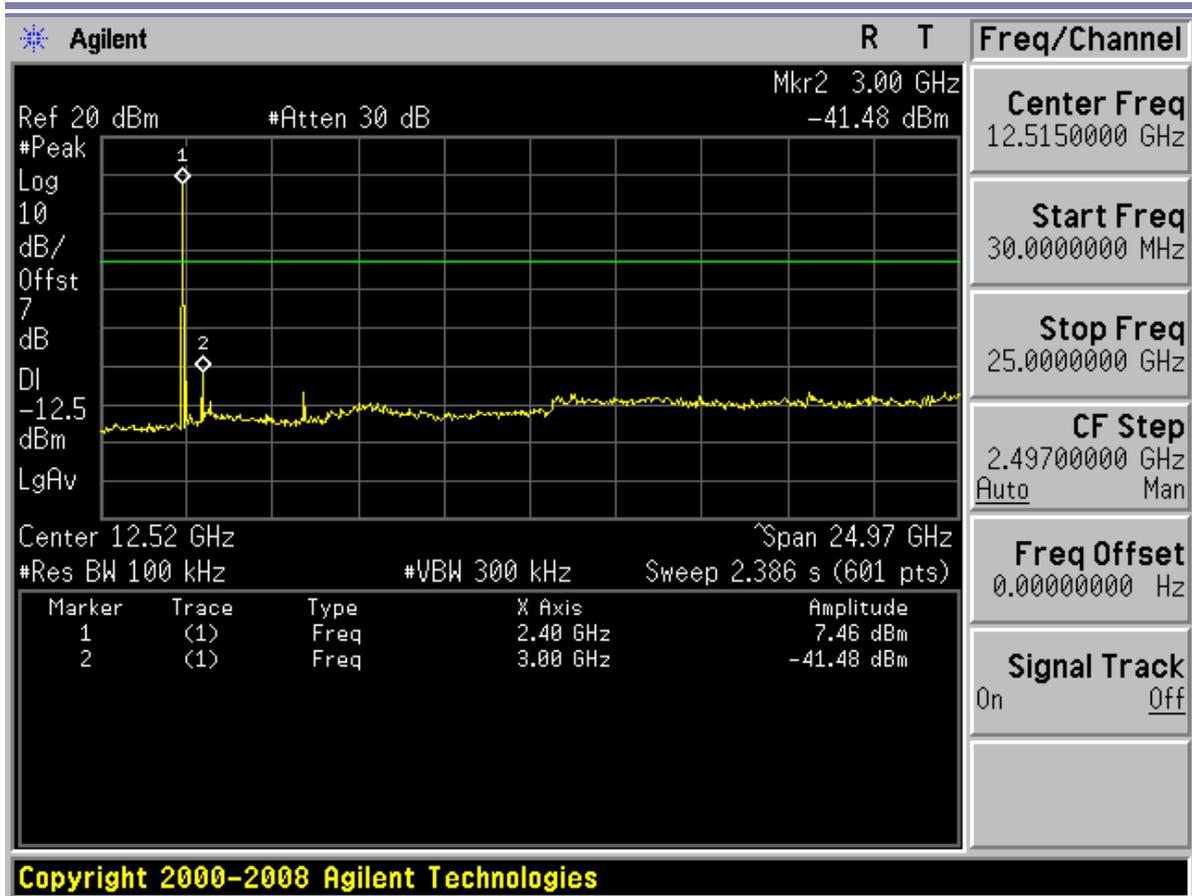
According to FCC Part 15.247 (d)



# Channel 0

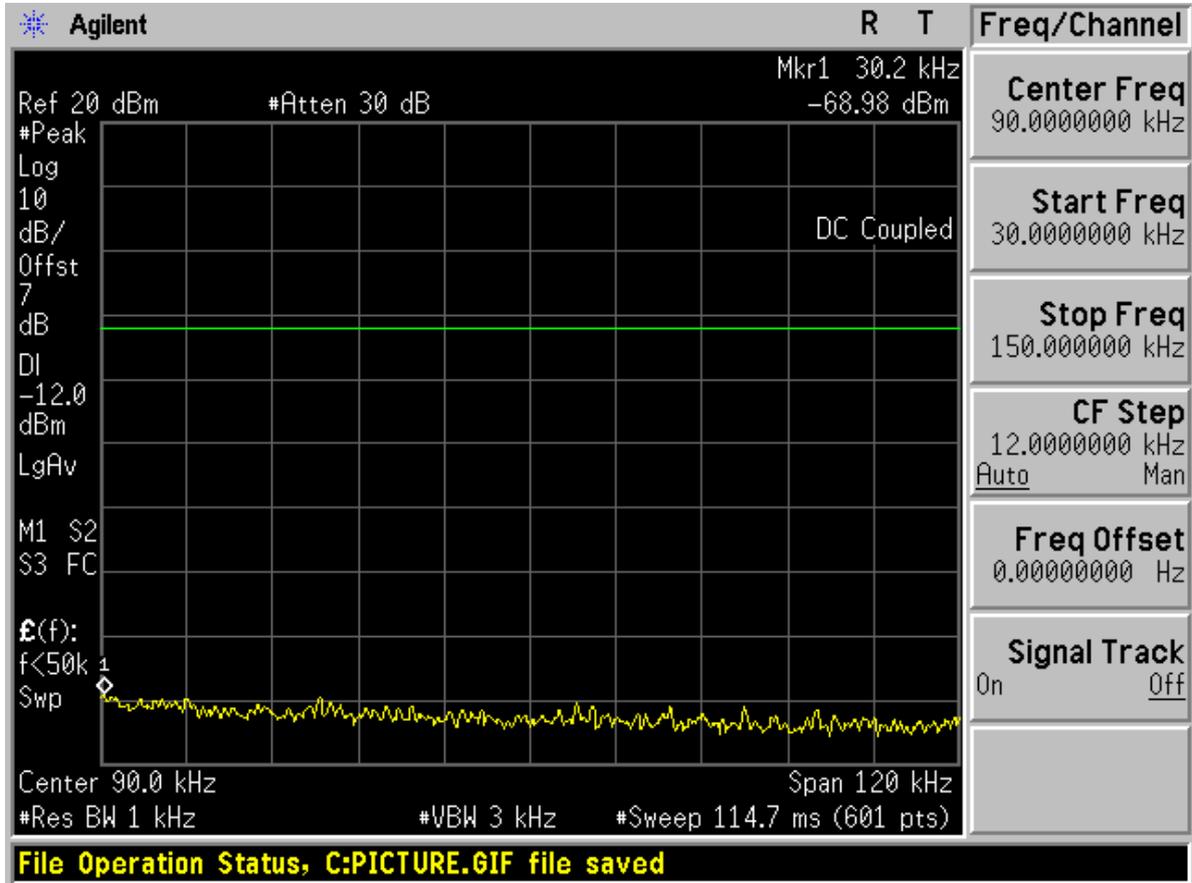


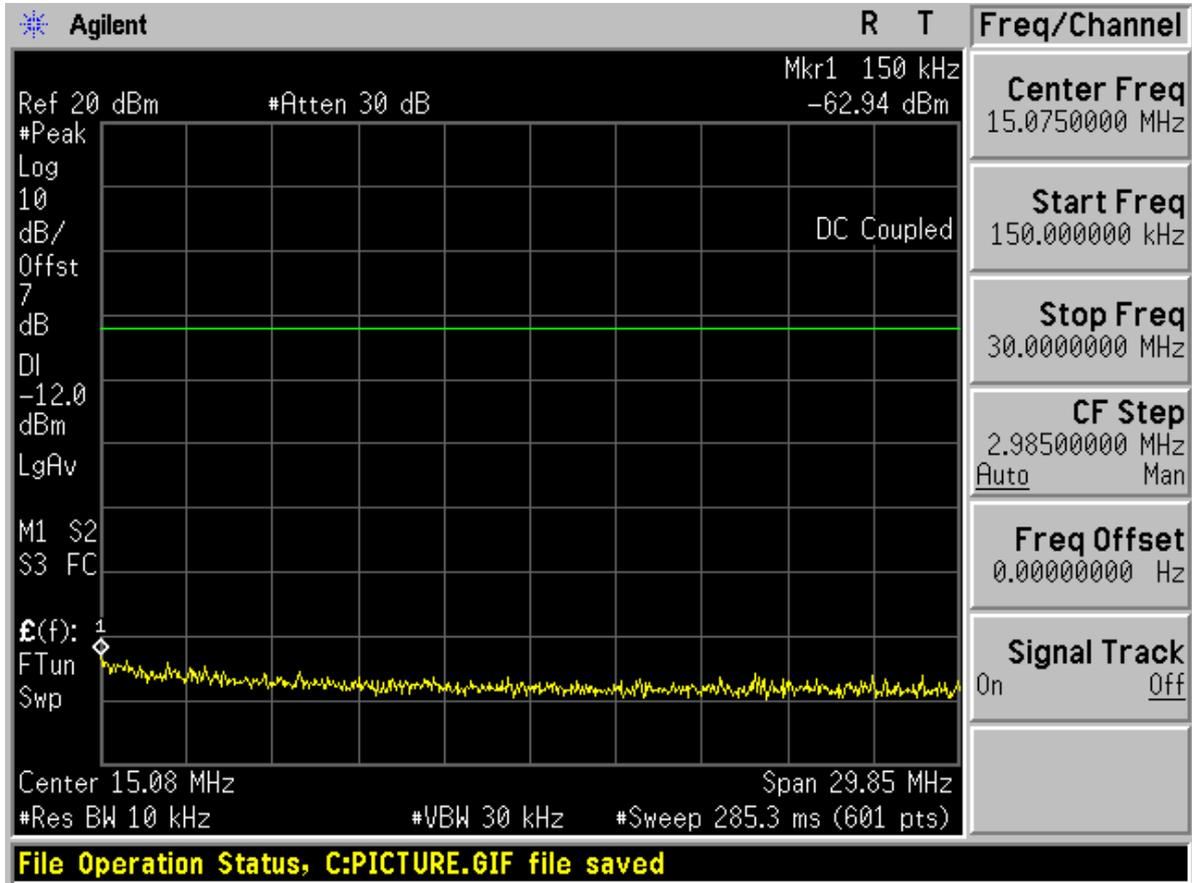


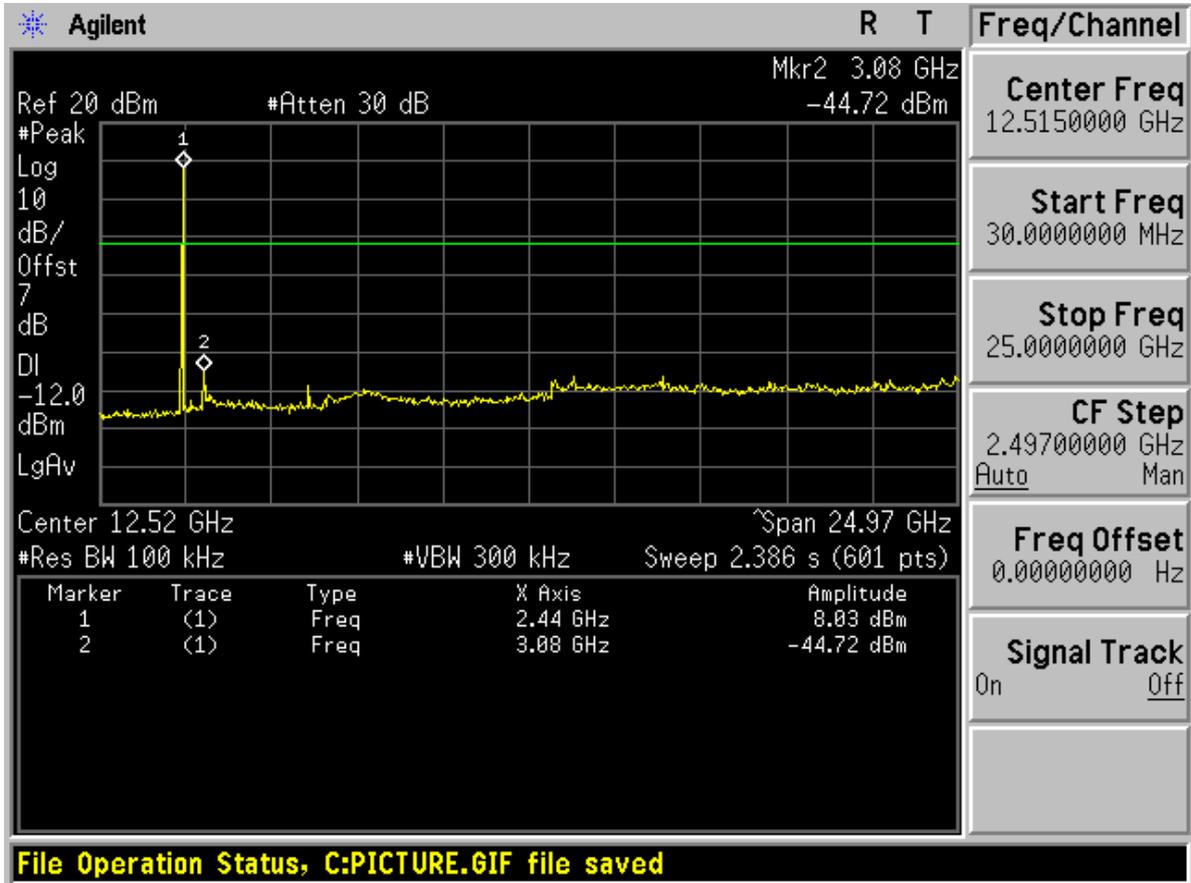




# Channel 40

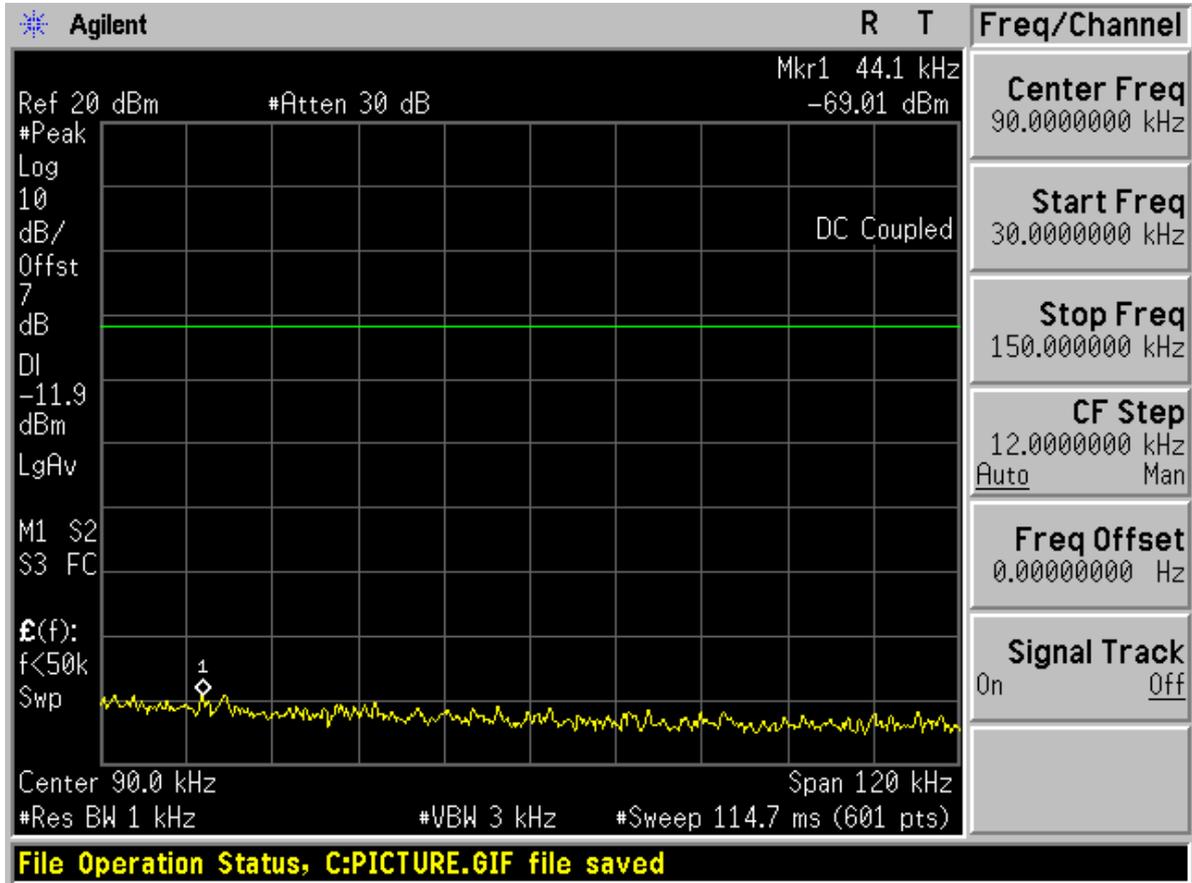


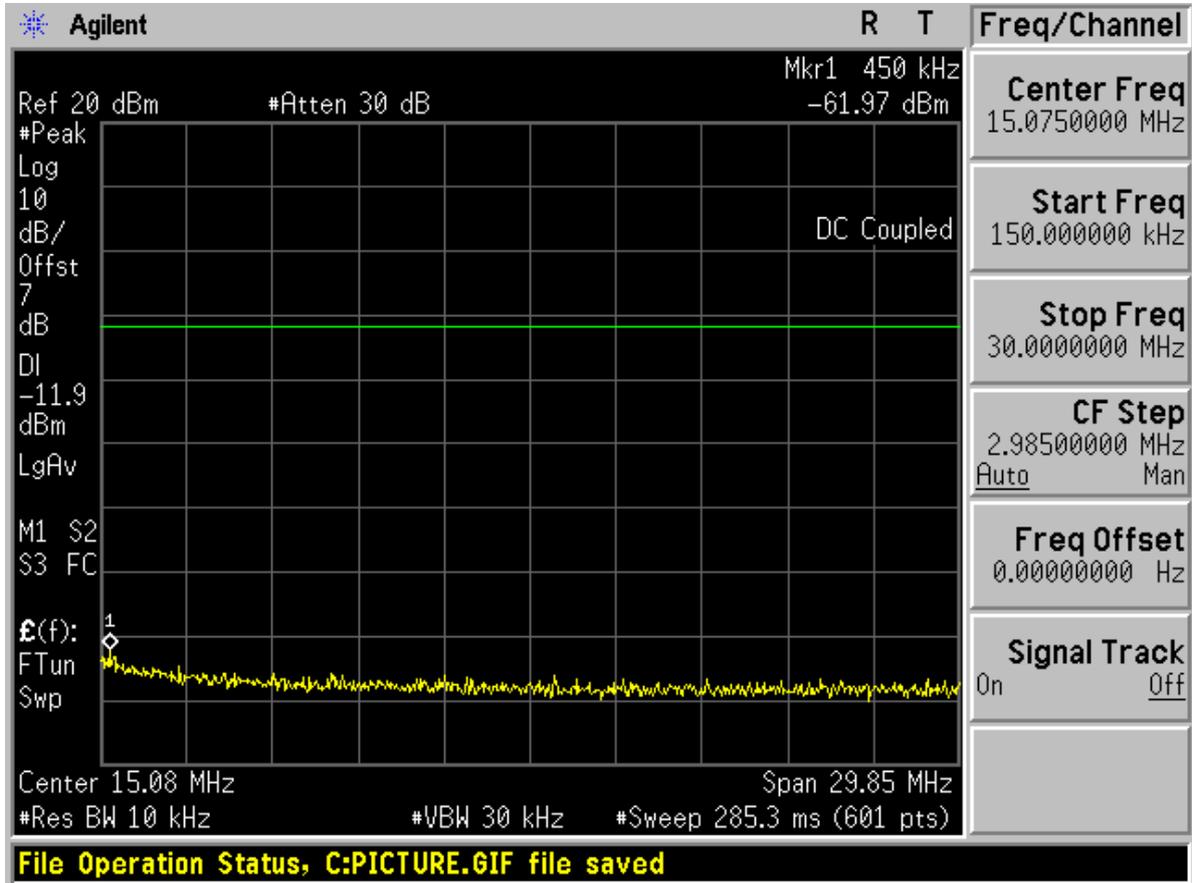


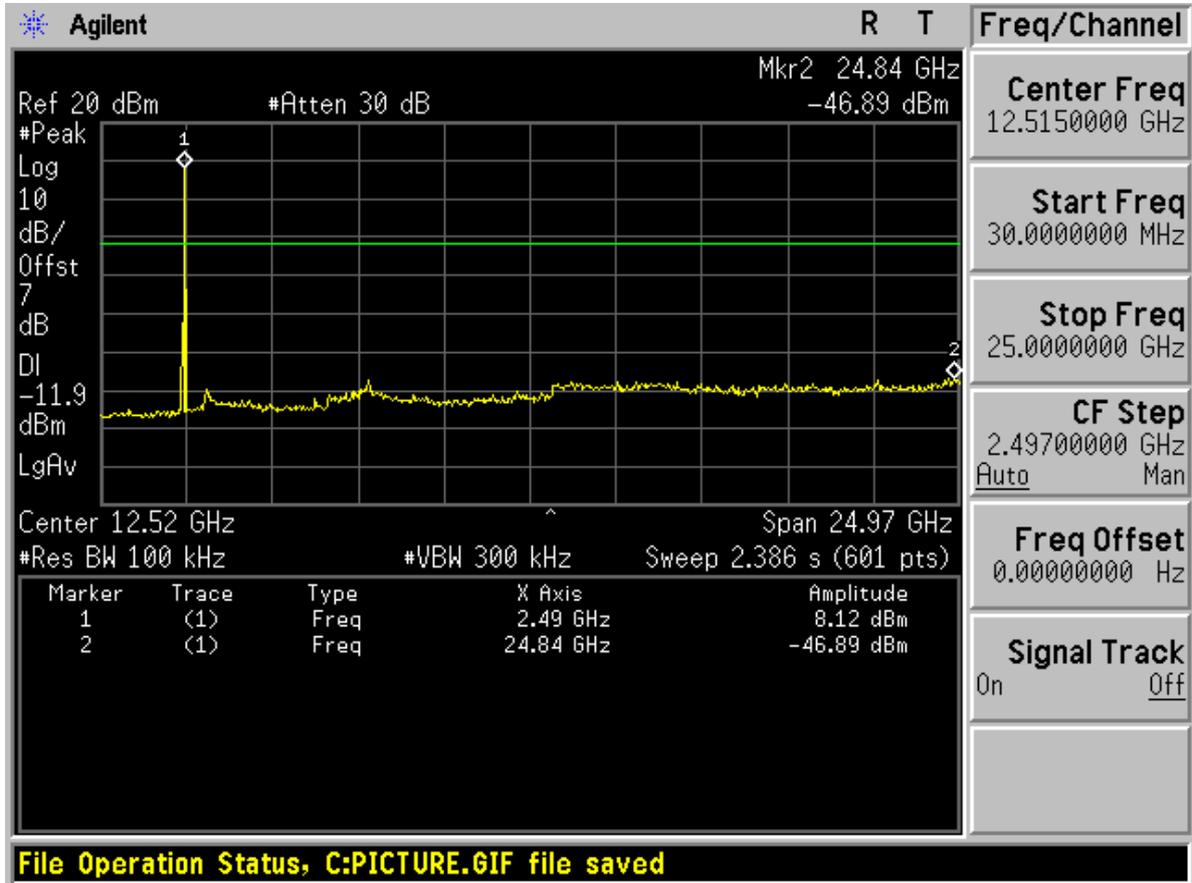




# Channel 78







-----The End -----



# Appendix H

## Radiated spurious emission

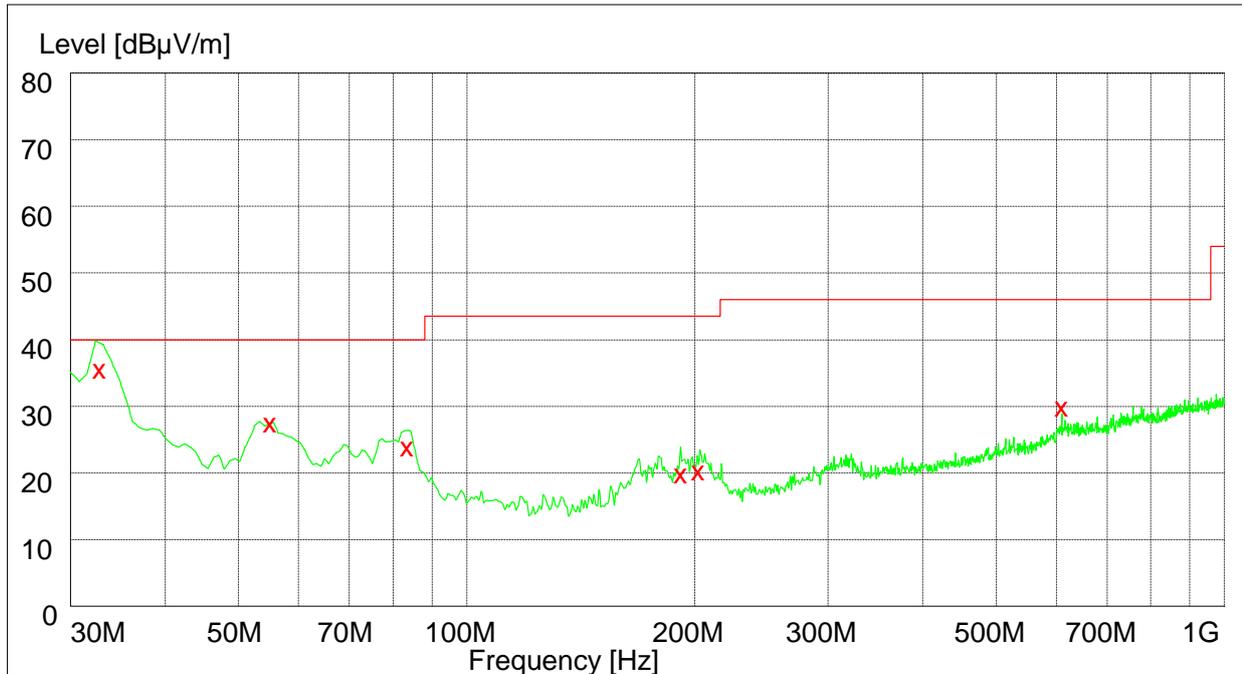
According to FCC Part 15.247 (d) & 15.205 & 15.209



**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).



Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Plarization
32.820000	36.00	14.8	40.0	4.0	100.0	184.00	VERTICAL
55.080000	27.70	14.6	40.0	12.3	300.0	177.00	VERTICAL
83.460000	23.40	10.9	40.0	16.6	206.0	315.00	HORIZONTAL
192.000000	20.40	12.1	43.5	23.1	100.0	332.00	VERTICAL
202.260000	19.90	12.4	43.5	23.6	100.0	342.00	VERTICAL
610.200000	29.40	21.5	46.0	16.6	158.0	0.00	VERTICAL



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

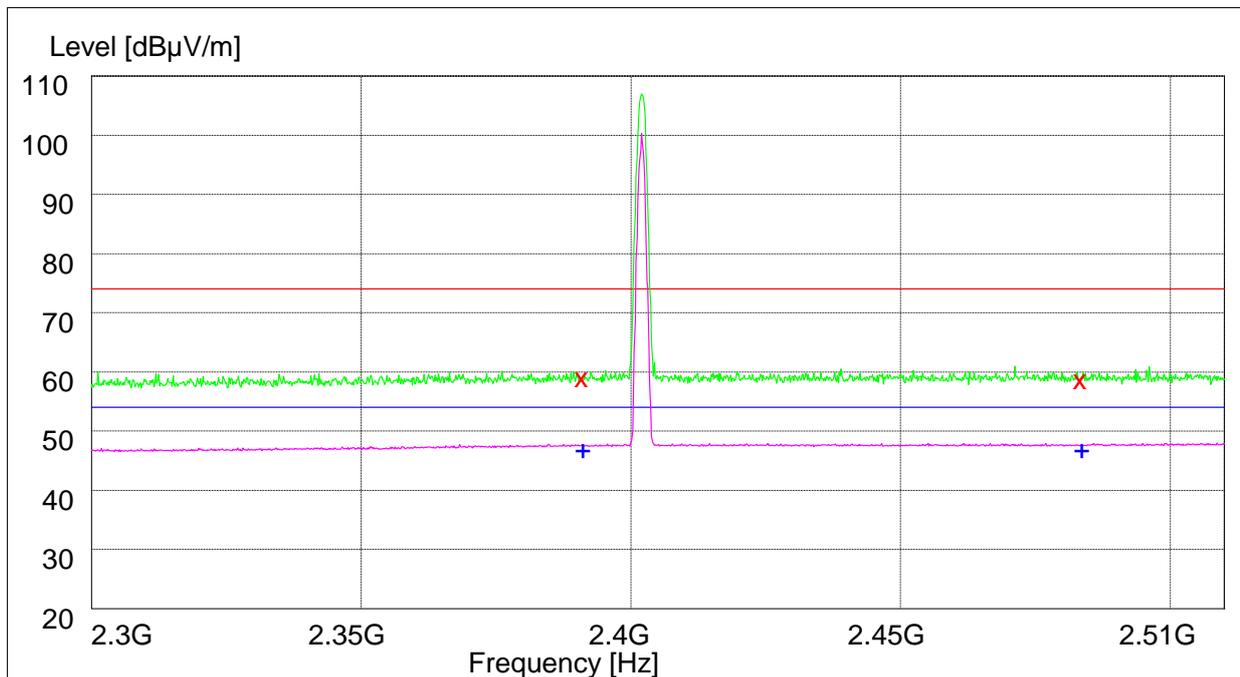
Note: No peak found in pre- test.

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

- Note 1: The testing range of “2.3 GHz to 2.5 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:

##### 1.1 Channel 00



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

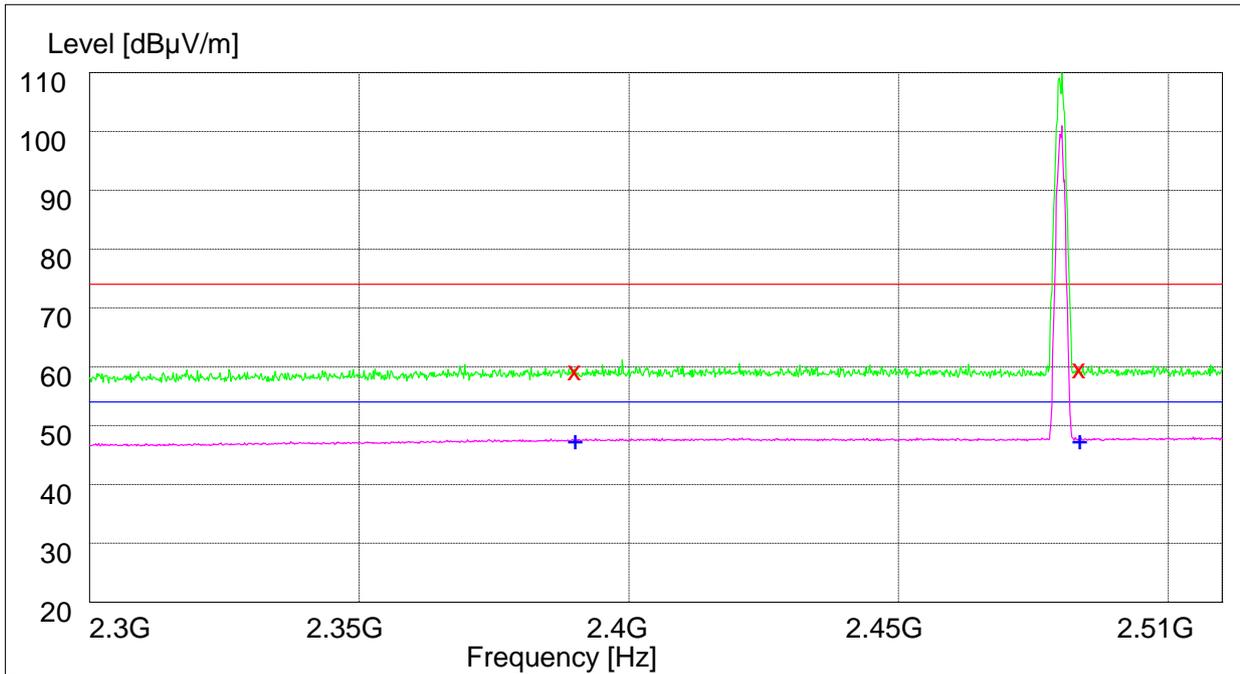
#### MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	59.60	33.5	74.0	14.4	100.0	221.00	VERTICAL
2483.500000	59.40	33.7	74.0	14.4	108.0	102.00	HORIZONTAL

#### MEASUREMENT RESULT: AVDetector

Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.40	33.5	54.0	5.6	123.0	46.00	VERTICAL
2483.500000	48.50	33.7	54.0	5.5	100.0	353.00	VERTICAL

## 1.2 Channel 78



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	58.90	33.5	74.0	15.1	153.0	38.00	VERTICAL
2483.500000	59.40	33.7	74.0	14.6	119.0	336.00	HORIZONTAL

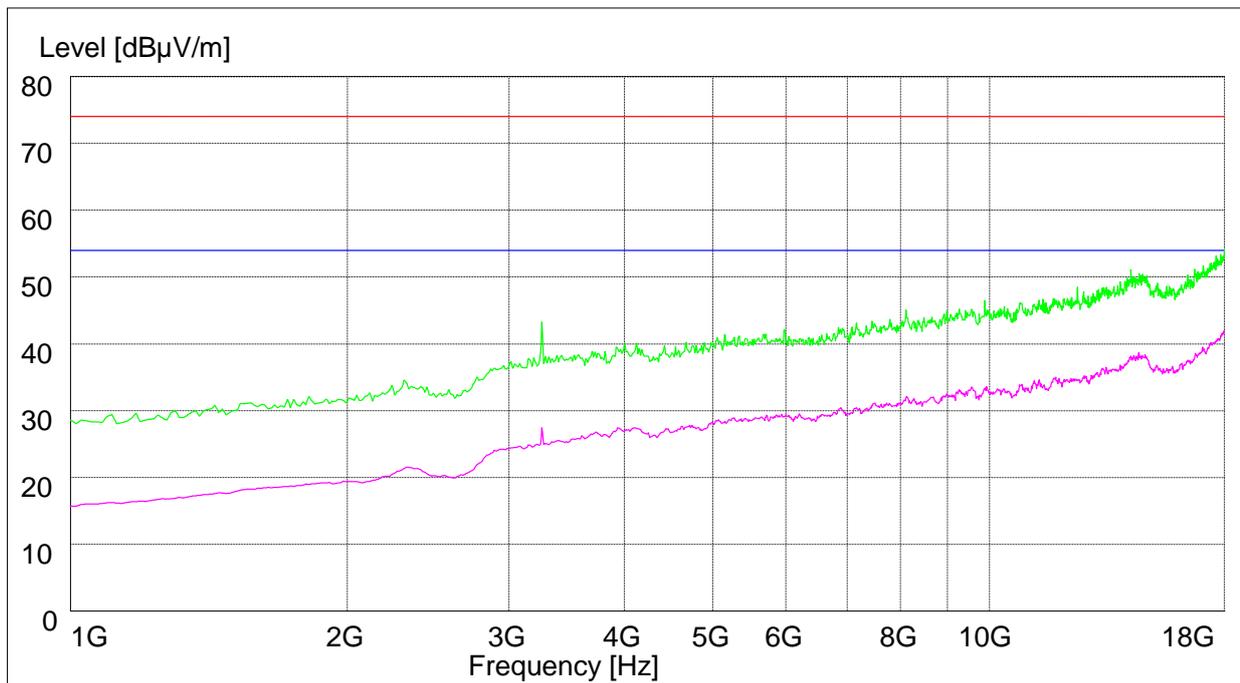
### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	47.40	33.5	54.0	6.6	100.0	126.00	HORIZONTAL
2483.500000	47.50	33.7	54.0	6.5	113.0	241.00	HORIZONTAL

### 1.3

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

- Note 1: The test results and plot for testing range of “1 GHz to 18 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).



The END



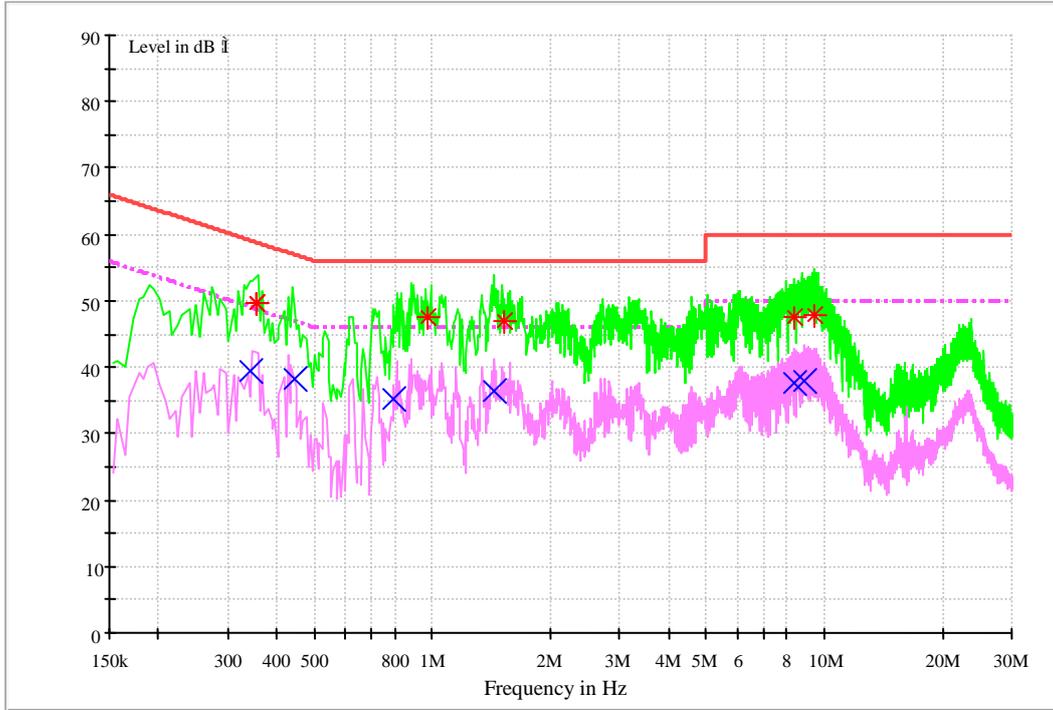
# Appendix I

## Conducted Emission at Power Port

According to FCC Part 15.207



# Channel 40



## MEASUREMENT RESULT: QP Detector

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Line	PE
0.353580	49.7	9.7	58.9	9.2	N	FLO
0.354180	49.8	9.7	58.9	9.1	N	FLO
0.967882	47.7	9.7	56.0	8.3	N	FLO
1.520194	47.1	9.7	56.0	8.9	N	FLO
8.397675	47.6	9.9	60.0	12.4	N	FLO
9.463890	47.9	9.9	60.0	12.1	N	FLO

## MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Line	PE
0.343436	39.4	9.7	49.1	9.7	N	FLO
0.443592	38.3	9.7	47.0	8.7	N	FLO
0.796252	35.4	9.7	46.0	10.6	N	FLO
1.434806	36.5	9.7	46.0	9.5	N	FLO
8.400701	37.6	9.9	50.0	12.4	N	FLO
8.909385	38.1	9.9	50.0	11.9	N	FLO

The END