

Delta Pair

Span Pair

Center

Off

More 1 of 2

(Tracking Ref)

Ref

Span

Stop 2.425 0 GHz

Amplitude

-3.74 dBm -32.75 dBm -52.37 dBm

Sweep 11 ms (601 pts)



-23.7

dBm

LgAv

Start 2.310<u>0 GHz</u>

#Res BW 100 kHz

Marker

Trace

(1) (1) (1)

FCC ID:X4YSAROS300 pag**&**-13 Test Mode: IEEE 802.11n HT20 TX Test CH1: 2412MHz 🔆 Agilent Marker Mkr3 2.390 0 GHz Select Marker Atten 10 dB Ref 21 dBm -52.37 dBm 3 #Peak Log 10 Normal بالملم مسلمة dB/ Offst 21 dB Delta DI

#VBW 300 kHz

X Axis

2.419 4 GHz 2.400 0 GHz

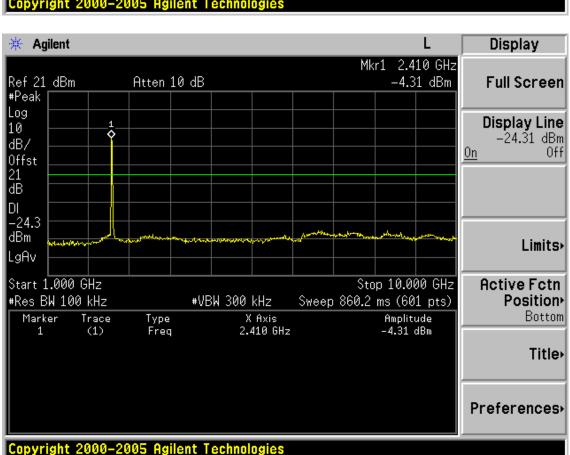
2.390 0 GHz

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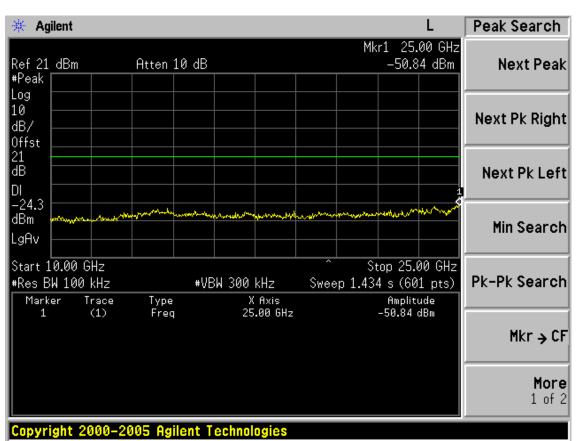
Type

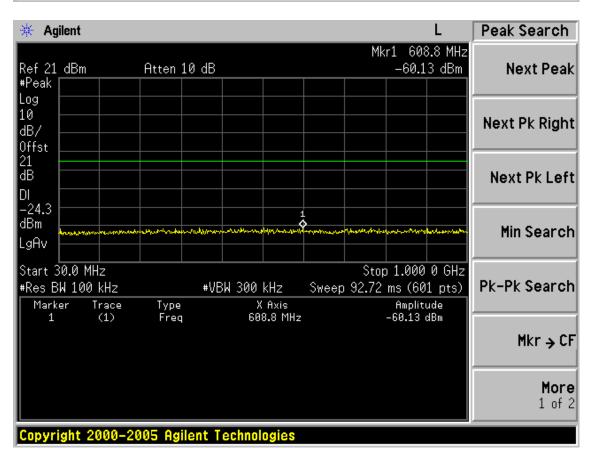
Freq Freq

Freq

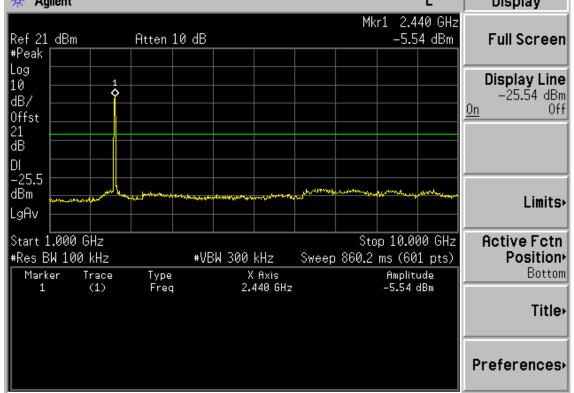


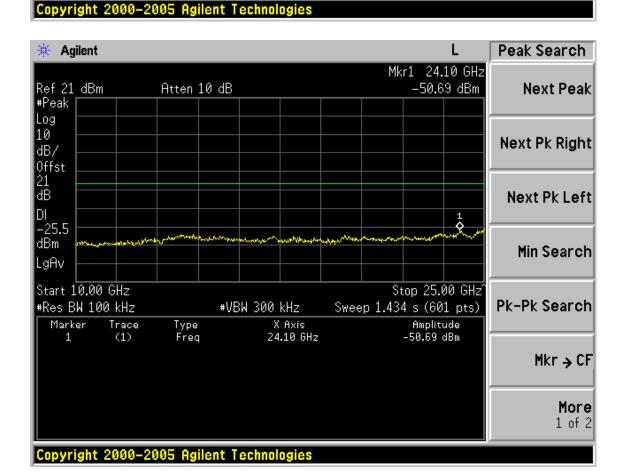




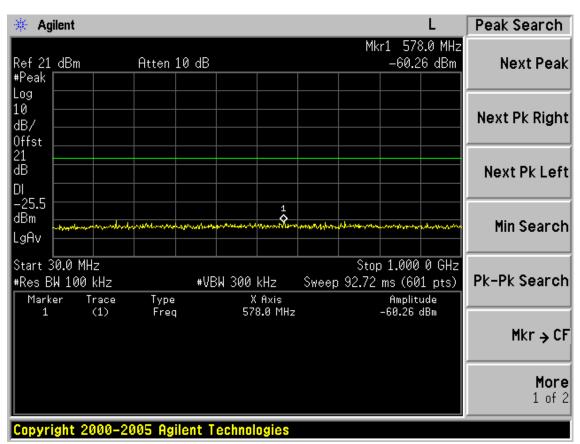




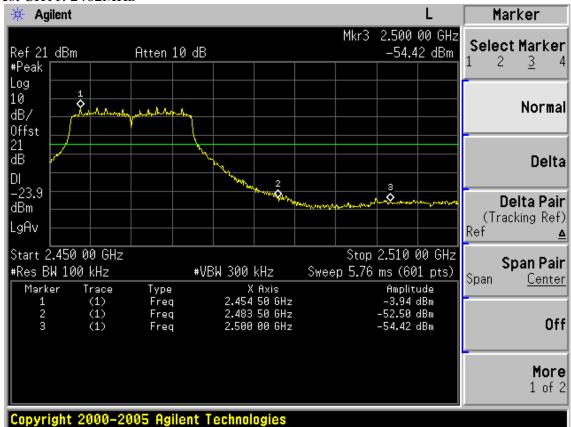








Test CH11: 2462MHz



Position Bottom

Preferences.

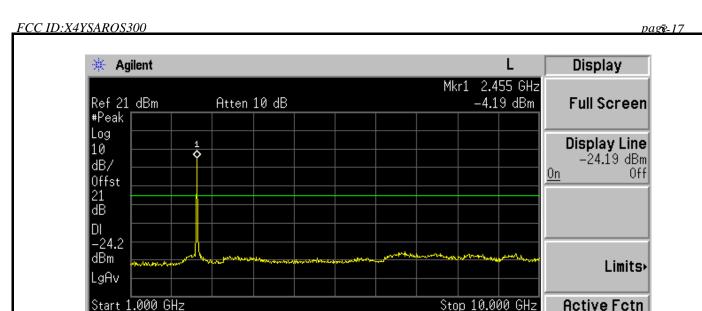
Title •

Sweep 860.2 ms (601 pts)

Amplitude

-4.19 dBm





#VBW 300 kHz

X Axis

2.455 GHz

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Type

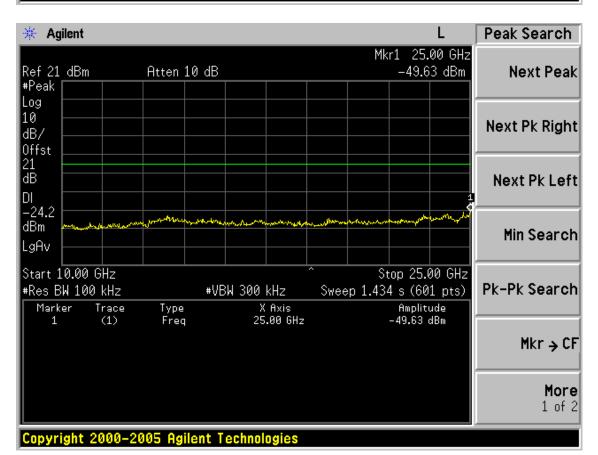
Freq

#Res BW 100 kHz

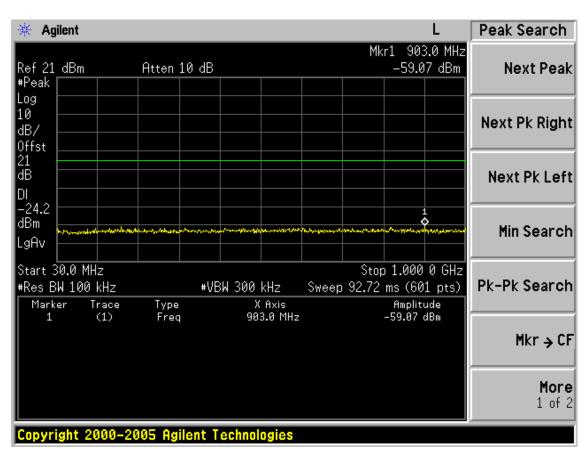
Trace

(1)

Marker

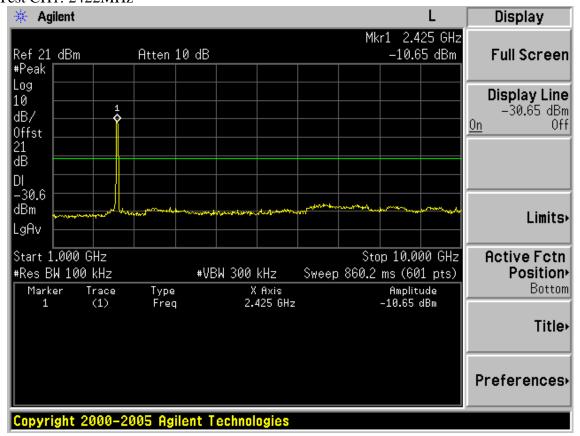




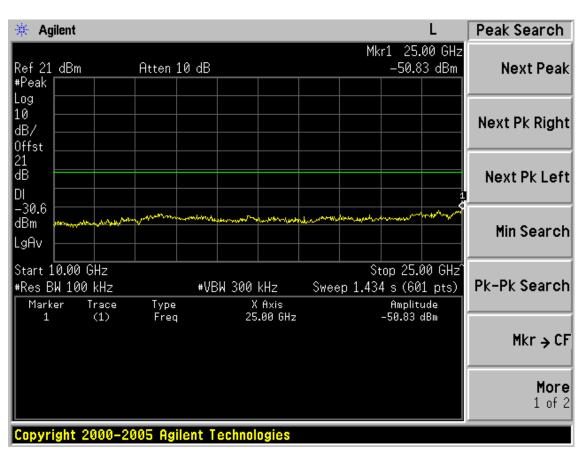


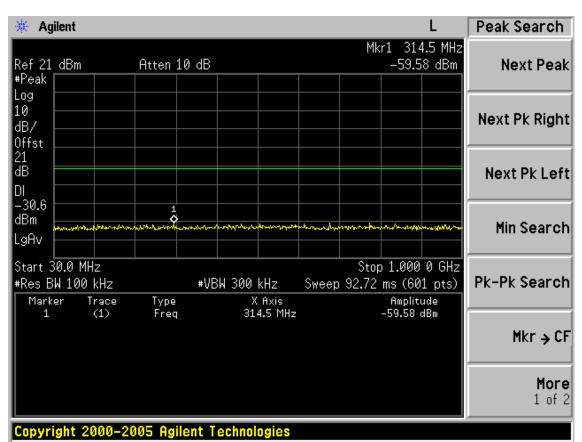
Test Mode: IEEE 802.11n HT40 TX

Test CH1: 2422MHz

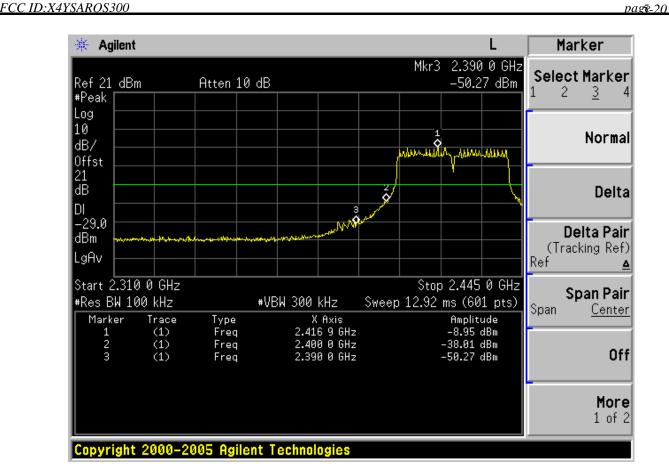


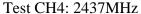


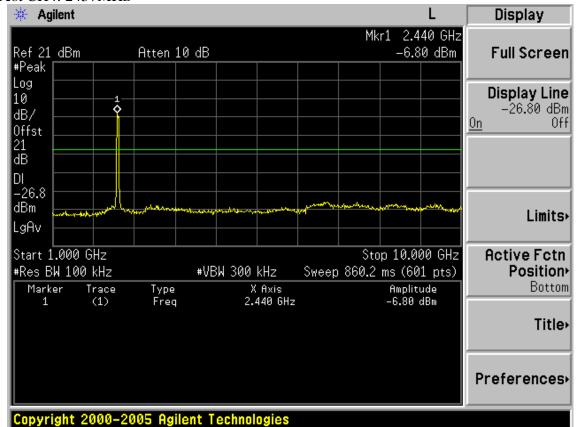












Stop 25.00 GHz

Amplitude

-50.23 dBm

Sweep 1.434 s (601 pts)

Pk-Pk Search

Mkr → CF

More 1 of 2



FCC ID:X4YSAROS300 pag**&**-21 🔆 Agilent Peak Search Mkr1 24.95 GHz Atten 10 dB -50.23 dBm Ref 21 dBm **Next Peak** #Peak Log 10 Next Pk Right dB/ Offst 21 dB Next Pk Left -26.8 dBm Min Search LgAv

#VBW 300 kHz

X Axis 24.95 GHz

Copyright 2000-2005 Agilent Technologies

Type

Freq

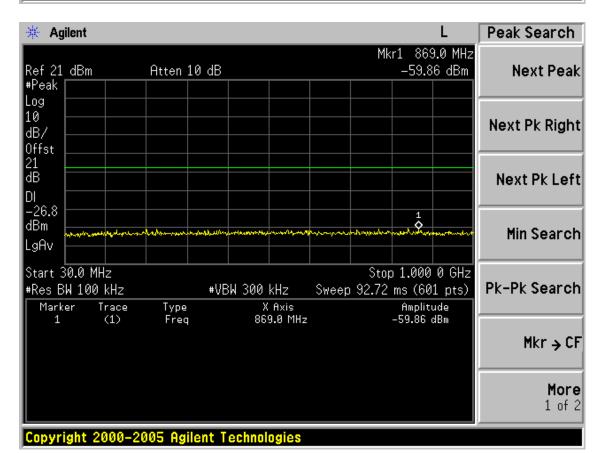
Start 10.00 GHz

#Res BW 100 kHz

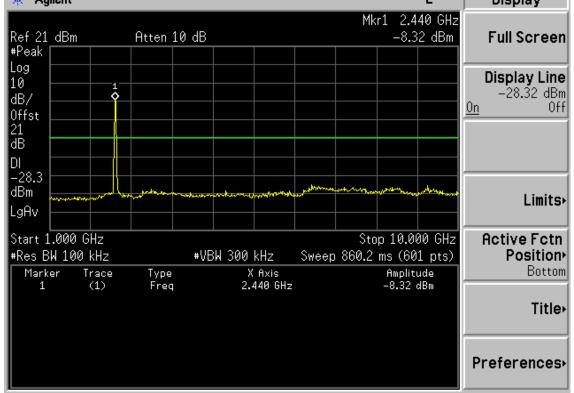
Trace

(1)

Marker

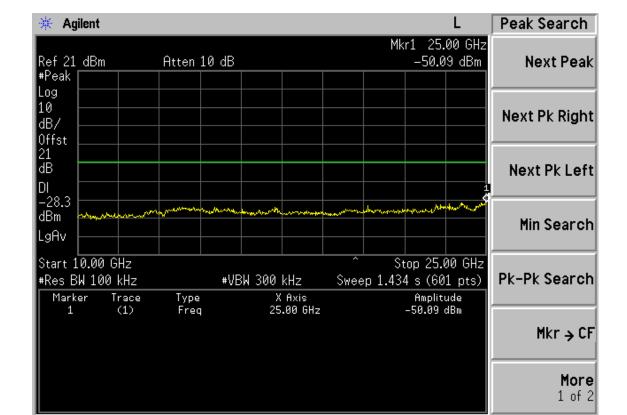




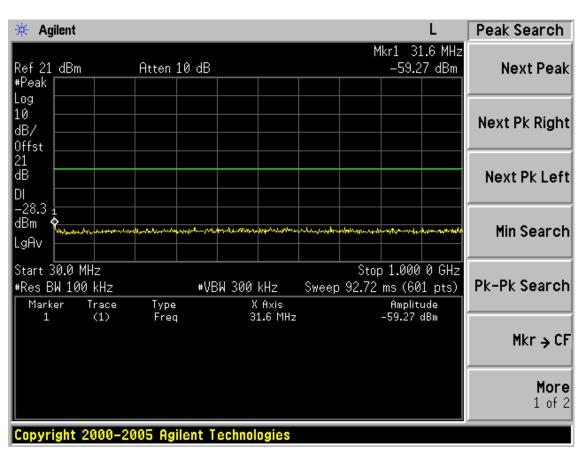


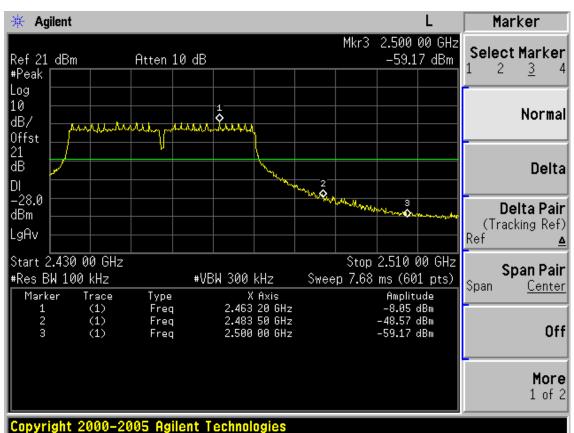
Copyright 2000-2005 Agilent Technologies

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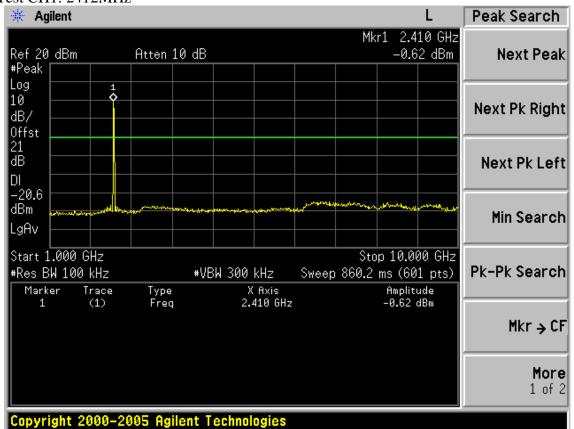


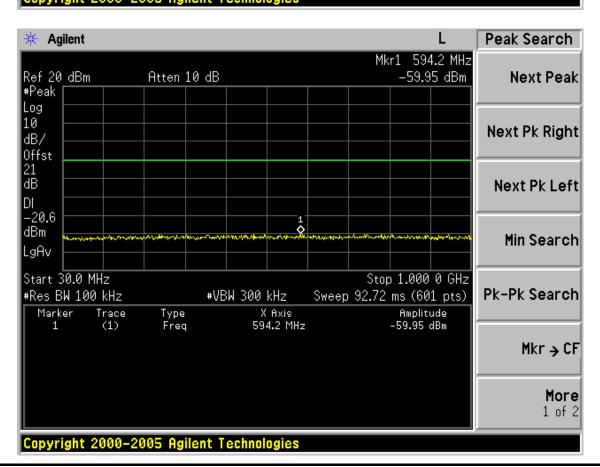


Chain 1:

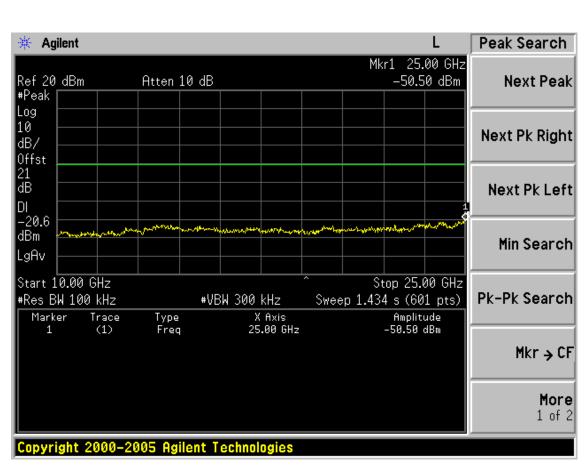
Test Mode: IEEE 802.11b TX

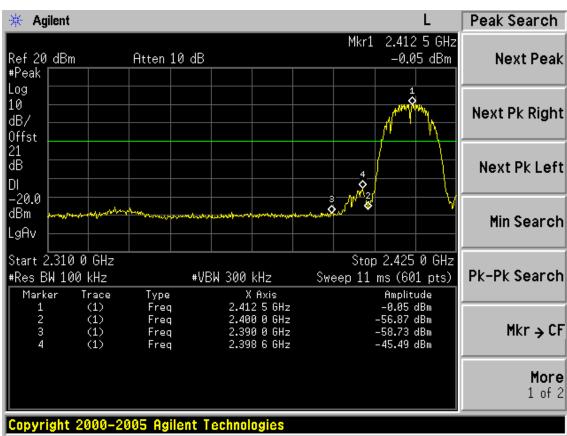
Test CH1: 2412MHz











0.73 dBm

Mkr → CF

More 1 of 2



FCC ID:X4YSAROS300 pag**&**-26 Test CH6: 2437MHz Peak Search 🔆 Agilent Mkr1 2.440 GHz 0.73 dBm Ref 20 dBm Atten 10 dB Next Peak #Peak Log **1** 10 Next Pk Right dB/ Offst 21 dB Next Pk Left DI -19.3 dBm Min Search LgAv Start 1.000 GHz Stop 10.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 860.2 ms (601 pts) Pk-Pk Search Amplitude Marker X Axis Type

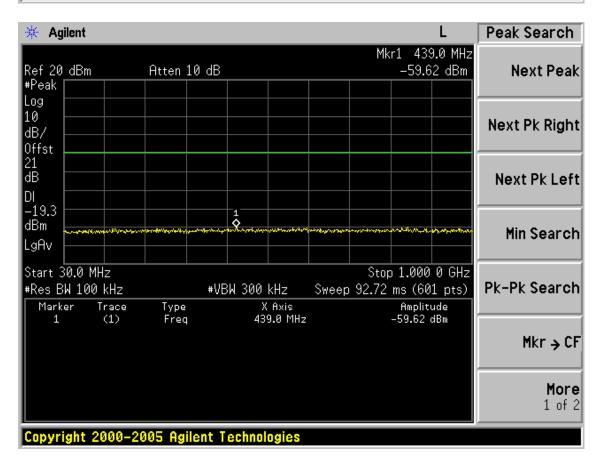
2.440 GHz

Copyright 2000-2005 Agilent Technologies

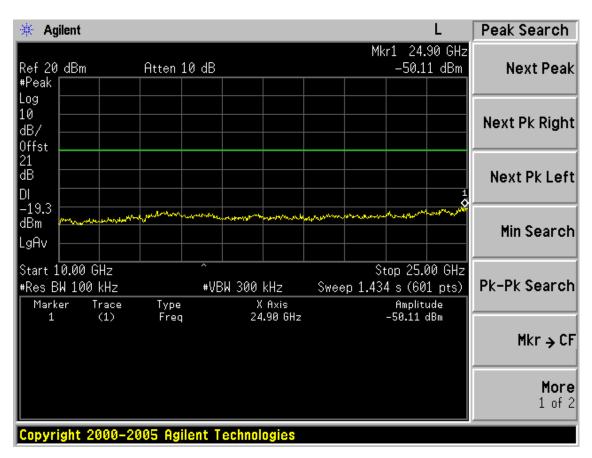
Freq

(1)

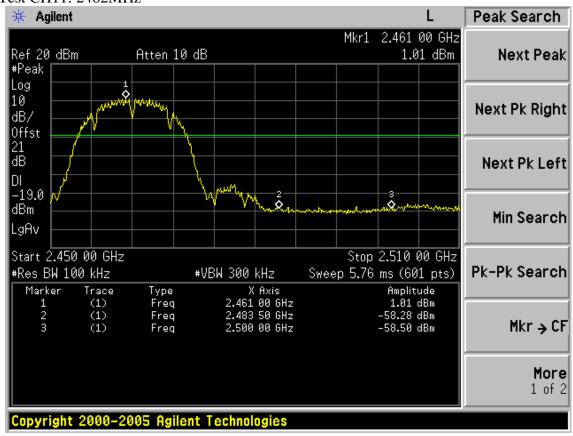
1



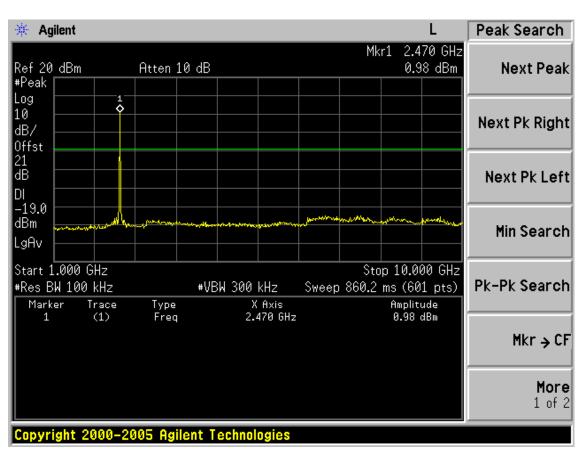


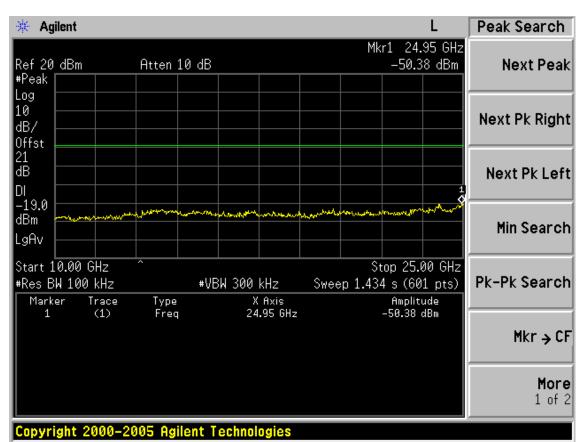


Test CH11: 2462MHz

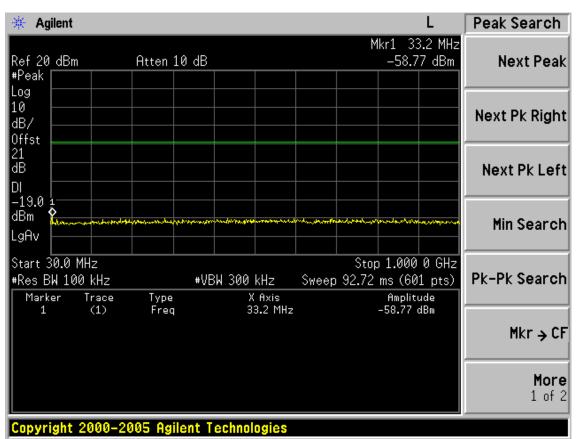






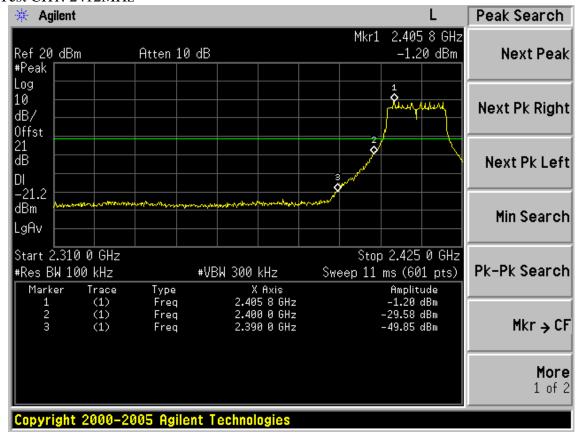




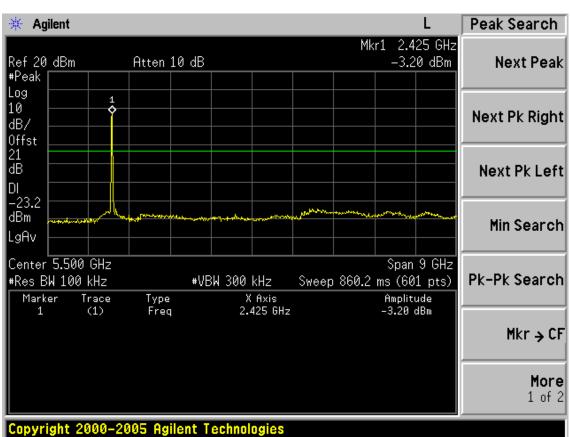


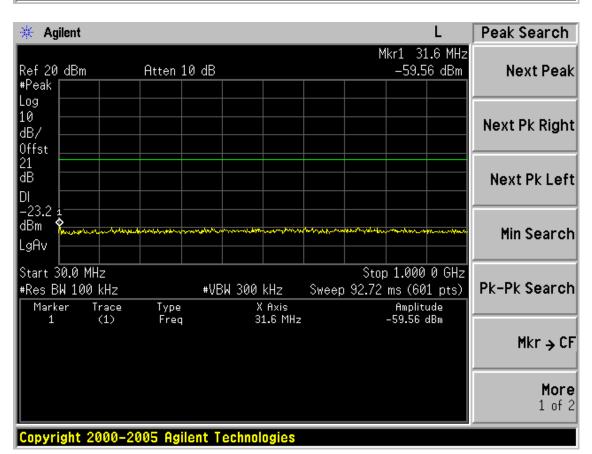
Test Mode: IEEE 802.11g TX

Test CH1: 2412MHz

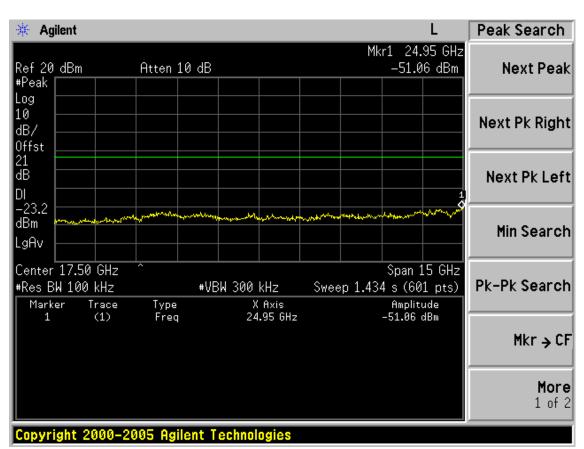




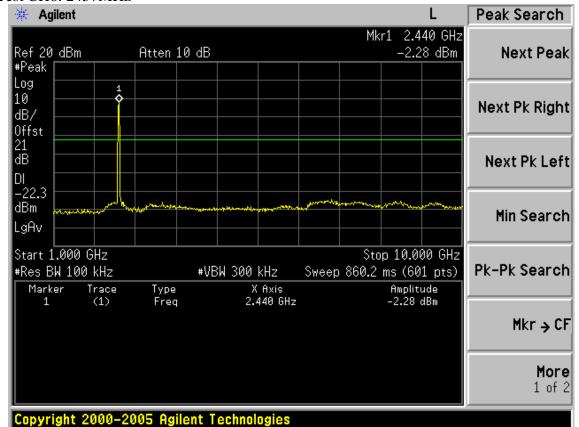




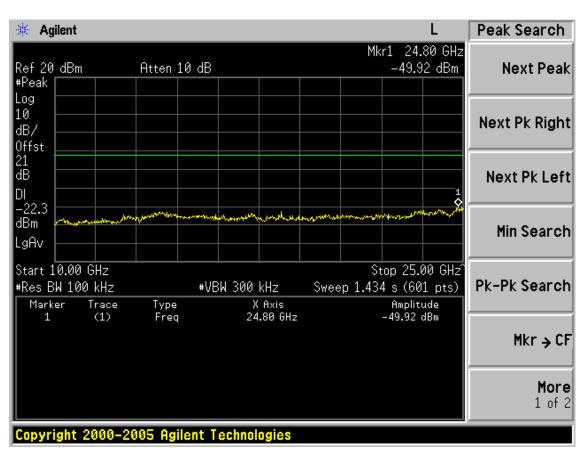


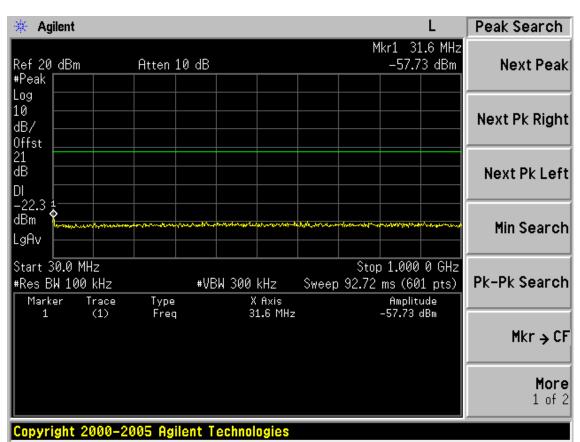


Test CH6: 2437MHz

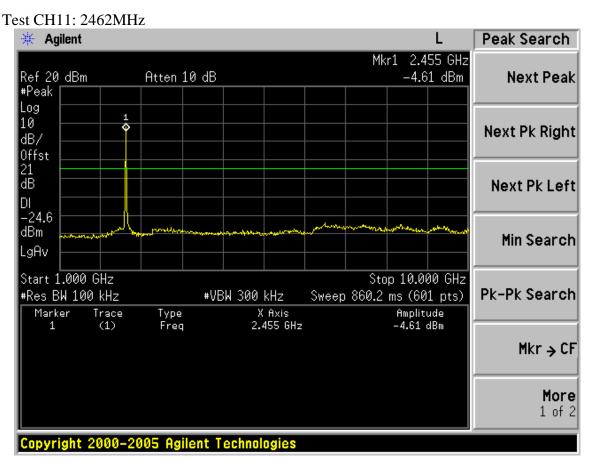


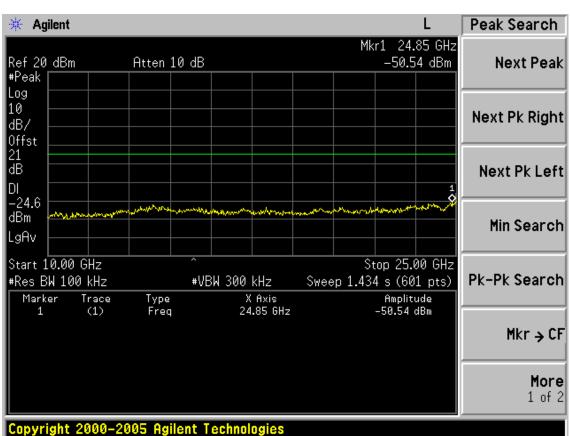




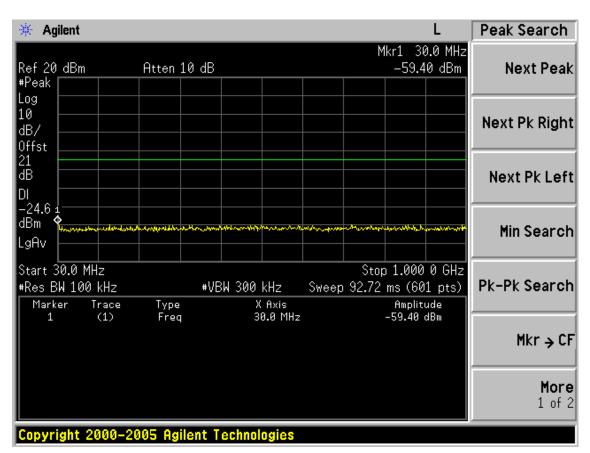


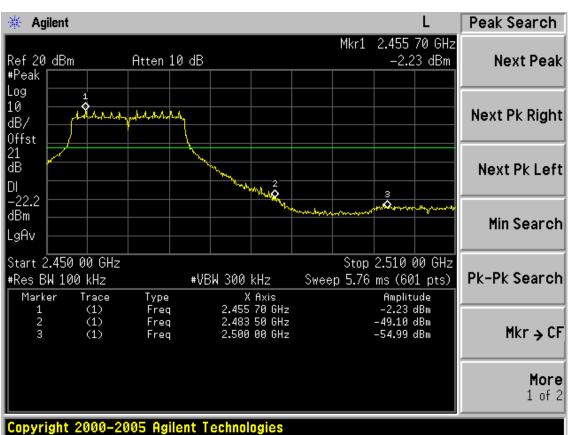








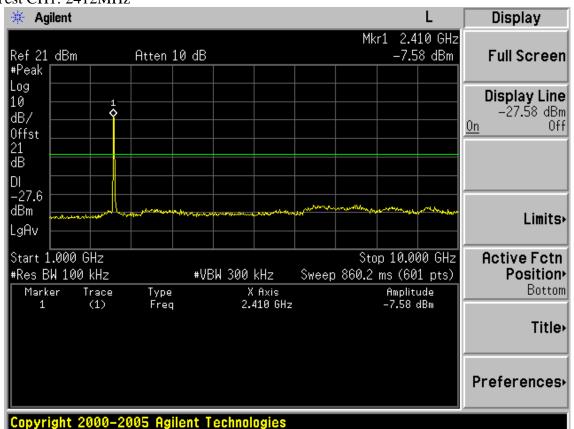


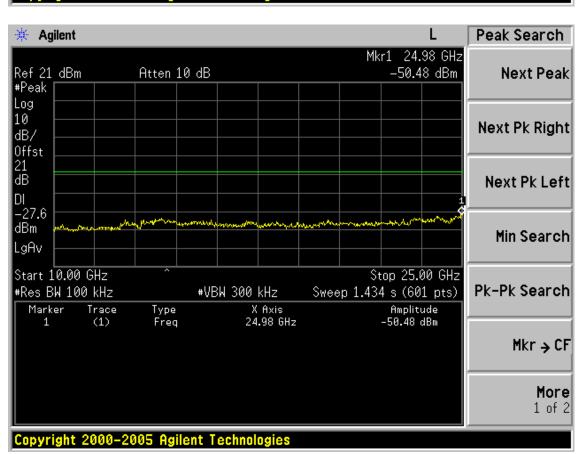




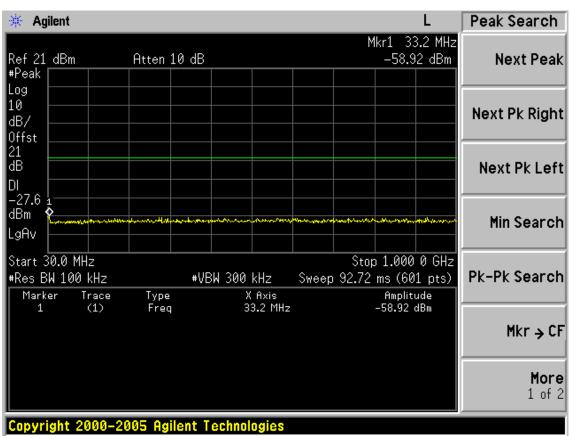
Test Mode: IEEE 802.11n HT20 TX

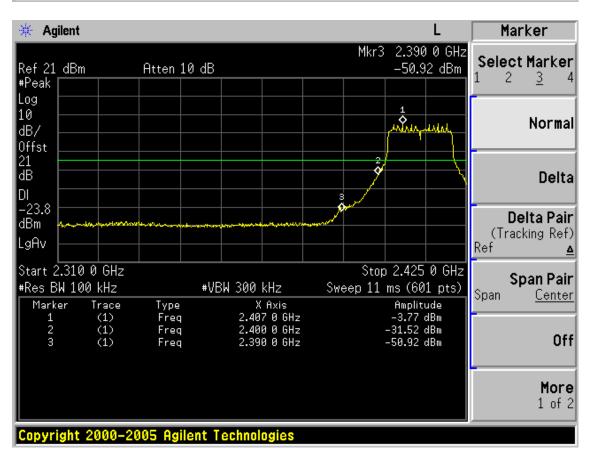
Test CH1: 2412MHz



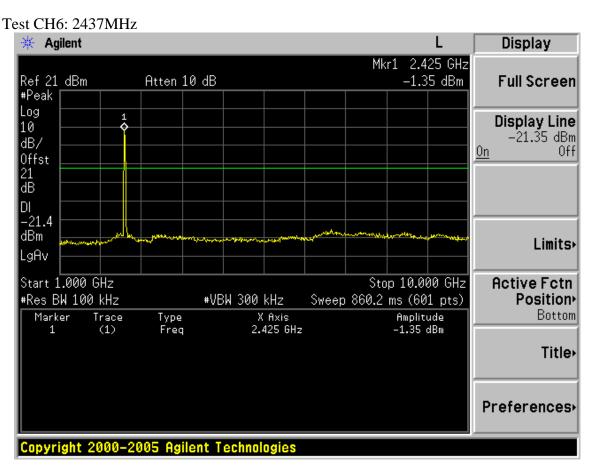


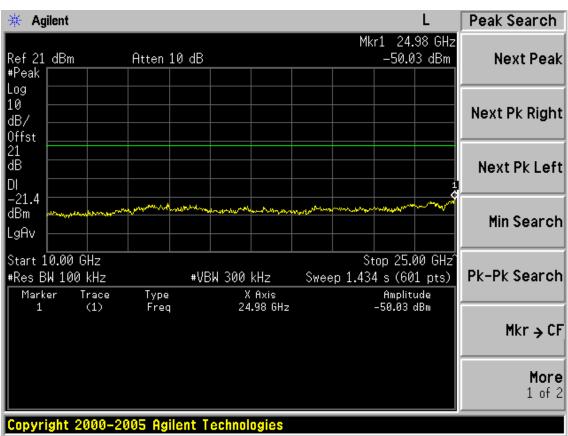




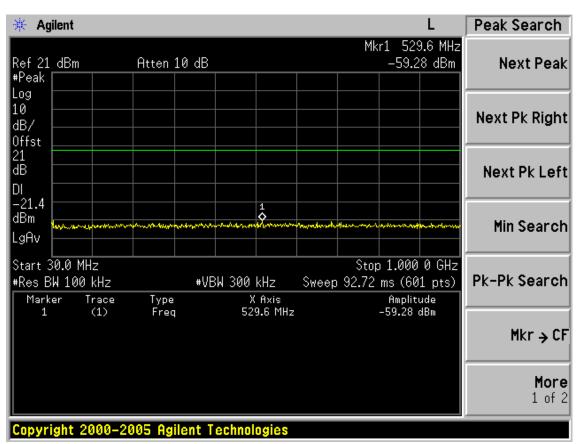




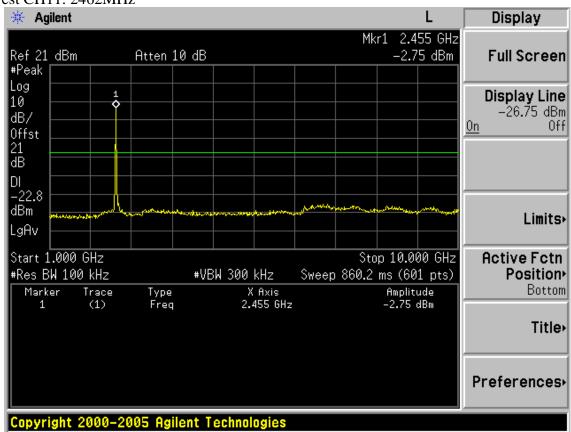




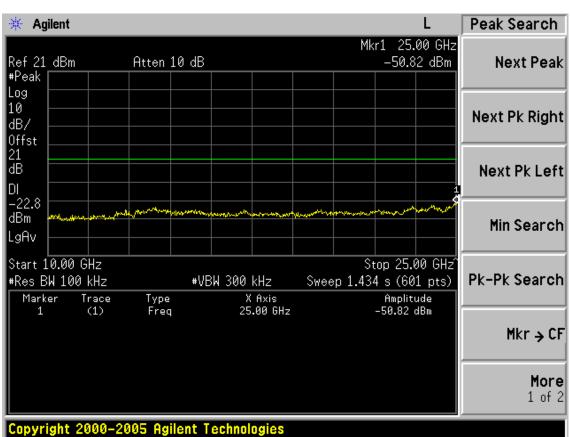


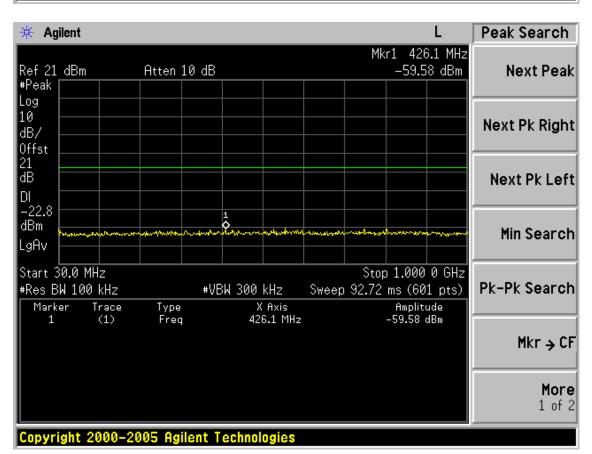


Test CH11: 2462MHz

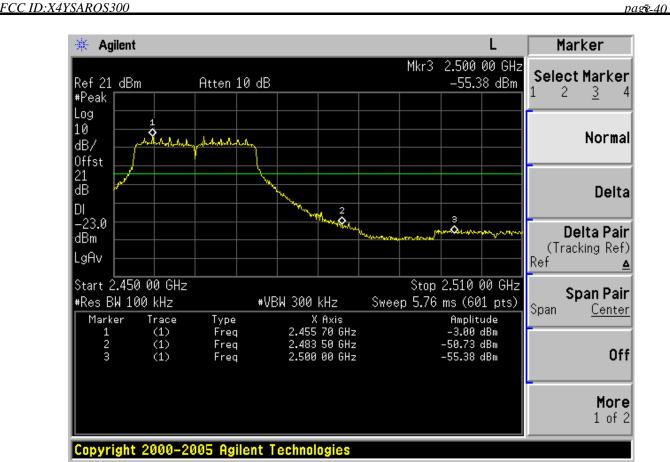










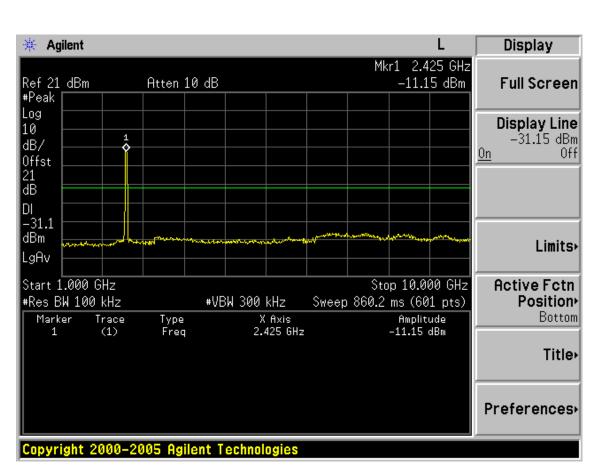


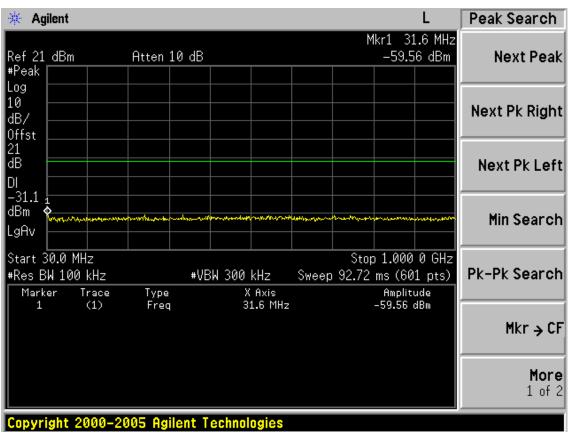
Test Mode: IEEE 802.11n HT40 TX

Test CH1: 2422MHz

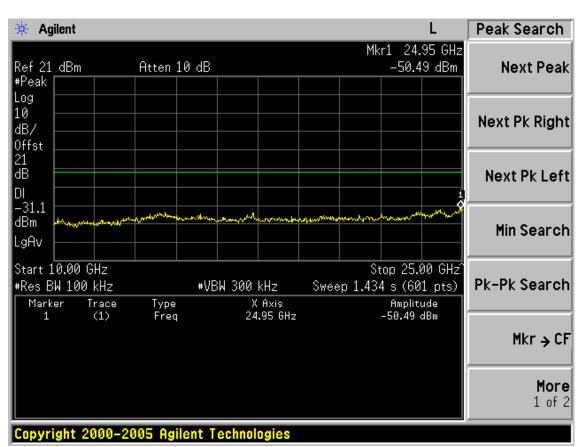




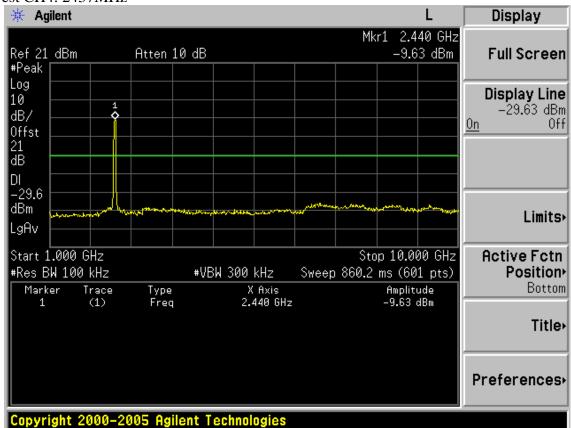




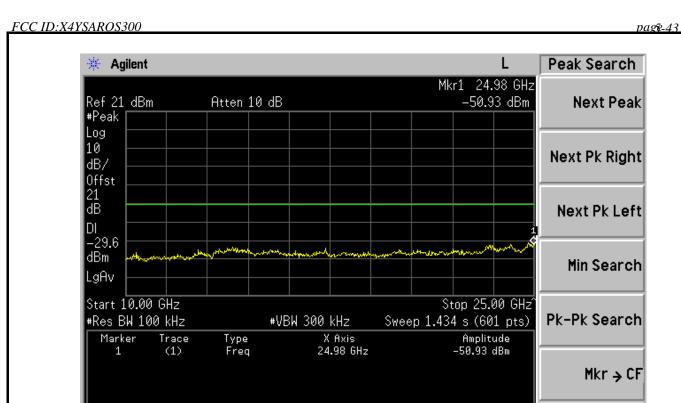




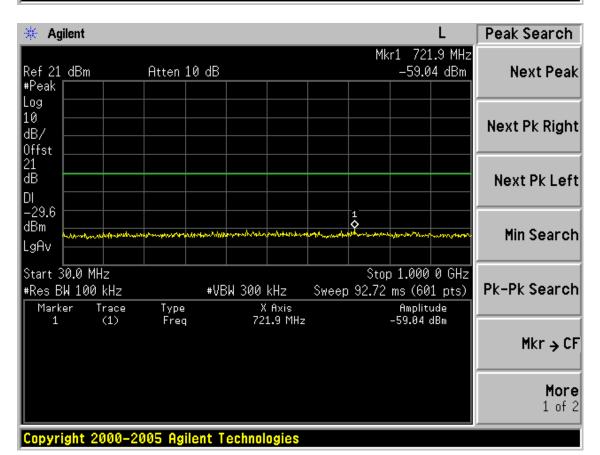
Test CH4: 2437MHz







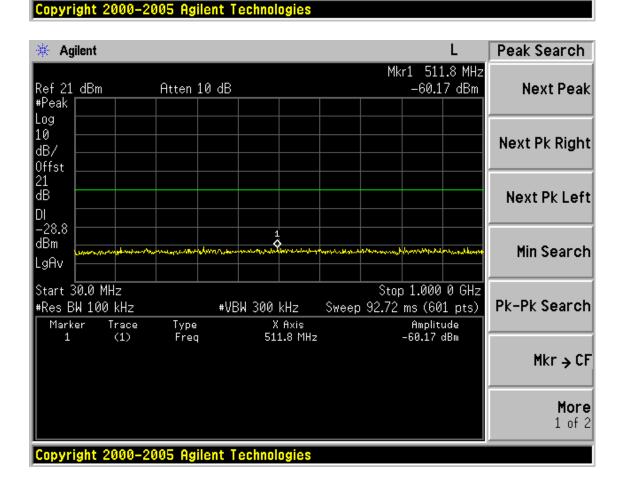




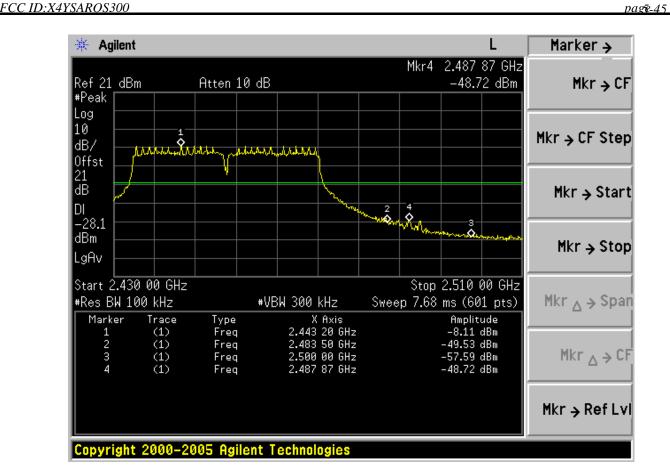
More 1 of 2

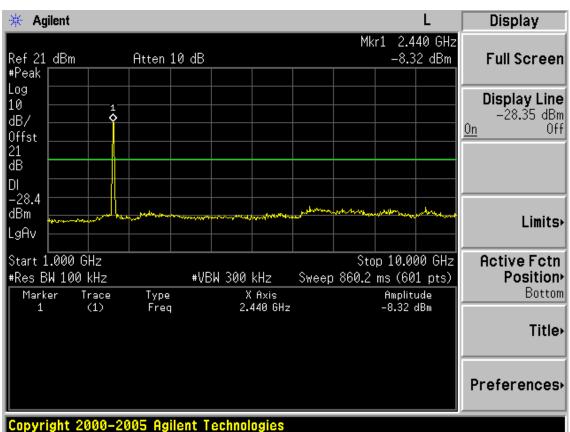


FCC ID:X4YSAROS300 pag**&**-44 Test CH7: 2452MHz Peak Search 🔆 Agilent Mkr1 25.00 GHz -50.31 dBm Ref 21 dBm Atten 10 dB Next Peak #Peak Log 10 Next Pk Right dB/ Offst 21 dB Next Pk Left -28.8 dBm Min Search LgAv Start 10.00 GHz Stop 25.00 GHzí #Res BW 100 kHz #VBW 300 kHz Sweep 1.434 s (601 pts) Pk-Pk Search X Axis 25.00 GHz Marker Type (1) Freq -50.31 dBm 1 Mkr → CF More 1 of 2











FCC ID:X4YSAROS300 page6-1

6. BAND EDGE COMPLIANCE TEST

6.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	US44300459	May.08, 12	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 12	1 Year
3.	Antenna	EMCO	3115	9510-4580	May.08, 12	1Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 12	1 Year

6.2.Limit

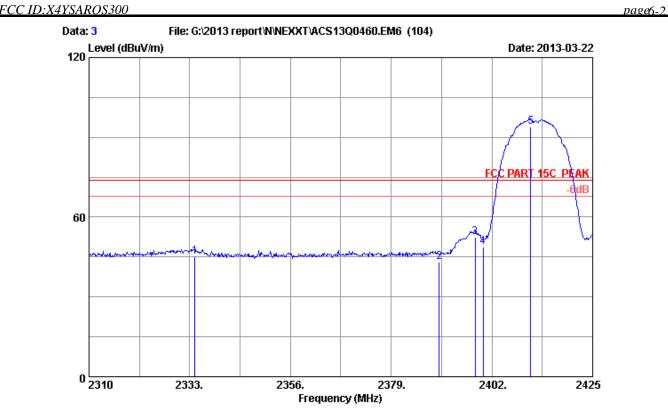
All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

6.3.Test Produce

- 1. The EUT is placed on a turntable, which is 0.8m above the ground plane and worked at highest radiated power.
- 2. The turntable was rotated for 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
- 4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
- (a) PEAK: RBW=1MHz; VBW=3MHz; Sweep=AUTO
- (b) AVERAGE: RBW=1MHz; VBW=10Hz; Sweep=AUTO

6.4. Test Results

Pass (The testing data was attached in the next pages.)



Site no. : 3m Chamber Data no. : 3

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

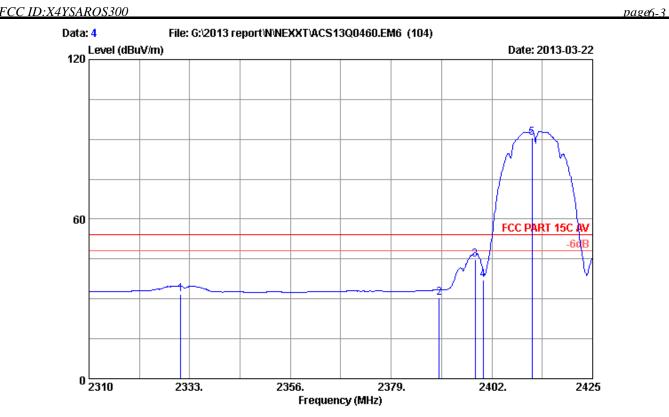
EUT : 300Mbps Wireless N PCI Adapter
Power supply : DC 3.3V From PC input AC 120V/60Hz
Test mode : IEEE802.11b CH1 2412MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark	
1	2334.150	26.34	5.90	35.92	48.88	45.20	74.00	28.80	Peak	
2	2390.000	26.70	6.00	35.92	46.47	43.25	74.00	30.75	Peak	
3	2398.205	26.75	6.01	35.92	55.49	52.33	74.00	21.67	Peak	
4	2400.000	26.76	6.02	35.92	51.91	48.77	74.00	25.23	Peak	
5	2410.855	26.83	6.04	35.92	96.90	93.85	74.00	-19.85	Peak	

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 4

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

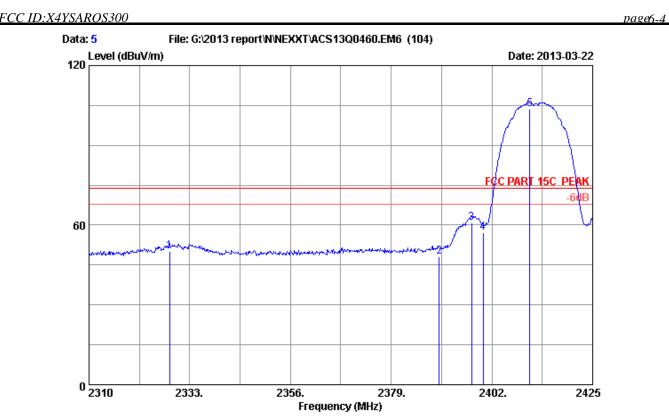
EUT : 300Mbps Wireless N PCI Adapter
Power supply : DC 3.3V From PC input AC 120V/60Hz
Test mode : IEEE802.11b CH1 2412MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2330.930	26.32	5.90	35.92	35.51	31.81	54.00	22.19	Average
2	2390.000	26.70	6.00	35.92	33.80	30.58	54.00	23.42	Average
3	2398.205	26.75	6.01	35.92	47.97	44.81	54.00	9.19	Average
4	2400.000	26.76	6.02	35.92	40.21	37.07	54.00	16.93	Average
5	2411.200	26.83	6.04	35.92	93.52	90.47	54.00	-36.47	Average

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 5

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

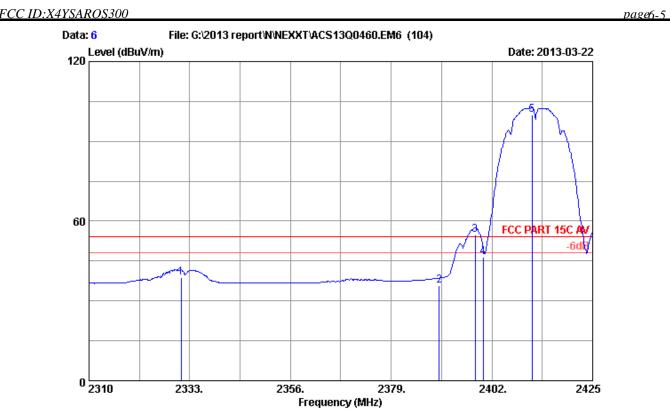
EUT : 300Mbps Wireless N PCI Adapter Power supply : DC 3.3V From PC input AC 120V/60Hz Test mode : IEEE802.11b CH1 2412MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark	_
1	2328.400	26.30	5.89	35.92	53.98	50.25	74.00	23.75	Peak	
2	2390.000	26.70	6.00	35.92	51.52	48.30	74.00	25.70	Peak	
3	2397.400	26.74	6.01	35.92	64.05	60.88	74.00	13.12	Peak	
4	2400.000	26.76	6.02	35.92	60.17	57.03	74.00	16.97	Peak	
5	2410.625	26.83	6.04	35.92	106.55	103.50	74.00	-29.50	Peak	

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 6

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

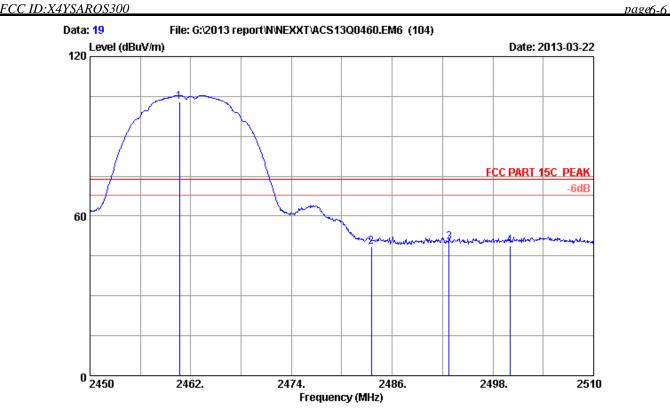
EUT : 300Mbps Wireless N PCI Adapter
Power supply : DC 3.3V From PC input AC 120V/60Hz
Test mode : IEEE802.11b CH1 2412MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2331.045	26.32	5.90	35.92	42.47	38.77	54.00	15.23	Average
2	2390.000	26.70	6.00	35.92	39.04	35.82	54.00	18.18	Average
3	2398.205	26.75	6.01	35.92	58.14	54.98	54.00	-0.98	Average
4	2400.000	26.76	6.02	35.92	49.47	46.33	54.00	7.67	Average
5	2411.200	26.83	6.04	35.92	103.12	100.07	54.00	-46.07	Average

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 19

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

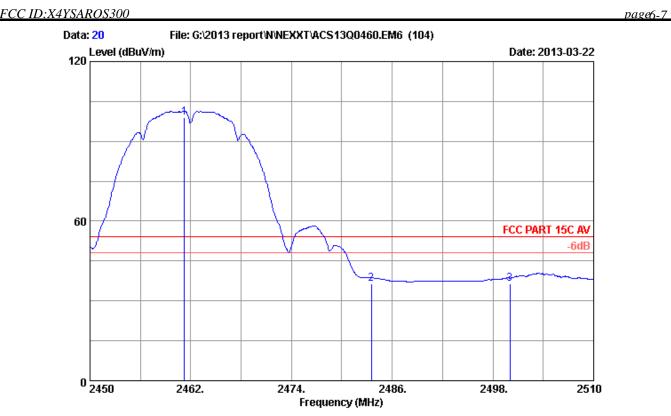
EUT : 300Mbps Wireless N PCI Adapter Power supply : DC 3.3V From PC input AC 120V/60Hz Test mode : IEEE802.11b CH11 2462MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)		Limits (dBuV/m)	Margin (dB)	Remark
1	2460.680	27.15	6.12	35.92	105.59	102.94	74.00	-28.94	Peak
2	2483.500	27.29	6.16	35.92	51.05	48.58	74.00	25.42	Peak
3	2492.780	27.35	6.18	35.92	52.38	49.99	74.00	24.01	Peak
4	2500.000	27.40	6.19	35.93	51.27	48.93	74.00	25.07	Peak

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 20

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

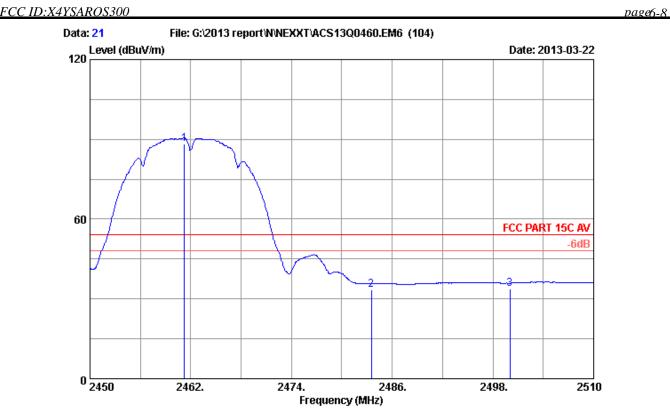
EUT : 300Mbps Wireless N PCI Adapter Power supply : DC 3.3V From PC input AC 120V/60Hz Test mode : IEEE802.11b CH11 2462MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2461.220	27.15	6.12	35.92	101.72	99.07	54.00	-45.07	Average
2	2483.500	27.29	6.16	35.92	38.99	36.52	54.00	17.48	Average
3	2500.000	27.40	6.19	35.93	38.64	36.30	54.00	17.70	Average

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 21

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

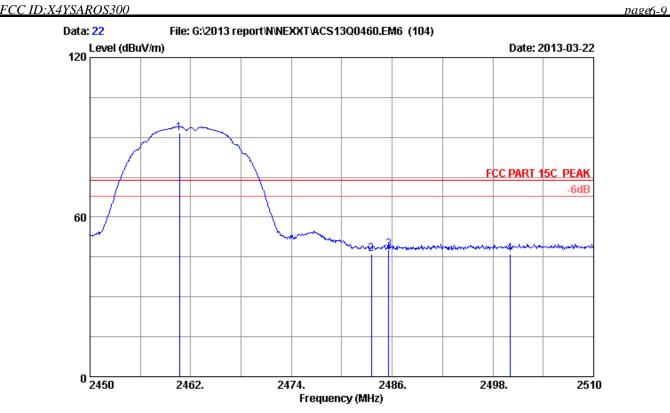
EUT : 300Mbps Wireless N PCI Adapter Power supply : DC 3.3V From PC input AC 120V/60Hz Test mode : IEEE802.11b CH11 2462MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	loss (dB)	Amp. Factor (dB)	Reading (dBuV)		Limits (dBuV/m)	Margin (dB)	Remark
1 2	2483.500	27.15 27.29	6.16	35.92 35.92	90.75 36.04	88.10 33.57	54.00	-34.10 20.43	Average Average
3	2500.000	27.40	6.19	35.93	36.08	33.74	54.00	20.26	Average

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 22

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23*C/54% Engineer : Leo-Li

EUT : 300Mbps Wireless N PCI Adapter Power supply : DC 3.3V From PC input AC 120V/60Hz Test mode : IEEE802.11b CH11 2462MHz Tx

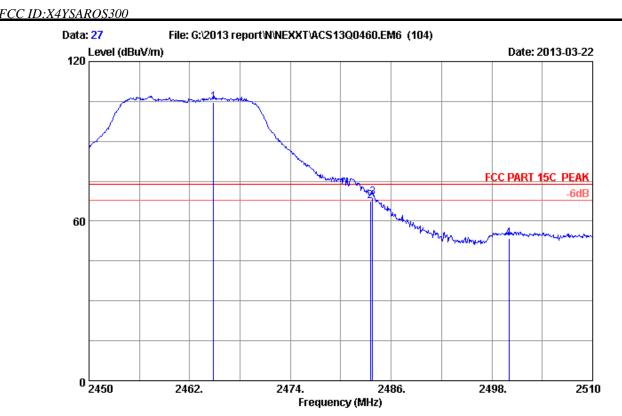
M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2460.680 2483.500	27.15 27.29		35.92 35.92	94.19	91.54		-17.54 27.85	Peak Peak
2 3 4	2485.580 2500.000	27.29 27.31 27.40	6.16 6.19	35.92 35.92 35.93	48.62 50.40 48.45	46.15 47.95 46.11	74.00 74.00 74.00	26.05 27.89	Peak Peak Peak

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.

pa**ge**-10



Site no. : 3m Chamber Data no. : 27

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

EUT : 300Mbps Wireless N PCI Adapter Power supply : DC 3.3V From PC input AC 120V/60Hz Test mode : IEEE802.11g CH11 2462MHz Tx

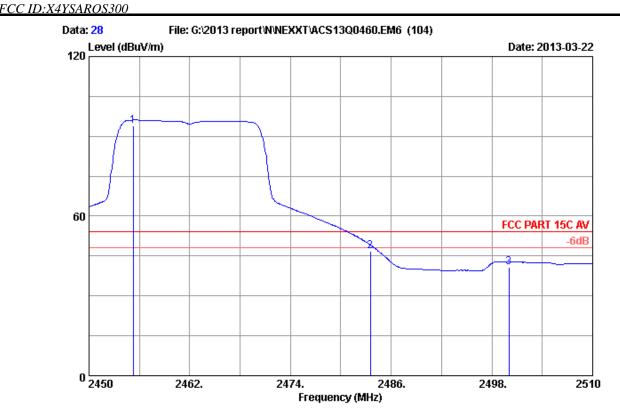
M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)		Limits (dBuV/m)	Margin (dB)	Remark
1	2464.820	27.17	6.13	35.92	107.20	104.58	74.00	-30.58	Peak
2	2483.500	27.29	6.16	35.92	69.90	67.43	74.00	6.57	Peak
3	2483.780	27.30	6.16	35.92	71.31	68.85	74.00	5.15	Peak
4	2500.000	27.40	6.19	35.93	55.92	53.58	74.00	20.42	Peak

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.

pa**%**-11



Site no. : 3m Chamber Data no. : 28

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

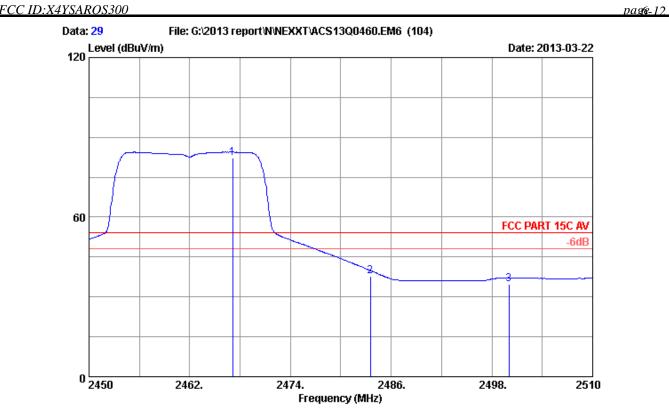
EUT : 300Mbps Wireless N PCI Adapter
Power supply : DC 3.3V From PC input AC 120V/60Hz
Test mode : IEEE802.11g CH11 2462MHz Tx

M/N : APLDT300N1

:

2 2483.500 27.29 6.16 35.92 49.38 46.91 54.00 7.09 Average		Freq. (MHz)	Ant. Factor (dB/m)	loss (dB)	Amp. Factor (dB)	Reading (dBuV)		Limits (dBuV/m)	Margin (dB)	Remark
	1 2 3	2483.500	27.29	6.16	35.92	49.38	46.91	54.00	7.09	Average Average Average

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 29

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C AV

Env. / Ins. : 23*C/54% Engineer : Leo-Li

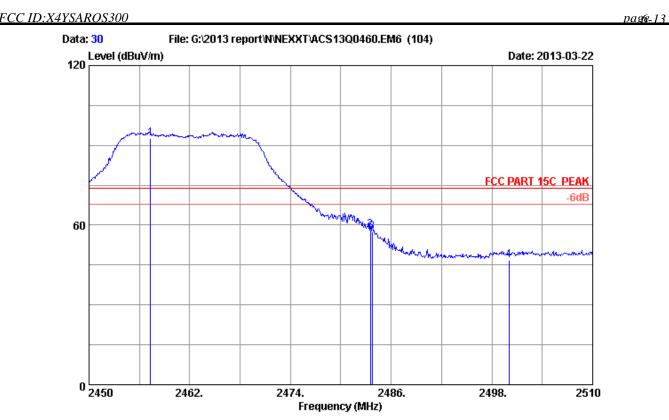
EUT : 300Mbps Wireless N PCI Adapter
Power supply : DC 3.3V From PC input AC 120V/60Hz
Test mode : IEEE802.11g CH11 2462MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2467.100	27.19	6.13	35.92	84.69	82.09	54.00	-28.09	Average
2	2483.500	27.29	6.16	35.92	40.14	37.67	54.00	16.33	Average
3	2500.000	27.40	6.19	35.93	37.22	34.88	54.00	19.12	Average

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 30

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

EUT : 300Mbps Wireless N PCI Adapter Power supply : DC 3.3V From PC input AC 120V/60Hz Test mode : IEEE802.11g CH11 2462MHz Tx

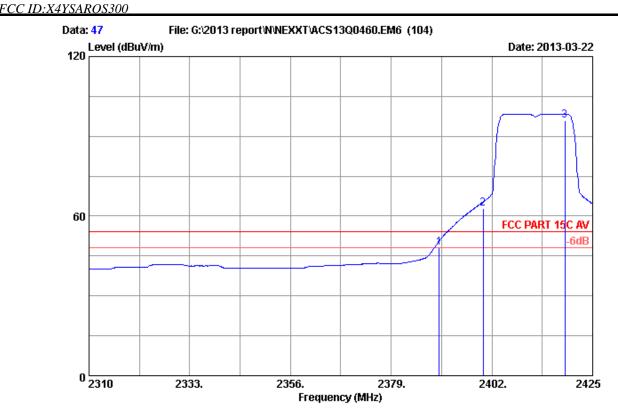
M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits	Margin (dB)	Remark
1	2457.320	27.13	6.11	35.92	95.30	92.62	74.00	-18.62	Peak
2	2483.500	27.29	6.16	35.92	60.59	58.12	74.00	15.88	Peak
3	2483.720	27.30	6.16	35.92	59.96	57.50	74.00	16.50	Peak
4	2500.000	27.40	6.19	35.93	49.03	46.69	74.00	27.31	Peak

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.

pa**%**-14



Site no. : 3m Chamber Data no. : 47

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

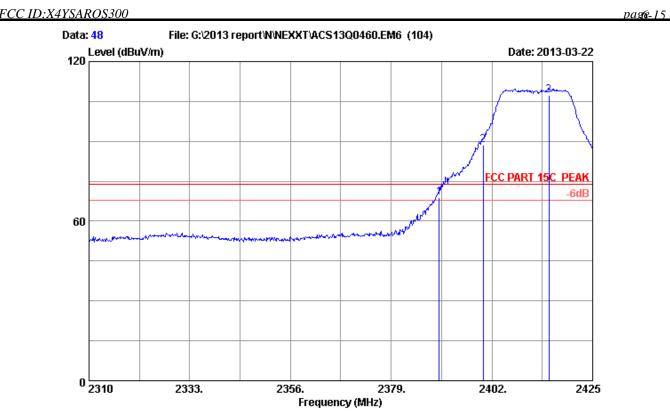
EUT : 300Mbps Wireless N PCI Adapter Power supply : DC 3.3V From PC input AC 120V/60Hz Test mode : IEEE802.11g CH1 2412MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	26.70		35.92	51.28	48.06	54.00	5.94	Average
2	2400.000	26.76	6.02	35.92	65.99	62.85	54.00	-8.85	Average
3	2418.675	26.88	6.05	35.92	98.80	95.81	54.00	-41.81	Average

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 48

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

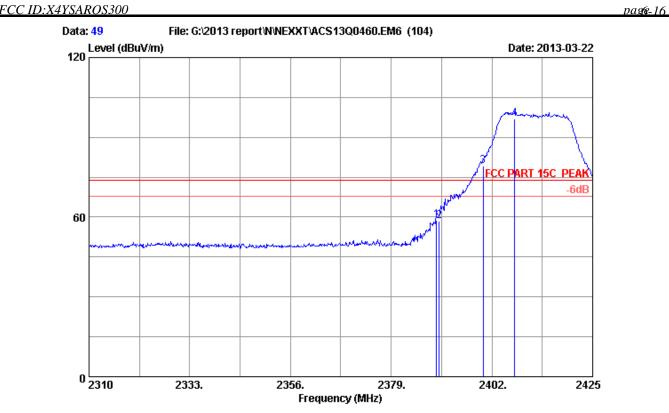
EUT : 300Mbps Wireless N PCI Adapter Power supply : DC 3.3V From PC input AC 120V/60Hz Test mode : IEEE802.11g CH1 2412MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Factor (dB/m)	loss (dB)		_	Level (dBuV/m)	Margin (dB)	Remark	_
2	2390.000 2400.000 2414.995	26.76	6.02	35.92 35.92 35.92		68.84 88.55 107.31	 5.16 -14.55 -33.31	Peak Peak Peak	

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 49

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

EUT : 300Mbps Wireless N PCI Adapter Power supply : DC 3.3V From PC input AC 120V/60Hz Test mode : IEEE802.11g CH1 2412MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2389.350	26.69	6.00	35.92	62.02	58.79	74.00	15.21	Peak
2	2390.000	26.70	6.00	35.92	61.64	58.42	74.00	15.58	Peak
3	2400.000	26.76	6.02	35.92	82.41	79.27	74.00	-5.27	Peak
4	2407.175	26.81	6.03	35.92	100.14	97.06	74.00	-23.06	Peak

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 50

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C AV

Env. / Ins. : 23*C/54% Engineer : Leo-Li

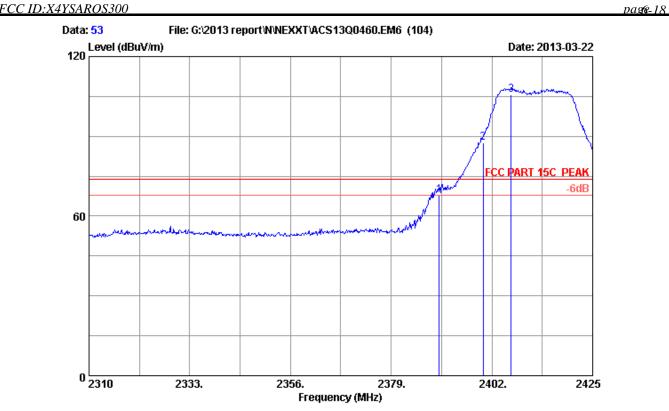
EUT : 300Mbps Wireless N PCI Adapter Power supply : DC 3.3V From PC input AC 120V/60Hz Test mode : IEEE802.11g CH1 2412MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)			Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
2 240	00.000	26.70 26.76 26.79	6.00 6.02 6.03	35.92	42.47 55.72 88.84	39.25 52.58 85.74	54.00 54.00 54.00	14.75 1.42 -31.74	Average Average Average

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 53

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

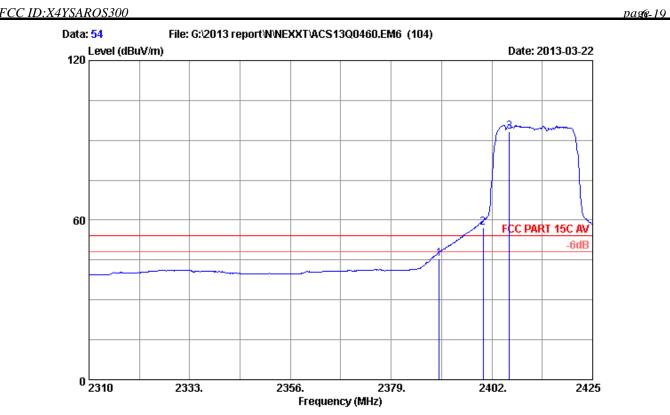
EUT : 300Mbps Wireless N PCI Adapter
Power supply : DC 3.3V From PC input AC 120V/60Hz
Test mode : IEEE802.11nHT20 CH1 2412MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)			Factor	_	Level (dBuV/m)	Limits		Remark
1	2390.000	26.70	6.00	35.92	70.97	67.75	74.00	6.25	Peak
2	2400.000	26.76	6.02	35.92	90.71	87.57	74.00	-13.57	Peak
3	2406.370	26.80	6.03	35.92	108.58	105.49	74.00	-31.49	Peak

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 54

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

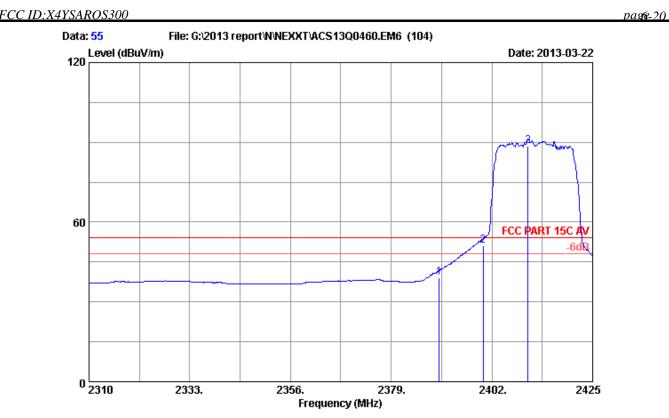
EUT : 300Mbps Wireless N PCI Adapter
Power supply : DC 3.3V From PC input AC 120V/60Hz
Test mode : IEEE802.11nHT20 CH1 2412MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2	2390.000 2400.000	26.70 26.76	6.00 6.02	35.92 35.92	48.55 60.38	45.33 57.24	54.00 54.00	8.67 -3.24	Average Average
3	2406.025	26.80	6.03	35.92	96.41	93.32	54.00	-39.32	Average

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 55

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

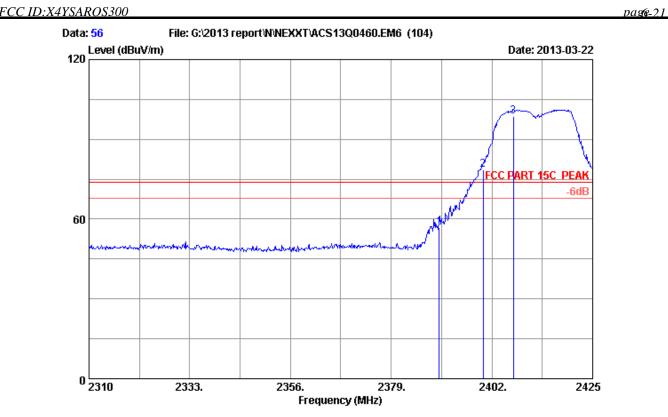
EUT : 300Mbps Wireless N PCI Adapter
Power supply : DC 3.3V From PC input AC 120V/60Hz
Test mode : IEEE802.11nHT20 CH1 2412MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2	2390.000 2400.000	26.70	6.02	35.92 35.92	42.41 54.26	39.19 51.12	54.00 54.00	14.81	Average Average
3	2410.280	26.83	6.03	35.92	91.51	88.45	54.00	-34.45	Average

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 56

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

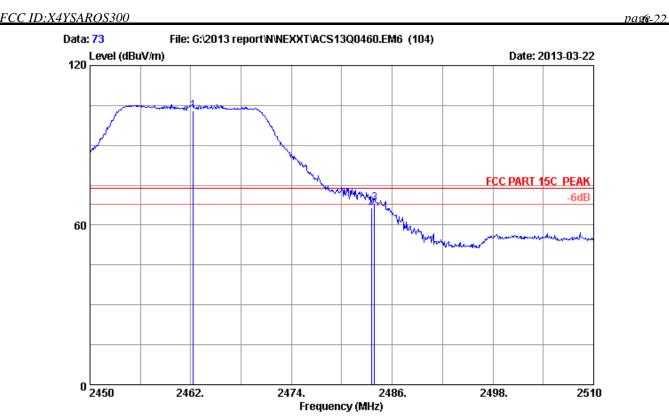
EUT : 300Mbps Wireless N PCI Adapter
Power supply : DC 3.3V From PC input AC 120V/60Hz
Test mode : IEEE802.11nHT20 CH1 2412MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	loss (dB)		Reading (dBuV)	Emission Level (dBuV/m)			Remark
1	2390.000	26.70	6.00	35.92	60.09	56.87	74.00	17.13	Peak
2	2400.000	26.76	6.02	35.92	81.65	78.51	74.00	-4.51	Peak
3	2406.945	26.80	6.03	35.92	101.55	98.46	74.00	-24.46	Peak

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 73

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

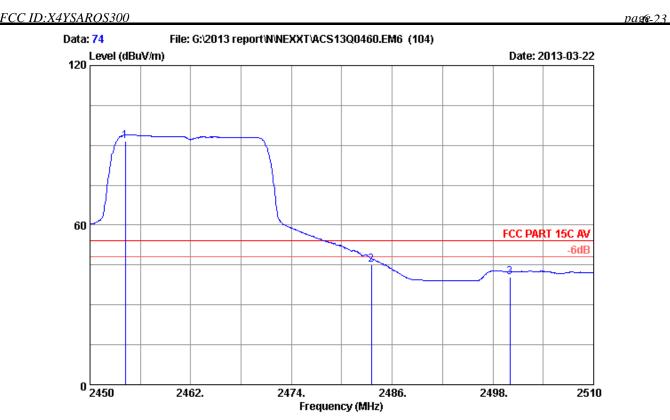
EUT : 300Mbps Wireless N PCI Adapter Power supply : DC 3.3V From PC input AC 120V/60Hz Test mode : IEEE802.11nHT20 CH11 2462MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)		Reading (dBuV)	Emission Level (dBuV/m)			Remark
	2462.300 2483.500	27.16 27.29		35.92 35.92	105.66 68.98	103.02 66.51	74.00 74.00	-29.02 7.49	Peak Peak
3	2483.900	27.30	6.16	35.92	70.54	68.08	74.00	5.92	Peak

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 74

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

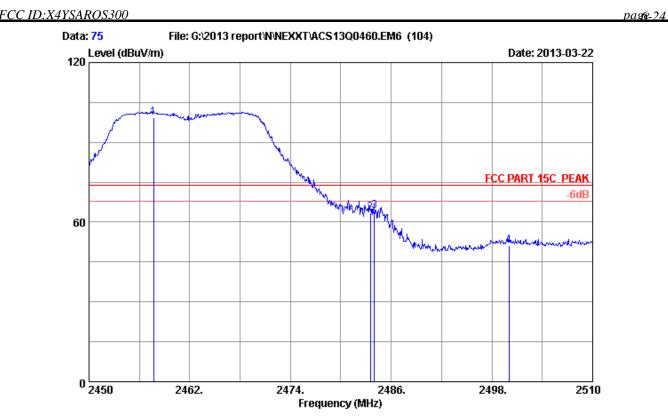
EUT : 300Mbps Wireless N PCI Adapter Power supply : DC 3.3V From PC input AC 120V/60Hz Test mode : IEEE802.11nHT20 CH11 2462MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2454.200	27.11		35.92	94.23	91.53	54.00	-37.53	Average
2	2483.500	27.29		35.92	47.70	45.23	54.00	8.77	Average
3	2500.000	27.40		35.93	42.73	40.39	54.00	13.61	Average

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 75

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23*C/54% Engineer : Leo-Li

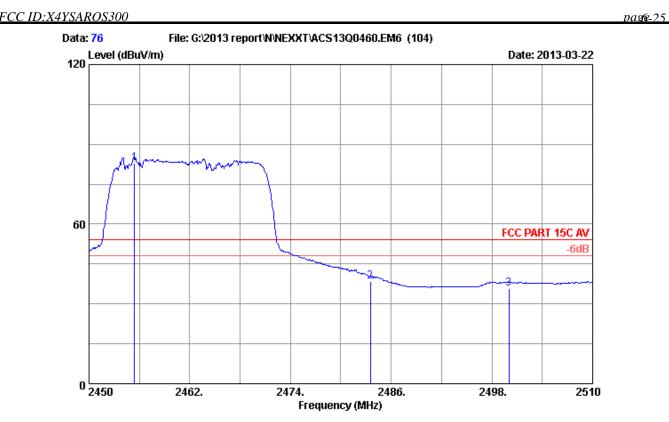
EUT : 300Mbps Wireless N PCI Adapter Power supply : DC 3.3V From PC input AC 120V/60Hz Test mode : IEEE802.11nHT20 CH11 2462MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2457.680	27.13	6.12	35.92	101.79	99.12	74.00	-25.12	Peak
2	2483.500	27.29	6.16	35.92	66.01	63.54	74.00	10.46	Peak
3	2484.020	27.30	6.16	35.92	66.63	64.17	74.00	9.83	Peak
4	2500.000	27.40	6.19	35.93	53.54	51.20	74.00	22.80	Peak

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 76

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

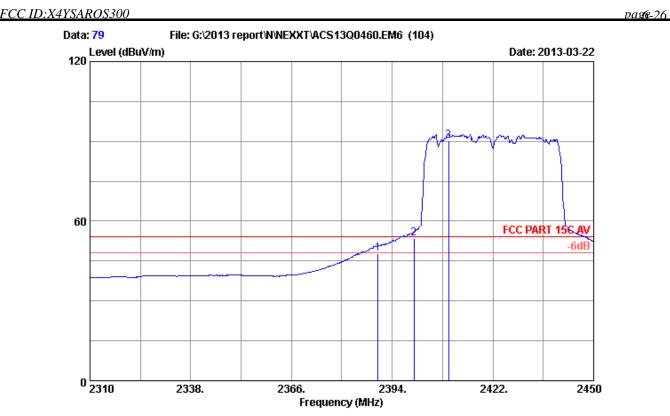
EUT : 300Mbps Wireless N PCI Adapter Power supply : DC 3.3V From PC input AC 120V/60Hz Test mode : IEEE802.11nHT20 CH11 2462MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2455.400	27.11	6.11	35.92	85.68	82.98	54.00	-28.98	Average
2	2483.500	27.29	6.16	35.92	40.77	38.30	54.00	15.70	Average
3	2500.000	27.40	6.19	35.93	38.25	35.91	54.00	18.09	Average

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 79

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

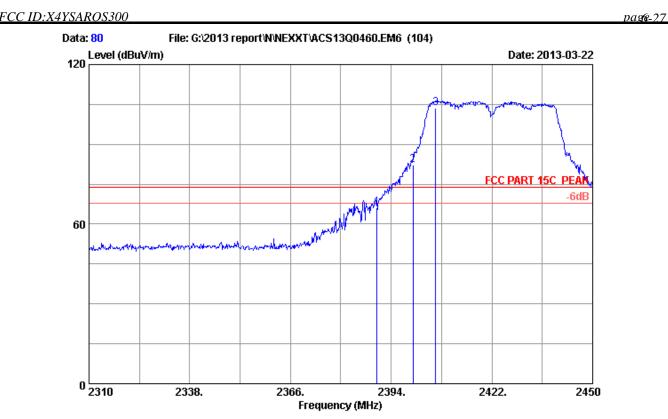
EUT : 300Mbps Wireless N PCI Adapter
Power supply : DC 3.3V From PC input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH1 2422MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	26.70	6.00	35.92	50.88	47.66	54.00	6.34	Average
2	2400.000	26.76	6.02	35.92	56.48	53.34	54.00	0.66	Average
3	2409.680	26.82	6.03	35.92	93.37	90.30	54.00	-36.30	Average

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 80

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

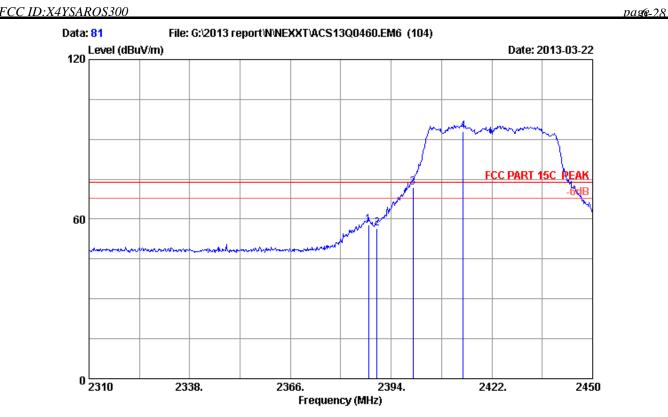
EUT : 300Mbps Wireless N PCI Adapter
Power supply : DC 3.3V From PC input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH1 2422MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)			Reading (dBuV)	Level (dBuV/m)			Remark
1	2390.000	26.70	6.00	35.92	69.38	66.16	74.00	7.84	Peak
2	2400.000	26.76	6.02	35.92	85.48	82.34	74.00	-8.34	Peak
3	2406.320	26.80	6.03	35.92	106.76	103.67	74.00	-29.67	Peak

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 81

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

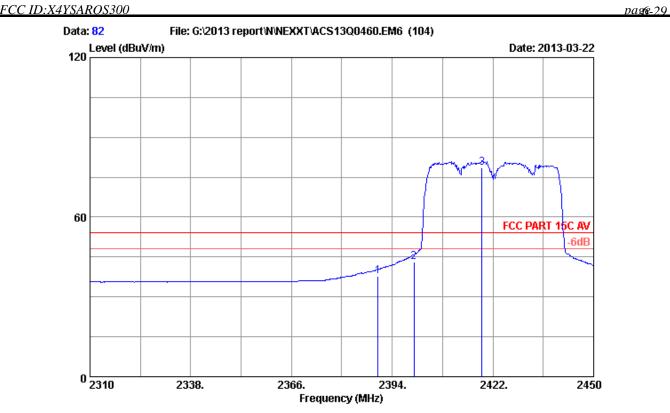
EUT : 300Mbps Wireless N PCI Adapter
Power supply : DC 3.3V From PC input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH1 2422MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits	Margin (dB)	Remark
1	2387.700	26.68			61.08	57.84	74.00	16.16	Peak
2	2390.000	26.70	6.00	35.92	59.55	56.33	74.00	17.67	Peak
3	2400.000	26.76	6.02	35.92	74.88	71.74	74.00	2.26	Peak
4	2414.020	26.85	6.04	35.92	95.96	92.93	74.00	-18.93	Peak

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 82

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

EUT : 300Mbps Wireless N PCI Adapter
Power supply : DC 3.3V From PC input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH1 2422MHz Tx

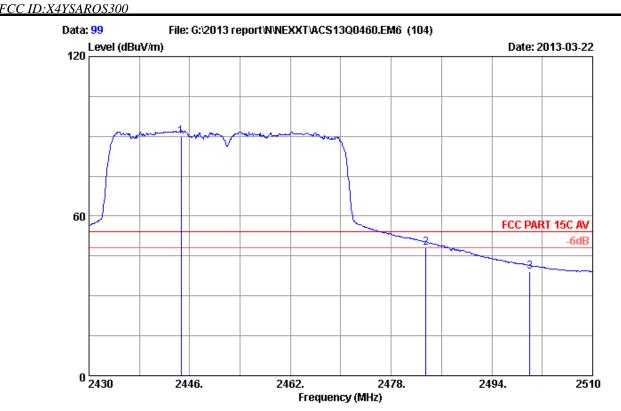
M/N : APLDT300N1

:

_	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
2 2	2390.000 2400.000 2418.920	26.70 26.76 26.88	6.02	35.92 35.92 35.92	40.95 46.18 81.43	37.73 43.04 78.44	54.00 54.00 54.00	16.27 10.96 -24.44	Average Average Average

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.

pa**ge**-30



Site no. : 3m Chamber Data no. : 99

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

EUT : 300Mbps Wireless N PCI Adapter
Power supply : DC 3.3V From PC input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH7 2452MHz Tx

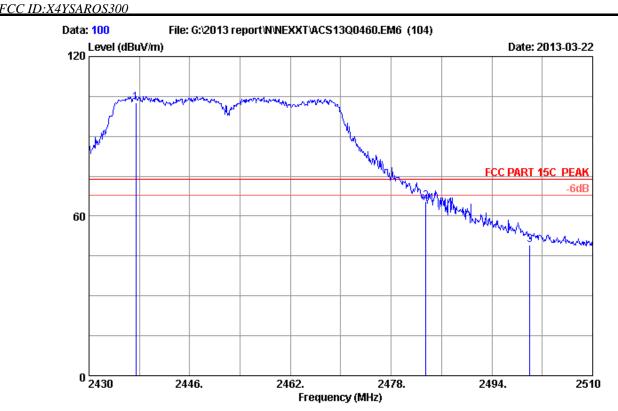
M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2444.640	27.05	6.09	35.92	92.58	89.80	54.00	-35.80	Average
2	2483.500	27.29	6.16	35.92	50.57	48.10	54.00	5.90	Average
3	2500.000	27.40	6.19	35.93	41.58	39.24	54.00	14.76	Average

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.

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Site no. : 3m Chamber Data no. : 100
Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

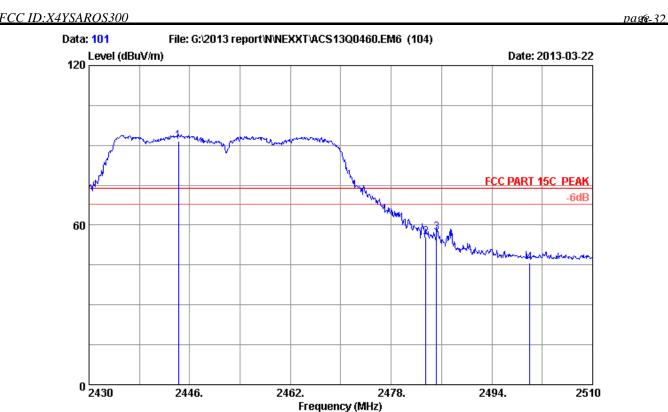
EUT : 300Mbps Wireless N PCI Adapter
Power supply : DC 3.3V From PC input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH7 2452MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)		•	Reading (dBuV)	Level (dBuV/m)			Remark
	2437.440 2483.500			35.92 35.92	105.47 67.98	102.63 65.51	74.00 74.00	-28.63 8.49	Peak Peak
3	2500.000	27.40	6.19	35.93	51.51	49.17	74.00	24.83	Peak

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 101

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

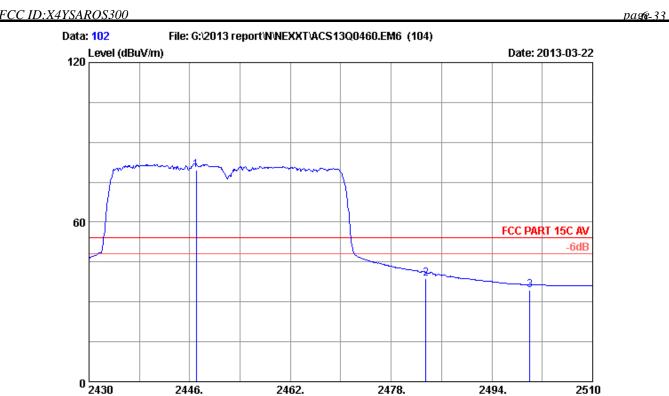
EUT : 300Mbps Wireless N PCI Adapter
Power supply : DC 3.3V From PC input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH7 2452MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits	Margin (dB)	Remark
1	2444.240	27.04	6.09	35.92	94.23	91.44	74.00	-17.44	Peak
2	2483.500	27.29	6.16	35.92	58.07	55.60	74.00	18.40	Peak
3	2485.200	27.31	6.16	35.92	59.46	57.01	74.00	16.99	Peak
4	2500.000	27.40	6.19	35.93	48.16	45.82	74.00	28.18	Peak

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 102

Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL

Frequency (MHz)

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Leo-Li

EUT : 300Mbps Wireless N PCI Adapter
Power supply : DC 3.3V From PC input AC 120V/60Hz
Test mode : IEEE802.11nHT40 CH7 2452MHz Tx

M/N : APLDT300N1

:

	Freq. (MHz)	Ant. Factor (dB/m)		Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
2	2447.040 2483.500 2500.000	27.06 27.29 27.40	6.16	35.92 35.92 35.93	82.36 41.30 36.62	79.60 38.83 34.28	54.00 54.00 54.00	-25.60 15.17 19.72	Average Average Average

- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.



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7. 6dB Bandwidth Test

7.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	US44300459	May.08, 12	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 12	1 Year
3.	Antenna	EMCO	3115	9510-4580	May.31, 12	1Year
4.	HF Cable	Hubersuhner	Sucoflex104	-	May.08, 12	1 Year

7.2.Limit

For direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz

7.3.Test Procedure

The transmitter output was connected to a spectrum analyzer, The bandwidth of the fundamental frequency was measured by spectrum analyzer with 300kHz RBW and 1MHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

7.4. Test Results

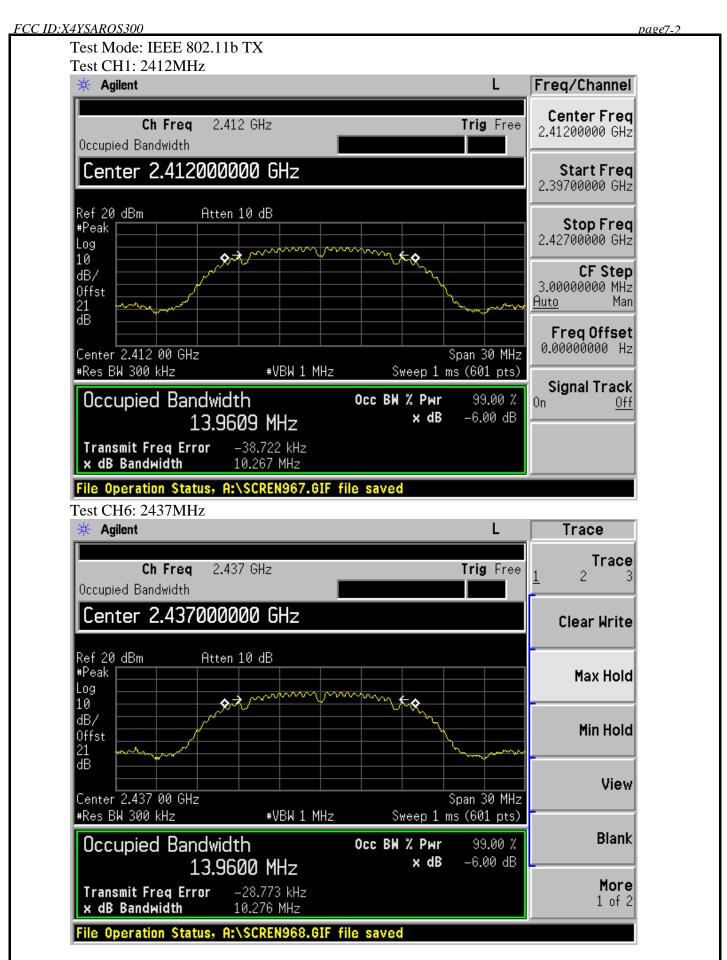
EUT: 300Mbps Wireless N PCI Adapter							
M/N: APLDT300N1							
Test date: 2013-03-22	Pressure:	101.3±1.0 kpa	Humidity:	49.7±3.0%			
Tested by: Leo-Li	Test site:	RF Site	Temperatur °C	re: 21.9±0.6			

Cable lo	oss: 1 dB		Attenuator loss:	: 20 dB		
Test Mode	СН	6dB bar (Mi	ndwidth Hz)	Limit (KHz)		
		Chain0	Chain1	(/		
	CH1	10.267	10.274	>500		
11b	CH6	10.276	10.276	>500		
	CH11	10.273	10.275	>500		
	CH1	16.514	16.544	>500		
11g	CH6	16.483	16.539	>500		
	CH11	16.521	16.511	>500		
11	CH1	17.773	17.790	>500		
11n HT20	CH6	17.756	17.802	>500		
11120	CH11	17.856	17.759	>500		
11	CH1	36.669	36.468	>500		
11n HT40	CH4	36.576	36.461	>500		
11140	CH7	36.548	36.555	>500		
Conclusion: PASS						

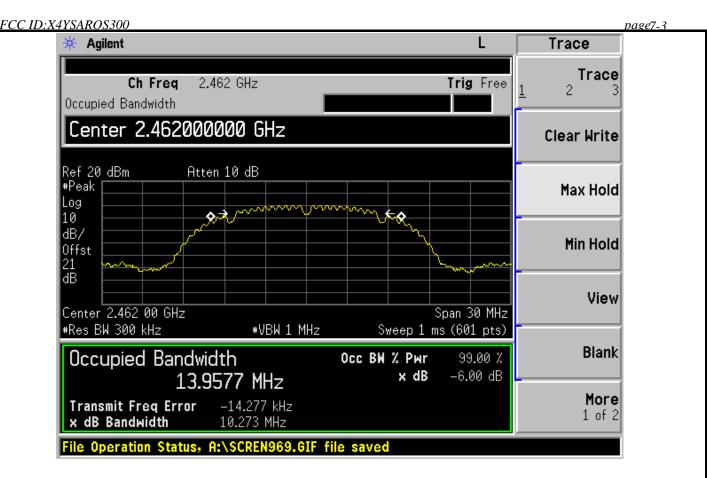
Chain 0:



Test CH11: 2462MHz

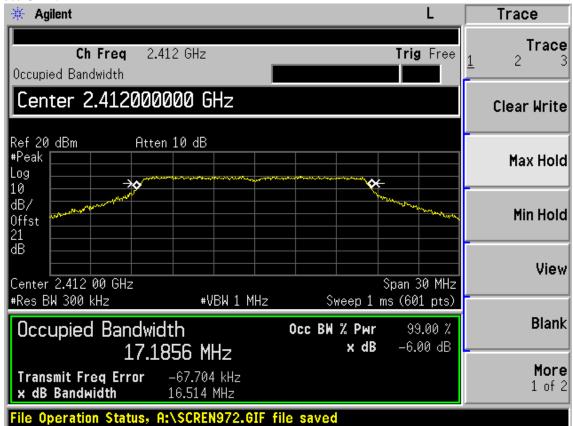






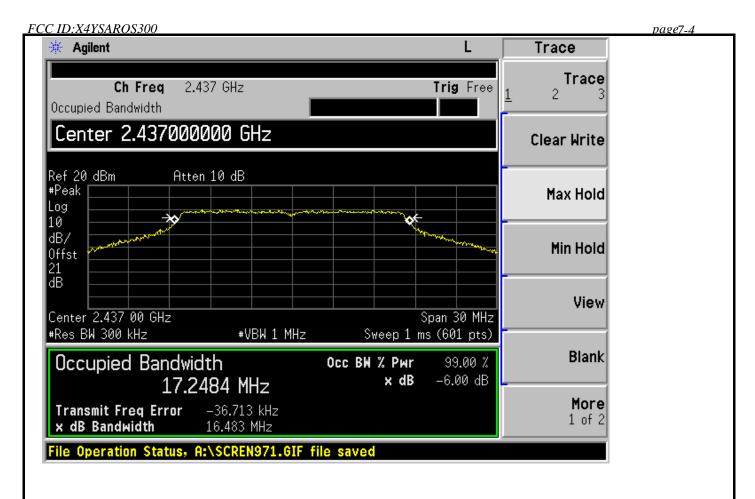
Test Mode: IEEE 802.11g TX

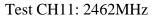
Test CH1: 2412MHz

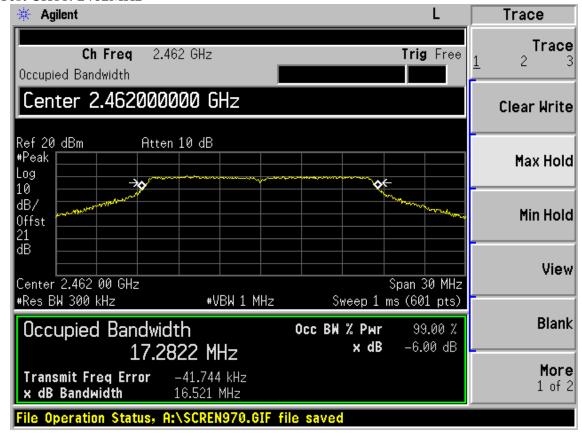


Test CH6: 2437MHz





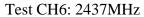




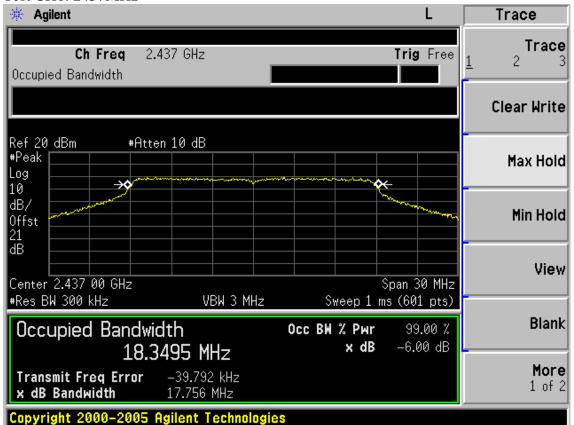
Test Mode: IEEE 802.11n HT20 TX



FCC ID:X4YSAROS300 page7-5 Test CH1: 2412MHz 🔆 Agilent Meas Setup Avg Number Ch Freq 2.412 GHz Trig Free 10 0n 0ff Occupied Bandwidth Avg Mode Repeat Exp #Atten 10 dB Ref 20 dBm Max Hold #Peak <u>0n</u> Off Log Þ¢ 10 dB/ Occ BW % Pwr Offst 99.00 % ďΒ OBW Span 30.0000000 MHz Center 2.412 00 GHz Span 30 MHz #Res BW 300 kHz VBW 3 MHz Sweep 1 ms (601 pts) x dB Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB x dB -6.00 dB 18.2487 MHz Optimize Transmit Freq Error -9.472 kHz Ref Level x dB Bandwidth 17.773 MHz

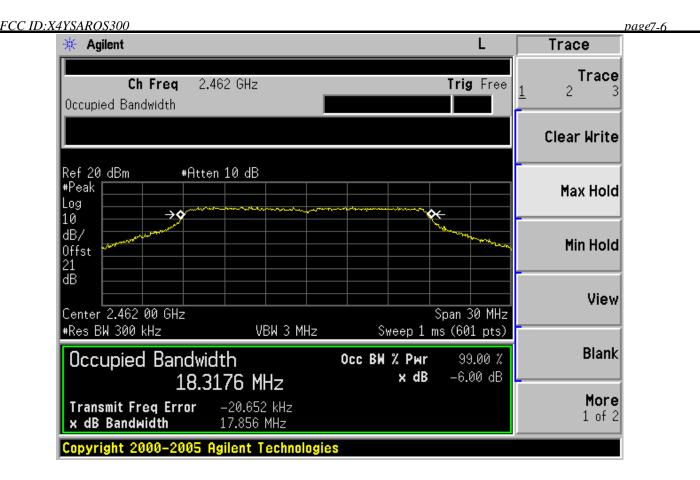


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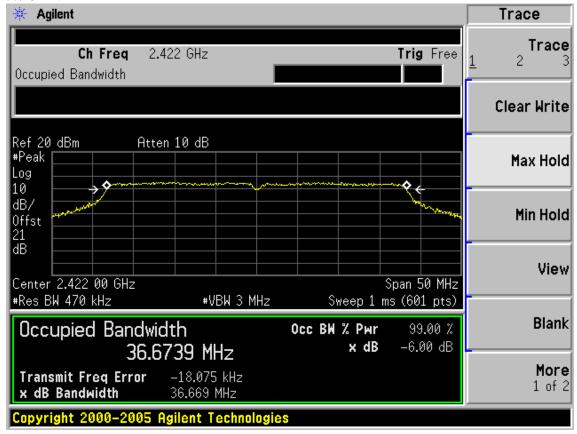
Test CH11: 2462MHz





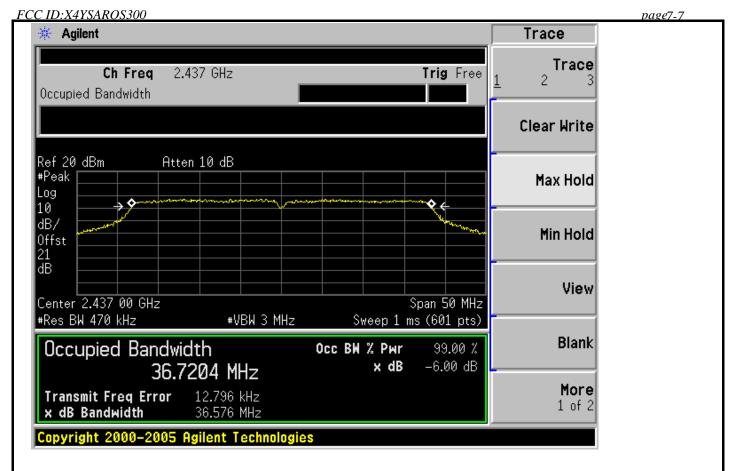
Test Mode: IEEE 802.11n HT40 TX

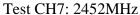
Test CH1: 2422MHz

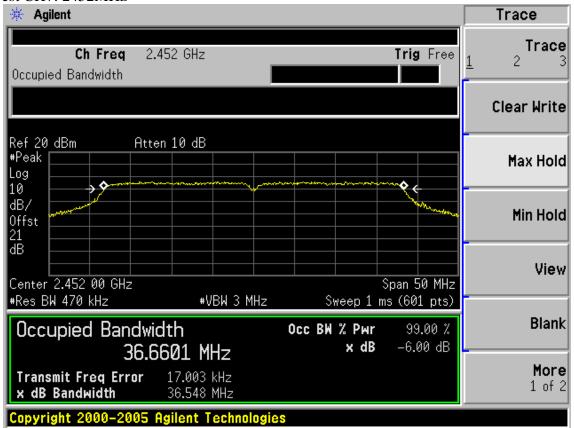


Test CH4: 2437MHz









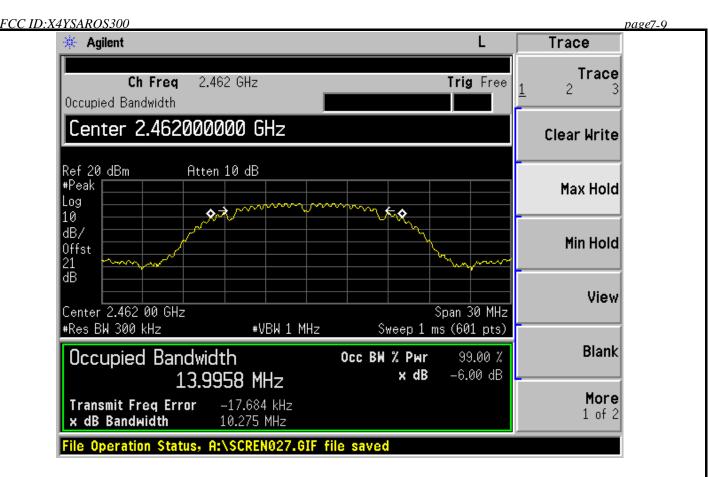
Chain 1:



Test CH11: 2462MHz

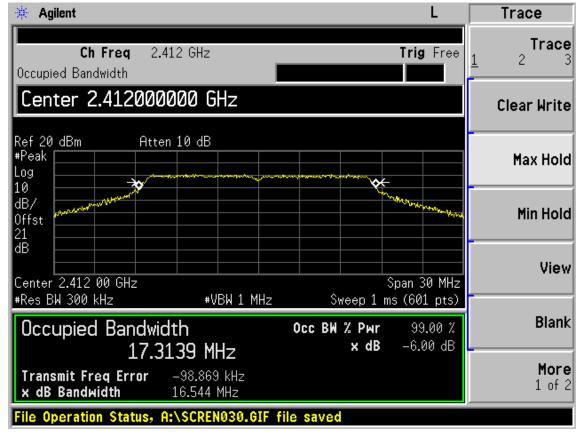






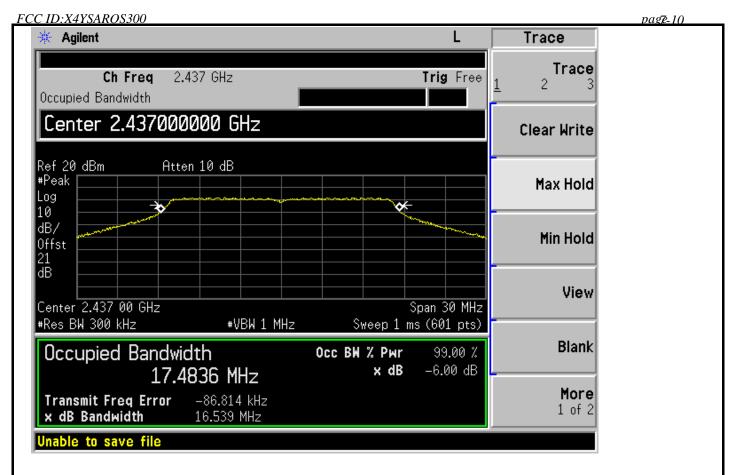
Test Mode: IEEE 802.11g TX

Test CH1: 2412MHz

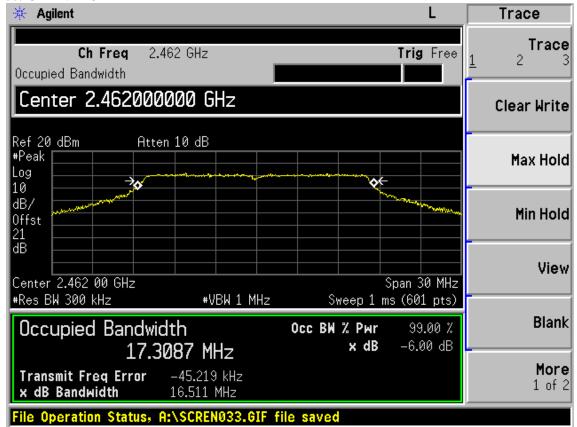


Test CH6: 2437MHz



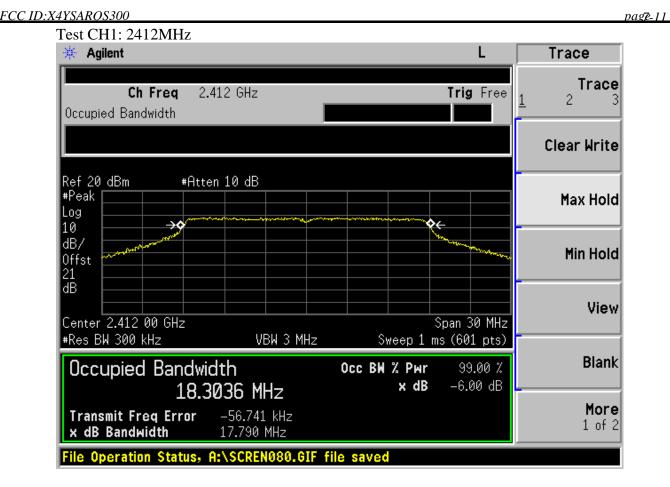


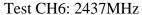


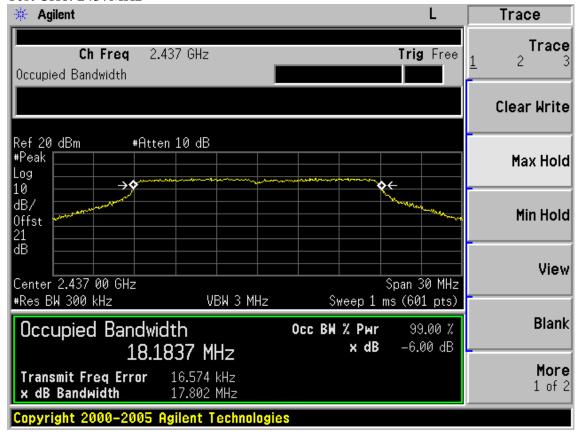


Test Mode: IEEE 802.11n HT20 TX



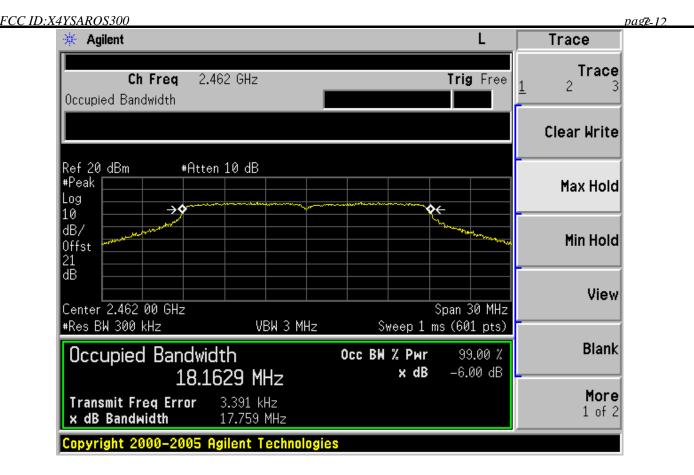






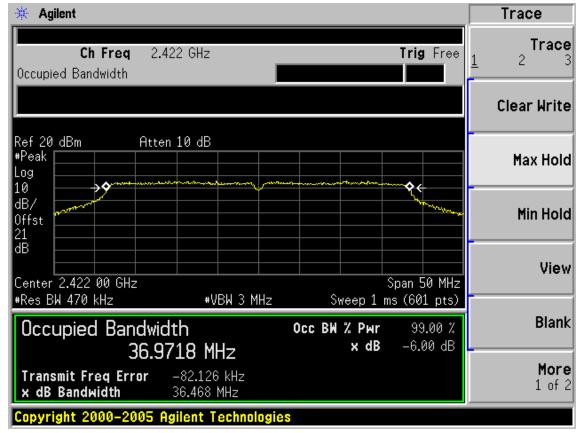
Test CH11: 2462MHz





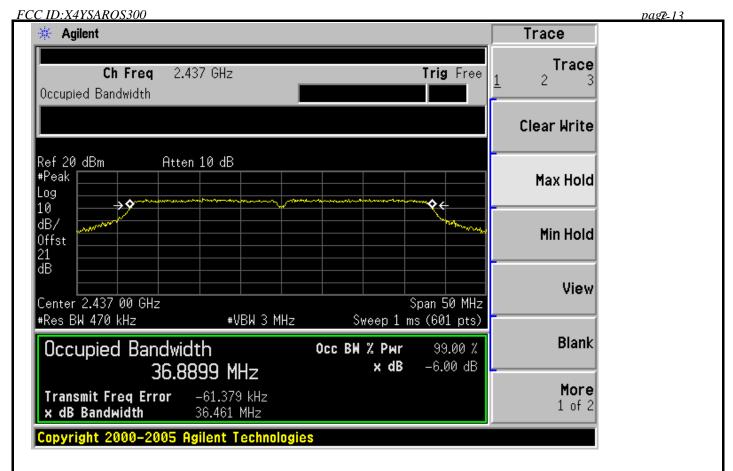
Test Mode: IEEE 802.11n HT40 TX

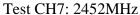
Test CH1: 2422MHz

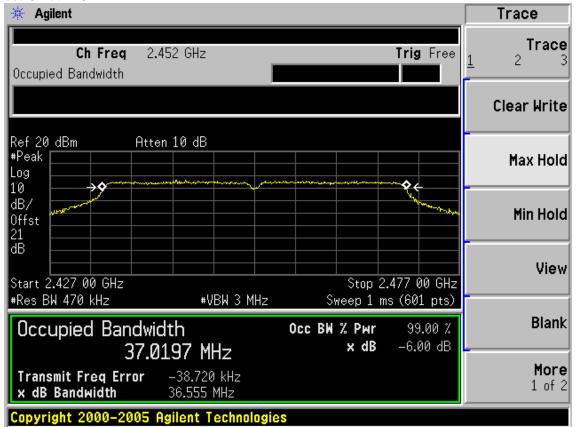


Test CH4: 2437MHz











8. OUTPUT POWER TEST

8.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.
						Interval
1.	Spectrum	Agilent	E4446A	US44300459	May.08, 12	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 12	1 Year
3.	Antenna	EMCO	3115	9510-4580	May.31, 12	1Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 12	1 Year
5.	Power Meter	Anritsu	ML2487A	6K00002472	May.08, 12	1Year
6.	Power Sensor	Anritsu	MA2491A	033005	May.08, 12	1Year

8.2.Limit (FCC Part 15C 15.247 b(3))

For systems using digital modulation in the 2400—2483.5MHz, The Peak out put Power shall not exceed 1W(30dBm)

8.3.Test Procedure

- 1, Connected the EUT's antenna port to measure device by 26dB attenuator.
- 2, For IEEE 802.11b/g and IEEE802.11n HT20 mode, use a PK power meter which's bandwidth is 20MHz and above 26dB bandwidth of signal to measure out each test modes' PK output power.
- 3, For IEEE802.11n HT40 mode, because the signal's bandwidth is about 40MHz and above 20MHz bandwidth of power sensor ML2491A. So Bandwidth correction method according to ANSI C63.10 clause 6.10.2.1 part (c) was used:
 - 1) Set the RBW=3MHz and VBW =8MHz
 - 2) Turn averaging off
 - 3) Set sweep to automatic
 - 4) Set the span just large enough to capture the emission
 - 5) Use a peak detector on max hold
 - 6) Record the measured power
 - 7) Calculate Output power of EUT use the formula:

Peak output power = measured power+ 10log[(26dB bandwidth of emission)/(analyzer RBW)]

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.



8.4.Test Results

EUT: 300Mbps Wireless N PCI Adapter						
M/N: APLDT300N1						
Test date: 2013-03-22	Pressure: 101.3±1.0 kpa	Humidity:49.7±3.0%				
Tested by: Leo-Li	Test site: RF Site	Temperature21.9±0.6 ℃				

Cable loss: 1	Attenuator loss: 20 dB				
Test	СН		output Po	Limit	
Mode	(MHz)	Chain0	Chain 1	Total	(dBm)
	CH1	17.50	17.74	N/A	30
11b	CH6	17.07	17.30	N/A	30
	CH11	17.28	17.58	N/A	30
	CH1	16.96	17.71	N/A	30
11g	CH6	16.38	18.19	N/A	30
	CH11	15.65	16.84	N/A	30
11n HT20	CH1	15.09	15.28	18.20	30
	CH6	16.16	16.95	19.58	30
	CH11	15.51	15.98	18.76	30

	Result						Limit
Test Mode	СН	Measured power(dBm)/3MHz		PK Output power (dBm)			(dBm)
		Chain0	Chain1	Chain0	Chain1	Total	
11n	CH3	1.04	1.06	13.29	13.33	16.32	30
HT40	CH6	2.81	2.95	15.06	15.22	18.15	30
	CH9	0.99	1.20	13.24	13.47	16.37	30

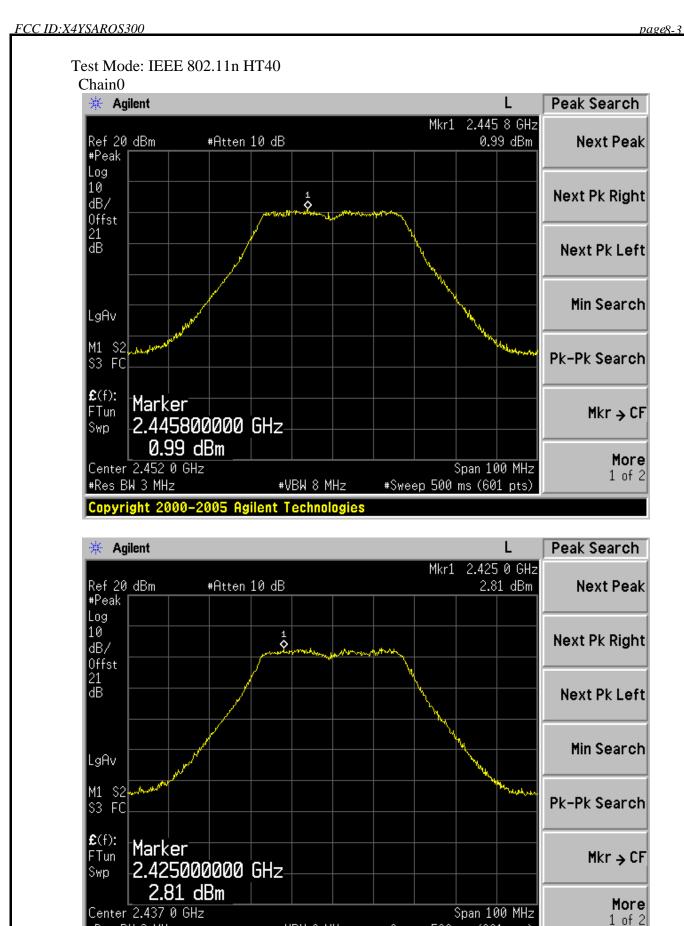
Chain 0 26dB Bandwidth for 11n HT40: 50.352MHz Chain 1 26dB Bandwidth for 11n HT40: 50.587MHz

Chain 0 BW correction factor = $10\log[(50.352\text{MHz})/(3\text{MHz})] = 12.25\text{dB}$ Chain 1 BW correction factor = $10\log[(50.587\text{MHz})/(3\text{MHz})] = 12.27\text{dB}$

Conclusion: PASS



#Res BW 3 MHz

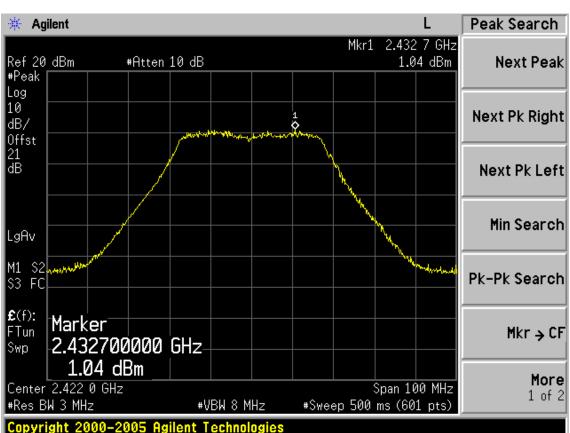


#VBW 8 MHz

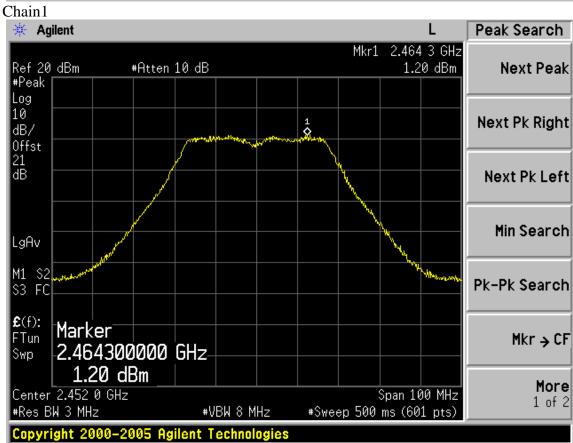
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#Sweep 500 ms (601 pts)

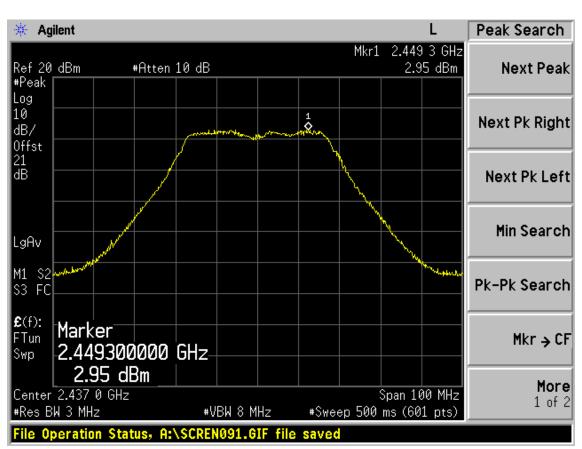


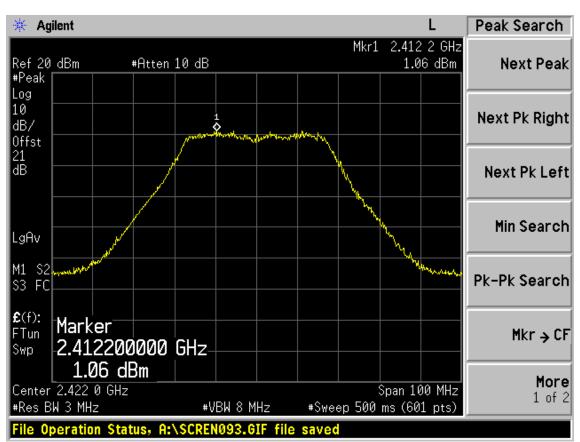






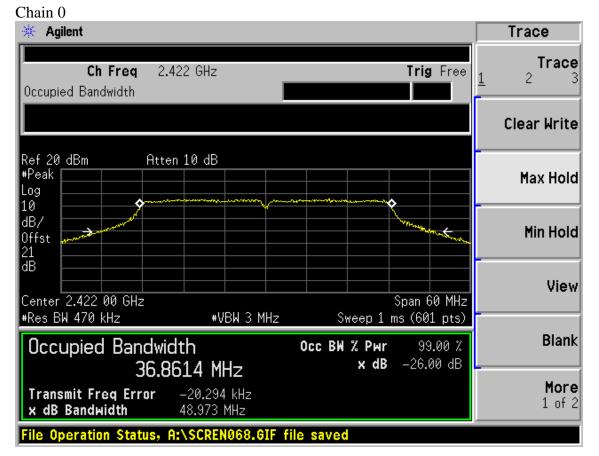


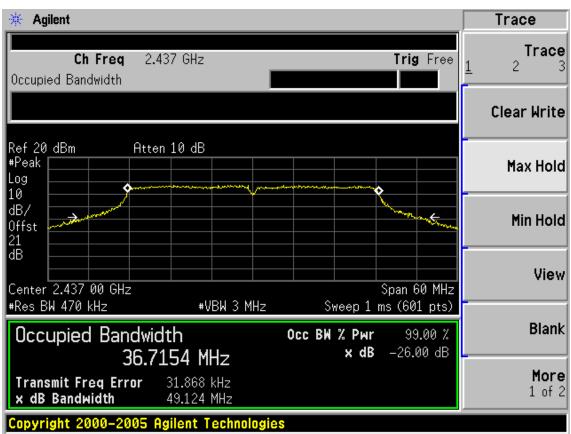






FCC ID:X4YSAROS300 page8-6
26dB Bandwidth



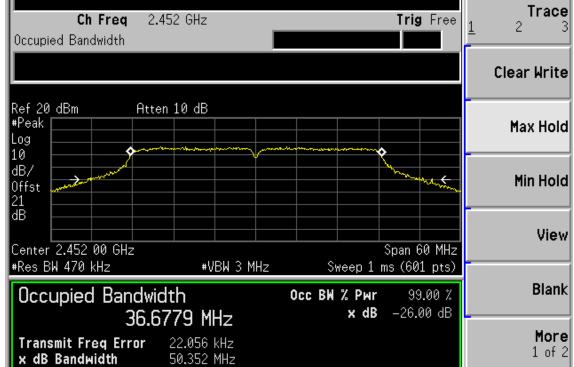




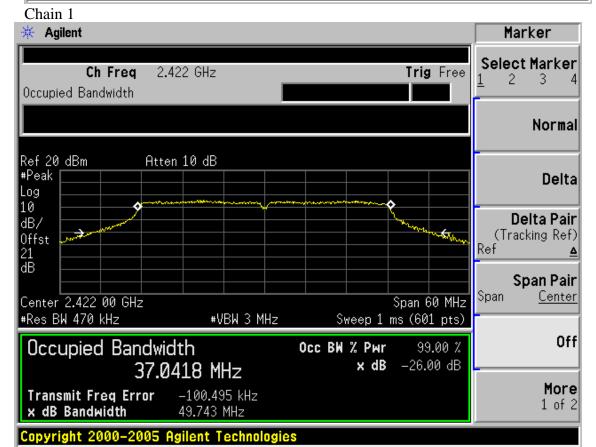
Agilent Trace

Ch Freq 2.452 GHz

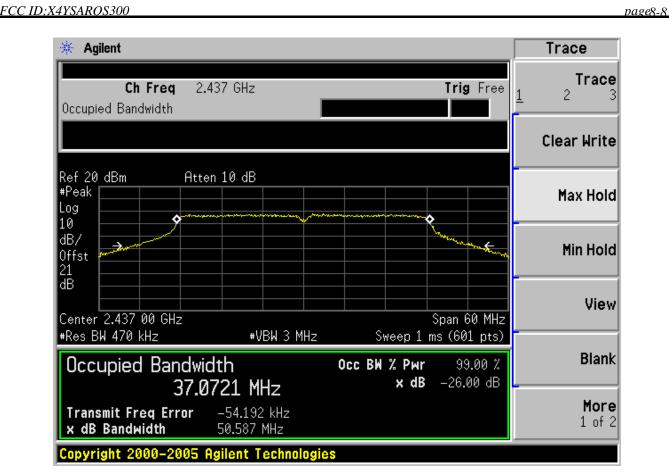
Trig Free 1 2 3

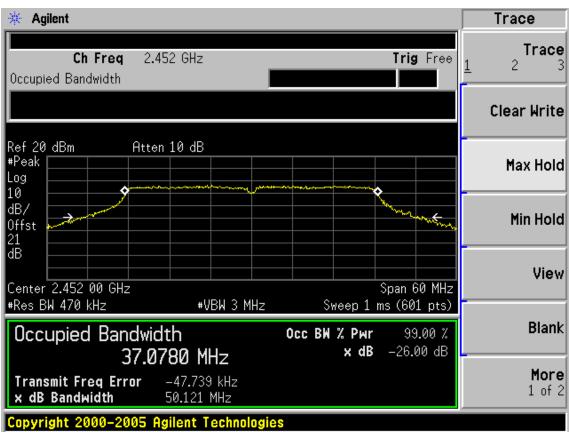


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9. POWER SPECTRAL DENSITY TEST

9.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	US44300459	May.08, 12	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 12	1 Year
3.	Antenna	EMCO	3115	9510-4580	May.31, 12	1Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 12	1 Year

9.2.Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

9.3.Test Procedure

- 1. Connected the EUT's antenna port to spectrum analyzer device by 20dB attenuator.
- 2 , Set the test frequency as center frequency, Set RBW=3KHz, VBW=10KHz, Span large enough capture the entire frequency, Read out maximum peak leval frequency
- 3, Set the frequency read from produce 2 as center frequency, then set the span= 300KHz, Sweep time=Span/RBW, Then Max hold, read out each mode and each chain's Power density.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude

AUDIX Technology (Shenzhen) Co., Ltd.

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9.4.Test Results

EUT: 300Mbps Wireless N PCI Adapter						
M/N: APLDT300N1						
Test date: 2013-03-22	Pressure:	101.3±1.0 kpa	Humidity: 49.7±3.0%			
Tested by: Leo-Li	Test site:	RF Site	Temperature: 21.9±0.6 °C			

Cable loss: 1 dE	Attenuator loss: 20 dB				
Test Mode	СН	Power de	nsity (dBm	Limit	
		Chain0	Chain1	Total	(dBm/3KHz)
	CH1	-13.28	-13.00	N/A	8
11b	CH6	-13.85	-12.61	N/A	8
	CH11	-13.29	-13.35	N/A	8
	CH1	-16.86	-15.37	N/A	8
11g	CH6	-16.99	-14.86	N/A	8
	CH11	-17.05	-16.23	N/A	8
11	CH1	-18.07	-18.39	-10.53	8
11n HT20	CH6	-16.08	-15.79	-7.15	8
11120	CH11	-18.00	-17.46	-8.13	8
11n HT40	CH3	-44.99	-45.35	-16.59	8
	CH6	-22.25	-22.26	-11.19	8
	CH9	-42.79	-42.58	-15.76	8
Conclusion: PA	ASS				

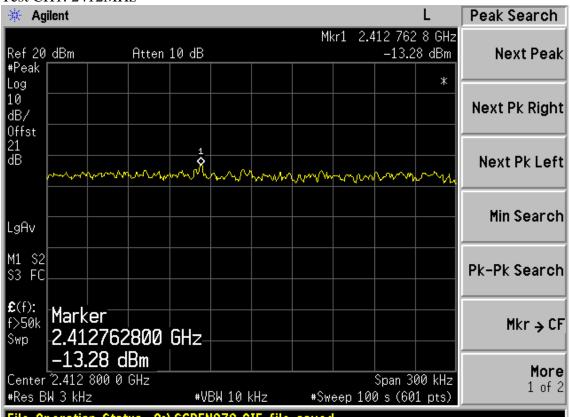


FCC ID:X4YSAROS300

Chain 0:

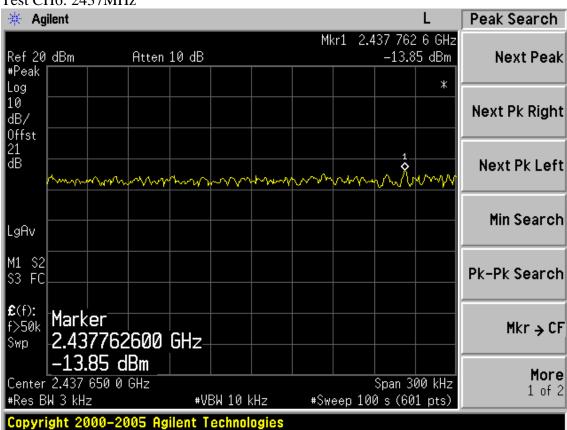
Test Mode: IEEE 802.11b TX

Test CH1: 2412MHz

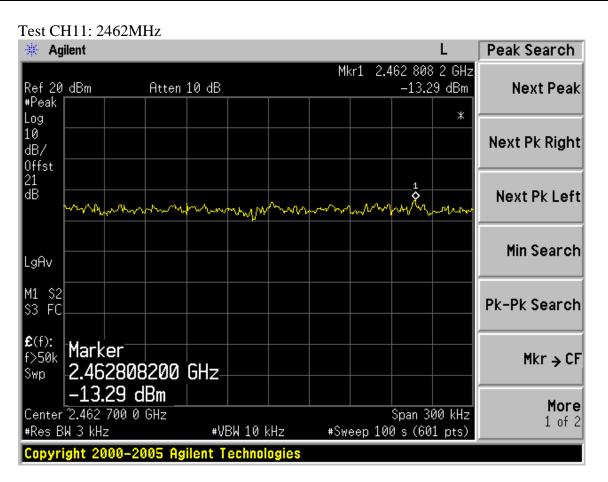


File Operation Status, A:\SCREN979.GIF file saved

Test CH6: 2437MHz

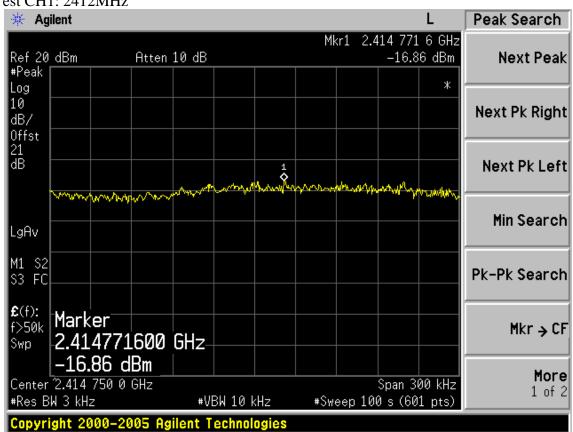




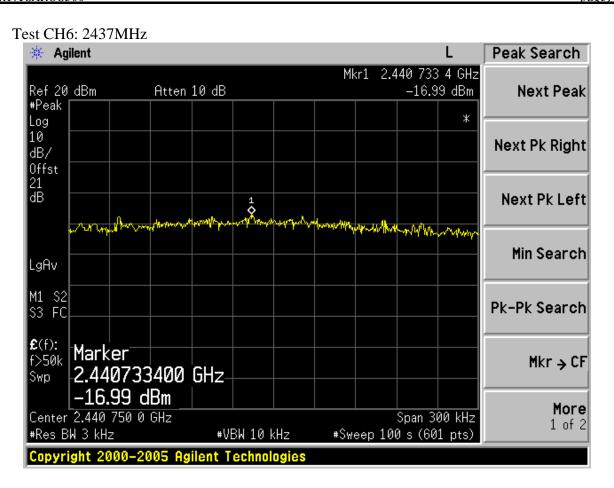


Test Mode: IEEE 802.11g TX

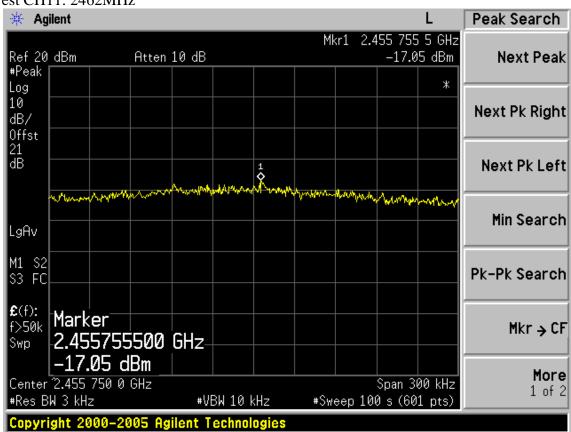
Test CH1: 2412MHz



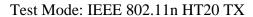




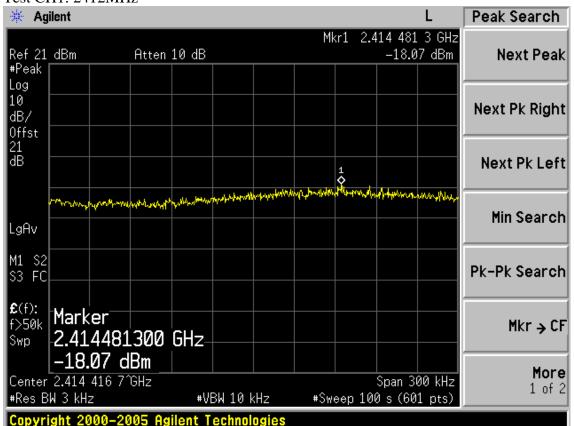
Test CH11: 2462MHz



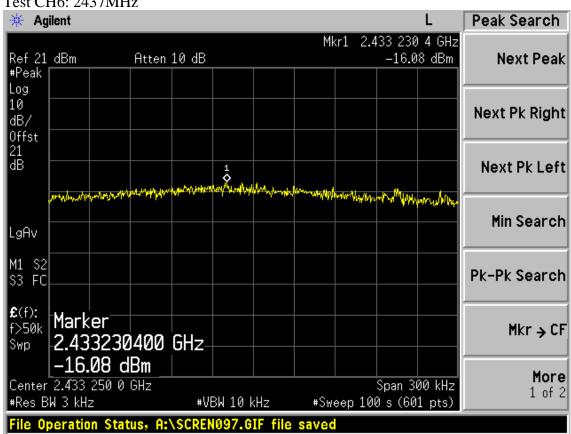




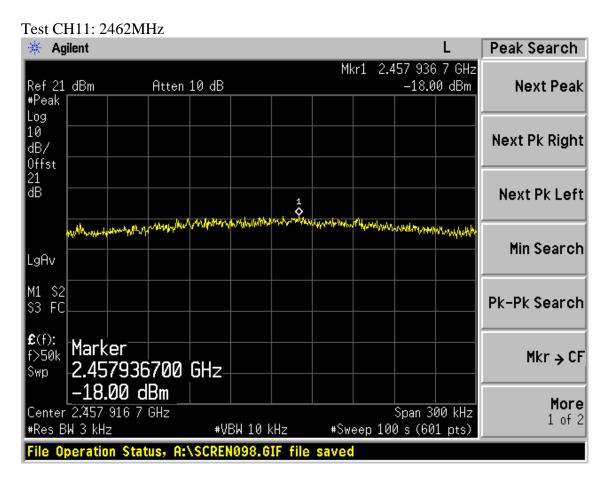
Test CH1: 2412MHz



Test CH6: 2437MHz

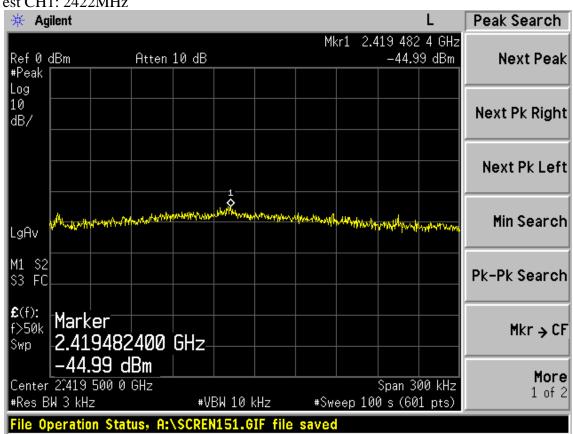






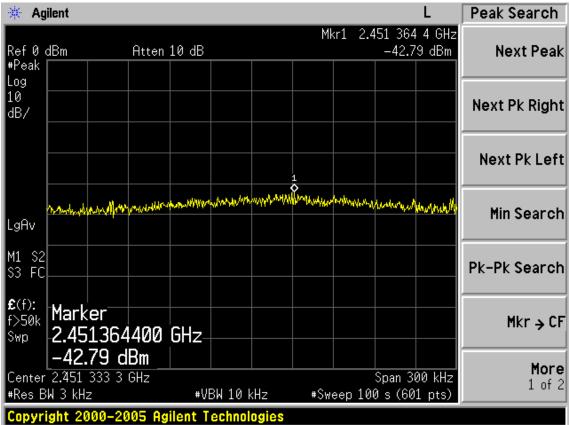
Test Mode: IEEE 802.11n HT40 TX

Test CH1: 2422MHz

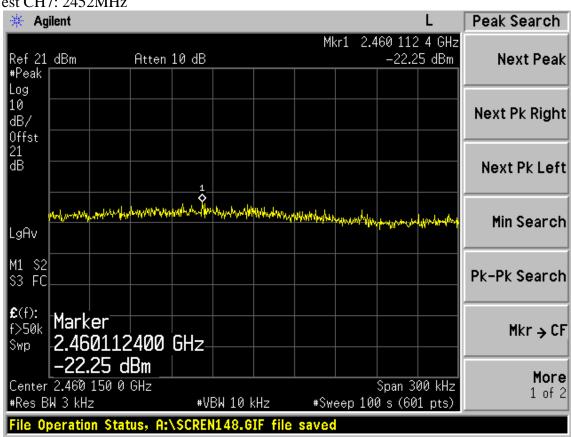








Test CH7: 2452MHz



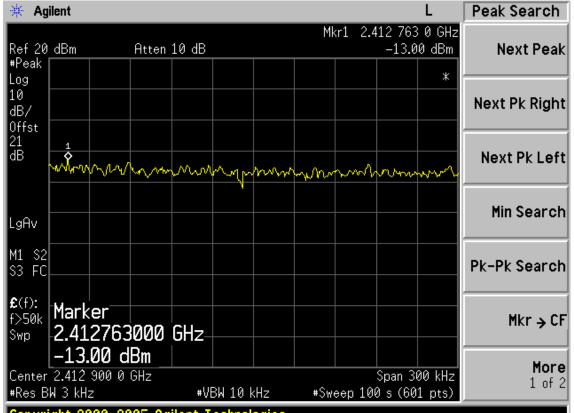


FCC ID:X4YSAROS300

Chain 1:

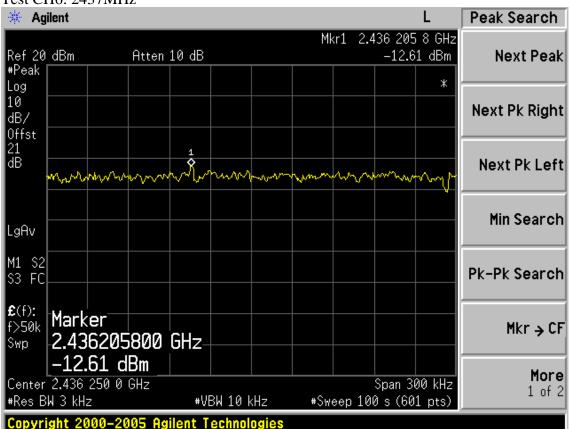
Test Mode: IEEE 802.11b TX

Test CH1: 2412MHz

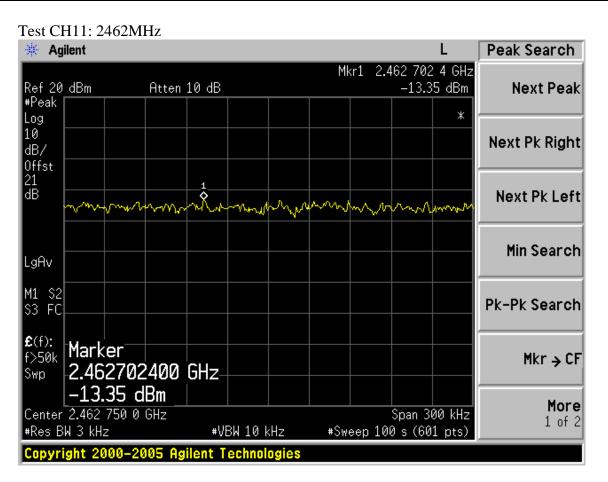


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Test CH6: 2437MHz

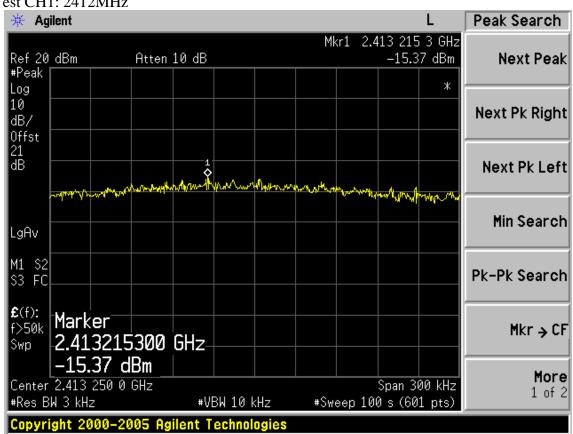




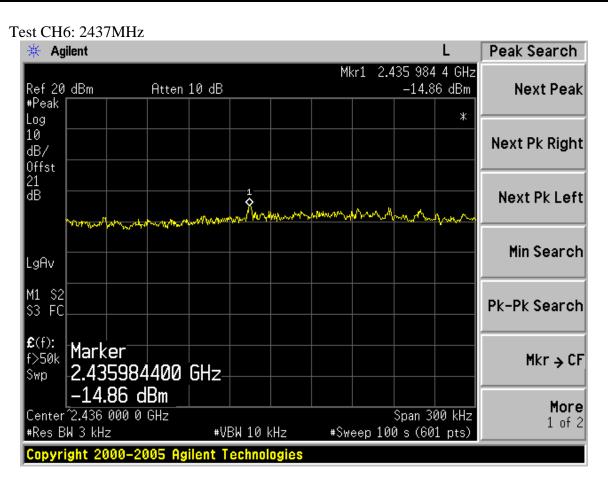


Test Mode: IEEE 802.11g TX

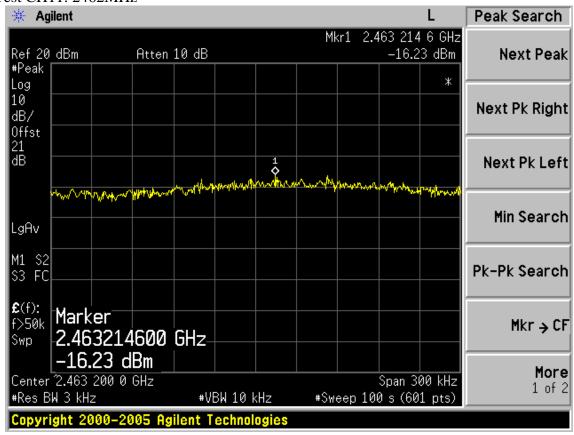
Test CH1: 2412MHz







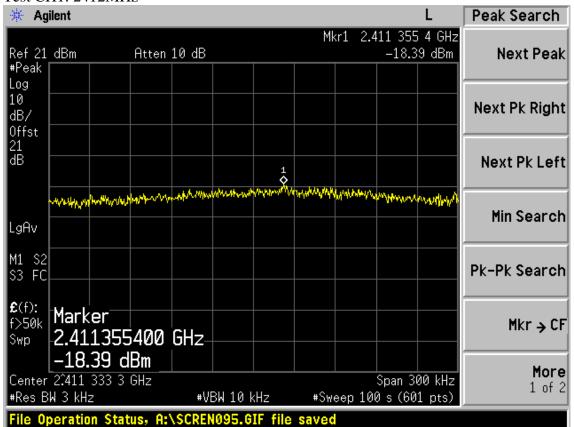
Test CH11: 2462MHz



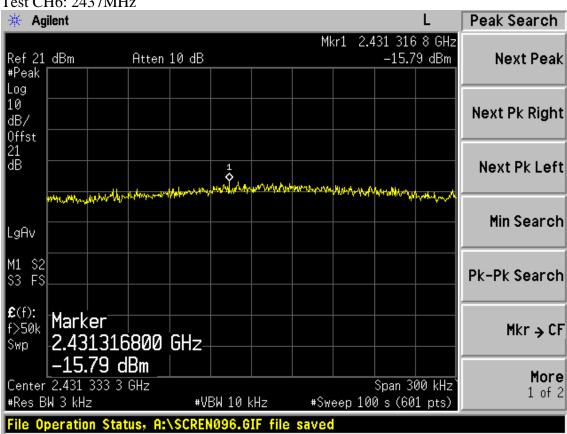


Test Mode: IEEE 802.11n HT20 TX

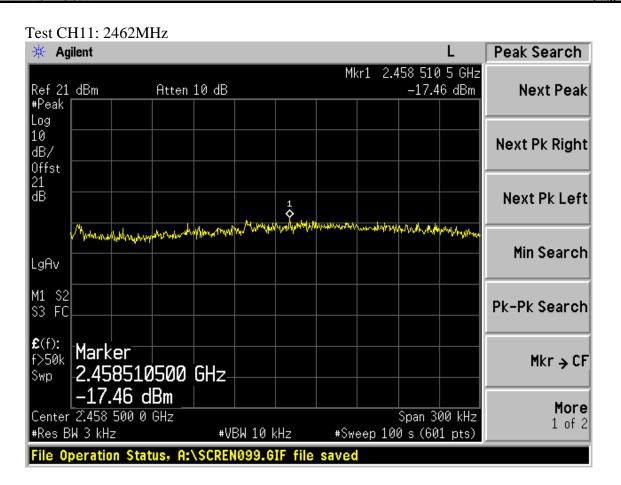
Test CH1: 2412MHz



Test CH6: 2437MHz

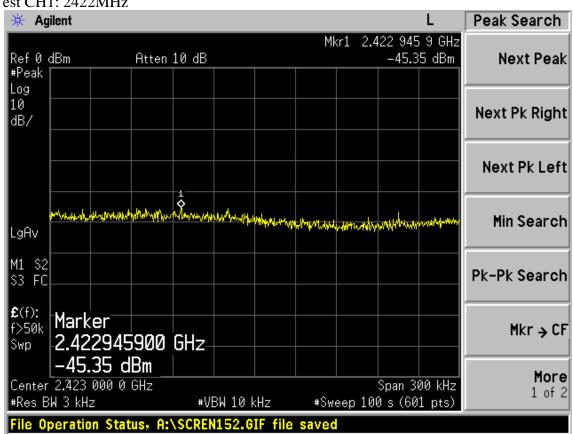




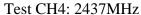


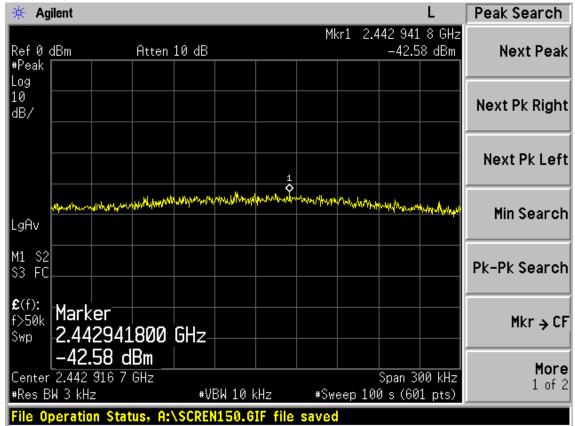
Test Mode: IEEE 802.11n HT40 TX

Test CH1: 2422MHz

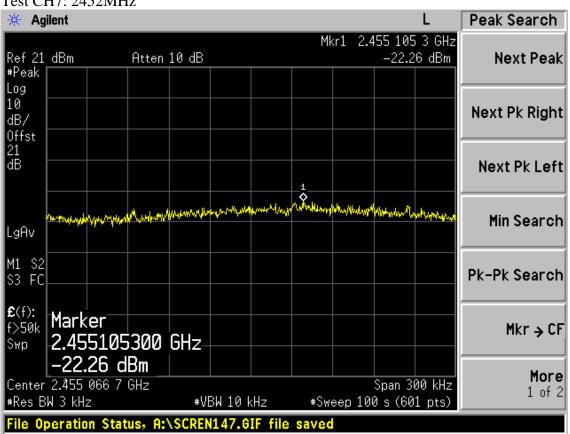








Test CH7: 2452MHz





10. ANTENNA REQUIREMENT

10.1. STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

10.2. ANTENNA CONNECTED CONSTRUCTION

The antennas used for this product are MIMO 2X2 Dipole antenna that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is 2dBi.



11.MPE ESTIMATION

11.1.Limit for General Population/ Uncontrolled Exposures

Frequency	Power density (mW/ cm ²)	Averaging time(minutes)
300MHz1.5GHz	F/1500	30
1.5GHz100GHz	1.0	30

Frequency(MHz)	Power density (mW/cm ²)	Averaging time(minutes)
2412	1	30
2437	1	30
2462	1	30

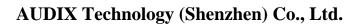
Note: F= Frequency in MHz

11.2. Estimation Result

EUT: 300Mbps Wireless N PCI Adapter						
M/N: APLDT300N1						
Test date: 2013-03-22	Pressure:	101.3±1.0 kpa	Humidity:49.7±3.0%			
Tested by: Leo-Li	Test site:	RF Site	Temperature21.9±0.6°C			

Cable loss: 1 dB		Attenuator l	oss: 20 dE	Antenna Gain: 2 dBi			
Test Mode	СН	Frequency (MHz)	Peak Output Power (dBm)	Output Power (mW)	Antenna Gain (dBi)	Antenna Gain (Linear)	MPE
	CH1	2412	17.74	59.43	2	1.58	0.0187
11b	CH6	2437	17.30	53.70	2	1.58	0.0169
	CH11	2462	17.58	57.28	2	1.58	0.0181
	CH1	2412	17.71	59.02	2	1.58	0.0186
11g	CH6	2437	18.19	65.92	2	1.58	0.0208
	CH11	2462	16.84	48.31	2	1.58	0.0152
11	CH1	2412	18.20	66.07	2	1.58	0.0208
11n HT20	CH6	2437	19.58	90.78	2	1.58	0.0286
П120	CH11	2462	18.76	75.16	2	1.58	0.0237
11n HT40	CH1	2422	16.32	42.85	2	1.58	0.0135
	CH4	2437	18.15	65.31	2	1.58	0.0206
	CH7	2452	16.37	43.35	2	1.58	0.0137

Note: The estimation distance is 20cm





12.DEVIATION TO TEST SPECIFICATIONS [NONE]	CID:X4YSAROS300			pag ½ 2-1
[NONE]	12.DEVIATION	TO TEST SPECIF	ICATIONS	
	[NONE]			