

Site no. : 3m Chamber Data no. : 90
Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23*C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply : DC 5V From Adapter Input AC 120V/60Hz Test mode : IEEE802.11nHT40 CH 4 2437MHz Tx

M/N : ARNPR154U1

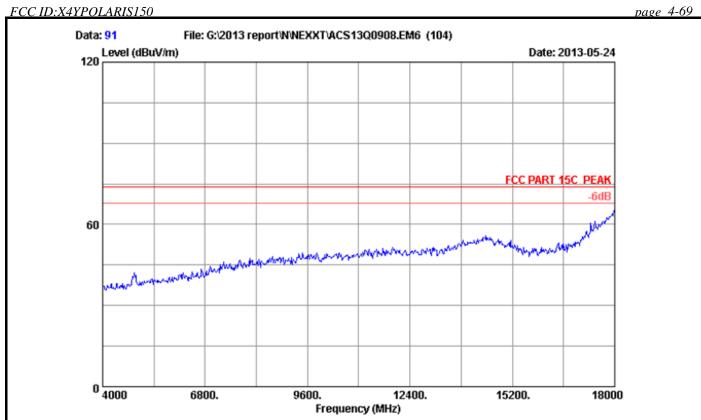
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Freq.	Ant. Factor (dB/m)	loss	Factor	_	Emission Level (dBuV/m)	Limits	Margin (dB)	Remark
4874.000 4874.000			35.69 35.69	37.41 30.45		74.00 54.00	30.93 17.89	Peak Average

Remarks:

- 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. : 91

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

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

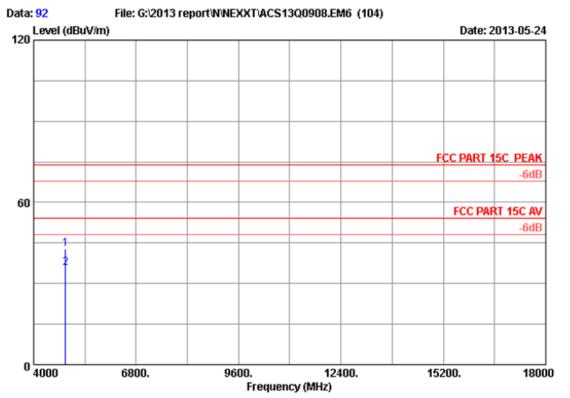
EUT : 3G Wireless N Nano Router

Power supply : DC 5V From Adapter Input AC 120V/60Hz Test mode : IEEE802.11nHT40 CH 4 2437MHz Tx

M/N : ARNPR154U1

:





Site no. : 3m Chamber Data no. : 92

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

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply : DC 5V From Adapter Input AC 120V/60Hz Test mode : IEEE802.11nHT40 CH 4 2437MHz Tx

M/N : ARNPR154U1

:

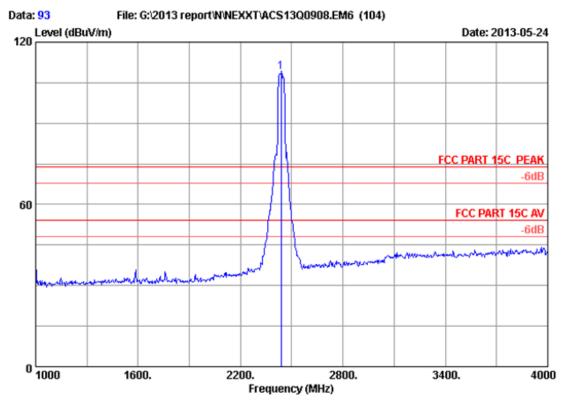
Freq.	Ant. Factor (dB/m)	loss	Factor	_	Emission Level (dBuV/m)	Limits	Margin (dB)	Remark
4874.000 4874.000			35.69 35.69	37.13 30.14		74.00 54.00	31.21 18.20	Peak Average

Remarks:

- 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. : 93

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

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply : DC 5V From Adapter Input AC 120V/60Hz Test mode : IEEE802.11nHT40 CH 4 2437MHz Tx

M/N : ARNPR154U1

:

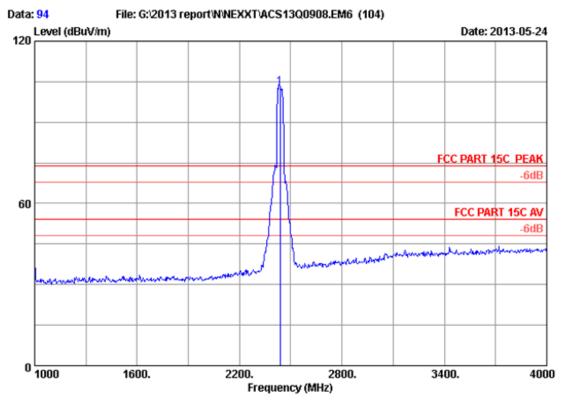
Freq.	Ant. Factor (dB/m)		Factor	_	Emission Level (dBuV/m)		Margin (dB)	Remark	
2437.000	27.00	6.08	35.92	111.90	109.06	74.00	-35.06	Peak	

Remarks:

1

- 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. : 94
Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply : DC 5V From Adapter Input AC 120V/60Hz Test mode : IEEE802.11nHT40 CH 4 2437MHz Tx

M/N : ARNPR154U1

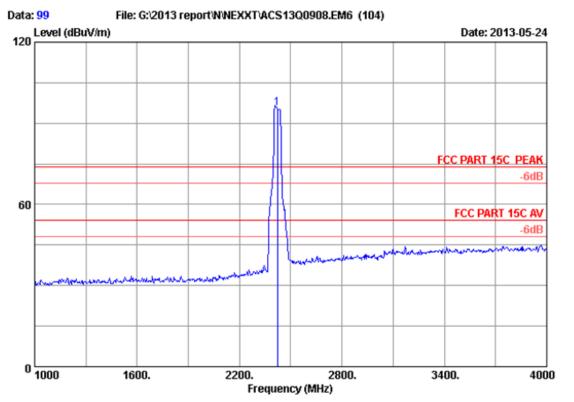
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	Freq.			Factor	_	Emission Level (dBuV/m)	Limits	_	Remark
1	2437.000	27.00	6.08	35.92	105.91	103.07	74.00	-29.07	Peak

Remarks:

- 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. : 99
Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23*C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply : DC 5V From Adapter Input AC 120V/60Hz Test mode : IEEE802.11nHT40 CH 1 2422MHz Tx

M/N : ARNPR154U1

:

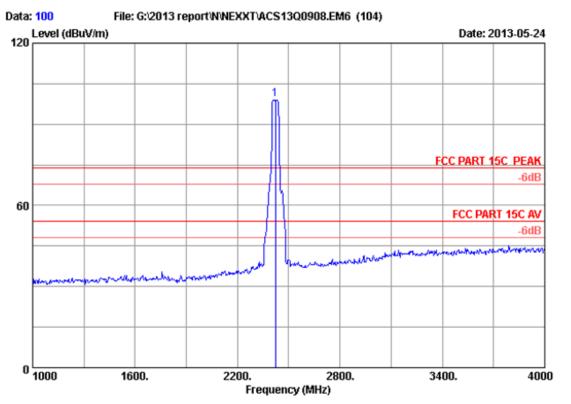
Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)		_	Emission Level (dBuV/m)	Limits	Margin (dB)	Remark
2422.000	26.90	6.05	35.92	98.59	95.62	74.00	-21.62	Peak

Remarks:

1

- 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. : 100
Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23*C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply : DC 5V From Adapter Input AC 120V/60Hz Test mode : IEEE802.11nHT40 CH 1 2422MHz Tx

M/N : ARNPR154U1

:

Freq. (MHz)	Ant. Factor (dB/m)		Factor	_	Emission Level (dBuV/m)	Limits		Remark
2422.000	26.90	6.05	35.92	102.12	99.15	74.00	-25.15	Peak

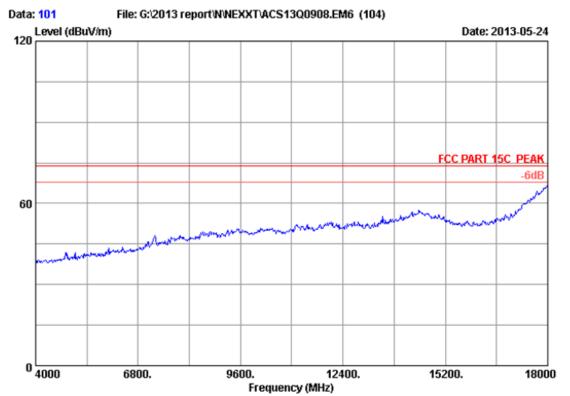
Remarks:

1

- 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 : Kevin-Hu

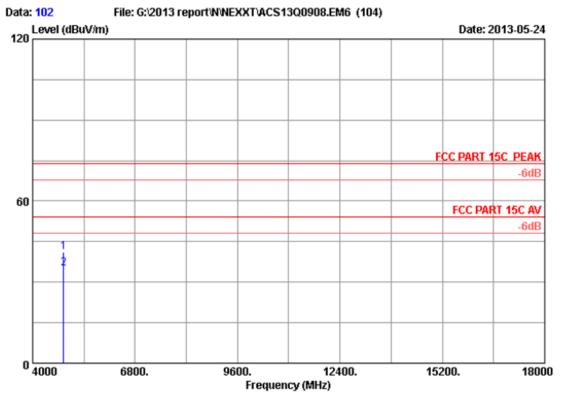
EUT : 3G Wireless N Nano Router

Power supply : DC 5V From Adapter Input AC 120V/60Hz Test mode : IEEE802.11nHT40 CH 1 2422MHz Tx

M/N : ARNPR154U1

:





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

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

Limit : FCC PART 15C PEAK

Env. / Ins. : 23*C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply : DC 5V From Adapter Input AC 120V/60Hz Test mode : IEEE802.11nHT40 CH 1 2422MHz Tx

M/N : ARNPR154U1

:

	Freq.	Ant. Factor (dB/m)	Cable loss (dB)	Factor	Reading (dBuV)	Emission Level (dBuV/m)	Limits		Remark
1 2	4844.000 4844.000			35.70 35.70	35.56 29.40	41.12 34.96	74.00 54.00	32.88 19.04	Peak Average

Remarks:

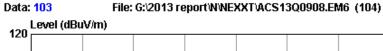
- 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
- 2. The emission levels that are 20dB below the official limit are not reported.

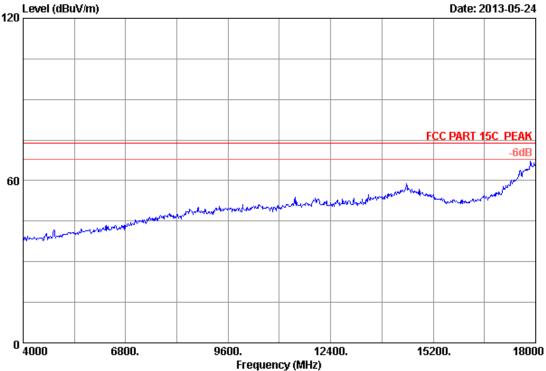




No.6 Ke Feng Road, Block 52, ShenZhen Science & Industry Park Noutou, ShenZhen, GuangDong, China

Tel:+86-755-26639495-7 Fax:+86-755-26632877 Postcode:518057





Site no. : 3m Chamber Data no. : 103 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

: FCC PART 15C PEAK

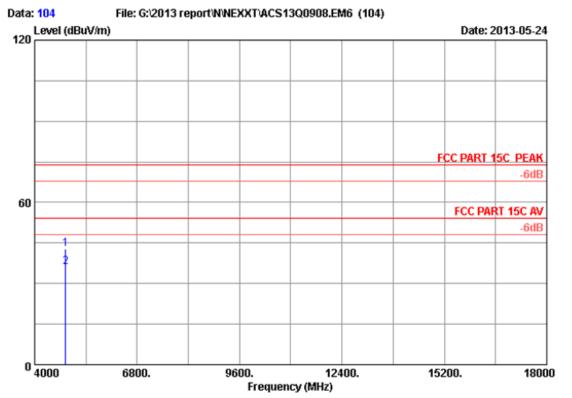
Env. / Ins. : 23*C/54% Engineer : Kevin-Hu

: 3G Wireless N Nano Router

Power supply : DC 5V From Adapter Input AC 120V/60Hz Test mode : IEEE802.11nHT40 CH 1 2422MHz Tx

: ARNPR154U1 M/N





Site no. : 3m Chamber Data no. : 104
Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23*C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply : DC 5V From Adapter Input AC 120V/60Hz Test mode : IEEE802.11nHT40 CH 1 2422MHz Tx

M/N : ARNPR154U1

:

	Freq.	Ant. Factor (dB/m)	Cable loss (dB)		Reading (dBuV)	Emission Level (dBuV/m)		_	Remark
1 2	4844.000 4844.000			35.70 35.70		42.75 36.20	74.00 54.00	31.25 17.80	Peak Average

Remarks:

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

5. CONDUCTED SPURIOUS EMISSIONS

5.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08,13	1 Year
2.	Attenuator	Agilent	8491B	MY39262165	May.08,13	1 Year
3.	RF Cable	Hubersuhner	SUCOFLEX102	28618/2	May.08,13	1Year

5.2.Limit

In any 100kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.

5.3.Test Procedure

The transmitter output was connected to a spectrum analyzer, The resolution bandwidth is set to 100 kHz, The video bandwidth is set to 300 kHz and measure all the emissions detected.

5.4. Test result

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

Span

Amplitude

-4.62 dBm -44.70 dBm -46.81 dBm

-45.47 dBm

Center

Off

More 1 of 2



page 5-2 FCC ID:X4YPOLARIS150 Test Mode: IEEE 802.11b TX Test CH1: 2412MHz 🔆 Agilent Marker Mkr4 2.725 GHz Select Marker -45.47 dBm Atten 10 dB Ref 21 dBm 2 #Peak Log 10 ō Normal dB/ Offst 21 ďΒ Delta DI ŏ -24.6 dBm Delta Pair (Tracking Ref) LgAv Ref Start 1.000 GHz Stop 10.000 GHz Span Pair Sweep 860.2 ms (601 pts)

#VBW 300 kHz

X Axis

2.410 GHz 3.220 GHz

4.825 GHz

2.725 GHz

Copyright 2000-2005 Agilent Technologies

Type

Freq

Freq

Freq

Freq

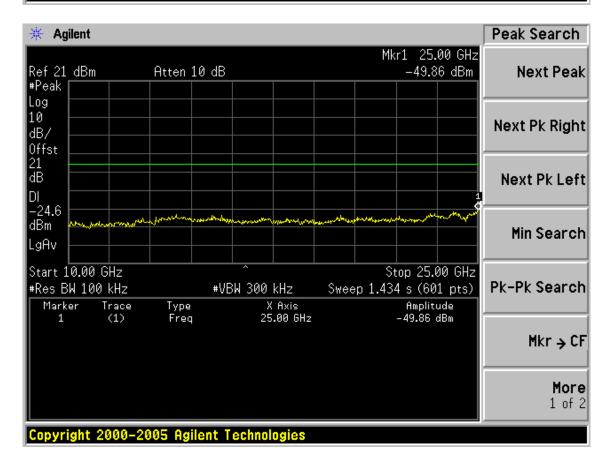
#Res BW 100 kHz

Trace

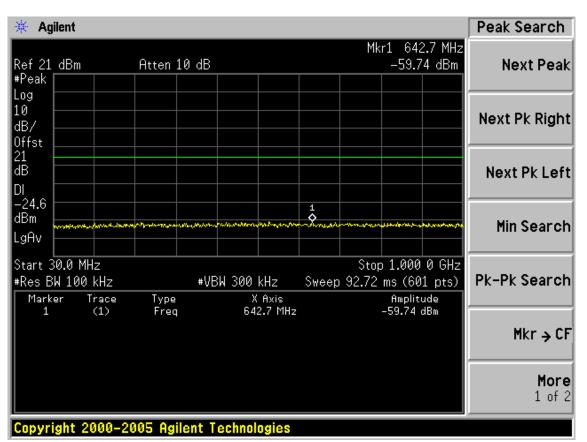
(1) (1) (1) (1) (1)

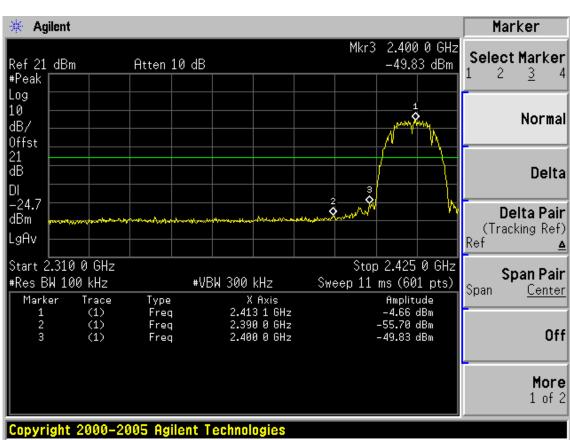
Marker

3







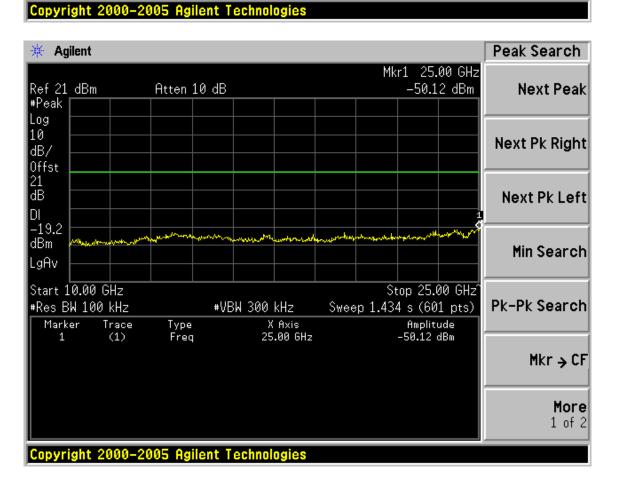


page 5-4

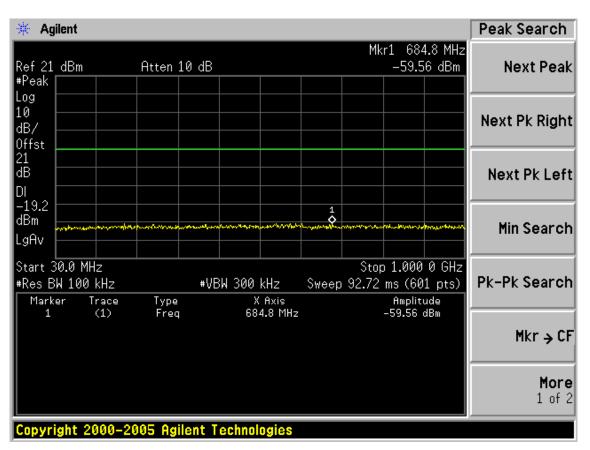


FCC ID:X4YPOLARIS150

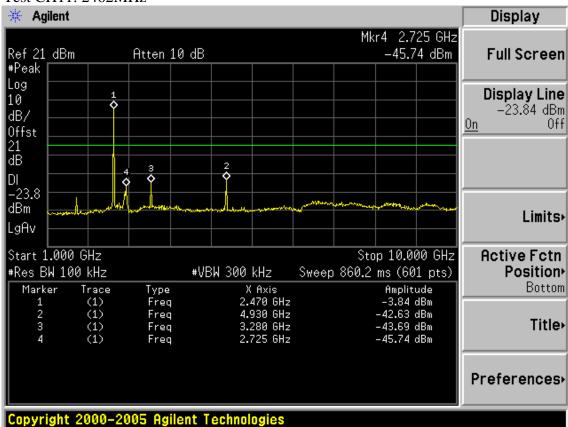
Test CH6: 2437MHz 🔆 Agilent Display Mkr2 4.870 GHz Ref 21 dBm Atten 10 dB -36.51 dBm Full Screen #Peak Log 1 **◊** Display Line 10 -19.17 dBm dB/ 0n Off Offst 21 dB -2· ♦ DL -19.2dBm Limits+ LgAv Start 1.000 GHz Stop 10.000 GHz **Active Fctn** Position P #Res BW 100 kHz #VBW 300 kHz Sweep 860.2 ms (601 pts) Amplitude 0.83 dBm -36.51 dBm X Axis 2.440 GHz Bottom Marker Trace Type (1) (1) Freq 4.870 GHz Freq Title> Preferences+



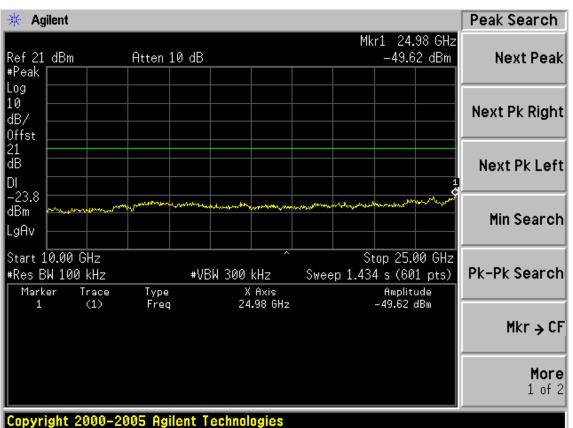


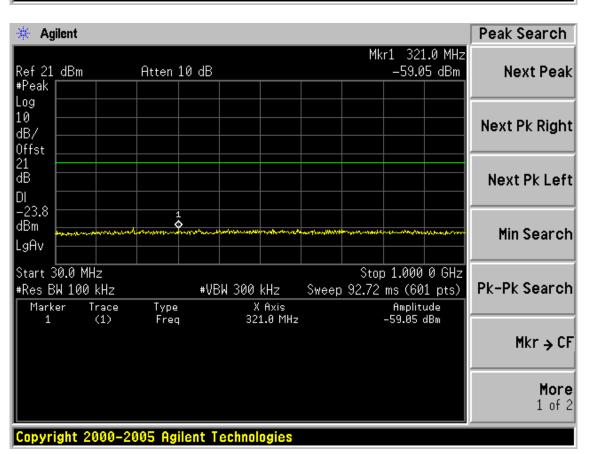


Test CH11: 2462MHz









page 5-7

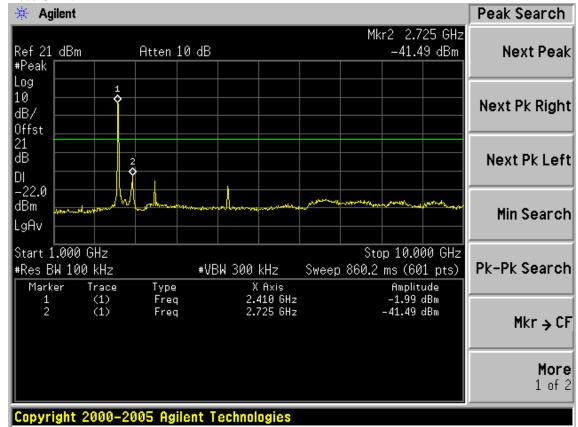


FCC ID:X4YPOLARIS150

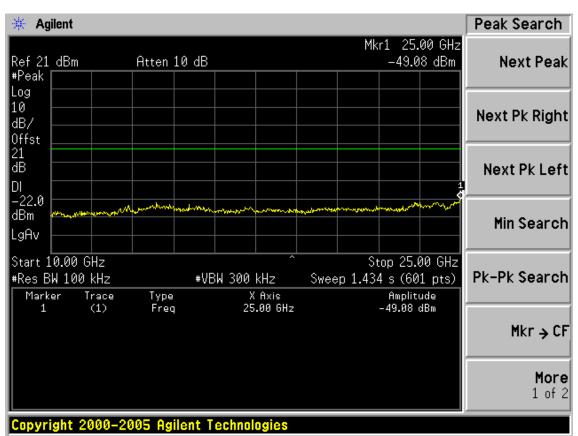
Agilent Display Mkr3 2.500 00 GHz -56.10 dBm Ref 21 dBm Atten 10 dB Full Screen #Peak Log Display Line 10 \$ Andrew -23.85 dBml dB/ 0n Off Offst 21 ďΒ DΙ -23.9 dBm Ō Limits> LgAv Start 2.450 00 GHz Stop 2.510 00 GHz **Active Fctn** #Res BW 100 kHz Sweep 5.76 ms (601 pts) Position > #VBW 300 kHz X Axis 2.463 00 GHz 2.483 50 GHz 2.500 00 GHz Bottom Marker Trace Amplitude Type -3.85 dBm -56.16 dBm -56.10 dBm (1) (1) (1) Freq 2 Freq 3 Title> Freq Preferences+ Copyright 2000-2005 Agilent Technologies

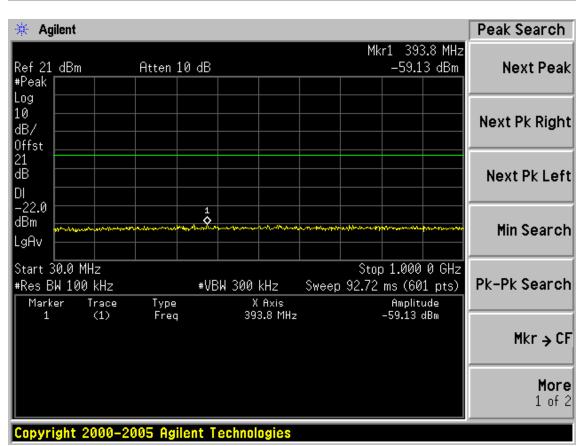
Test Mode: IEEE 802.11g TX

Test CH1: 2412MHz









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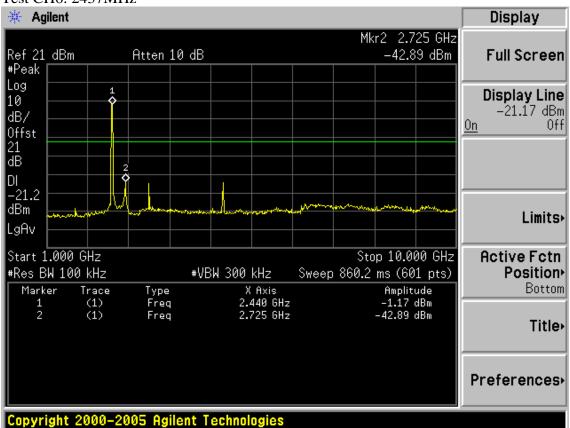


FCC ID:X4YPOLARIS150

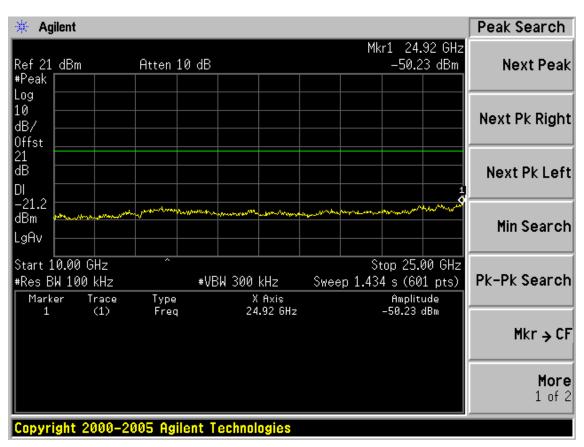
* Agilent Display Mkr3 2.400 0 GHz Atten 10 dB -36.33 dBm Ref 21 dBm Full Screen #Peak Log Display Line 10 -21.64 dBm dB/ Off 0n Offst 21 ďΒ DI -21.6 dBm Limits> LgAv Start 2.310 0 GHz Stop 2.425 0 GHz **Active Fctn** #Res BW 100 kHz Position > #VBW 300 kHz Sweep 11 ms (601 pts) X Axis 2.416 2 GHz 2.390 0 GHz Bottom Marker Trace Amplitude Type -1.64 dBm -49.32 dBm -36.33 dBm Freq 2 (1) (1) Freq 3 2.400 0 GHz Title+ Freq Preferences+

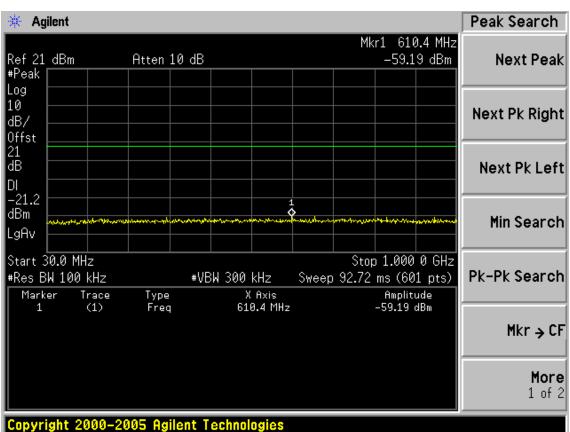


Copyright 2000-2005 Agilent Technologies

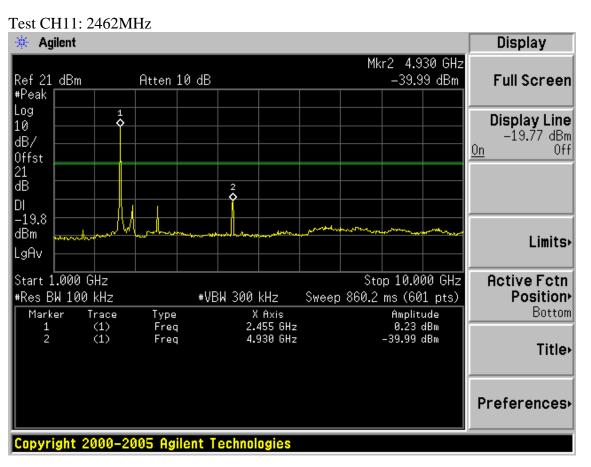


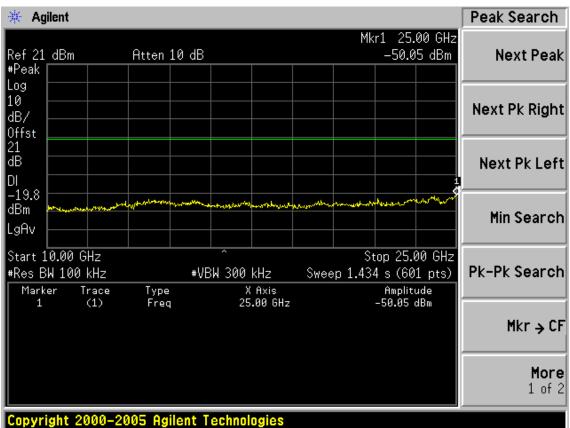




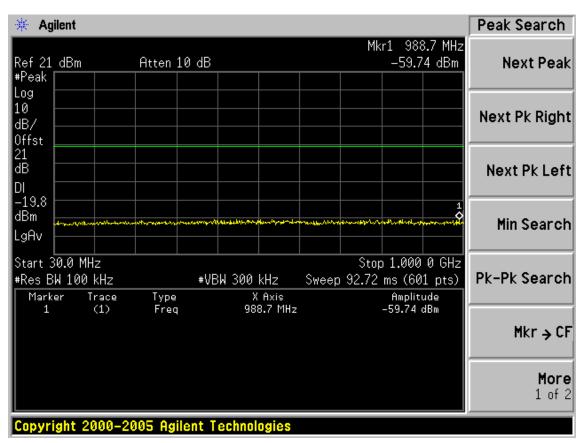










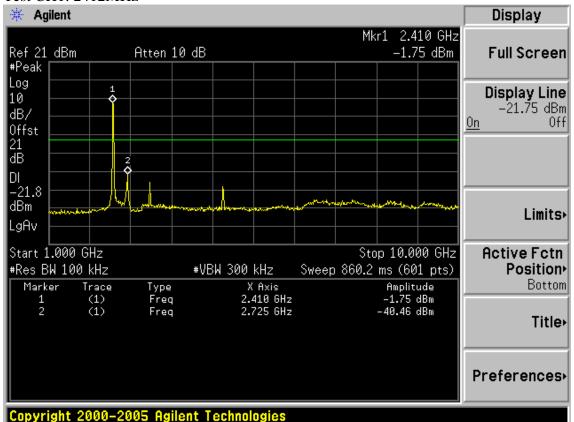




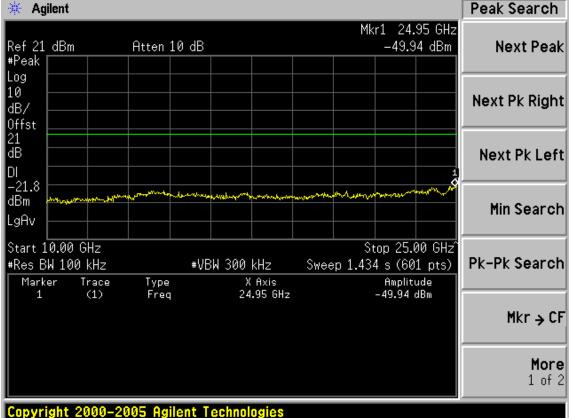




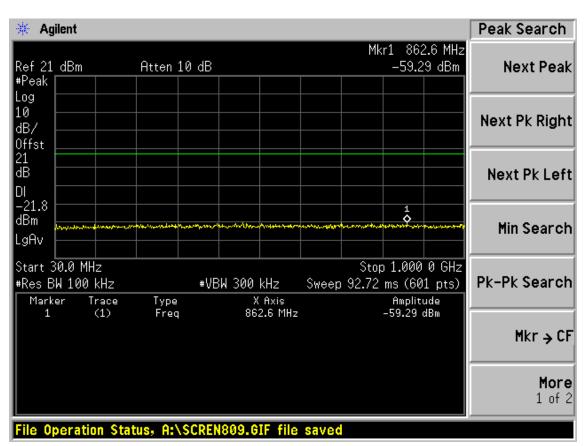
Test CH1: 2412MHz

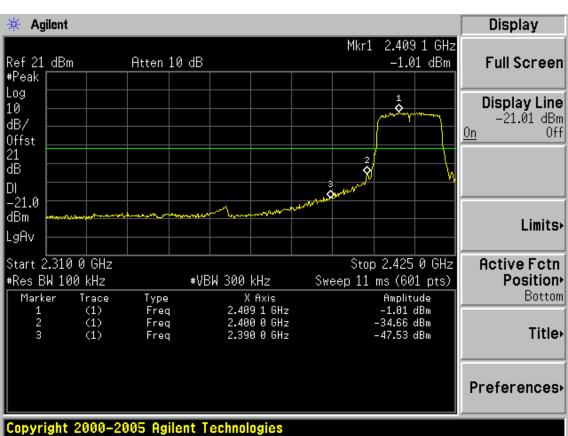




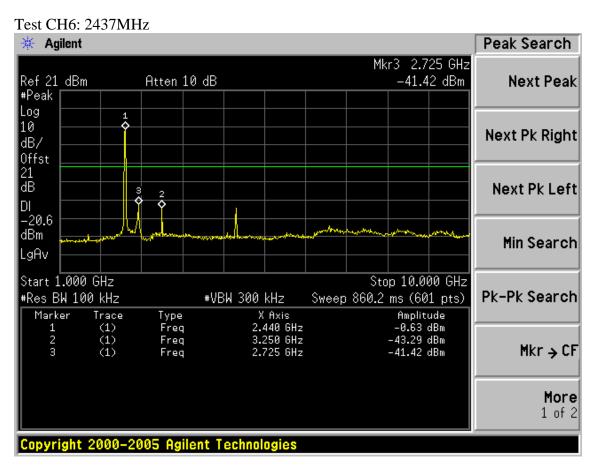


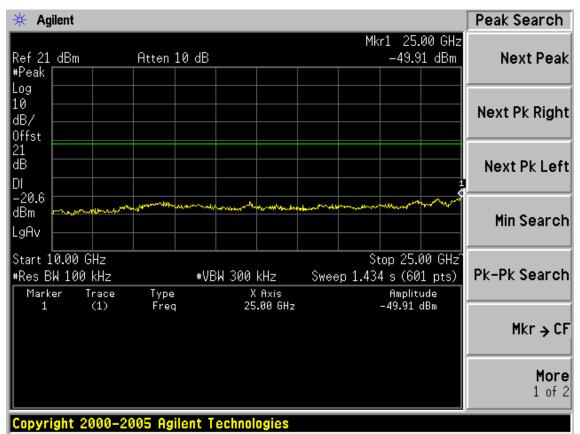




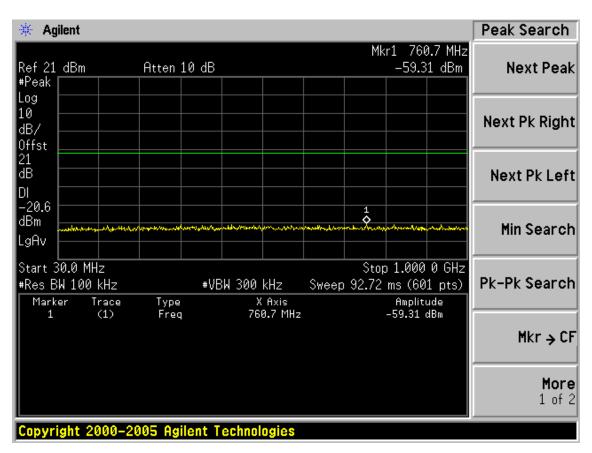








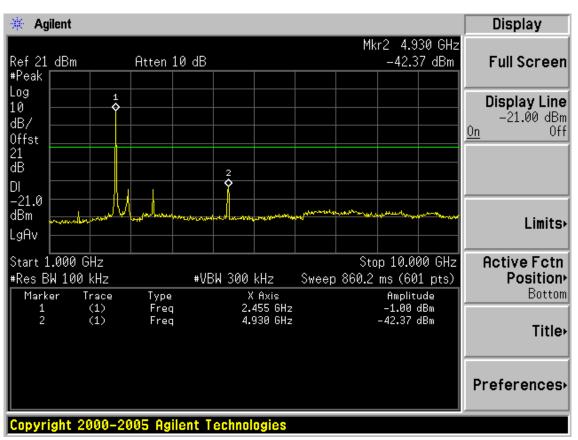


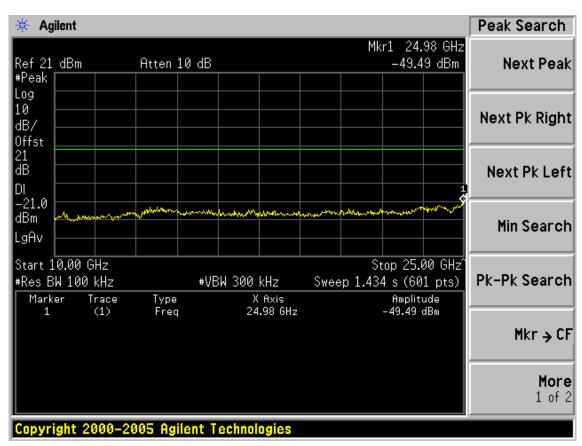


Test CH11: 2462MHz

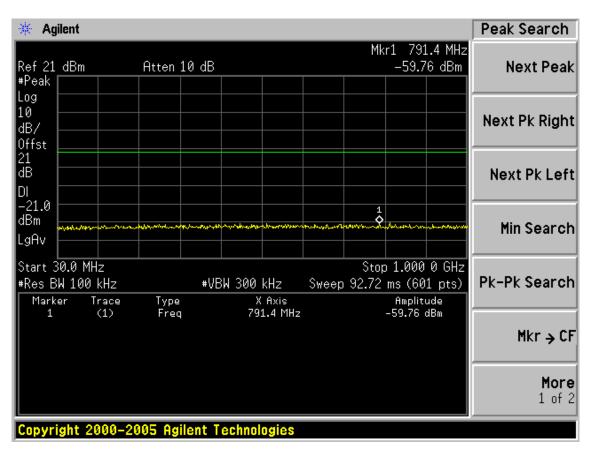






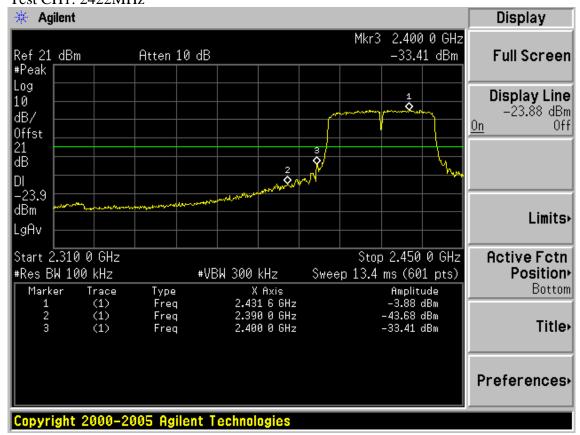




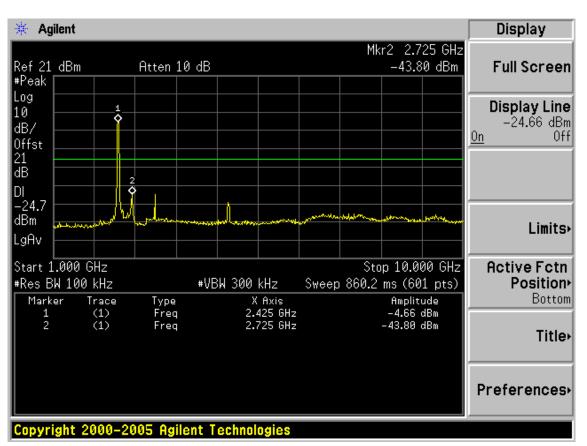


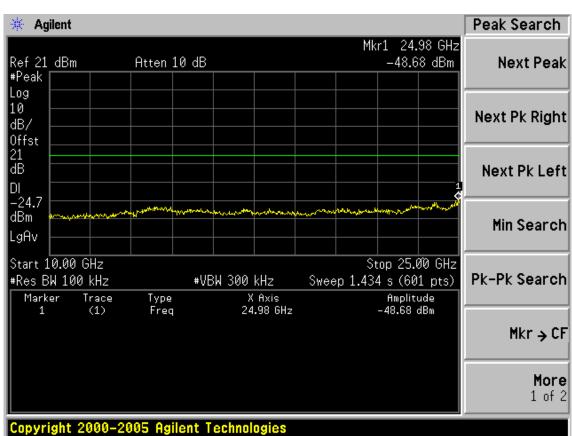
Test Mode: IEEE 802.11n HT40 TX

Test CH1: 2422MHz

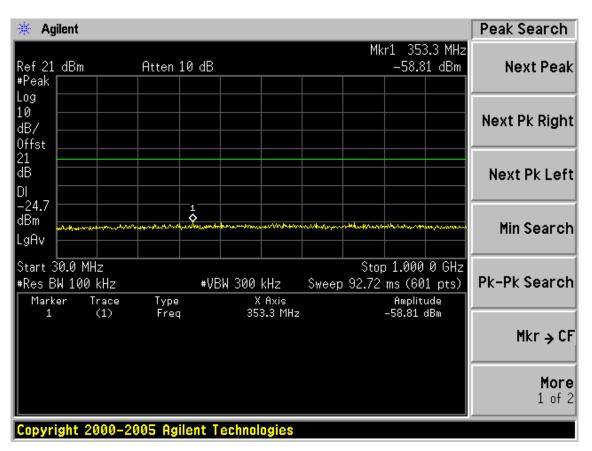




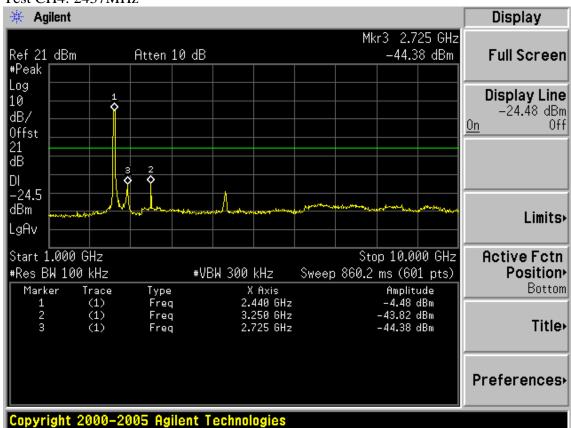




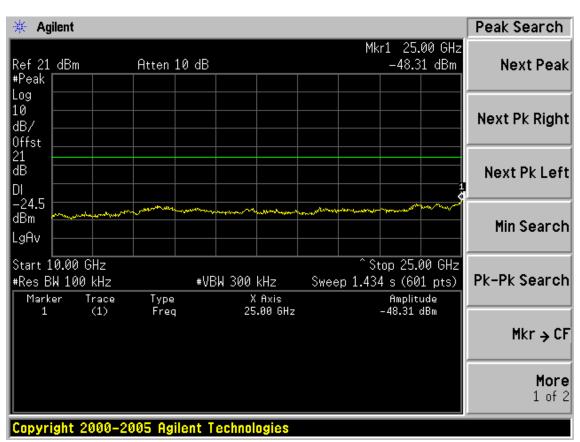


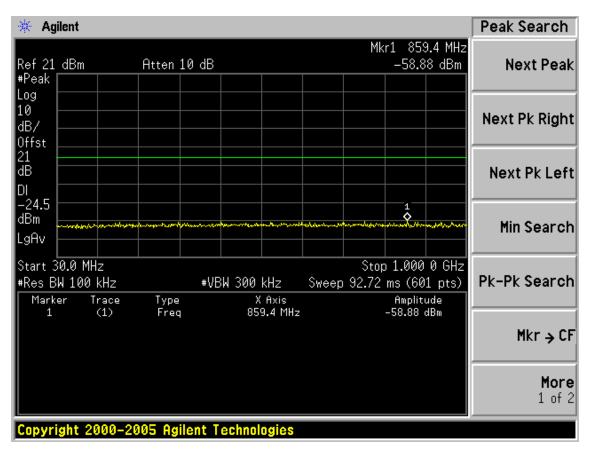


Test CH4: 2437MHz

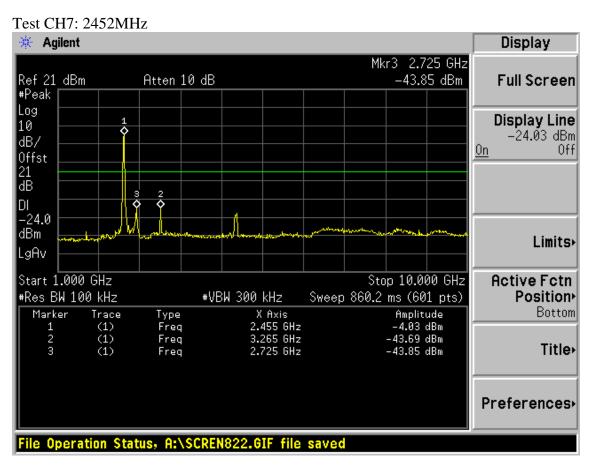


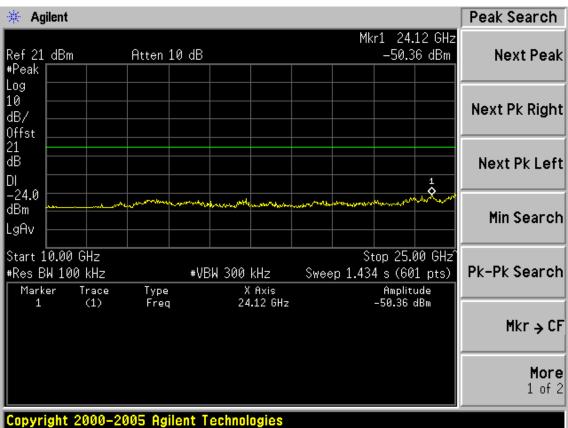




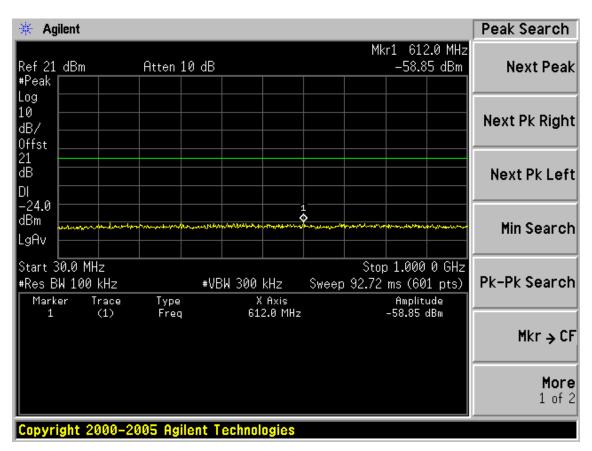


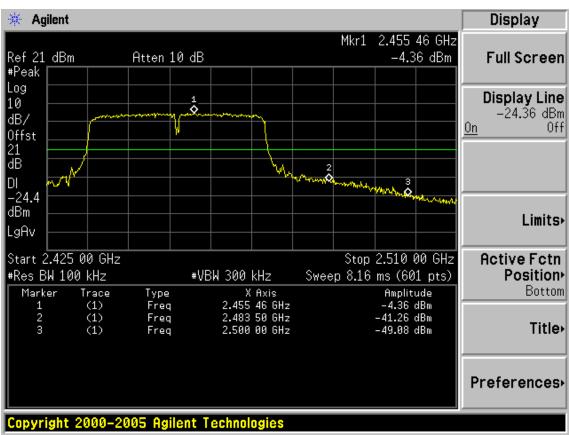












6. BAND EDGE COMPLIANCE TEST

6.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	US44300459	May.08, 13	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 13	1 Year
3.	Antenna	EMCO	3115	9510-4580	May.08, 13	1Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 13	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.

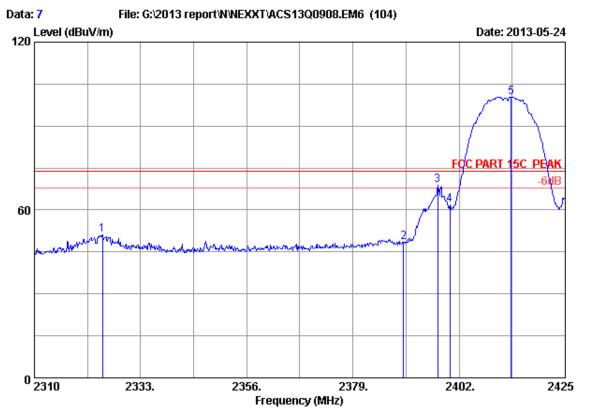
6.3. Test Produce

- 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. : 7

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

Limit : FCC PART 15C PEAK

Env. / Ins. : 23*C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply : DC 5V From Adapter Input AC 120V/60Hz

Test mode : IEEE802.11b CH 1 2412MHz Tx

M/N : ARNPR154U1

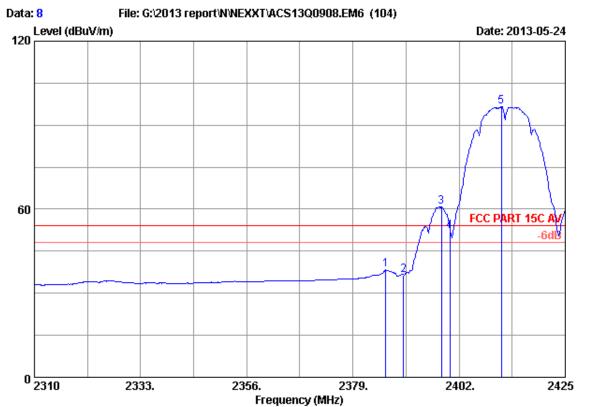
:

	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	2324.720	26.28	5.89	35.92	54.84	51.09	74.00	22.91	Peak
2	2390.000	26.70	6.00	35.92	51.81	48.59	74.00	25.41	Peak
3	2397.400	26.74	6.01	35.92	71.96	68.79	74.00	5.21	Peak
4	2400.000	26.76	6.02	35.92	64.89	61.75	74.00	12.25	Peak
5	2413.270	26.84	6.04	35.92	103.40	100.36	74.00	-26.36	Peak

Remarks:

- 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. : 8

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

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz

Test mode : IEEE802.11b CH 1 2412MHz Tx

M/N : ARNPR154U1

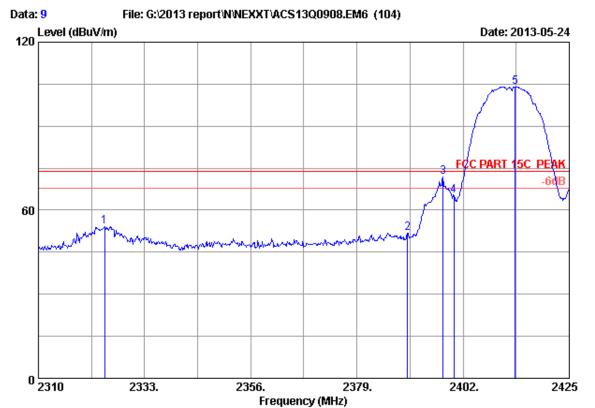
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	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2386.130	26.67	5.99	35.92	41.58	38.32	54.00	15.68	Average
2	2390.000	26.70	6.00	35.92	39.81	36.59	54.00	17.41	Average
3	2398.205	26.75	6.01	35.92	63.89	60.73	54.00	-6.73	Average
4	2400.000	26.76	6.02	35.92	55.44	52.30	54.00	1.70	Average
5	2411.200	26.83	6.04	35.92	99.56	96.51	54.00	-42.51	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. : 9

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

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz

Test mode : IEEE802.11b CH 1 2412MHz Tx

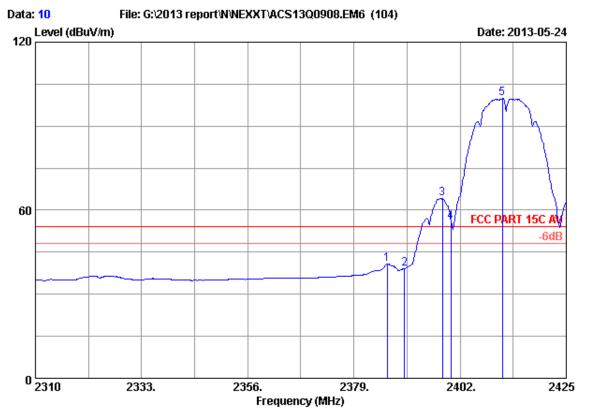
M/N : ARNPR154U1

:

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits	Margin (dB)	Remark
1	2324.375	26.28	5.89	35.92	57.91	54.16	74.00	19.84	Peak
2	2390.000	26.70	6.00	35.92	54.89	51.67	74.00	22.33	Peak
3	2397.630	26.74	6.01	35.92	75.03	71.86	74.00	2.14	Peak
4	2400.000	26.76	6.02	35.92	68.28	65.14	74.00	8.86	Peak
5	2413.270	26.84	6.04	35.92	107.12	104.08	74.00	-30.08	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. : 10

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

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz

Test mode : IEEE802.11b CH 1 2412MHz Tx

M/N : ARNPR154U1

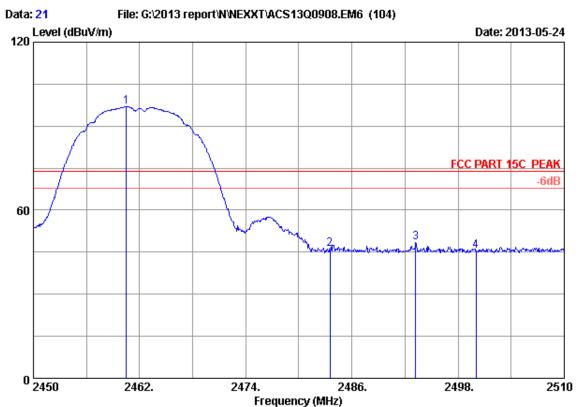
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	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2386.245	26.67	5.99	35.92	44.10	40.84	54.00	13.16	Average
2	2390.000	26.70	6.00	35.92	42.30	39.08		14.92	Average
3	2398.205	26.75	6.01	35.92	67.25	64.09		-10.09	Average
4	2400.000	26.76	6.02	35.92	58.83	55.69		-1.69	Average
5	2411.200	26.83	6.04	35.92	102.88	99.83		-45.83	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.



page 6-6 FCC ID:X4YPOLARIS150



: 3m Chamber Site no. Data no. : 21 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23*C/54% Engineer : Kevin-Hu

: 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz

: IEEE802.11b CH 11 2462MHz Tx

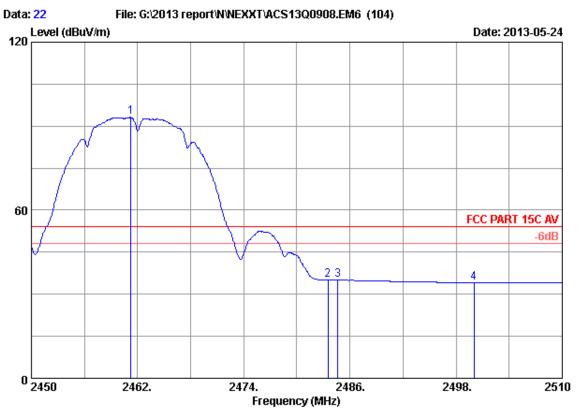
: ARNPR154U1

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	-	Reading (dBuV)		Limits (dBuV/m)	Margin (dB)	Remark
1	2460.500	27.15	6.12	35.92	99.49	96.84	74.00	-22.84	Peak
2	2483.500	27.29	6.16	35.92	48.54	46.07	74.00	27.93	Peak
3	2493.200	27.36	6.18	35.92	50.72	48.34	74.00	25.66	Peak
4	2500.000	27.40	6.19	35.93	47.96	45.62	74.00	28.38	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.



page 6-7 FCC ID:X4YPOLARIS150



: 3m Chamber Site no. Data no. : 22 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C AV

Env. / Ins. : 23*C/54% Engineer : Kevin-Hu

: 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz

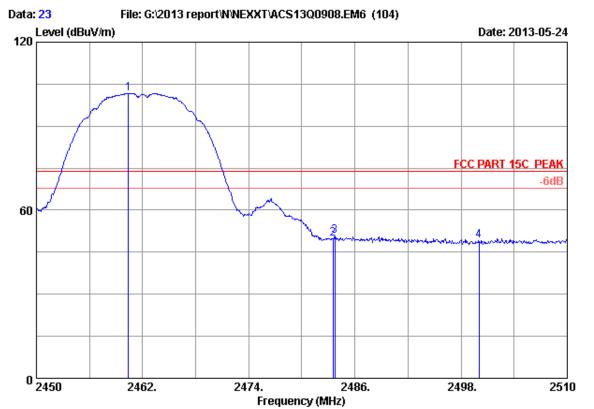
: IEEE802.11b CH 11 2462MHz Tx

: ARNPR154U1

	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	2461.220	27.15	6.12	35.92	95.77	93.12	54.00	-39.12	Average
2	2483.500	27.29	6.16	35.92	37.45	34.98	54.00	19.02	Average
3	2484.620	27.30	6.16	35.92	37.54	35.08	54.00	18.92	Average
4	2500.000	27.40	6.19	35.93	36.38	34.04	54.00	19.96	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. : 23

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

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz

Test mode : IEEE802.11b CH 11 2462MHz Tx

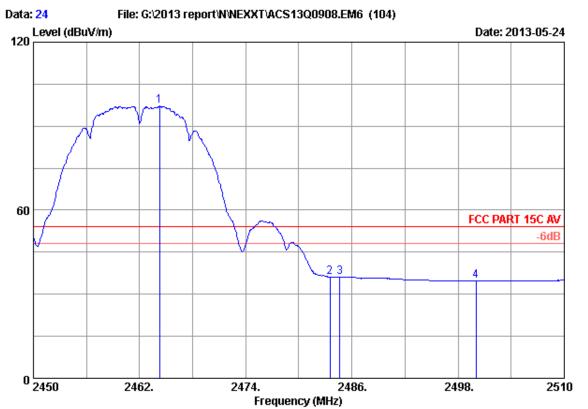
M/N : ARNPR154U1

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	Freq.	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)		Limits (dBuV/m)	Margin (dB)	Remark	
1	2460.380	27.15	6.12	35.92	104.42	101.77	74.00	 -27.77	Peak	
2	2483.500	27.29	6.16	35.92	52.14	49.67	74.00	24.33	Peak	
3	2483.720	27.30	6.16	35.92	53.19	50.73	74.00	23.27	Peak	
4	2500.000	27.40	6.19	35.93	51.41	49.07	74.00	24.93	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. : 24

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

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz

Test mode : IEEE802.11b CH 11 2462MHz Tx

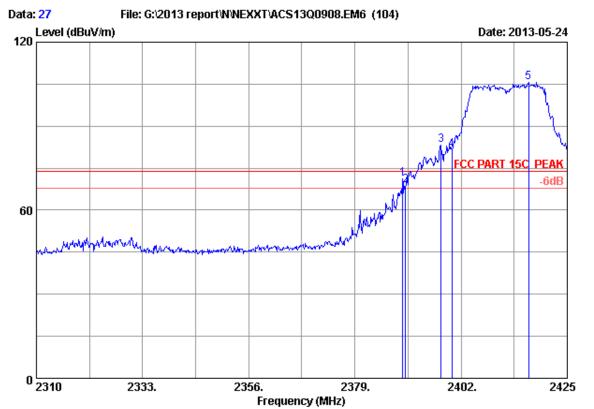
M/N : ARNPR154U1

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	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 2	2464.280 2483.500	27.17 27.29	6.16	35.92 35.92	99.73 38.56	97.11 36.09	54.00	-43.11 17.91	Average Average
3 4	2484.620 2500.000	27.30 27.40	6.16 6.19	35.92 35.93	38.72 37.02	36.26 34.68	54.00 54.00	17.74 19.32	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. : 27

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

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz

Test mode : IEEE802.11g CH 1 2412MHz Tx

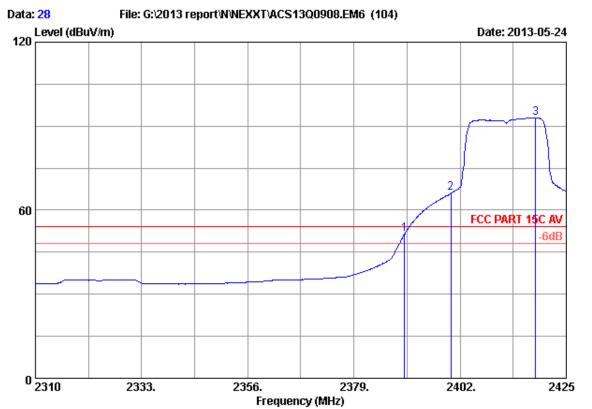
M/N : ARNPR154U1

:

	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	74.41	71.18	74.00	2.82	Peak
2	2390.000	26.70	6.00	35.92	71.91	68.69	74.00	5.31	Peak
3	2397.630	26.74	6.01	35.92	86.46	83.29	74.00	-9.29	Peak
4	2400.000	26.76	6.02	35.92	84.54	81.40	74.00	-7.40	Peak
5	2416.605	26.87	6.05	35.92	108.68	105.68	74.00	-31.68	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. : 28

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

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz

Test mode : IEEE802.11g CH 1 2412MHz Tx

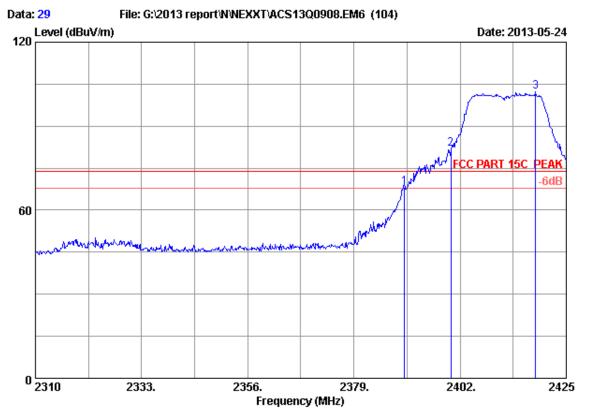
M/N : ARNPR154U1

:

	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	54.81	51.59		2.41	Average
2	2400.000	26.76	6.02	35.92	69.20	66.06		-12.06	Average
3	2418.330	26.88	6.05	35.92	95.88	92.89		-38.89	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. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz

Test mode : IEEE802.11g CH 1 2412MHz Tx

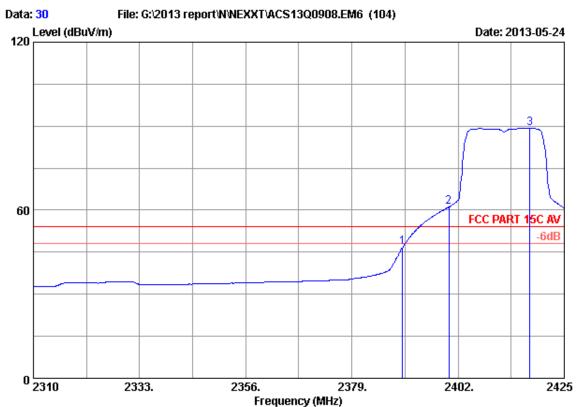
M/N : ARNPR154U1

:

	ceq. Fac	tor loss (dB)	Factor	_	Emission Level (dBuV/m)			Remark
2 2400	0.000 26. 0.000 26. 3.330 26.	76 6.02	35.92	71.57 85.06 105.39	68.35 81.92 102.40	74.00 74.00 74.00	5.65 -7.92 -28.40	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. : 30
Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C AV

Env. / Ins. : 23 * C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz

Test mode : IEEE802.11g CH 1 2412MHz Tx

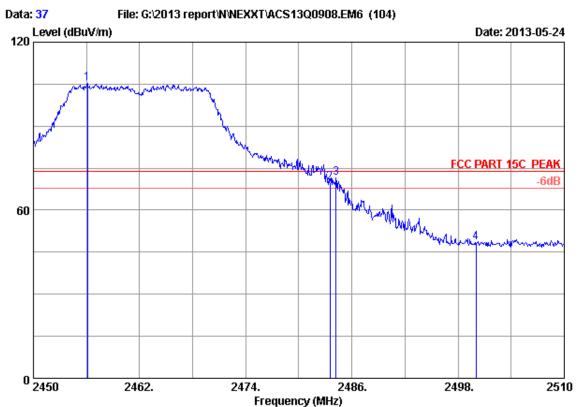
M/N : ARNPR154U1

:

	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	50.04	46.82	54.00	7.18	Average
2	2400.000	26.76	6.02	35.92	64.38	61.24	54.00	-7.24	Average
3	2417.525	26.87	6.05	35.92	92.20	89.20	54.00	-35.20	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. : 37

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

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz

Test mode : IEEE802.11g CH 11 2462MHz Tx

M/N : ARNPR154U1

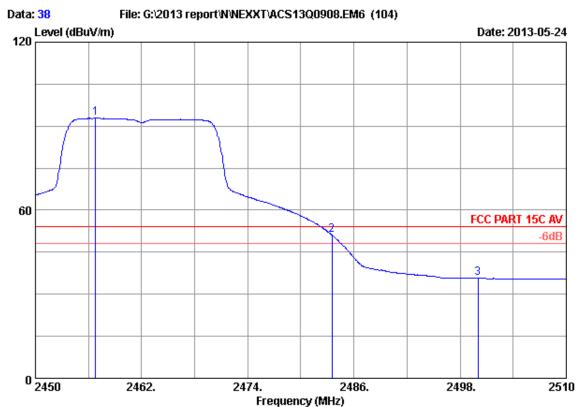
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	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	-	Reading (dBuV)		Limits (dBuV/m)	_	Remark
1	2456.120	27.12	6.11	35.92	107.82	105.13	74.00	-31.13	Peak
2	2483.500	27.29	6.16	35.92	72.42	69.95	74.00	4.05	Peak
3	2484.200	27.30	6.16	35.92	74.00	71.54	74.00	2.46	Peak
4	2500.000	27.40	6.19	35.93	50.78	48.44	74.00	25.56	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. : 38

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

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz

Test mode : IEEE802.11g CH 11 2462MHz Tx

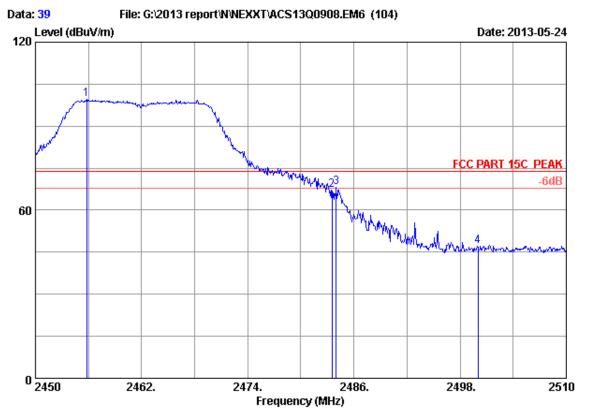
M/N : ARNPR154U1

:

	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	2456.780	27.12		35.92	95.51	92.82	54.00	-38.82	Average
2	2483.500	27.29		35.92	53.56	51.09	54.00	2.91	Average
3	2500.000	27.40		35.93	38.02	35.68	54.00	18.32	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. : 39
Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz

Test mode : IEEE802.11g CH 11 2462MHz Tx

M/N : ARNPR154U1

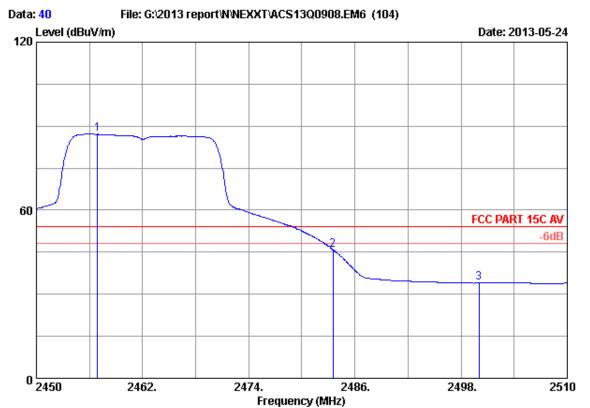
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	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2 3	2455.820 2483.500 2484.020 2500.000	27.12 27.29 27.30 27.40	6.16 6.16	35.92 35.92 35.92 35.93	102.34 69.59 70.55 49.40	99.65 67.12 68.09 47.06	74.00 74.00 74.00 74.00	-25.65 6.88 5.91 26.94	Peak 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. : 40
Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz

Test mode : IEEE802.11g CH 11 2462MHz Tx

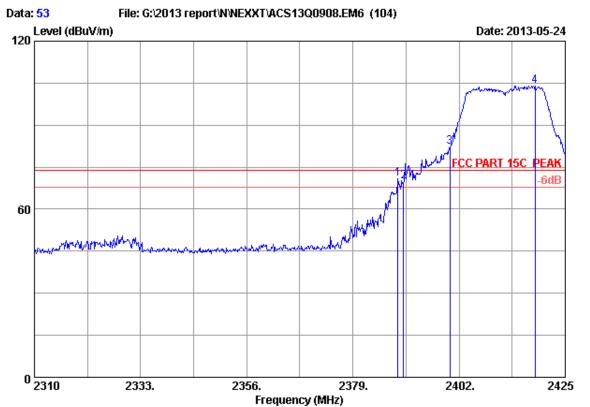
M/N : ARNPR154U1

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	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	2456.900	27.12	6.16	35.92	89.80	87.11	54.00	-33.11	Average
2	2483.500	27.29		35.92	48.41	45.94	54.00	8.06	Average
3	2500.000	27.40		35.93	36.31	33.97	54.00	20.03	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. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz Test mode : IEEE802.11nHT20 CH 1 2412MHz Tx

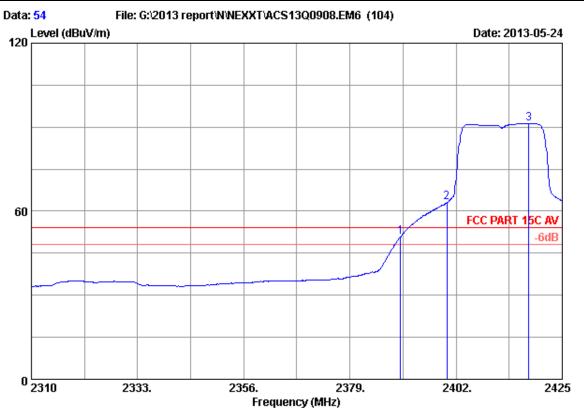
M/N : ARNPR154U1

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	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	•	Reading (dBuV)		Limits (dBuV/m)	Margin (dB)	Remark
2	2388.775 2390.000 2400.000	26.70 26.76	6.00 6.02	35.92 35.92 35.92	73.99 73.21 85.30	70.76 69.99 82.16	74.00 74.00 74.00	3.24 4.01 -8.16	Peak Peak Peak
4	2418.445	26.88	6.05	35.92	107.08	104.09	74.00	-30.09	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. : HORIZONTAL

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz Test mode : IEEE802.11nHT20 CH 1 2412MHz Tx

M/N : ARNPR154U1

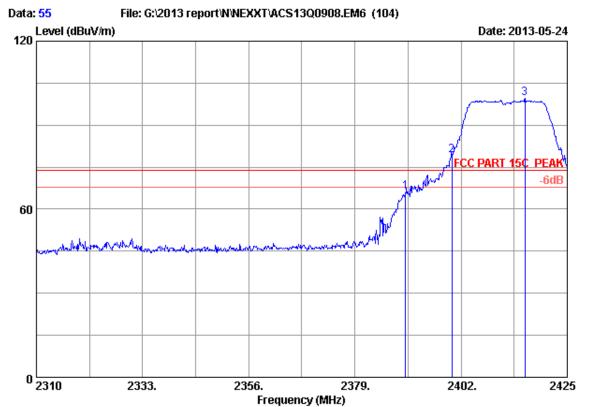
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	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	•	Reading (dBuV)		Limits (dBuV/m)	Margin (dB)	Remark
1 2 3	2390.000 2400.000 2417.755	26.76	6.02	35.92 35.92 35.92	54.19 66.23 94.36	50.97 63.09 91.36	54.00 54.00 54.00	3.03 -9.09 -37.36	Average Average 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. : 55
Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz Test mode: IEEE802.11nHT20 CH 1 2412MHz Tx

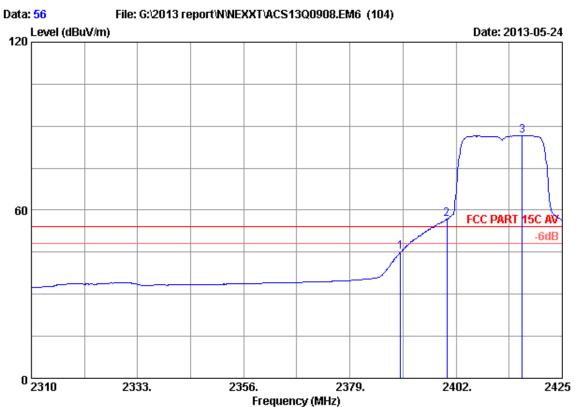
M/N : ARNPR154U1

:

	Freq. (MHz)		Cable loss (dB)	Factor	_	Emission Level (dBuV/m)	Limits	_	Remark	
2	2390.000 2400.000 2415.800	26.76	6.02	35.92 35.92 35.92	69.49 82.52 102.62	66.27 79.38 99.60	74.00 74.00 74.00	7.73 -5.38 -25.60	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. : 56
Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply : DC 5V From Adapter Input AC 120V/60Hz Test mode : IEEE802.11nHT20 CH 1 2412MHz Tx

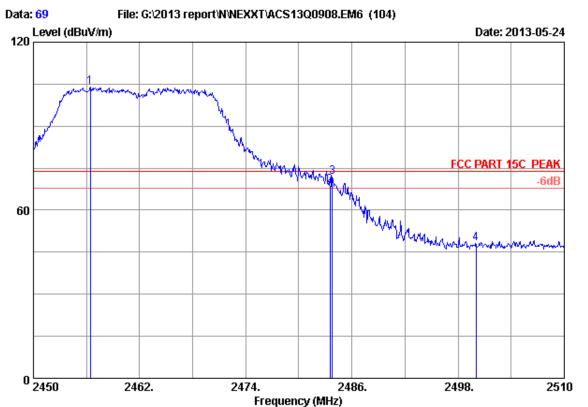
M/N : ARNPR154U1

:

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	•	Reading (dBuV)		Limits (dBuV/m)	Margin (dB)	Remark
1 2 3	2390.000 2400.000 2416.375	26.76	6.02	35.92 35.92 35.92	48.27 59.96 89.65	45.05 56.82 86.63	54.00 54.00 54.00	8.95 -2.82 -32.63	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. : 69

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

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz Test mode: IEEE802.11nHT20 CH 11 2462MHz Tx

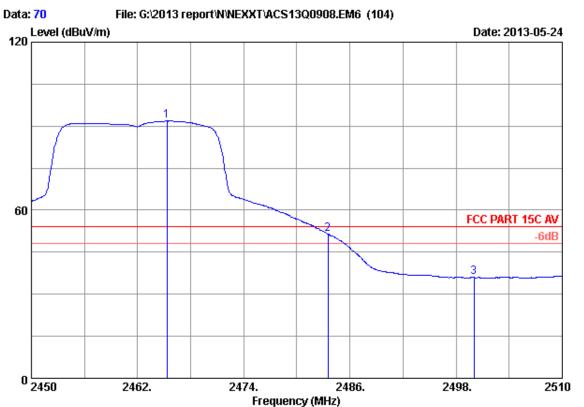
M/N : ARNPR154U1

:

Freq. (MHz)	Ant. Factor (dB/m)		-	Reading (dBuV)		Limits (dBuV/m)	Margin (dB)	Remark	
1 2456.420 2 2483.500 3 2483.780 4 2500.000	27.29 27.30	6.16 6.16	35.92 35.92 35.92 35.93	106.69 71.47 74.39 50.47	104.00 69.00 71.93 48.13	74.00 74.00 74.00 74.00	-30.00 5.00 2.07 25.87	Peak 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. : 70

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

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz Test mode: IEEE802.11nHT20 CH 11 2462MHz Tx

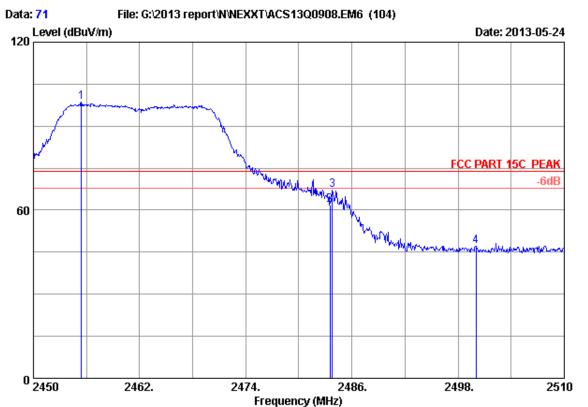
M/N : ARNPR154U1

:

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	•	Reading (dBuV)		Limits (dBuV/m)	Margin (dB)	Remark
1 2 3	2465.300 2483.500 2500.000	27.29	6.16	35.92 35.92 35.93	94.42 54.03 38.32	91.81 51.56 35.98	54.00 54.00 54.00	-37.81 2.44 18.02	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. : 71
Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz Test mode: IEEE802.11nHT20 CH 11 2462MHz Tx

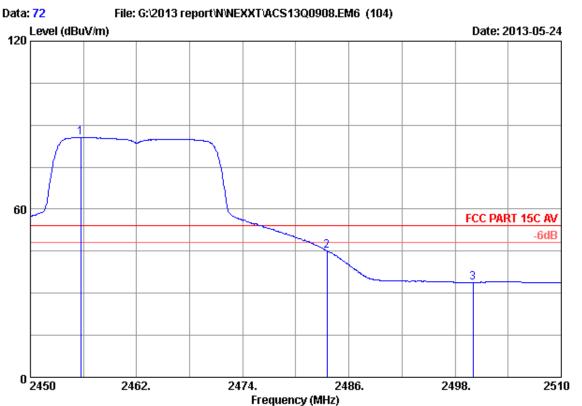
M/N : ARNPR154U1

:

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	-	Reading (dBuV)		Limits (dBuV/m)	_	Remark
1	2455.400	27.11	6.11	35.92	101.24	98.54	74.00	-24.54	Peak
2	2483.500	27.29	6.16	35.92	64.38	61.91	74.00	12.09	Peak
3	2483.780	27.30	6.16	35.92	69.58	67.12	74.00	6.88	Peak
4	2500.000	27.40	6.19	35.93	49.48	47.14	74.00	26.86	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. : 72
Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz Test mode: IEEE802.11nHT20 CH 11 2462MHz Tx

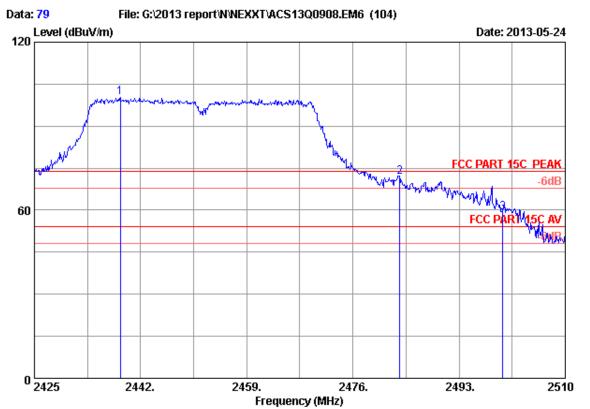
M/N : ARNPR154U1

:

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	•	Reading (dBuV)		Limits (dBuV/m)	Margin (dB)	Remark
1 2 3	2455.700 2483.500 2500.000	27.29	6.16	35.92 35.92 35.93	88.37 47.58 36.21	85.68 45.11 33.87	54.00 54.00 54.00	-31.68 8.89 20.13	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. : 79

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

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz Test mode : IEEE802.11nHT40 CH 7 2452MHz Tx

M/N : ARNPR154U1

:

	Freq.	Ant. Factor (dB/m)	loss	Factor	_	Emission Level (dBuV/m)	Limits	Margin (dB)	Remark	
2	2438.770 2483.500 2500.000	27.29		35.92	102.97 74.33 61.57	71.86		-26.14 2.14 14.77	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. : 80

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

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply : DC 5V From Adapter Input AC 120V/60Hz Test mode : IEEE802.11nHT40 CH 7 2452MHz Tx

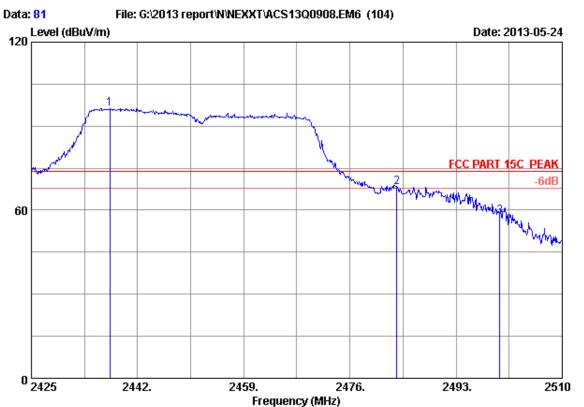
M/N : ARNPR154U1

:

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	•	Reading (dBuV)		Limits (dBuV/m)	Margin (dB)	Remark
1	2440.725	27.02	6.16	35.92	89.95	87.14	54.00	-33.14	Average
2	2483.500	27.29		35.92	52.98	50.51	54.00	3.49	Average
3	2500.000	27.40		35.93	45.32	42.98	54.00	11.02	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. : 81
Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply : DC 5V From Adapter Input AC 120V/60Hz Test mode : IEEE802.11nHT40 CH 7 2452MHz Tx

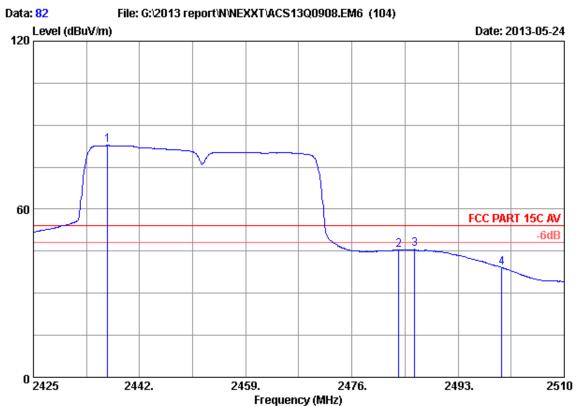
M/N : ARNPR154U1

:

Freq. (MHz)	Ant. Factor (dB/m)	loss	Factor	_	Emission Level (dBuV/m)	Limits	Margin (dB)	Remark	
1 2437.580 2 2483.500 3 2500.000	27.29	6.16	35.92 35.92 35.93	99.21 70.75 60.07	68.28		-22.37 5.72 16.27	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. : 82
Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply : DC 5V From Adapter Input AC 120V/60Hz Test mode : IEEE802.11nHT40 CH 7 2452MHz Tx

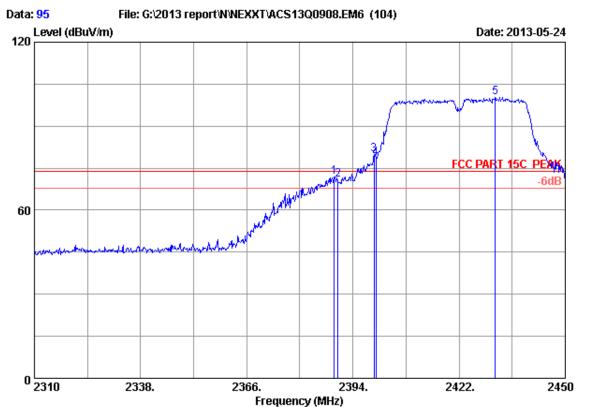
M/N : ARNPR154U1

:

	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 2 3	2436.900 2483.500 2486.030	27.00 27.29 27.31	6.16 6.16	35.92 35.92	85.62 47.98 48.08	82.78 45.51 45.63	54.00 54.00	-28.78 8.49 8.37	Average Average Average
4	2500.000	27.40	6.19	35.93	41.48	39.14	54.00	14.86	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. : 95

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

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz Test mode : IEEE802.11nHT40 CH 1 2422MHz Tx

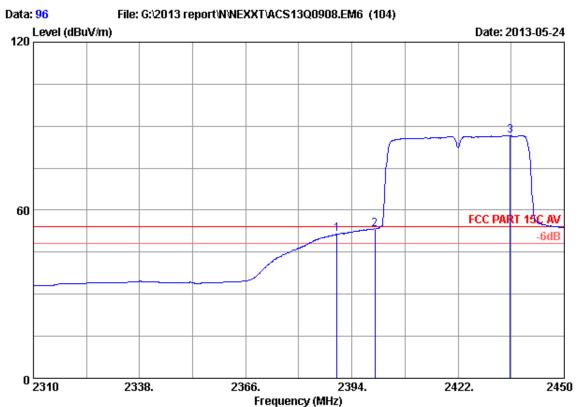
M/N : ARNPR154U1

:

	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	2389.100	26.69	6.00	35.92	75.14	71.91	74.00	2.09	Peak
2	2390.000	26.70	6.00	35.92	74.03	70.81	74.00	3.19	Peak
3	2399.600	26.76	6.02	35.92	83.11	79.97	74.00	-5.97	Peak
4	2400.000	26.76	6.02	35.92	81.59	78.45	74.00	-4.45	Peak
5	2431.520	26.96	6.07	35.92	103.12	100.23	74.00	-26.23	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. : 96

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

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz Test mode : IEEE802.11nHT40 CH 1 2422MHz Tx

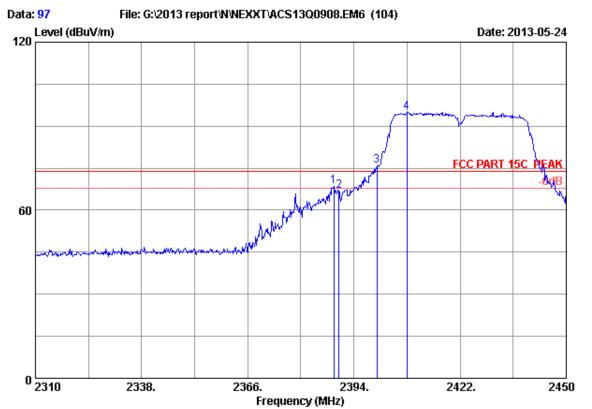
M/N : ARNPR154U1

:

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	•	Reading (dBuV)		Limits (dBuV/m)	Margin (dB)	Remark
1 2 3	2390.000 2400.000 2435.720	26.76	6.02	35.92 35.92 35.92	54.59 56.37 89.35	51.37 53.23 86.50	54.00 54.00 54.00	2.63 0.77 -32.50	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. : 97
Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply: DC 5V From Adapter Input AC 120V/60Hz Test mode : IEEE802.11nHT40 CH 1 2422MHz Tx

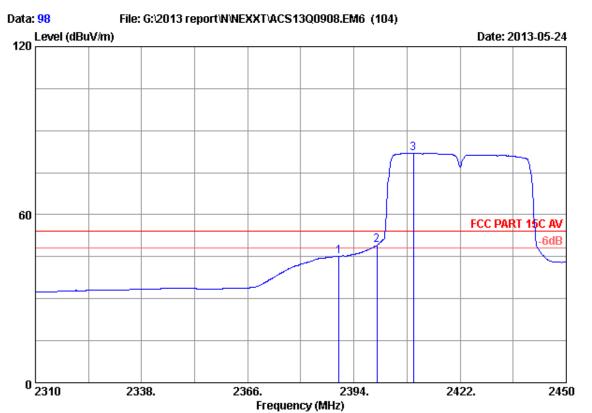
M/N : ARNPR154U1

:

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)		Limits (dBuV/m)	Margin (dB)	Remark
1	2388.680	26.69	6.00	35.92	71.82	68.59	74.00	5.41	Peak
2	2390.000	26.70	6.00	35.92	69.92	66.70	74.00	7.30	Peak
3	2400.000	26.76	6.02	35.92	78.86	75.72	74.00	-1.72	Peak
4	2408.000	26.81	6.03	35.92	98.09	95.01	74.00	-21.01	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. : 98

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

Limit : FCC PART 15C AV

Env. / Ins. : 23 *C/54% Engineer : Kevin-Hu

EUT : 3G Wireless N Nano Router

Power supply : DC 5V From Adapter Input AC 120V/60Hz Test mode : IEEE802.11nHT40 CH 1 2422MHz Tx

M/N : ARNPR154U1

:

	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		35.92	48.40	45.18	54.00	8.82	Average
2	2400.000	26.76		35.92	52.26	49.12	54.00	4.88	Average
3	2409.680	26.82		35.92	85.03	81.96	54.00	-27.96	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.

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, 13	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 13	1 Year
3.	Antenna	EMCO	3115	9510-4580	May.31, 13	1Year
4.	HF Cable	Hubersuhner	Sucoflex104	-	May.08, 13	1 Year

7.2.Limit

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

7.3.Test Procedure

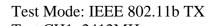
The transmitter output was connected to a spectrum analyzer, The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 30KHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

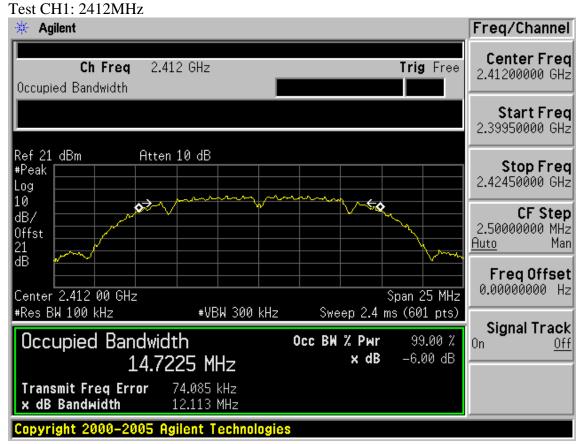
7.4.Test Results

EUT: 3G Wireless N Nano Router							
M/N: ARNPE154U1							
Test date: 2013-05-25	Pressure: 101.4±1.0 kpa	Humidity: 53.4±3.0%					
Tested by: Leo-Li Test site: RF Site Temperature : 21.6±0.6℃							

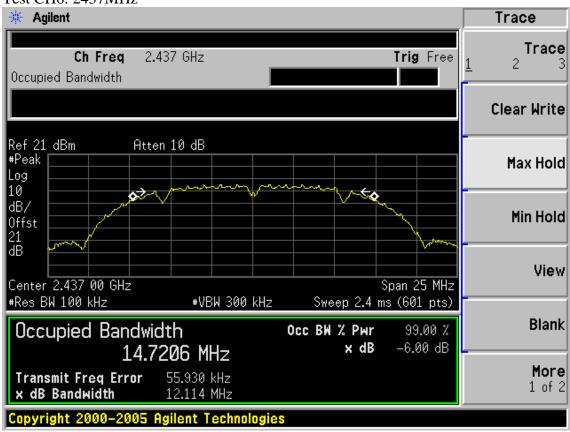
Cable loss: 1 dE	3	Attenuator loss: 20 dB	Antenna Gain: 0 dBi					
Test Mode	СН	6dB bandwidth (MHz)	Limit (KHz)					
	CH1	12.113	>500					
11b	СН6	12.114	>500					
	CH11	12.116	>500					
	CH1	16.539	>500					
11g	СН6	16.532	>500					
	CH11	16.562	>500					
11.	CH1	17.665	>500					
11n HT20	CH6	17.647	>500					
11120	CH11	17.653	>500					
11.0	CH1	35.739	>500					
11n HT40	CH4	35.940	>500					
11140	CH7	35.920	>500					
Conclusion: PA	Conclusion: PASS							



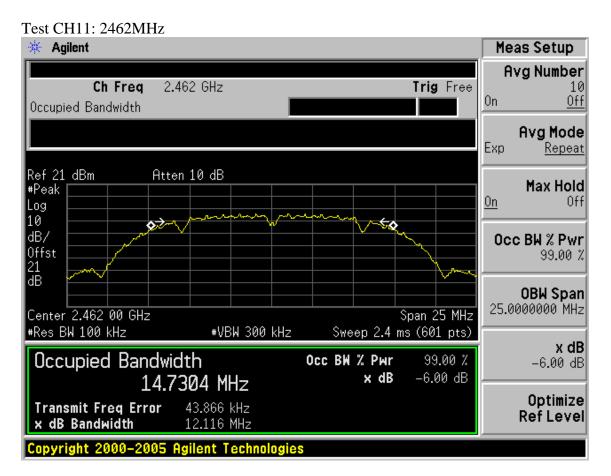




Test CH6: 2437MHz

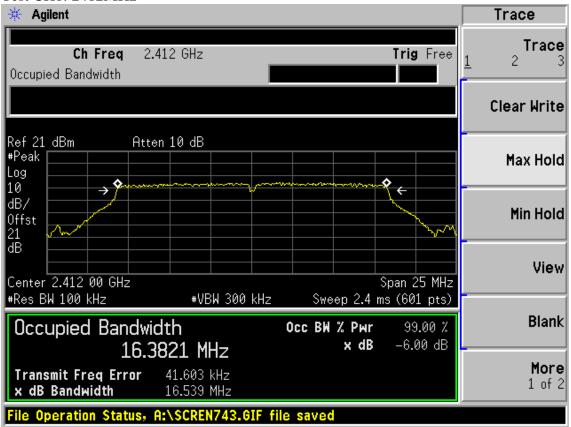




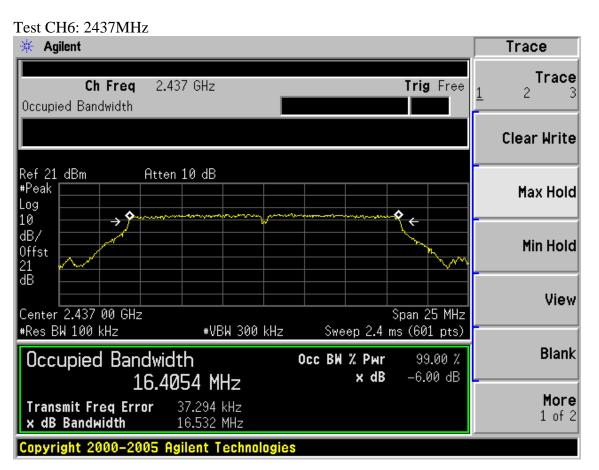


Test Mode: IEEE 802.11g TX

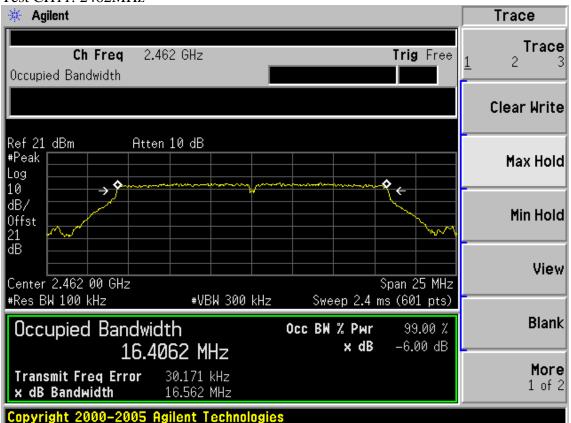
Test CH1: 2412MHz





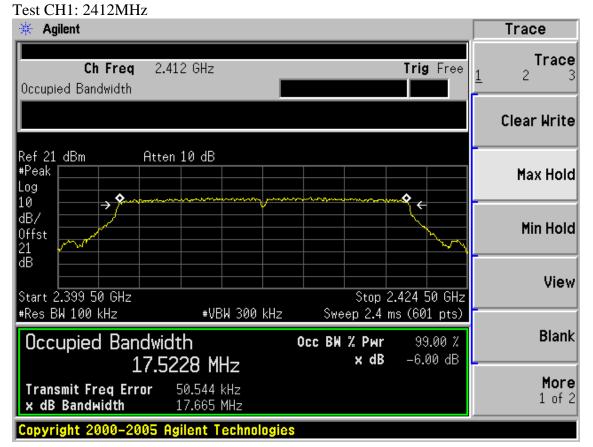


Test CH11: 2462MHz

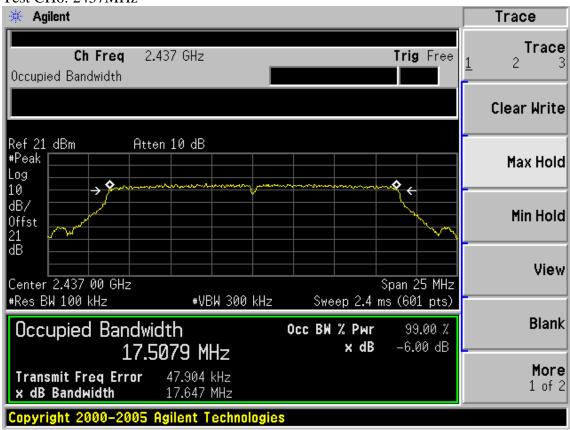




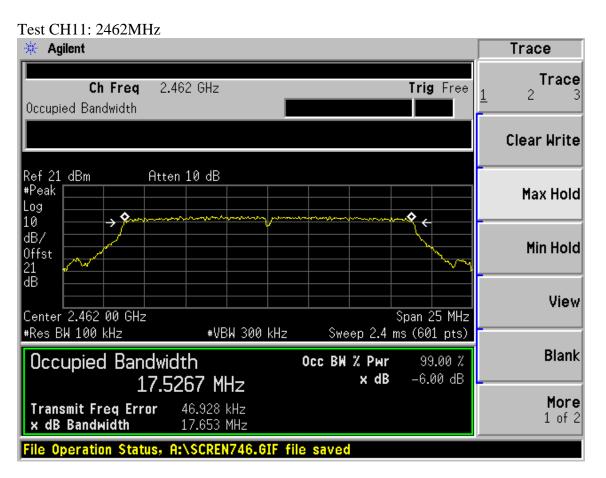
Test Mode: IEEE 802.11n HT20 TX



Test CH6: 2437MHz

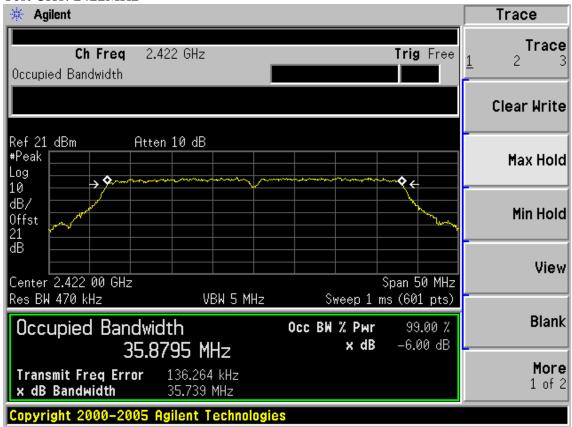




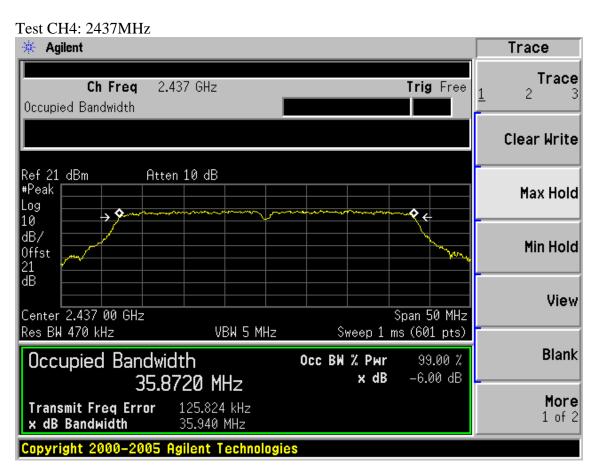


Test Mode: IEEE 802.11n HT40 TX

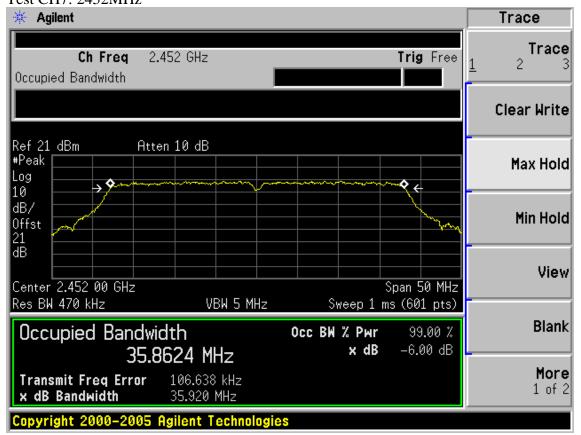
Test CH1: 2422MHz







Test CH7: 2452MHz



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, 13	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 13	1 Year
3.	Antenna	EMCO	3115	9510-4580	May.31, 13	1Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 13	1 Year
5.	Power Meter	Anritsu	ML2487A	6K00002472	May.08, 13	1Year
6.	Power Sensor	Anritsu	MA2491A	033005	May.08, 13	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: 3G Wireless N Nano Router							
M/N: ARNPE154U1							
Test date: 2013-05-25	Pressure: 101.2±1.0 kpa	Humidity: 52.5±3.0%					
Tested by: Leo-Li	Test site: RF Site	Temperature: 22.4±0.6 °C					

		1	
Cable loss:	1 dB	Attenuator loss: 20 dB	Antenna Gain: 0 dBi
Test Mode	CH (MHz)	Peak output Power (dBm)	Limit (dBm)
	CH1	18.69	30
11b	CH6	19.58	30
	CH11	19.50	30
	CH1	21.70	30
11g	CH6	24.52	30
	CH11	22.14	30
11	CH1	20.60	30
11n HT20	CH6	23.96	30
	CH11	24.19	30

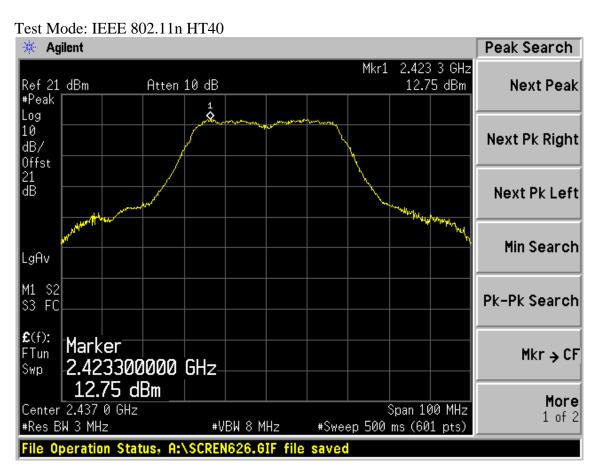
			Limit	
Test Mode	СН	Measured power(dBm)/3MHz	PK Output power (dBm)	(dBm)
11	CH1	7.88	20.08	30
11n HT40	CH4	12.75	24.95	30
11140	CH7	8.64	20.84	30

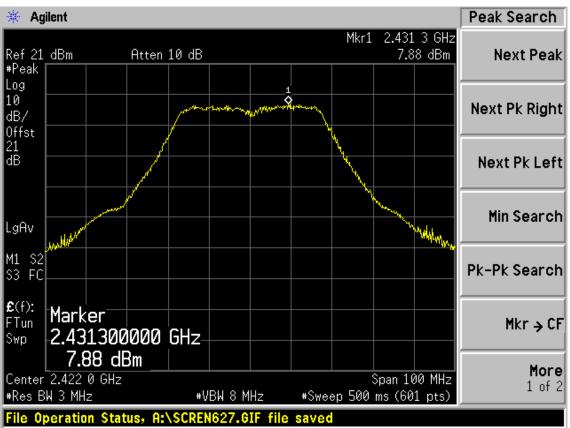
26dB Bandwidth for 11n HT40:49.834MHz

BW correction factor = $10\log[(49.834\text{MHz})/(3\text{MHz})] = 12.20\text{dB}$

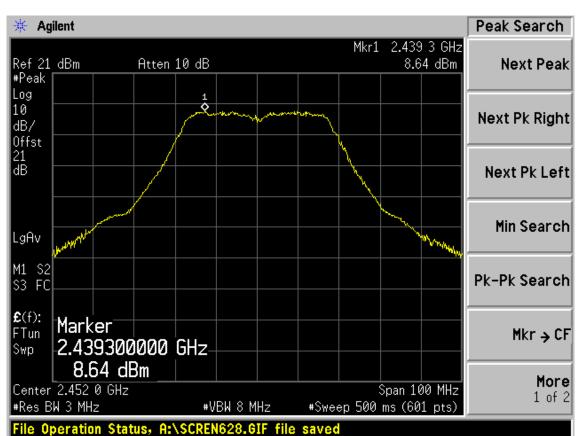
Conclusion: PASS



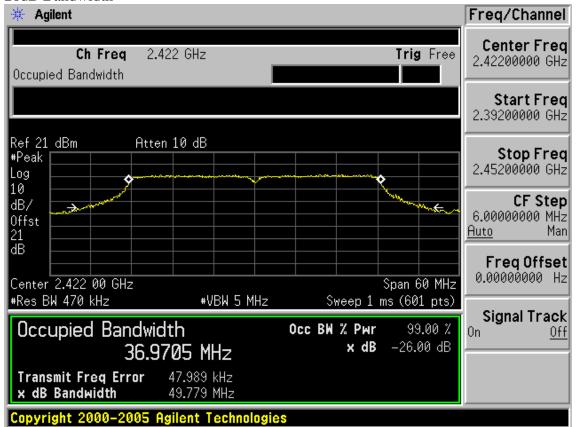








26dB Bandwidth

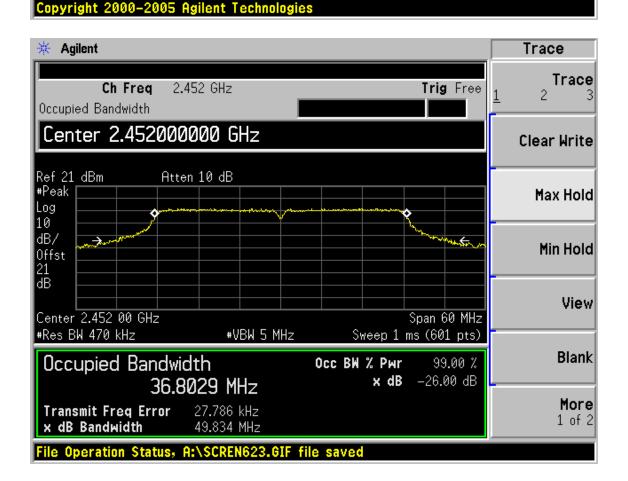


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* Agilent Trace Trace Ch Freq 2.437 GHz Trig Free 2 Occupied Bandwidth Clear Write Ref 21 dBm Atten 10 dB #Peak Max Hold Log 10 dB/ - Min Hold Offst 21 ďΒ View Center 2.437 00 GHz Span 60 MHz #Res BW 470 kHz #VBW 5 MHz Sweep 1 ms (601 pts) Blank Occupied Bandwidth Occ BW % Pwr 99.00 % x dB -26.00 dB 36.9703 MHz More Transmit Freq Error 48.273 kHz 1 of 2 x dB Bandwidth 49.763 MHz



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, 13	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 13	1 Year
3.	Antenna	EMCO	3115	9510-4580	May.31, 13	1Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 13	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 level 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



9.4.Test Results

EUT: 3G Wireless N Nano Router

M/N: ARNPE154U1

Test date: 2013-05-27 Pressure: 101.2±1.0 kpa Humidity: 53.1±3.0%

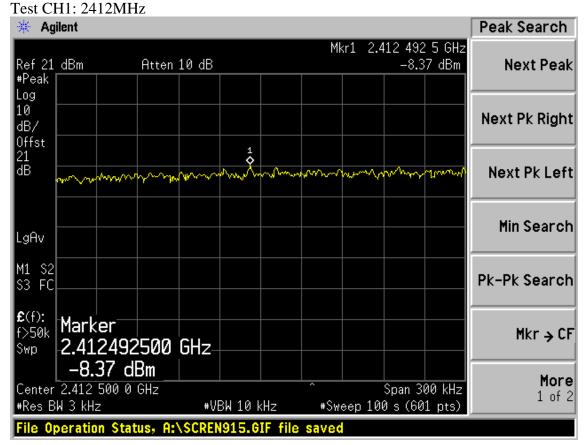
Tested by: Leo-Li Test site: RF Site Temperature: 23.9±0.6 °C

Cable loss: 1 dE	3	Attenuator loss: 20 dB		
Test Mode	СН	Power density (dBm/3KHz)	Limit (dBm/3KHz)	
	CH1	-8.37	8	
11b	CH6	-8.14	8	
	CH11	-9.30	8	
	CH1	-13.28	8	
11g	CH6	-9.81	8	
	CH11	-15.00	8	
11	CH1	-17.30	8	
11n HT20	CH6	-10.59	8	
11120	CH11	-17.03	8	
11	CH1	-20.58	8	
11n HT40	CH4	-11.89	8	
11140	CH7	-21.10	8	
Conclusion: PA	ASS			

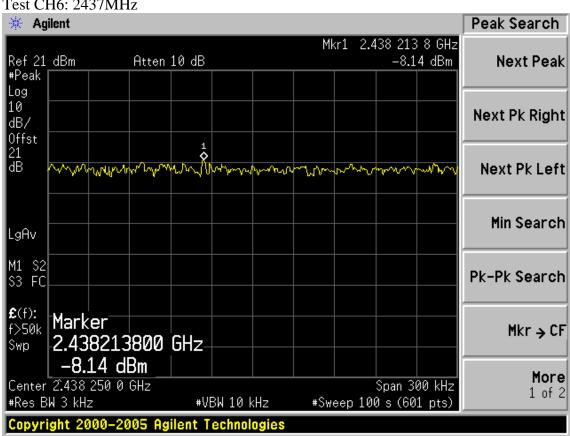


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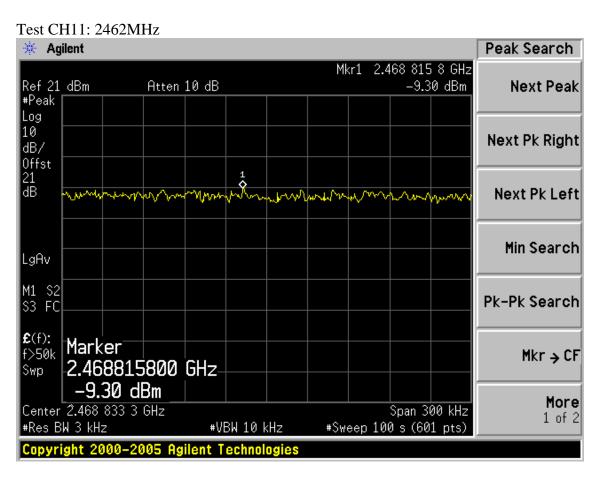




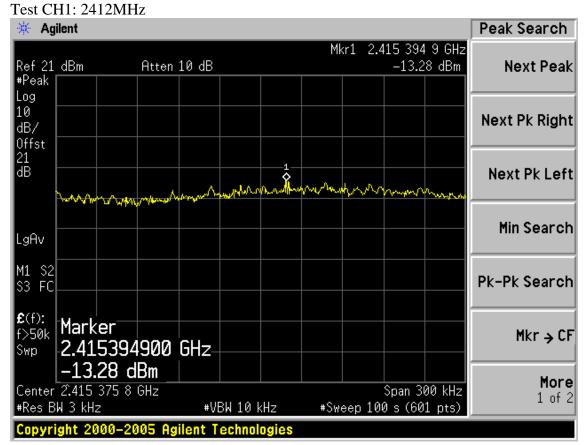
Test CH6: 2437MHz



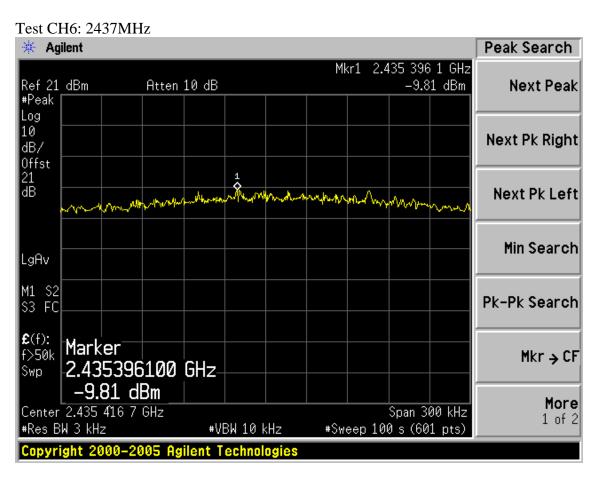


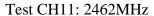


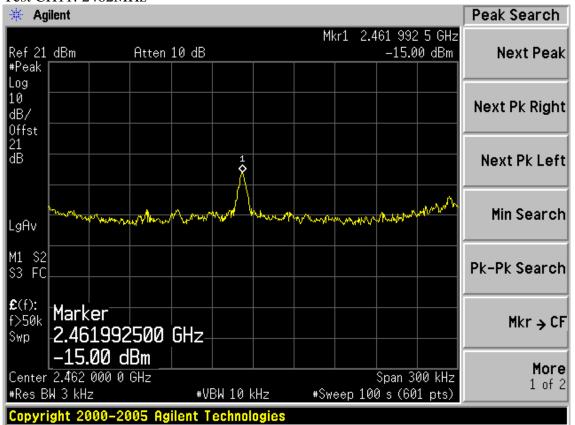
Test Mode: IEEE 802.11g TX







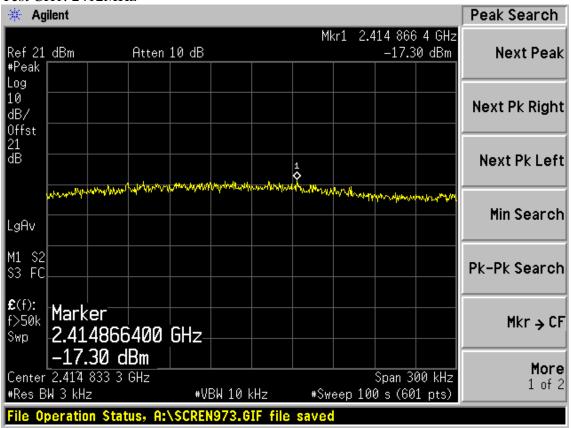




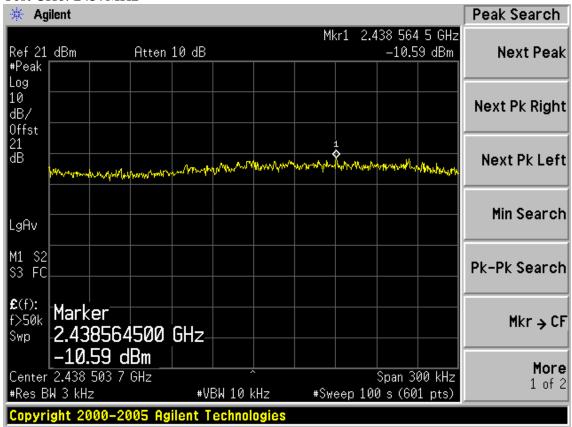


Test Mode: IEEE 802.11n HT20 TX

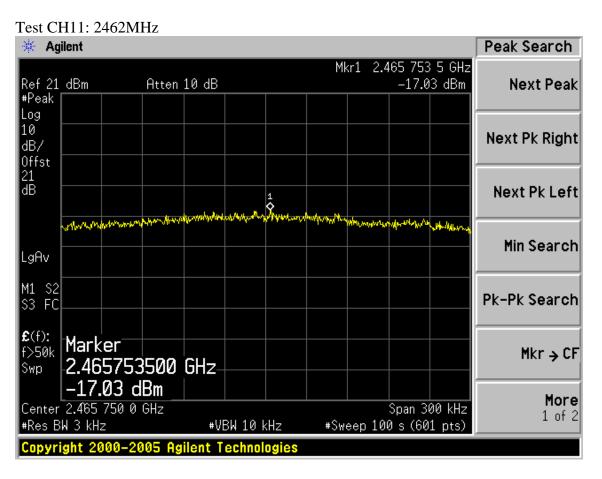
Test CH1: 2412MHz



Test CH6: 2437MHz

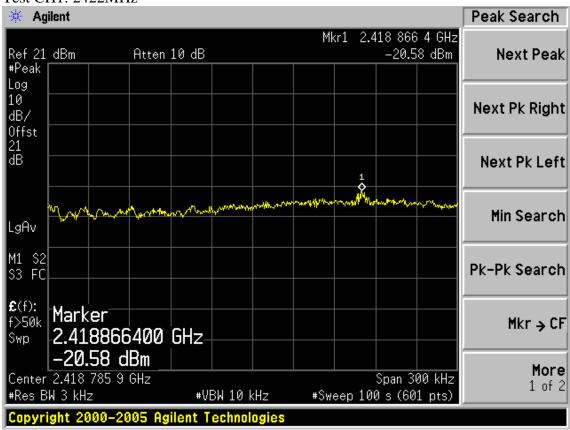




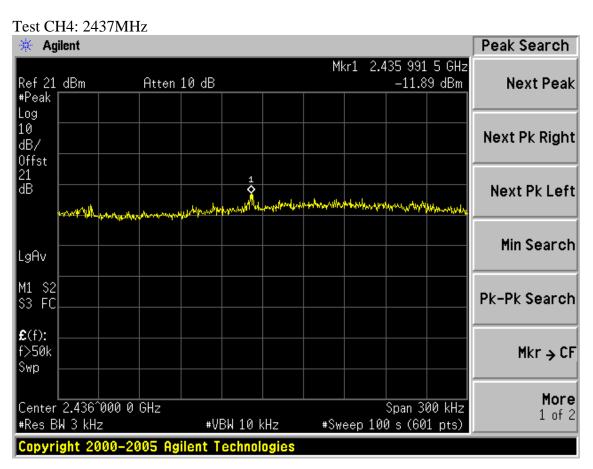


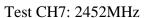
Test Mode: IEEE 802.11n HT40 TX

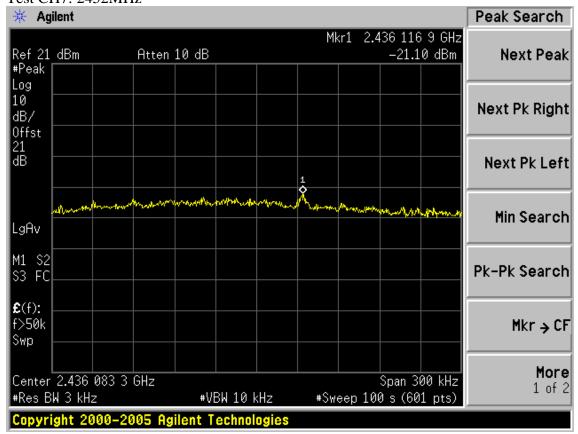
Test CH1: 2422MHz











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 0dBi.

10.2. ANTENNA CONNECTED CONSTRUCTION

The antennas used for this product are PIFA 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 0Bi.



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: 3G Wireless N Nano Router							
M/N: ARNPE154U1	M/N: ARNPE154U1						
Test date: 2013-05-25	Test date: 2013-05-25 Pressure: 101.4±1.0 kpa Humidity: 55.6±3.0%						
Tested by: Leo-Li	Test site:	RF Site	Temperature : 22.4±0.6 °C				

Cable loss: 1 dB		Attenuator loss: 20 dB				Antenna Gain: 0 dBi	
Test Mode	СН	Frequency (MHz)	Peak Output Power (dBm)	Output Power (mW)	Antenna Gain (dBi)	Antenna Gain (Linear)	MPE
	CH1	2412	18.69	73.96	0	1.00	0.0147
11b	CH6	2437	19.58	90.78	0	1.00	0.0181
	CH11	2462	19.5	89.13	0	1.00	0.0177
	CH1	2412	21.7	147.91	0	1.00	0.0294
11g	CH6	2437	24.52	283.14	0	1.00	0.0564
	CH11	2462	22.14	163.68	0	1.00	0.0326
11	CH1	2412	20.6	114.82	0	1.00	0.0229
11n HT20	CH6	2437	23.96	248.89	0	1.00	0.0495
11120	CH11	2462	24.19	262.42	0	1.00	0.0522
11	CH1	2422	20.08	101.86	0	1.00	0.0203
11n HT40	CH4	2437	24.95	312.61	0	1.00	0.0622
	CH7	2452	20.84	121.34	0	1.00	0.0242



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12.DEVIATION TO TEST SPECIFICATIONS	
[NONE]	