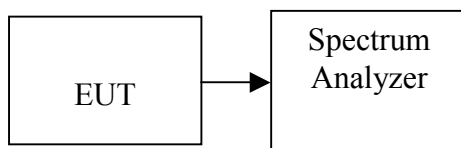


7.5 PEAK POWER SPECTRAL DENSITY

LIMIT

1. According to §15.247(e), for digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.
2. According to §15.247(f), the digital modulation operation of the hybrid system, with the frequency hopping turned off, shall comply with the power density requirements of paragraph (d) of this section.

Test Configuration



TEST PROCEDURE

1. Place the EUT on the table and set it in transmitting mode.
Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
2. Set the spectrum analyzer as RBW = 3 kHz, VBW = 10 kHz, Span = 300 kHz, Sweep time = 100 s
3. Record the max reading.
4. Repeat the above procedure until the measurements for all frequencies are completed.

TEST RESULTS

No non-compliance noted.

**Test Data****Test mode: IEEE 802.11b mode**

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-4.62	-5.76	-2.14	8.00	PASS
Mid	2437	-6.74	-5.82	-3.25		PASS
High	2462	-5.51	-5.83	-2.66		PASS

Test mode: IEEE 802.11g mode

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-8.82	-8.84	-5.82	8.00	PASS
Mid	2437	-8.87	-8.66	-5.75		PASS
High	2462	-7.77	-5.75	-3.63		PASS

Test mode: draft 802.11n Standard-20 MHz Channel mode

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-11.13	-11.78	-8.43	8.00	PASS
Mid	2437	-9.12	-9.32	-6.21		PASS
High	2462	-9.60	-9.06	-6.31		PASS

Test mode: draft 802.11n Wide-40 MHz Channel mode

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
Low	2422	-17.08	-17.81	-14.42	8.00	PASS
Mid	2437	-15.94	-9.19	-8.36		PASS
High	2452	-14.87	-9.84	-8.65		PASS

Remark: Total PPSD (dBm) = $10 * \text{LOG}(10^{\text{Chain 0 PPSD} / 10} + 10^{\text{Chain 2 PPSD} / 10})$



Test mode: IEEE 802.11b mode with combiner

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	0.79	8.00	PASS
Mid	2437	0.87		PASS
High	2462	0.07		PASS

Test mode: IEEE 802.11g mode with combiner

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-2.19	8.00	PASS
Mid	2437	-1.77		PASS
High	2462	-2.72		PASS

Test mode: draft 802.11n Standard-20 MHz Channel mode with combiner

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-6.88	8.00	PASS
Mid	2437	-4.02		PASS
High	2462	-3.74		PASS

Test mode: draft 802.11n Wide-40 MHz Channel mode with combiner

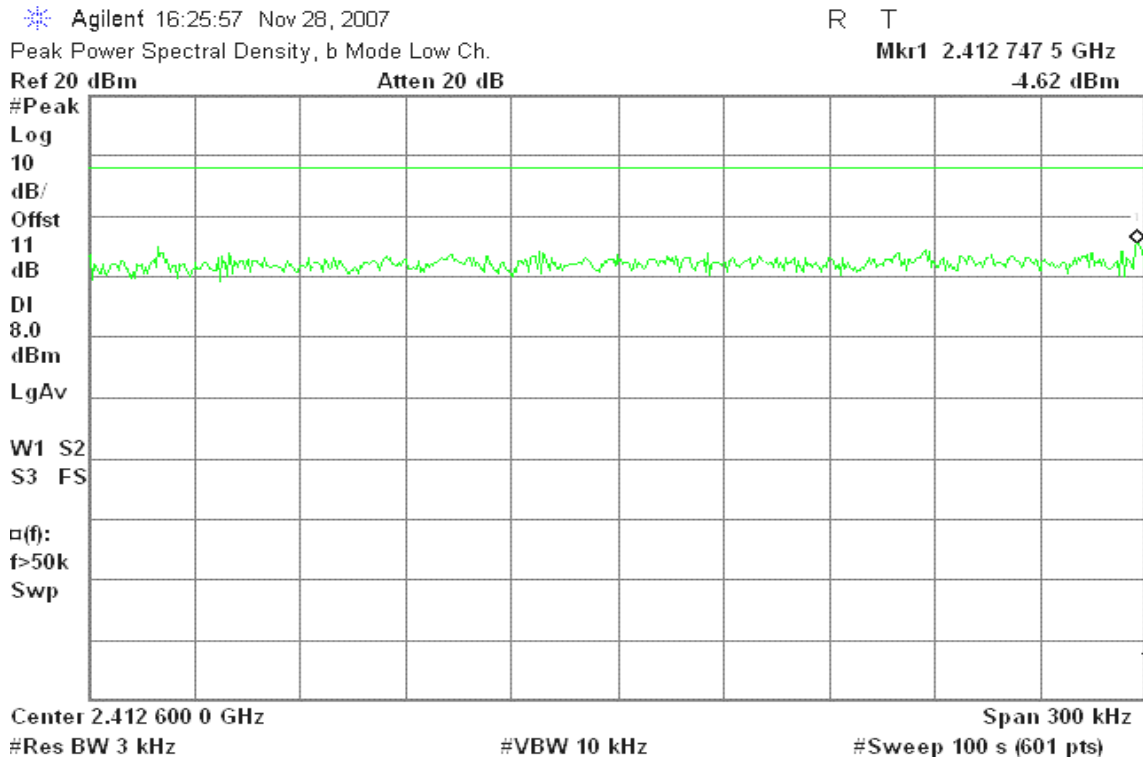
Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2422	-11.82	8.00	PASS
Mid	2437	-9.19		PASS
High	2452	-9.84		PASS



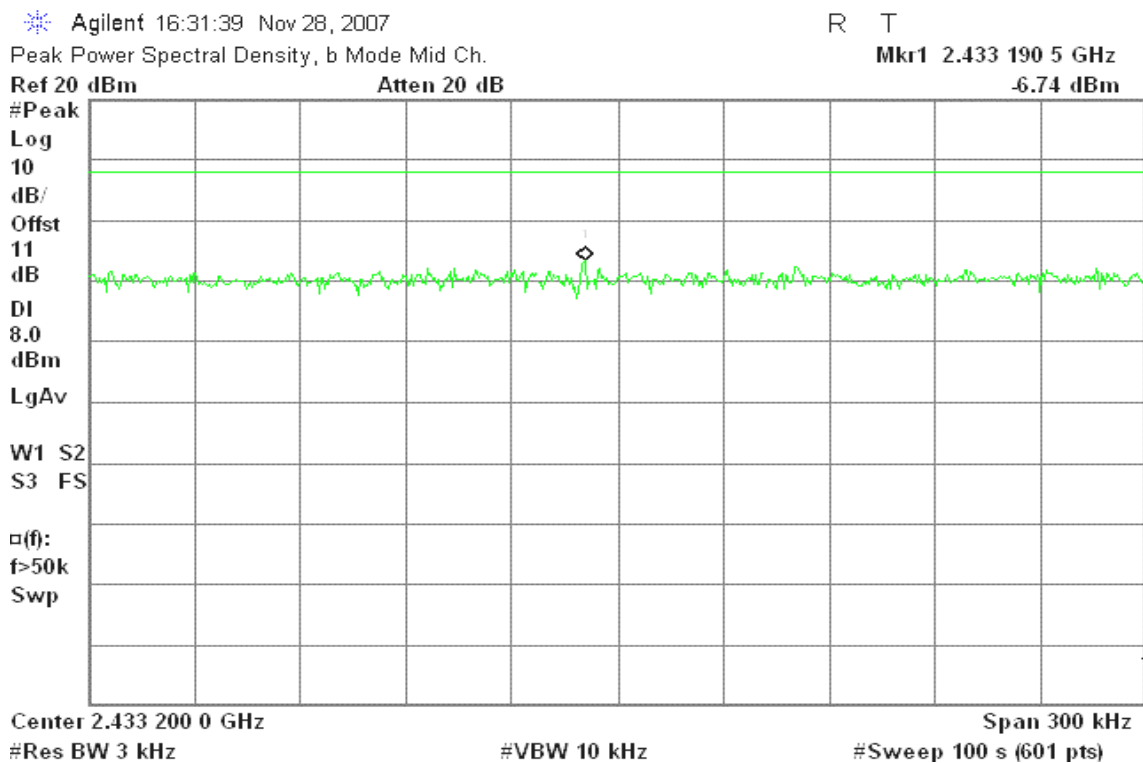
Test Plot

IEEE 802.11b mode / Chain 0

PPSD (CH Low)



PPSD (CH Mid)





PPSD (CH High)

Agilent 16:36:23 Nov 28, 2007

R T

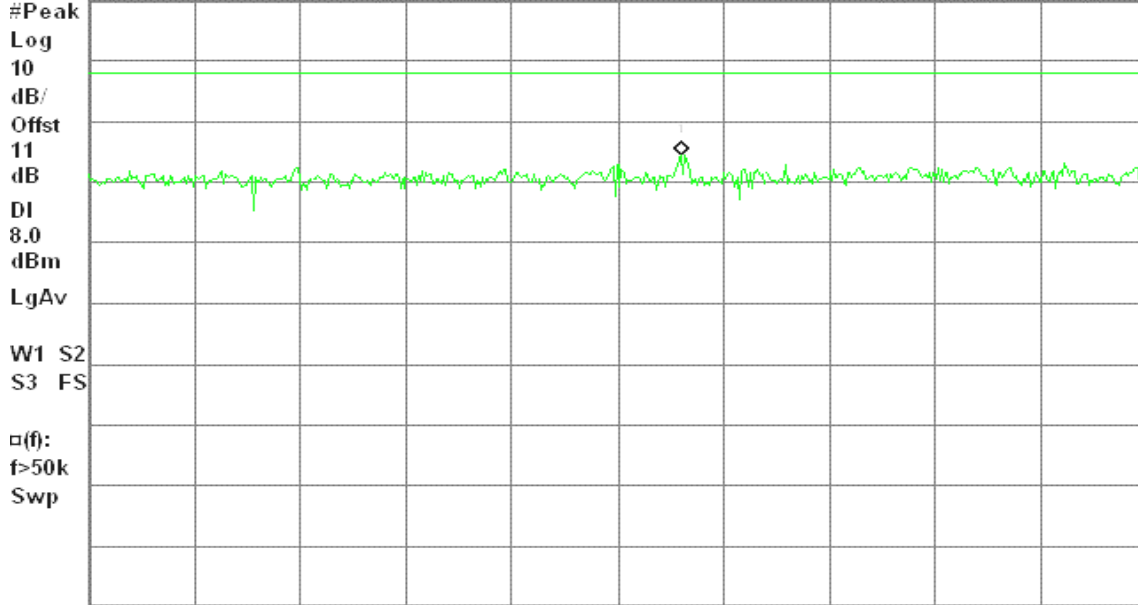
Peak Power Spectral Density, b Mode High Ch.

Mkr1 2.463 468 1 GHz

Ref 20 dBm

Atten 20 dB

-5.51 dBm



Center 2.463 450 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)

IEEE 802.11b mode / Chain 1

PPSD (CH Low)

Agilent 20:30:20 Dec 25, 2007

R T

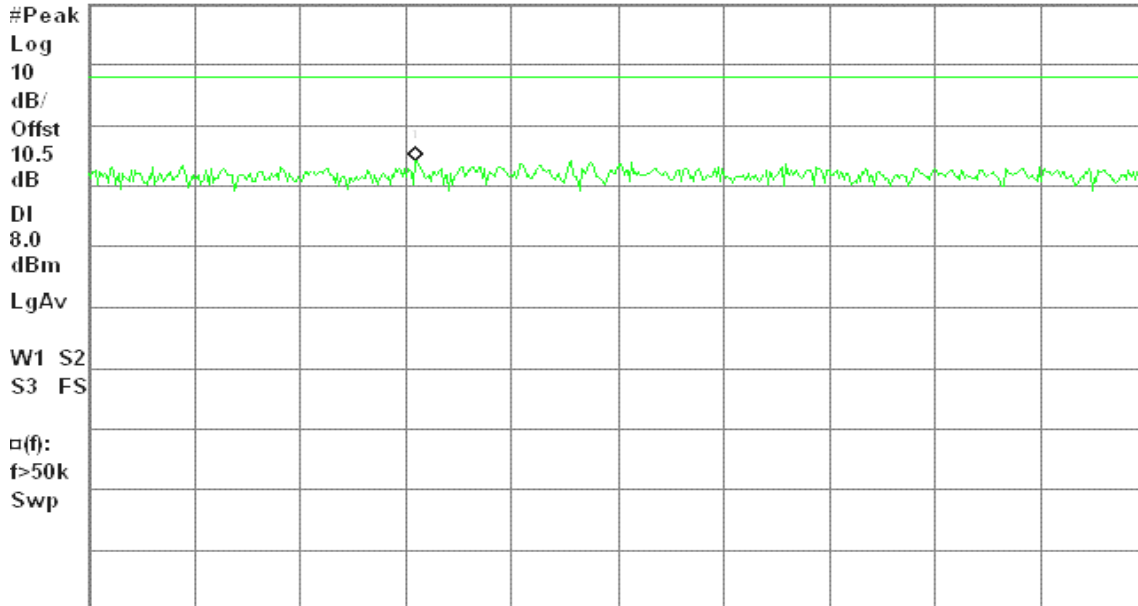
Peak Power Spectral Density, b Mode Low Ch.

Mkr1 2.410 142 7 GHz

Ref 20 dBm

Atten 20 dB

-5.76 dBm



Center 2.410 200 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)



PPSD (CH Mid)

Agilent 20:35:18 Dec 25, 2007

R T

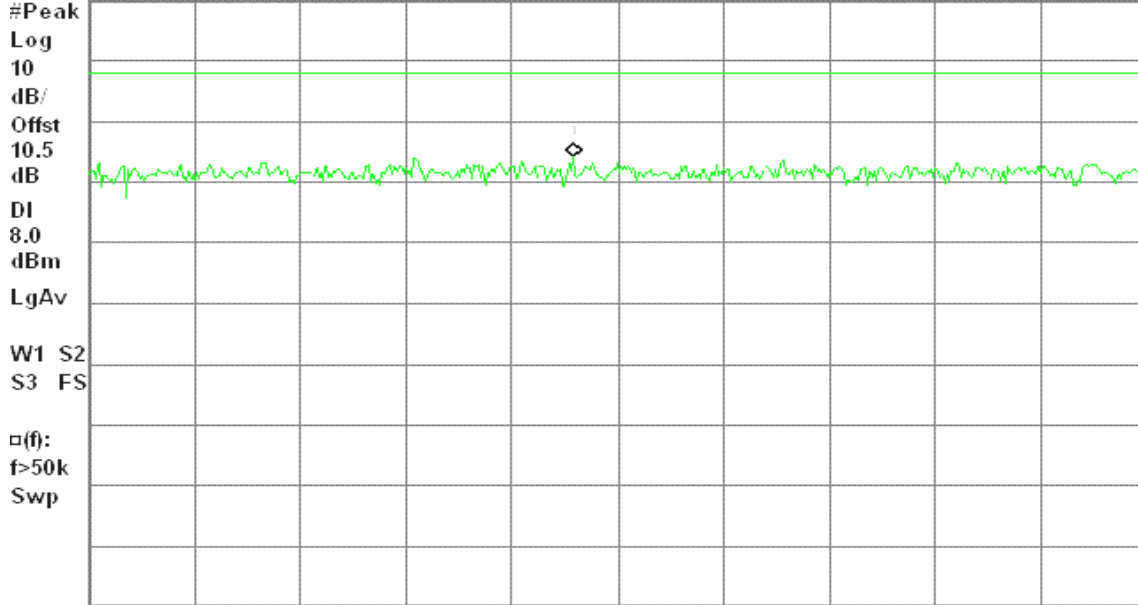
Peak Power Spectral Density, b Mode Mid Ch.

Mkr1 2.435 187 4 GHz

Ref 20 dBm

Atten 20 dB

-5.82 dBm



Center 2.435 200 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)

PPSD (CH High)

Agilent 20:40:45 Dec 25, 2007

R T

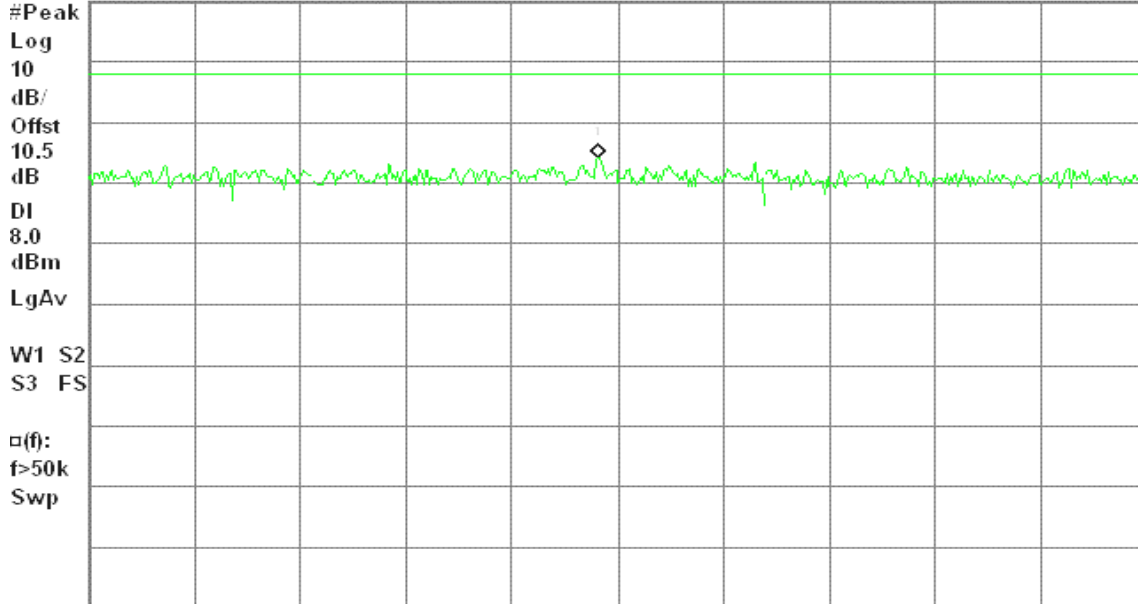
Peak Power Spectral Density, b Mode High Ch.

Mkr1 2.462 744 0 GHz

Ref 20 dBm

Atten 20 dB

-5.83 dBm



Center 2.462 750 0 GHz

Span 300 kHz

#Res BW 3 kHz

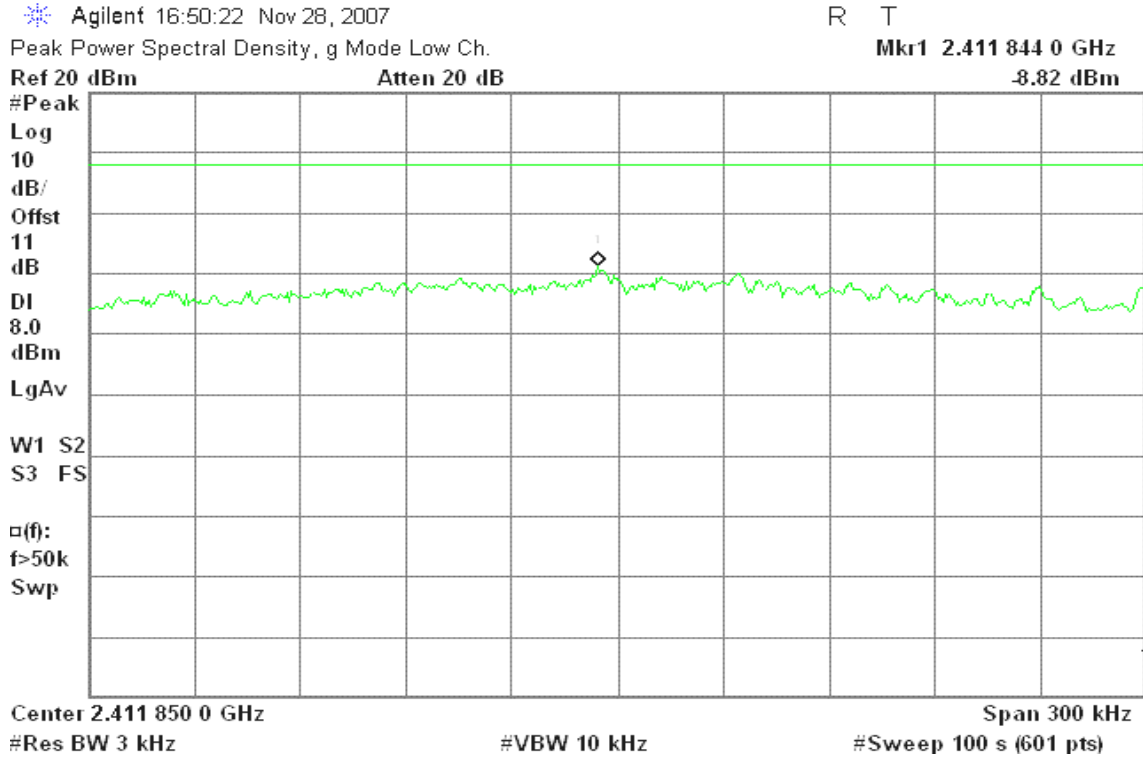
#VBW 10 kHz

#Sweep 100 s (601 pts)

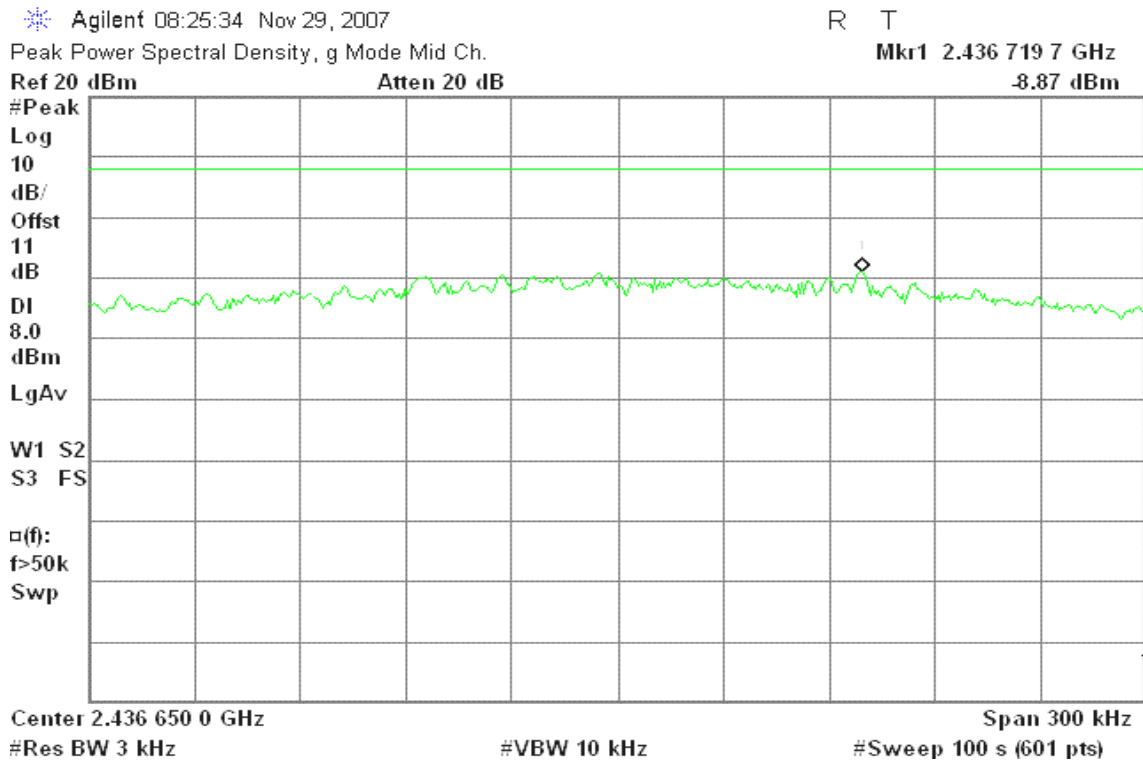


IEEE 802.11g mode / Chain 0

PPSD (CH Low)



PPSD (CH Mid)





PPSD (CH High)

Agilent 08:38:56 Nov 29, 2007

R T

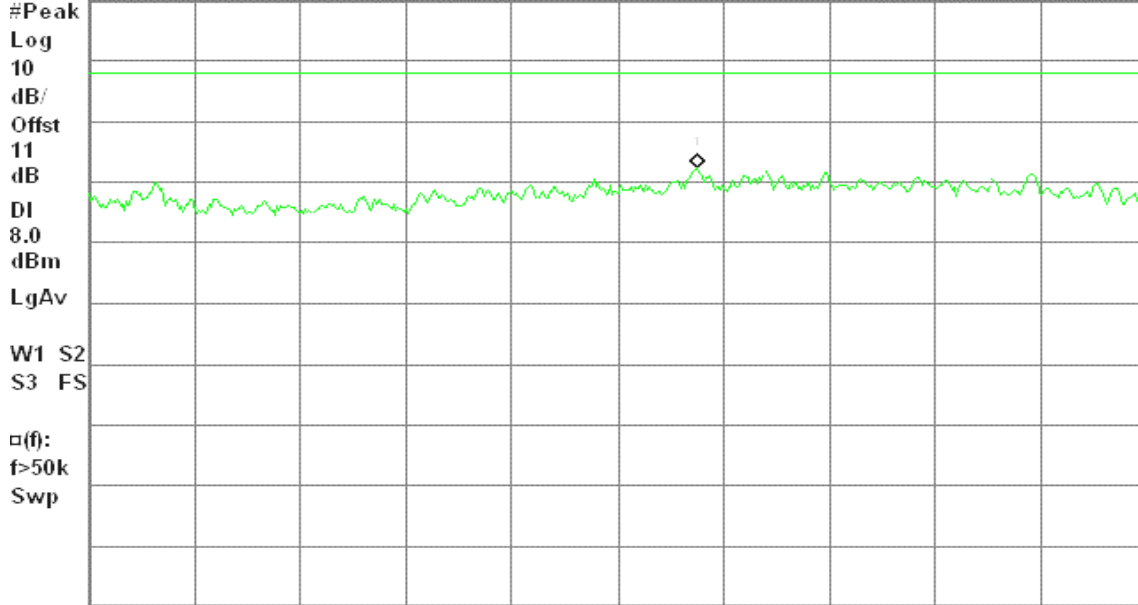
Peak Power Spectral Density, g Mode High Ch.

Mkr1 2.460 372 6 GHz

Ref 20 dBm

Atten 20 dB

-7.77 dBm



Center 2.460 350 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)

IEEE 802.11g mode / Chain 1

PPSD (CH Low)

Agilent 20:03:36 Dec 25, 2007

R T

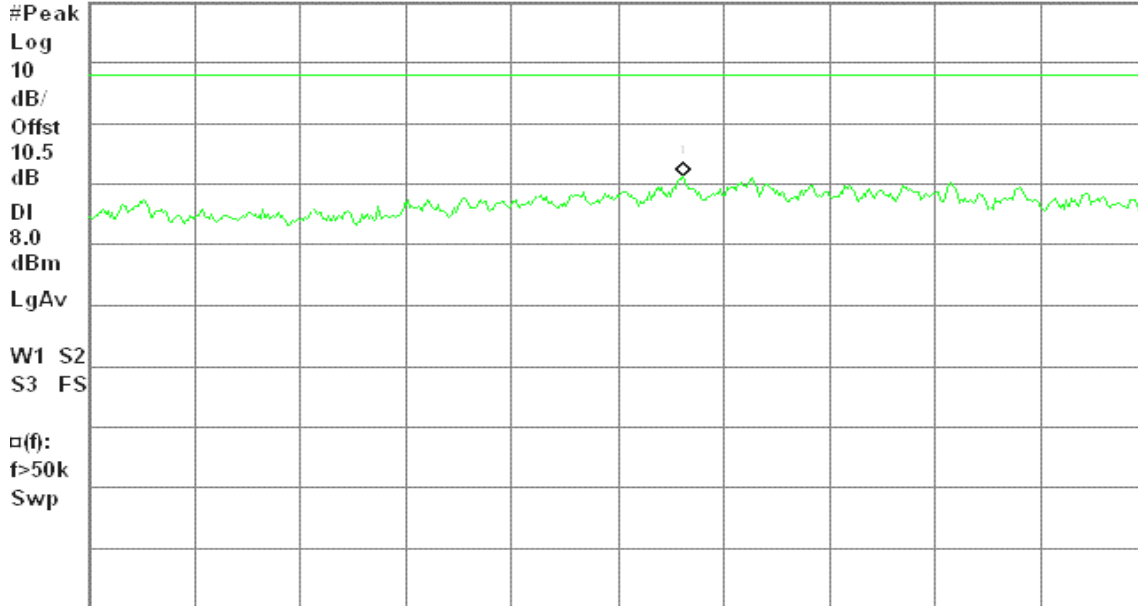
Peak Power Spectral Density, g Mode Low Ch.

Mkr1 2.410 368 6 GHz

Ref 20 dBm

Atten 20 dB

-8.84 dBm



Center 2.410 350 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)



PPSD (CH Mid)

Agilent 20:11:33 Dec 25, 2007

R T

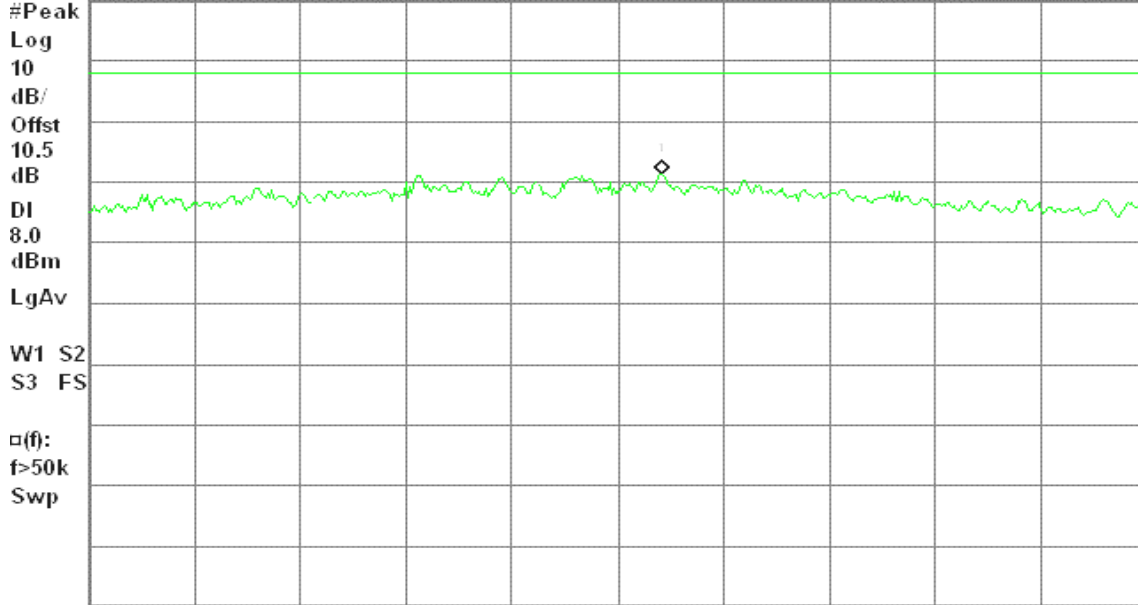
Peak Power Spectral Density, g Mode Mid Ch.

Mkr1 2.436 362 5 GHz

Ref 20 dBm

Atten 20 dB

-8.66 dBm



Center 2.436 350 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)

PPSD (CH High)

Agilent 20:21:31 Dec 25, 2007

R T

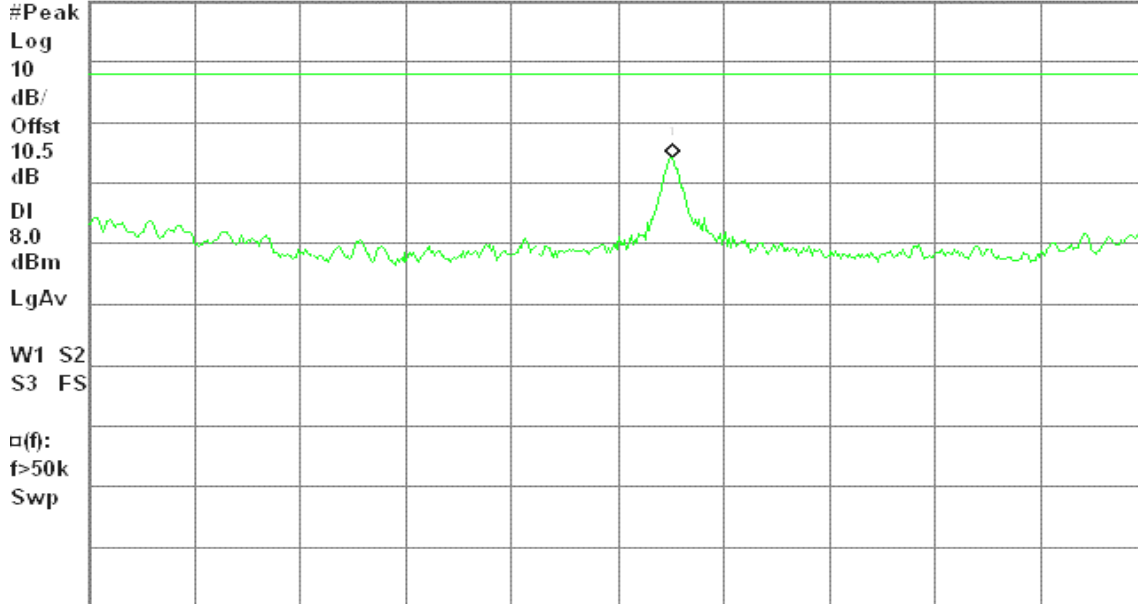
Peak Power Spectral Density, g Mode High Ch.

Mkr1 2.461 965 6 GHz

Ref 20 dBm

Atten 20 dB

-5.75 dBm



Center 2.461 950 0 GHz

Span 300 kHz

#Res BW 3 kHz

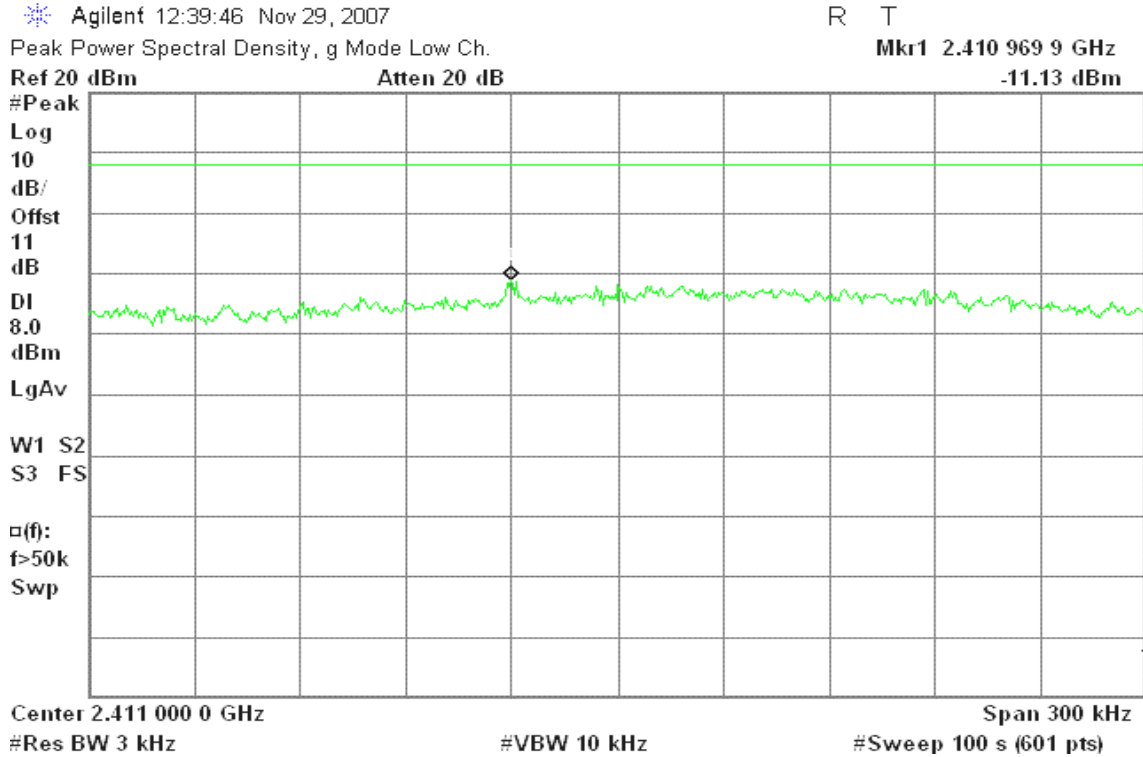
#VBW 10 kHz

#Sweep 100 s (601 pts)

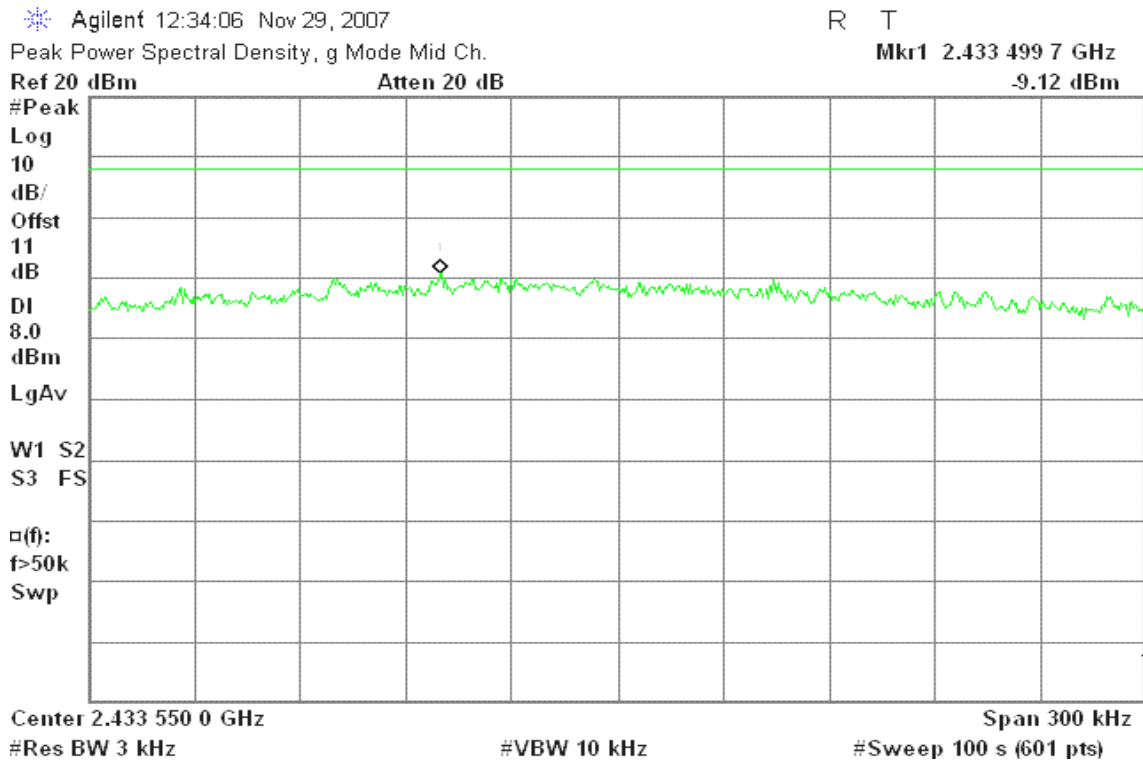


draft 802.11n Standard-20 MHz Channel mode / Chain 0

PPSD (CH Low)



PPSD (CH Mid)





PPSD (CH High)

Agilent 12:28:02 Nov 29, 2007

R T

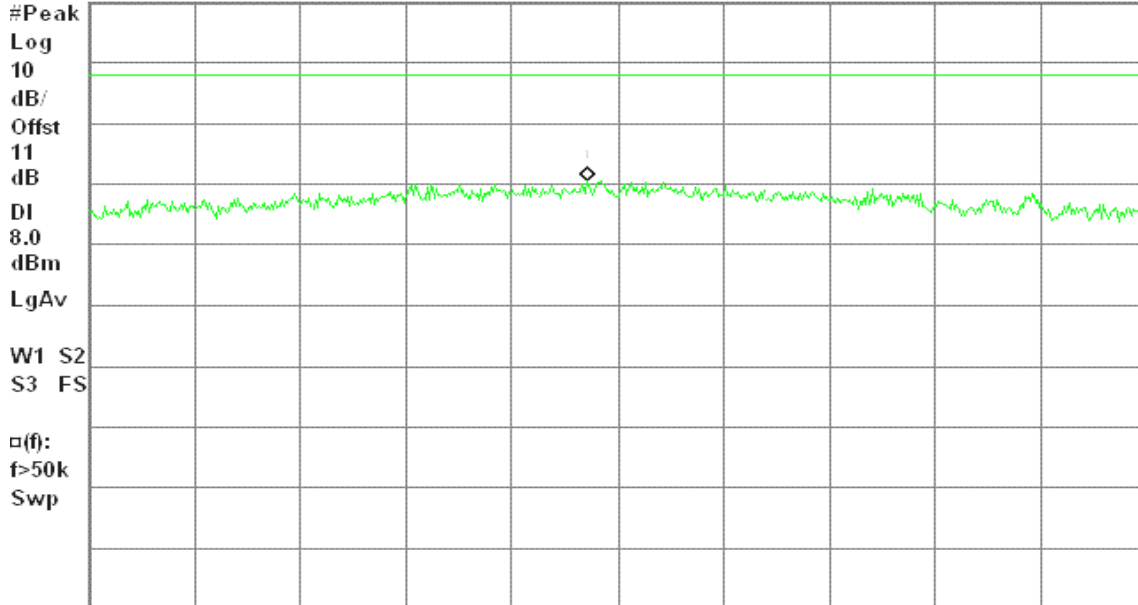
Peak Power Spectral Density, g Mode High Ch.

Mkr1 2.460 091 0 GHz

Ref 20 dBm

Atten 20 dB

-9.60 dBm



Center 2.460 100 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)

draft 802.11n Standard-20 MHz Channel mode / Chain 1

PPSD (CH Low)

Agilent 10:13:49 Nov 29, 2007

R T

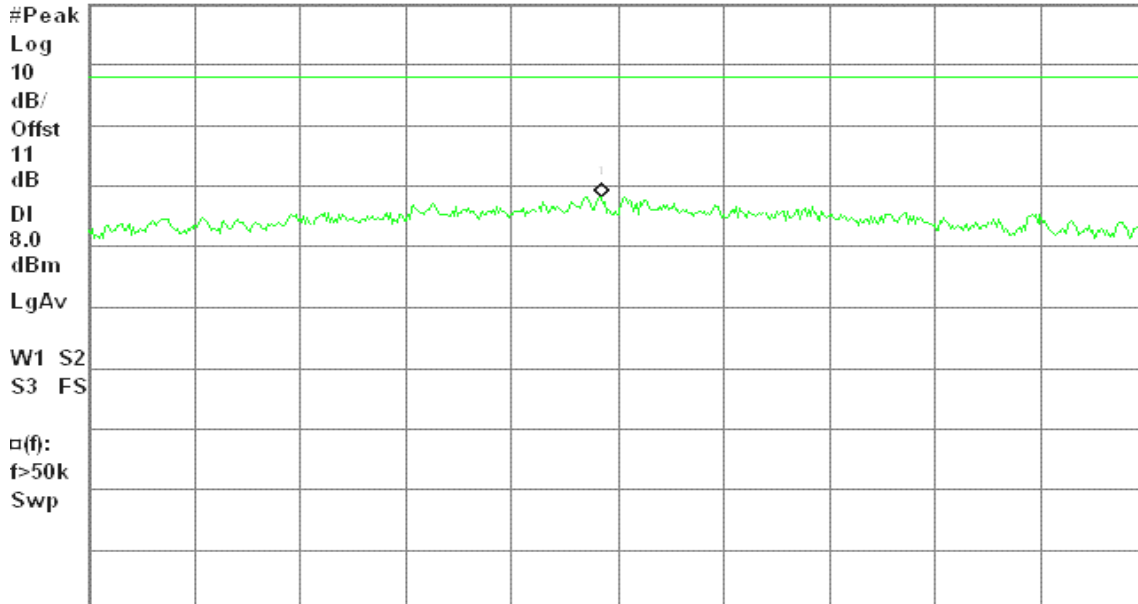
Peak Power Spectral Density, g Mode Low Ch.

Mkr1 2.408 845 0 GHz

Ref 20 dBm

Atten 20 dB

-11.78 dBm



Center 2.408 850 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)



PPSD (CH Mid)

Agilent 12:15:48 Nov 29, 2007

R T

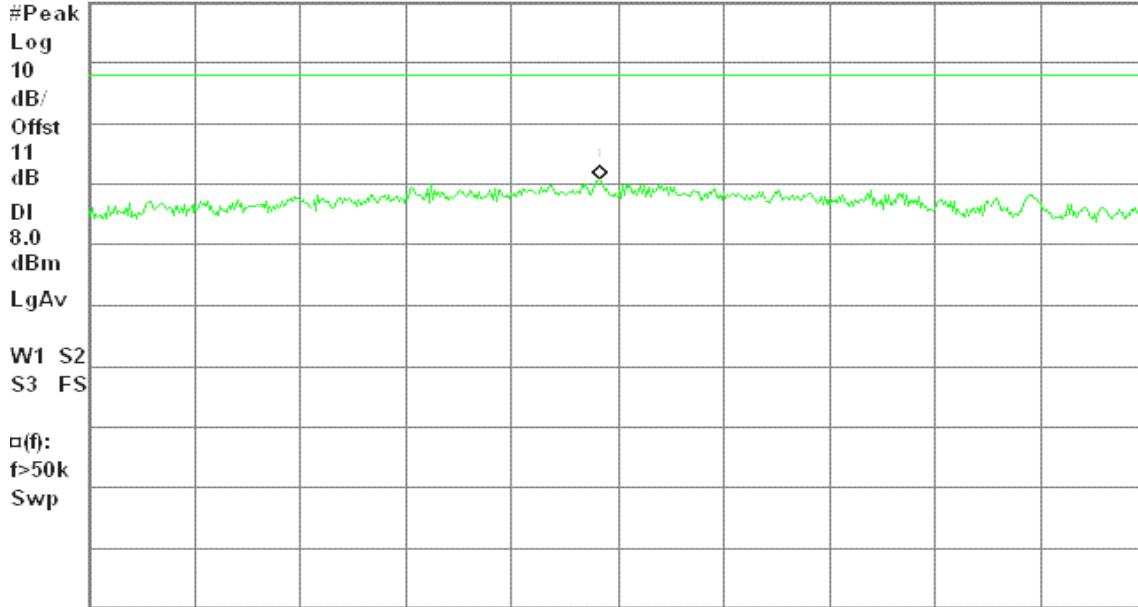
Peak Power Spectral Density, g Mode Mid Ch.

Mkr1 2.435 094 5 GHz

Ref 20 dBm

Atten 20 dB

-9.32 dBm



Center 2.435 100 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)

PPSD (CH High)

Agilent 12:22:16 Nov 29, 2007

R T

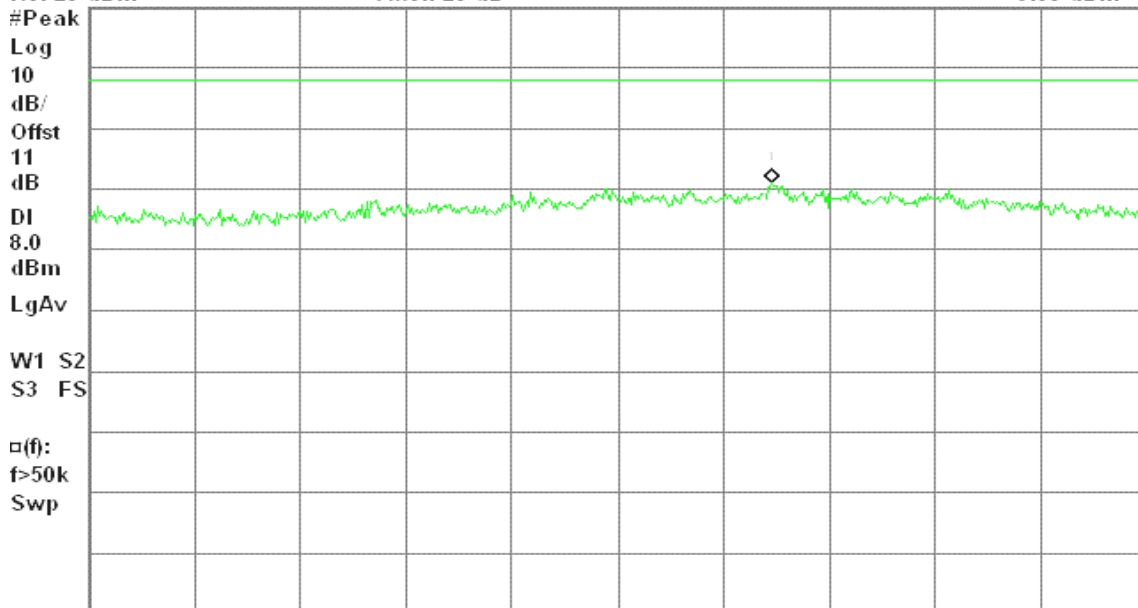
Peak Power Spectral Density, g Mode High Ch.

Mkr1 2.465 093 7 GHz

Ref 20 dBm

Atten 20 dB

-9.06 dBm



Center 2.465 050 0 GHz

Span 300 kHz

#Res BW 3 kHz

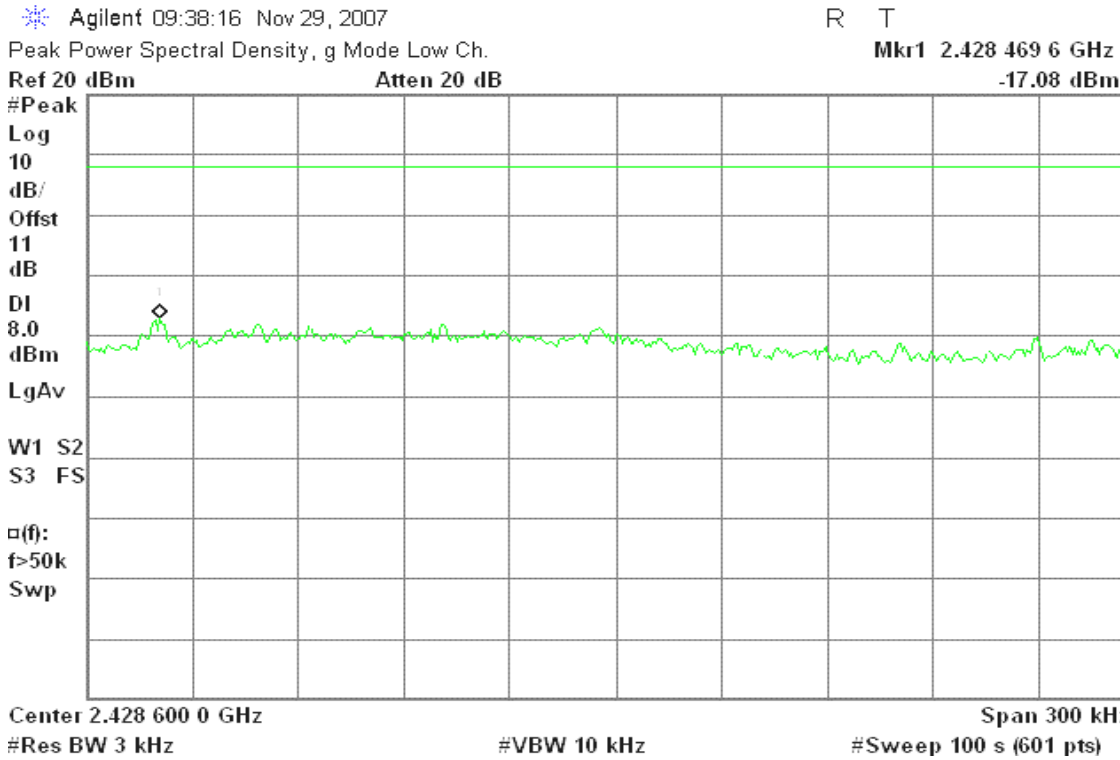
#VBW 10 kHz

#Sweep 100 s (601 pts)

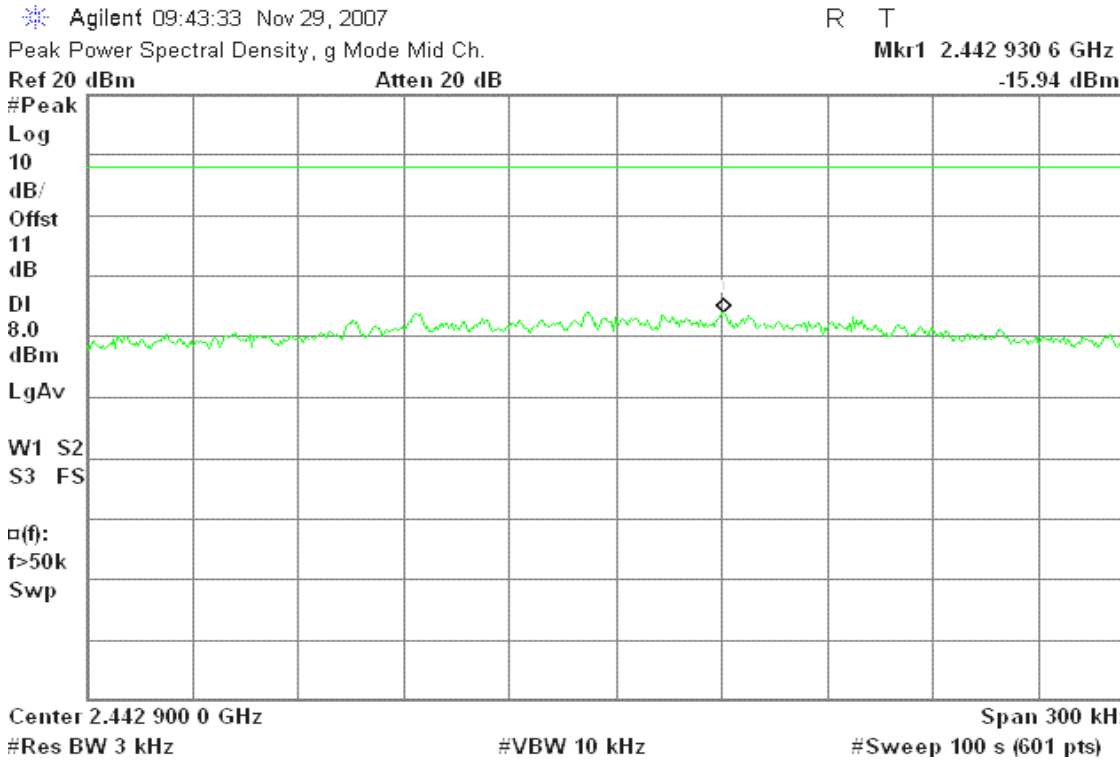


draft 802.11n Wide-40 MHz Channel mode / Chain 0

PPSD (CH Low)



PPSD (CH Mid)





PPSD (CH High)

Agilent 09:49:43 Nov 29, 2007

R T

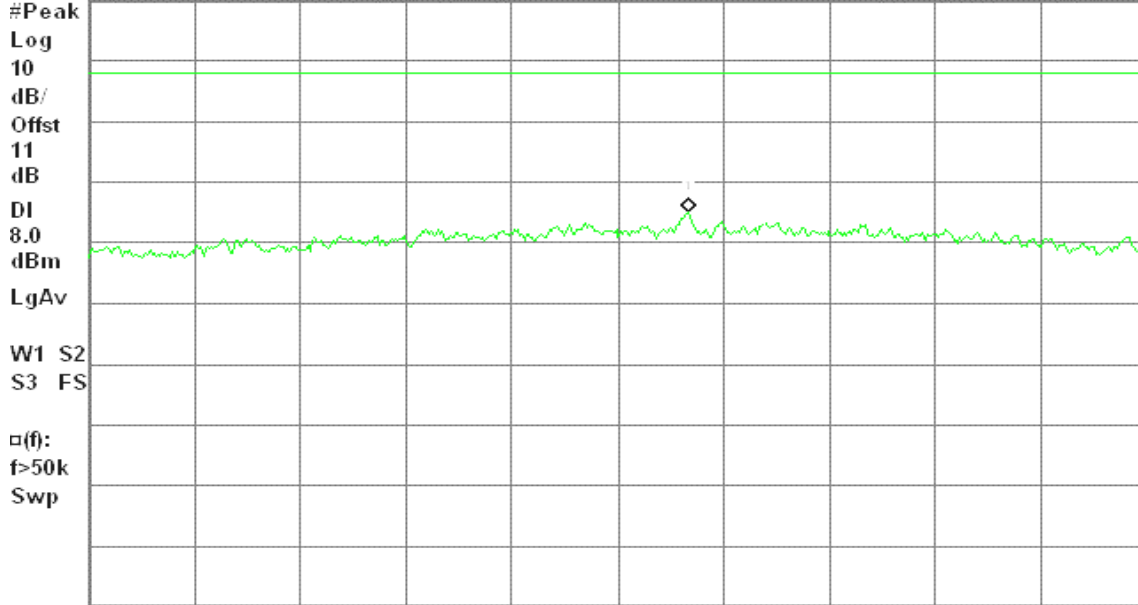
Peak Power Spectral Density, g Mode High Ch.

Mkr1 2.450 720 1 GHz

Ref 20 dBm

Atten 20 dB

-14.87 dBm



Center 2.450 700 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)

draft 802.11n Wide-40 MHz Channel mode / Chain 1

PPSD (CH Low)

Agilent 10:07:01 Nov 29, 2007

R T

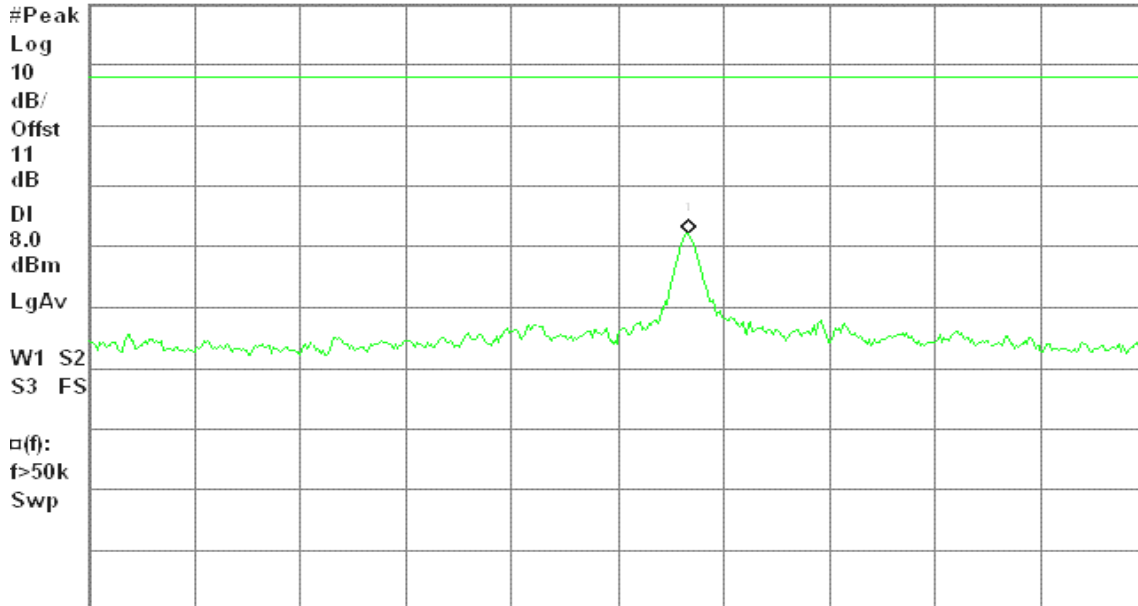
Peak Power Spectral Density, g Mode Low Ch.

Mkr1 2.421 970 1 GHz

Ref 20 dBm

Atten 20 dB

-17.81 dBm



Center 2.421 950 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)



PPSD (CH Mid)

Agilent 09:05:55 Nov 29, 2007

R T

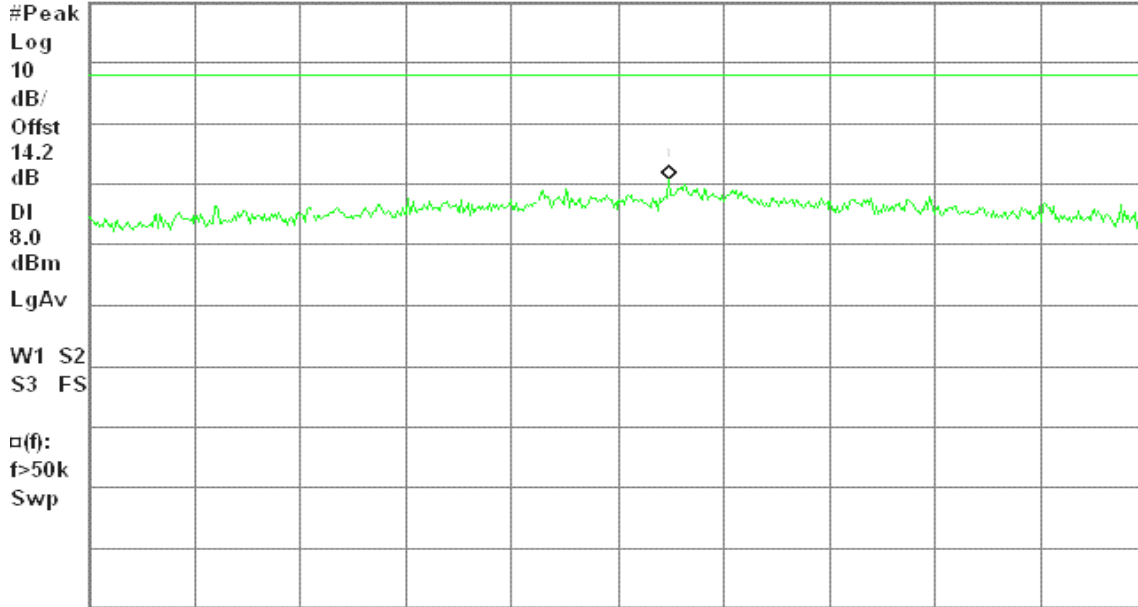
Peak Power Spectral Density, g Mode Mid Ch.

Mkr1 2.439 464 5 GHz

Ref 20 dBm

Atten 20 dB

-9.19 dBm



Center 2.439 450 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)

PPSD (CH High)

Agilent 09:11:18 Nov 29, 2007

R T

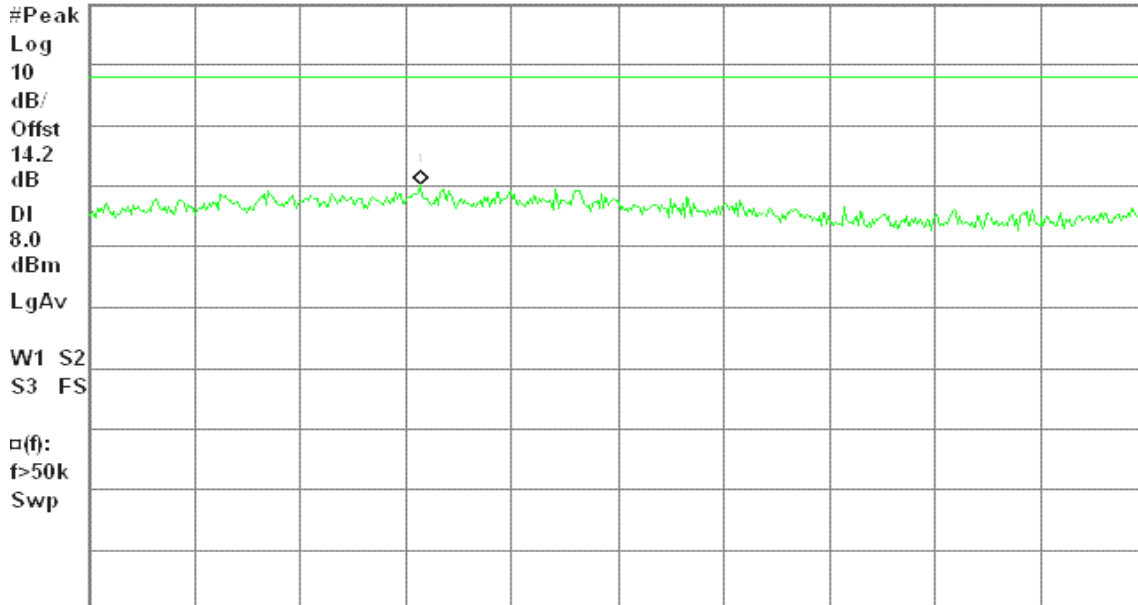
Peak Power Spectral Density, g Mode High Ch.

Mkr1 2.452 594 4 GHz

Ref 20 dBm

Atten 20 dB

-9.84 dBm



Center 2.452 650 0 GHz

Span 300 kHz

#Res BW 3 kHz

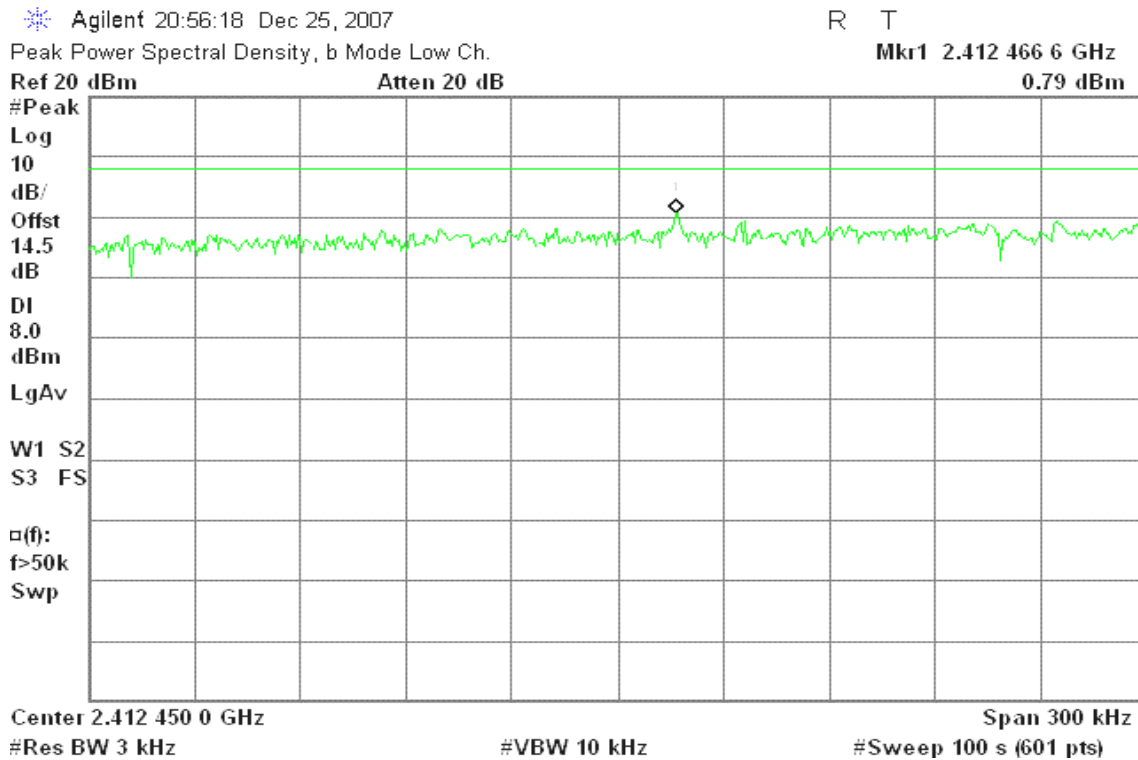
#VBW 10 kHz

#Sweep 100 s (601 pts)

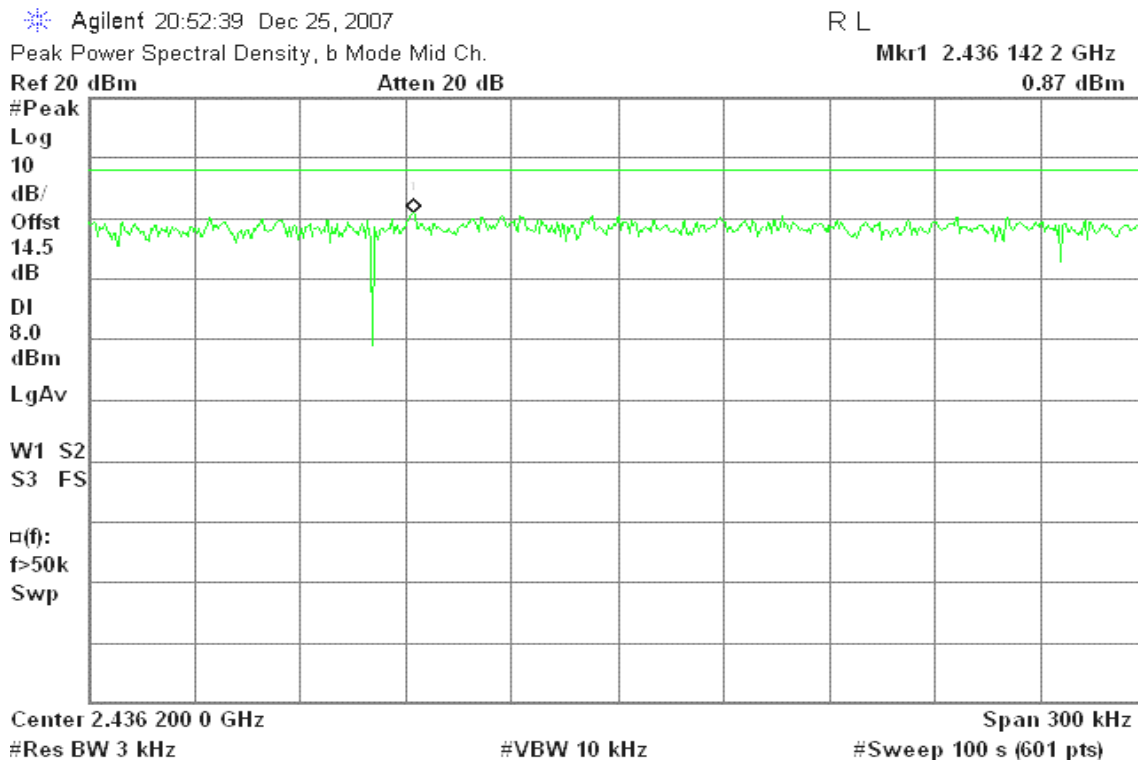


IEEE 802.11b mode with combiner

PPSD (CH Low)



PPSD (CH Mid)





PPSD (CH High)

Agilent 20:45:49 Dec 25, 2007

R T

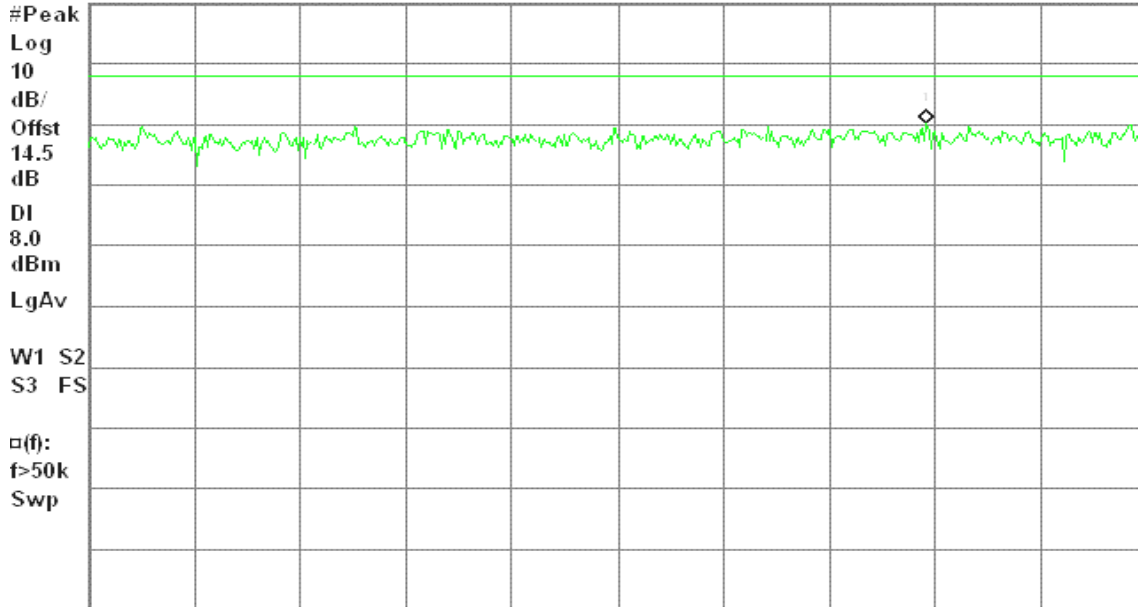
Peak Power Spectral Density, b Mode High Ch.

Mkr1 2.461 188 1 GHz

Ref 20 dBm

Atten 20 dB

0.07 dBm



Center 2.461 100 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)

IEEE 802.11g mode with combiner

PPSD (CH Low)

Agilent 21:00:06 Dec 25, 2007

R T

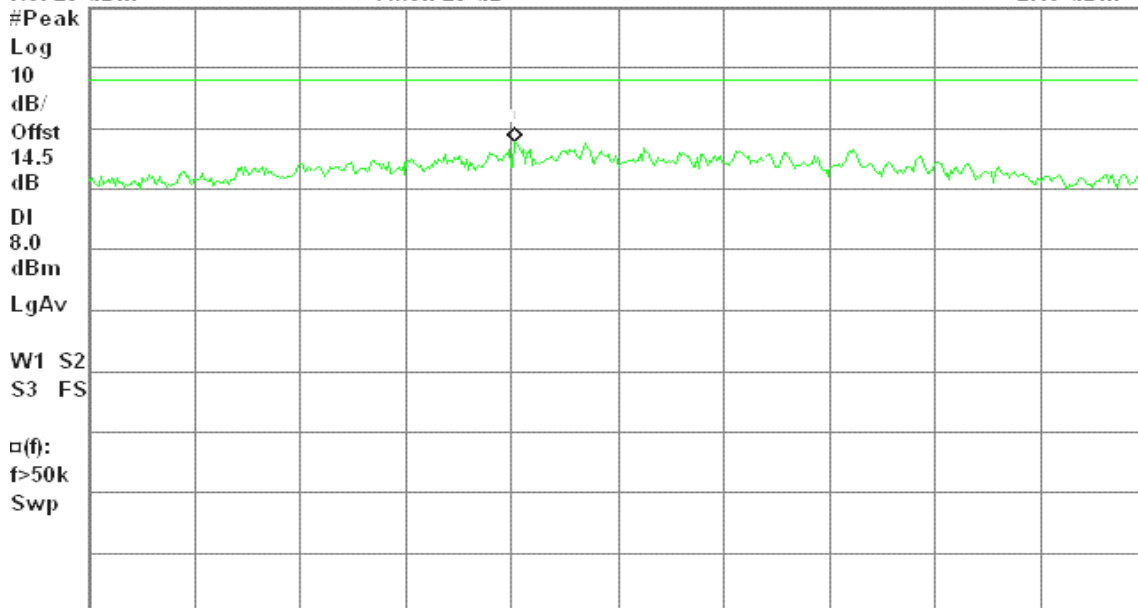
Peak Power Spectral Density, g Mode Low Ch.

Mkr1 2.410 370 9 GHz

Ref 20 dBm

Atten 20 dB

-2.19 dBm



Center 2.410 400 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)



PPSD (CH Mid)

Agilent 21:03:19 Dec 25, 2007

R T

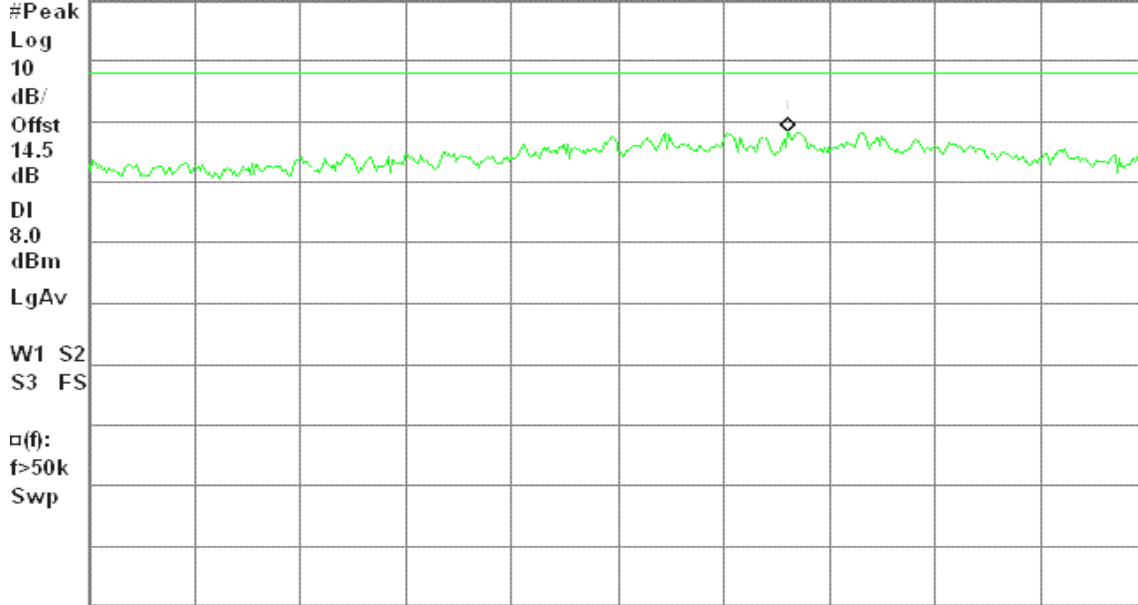
Peak Power Spectral Density, g Mode Mid Ch.

Mkr1 2.437 598 1 GHz

Ref 20 dBm

Atten 20 dB

-1.77 dBm



Center 2.437 550 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)

PPSD (CH High)

Agilent 21:06:41 Dec 25, 2007

R L

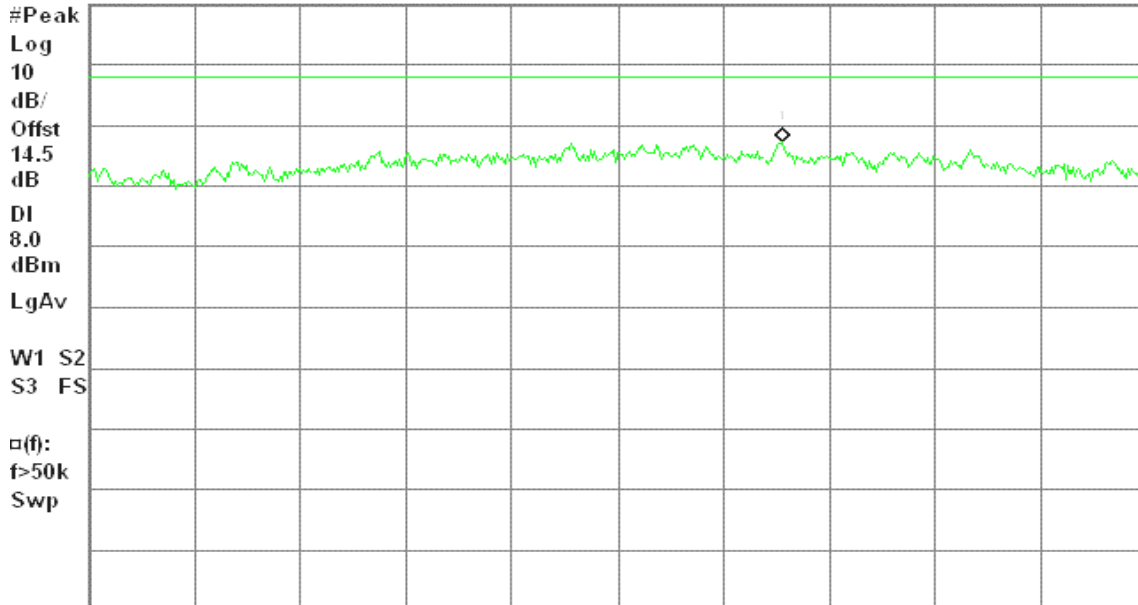
Peak Power Spectral Density, g Mode High Ch.

Mkr1 2.459 496 8 GHz

Ref 20 dBm

Atten 20 dB

-2.72 dBm



Center 2.459 450 0 GHz

Span 300 kHz

#Res BW 3 kHz

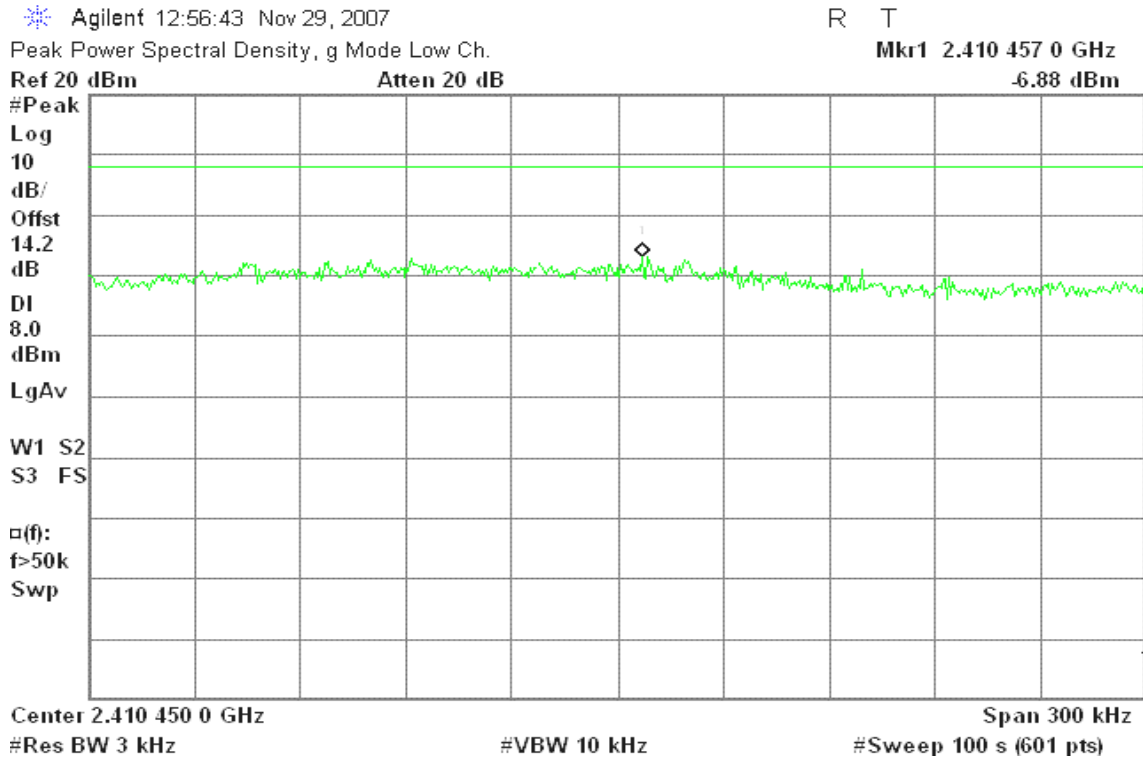
#VBW 10 kHz

#Sweep 100 s (601 pts)

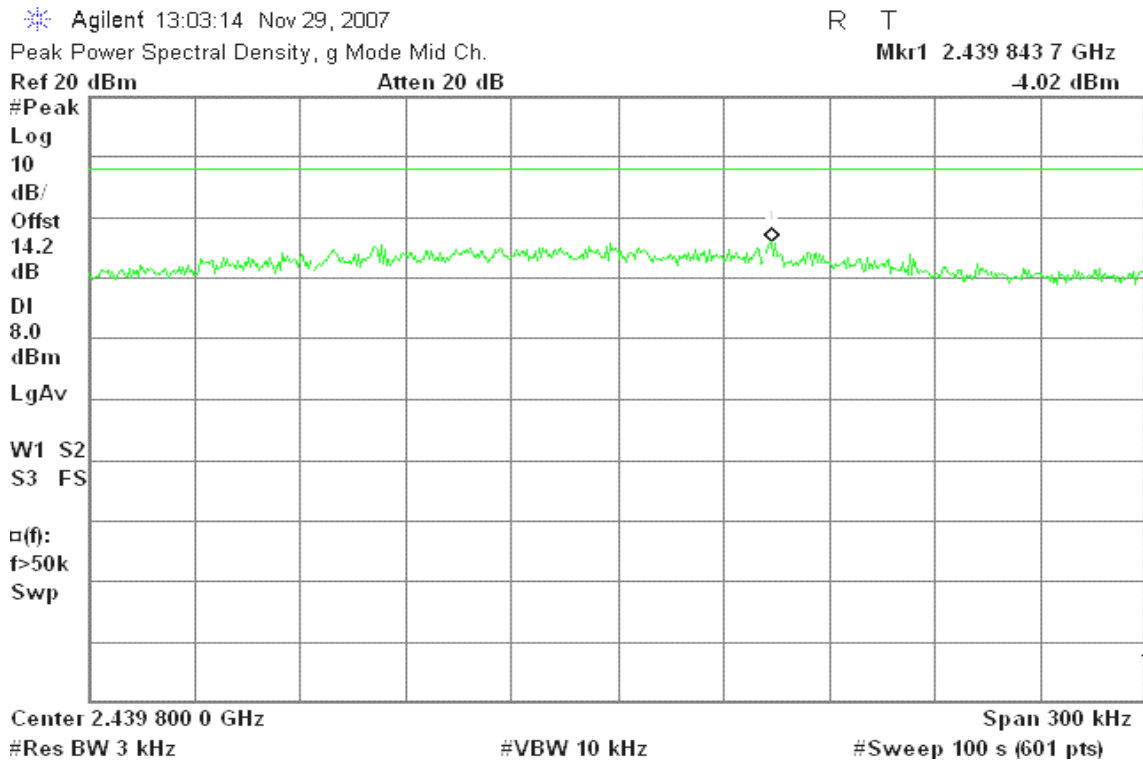


draft 802.11n Standard-20 MHz Channel mode with combiner

PPSD (CH Low)



PPSD (CH Mid)





PPSD (CH High)

Agilent 13:10:36 Nov 29, 2007

R T

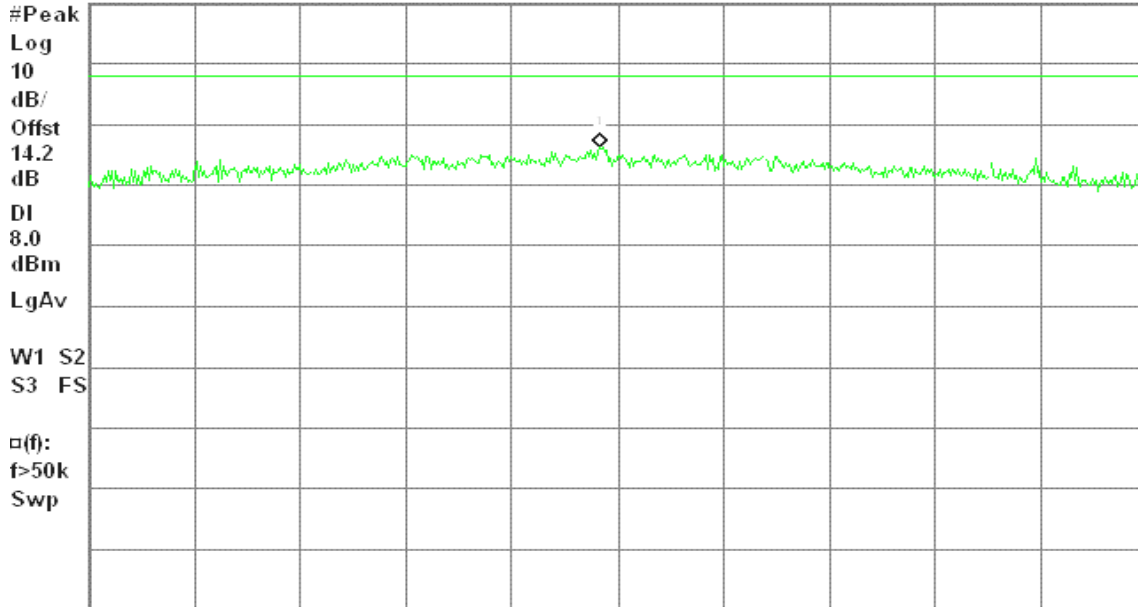
Peak Power Spectral Density, g Mode High Ch.

Mkr1 2.463 844 5 GHz

Ref 20 dBm

Atten 20 dB

-3.74 dBm



Center 2.463 850 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)

draft 802.11n Wide-40 MHz Channel mode with combiner

PPSD (CH Low)

Agilent 09:00:12 Nov 29, 2007

R T

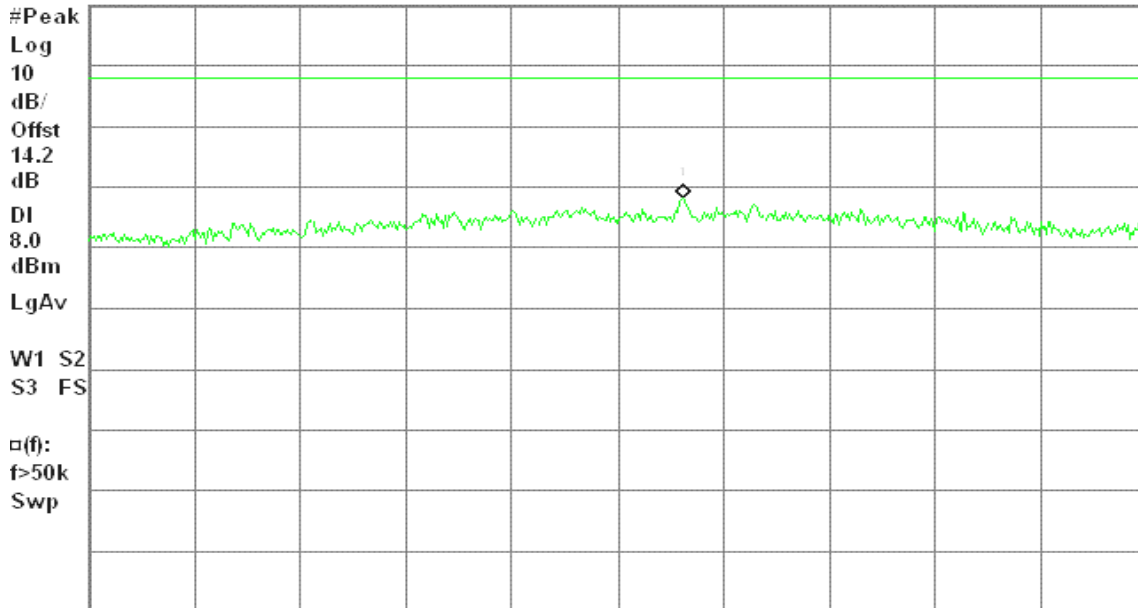
Peak Power Spectral Density, g Mode Low Ch.

Mkr1 2.433 218 6 GHz

Ref 20 dBm

Atten 20 dB

-11.82 dBm



Center 2.433 200 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)



PPSD (CH Mid)

Agilent 09:05:55 Nov 29, 2007

R T

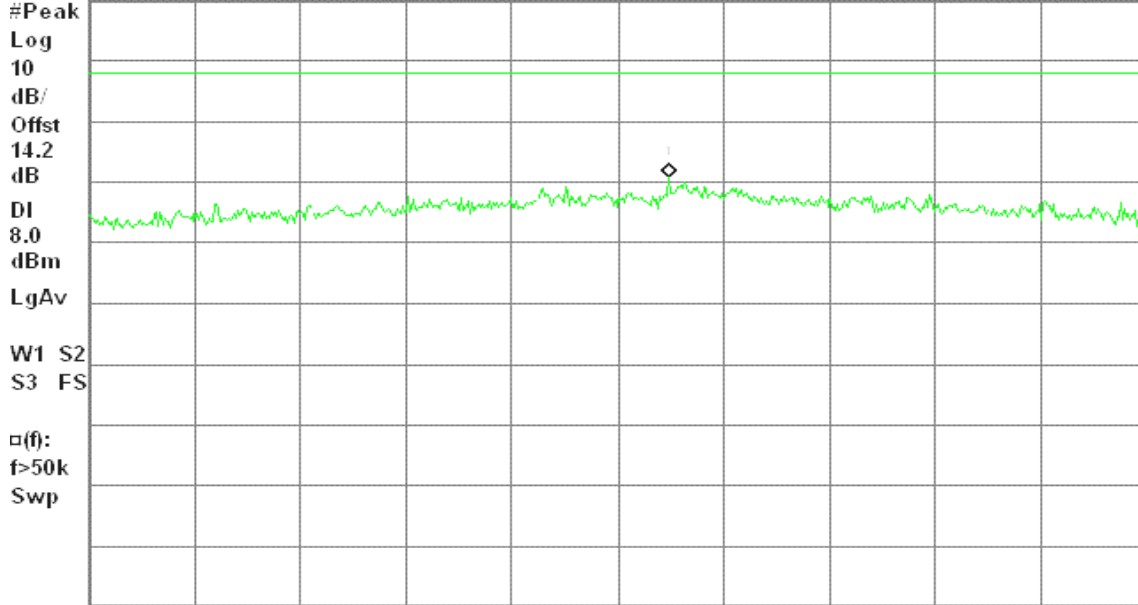
Peak Power Spectral Density, g Mode Mid Ch.

Mkr1 2.449 464 5 GHz

Ref 20 dBm

Atten 20 dB

-9.19 dBm



Center 2.449 450 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)

PPSD (CH High)

Agilent 09:11:18 Nov 29, 2007

R T

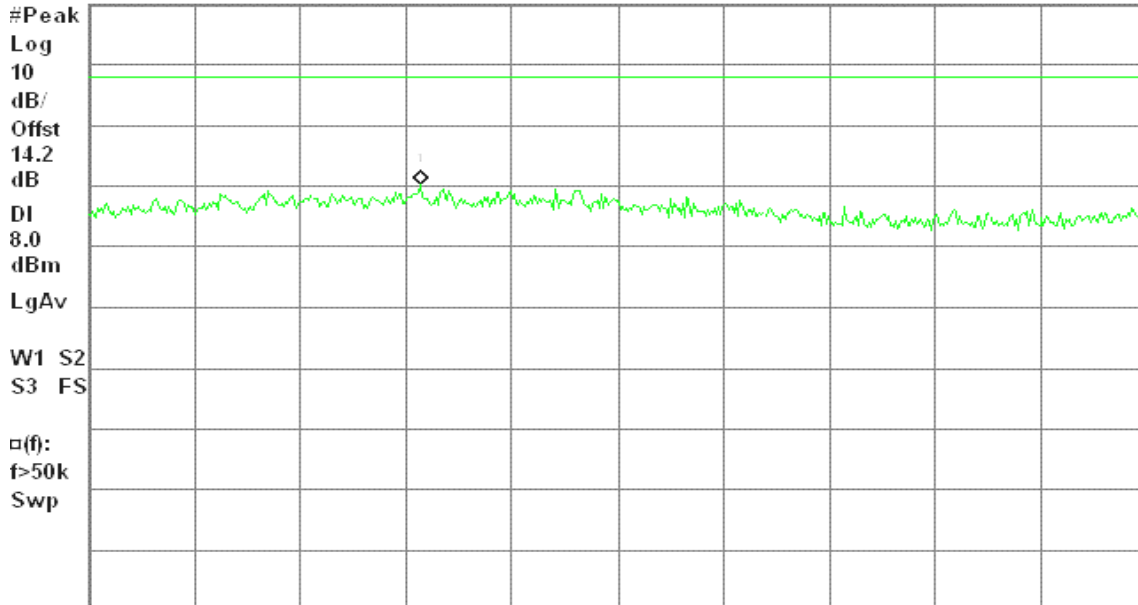
Peak Power Spectral Density, g Mode High Ch.

Mkr1 2.442 594 4 GHz

Ref 20 dBm

Atten 20 dB

-9.84 dBm



Center 2.442 650 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)

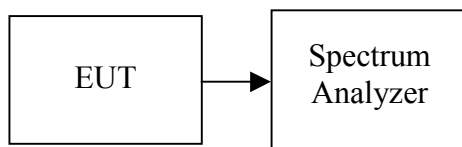
7.6 SPURIOUS EMISSIONS

7.6.1 Conducted Measurement

LIMIT

According to §15.247(d), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in 15.209(a) (see Section 15.205(c)).

Test Configuration



TEST PROCEDURE

Conducted RF measurements of the transmitter output were made to confirm that the EUT antenna port conducted emissions meet the specified limit and to identify any spurious signals that require further investigation or measurements on the radiated emissions site.

The transmitter output is connected to the spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 100 kHz.

Measurements are made over the 13GHz to 26GHz range with the transmitter set to the lowest, middle, and highest channels.

TEST RESULTS

No non-compliance noted.



Test Plot

IEEE 802.11b mode / Chain 0

CH Low

Agilent 16:26:36 Nov 28, 2007

R T

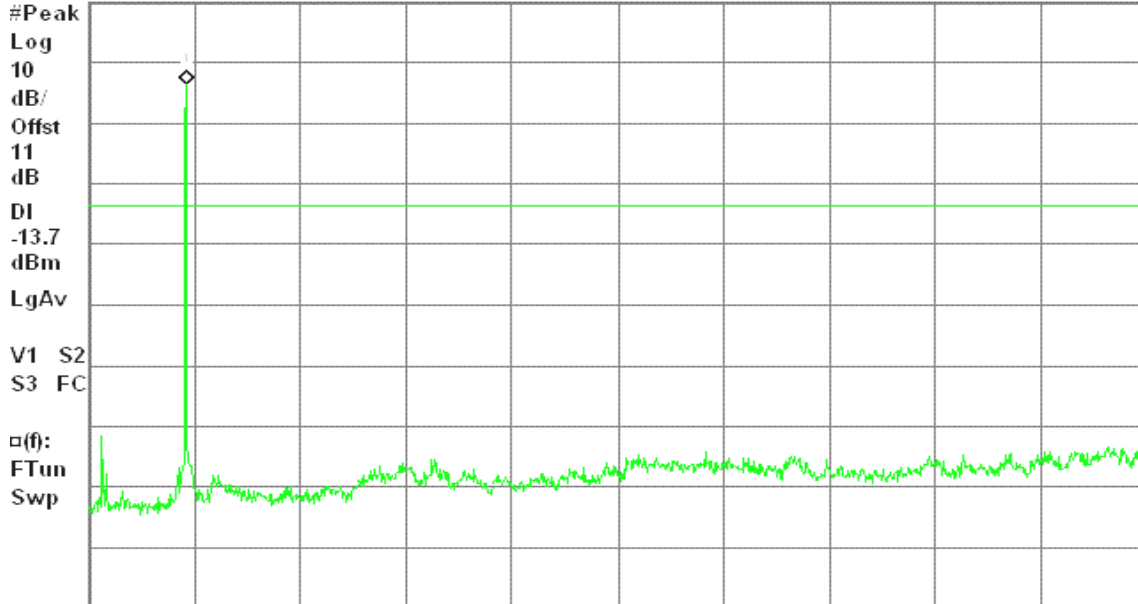
Spurious, b Mode Low Ch.

Mkr1 2.42 GHz

Ref 20 dBm

Atten 20 dB

6.30 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

CH Mid

Agilent 16:32:22 Nov 28, 2007

R T

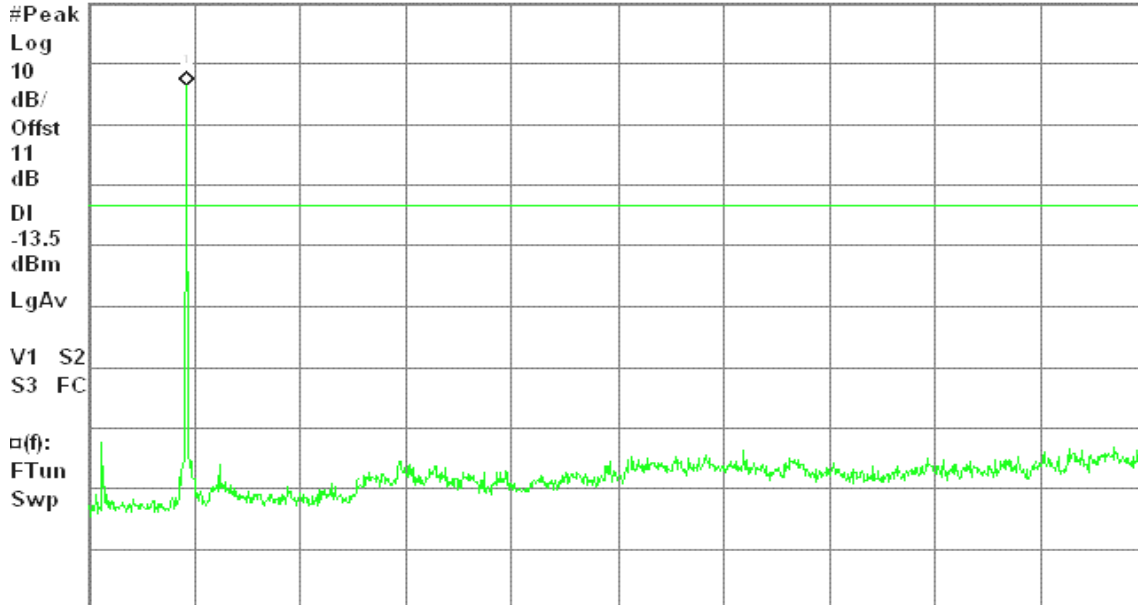
Spurious, b Mode Mid Ch.

Mkr1 2.45 GHz

Ref 20 dBm

Atten 20 dB

6.53 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



CH High

Agilent 16:37:10 Nov 28, 2007

R T

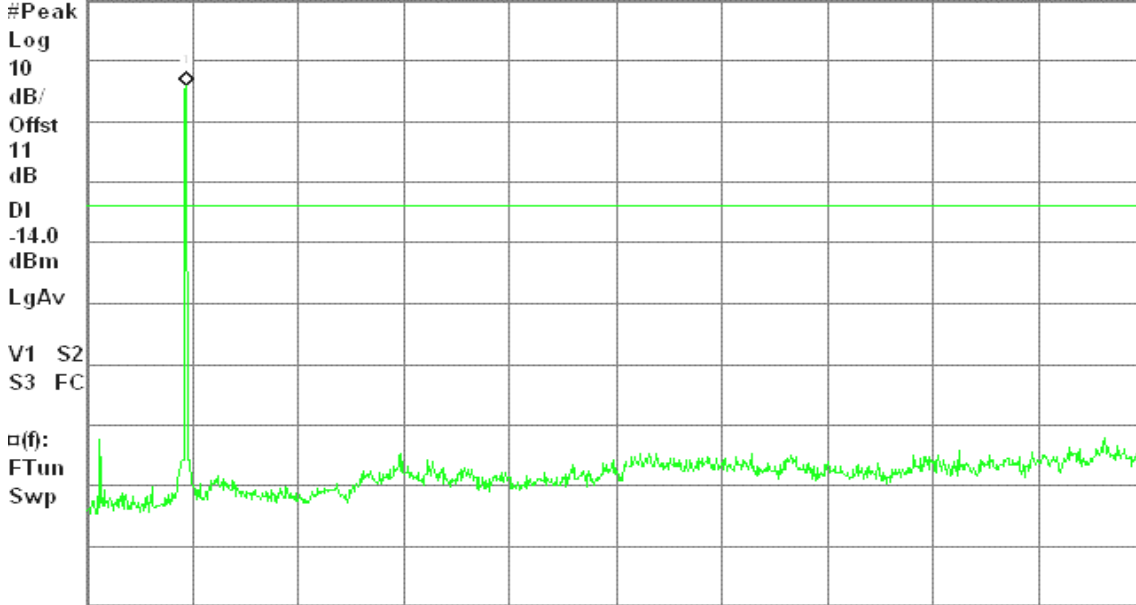
Spurious, b Mode High Ch.

Mkr1 2.47 GHz

Ref 20 dBm

Atten 20 dB

6.01 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

IEEE 802.11b mode / Chain 1

CH Low

Agilent 20:31:12 Dec 25, 2007

R T

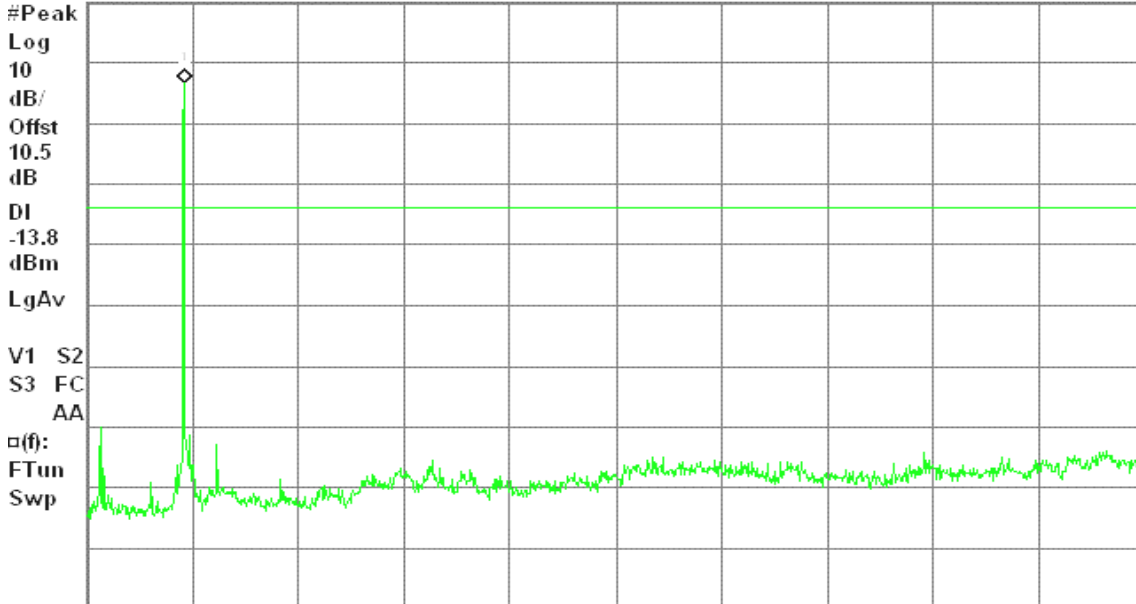
Spurious, b Mode Low Ch.

Mkr1 2.42 GHz

Ref 20 dBm

Atten 20 dB

6.71 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



CH Mid

Agilent 20:36:07 Dec 25, 2007

R T

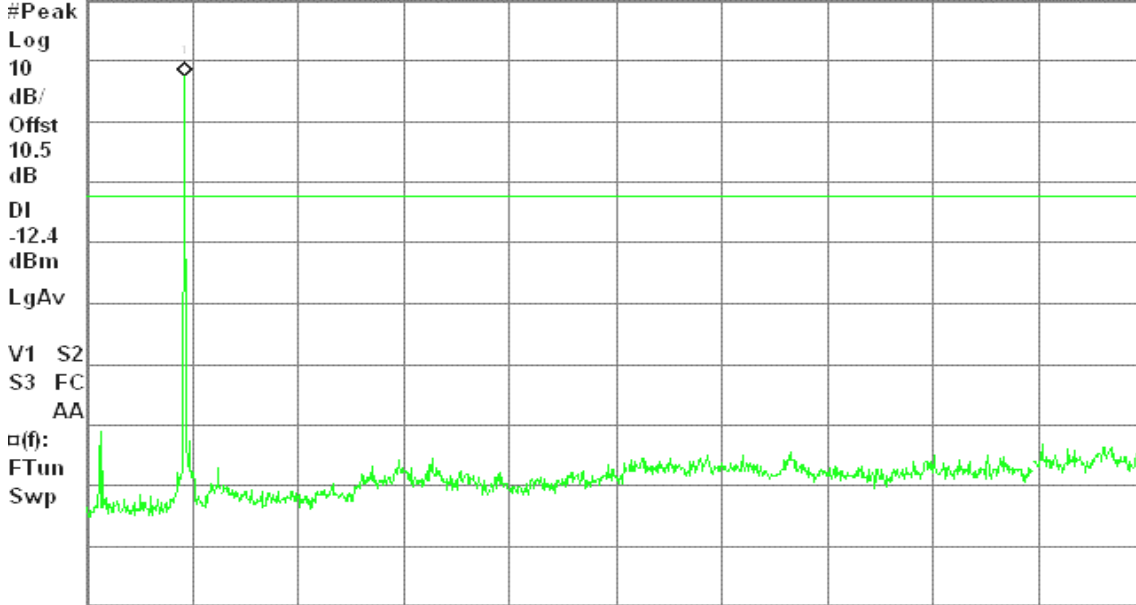
Spurious, b Mode Mid Ch.

Mkr1 2.45 GHz

Ref 20 dBm

Atten 20 dB

7.56 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

CH High

Agilent 20:41:37 Dec 25, 2007

R T

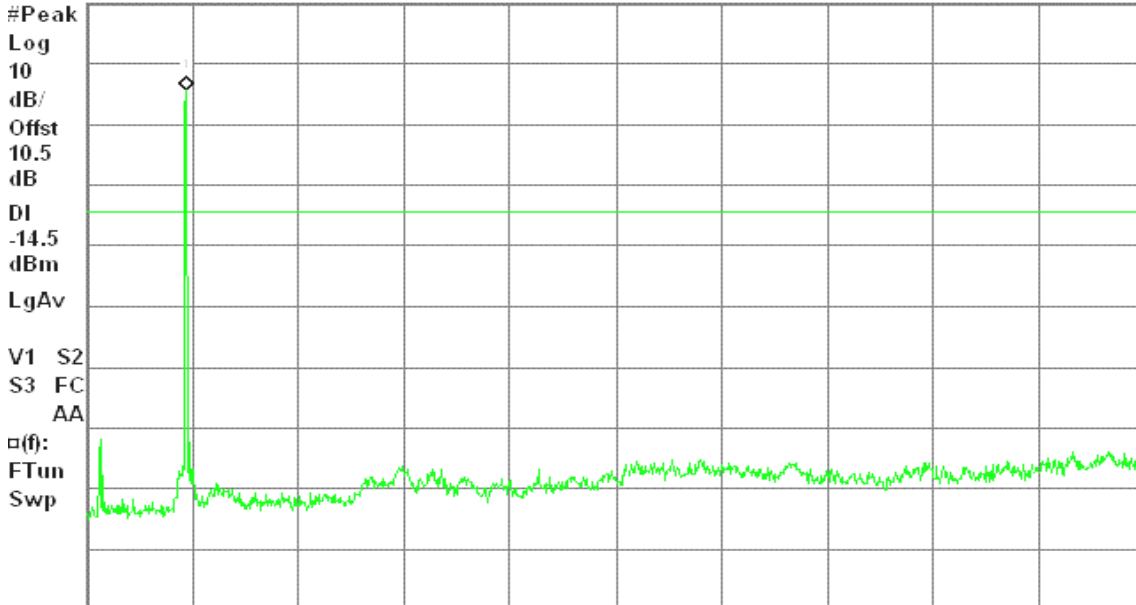
Spurious, b Mode High Ch.

Mkr1 2.47 GHz

Ref 20 dBm

Atten 20 dB

5.52 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



IEEE 802.11g mode / Chain 0

CH Low

Agilent 16:51:03 Nov 28, 2007

R T

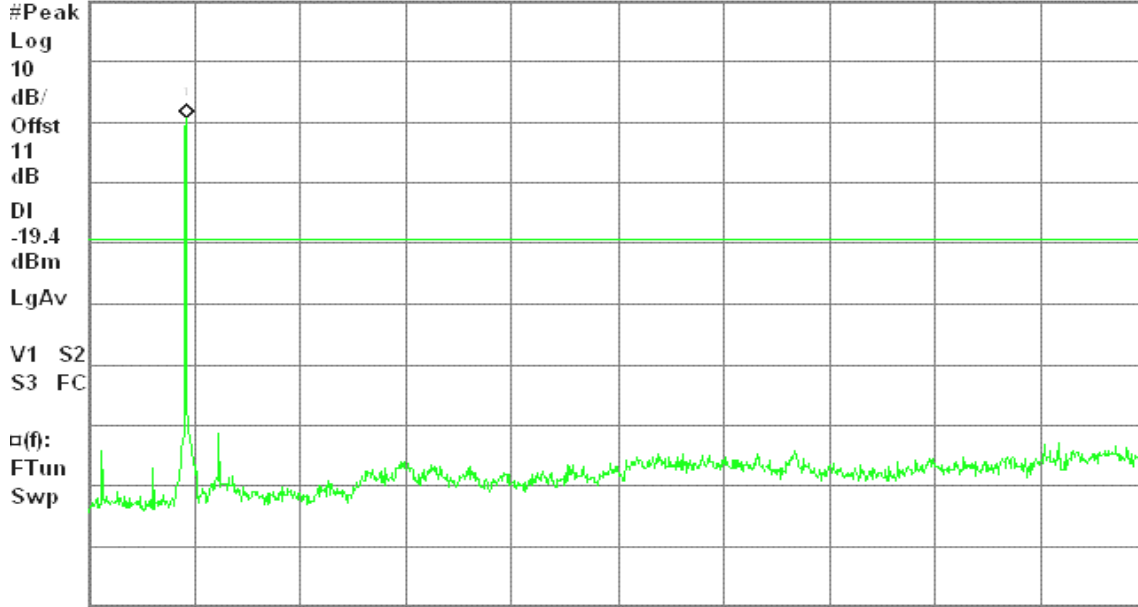
Spurious, g Mode Low Ch.

Mkr1 2.42 GHz

Ref 20 dBm

Atten 20 dB

0.60 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

CH Mid

Agilent 08:26:14 Nov 29, 2007

R T

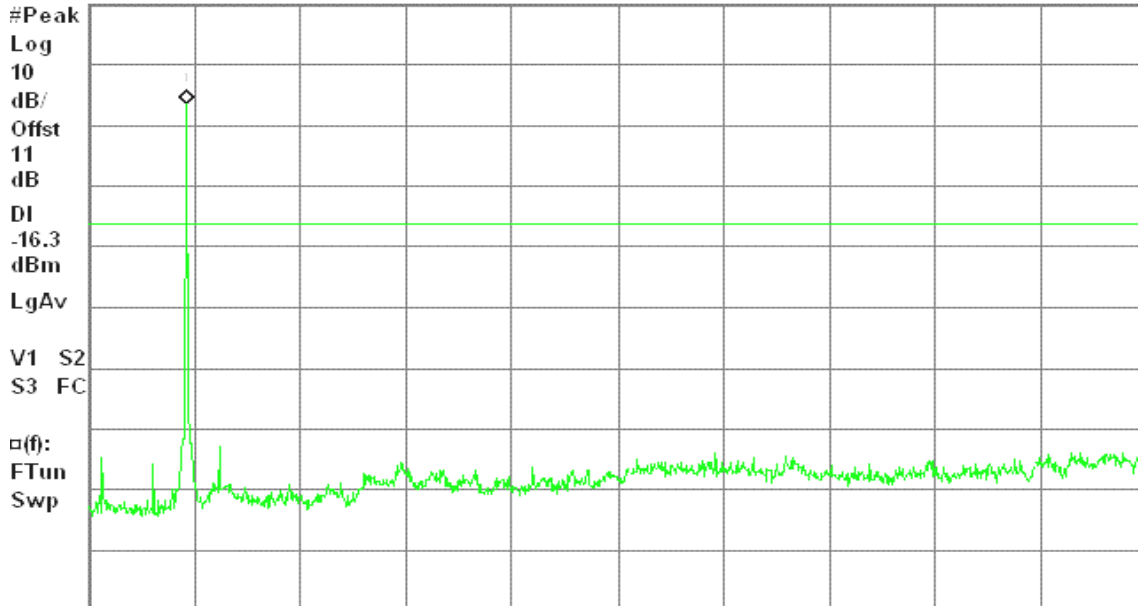
Spurious, g Mode Mid Ch.

Mkr1 2.45 GHz

Ref 20 dBm

Atten 20 dB

3.67 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



CH High

Agilent 08:42:22 Nov 29, 2007

R T

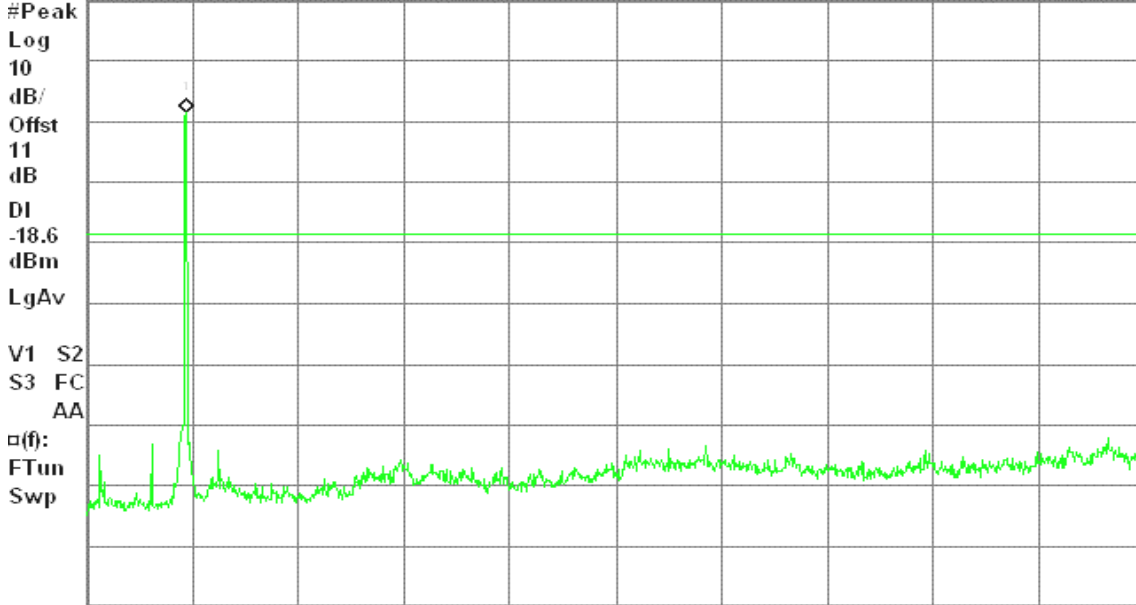
Spurious, g Mode High Ch.

Mkr1 2.47 GHz

Ref 20 dBm

Atten 20 dB

1.43 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

IEEE 802.11g mode / Chain 1

CH Low

Agilent 20:05:20 Dec 25, 2007

R T

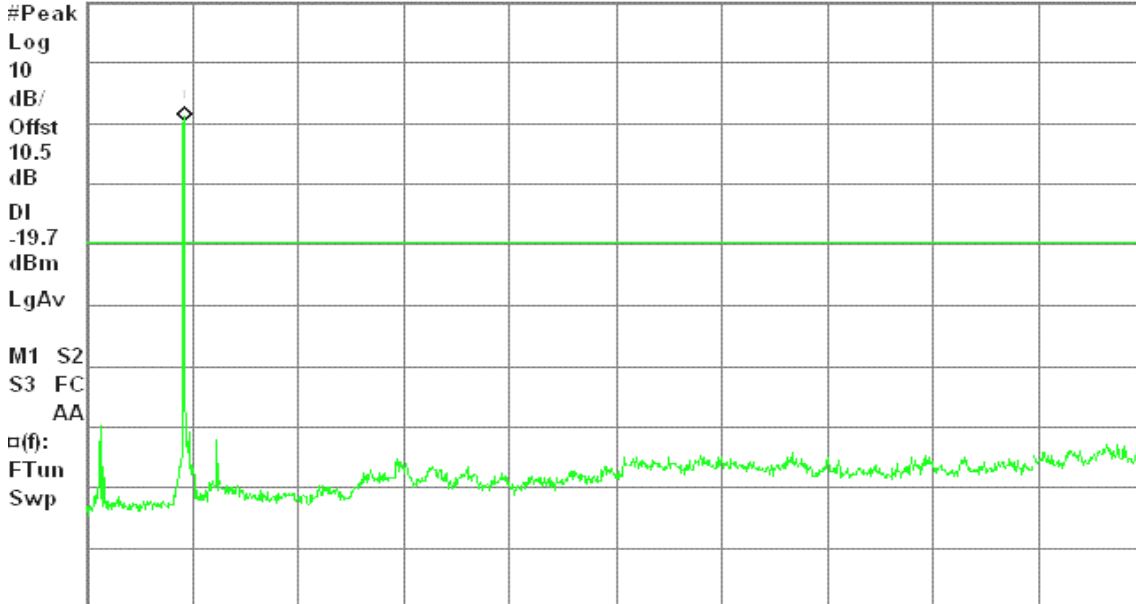
Spurious, g Mode Low Ch.

Mkr1 2.42 GHz

Ref 20 dBm

Atten 20 dB

0.34 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



CH Mid

Agilent 20:12:46 Dec 25, 2007

R T

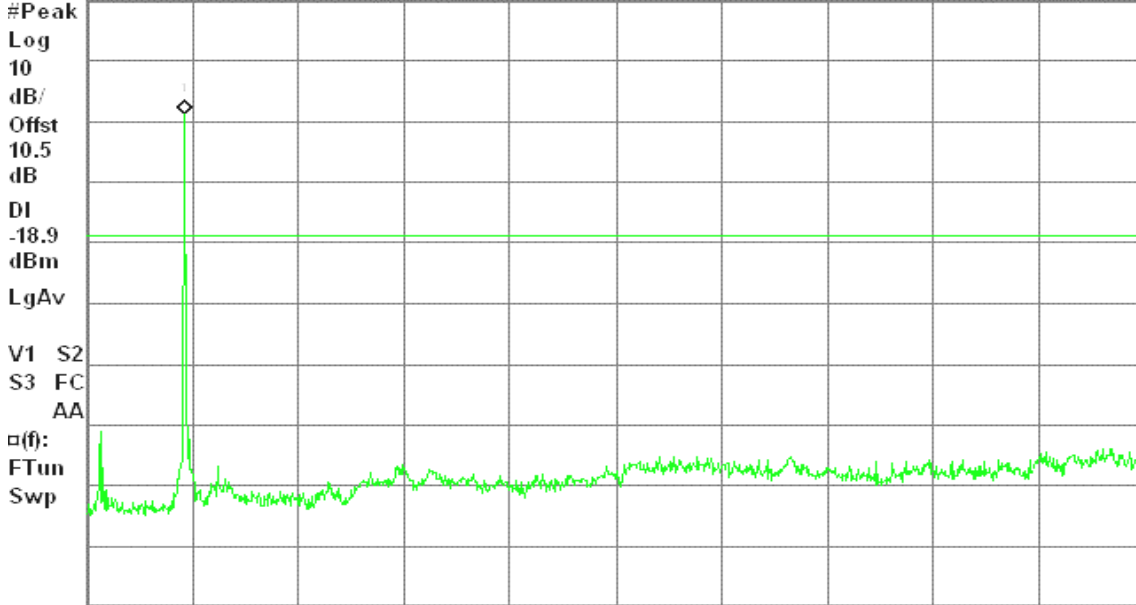
Spurious, g Mode Mid Ch.

Mkr1 2.45 GHz

Ref 20 dBm

Atten 20 dB

1.10 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

CH High

Agilent 20:18:50 Dec 25, 2007

R T

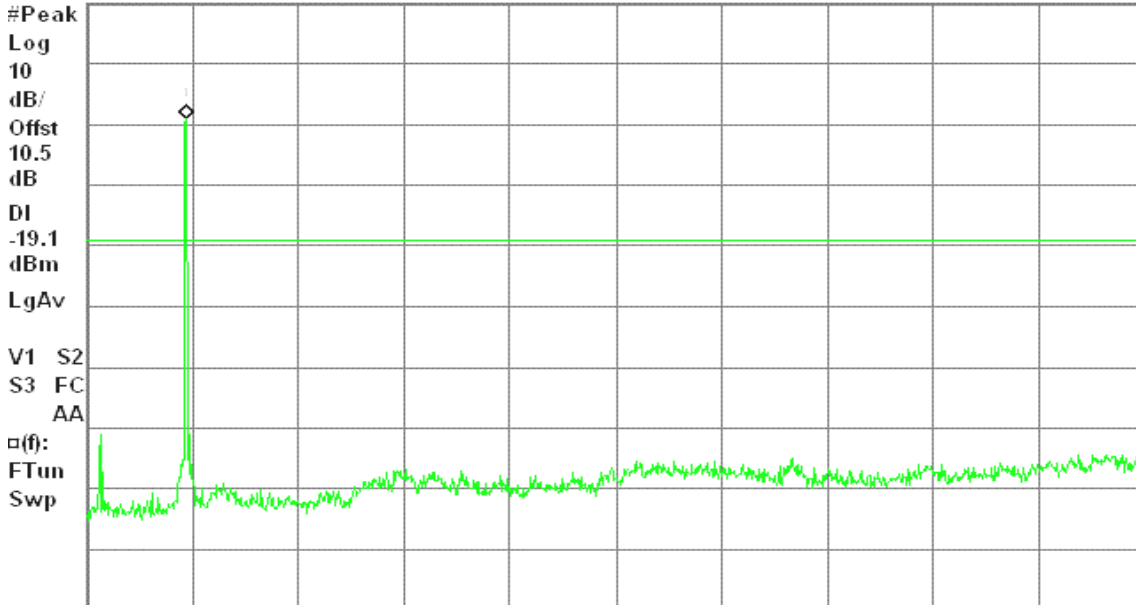
Spurious, g Mode High Ch.

Mkr1 2.47 GHz

Ref 20 dBm

Atten 20 dB

0.89 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



draft 802.11n Standard-20 MHz Channel mode / Chain 0

CH Low

Agilent 12:40:27 Nov 29, 2007

R T

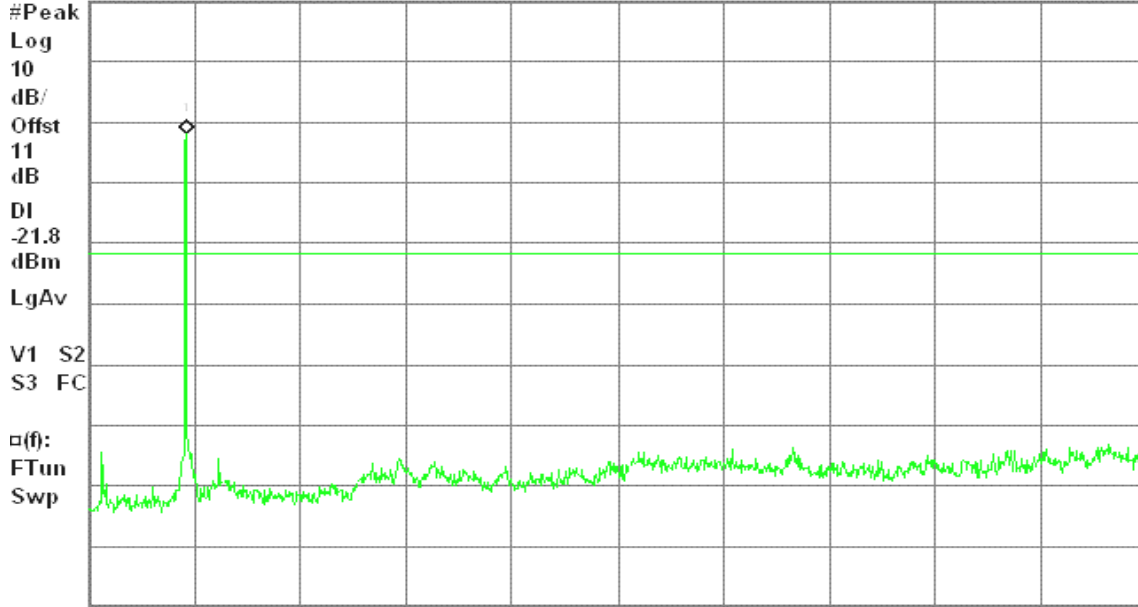
Spurious, g Mode Low Ch.

Mkr1 2.42 GHz

Ref 20 dBm

Atten 20 dB

-1.82 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

CH Mid

Agilent 12:34:47 Nov 29, 2007

R T

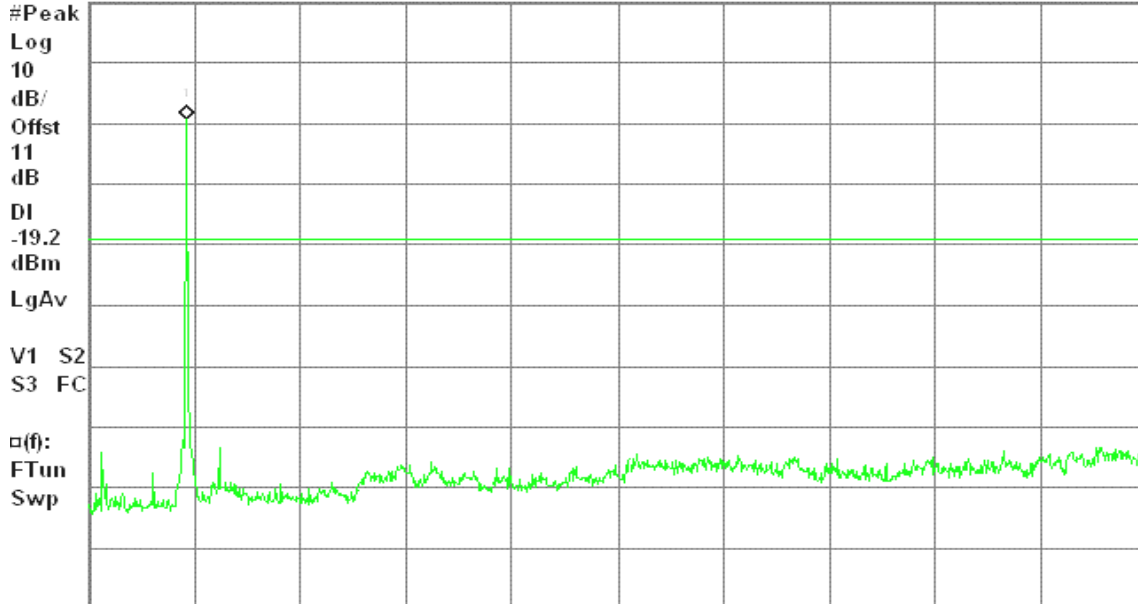
Spurious, g Mode Mid Ch.

Mkr1 2.45 GHz

Ref 20 dBm

Atten 20 dB

0.81 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



CH High

Agilent 12:29:04 Nov 29, 2007

R T

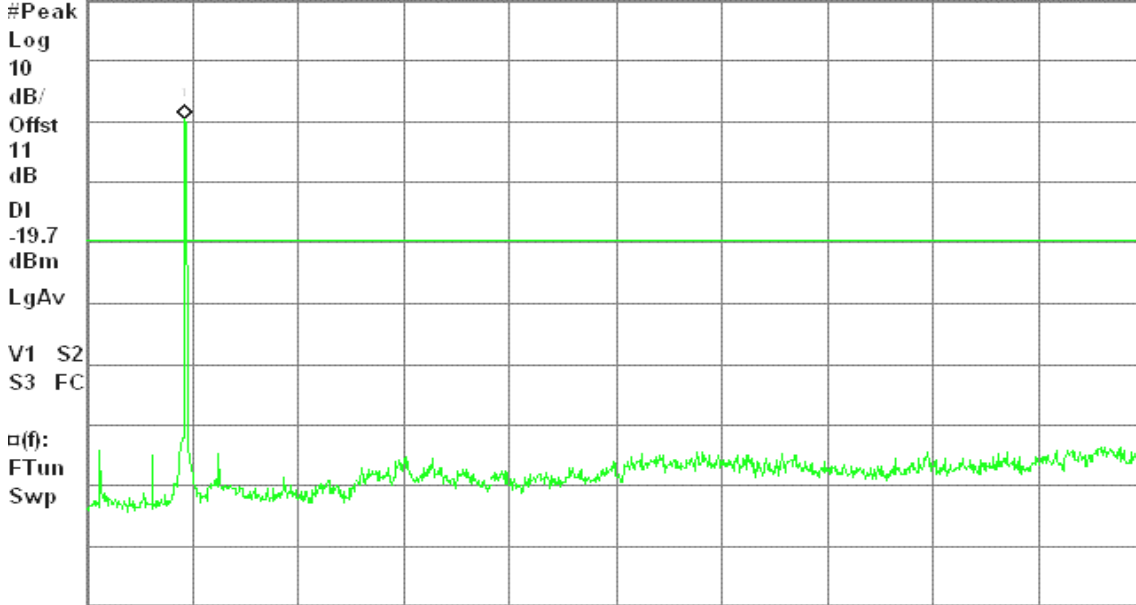
Spurious, g Mode High Ch.

Mkr1 2.45 GHz

Ref 20 dBm

Atten 20 dB

0.34 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

draft 802.11n Standard-20 MHz Channel mode / Chain 1

CH Low

Agilent 10:15:27 Nov 29, 2007

R T

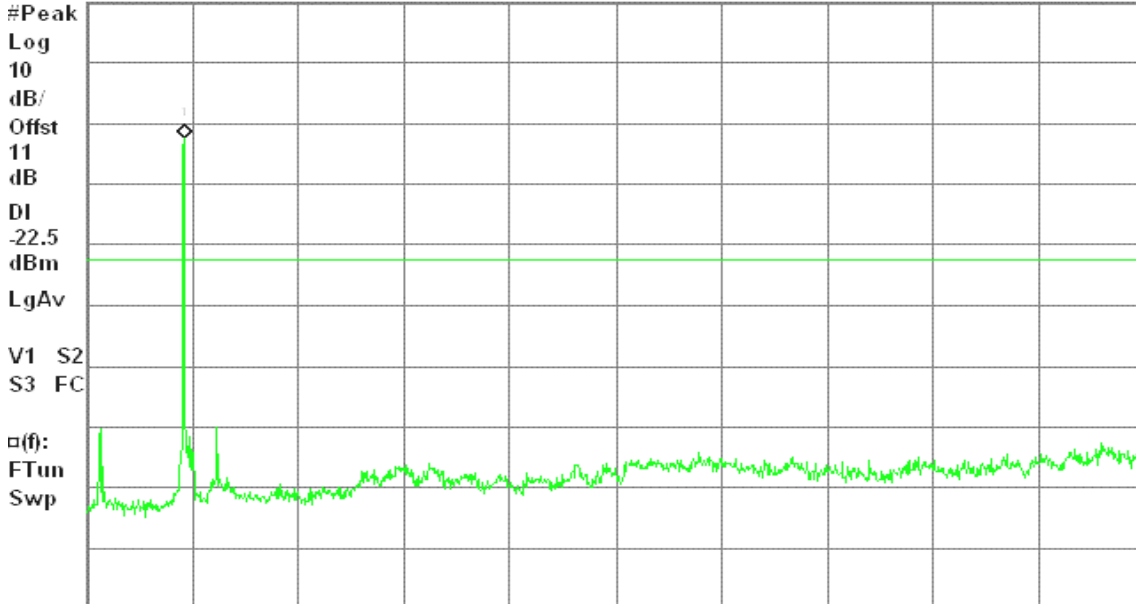
Spurious, g Mode Low Ch.

Mkr1 2.42 GHz

Ref 20 dBm

Atten 20 dB

-2.45 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



CH Mid

Agilent 12:16:25 Nov 29, 2007

R T

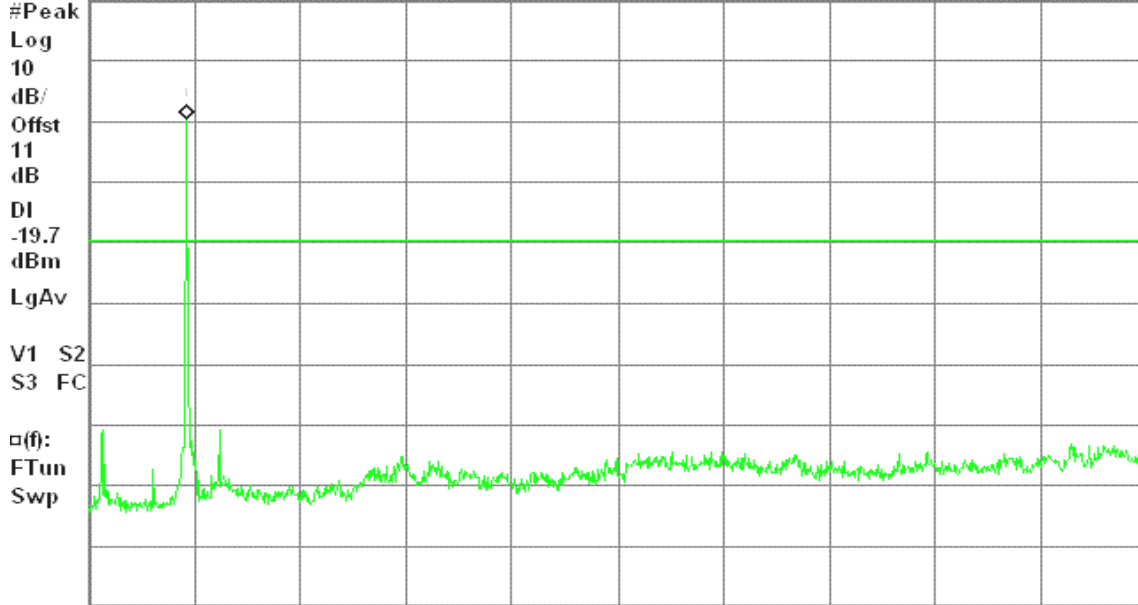
Spurious, g Mode Mid Ch.

Mkr1 2.45 GHz

Ref 20 dBm

Atten 20 dB

0.29 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

CH High

Agilent 12:22:57 Nov 29, 2007

R T

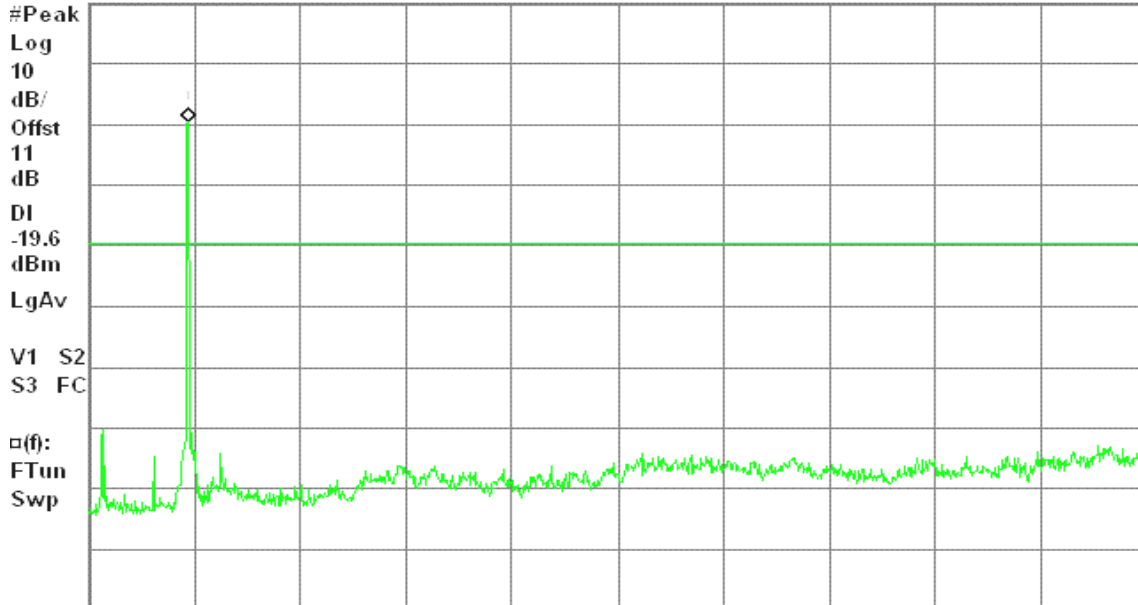
Spurious, g Mode High Ch.

Mkr1 2.47 GHz

Ref 20 dBm

Atten 20 dB

0.37 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



draft 802.11n Wide-40 MHz Channel mode / Chain 0

CH Low

Agilent 09:39:03 Nov 29, 2007

R T

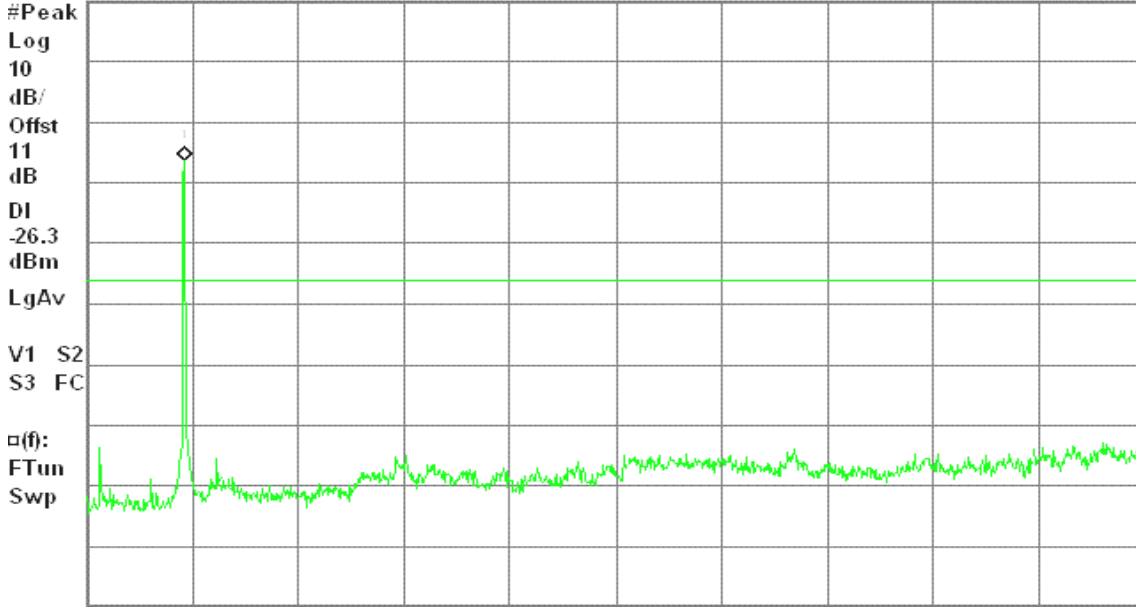
Spurious, g Mode Low Ch.

Mkr1 2.42 GHz

Ref 20 dBm

Atten 20 dB

-6.29 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

CH Mid

Agilent 09:44:27 Nov 29, 2007

R T

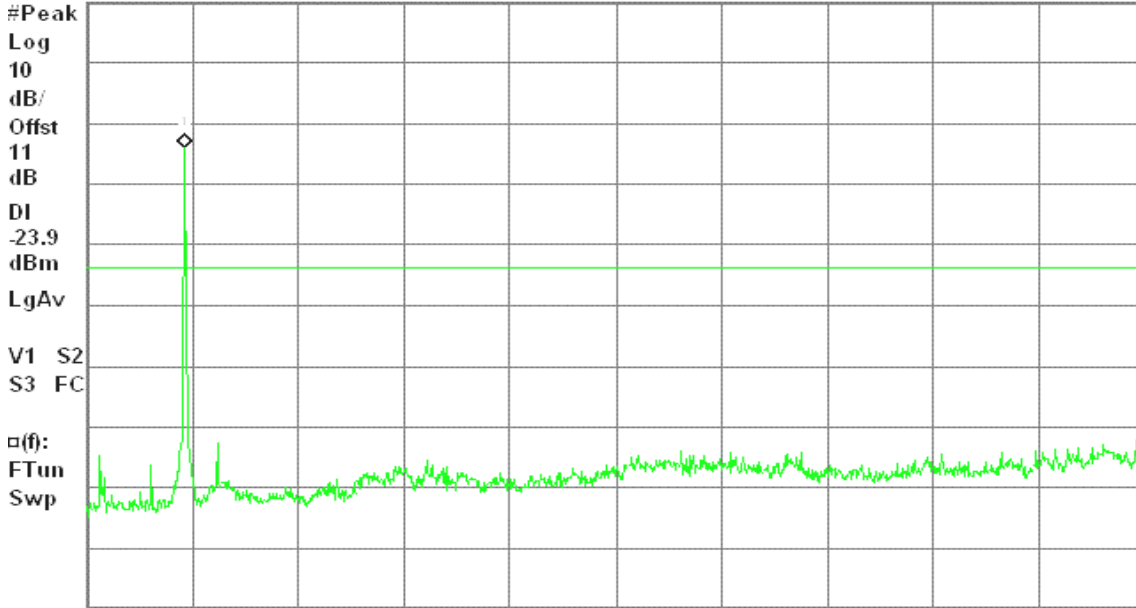
Spurious, g Mode Mid Ch.

Mkr1 2.45 GHz

Ref 20 dBm

Atten 20 dB

-3.90 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



CH High

Agilent 09:50:35 Nov 29, 2007

R T

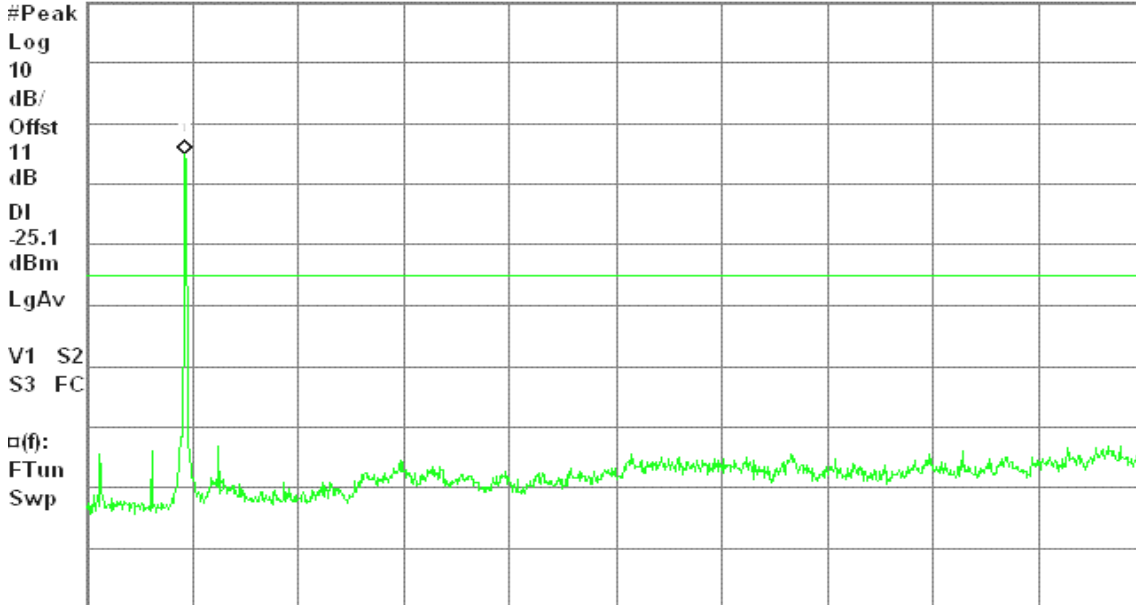
Spurious, g Mode High Ch.

Mkr1 2.45 GHz

Ref 20 dBm

Atten 20 dB

-5.08 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

draft 802.11n Wide-40 MHz Channel mode / Chain 1

CH Low

Agilent 10:07:41 Nov 29, 2007

R T

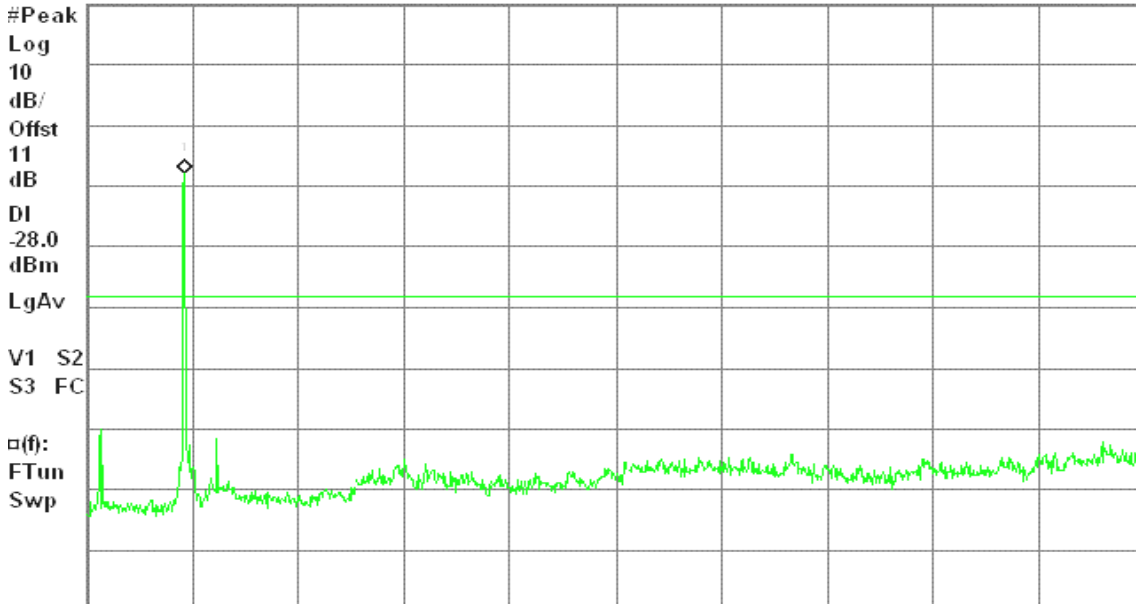
Spurious, g Mode Low Ch.

Mkr1 2.45 GHz

Ref 20 dBm

Atten 20 dB

-8.03 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



CH Mid

Agilent 10:01:50 Nov 29, 2007

R T

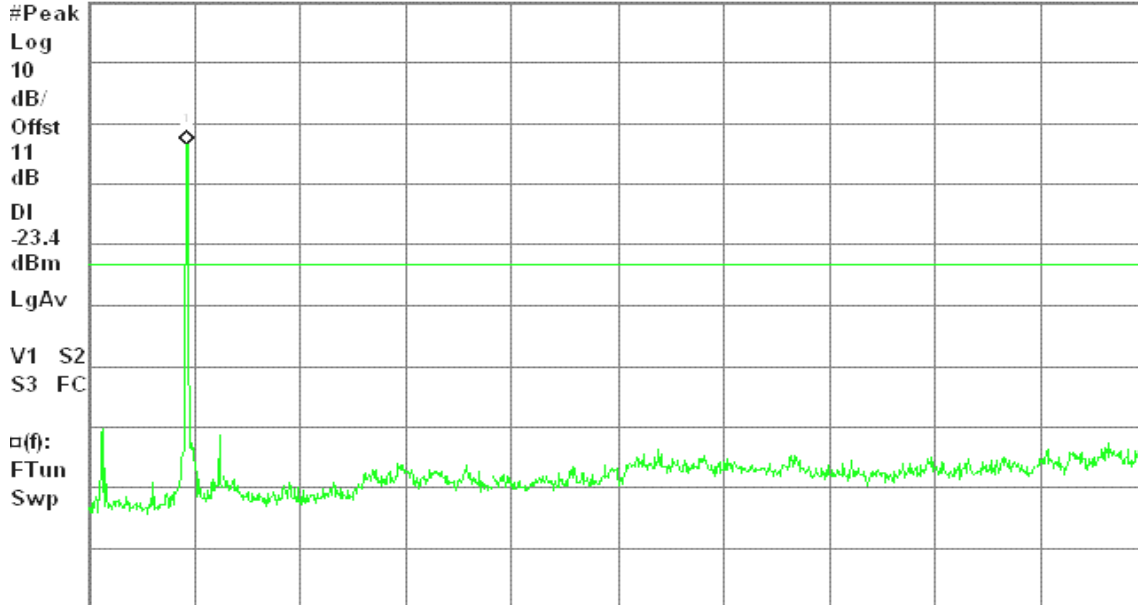
Spurious, g Mode Mid Ch.

Mkr1 2.45 GHz

Ref 20 dBm

Atten 20 dB

-3.40 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

CH High

Agilent 09:56:33 Nov 29, 2007

R L

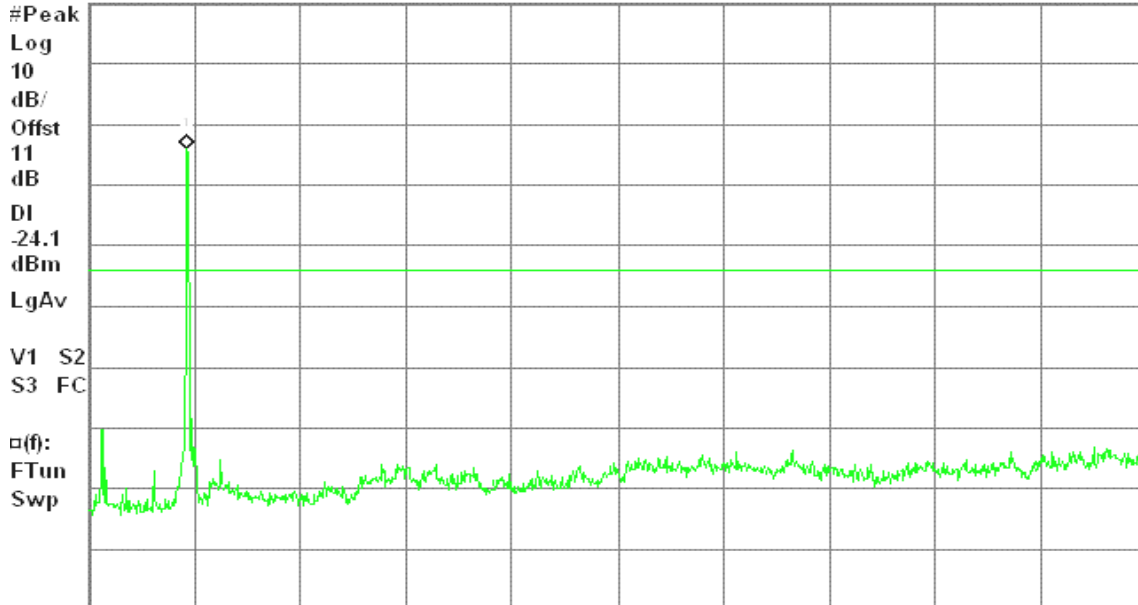
Spurious, g Mode High Ch.

Mkr1 2.45 GHz

Ref 20 dBm

Atten 20 dB

-4.09 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



IEEE 802.11b mode with combiner

CH Low

Agilent 20:57:07 Dec 25, 2007

R T

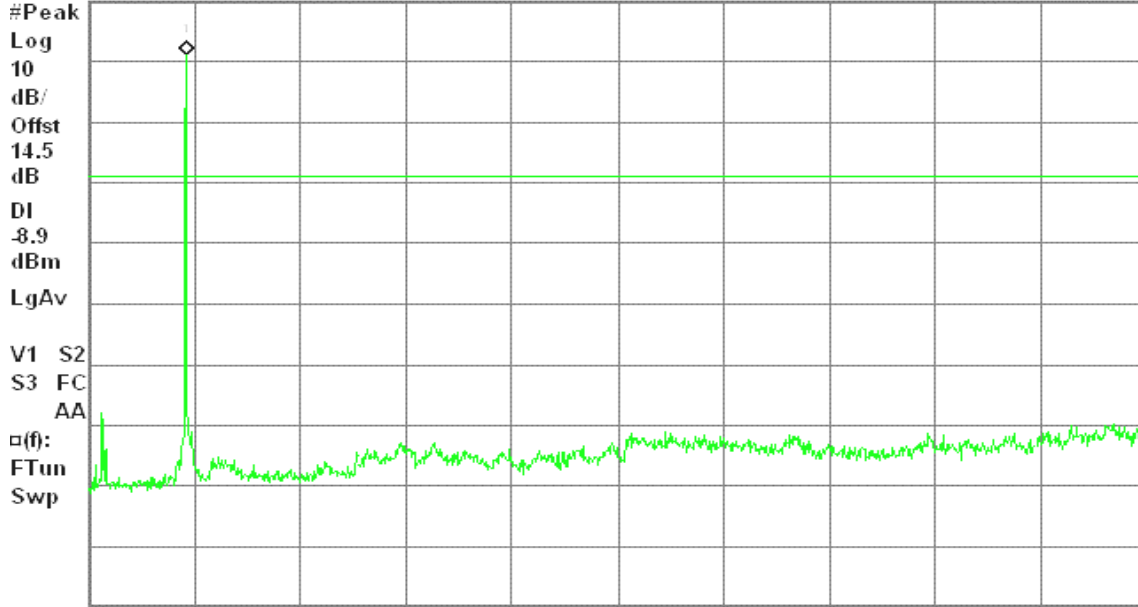
Spurious, b Mode Low Ch.

Mkr1 2.42 GHz

Ref 20 dBm

Atten 20 dB

11.08 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

CH Mid

Agilent 20:53:36 Dec 25, 2007

R T

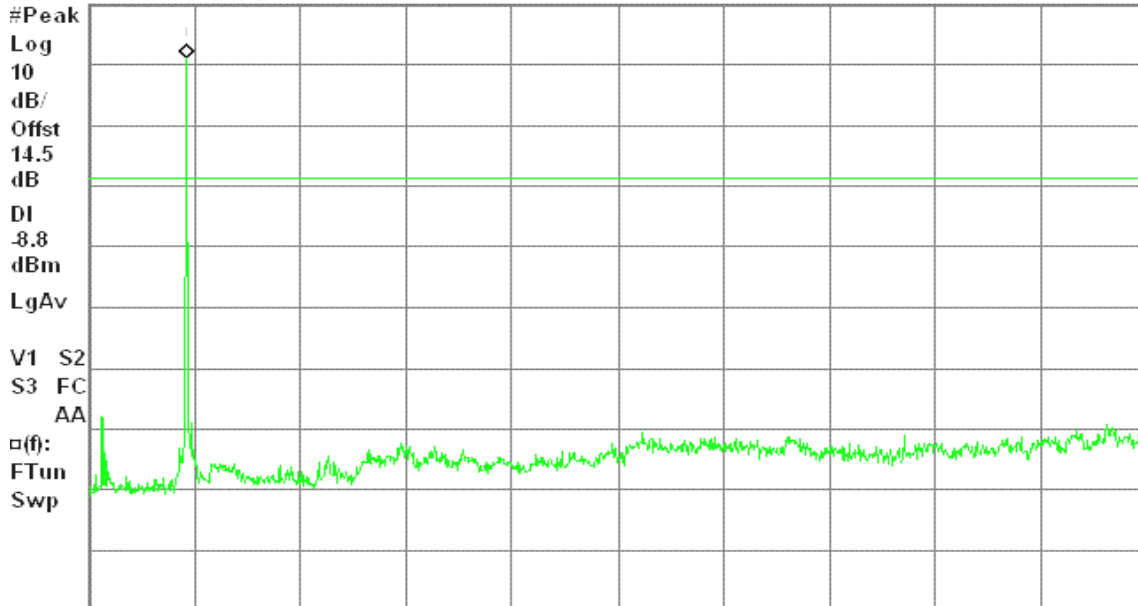
Spurious, b Mode Mid Ch.

Mkr1 2.45 GHz

Ref 20 dBm

Atten 20 dB

11.19 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



CH High

Agilent 20:47:05 Dec 25, 2007

R T

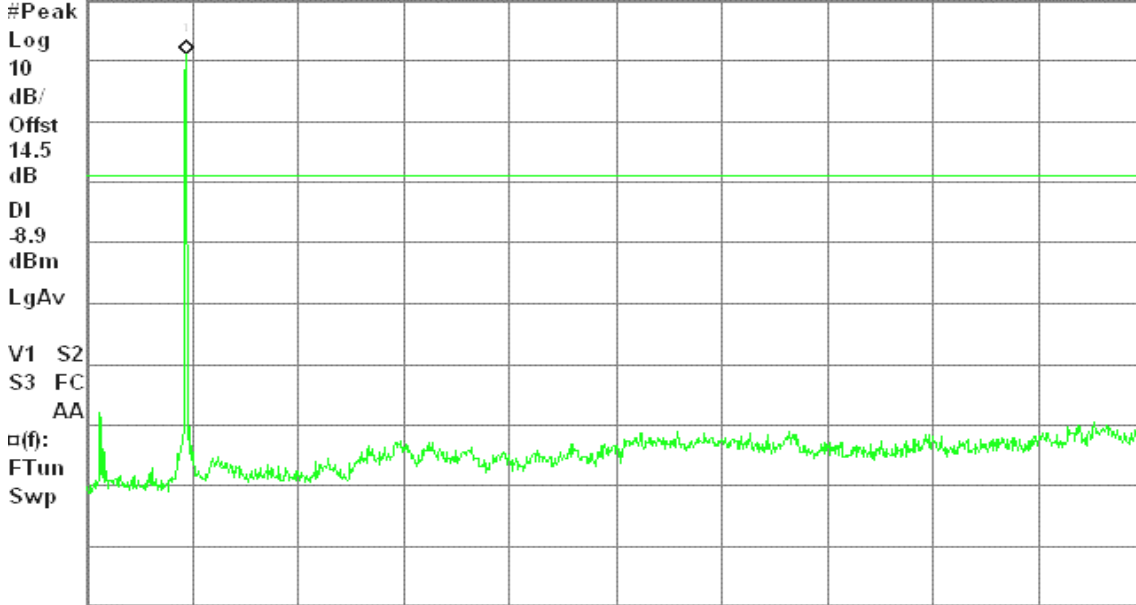
Spurious, b Mode High Ch.

Mkr1 2.47 GHz

Ref 20 dBm

Atten 20 dB

11.05 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

IEEE 802.11g mode with combiner

CH Low

Agilent 21:00:55 Dec 25, 2007

R T

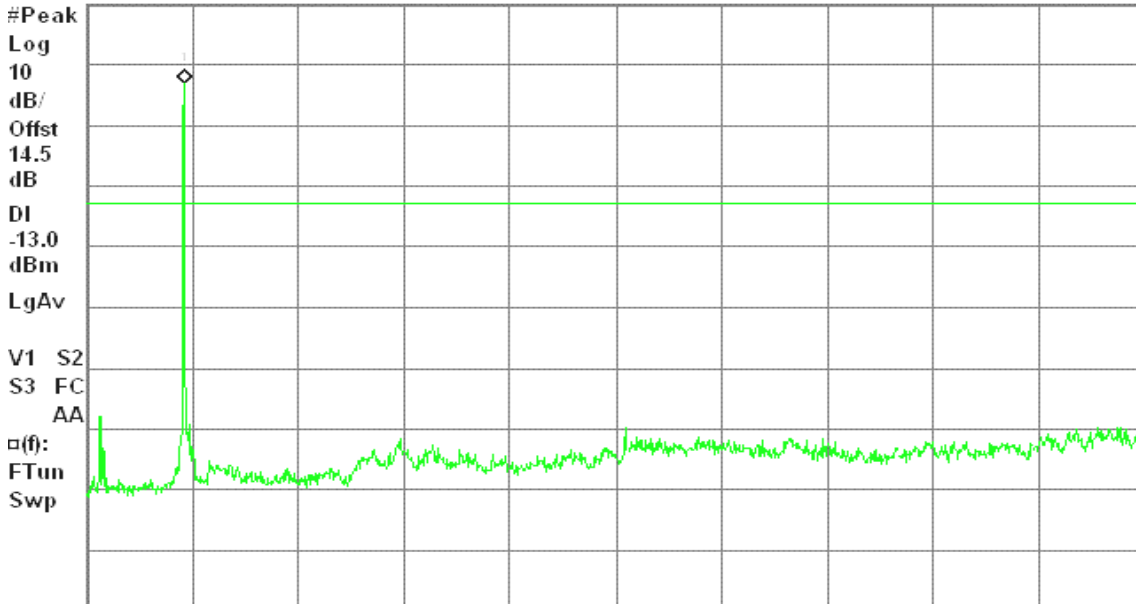
Spurious, g Mode Low Ch.

Mkr1 2.42 GHz

Ref 20 dBm

Atten 20 dB

7.01 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



CH Mid

Agilent 21:04:10 Dec 25, 2007

R T

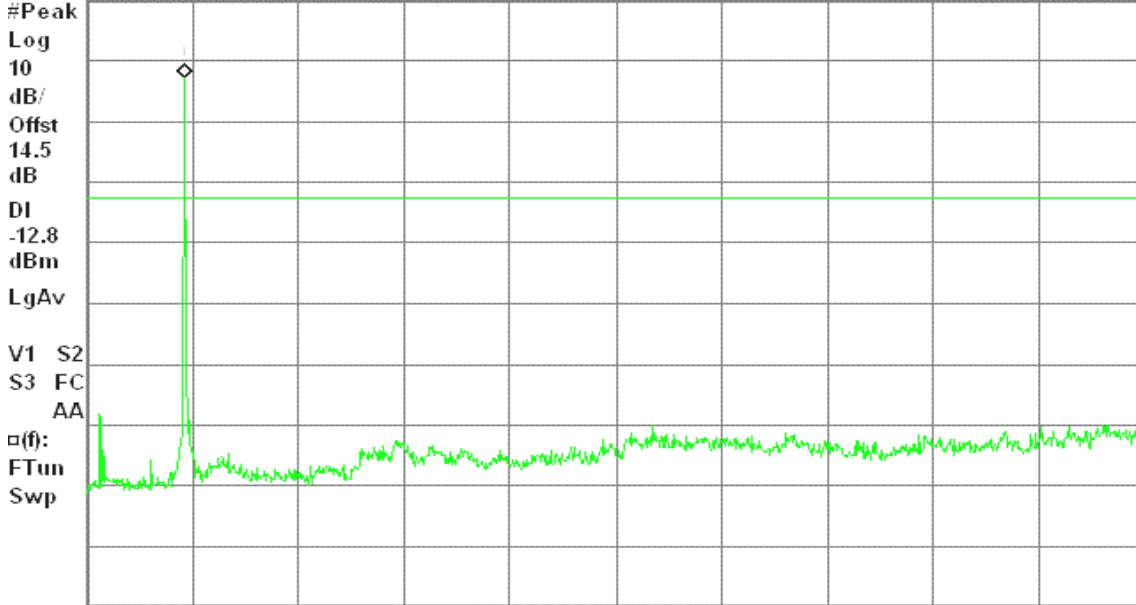
Spurious, g Mode Mid Ch.

Mkr1 2.45 GHz

Ref 20 dBm

Atten 20 dB

7.24 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

CH High

Agilent 21:07:31 Dec 25, 2007

R T

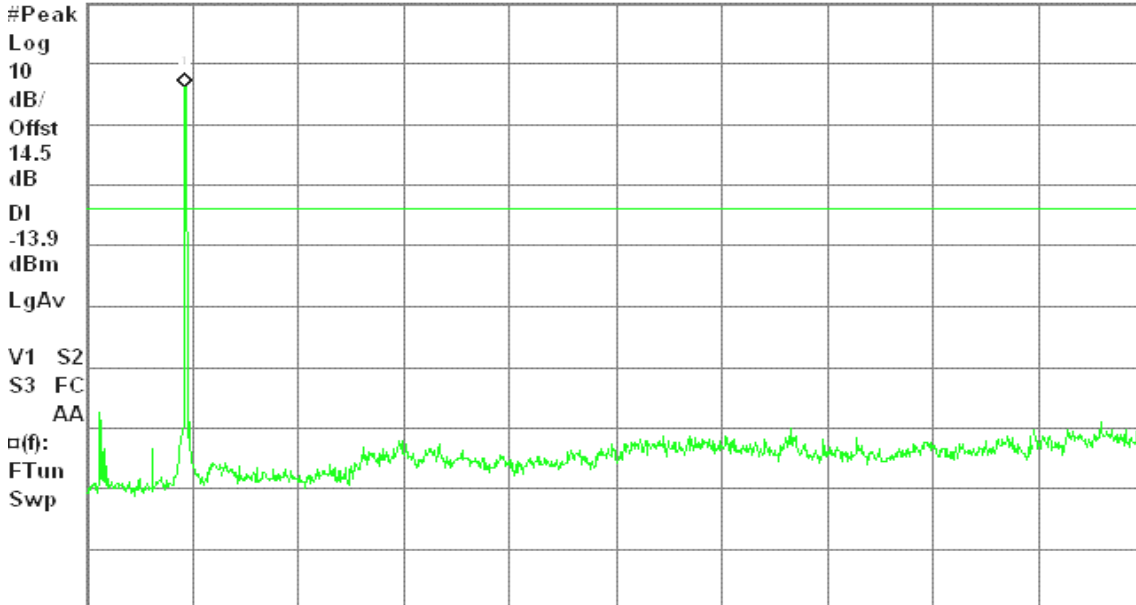
Spurious, g Mode High Ch.

Mkr1 2.45 GHz

Ref 20 dBm

Atten 20 dB

6.11 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



draft 802.11n Standard-20 MHz Channel mode with combiner

CH Low

Agilent 12:57:23 Nov 29, 2007

R T

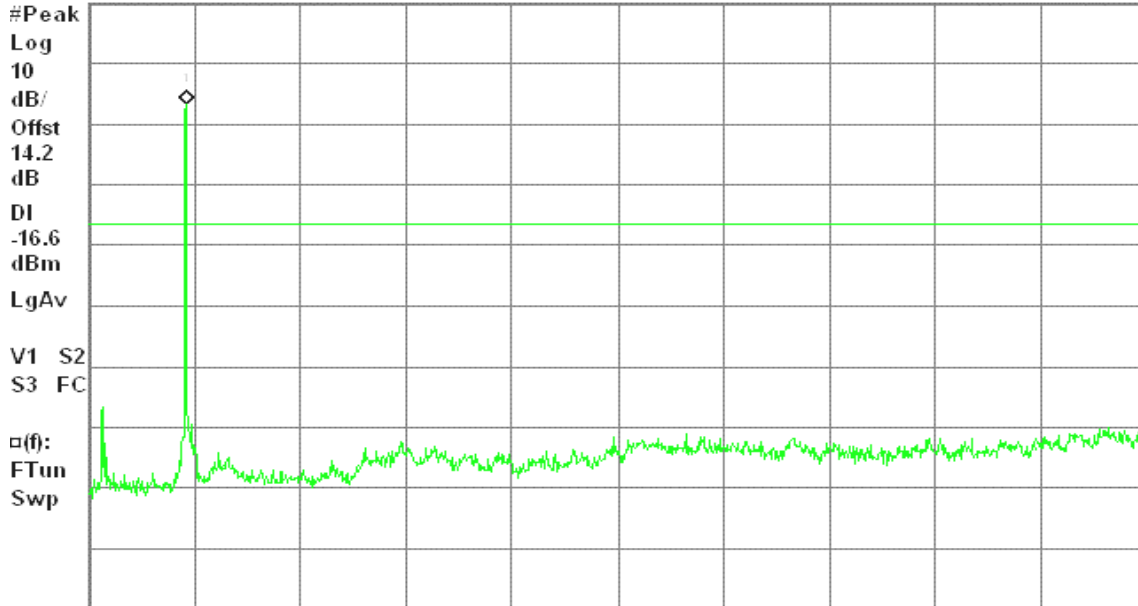
Spurious, g Mode Low Ch.

Mkr1 2.42 GHz

Ref 20 dBm

Atten 20 dB

3.38 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

CH Mid

Agilent 13:04:12 Nov 29, 2007

R L

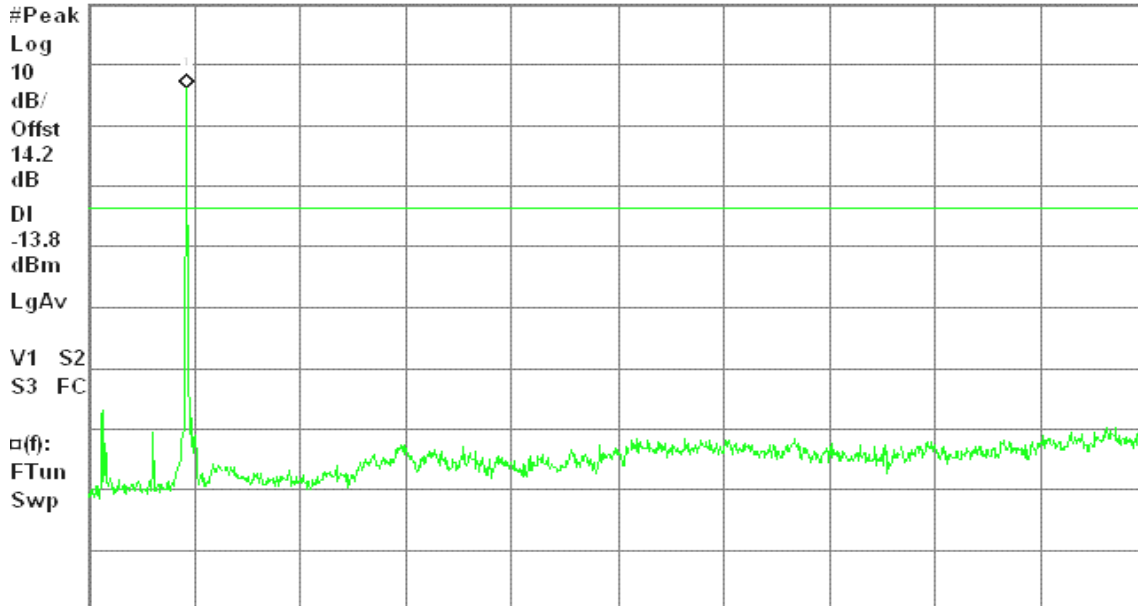
Spurious, g Mode Mid Ch.

Mkr1 2.45 GHz

Ref 20 dBm

Atten 20 dB

6.21 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



CH High

Agilent 13:11:44 Nov 29, 2007

R T

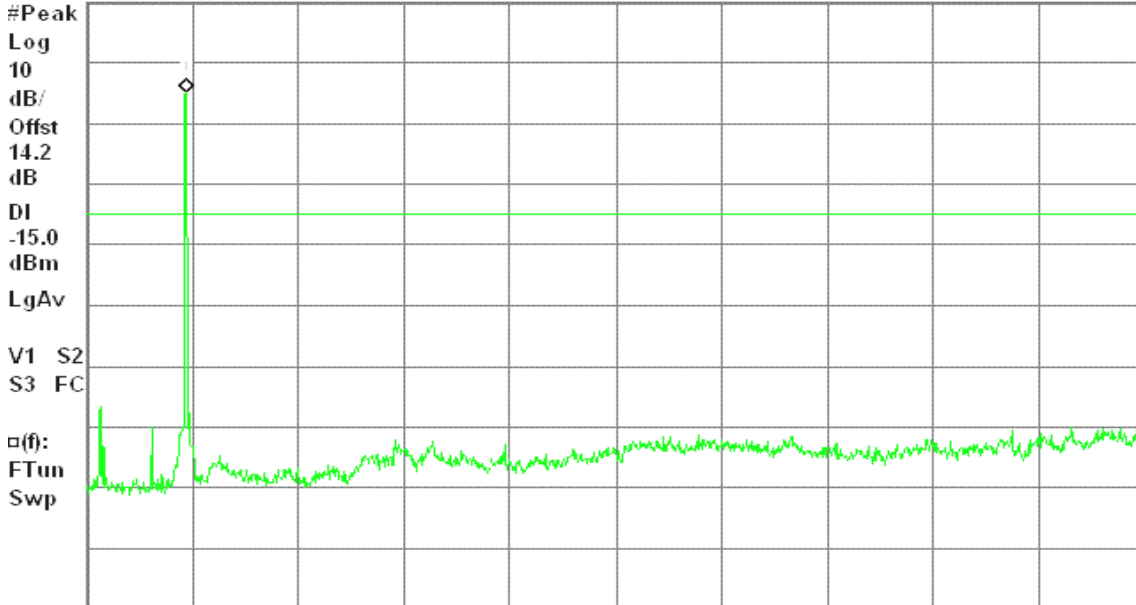
Spurious, g Mode High Ch.

Mkr1 2.47 GHz

Ref 20 dBm

Atten 20 dB

5.03 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

draft 802.11n Wide-40 MHz Channel mode with combiner

CH Low

Agilent 09:00:55 Nov 29, 2007

R T

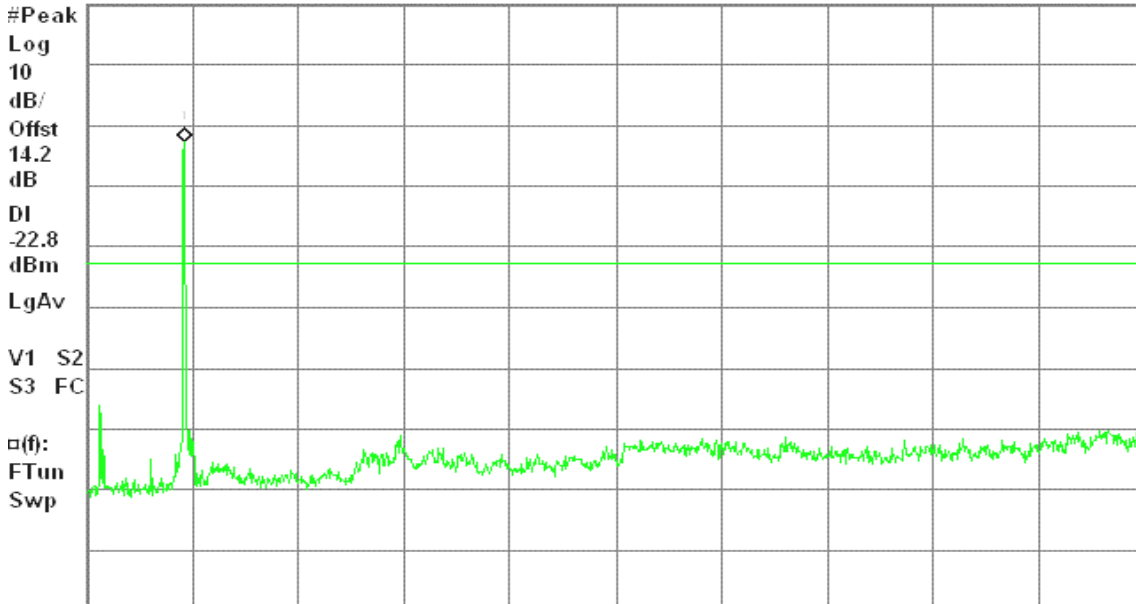
Spurious, g Mode Low Ch.

Mkr1 2.42 GHz

Ref 20 dBm

Atten 20 dB

-2.82 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



CH Mid

Agilent 09:06:36 Nov 29, 2007

R T

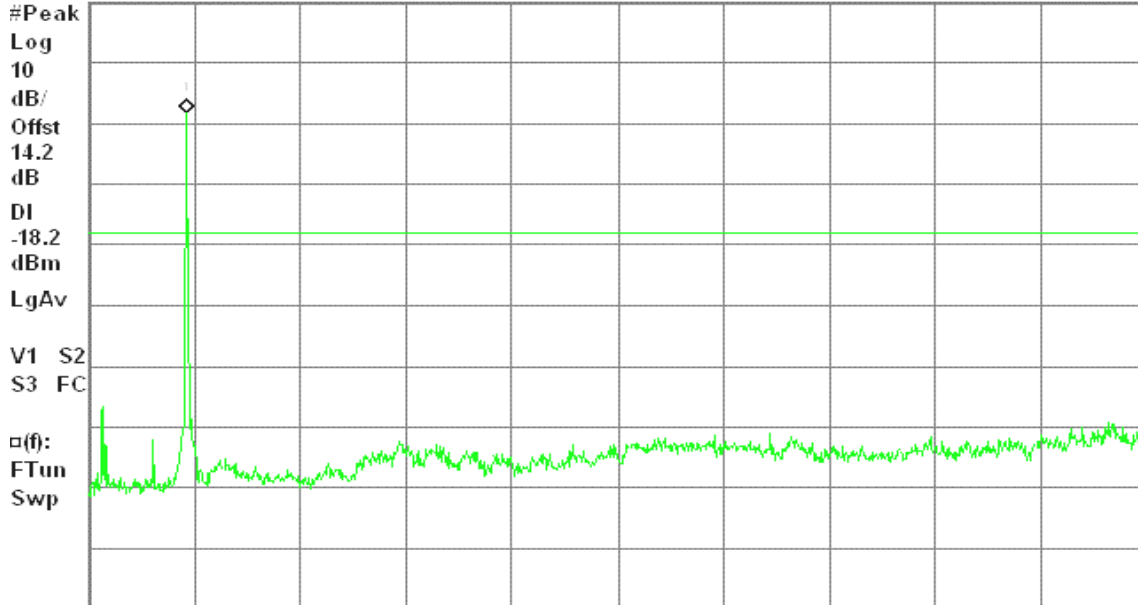
Spurious, g Mode Mid Ch.

Mkr1 2.42 GHz

Ref 20 dBm

Atten 20 dB

1.75 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

CH High

Agilent 09:12:14 Nov 29, 2007

R T

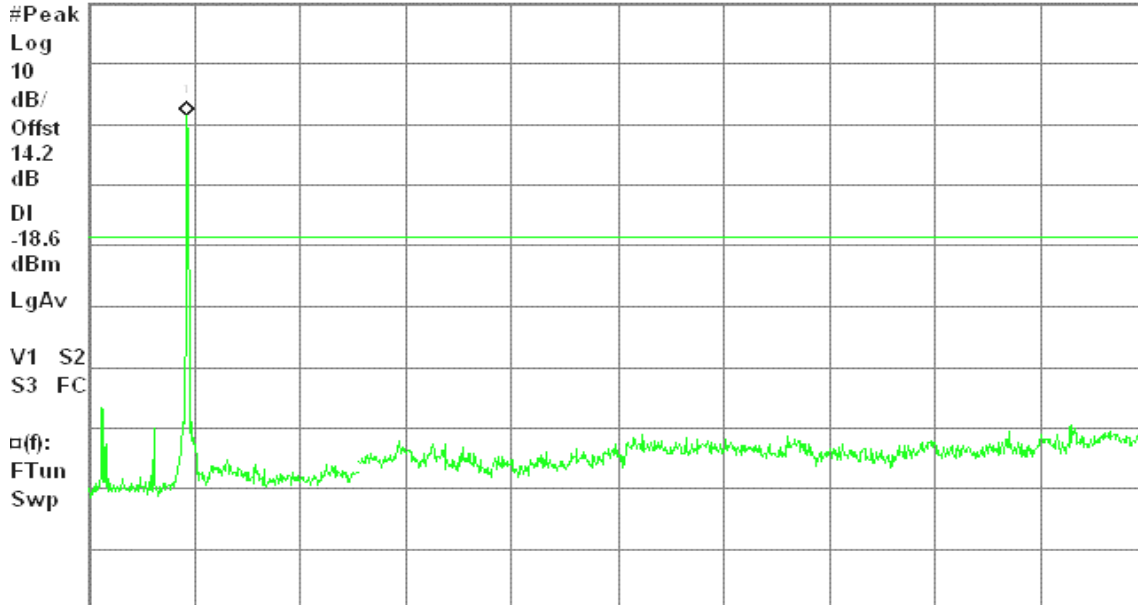
Spurious, g Mode High Ch.

Mkr1 2.45 GHz

Ref 20 dBm

Atten 20 dB

1.35 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



7.7 RADIATED EMISSIONS

LIMIT

1. According to §15.209(a), except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength ($\mu\text{V/m}$)	Measurement Distance (m)
30-88	100*	3
88-216	150*	3
216-960	200*	3
Above 960	500	3

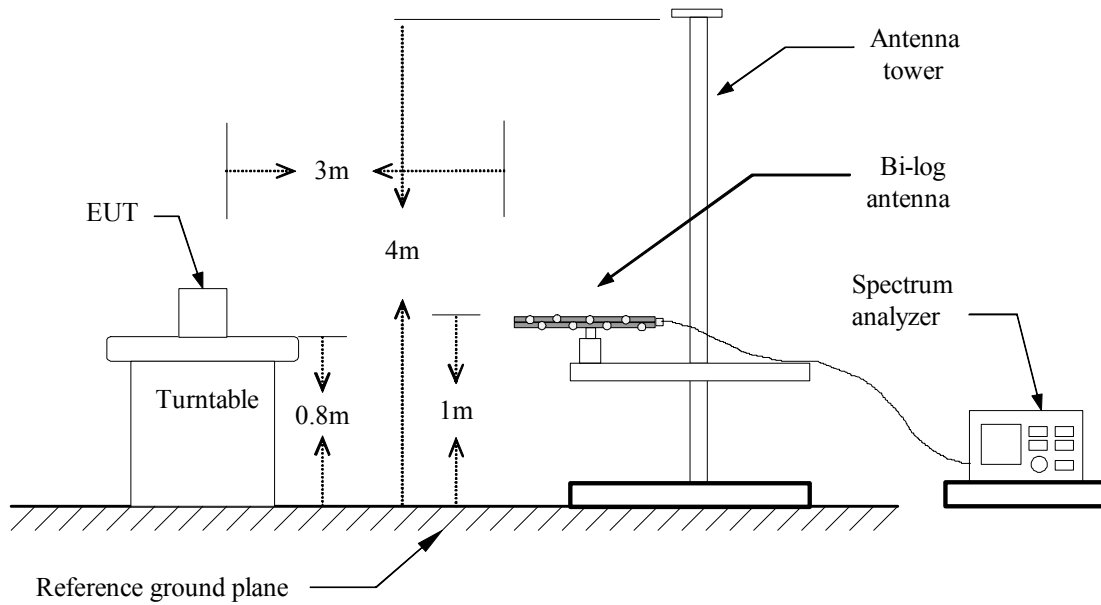
Remark: Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

2. In the emission table above, the tighter limit applies at the band edges.

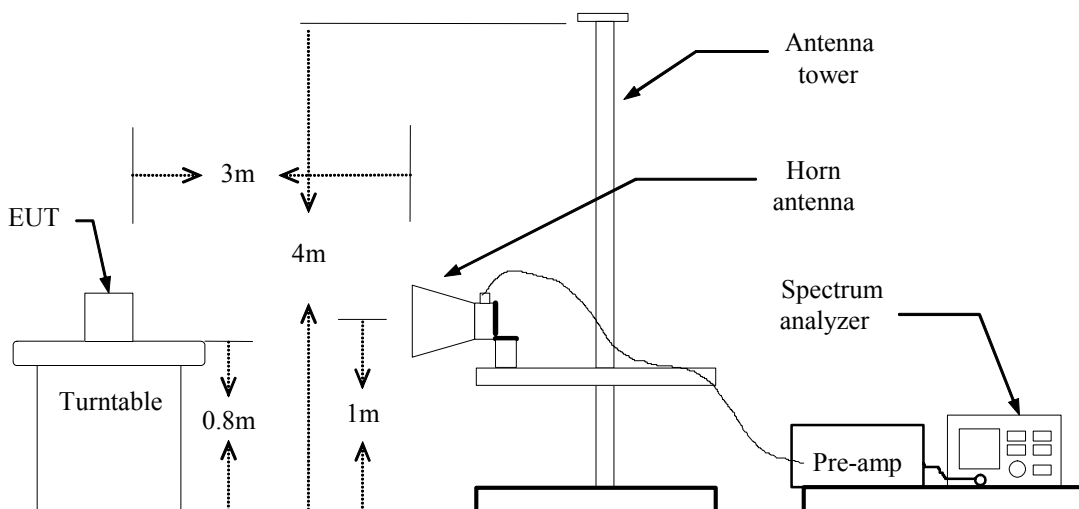
Frequency (MHz)	Field Strength ($\mu\text{V/m}$ at 3-meter)	Field Strength (dB $\mu\text{V/m}$ at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Test Configuration

Below 1 GHz



Above 1 GHz





TEST PROCEDURE

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be 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 emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Set the spectrum analyzer in the following setting as:
Below 1GHz:
RBW=100kHz / VBW=300kHz / Sweep=AUTO
Above 1GHz:
(a) PEAK: RBW=VBW=1MHz / Sweep=AUTO
(b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO
7. Repeat above procedures until the measurements for all frequencies are complete.

TEST RESULTS

No non-compliance noted.

**Below 1GHz****Operation Mode:** Normal Link**Test Date:** November 28, 2007**Temperature:** 25°C**Tested by:** Steven Young**Humidity:** 55% RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
51.02	V	54.95	-18.54	36.40	40.00	-3.60	Peak
59.10	V	56.47	-19.60	36.87	40.00	-3.13	Peak
249.87	V	51.33	-14.56	36.77	46.00	-9.23	Peak
299.98	V	55.24	-12.43	42.81	46.00	-3.19	Peak
400.22	V	47.24	-10.00	37.24	46.00	-8.76	Peak
500.45	V	45.09	-7.86	37.23	46.00	-8.77	Peak
301.60	H	55.25	-12.34	42.91	46.00	-3.09	Peak
374.35	H	46.50	-10.20	36.30	46.00	-9.70	Peak
400.22	H	48.09	-10.00	38.09	46.00	-7.91	Peak
500.45	H	45.70	-7.86	37.84	46.00	-8.16	Peak
749.42	H	38.51	-4.15	34.36	46.00	-11.64	Peak
919.17	H	36.62	-1.62	35.00	46.00	-11.00	Peak

Remark:

1. *Measuring frequencies from 30 MHz to the 1GHz.*
2. *Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using peak/quasi-peak detector mode.*
3. *Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*
4. *Margin (dB) = Result (dBuV/m) – Limit (dBuV/m).*



Above 1 GHz

Operation Mode: TX / IEEE 802.11b / CH Low

Test Date: November 27, 2007

Temperature: 25°C

Tested by: Steven Young

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1566.67	V	59.64	---	-9.31	50.33	---	74.00	54.00	-3.67	Peak
4825.00	V	54.24	50.40	0.55	54.79	50.95	74.00	54.00	-3.05	AVG
N/A										
1633.33	H	59.47	---	-8.65	50.82	---	74.00	54.00	-3.18	Peak
4825.00	H	44.82	---	0.55	45.37	---	74.00	54.00	-8.63	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11b / CH Mid

Test Date: November 27, 2007

Temperature: 25°C

Tested by: Steven Young

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	(Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1600.00	V	59.06	---	-8.98	50.08	---	74.00	54.00	-3.92	Peak
4875.00	V	55.66	51.96	0.60	56.26	52.56	74.00	54.00	-1.44	AVG
N/A										
1540.00	H	59.82	---	-9.58	50.24	---	74.00	54.00	-3.76	Peak
4875.00	H	46.36	---	0.60	46.96	---	74.00	54.00	-7.04	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11b / CH High

Test Date: November 27, 2007

Temperature: 25°C

Tested by: Steven Young

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1676.67	V	59.48	---	-8.22	51.26	---	74.00	54.00	-2.74	Peak
4925.00	V	54.05	52.57	0.65	54.70	53.22	74.00	54.00	-0.78	AVG
N/A										
1630.00	H	59.83	---	-8.68	51.14	---	74.00	54.00	-2.86	Peak
4925.00	H	47.76	---	0.65	48.41	---	74.00	54.00	-5.59	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11g / CH Low

Test Date: November 27, 2007

Temperature: 25°C

Tested by: Steven Young

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1503.33	V	59.70	---	-9.94	49.76	---	74.00	54.00	-4.24	Peak
4833.33	V	45.81	---	0.56	46.37	---	74.00	54.00	-7.63	Peak
N/A										
1676.67	H	60.03	---	-8.22	51.81	---	74.00	54.00	-2.19	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11g / CH Mid

Test Date: November 27, 2007

Temperature: 25°C

Tested by: Steven Young

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1643.33	V	59.73	---	-8.55	51.18	---	74.00	54.00	-2.82	Peak
4875.00	V	46.49	---	0.60	47.09	---	74.00	54.00	-6.91	Peak
N/A										
1686.67	H	58.85	---	-8.12	50.73	---	74.00	54.00	-3.27	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11g / CH High

Test Date: November 27, 2007

Temperature: 25°C

Tested by: Steven Young

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1636.67	V	60.04	---	-8.62	51.43	---	74.00	54.00	-2.57	Peak
4925.00	V	47.39	---	0.65	48.04	---	74.00	54.00	-5.96	Peak
N/A										
1290.00	H	60.67	---	-10.32	50.35	---	74.00	54.00	-3.65	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / draft 802.11n Standard-20 MHz Channel mode / CH Low

Test Date: November 27, 2007

Temperature: 25°C

Tested by: Steven Young

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1673.33	V	59.58	---	-8.25	51.33	---	74.00	54.00	-2.67	Peak
3216.67	V	47.41	---	-2.17	45.24	---	74.00	54.00	-8.76	Peak
4825.00	V	46.75	---	0.55	47.31	---	74.00	54.00	-6.69	Peak
N/A										
1606.67	H	59.90	---	-8.91	50.99	---	74.00	54.00	-3.01	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / draft 802.11n Standard-20 MHz Channel mode / CH Mid

Test Date: November 27, 2007

Temperature: 25°C

Tested by: Steven Young

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1600.00	V	60.40	---	-8.98	51.42	---	74.00	54.00	-2.58	Peak
3250.00	V	46.18	---	-2.13	44.05	---	74.00	54.00	-9.95	Peak
4883.33	V	49.10	---	0.61	49.71	---	74.00	54.00	-4.29	Peak
7308.33	V	45.24	---	3.41	48.65	---	74.00	54.00	-5.35	Peak
N/A										
1660.00	H	59.74	---	-8.38	51.36	---	74.00	54.00	-2.64	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / draft 802.11n Standard-20 MHz Channel mode / CH High

Test Date: November 27, 2007

Temperature: 25°C

Tested by: Steven Young

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1630.00	V	60.50	---	-8.68	51.82	---	74.00	54.00	-2.18	Peak
4916.67	V	49.52	---	0.64	50.16	---	74.00	54.00	-3.84	Peak
N/A										
1646.67	H	60.36	---	-8.52	51.84	---	74.00	54.00	-2.16	Peak
7383.33	H	45.73	---	3.27	49.00	---	74.00	54.00	-5.00	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / draft 802.11n Wide-40 MHz Channel mode / CH Low

Test Date: November 27, 2007

Temperature: 25°C

Tested by: Steven Young

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1580.00	V	59.86	---	-9.18	50.68	---	74.00	54.00	-3.32	Peak
3233.33	V	47.10	---	-2.15	44.94	---	74.00	54.00	-9.06	Peak
4841.67	V	47.93	---	0.57	48.50	---	74.00	54.00	-5.50	Peak
N/A										
1586.67	H	59.53	---	-9.11	50.41	---	74.00	54.00	-3.59	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / draft 802.11n Wide-40 MHz Channel mode / CH Mid

Test Date: November 27, 2007

Temperature: 25°C

Tested by: Steven Young

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1566.67	V	59.62	---	-9.31	50.31	---	74.00	54.00	-3.69	Peak
3250.00	V	46.24	---	-2.13	44.11	---	74.00	54.00	-9.89	Peak
4875.00	V	46.27	---	0.60	46.88	---	74.00	54.00	-7.12	Peak
N/A										
1643.33	H	59.26	---	-8.55	50.71	---	74.00	54.00	-3.29	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / draft 802.11n Wide-40 MHz Channel mode / CH High

Test Date: November 27, 2007

Temperature: 25°C

Tested by: Steven Young

Humidity: 55 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1680.00	V	59.90	---	-8.19	51.72	---	74.00	54.00	-2.28	Peak
3266.67	V	45.26	---	-2.11	43.15	---	74.00	54.00	-10.85	Peak
4116.67	V	45.34	---	-0.42	44.93	---	74.00	54.00	-9.07	Peak
4900.00	V	46.03	---	0.63	46.66	---	74.00	54.00	-7.34	Peak
N/A										
1580.00	H	59.18	---	-9.18	50.00	---	74.00	54.00	-4.00	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



7.8 POWERLINE CONDUCTED EMISSIONS

LIMIT

According to §15.207(a), except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency Range (MHz)	Limits (dB μ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

* Decreases with the logarithm of the frequency.

Test Configuration

See test photographs attached in Appendix II for the actual connections between EUT and support equipment.

TEST PROCEDURE

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.



TEST RESULTS

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. Significant peaks are then marked as shown on the following data page, and these signals are then quasi-peaked.

Test Data

Operation Mode: Normal Link **Test Date:** December 5, 2007
Temperature: 26°C **Tested by:** Wolf Huang
Humidity: 45% RH

Freq. (MHz)	QP Reading (dBuV)	AV Reading (dBuV)	Corr. factor (dB/m)	QP Result (dBuV/m)	AV Result (dBuV/m)	QP Limit (dBuV)	AV Limit (dBuV)	QP Margin (dB)	AV Margin (dB)	Note
0.4043	46.96	33.16	0.04	47.00	33.20	57.76	47.76	-10.76	-14.56	L1
0.4400	49.98	36.78	0.02	50.00	36.80	57.06	47.06	-7.06	-10.26	L1
0.5000	46.10	32.10	0.00	46.10	32.10	56.00	46.00	-9.90	-13.90	L1
0.8550	43.50	29.50	0.00	43.50	29.50	56.00	46.00	-12.50	-16.50	L1
1.1450	43.60	29.90	0.00	43.60	29.90	56.00	46.00	-12.40	-16.10	L1
1.6400	43.19	29.59	0.01	43.20	29.60	56.00	46.00	-12.80	-16.40	L1
0.4350	49.98	36.98	0.02	50.00	37.00	57.16	47.16	-7.16	-10.16	L2
0.5100	46.30	32.00	0.00	46.30	32.00	56.00	46.00	-9.70	-14.00	L2
0.7700	43.60	27.10	0.00	43.60	27.10	56.00	46.00	-12.40	-18.90	L2
1.1800	43.30	27.60	0.00	43.30	27.60	56.00	46.00	-12.70	-18.40	L2
1.8450	43.09	30.09	0.01	43.10	30.10	56.00	46.00	-12.90	-15.90	L2
3.3500	41.85	31.85	0.05	41.90	31.90	56.00	46.00	-14.10	-14.10	L2

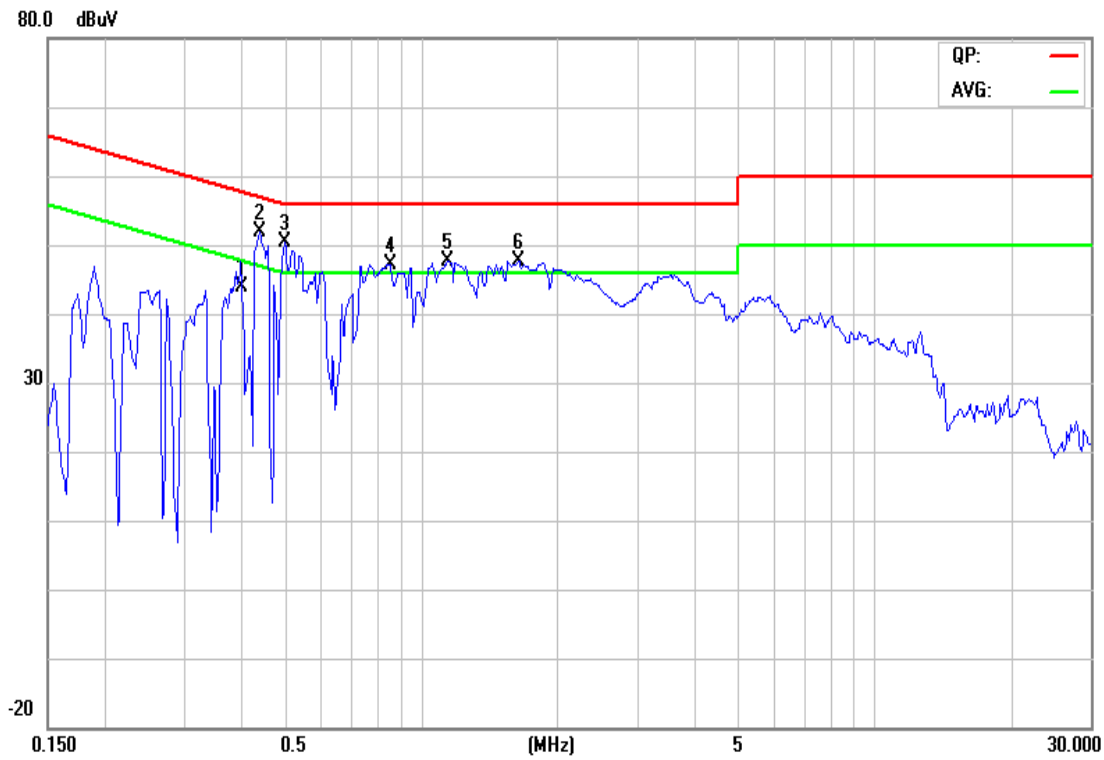
Remark:

1. Measuring frequencies from 0.15 MHz to 30MHz.
2. The emissions measured in frequency range from 0.15 MHz to 30MHz were made with an instrument using Quasi-peak detector and average detector.
3. The IF bandwidth of SPA between 0.15MHz and 30MHz was 10 kHz; the IF bandwidth of Test Receiver between 0.15MHz and 30MHz was 9 kHz;
4. L1 = Line One (Live Line) / L2 = Line Two (Neutral Line)



Test Plots

Conducted emissions (Line 1)



Conducted emissions (Line 2)

