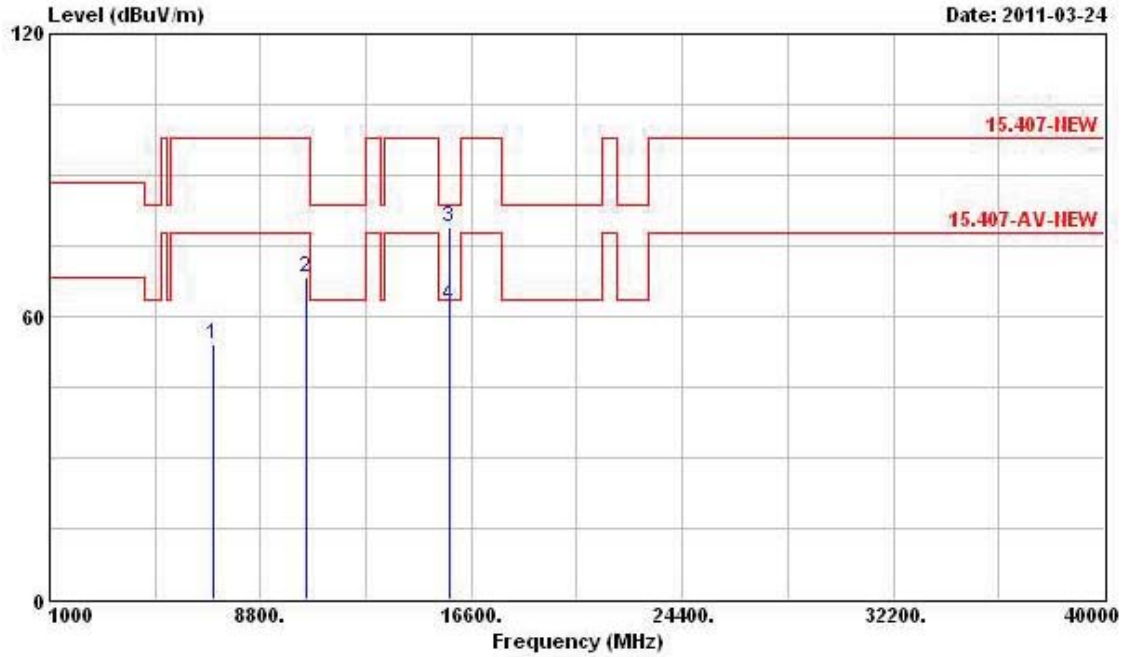


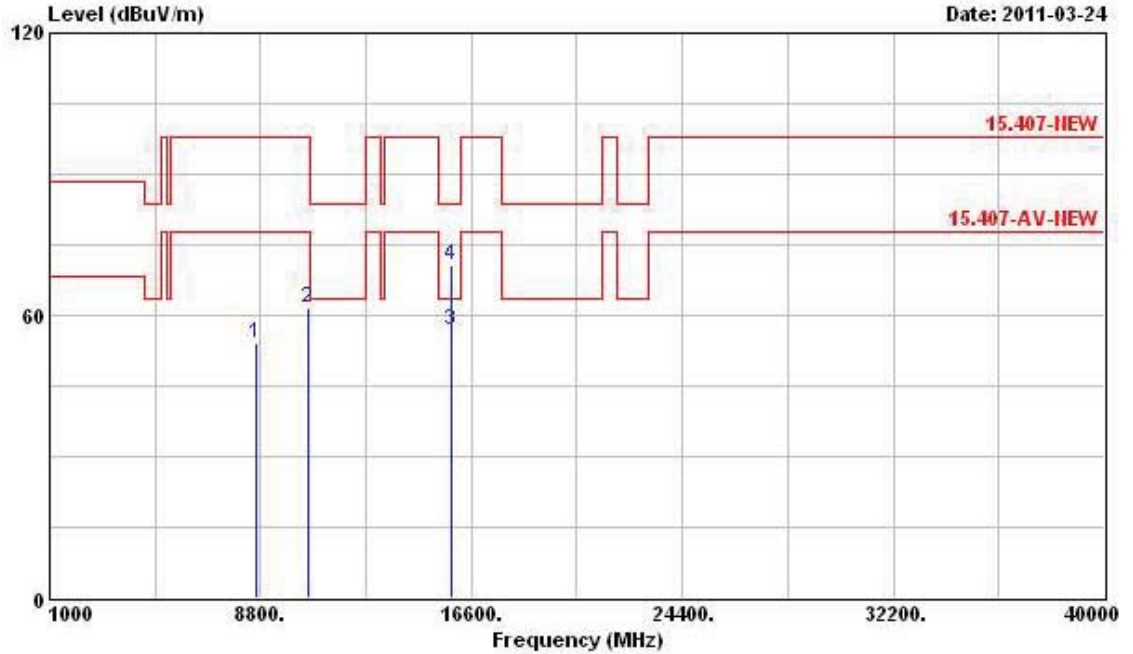
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7044.000	54.10	-43.74	97.84	44.97	37.81	5.60	34.28	Peak
2	10520.000	68.42	-29.42	97.84	55.46	40.11	6.85	34.00	Peak
3	15780.000	78.85	-4.69	83.54	60.64	42.86	8.46	33.11	Peak
4	@15780.000	62.42	-1.12	63.54	44.21	42.86	8.46	33.11	Average

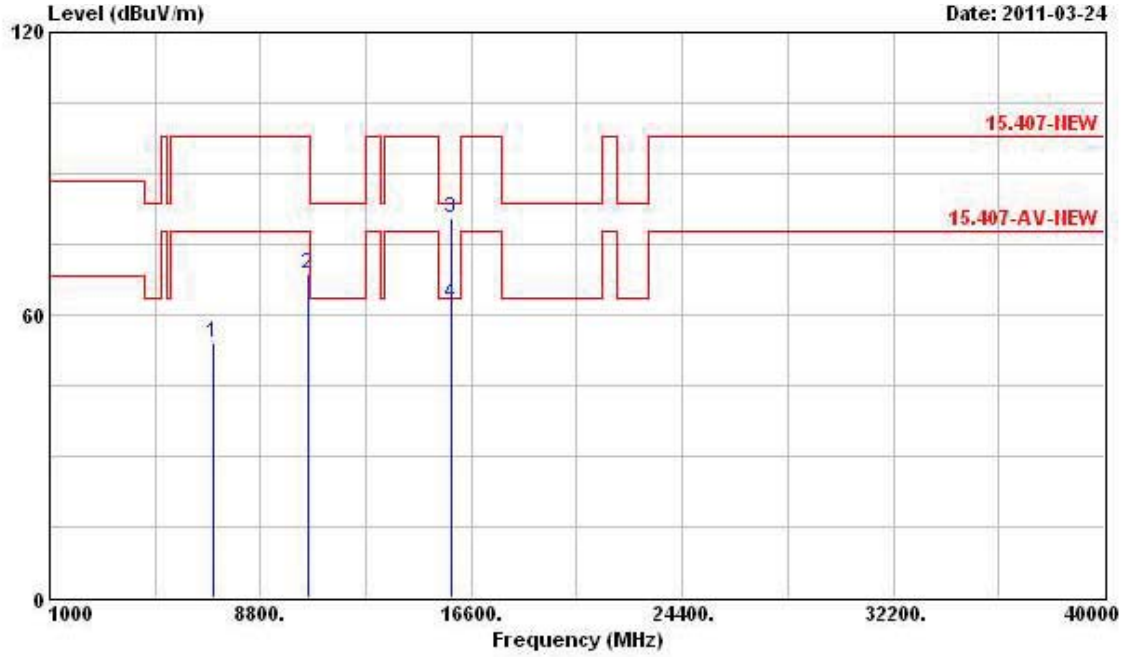
Final Test Date	Mar. 24, 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11a Ch. 56

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8644.000	54.10	-43.74	97.84	44.07	38.38	6.01	34.36	Peak
2	10560.000	61.44	-36.40	97.84	48.37	40.13	6.88	33.94	Peak
3	15840.000	56.93	-6.61	63.54	38.76	42.87	8.46	33.16	Average
4	15840.000	70.68	-12.86	83.54	52.51	42.87	8.46	33.16	Peak

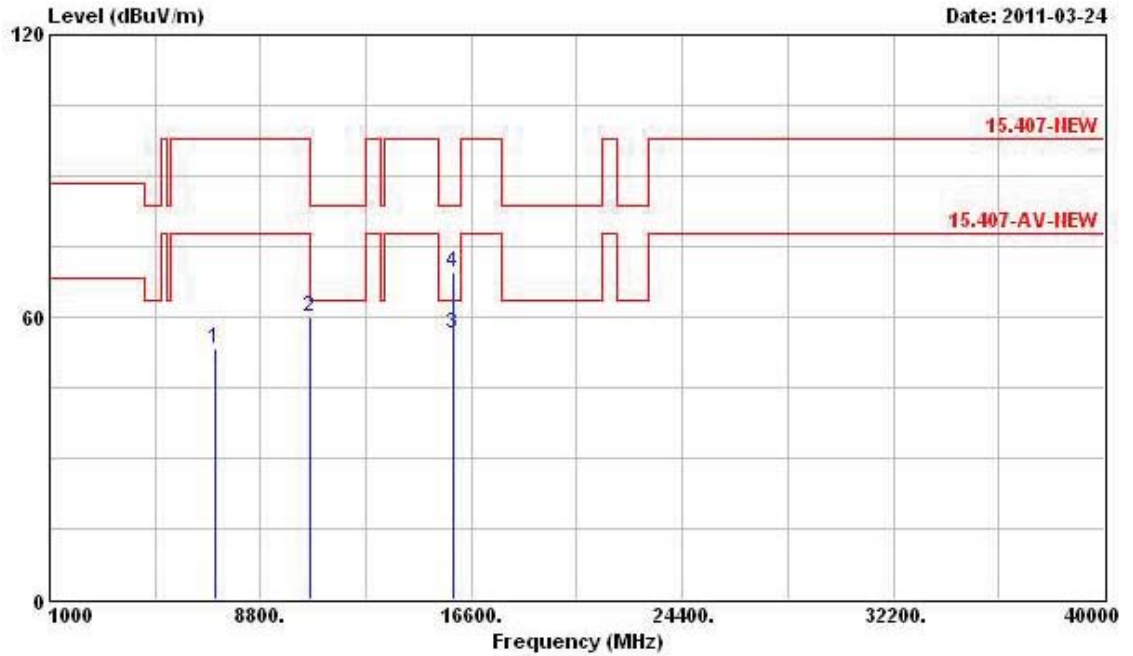
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7040.000	53.98	-43.86	97.84	44.85	37.81	5.60	34.28	Peak
2	10560.000	68.82	-29.02	97.84	55.75	40.13	6.88	33.94	Peak
3	15840.000	80.46	-3.08	83.54	62.29	42.87	8.46	33.16	Peak
4	@15840.000	62.24	-1.30	63.54	44.07	42.87	8.46	33.16	Average

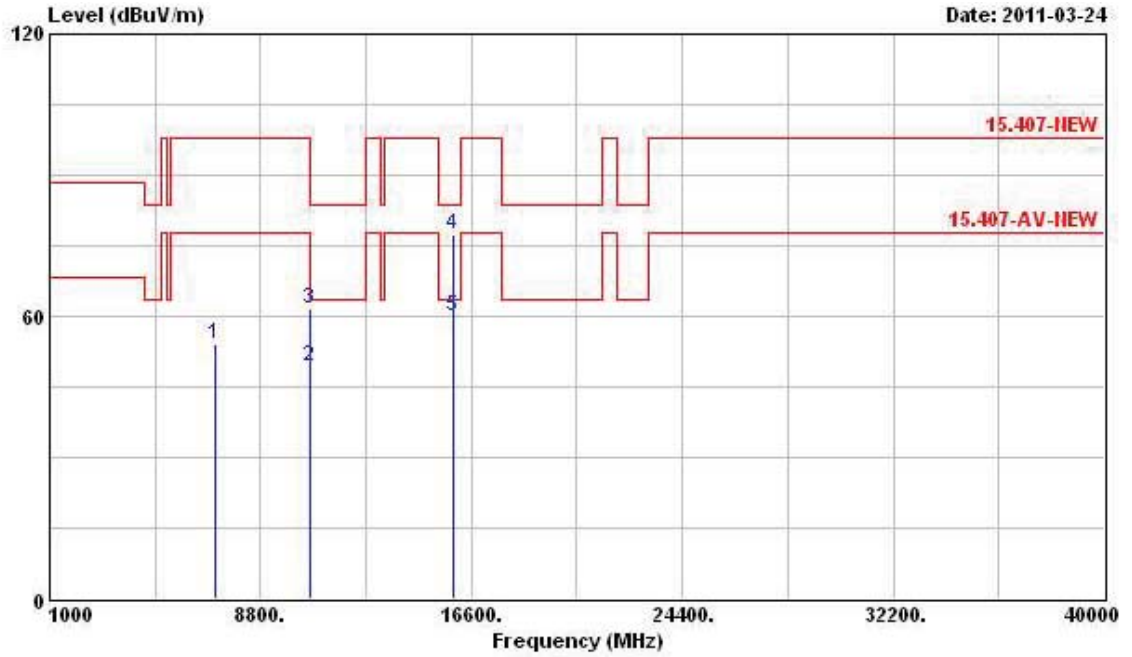
Final Test Date	Mar. 24, 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11a Ch. 64

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7124.000	53.29	-44.55	97.84	44.14	37.82	5.61	34.28	Peak
2	10640.000	60.16	-3.38	63.54	46.89	40.18	6.93	33.84	PK
3	15960.000	56.42	-7.12	63.54	38.35	42.89	8.47	33.29	Average
4	15960.000	69.33	-14.21	83.54	51.26	42.89	8.47	33.29	Peak

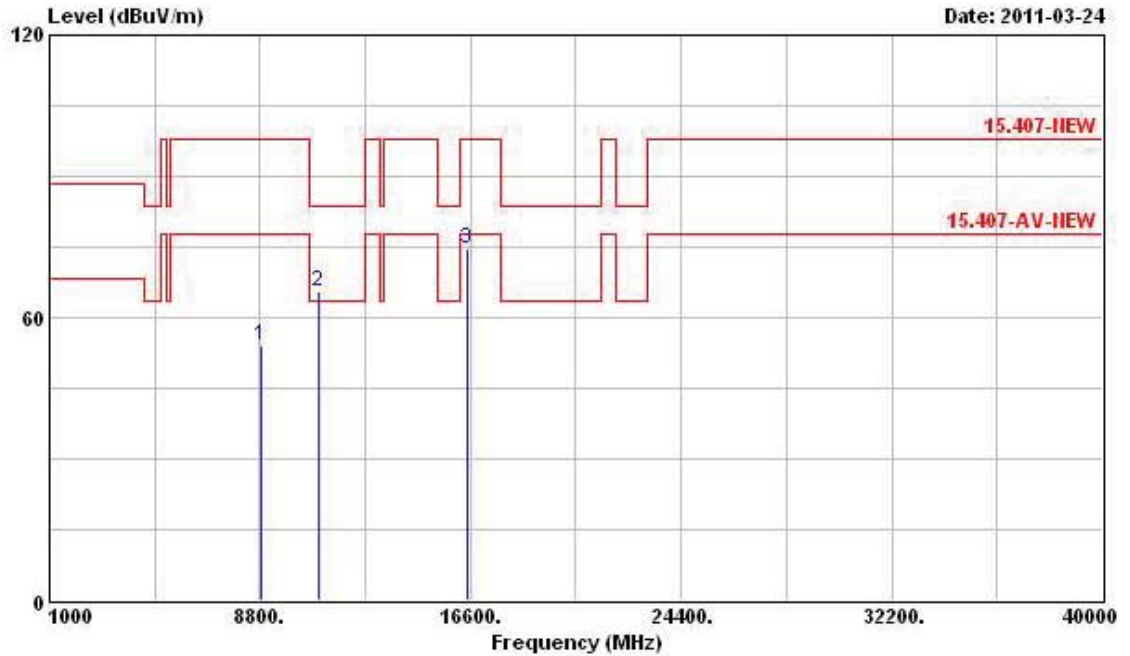
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7096.000	54.11	-43.73	97.84	44.96	37.82	5.61	34.28	Peak
2	10640.000	49.23	-14.31	63.54	35.96	40.18	6.93	33.84	Average
3	10640.000	61.76	-21.78	83.54	48.49	40.18	6.93	33.84	Peak
4	15960.000	77.36	-6.18	83.54	59.29	42.89	8.47	33.29	Peak
5	15960.000	60.06	-3.48	63.54	41.99	42.89	8.47	33.29	Average

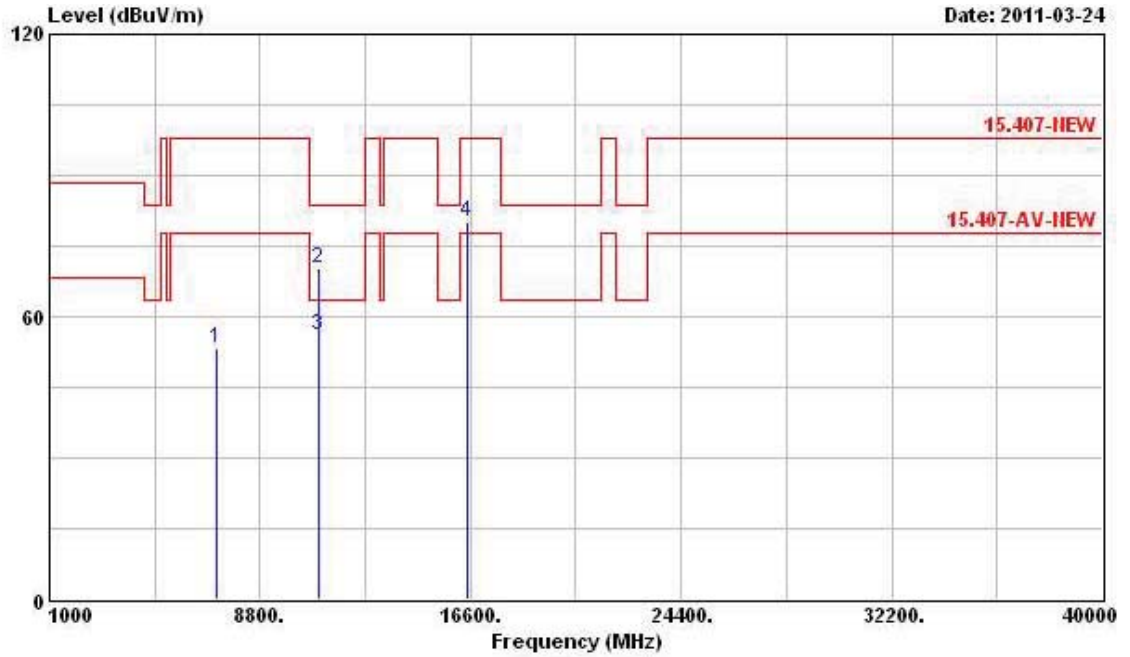
Final Test Date	Mar. 24, 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11a Ch. 100

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8860.000	54.00	-43.84	97.84	44.25	38.22	6.11	34.58	Peak
2	11000.000	65.60	-17.94	83.54	51.42	40.40	7.17	33.39	Peak
3	16500.000	74.76	-23.08	97.84	55.80	43.50	8.24	32.78	Peak

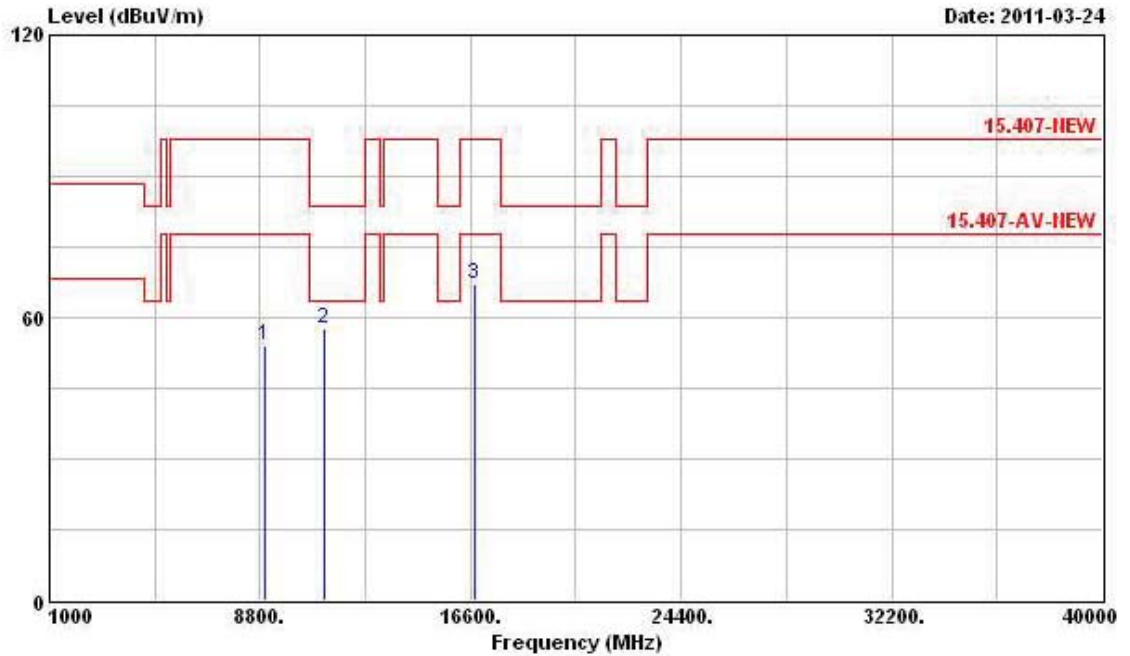
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7212.000	53.31	-44.53	97.84	44.14	37.84	5.62	34.29	Peak
2	11000.000	70.13	-13.41	83.54	55.95	40.40	7.17	33.39	Peak
3	11000.000	55.88	-7.66	63.54	41.70	40.40	7.17	33.39	Average
4	16500.000	80.07	-17.77	97.84	61.11	43.50	8.24	32.78	Peak

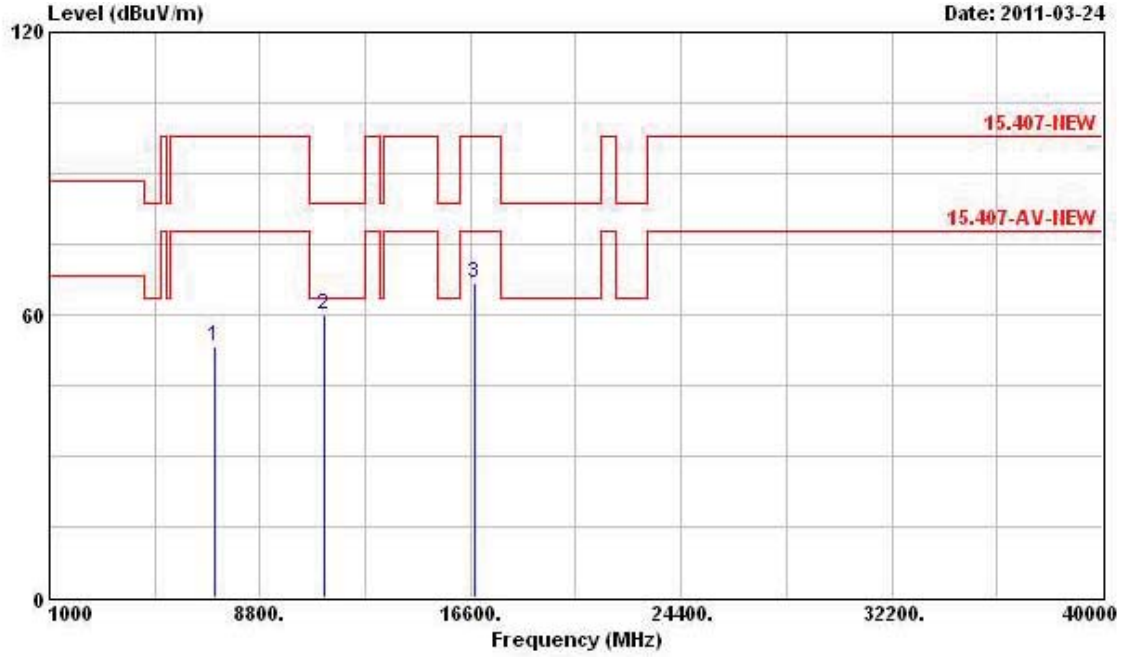
Final Test Date	Mar. 24, 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11a Ch. 116

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8972.000	54.10	-43.74	97.84	44.54	38.13	6.14	34.71	Peak
2	11160.000	57.60	-5.94	63.54	43.64	40.47	6.96	33.47	PK
3	16740.000	66.95	-30.89	97.84	47.44	43.60	8.47	32.56	Peak

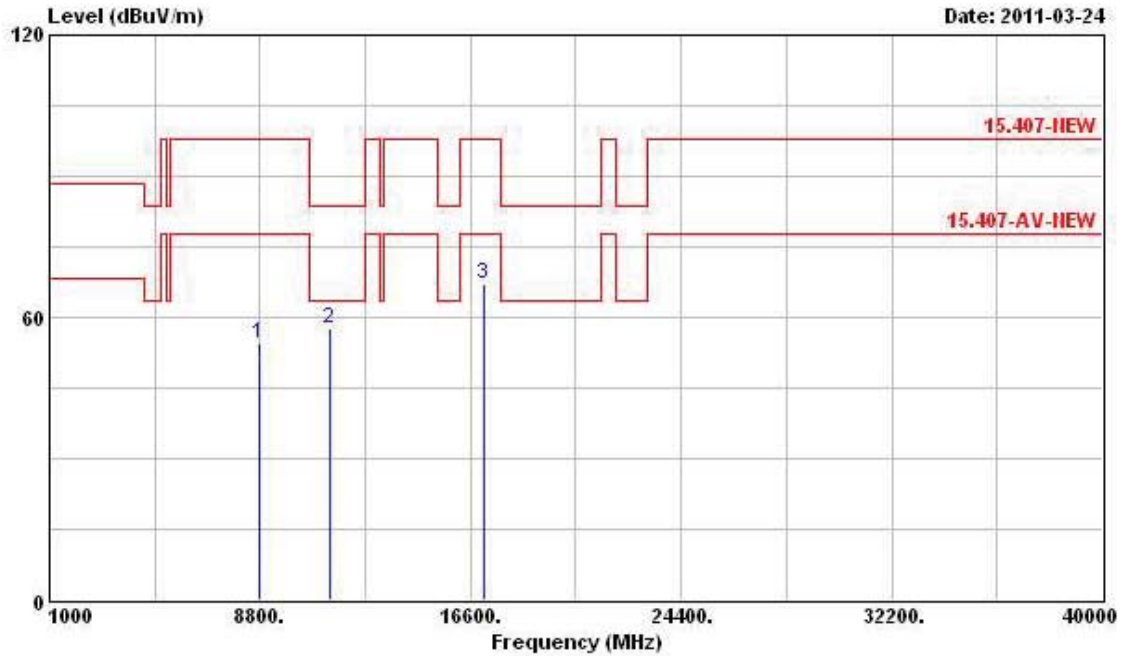
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7132.000	53.42	-44.42	97.84	44.26	37.83	5.61	34.28	Peak
2	11160.000	59.83	-3.71	63.54	45.87	40.47	6.96	33.47	PK
3	16740.000	66.65	-31.19	97.84	47.14	43.60	8.47	32.56	Peak

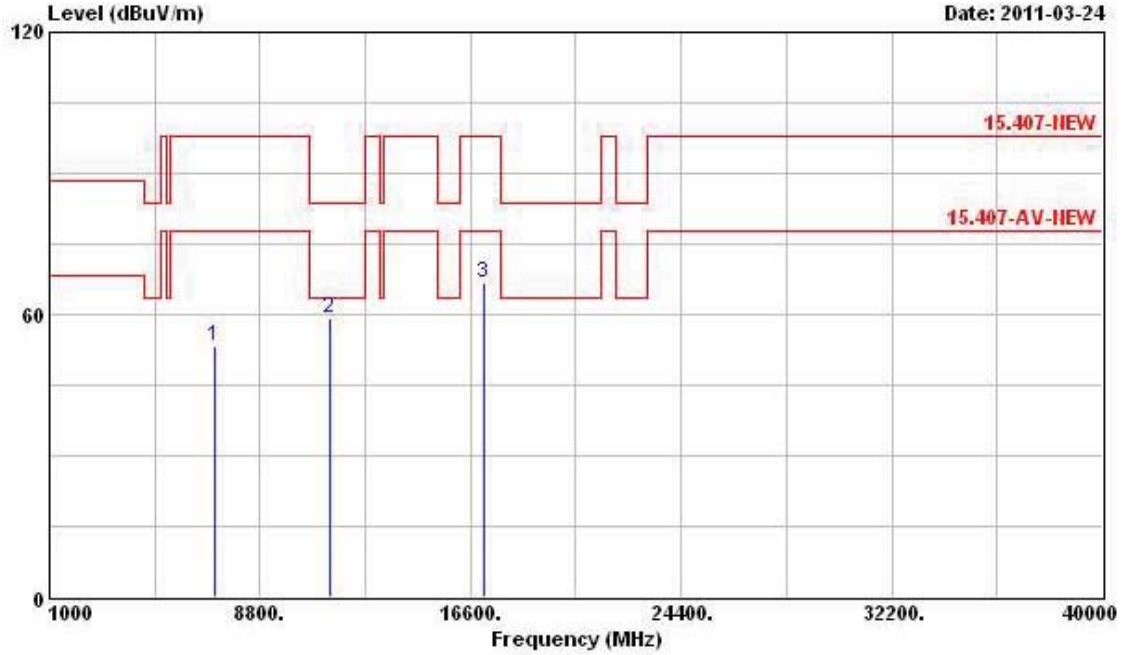
Final Test Date	Mar. 24, 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11a Ch. 140

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8780.000	54.37	-43.47	97.84	44.54	38.27	6.06	34.50	Peak
2	11400.000	57.67	-5.87	63.54	44.00	40.56	6.71	33.60	PK
3	17100.000	67.19	-30.65	97.84	47.22	43.64	8.61	32.28	Peak

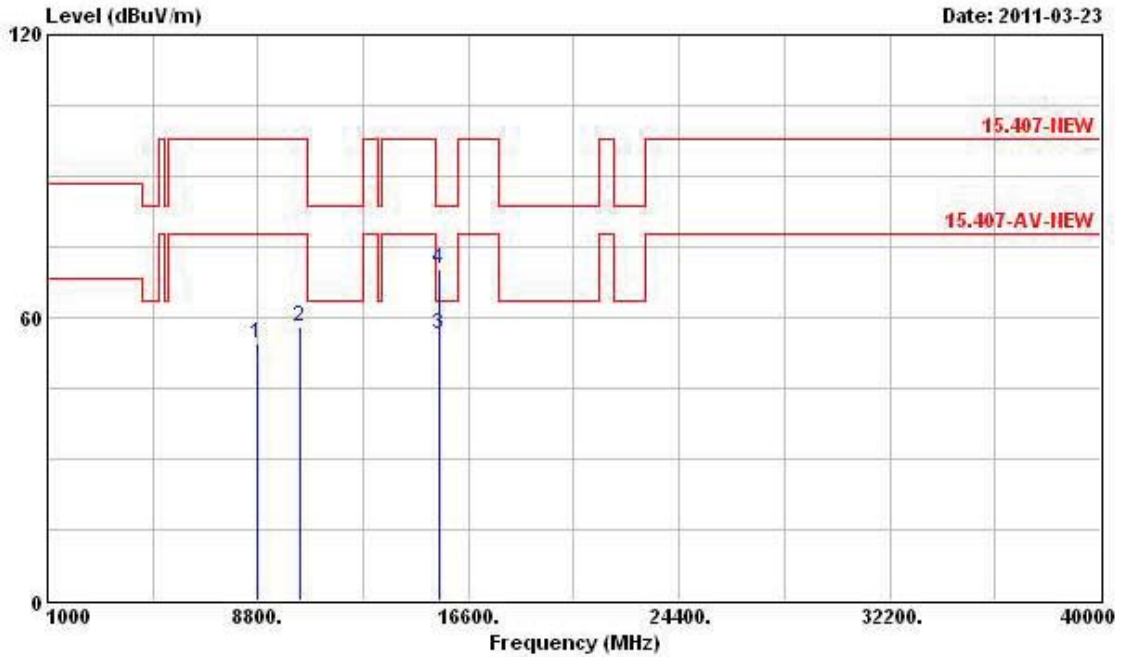
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7116.000	53.35	-44.49	97.84	44.20	37.82	5.61	34.28	Peak
2	11400.000	59.27	-4.27	63.54	45.60	40.56	6.71	33.60	PK
3	17100.000	66.77	-31.07	97.84	46.80	43.64	8.61	32.28	Peak

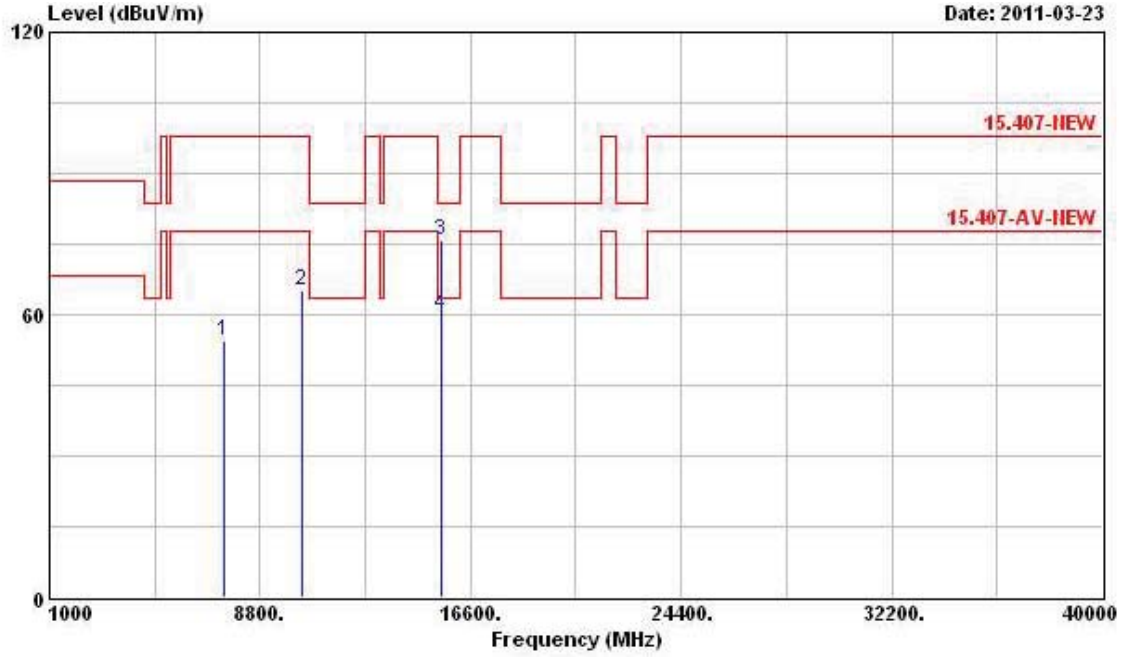
Final Test Date	Mar. 23, 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11n Ch. 36 (20MHz)

Horizontal



Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8792.000	54.30	-43.54	97.84	44.47	38.27	6.08	34.52 Peak
2	10360.000	57.94	-39.90	97.84	45.35	40.02	6.71	34.14 Peak
3	15540.000	56.42	-7.12	63.54	38.00	42.81	8.45	32.84 Average
4	15540.000	70.25	-13.29	83.54	51.83	42.81	8.45	32.84 Peak

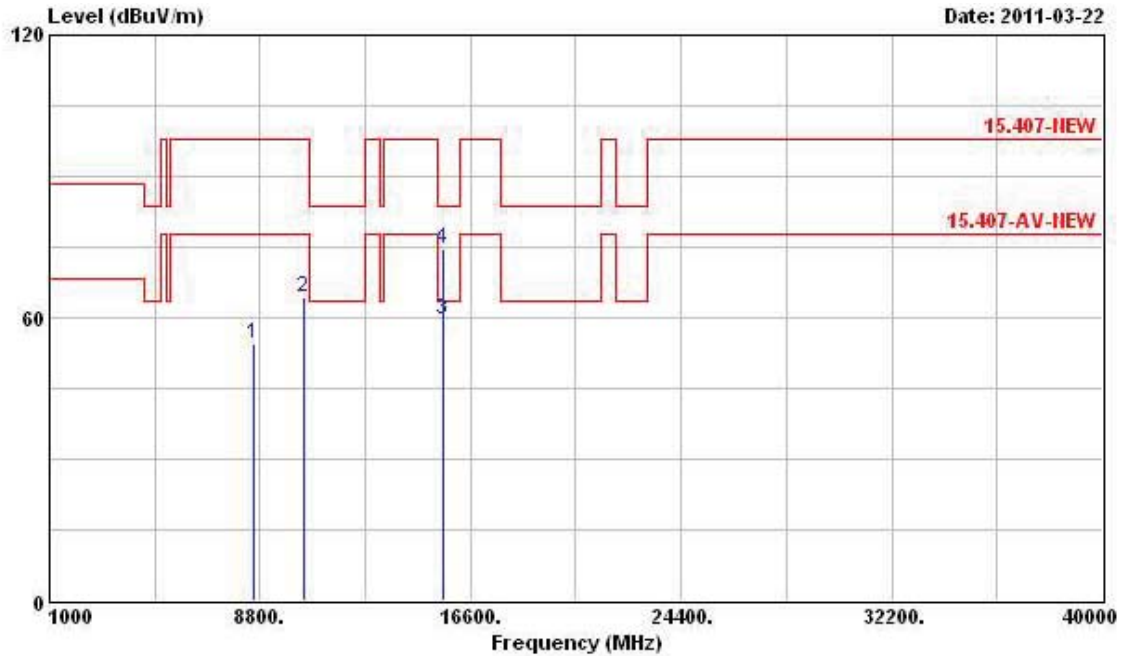
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7468.000	54.54	-23.30	77.84	45.28	37.89	5.66	34.29	PK
2	10360.000	65.13	-32.71	97.84	52.54	40.02	6.71	34.14	Peak
3	15540.000	75.97	-7.57	83.54	57.55	42.81	8.45	32.84	Peak
4	15540.000	59.94	-3.60	63.54	41.52	42.81	8.45	32.84	Average

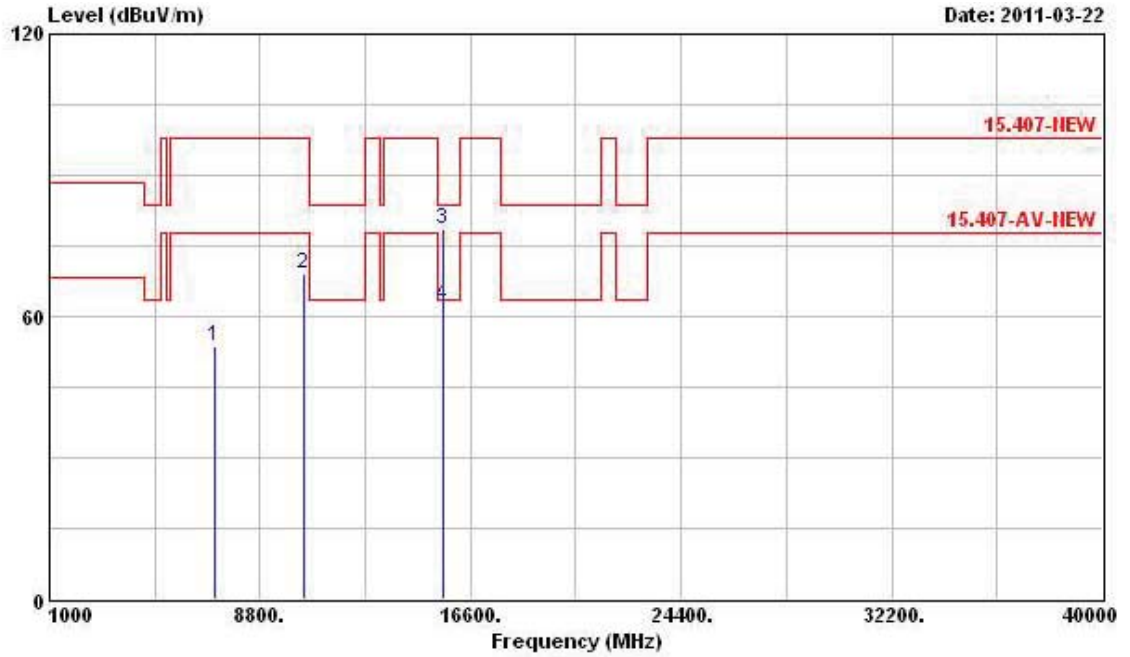
Final Test Date	Mar. 22, 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11n Ch. 40 (20MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8566.000	54.63	-43.21	97.84	44.49	38.45	5.97	34.28	Peak
2	10400.000	64.48	-33.36	97.84	51.79	40.04	6.75	34.10	Peak
3	15600.000	59.49	-4.05	63.54	41.14	42.82	8.45	32.92	Average
4	15600.000	74.77	-8.77	83.54	56.42	42.82	8.45	32.92	Peak

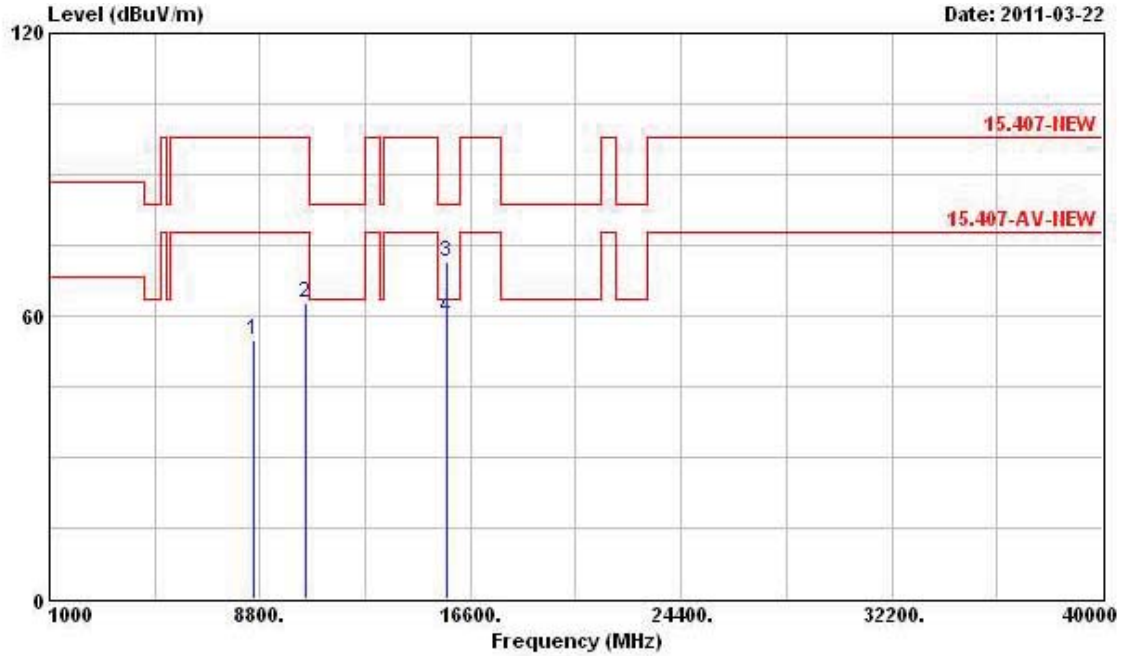
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7132.000	53.87	-43.97	97.84	44.71	37.83	5.61	34.28	Peak
2	10400.000	68.99	-28.85	97.84	56.30	40.04	6.75	34.10	Peak
3	15600.000	78.42	-5.12	83.54	60.07	42.82	8.45	32.92	Peak
4	@15600.000	62.44	-1.10	63.54	44.09	42.82	8.45	32.92	Average

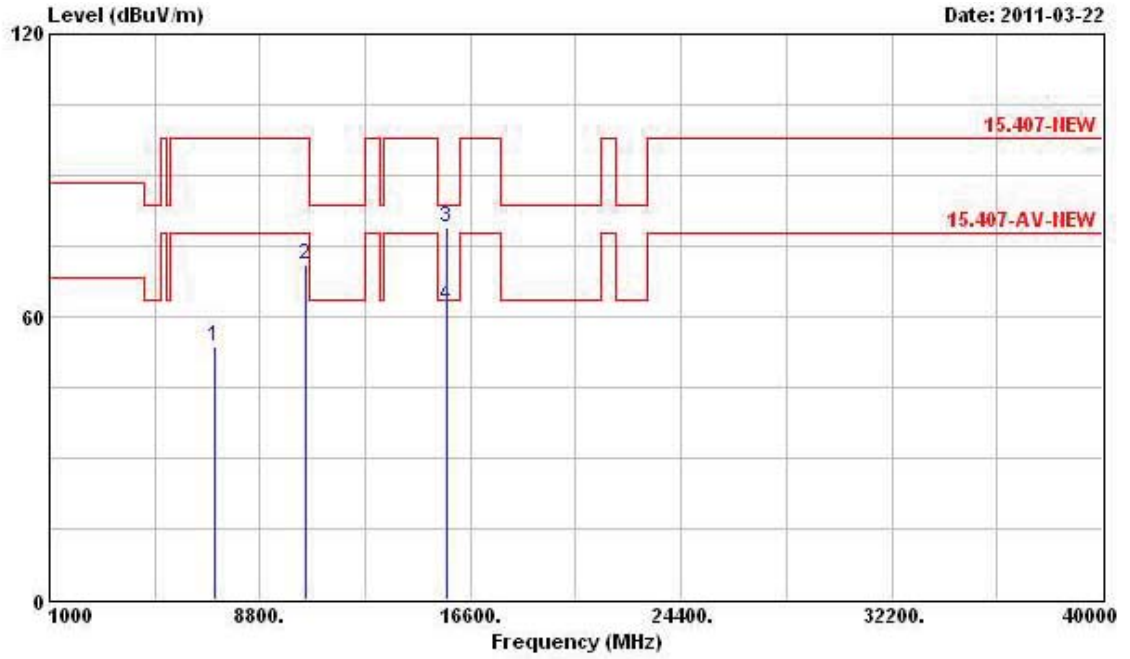
Final Test Date	Mar. 22, 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11n Ch. 48 (20MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8567.000	54.88	-42.96	97.84	44.74	38.45	5.97	34.28	Peak
2	10480.000	62.68	-35.16	97.84	49.80	40.09	6.82	34.03	Peak
3	15720.000	71.50	-12.04	83.54	53.23	42.84	8.46	33.03	Peak
4	15720.000	59.48	-4.06	63.54	41.21	42.84	8.46	33.03	Average

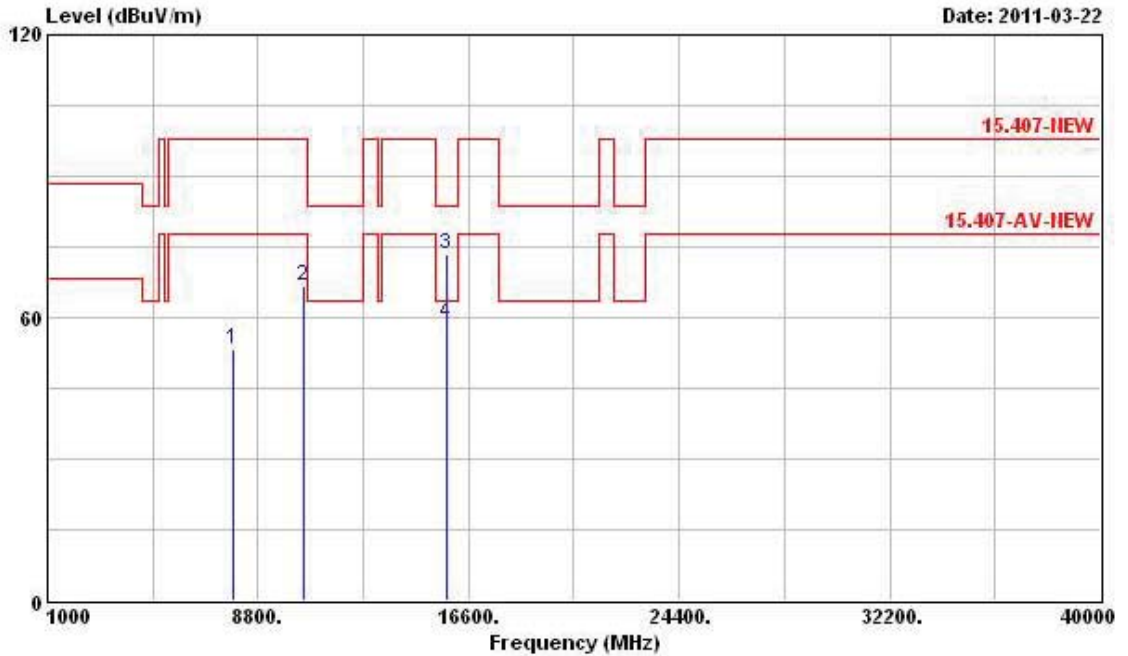
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7148.000	53.50	-44.34	97.84	44.33	37.83	5.62	34.28	Peak
2	10480.000	70.86	-26.98	97.84	57.98	40.09	6.82	34.03	Peak
3	15720.000	79.12	-4.42	83.54	60.85	42.84	8.46	33.03	Peak
4	@15720.000	62.32	-1.22	63.54	44.05	42.84	8.46	33.03	Average

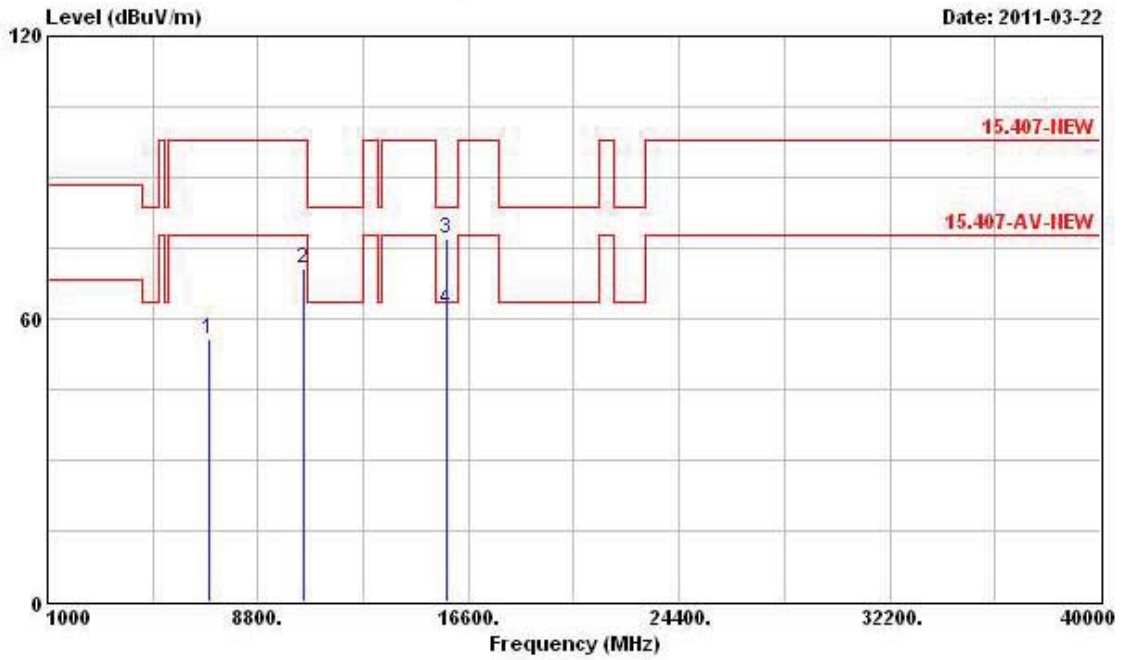
Final Test Date	Mar. 22, 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11n Ch. 52 (20MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7855.000	53.24	-44.60	97.84	43.71	38.11	5.77	34.35	Peak
2	10520.000	66.80	-31.04	97.84	53.84	40.11	6.85	34.00	Peak
3	15780.000	73.52	-10.02	83.54	55.31	42.86	8.46	33.11	Peak
4	15780.000	58.72	-4.82	63.54	40.51	42.86	8.46	33.11	Average

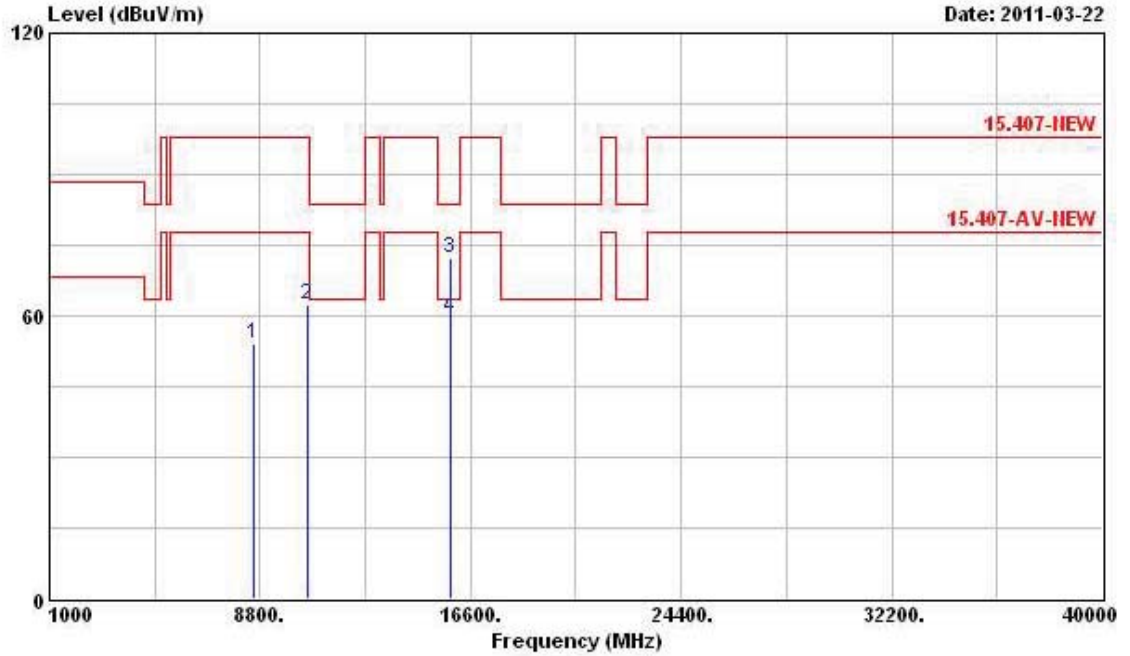
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7012.000	55.52	-42.32	97.84	46.40	37.80	5.60	34.28	Peak
2	10520.000	70.60	-27.24	97.84	57.64	40.11	6.85	34.00	Peak
3	15780.000	77.00	-6.54	83.54	58.79	42.86	8.46	33.11	Peak
4	@15780.000	61.90	-1.64	63.54	43.69	42.86	8.46	33.11	Average

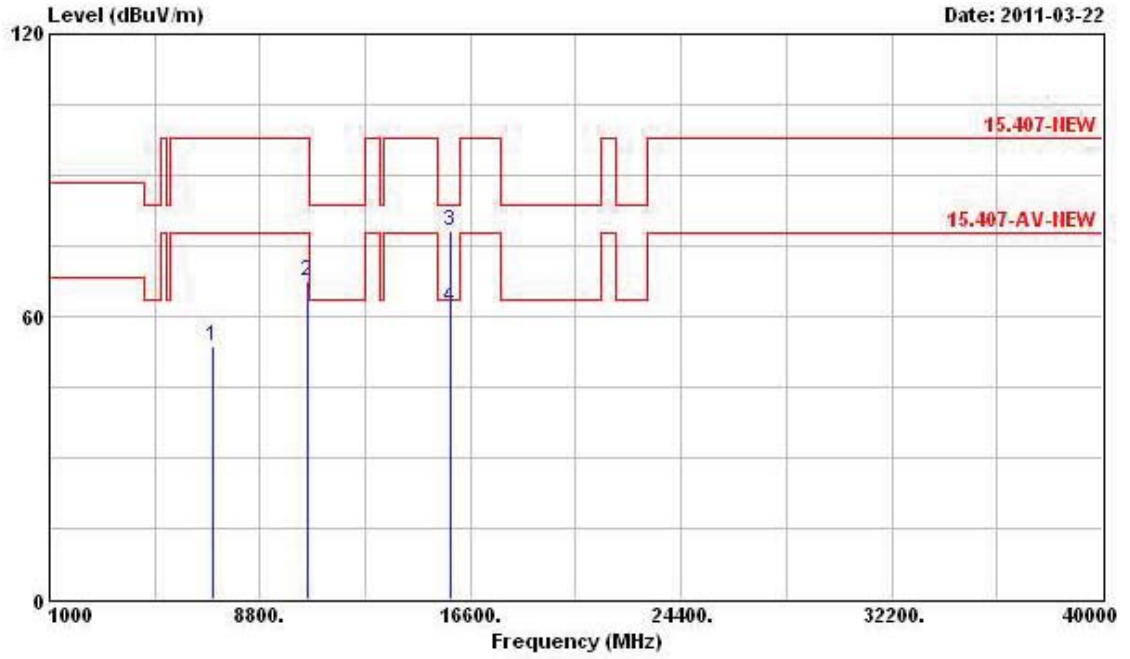
Final Test Date	Mar. 22, 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11n Ch. 56 (20MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8575.000	54.07	-43.77	97.84	43.95	38.43	5.97	34.28	Peak
2	10560.000	62.36	-35.48	97.84	49.29	40.13	6.88	33.94	Peak
3	15840.000	72.30	-11.24	83.54	54.13	42.87	8.46	33.16	Peak
4	15840.000	59.42	-4.12	63.54	41.25	42.87	8.46	33.16	Average

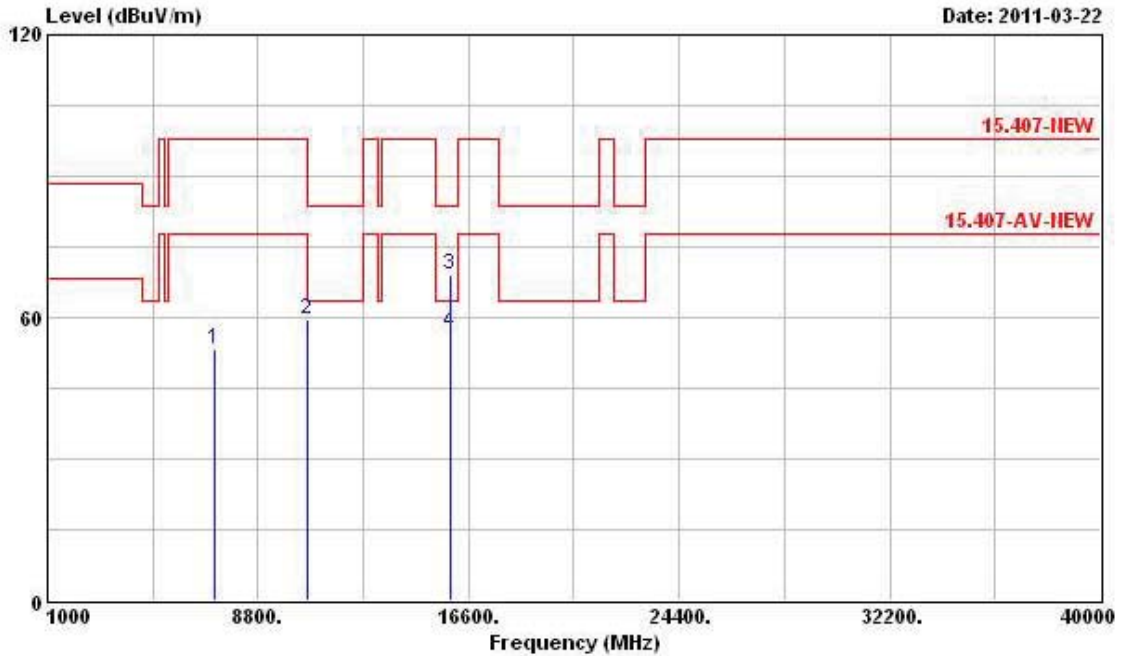
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7040.000	53.74	-44.10	97.84	44.61	37.81	5.60	34.28	Peak
2	10560.000	67.40	-30.44	97.84	54.33	40.13	6.88	33.94	Peak
3	15840.000	78.06	-5.48	83.54	59.89	42.87	8.46	33.16	Peak
4	@15840.000	62.12	-1.42	63.54	43.95	42.87	8.46	33.16	Average

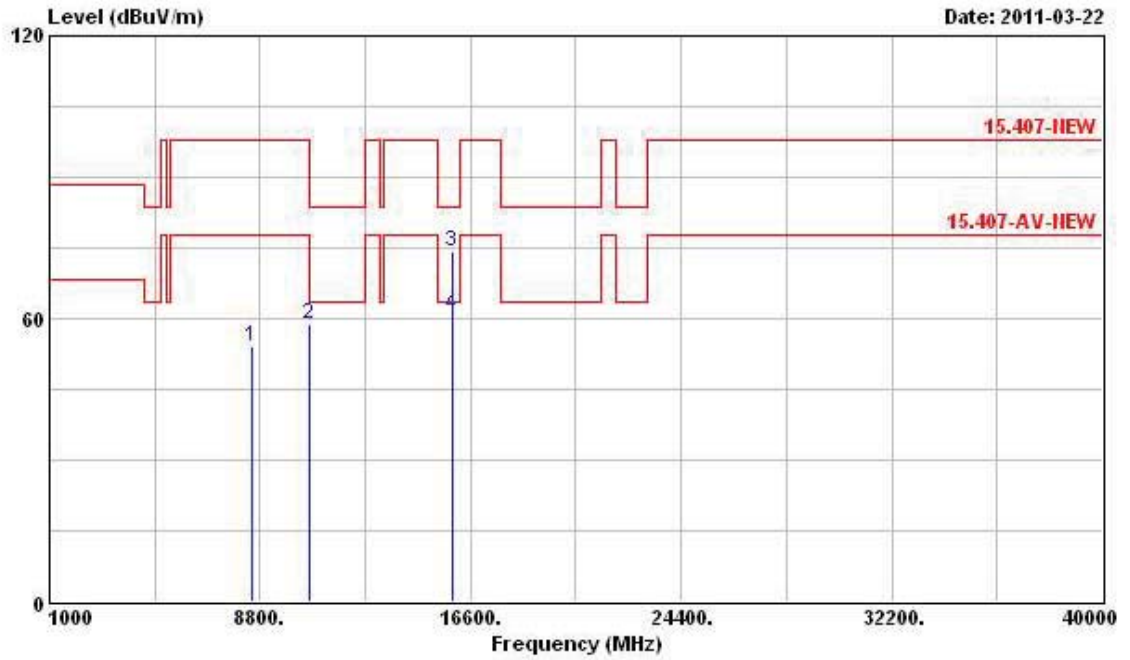
Final Test Date	Mar. 22 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11n Ch. 64 (20MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7200.200	53.48	-44.36	97.84	44.31	37.84	5.62	34.29	Peak
2	10640.000	59.71	-3.83	63.54	46.44	40.18	6.93	33.84	PK
3	15960.000	69.20	-14.34	83.54	51.13	42.89	8.47	33.29	Peak
4	15960.000	56.91	-6.63	63.54	38.84	42.89	8.47	33.29	Average

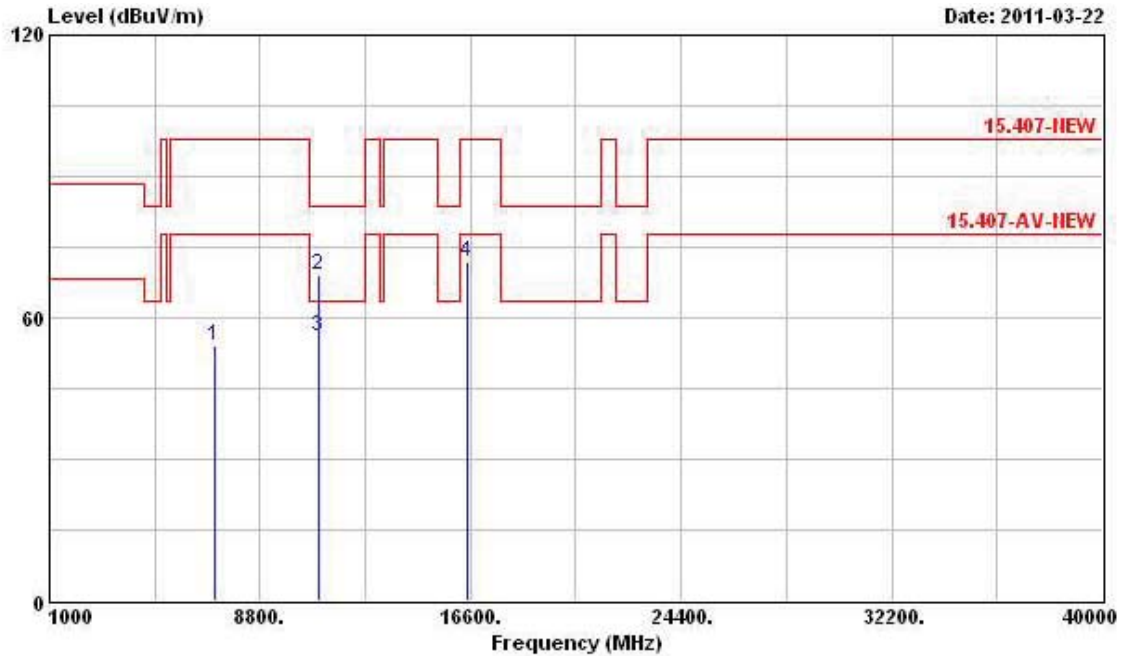
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8519.700	54.15	-43.69	97.84	43.93	38.49	5.96	34.23	Peak
2	10640.000	58.80	-4.74	63.54	45.53	40.18	6.93	33.84	PK
3	15960.000	74.02	-9.52	83.54	55.95	42.89	8.47	33.29	Peak
4	@15960.000	60.82	-2.72	63.54	42.75	42.89	8.47	33.29	Average

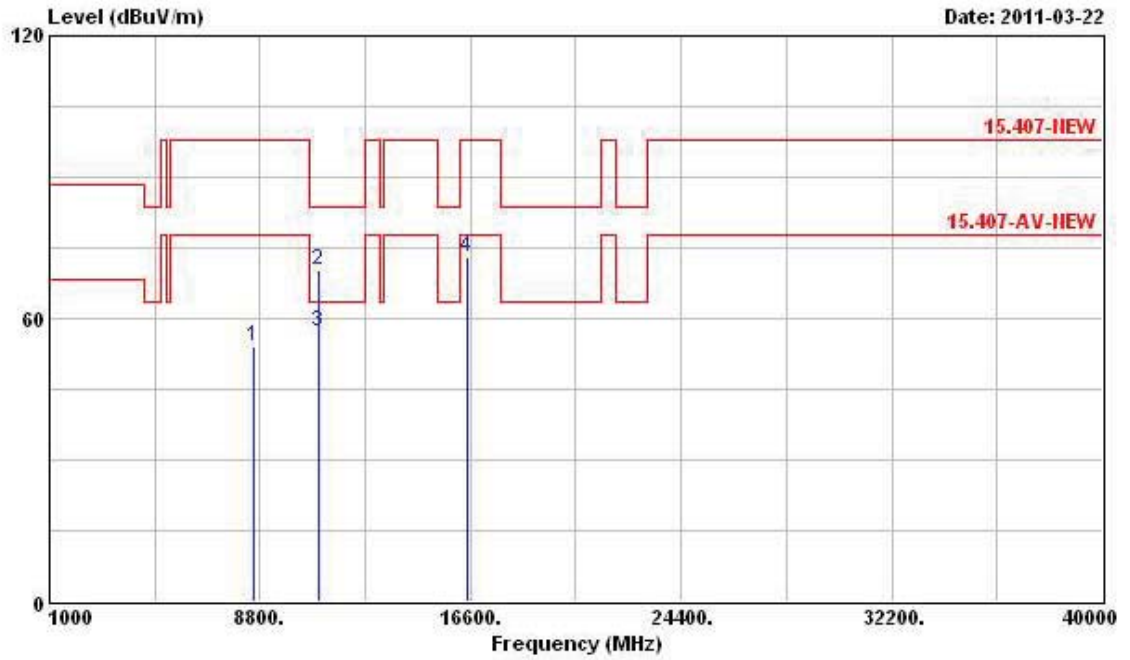
Final Test Date	Mar. 22 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11n Ch. 100 (20MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7147.000	53.96	-43.88	97.84	44.79	37.83	5.62	34.28	Peak
2	11000.000	69.21	-14.33	83.54	55.03	40.40	7.17	33.39	Peak
3	11000.000	55.97	-7.57	63.54	41.79	40.40	7.17	33.39	Average
4	16500.000	71.84	-26.00	97.84	52.88	43.50	8.24	32.78	Peak

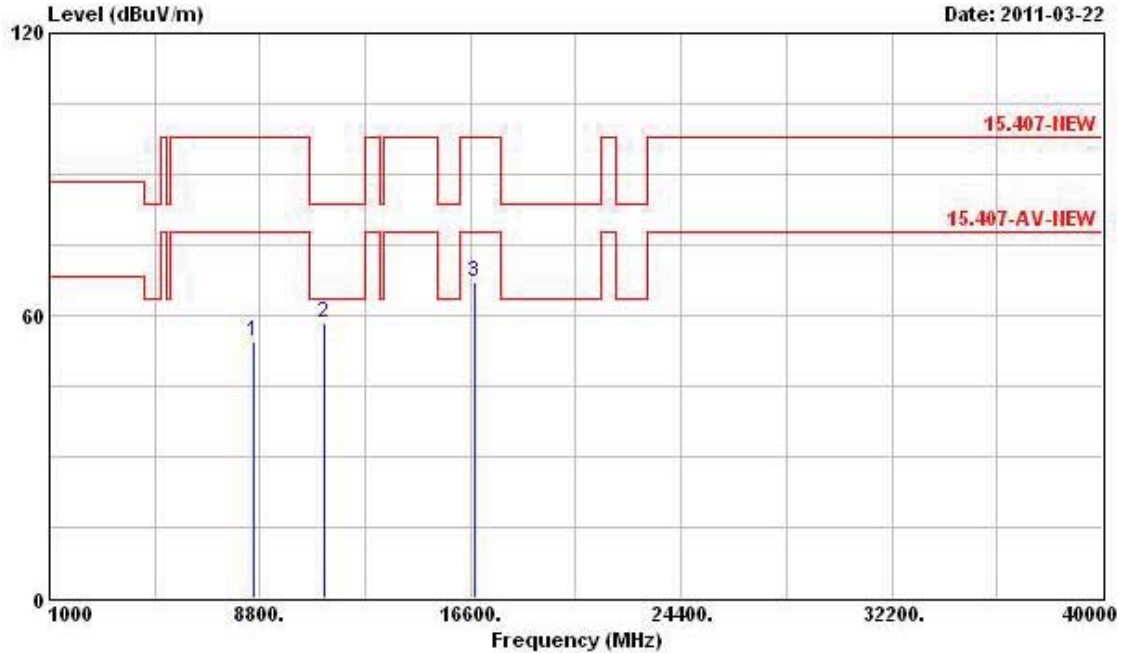
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8558.200	54.09	-43.75	97.84	43.93	38.45	5.97	34.26	Peak
2	11000.000	70.45	-13.09	83.54	56.27	40.40	7.17	33.39	Peak
3	11000.000	57.08	-6.46	63.54	42.90	40.40	7.17	33.39	Average
4	16500.000	72.90	-24.94	97.84	53.94	43.50	8.24	32.78	Peak

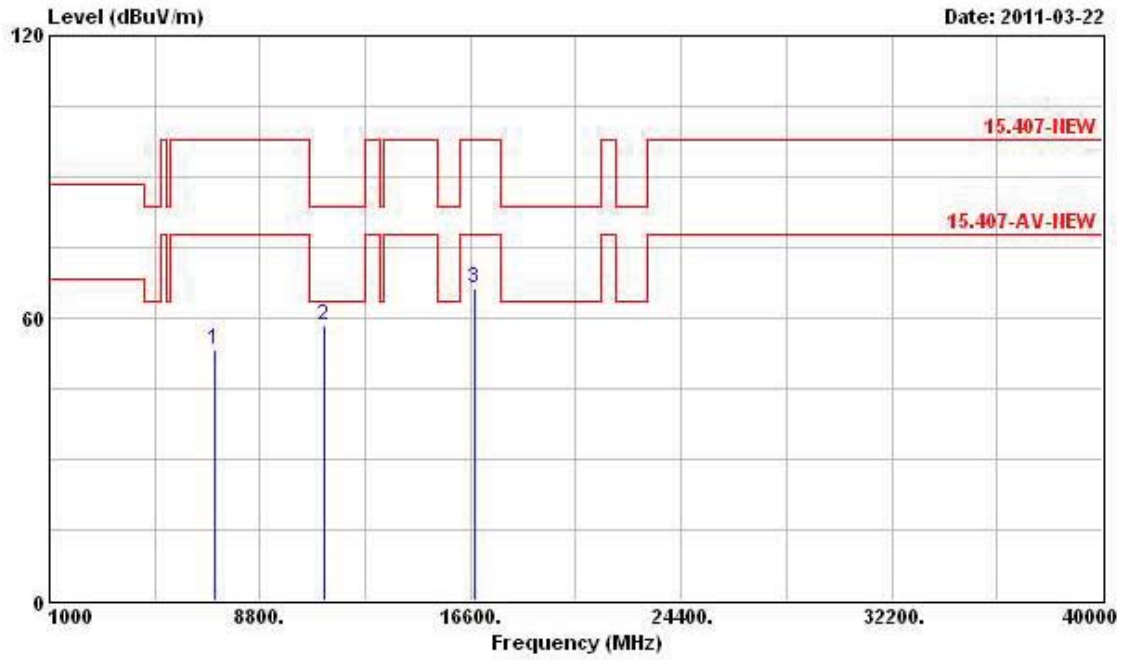
Final Test Date	Mar. 22 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11n Ch. 116 (20MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8540.000	54.33	-43.51	97.84	44.17	38.46	5.96	34.26	Peak
2	11160.000	58.23	-5.31	63.54	44.27	40.47	6.96	33.47	PK
3	16740.000	67.00	-30.84	97.84	47.49	43.60	8.47	32.56	Peak

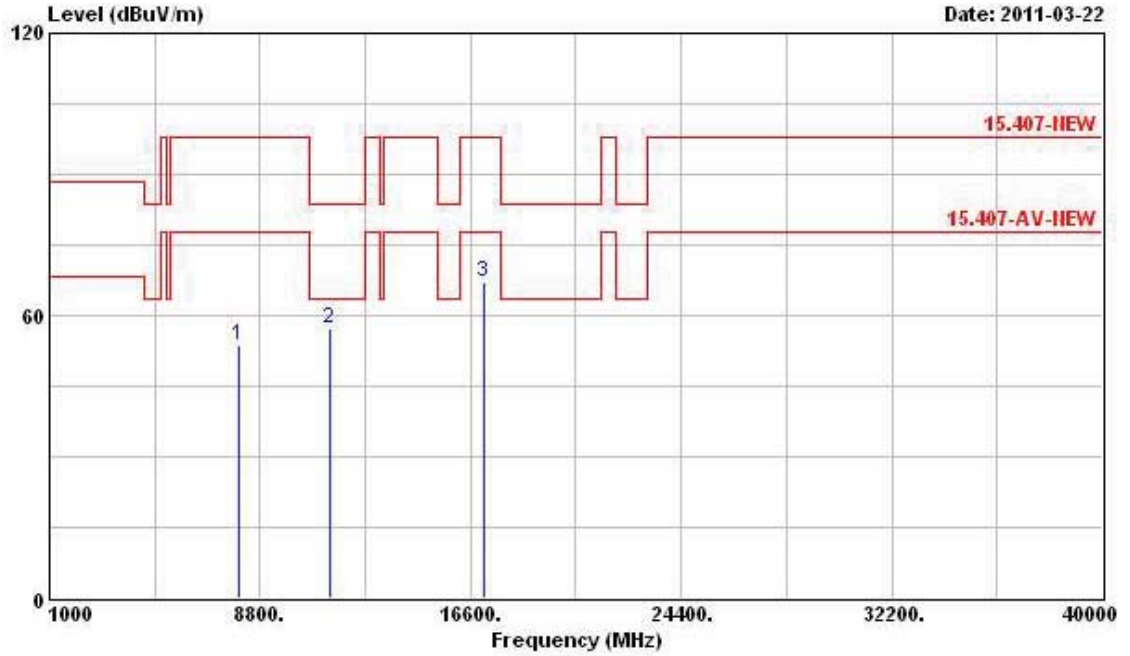
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7110.000	53.21	-44.63	97.84	44.06	37.82	5.61	34.28	Peak
2	11160.000	58.49	-5.05	63.54	44.53	40.47	6.96	33.47	PK
3	16740.000	66.47	-31.37	97.84	46.96	43.60	8.47	32.56	Peak

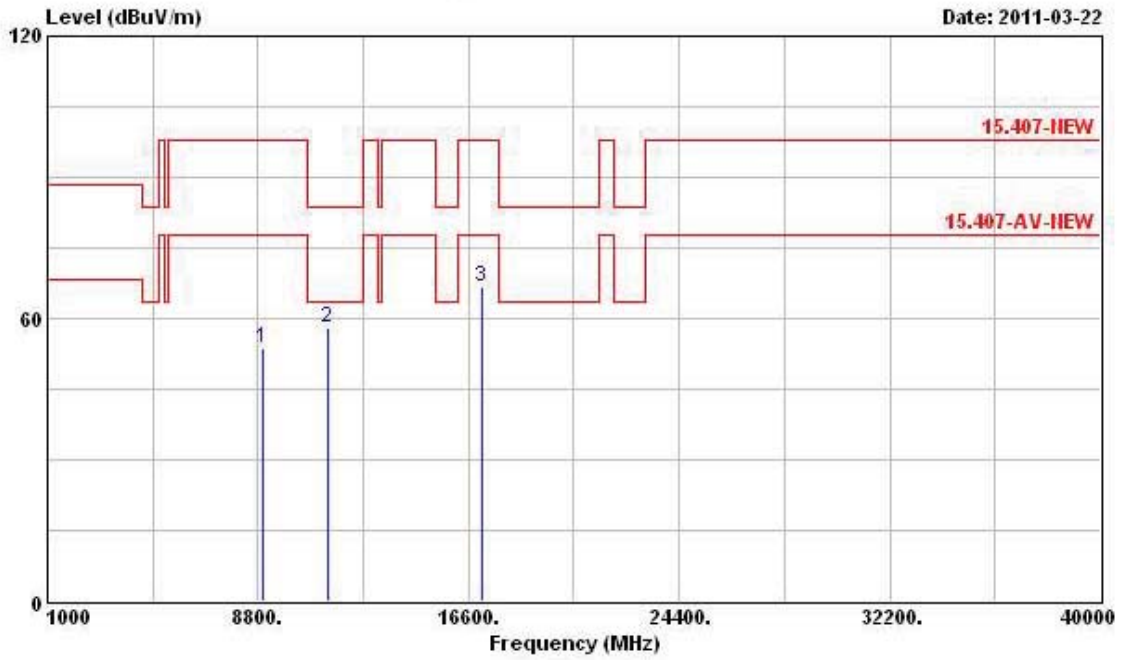
Final Test Date	Mar. 22 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11n Ch. 140 (20MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7997.500	53.76	-44.08	97.84	44.13	38.20	5.80	34.37	Peak
2	11400.000	57.32	-6.22	63.54	43.65	40.56	6.71	33.60	PK
3	17100.000	67.07	-30.77	97.84	47.10	43.64	8.61	32.28	Peak

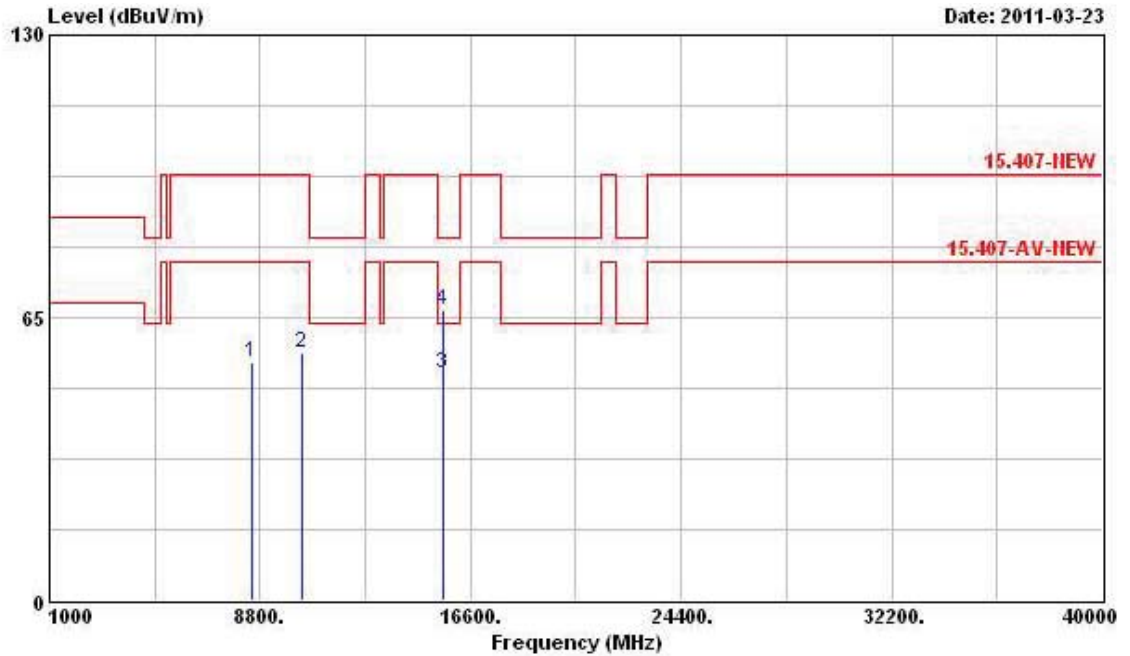
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8963.500	53.59	-44.25	97.84	43.99	38.14	6.14	34.68	Peak
2	11400.000	58.08	-5.46	63.54	44.41	40.56	6.71	33.60	PK
3	17100.000	66.67	-31.17	97.84	46.70	43.64	8.61	32.28	Peak

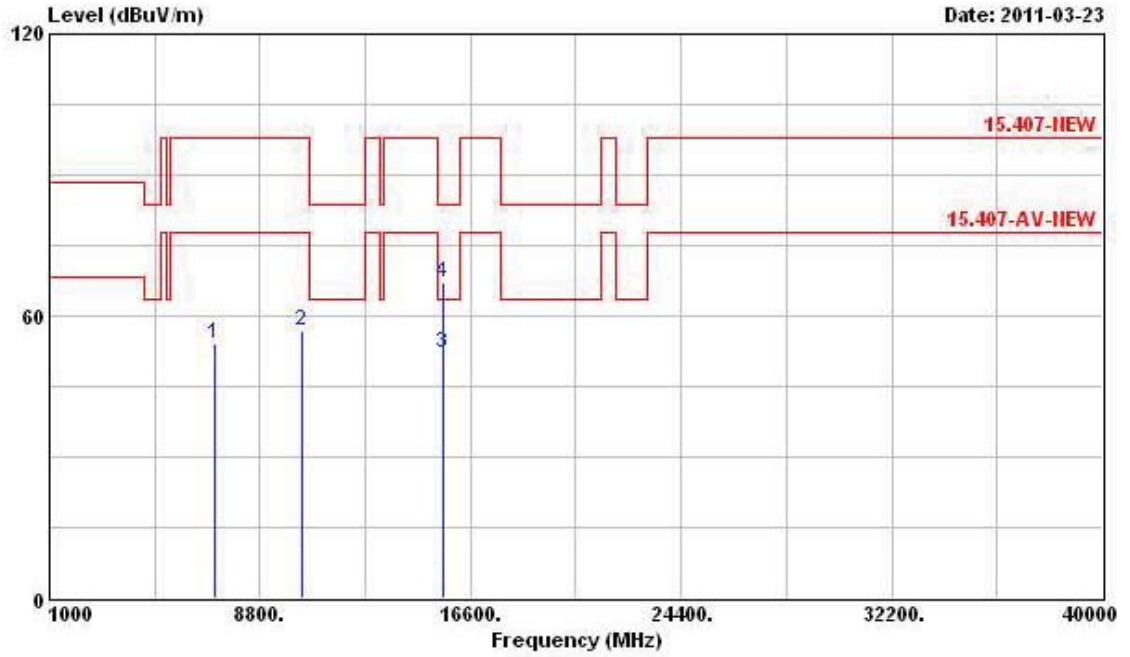
Final Test Date	Mar. 23 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11n Ch. 38 (40MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8510.000	54.90	-42.94	97.84	44.68	38.49	5.96	34.23	Peak
2	10380.000	56.78	-41.06	97.84	44.12	40.03	6.75	34.12	Peak
3	15570.000	52.12	-11.42	63.54	33.73	42.81	8.45	32.87	Average
4	15570.000	66.57	-16.97	83.54	48.18	42.81	8.45	32.87	Peak

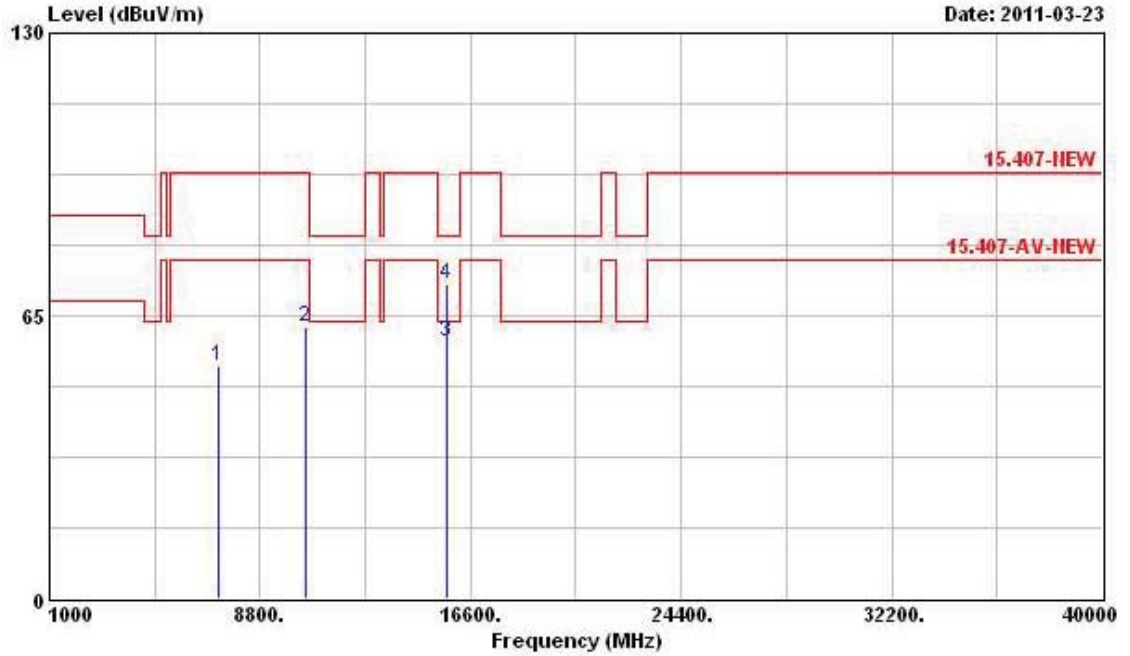
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7120.000	53.99	-43.85	97.84	44.84	37.82	5.61	34.28	Peak
2	10380.000	56.90	-40.94	97.84	44.24	40.03	6.75	34.12	Peak
3	15570.000	52.11	-11.43	63.54	33.72	42.81	8.45	32.87	Average
4	15570.000	67.25	-16.29	83.54	48.86	42.81	8.45	32.87	Peak

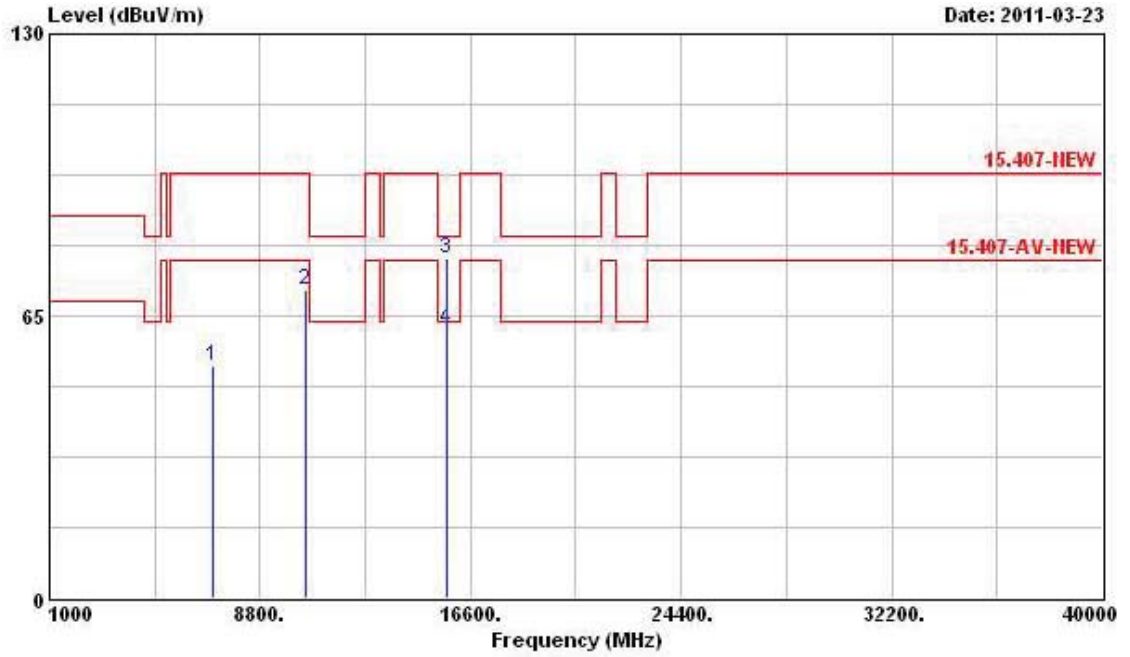
Final Test Date	Mar. 23 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11n Ch. 46 (40MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7248.000	53.24	-44.60	97.84	44.05	37.85	5.63	34.29	Peak
2	10460.000	62.44	-35.40	97.84	49.60	40.07	6.82	34.05	Peak
3	15690.000	58.99	-4.55	63.54	40.69	42.84	8.46	33.00	Average
4	15690.000	72.15	-11.39	83.54	53.85	42.84	8.46	33.00	Peak

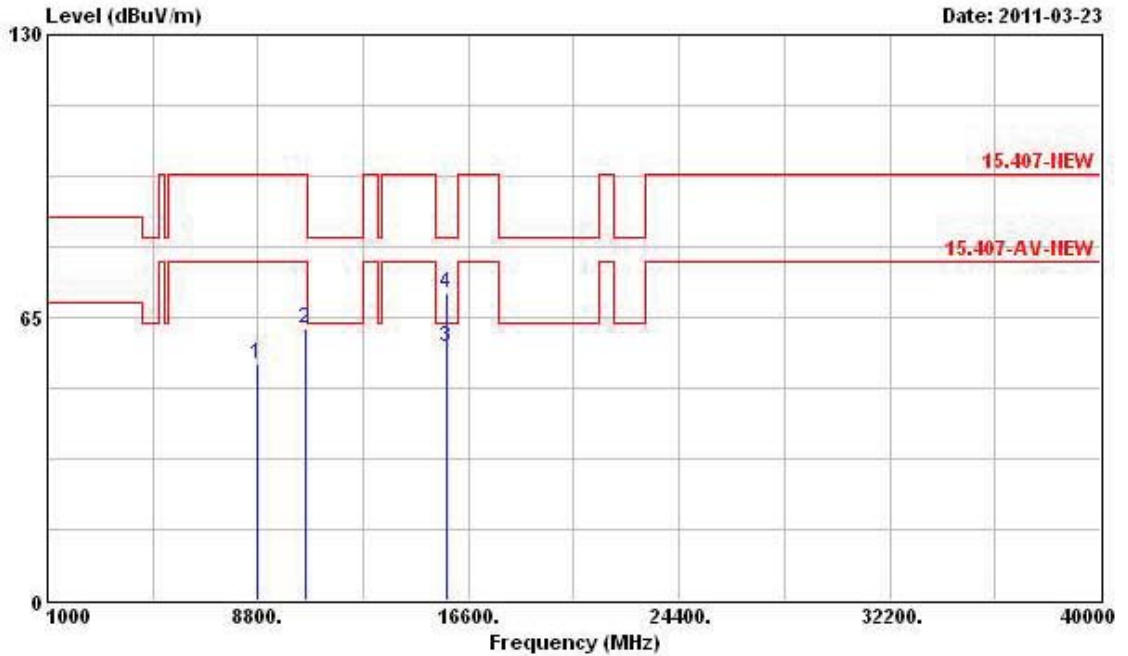
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7056.000	53.40	-44.44	97.84	44.27	37.81	5.60	34.28	Peak
2	10460.000	70.82	-27.02	97.84	57.98	40.07	6.82	34.05	Peak
3	15690.000	78.24	-5.30	83.54	59.94	42.84	8.46	33.00	Peak
4	@15690.000	61.96	-1.58	63.54	43.66	42.84	8.46	33.00	Average

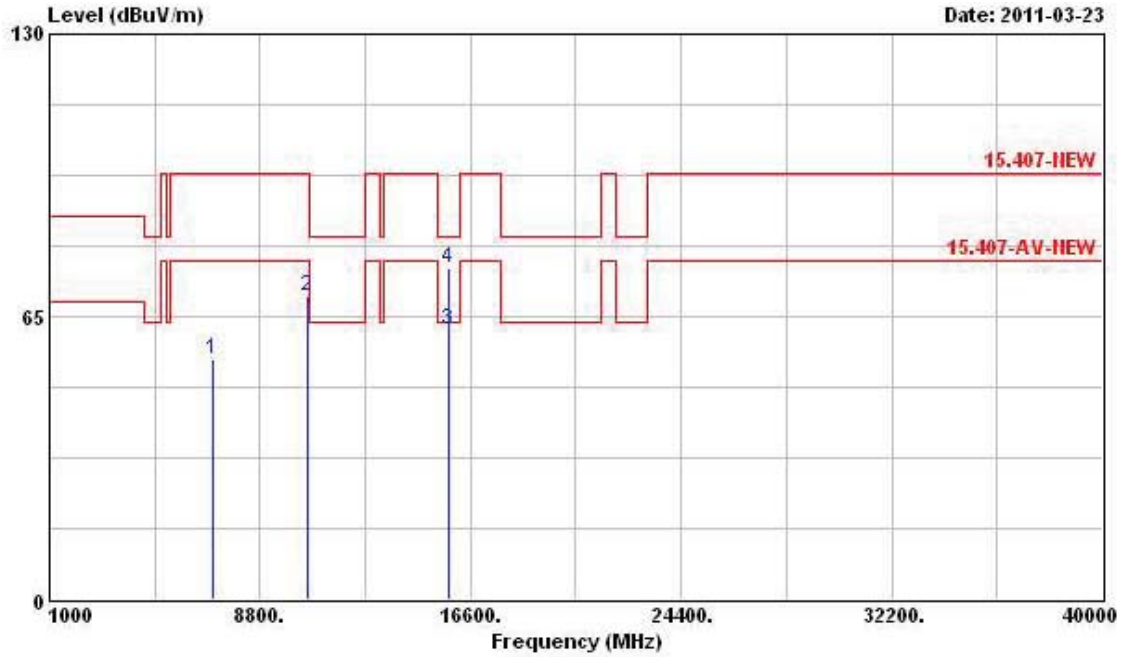
Final Test Date	Mar. 23 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11n Ch. 54 (40MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8804.000	54.26	-43.58	97.84	44.44	38.26	6.08	34.52	Peak
2	10540.000	62.27	-35.57	97.84	49.24	40.12	6.88	33.97	Peak
3	15810.000	58.35	-5.19	63.54	40.16	42.86	8.46	33.13	Average
4	15810.000	70.72	-12.82	83.54	52.53	42.86	8.46	33.13	Peak

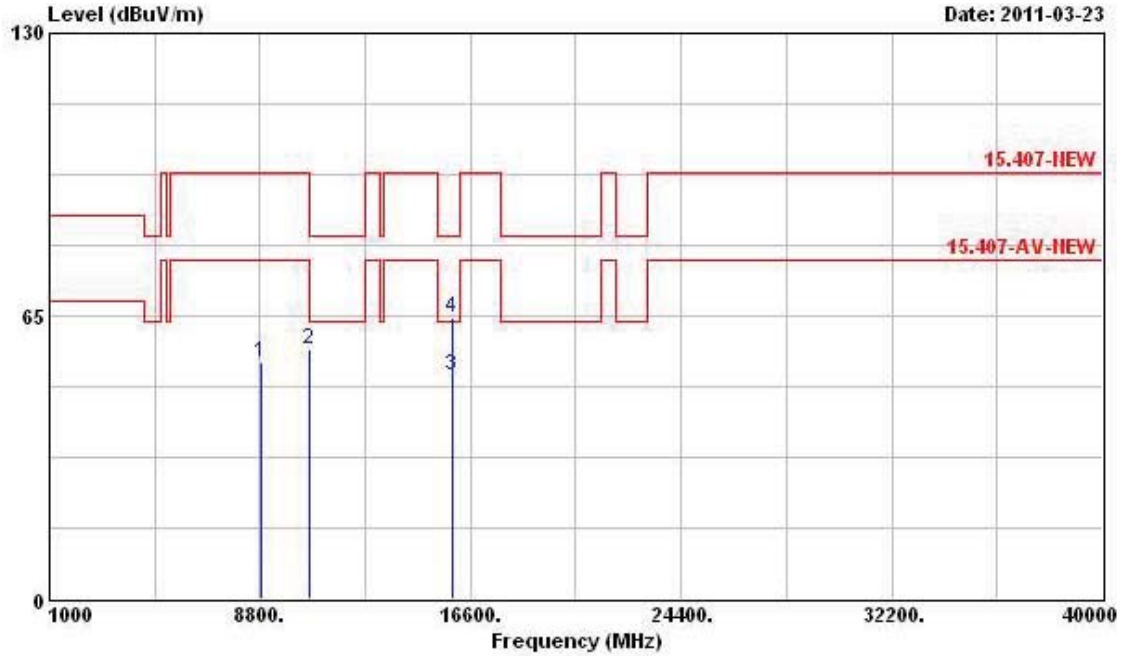
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7024.000	54.97	-42.87	97.84	45.85	37.80	5.60	34.28	Peak
2	10540.000	69.88	-27.96	97.84	56.85	40.12	6.88	33.97	Peak
3	15810.000	61.80	-1.74	63.54	43.61	42.86	8.46	33.13	Average
4	15810.000	76.17	-7.37	83.54	57.98	42.86	8.46	33.13	Peak

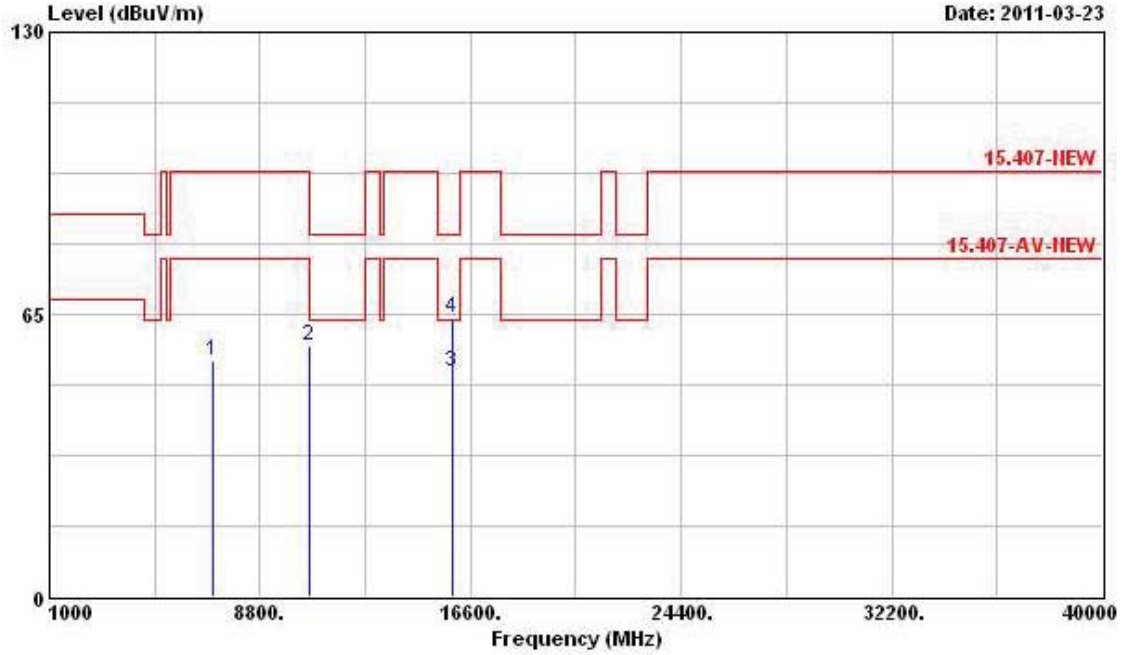
Final Test Date	Mar. 23 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11n Ch. 62 (40MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8814.000	54.30	-43.54	97.84	44.49	38.25	6.08	34.52	Peak
2	10620.000	57.12	-6.42	63.54	43.89	40.17	6.93	33.87	PK
3	15930.000	51.37	-12.17	63.54	33.25	42.89	8.47	33.24	Average
4	15930.000	64.37	-19.17	83.54	46.25	42.89	8.47	33.24	Peak

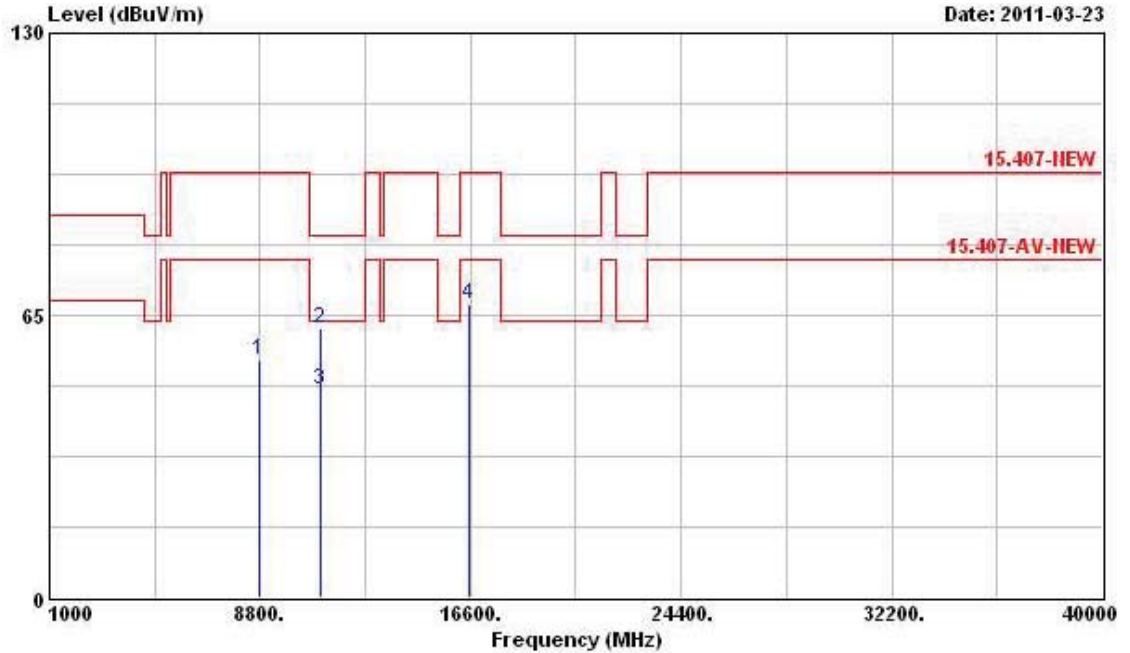
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7060.000	54.31	-43.53	97.84	45.18	37.81	5.60	34.28	Peak
2	10620.000	57.67	-5.87	63.54	44.44	40.17	6.93	33.87	PK
3	15930.000	51.61	-11.93	63.54	33.49	42.89	8.47	33.24	Average
4	15930.000	64.17	-19.37	83.54	46.05	42.89	8.47	33.24	Peak

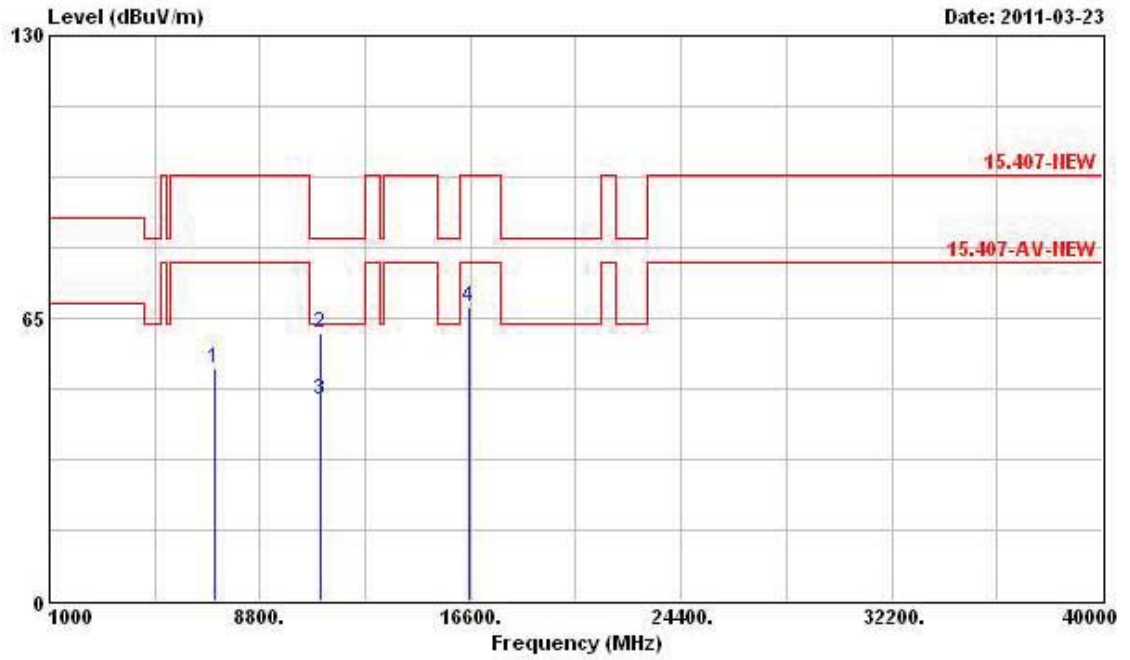
Final Test Date	Mar. 23 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11n Ch. 102 (40MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8772.000	54.72	-43.12	97.84	44.87	38.29	6.06	34.50	Peak
2	11020.000	61.94	-21.60	83.54	47.80	40.41	7.13	33.40	Peak
3	11020.000	47.84	-15.70	63.54	33.70	40.41	7.13	33.40	Average
4	16530.000	67.59	-30.25	97.84	48.57	43.51	8.27	32.76	Peak

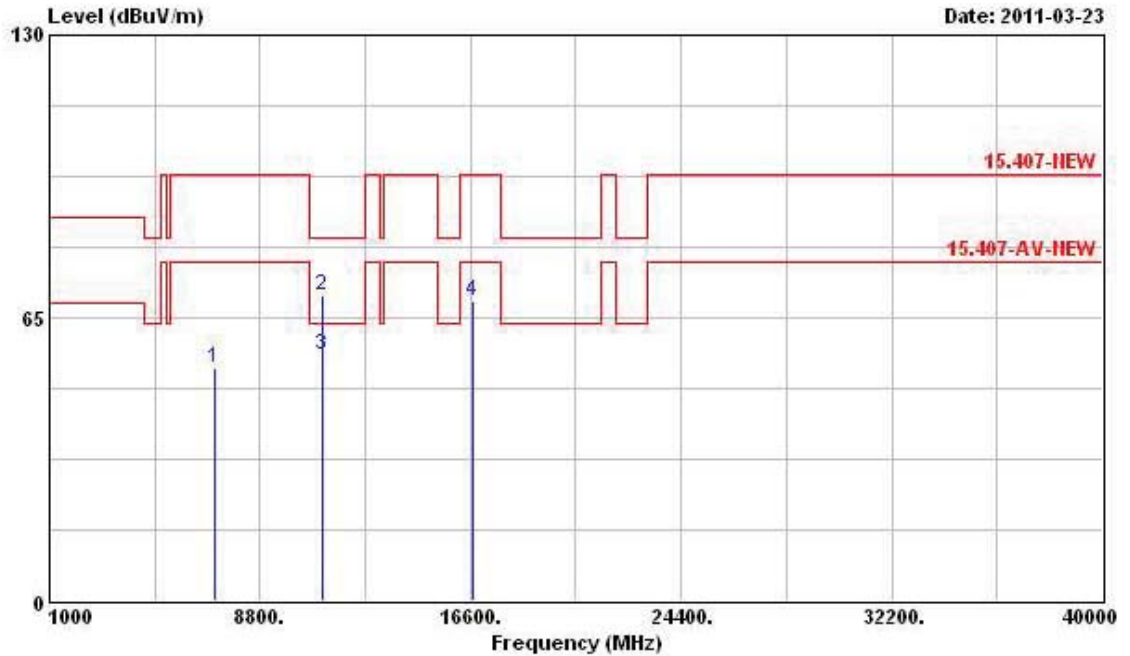
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7148.000	53.65	-44.19	97.84	44.48	37.83	5.62	34.28	Peak
2	11020.000	61.67	-21.87	83.54	47.53	40.41	7.13	33.40	Peak
3	11020.000	46.28	-17.26	63.54	32.14	40.41	7.13	33.40	Average
4	16530.000	67.42	-30.42	97.84	48.40	43.51	8.27	32.76	Peak

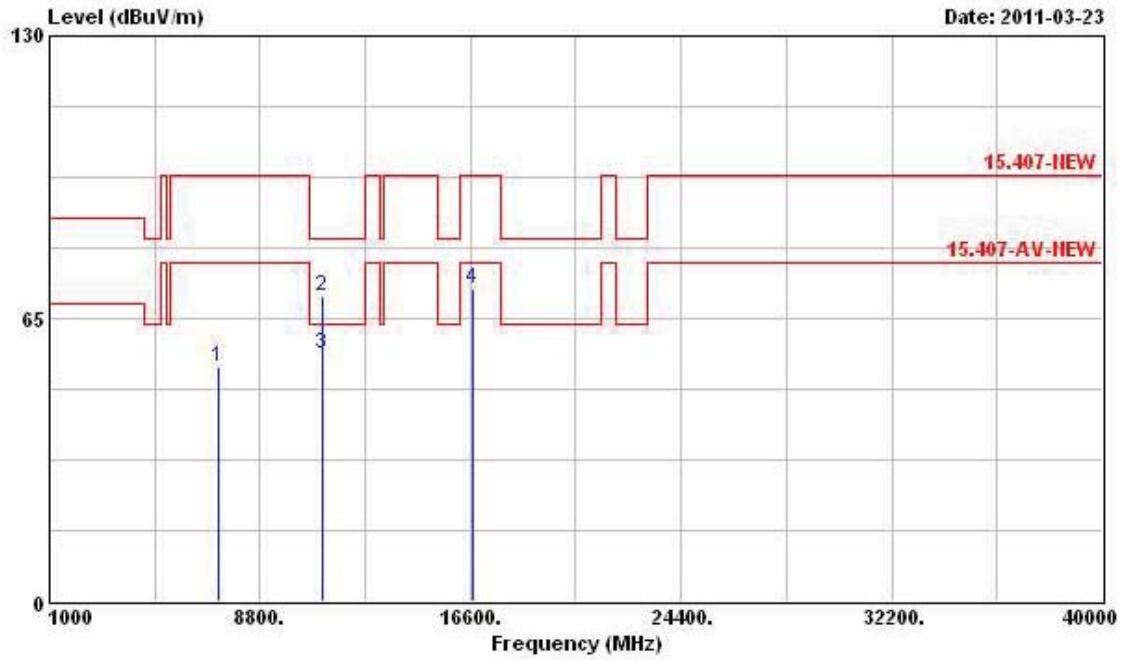
Final Test Date	Mar. 23 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11n Ch. 110 (40MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7148.000	53.53	-44.31	97.84	44.36	37.83	5.62	34.28	Peak
2	11100.000	69.93	-13.61	83.54	55.88	40.44	7.05	33.44	Peak
3	11100.000	56.63	-6.91	63.54	42.58	40.44	7.05	33.44	Average
4	16650.000	69.03	-28.81	97.84	49.74	43.56	8.37	32.64	Peak

Vertical

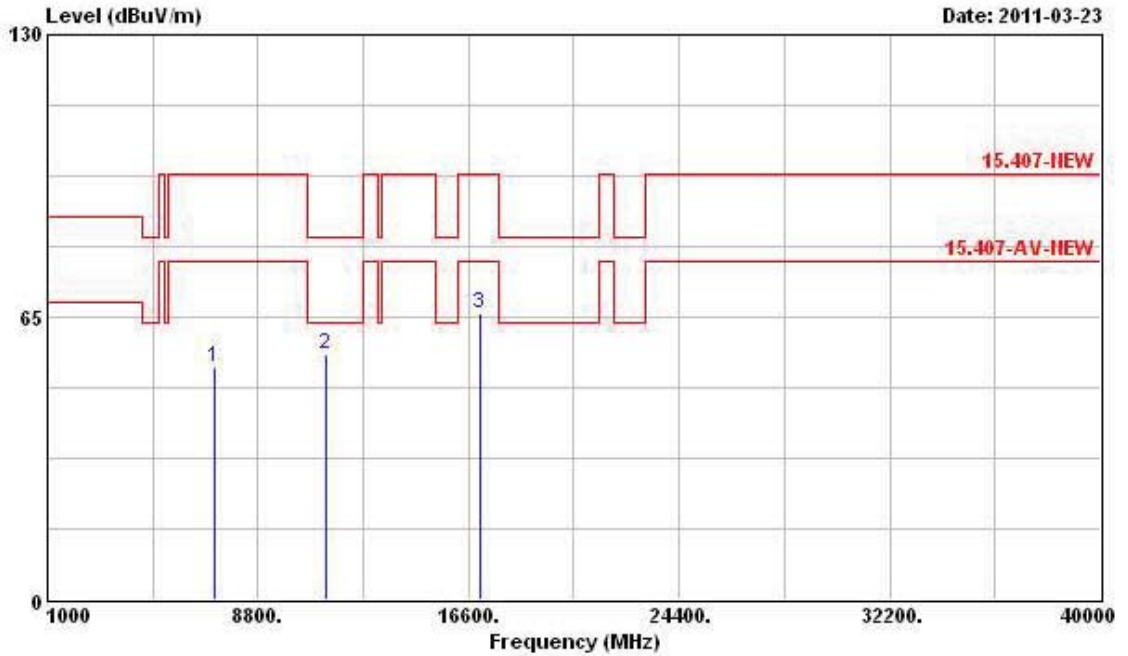


Vertical Antenna: 2200000

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7232.000	53.70	-44.14	97.84	44.51	37.85	5.63	34.29	Peak
2	11100.000	70.00	-13.54	83.54	55.95	40.44	7.05	33.44	Peak
3	11100.000	57.03	-6.51	63.54	42.98	40.44	7.05	33.44	Average
4	16650.000	71.63	-26.21	97.84	52.34	43.56	8.37	32.64	Peak

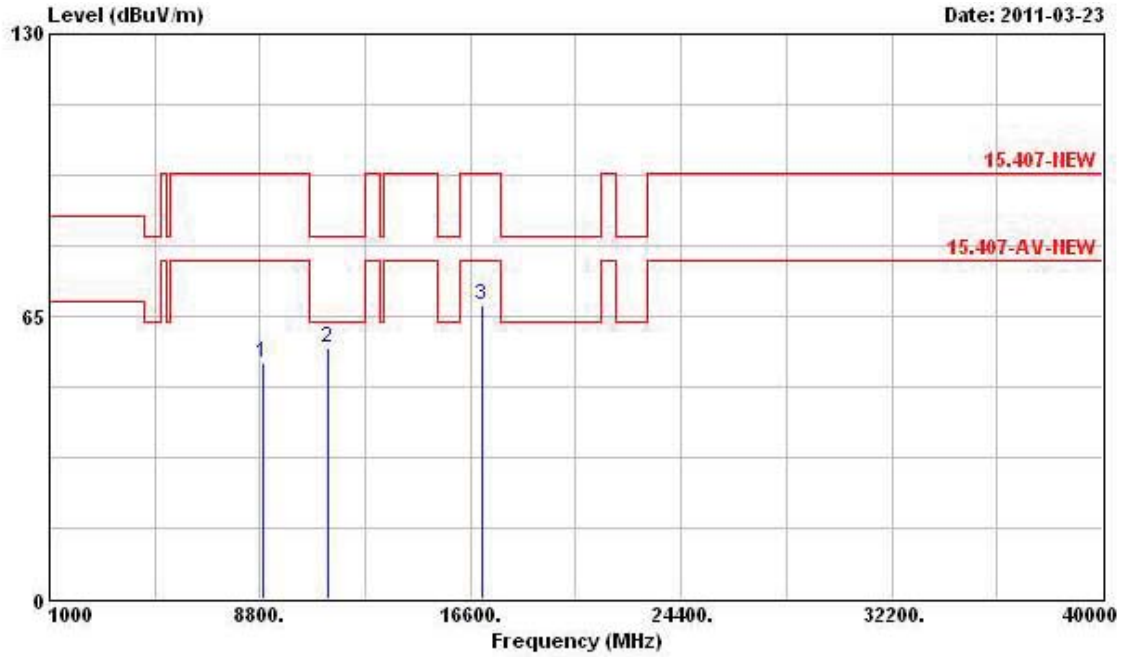
Final Test Date	Mar. 23 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11n Ch. 110 (40MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	7164.000	53.60	-44.24	97.84	44.43	37.83	5.62	34.28	Peak
2	11340.000	56.29	-7.25	63.54	42.52	40.53	6.80	33.56	PK
3	17010.000	65.86	-31.98	97.84	45.83	43.69	8.65	32.31	Peak

Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	8936.000	54.26	-43.58	97.84	44.64	38.15	6.13	34.66	Peak
2	11340.000	57.82	-5.72	63.54	44.05	40.53	6.80	33.56	PK
3	17010.000	67.52	-30.32	97.84	47.49	43.69	8.65	32.31	Peak

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade from 3m to 1m.

Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1m]) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [9.54 dB].

3.7 Band Edge and Fundamental Emissions Measurement

3.7.1 Limit

For transmitters operating in the 5.15-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). For transmitters operating in the 5.47-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). In addition, In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micovolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

3.7.2 Measuring Instruments and Setting

Please refer to section 4 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	100 MHz
RB / VB (Emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average
RB / VB (Emission in non-restricted band)	1 MHz /1 MHz for Peak

3.7.3 Test Procedures

1. The test procedure is the same as section 3.6.3; only the frequency range investigated is limited to 100MHz around band edges.
2. In case the emission is fail due to the used RB/VB is too wide, marker-delta method of FCC Public Notice DA00-705 will be followed.

3.7.4 Test Setup Layout

This test setup layout is the same as that shown in section 3.6.4.

3.7.5 Test Deviation

There is no deviation with the original standard.

3.7.6 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

3.7.7 Test Result of Band Edge and Fundamental Emissions

Final Test Date	Mar. 23, 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11a Ch. 36, 40, 48

Channel 36

Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 @ 5150.000	61.74	-1.80	63.54	20.75	36.21	4.78	0.00	Average
2 @ 5185.000	110.36			69.30	36.26	4.80	0.00	Average
1 @ 5148.700	81.17	-2.37	83.54	40.18	36.21	4.78	0.00	Peak
2 @ 5185.000	120.49			79.43	36.26	4.80	0.00	Peak

The item 2 is fundamental emissions.

Channel 40

Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 5126.100	58.46	-5.08	63.54	17.49	36.19	4.78	0.00	Average
2 @ 5207.400	110.02			68.93	36.28	4.81	0.00	Average
3 5377.800	58.96	-4.58	63.54	17.55	36.54	4.87	0.00	Average
1 5122.200	72.09	-11.45	83.54	31.15	36.16	4.78	0.00	Peak
2 @ 5202.600	120.98			79.89	36.28	4.81	0.00	Peak
3 5391.300	72.76	-10.78	83.54	31.34	36.54	4.88	0.00	Peak

The item 2 is fundamental emissions.

Channel 48

Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 5118.900	58.40	-5.14	63.54	17.46	36.16	4.78	0.00	Average
2 @ 5243.700	111.15			69.98	36.35	4.82	0.00	Average
3 5399.700	58.93	-4.61	63.54	17.49	36.56	4.88	0.00	Average
1 5109.000	72.09	-11.45	83.54	31.16	36.16	4.77	0.00	Peak
2 @ 5237.400	122.11			80.96	36.33	4.82	0.00	Peak
3 5358.600	72.60	-10.94	83.54	31.24	36.49	4.87	0.00	Peak

The item 2 is fundamental emissions.

Final Test Date	Mar. 23, 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11a Ch. 52, 56, 64

Channel 52

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	5119.800	58.41	-5.13	63.54	17.47	36.16	4.78	0.00	Average
2 @	5265.300	112.38			71.19	36.37	4.82	0.00	Average
3	5393.700	58.96	-4.58	63.54	17.54	36.54	4.88	0.00	Average
1	5117.400	73.02	-10.52	83.54	32.08	36.16	4.78	0.00	Peak
2 @	5265.300	123.12			81.93	36.37	4.82	0.00	Peak
3	5393.400	72.82	-10.72	83.54	31.40	36.54	4.88	0.00	Peak

The item 2 is fundamental emissions.

Channel 56

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	5117.700	58.35	-5.19	63.54	17.41	36.16	4.78	0.00	Average
2 @	5285.400	111.30			70.06	36.40	4.84	0.00	Average
3	5397.000	58.91	-4.63	63.54	17.47	36.56	4.88	0.00	Average
1	5139.000	72.15	-11.39	83.54	31.18	36.19	4.78	0.00	Peak
2 @	5283.000	122.09			80.85	36.40	4.84	0.00	Peak
3	5362.500	72.49	-11.05	83.54	31.11	36.51	4.87	0.00	Peak

The item 2 is fundamental emissions.

Channel 64

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 @	5313.850	109.71			68.42	36.44	4.85	0.00	Average
2	5350.000	60.01	-3.53	63.54	18.65	36.49	4.87	0.00	Average
1 @	5313.500	120.35			79.06	36.44	4.85	0.00	Peak
2 @	5350.530	82.54	-1.00	83.54	41.18	36.49	4.87	0.00	Peak

The item 1 is fundamental emissions.

Final Test Date	Mar. 23, 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11a Ch. 100, 116, 140

Channel 100

Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 @ 5460.000	60.87	-2.67	63.54	19.34	36.63	4.90	0.00	Average
2 @ 5505.440	113.91			72.28	36.70	4.93	0.00	Average
1 @ 5459.920	81.86	-1.68	83.54	40.33	36.63	4.90	0.00	Peak
2 @ 5505.040	125.19			83.56	36.70	4.93	0.00	Peak

The item 2 is fundamental emissions.

Channel 116

Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 5448.560	59.02	-4.52	63.54	17.49	36.63	4.90	0.00	Average
2 @ 5574.000	104.74			63.01	36.78	4.95	0.00	Average
3 5745.840	59.74	-18.10	77.84	17.68	36.99	5.07	0.00	Average
1 5433.520	72.57	-10.97	83.54	31.06	36.61	4.90	0.00	Peak
2 @ 5574.000	115.31			73.58	36.78	4.95	0.00	Peak
3 5747.120	73.10	-24.74	97.84	31.04	36.99	5.07	0.00	Peak

The item 2 is fundamental emissions.

Channel 140

Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 @ 5706.980	97.80			55.81	36.95	5.04	0.00	Average
2 5746.040	59.46	-18.38	77.84	17.40	36.99	5.07	0.00	Average
1 @ 5705.720	108.79			66.80	36.95	5.04	0.00	Peak
2 5745.620	73.86	-23.98	97.84	31.80	36.99	5.07	0.00	Peak

The item 1 is fundamental emissions.

Final Test Date	Mar. 23, 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11n Ch. 36, 40, 48 (20MHz)

Channel 36

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 @	5150.000	61.78	-1.76	63.54	20.79	36.21	4.78	0.00	Average
2 @	5186.600	107.27			66.21	36.26	4.80	0.00	Average
1	5149.500	80.15	-3.39	83.54	39.16	36.21	4.78	0.00	Peak
2 @	5174.300	121.18			80.12	36.26	4.80	0.00	Peak

The item 2 is fundamental emissions.

Channel 40

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	5127.000	58.67	-4.87	63.54	17.70	36.19	4.78	0.00	Average
2 @	5206.500	108.59			67.50	36.28	4.81	0.00	Average
3	5393.700	58.63	-4.91	63.54	17.21	36.54	4.88	0.00	Average
1	5139.300	72.78	-10.76	83.54	31.81	36.19	4.78	0.00	Peak
2 @	5206.500	123.06			81.97	36.28	4.81	0.00	Peak
3	5364.600	72.27	-11.27	83.54	30.89	36.51	4.87	0.00	Peak

The item 2 is fundamental emissions.

Channel 48

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	5108.100	58.55	-4.99	63.54	17.62	36.16	4.77	0.00	Average
2 @	5247.000	109.96			68.79	36.35	4.82	0.00	Average
3	5393.400	58.50	-5.04	63.54	17.08	36.54	4.88	0.00	Average
1	5135.400	71.96	-11.58	83.54	30.99	36.19	4.78	0.00	Peak
2 @	5247.000	123.54			82.37	36.35	4.82	0.00	Peak
3	5379.300	72.37	-11.17	83.54	30.96	36.54	4.87	0.00	Peak

The item 2 is fundamental emissions.

Final Test Date	Mar. 23, 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11n Ch. 52, 56, 64 (20MHz)

Channel 52

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	5111.700	58.57	-4.97	63.54	17.64	36.16	4.77	0.00	Average
2 @	5265.300	109.99			68.80	36.37	4.82	0.00	Average
3	5387.400	58.53	-5.01	63.54	17.12	36.54	4.87	0.00	Average
1	5122.500	72.52	-11.02	83.54	31.58	36.16	4.78	0.00	Peak
2 @	5263.800	123.88			82.69	36.37	4.82	0.00	Peak
3	5358.900	72.56	-10.98	83.54	31.20	36.49	4.87	0.00	Peak

The item 2 is fundamental emissions.

Channel 56

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	5126.100	58.51	-5.03	63.54	17.54	36.19	4.78	0.00	Average
2 @	5276.100	108.91			67.67	36.40	4.84	0.00	Average
3	5399.400	58.45	-5.09	63.54	17.01	36.56	4.88	0.00	Average
1	5115.000	72.08	-11.46	83.54	31.14	36.16	4.78	0.00	Peak
2 @	5283.000	122.70			81.46	36.40	4.84	0.00	Peak
3	5357.400	71.94	-11.60	83.54	30.58	36.49	4.87	0.00	Peak

The item 2 is fundamental emissions.

Channel 64

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 @	5314.620	106.49			65.20	36.44	4.85	0.00	Average
2 @	5350.000	60.88	-2.66	63.54	19.52	36.49	4.87	0.00	Average
1 @	5313.290	120.06			78.77	36.44	4.85	0.00	Peak
2 @	5350.530	82.02	-1.52	83.54	40.66	36.49	4.87	0.00	Peak

The item 1 is fundamental emissions.

Final Test Date	Mar. 23, 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11n Ch. 100, 116, 140 (20MHz)

Channel 100

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 @	5460.000	62.00	-1.54	63.54	20.47	36.63	4.90	0.00	Average
2 @	5506.000	111.27			69.64	36.70	4.93	0.00	Average
1	5459.600	79.88	-3.66	83.54	38.35	36.63	4.90	0.00	Peak
2 @	5506.400	124.93			83.30	36.70	4.93	0.00	Peak

The item 2 is fundamental emissions.

Channel 116

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	5448.880	58.80	-4.74	63.54	17.27	36.63	4.90	0.00	Average
2 @	5574.320	101.66			59.93	36.78	4.95	0.00	Average
3	5738.160	59.66	-18.18	77.84	17.63	36.99	5.04	0.00	Average
1	5430.960	72.79	-10.75	83.54	31.28	36.61	4.90	0.00	Peak
2 @	5573.040	115.34			73.61	36.78	4.95	0.00	Peak
3	5728.880	73.23	-24.61	97.84	31.22	36.97	5.04	0.00	Peak

The item 2 is fundamental emissions.

Channel 140

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 @	5706.680	95.59			53.60	36.95	5.04	0.00	Average
2	5747.300	59.76	-18.08	77.84	17.70	36.99	5.07	0.00	Average
1 @	5706.440	109.31			67.32	36.95	5.04	0.00	Peak
2	5742.440	73.61	-24.23	97.84	31.55	36.99	5.07	0.00	Peak

The item 1 is fundamental emissions.

Final Test Date	Mar. 23, 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11n Ch. 38, 46, 54 (40MHz)

Channel 38

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 @	5150.000	61.95	-1.59	63.54	20.96	36.21	4.78	0.00	Average
2 @	5202.410	98.23			57.14	36.28	4.81	0.00	Average
1	5150.000	78.02	-5.52	83.54	37.03	36.21	4.78	0.00	Peak
2 @	5191.850	113.28			72.20	36.28	4.80	0.00	Peak

The item 2 is fundamental emissions.

Channel 46

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 @	5149.750	62.36	-1.18	63.54	21.37	36.21	4.78	0.00	Average
2 @	5244.500	106.33			65.16	36.35	4.82	0.00	Average
3 @	5358.750	59.02	-4.52	63.54	17.66	36.49	4.87	0.00	Average
1	5149.500	79.42	-4.12	83.54	38.43	36.21	4.78	0.00	Peak
2 @	5244.750	121.67			80.50	36.35	4.82	0.00	Peak
3	5366.750	72.99	-10.55	83.54	31.61	36.51	4.87	0.00	Peak

The item 2 is fundamental emissions.

Channel 54

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	5112.600	59.00	-4.54	63.54	18.07	36.16	4.77	0.00	Average
2 @	5280.900	106.08			64.84	36.40	4.84	0.00	Average
3	5350.000	59.67	-3.87	63.54	18.31	36.49	4.87	0.00	Average
1	5117.700	72.59	-10.95	83.54	31.65	36.16	4.78	0.00	Peak
2 @	5286.600	122.44			81.20	36.40	4.84	0.00	Peak
3	5350.500	74.22	-9.32	83.54	32.86	36.49	4.87	0.00	Peak

The item 2 is fundamental emissions.

Final Test Date	Mar. 23, 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11n Ch. 62, 102 (40MHz)

Channel 62

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 @	5297.500	98.94			57.68	36.42	4.84	0.00	Average
2 @	5350.000	62.24	-1.30	63.54	20.88	36.49	4.87	0.00	Average
1 @	5326.600	114.18			72.86	36.47	4.85	0.00	Peak
2	5351.000	79.83	-3.71	83.54	38.47	36.49	4.87	0.00	Peak

The item 1 is fundamental emissions.

Channel 102

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 @	5460.000	62.45	-1.09	63.54	20.92	36.63	4.90	0.00	Average
2 @	5523.900	102.70			61.05	36.72	4.93	0.00	Average
1	5459.900	79.77	-3.77	83.54	38.24	36.63	4.90	0.00	Peak
2 @	5519.400	118.17			76.52	36.72	4.93	0.00	Peak

The item 2 is fundamental emissions.

Final Test Date	Mar. 23, 2011	Test Site No.	03CH02-HY
Temperature	23°C	Humidity	51.5%
Test Engineer	Daniel	Configuration	802.11n Ch. 110, 134 (40MHz)

Channel 110

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 @	5458.900	60.62	-2.92	63.54	19.09	36.63	4.90	0.00	Average
2 @	5538.100	106.88			65.21	36.74	4.93	0.00	Average
3	5734.600	60.17	-17.67	77.84	18.14	36.99	5.04	0.00	Average
1	5452.600	76.60	-6.94	83.54	35.07	36.63	4.90	0.00	Peak
2 @	5534.500	122.51			80.84	36.74	4.93	0.00	Peak
3	5726.500	73.79	-24.05	97.84	31.78	36.97	5.04	0.00	Peak

The item 2 is fundamental emissions.

Channel 134

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 @	5657.500	91.01			49.12	36.89	5.00	0.00	Average
2	5749.500	60.14	-17.70	77.84	18.08	36.99	5.07	0.00	Average
1 @	5655.400	105.36			63.47	36.89	5.00	0.00	Peak
2	5738.300	74.65	-23.19	97.84	32.62	36.99	5.04	0.00	Peak

The item 1 is fundamental emissions.

3.8 Frequency Stability Measurement

3.8.1 Limit

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emissions is maintained within the band of operation under all conditions of normal operation as specified in the user’s manual or $\pm 20\text{ppm}$ (IEEE 802.11a specification).

3.8.2 Measuring Instruments and Setting

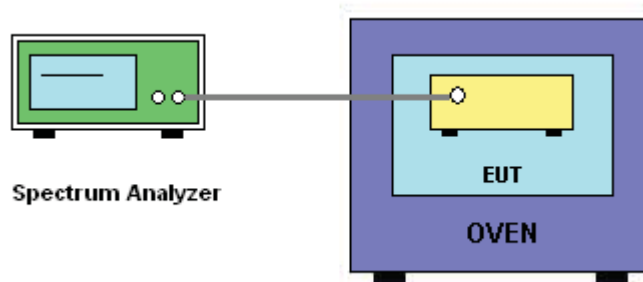
Please refer to section 4 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Entire absence of modulation emissions bandwidth
RB	10 kHz
VB	10 kHz
Sweep Time	Auto

3.8.3 Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. EUT have transmitted absence of modulation signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
5. f_c is declaring of channel frequency. Then the frequency error formula is $(f_c - f) / f_c \times 10^6$ ppm and the limit is less than $\pm 20\text{ppm}$ (IEEE 802.11a specification).
6. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
7. Extreme temperature rule is $-30^\circ\text{C} \sim 50^\circ\text{C}$.
8. Measuring multiple antennas, the connectors are required to link with Spectrum Analyzer through a combiner.

3.8.4 Test Setup Layout



3.8.5 Test Deviation

There is no deviation with the original standard.

3.8.6 EUT Operation during Test

The EUT was programmed to be in continuously un-modulation transmitting mode.

3.8.7 Test Result of Frequency Stability

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	IEEE 802.11a 5280 MHz
126.5	5279.999819
110	5279.999996
93.5	5279.999832
Max. Deviation (MHz)	0.000181
Max. Deviation (ppm)	0.03

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(°C)	IEEE 802.11a 5280 MHz
-20	5279.999413
-10	5279.999157
0	5279.999543
10	5279.999314
20	5279.999996
30	5279.999370
40	5279.998744
50	5279.998159
Max. Deviation (MHz)	0.001841
Max. Deviation (ppm)	0.35

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	IEEE 802.11n (40MHz) 5310 MHz
126.5	5309.999819
110	5309.999996
93.5	5309.999832
Max. Deviation (MHz)	0.000181
Max. Deviation (ppm)	0.03

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(°C)	IEEE 802.11n (40MHz) 5310 MHz
-20	5309.999413
-10	5309.999157
0	5309.999543
10	5309.993314
20	5309.999996
30	5309.999370
40	5309.998744
50	5309.998159
Max. Deviation (MHz)	0.006686
Max. Deviation (ppm)	1.26

3.9 Antenna Requirements

3.9.1 Limit

Except for special regulations, the Low-power Radio-frequency Devices must not be equipped with any jacket for installing an antenna with extension cable. 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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited.

3.9.2 Antenna Connector Construction

Please refer to section 2.2 in this test report; antenna connector complied with the requirements.

4 LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESCS 30	100132	9kHz – 2.75GHz	Sep. 14, 2010	Conduction (CO01-HY)
LISN	MessTec	NNB-2/16Z	2001/004	9kHz – 30MHz	Jan. 31, 2011	Conduction (CO01-HY)
LISN (Support Unit)	MessTec	NNB-2/16Z	2001/009	9kHz – 30MHz	Mar. 01, 2011	Conduction (CO01-HY)
EMI Filter	LINDGREN	LRE-2060	1004	< 450Hz	N/A	Conduction (CO01-HY)
EMI Filter	LINDGREN	N6006	201052	0 – 60Hz	N/A	Conduction (CO01-HY)
RF Cable-CON	HUBER+SUHNER	RG213/U	07611832010001	9kHz – 30MHz	Mar. 02, 2011	Conduction (CO01-HY)
Isolation Transformer	Erika Fiedler OHG	D-65396 Walluf	58	45MHz-2.15GHz	N/A	Conduction (CO01-HY)

Note: Calibration Interval of instruments listed above is one year.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSU26.5	100015	20Hz ~ 26.5GHz	Nov. 19, 2010	Conducted (TH01-HY)
Temp. and Humidity Chamber	Giant Force	GTH-225-20-S	MAB0103-001	N/A	Oct. 22, 2010	Conducted (TH01-HY)
RF CABLE-1m	Jye Bao	RG142	CB034-1m	20MHz ~ 7GHz	Dec. 02, 2010	Conducted (TH01-HY)
RF CABLE-2m	Jye Bao	RG142	CB035-2m	20MHz ~ 1GHz	Dec. 02, 2010	Conducted (TH01-HY)
Signal Generator	R&S	SMR40	100302	10MHz-40GHz	Nov. 19, 2010	Conducted (TH01-HY)
Power Sensor	Anritsu	MA2411B	0917017	300MHz~40GHz	Dec. 03, 2010	Conducted (TH01-HY)
Power Meter	Anritsu	ML2495A	0949003	300MHz~40GHz	Dec. 03, 2010	Conducted (TH01-HY)

Note: Calibration Interval of instruments listed above is one year.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
AC Power Source	HPC	HPA-500W	HPA-9100024	AC 0 ~ 300V	Jul. 26, 2010*	Conducted (TH01-HY)

Note: Calibration Interval of instruments listed above is two year.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSP40	100004	9 kHz - 40 GHz	Nov. 17, 2010	Radiation (03CH02-HY)
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	30 MHz - 1 GHz 3m	May 01, 2010	Radiation (03CH02-HY)
Amplifier	Agilent	8447D	2944A11146	100 kHz – 1.3 GHz	Jul. 23, 2010	Radiation (03CH02-HY)
Amplifier	Agilent	8449B	3008A02373	1GHz – 26.5 GHz	Jul. 23, 2010	Radiation (03CH02-HY)
Horn Antenna	ETS-LINDGREN	3117	00091920	1GHz~18GHz	Nov. 11, 2010	Radiation (03CH02-HY)
RF Cable-R03m	Jye Bao	RG142	CB021	30MHz ~ 1GHz	Mar. 07, 2011	Radiation (03CH02-HY)
RF Cable-HIGH	SUHNER	SUCOFLEX106	03CH02-HY	1GHz~40GHz	Mar. 07, 2011	Radiation (03CH02-HY)
Bilog Antenna	SCHAFFNER	CBL61128	2723	30 MHz - 2 GHz	Oct. 16, 2010	Radiation (03CH02-HY)
Turn Table	HD	DS 420	420/649/00	0 - 360 degree	N/A	Radiation (03CH02-HY)
Antenna Mast	HD	MA 240	240/559/00	1 m - 4 m	N/A	Radiation (03CH02-HY)

Note: Calibration Interval of instruments listed above is one year.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz - 30 MHz	Jul. 29, 2010*	Radiation (03CH02-HY)

Note: Calibration Interval of instruments listed above is two year.

5 TEST LOCATION

SHIJR	ADD : 6Fl., No. 106, Sec. 1, Shintai 5th Rd., Shijr City, Taipei, Taiwan 221, R.O.C. TEL : 886-2-2696-2468 FAX : 886-2-2696-2255
HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-318-0055
LINKOU	ADD : No. 30-2, Dingfu Tsuen, Linkou Shiang, Taipei, Taiwan 244, R.O.C TEL : 886-2-2601-1640 FAX : 886-2-2601-1695
DUNGHU	ADD : No. 3, Lane 238, Kangle St., Neihu Chiu, Taipei, Taiwan 114, R.O.C. TEL : 886-2-2631-4739 FAX : 886-2-2631-9740
JUNGHE	ADD : 7Fl., No. 758, Jungjeng Rd., Junghe City, Taipei, Taiwan 235, R.O.C. TEL : 886-2-8227-2020 FAX : 886-2-8227-2626
NEIHU	ADD : 4Fl., No. 339, Hsin Hu 2 nd Rd., Taipei 114, Taiwan, R.O.C. TEL : 886-2-2794-8886 FAX : 886-2-2794-9777
JHUBEI	ADD : No.8, Lane 728, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085

6 TAF CERTIFICATE OF ACCREDITATION



Certificate No. : L1190-110111

財團法人全國認證基金會
Taiwan Accreditation Foundation

Certificate of Accreditation

This is to certify that

Sporton International Inc.
EMC & Wireless Communications Laboratory
No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien,
Taiwan, R.O.C.

is accredited in respect of laboratory

Accreditation Criteria	: ISO/IEC 17025:2005
Accreditation Number	: 1190
Originally Accredited	: December 15, 2003
Effective Period	: January 10, 2010 to January 09, 2013
Accredited Scope	: Testing Field, see described in the Appendix
Specific Accreditation Program	: Accreditation Program for Designated Testing Laboratory for Commodities Inspection Accreditation Program for Telecommunication Equipment Testing Laboratory Accreditation Program for BSMI Mutual Recognition Arrangement with Foreign Authorities



Jay-San Chen
President, Taiwan Accreditation Foundation
Date : January 11, 2011

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