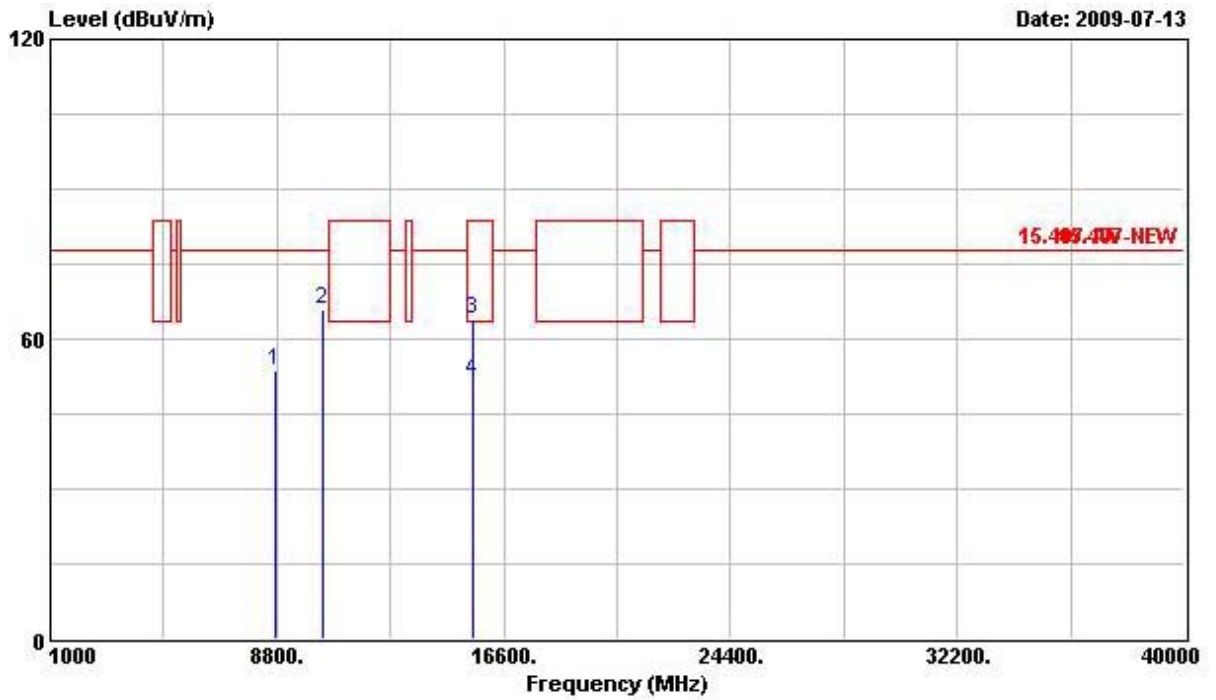


For Two Chain:

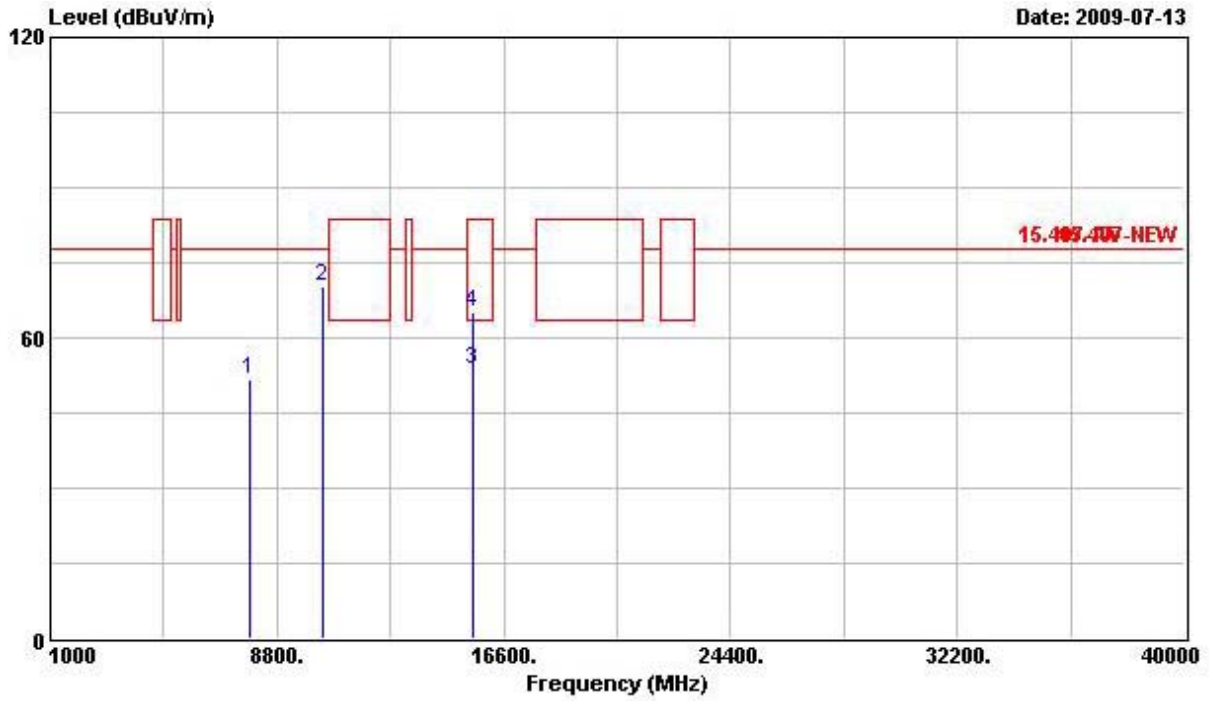
Final Test date	Jul. 13, 2009	Test Site No.	03CH02-HY
Temperature	24.9°C	Humidity	52.2%
Test Engineer	David	Configuration	802.11n CH 36 (20MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	Loss	Factor	Pos	Pos	
					dB/m	dB	dB	cm	deg	
1	8764.000	53.87	-23.97	77.84	44.97	38.29	6.06	35.45	---	--- PEAK
2	10360.000	65.77	-12.07	77.84	54.46	40.02	6.71	35.42	---	--- PEAK
3	15540.000	63.96	-19.58	83.54	47.83	42.81	8.45	35.13	---	--- PEAK
4	15540.000	51.77	-11.77	63.54	35.64	42.81	8.45	35.13	---	--- Average

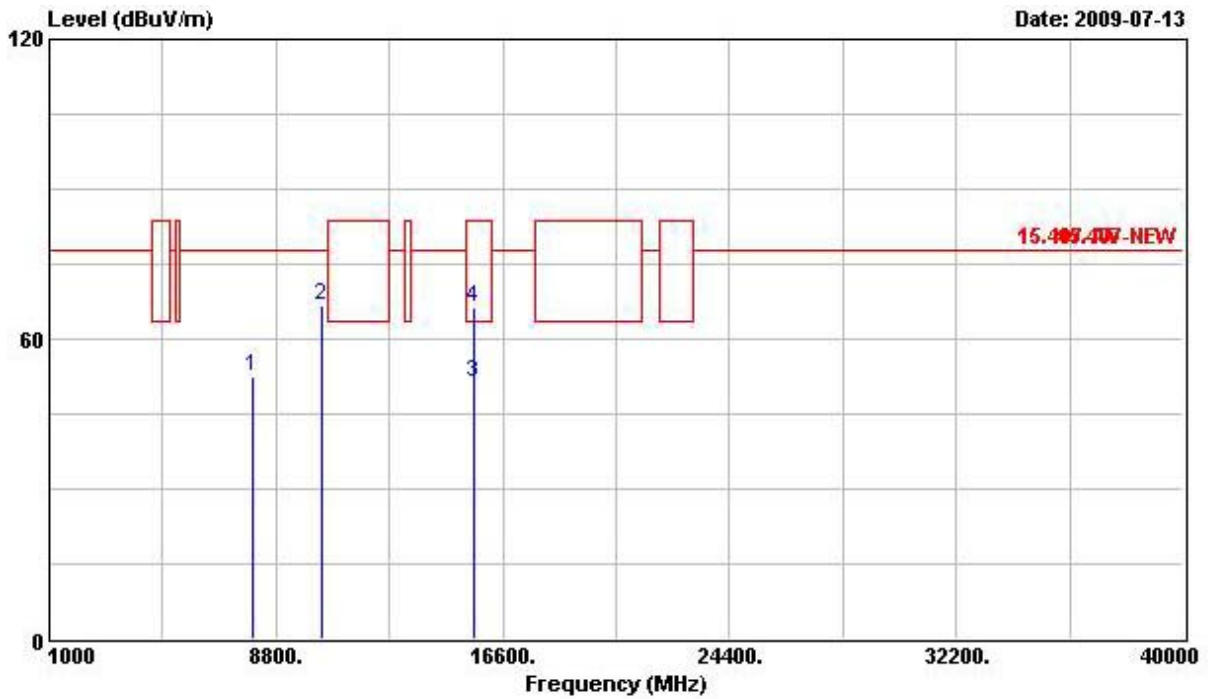
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	7880.000	51.77	-26.07	77.84	43.33	38.13	5.77	35.45	---	---	PEAK
2 @	10360.400	70.18	-7.66	77.84	58.87	40.02	6.71	35.42	---	---	Peak
3	15540.000	53.77	-9.77	63.54	37.64	42.81	8.45	35.13	---	---	Average
4	15540.000	64.97	-18.57	83.54	48.84	42.81	8.45	35.13	---	---	PEAK

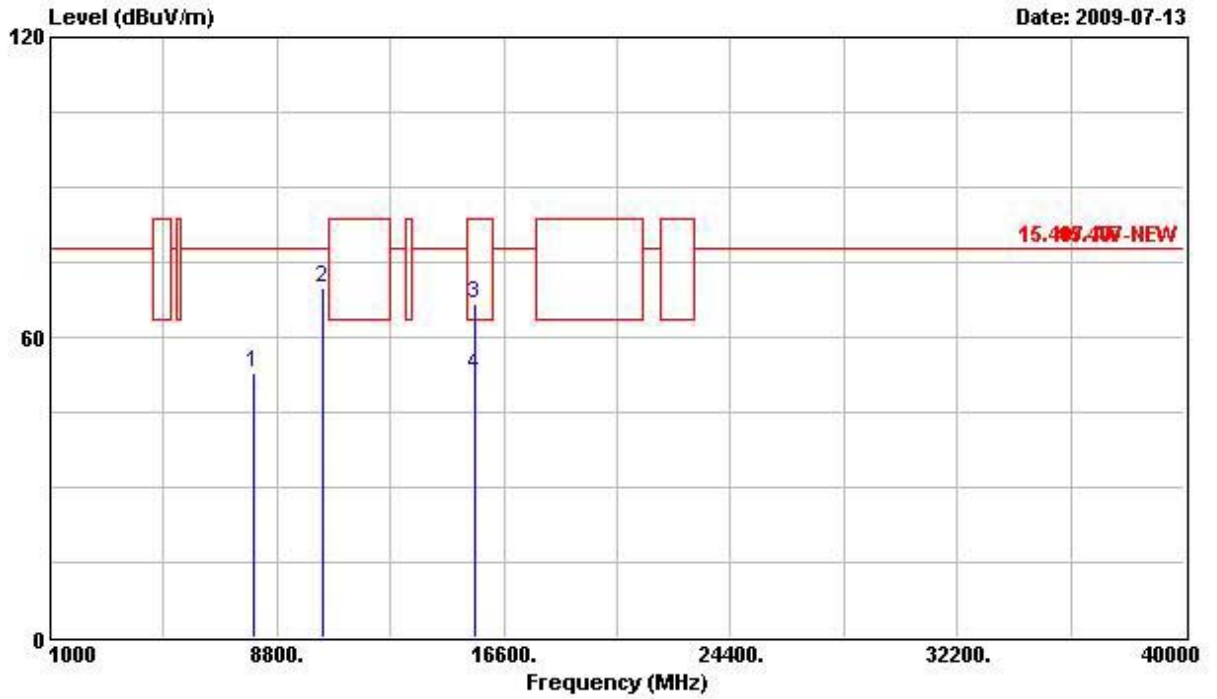
Final Test date	Jul. 13, 2009	Test Site No.	03CH02-HY
Temperature	24.9°C	Humidity	52.2%
Test Engineer	David	Configuration	802.11n CH 40 (20MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8020.000	52.50	-25.34	77.84	43.98	38.21	5.81	35.50	---	---	PEAK
2	10400.000	66.66	-11.18	77.84	55.25	40.04	6.75	35.38	---	---	PEAK
3	15601.700	51.48	-12.06	63.54	35.43	42.82	8.45	35.23	---	---	Average
4	15601.700	66.15	-17.39	83.54	50.10	42.82	8.45	35.23	---	---	PEAK

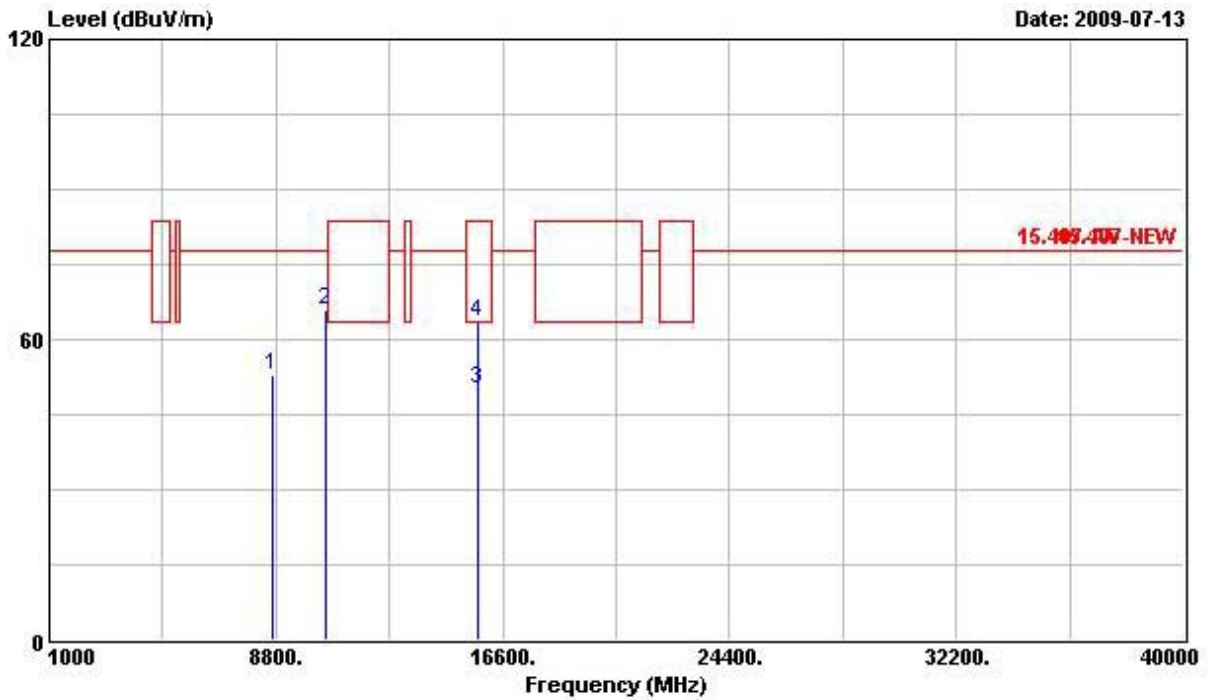
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8016.000	52.78	-25.06	77.84	44.25	38.21	5.81	35.50	---	---	PEAK
2	10404.000	69.89	-7.95	77.84	58.48	40.04	6.75	35.38	---	---	PEAK
3	15601.000	66.74	-16.80	83.54	50.69	42.82	8.45	35.23	---	---	PEAK
4	15601.000	52.44	-11.10	63.54	36.40	42.82	8.45	35.23	---	---	Average

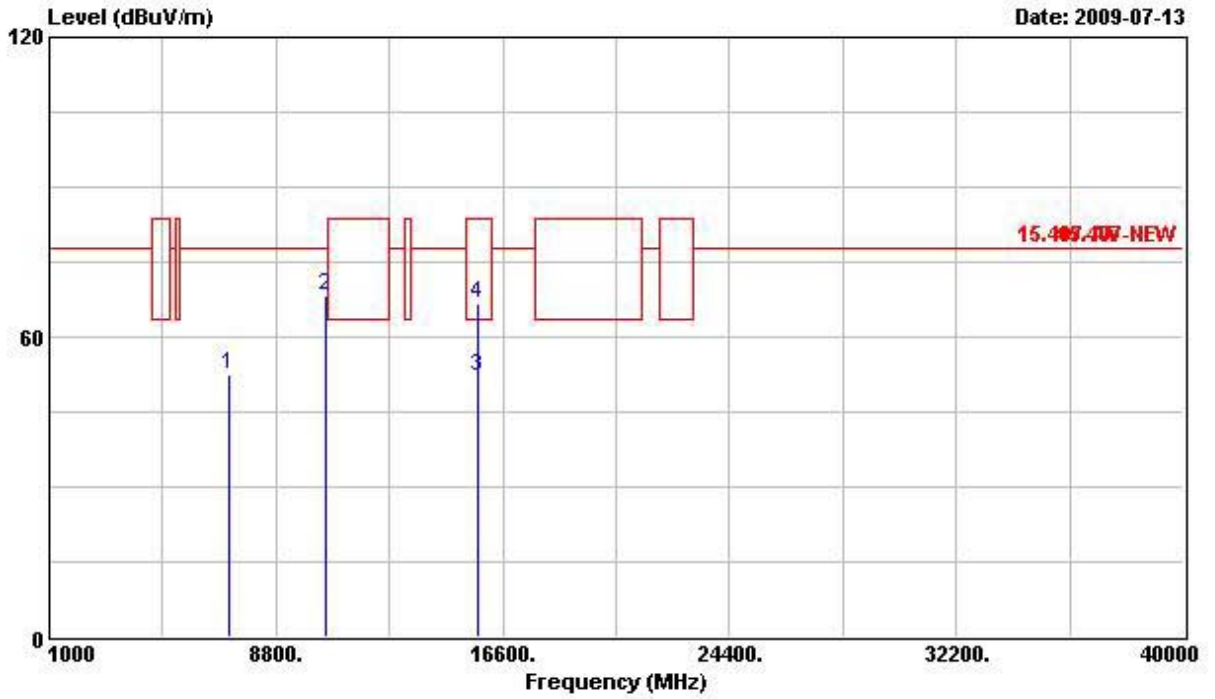
Final Test date	Jul. 13, 2009	Test Site No.	03CH02-HY
Temperature	24.9°C	Humidity	52.2%
Test Engineer	David	Configuration	802.11n CH 48 (20MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBUV/m	dB	dBUV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8656.000	52.88	-24.96	77.84	43.92	38.38	6.01	35.43	---	---	PEAK
2	10480.000	65.97	-11.87	77.84	54.39	40.09	6.82	35.32	---	---	PEAK
3	15720.000	50.02	-13.52	63.54	34.07	42.84	8.46	35.35	---	---	Average
4	15720.000	63.41	-20.13	83.54	47.46	42.84	8.46	35.35	---	---	PEAK

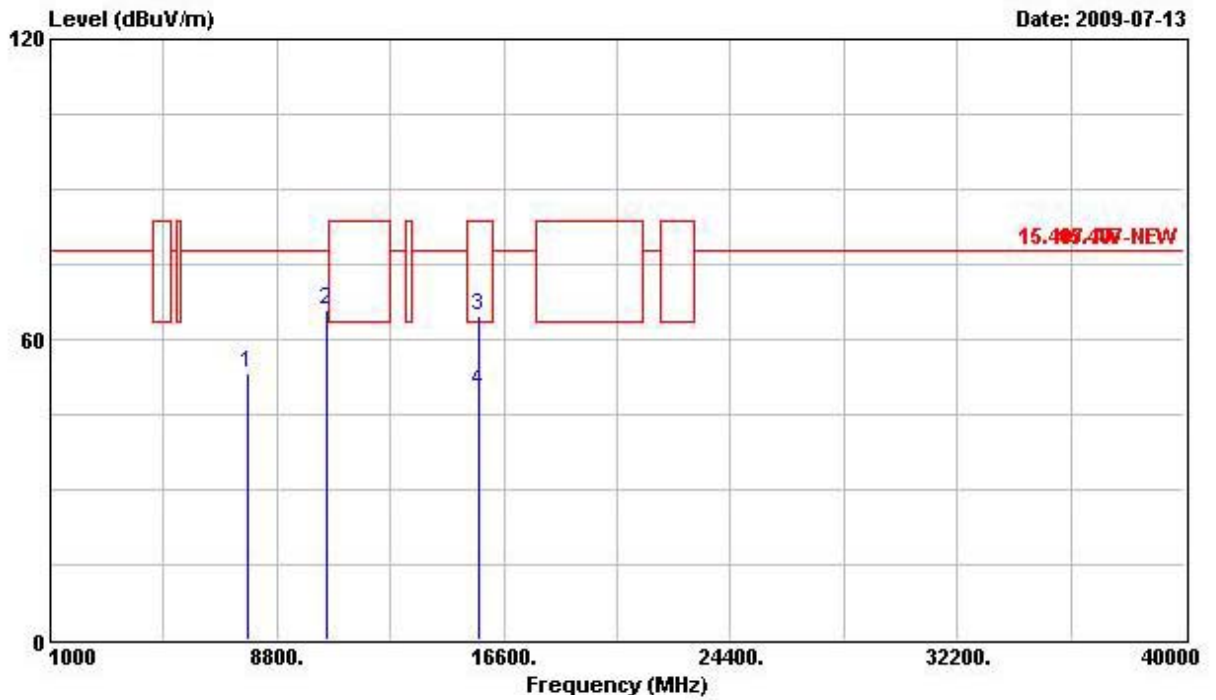
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	7168.000	52.43	-25.41	77.84	44.21	37.83	5.62	35.24	---	---	PEAK
2	10480.000	68.31	-9.53	77.84	56.73	40.09	6.82	35.32	---	---	PEAK
3	15720.000	52.24	-11.30	63.54	36.29	42.84	8.46	35.35	---	---	Average
4	15720.000	66.89	-16.65	83.54	50.94	42.84	8.46	35.35	---	---	PEAK

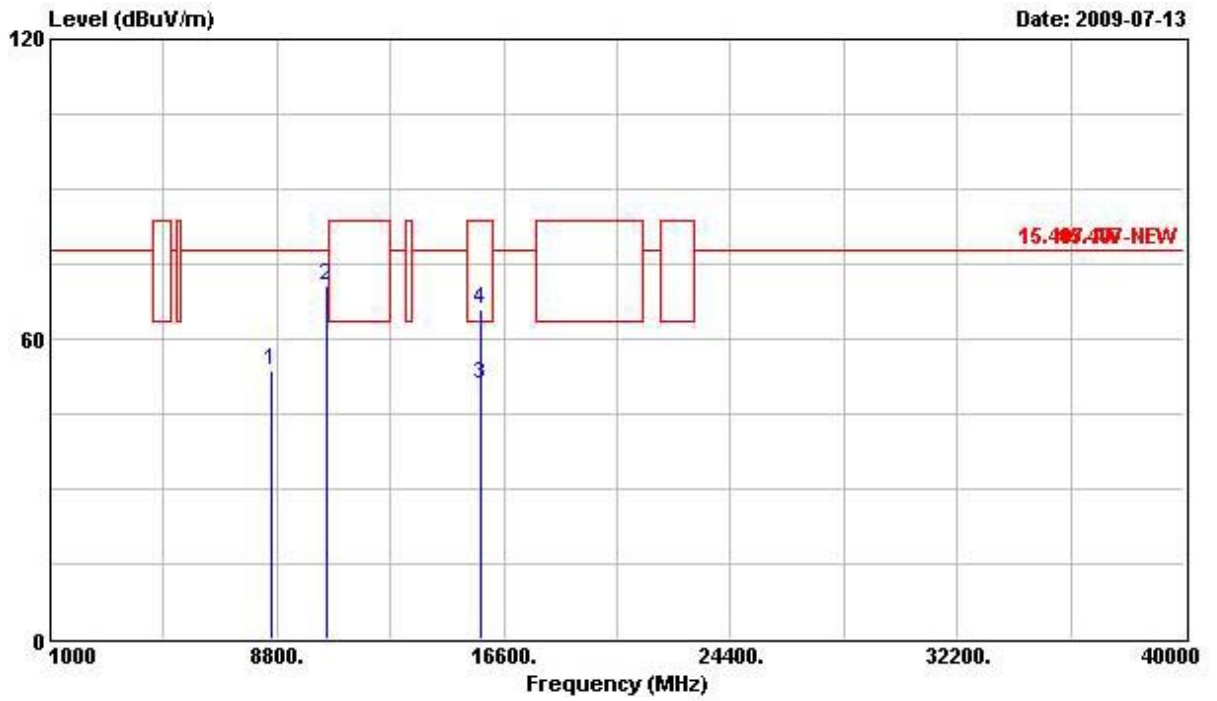
Final Test date	Jul. 13, 2009	Test Site No.	03CH02-HY
Temperature	24.9°C	Humidity	52.2%
Test Engineer	David	Configuration	802.11n CH 52 (20MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna	Cable	Preamp	Ant	Table	Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	cm	deg		
1	7784.000	53.16	-24.68	77.84	44.76	38.07	5.74	35.41	---	---	PEAK
2	10520.000	66.07	-11.77	77.84	54.41	40.11	6.85	35.30	---	---	PEAK
3	15777.200	64.76	-18.78	83.54	48.86	42.86	8.46	35.42	---	---	Peak
4	15777.200	49.72	-13.82	63.54	33.82	42.86	8.46	35.42	---	---	Average

Vertical

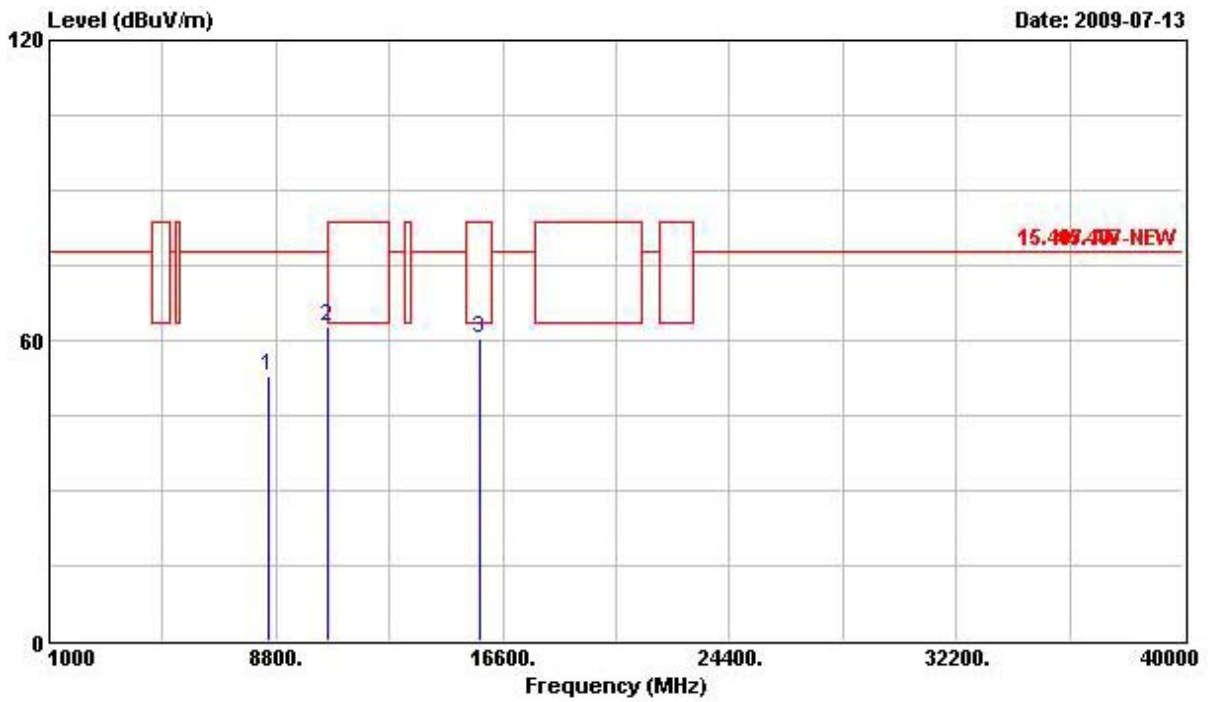


	Freq	Level	Over Limit	Limit Line	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	8632.000	53.70	-24.14	77.84	44.72	6.01	35.43	---	---	PEAK
2 @	10520.000	70.56	-7.28	77.84	58.90	6.85	35.30	---	---	PEAK
3	15780.000	51.06	-12.48	63.54	35.19	8.46	35.45	---	---	Average
4	15780.000	65.79	-17.75	83.54	49.92	8.46	35.45	---	---	PEAK



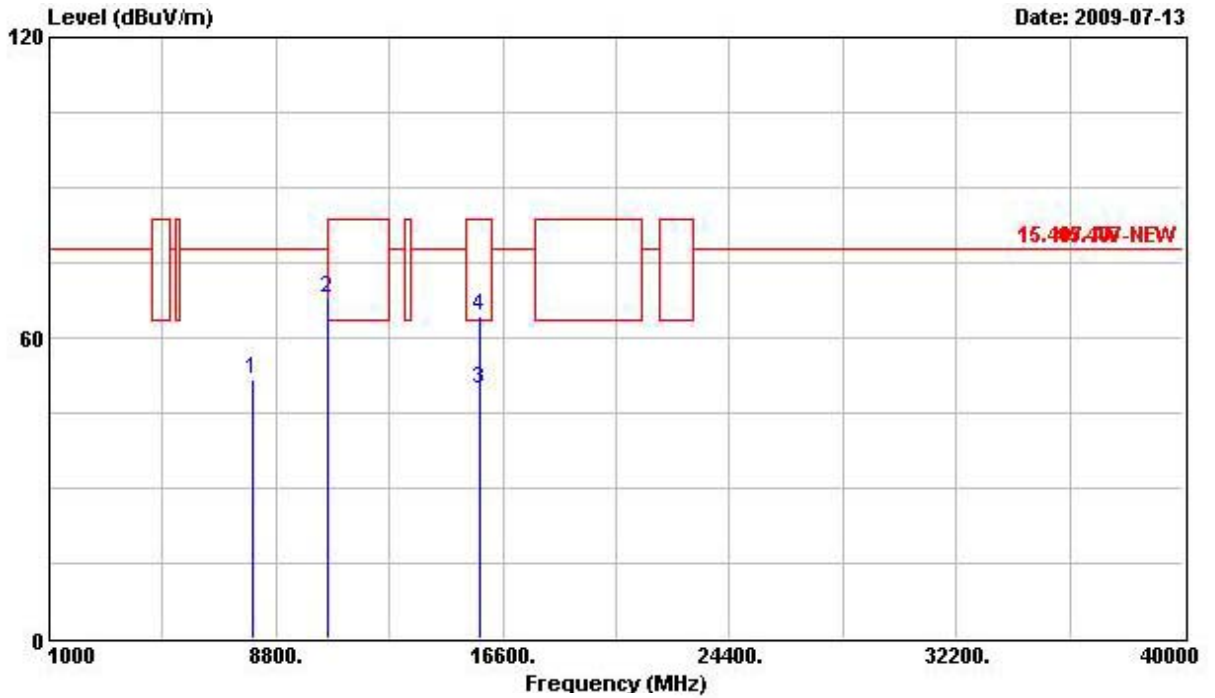
Final Test date	Jul. 13, 2009	Test Site No.	03CH02-HY
Temperature	24.9°C	Humidity	52.2%
Test Engineer	David	Configuration	802.11n CH 56 (20MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8552.000	53.06	-24.78	77.84	44.04	38.46	5.97	35.41	---	---	PEAK
2	10560.000	62.68	-15.16	77.84	50.93	40.13	6.88	35.26	---	---	PEAK
3	15840.000	60.35	-3.19	63.54	44.52	42.87	8.46	35.51	---	---	PK

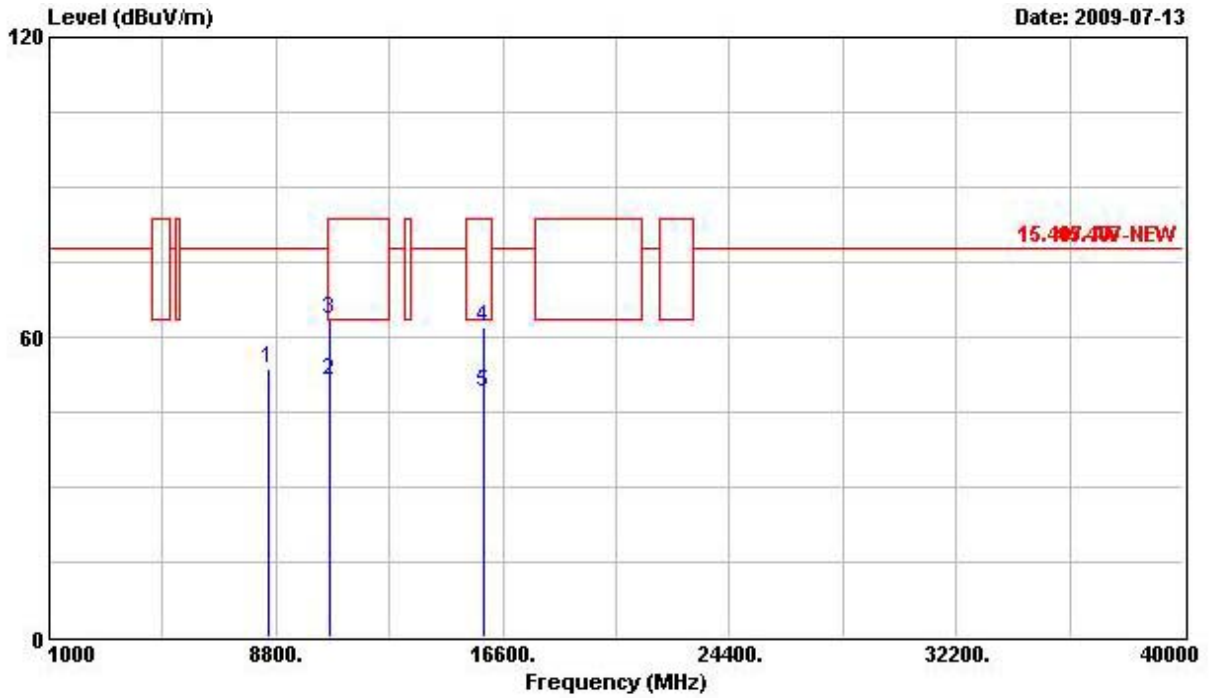
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	8008.000	51.83	-26.01	77.84	43.32	38.20	5.81	35.50	---	--- PEAK
2	10568.000	67.97	-9.87	77.84	56.21	40.14	6.88	35.26	---	--- PEAK
3	15840.000	49.66	-13.88	63.54	33.83	42.87	8.46	35.51	---	--- Average
4	15840.000	64.52	-19.02	83.54	48.70	42.87	8.46	35.51	---	--- Peak

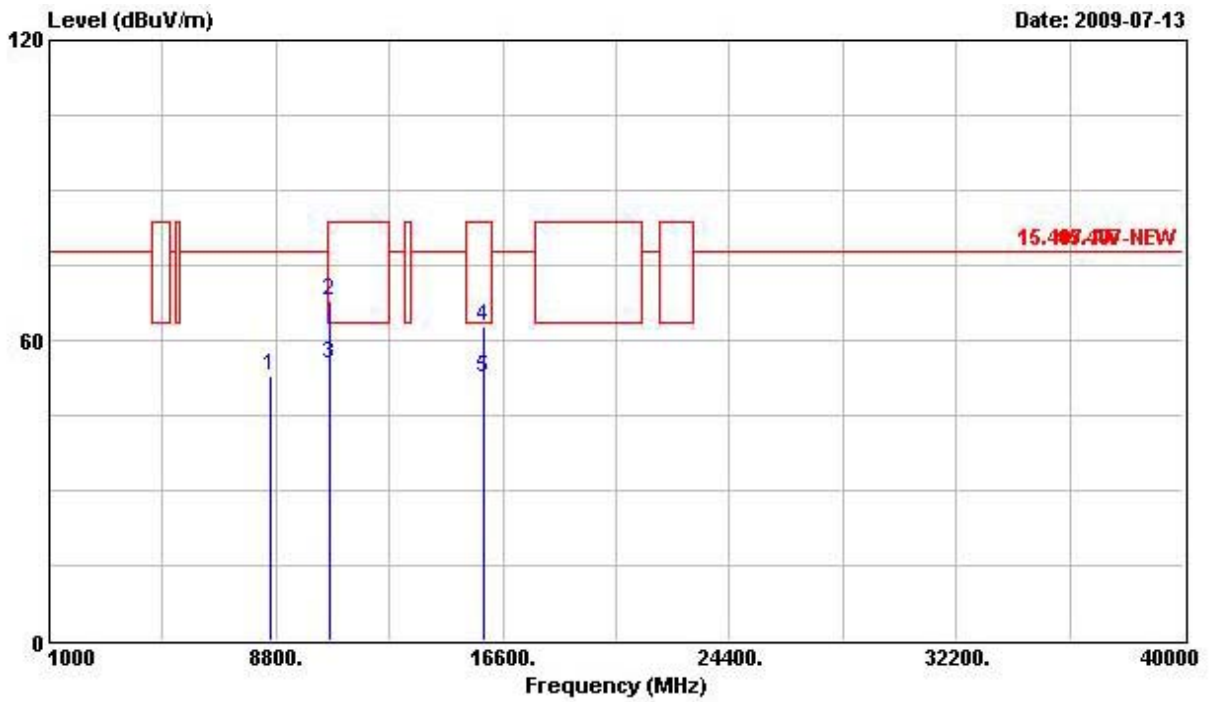
Final Test date	Jul. 13, 2009	Test Site No.	03CH02-HY
Temperature	24.9°C	Humidity	52.2%
Test Engineer	David	Configuration	802.11n CH 64 (20MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8532.000	53.65	-24.19	77.84	44.62	38.47	5.96	35.41	---	---	PEAK
2	10640.000	51.18	-12.36	63.54	39.26	40.18	6.93	35.19	---	---	Average
3	10640.000	63.40	-20.14	83.54	51.48	40.18	6.93	35.19	---	---	PEAK
4	15960.000	61.88	-21.66	83.54	46.19	42.89	8.47	35.67	---	---	PEAK
5	15979.400	49.03	-14.51	63.54	33.33	42.90	8.47	35.67	---	---	Average

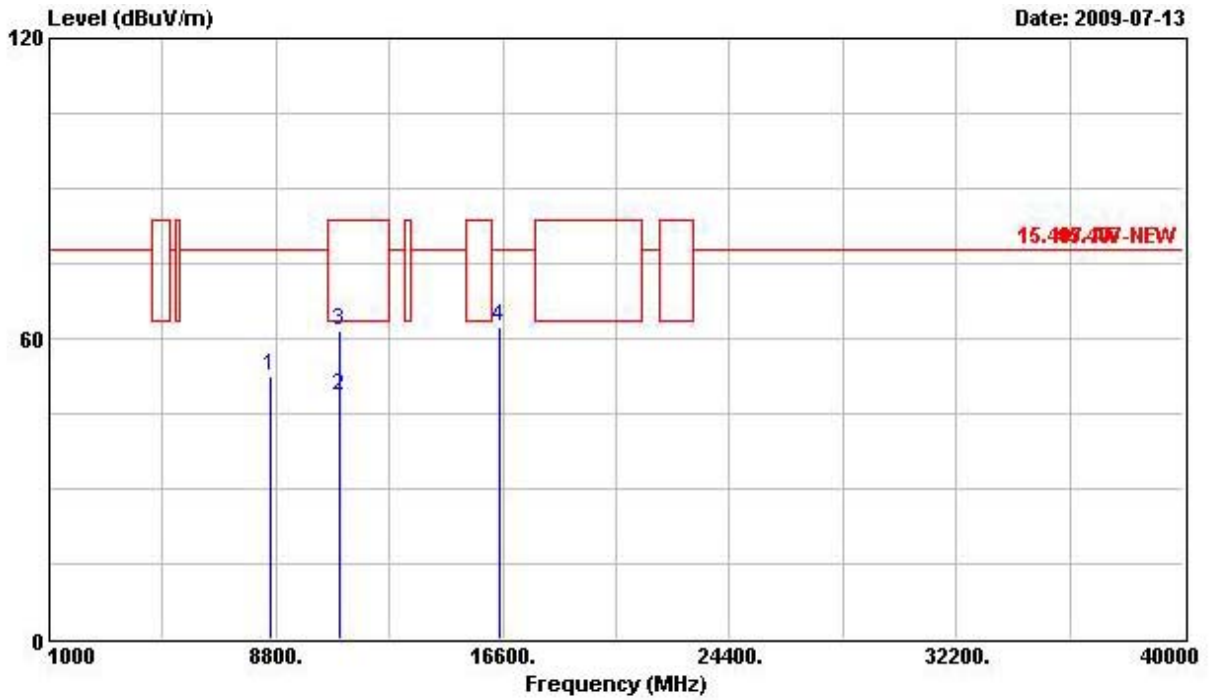
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8588.000	52.91	-24.93	77.84	43.90	38.43	5.99	35.42	---	---	PEAK
2	10648.000	67.71	-15.83	83.54	55.78	40.19	6.93	35.19	---	---	PEAK
3 @	10648.000	55.33	-8.21	63.54	43.40	40.19	6.93	35.19	---	---	Average
4	15960.000	62.76	-20.78	83.54	47.07	42.89	8.47	35.67	---	---	PEAK
5	15960.000	52.46	-11.08	63.54	36.77	42.89	8.47	35.67	---	---	Average

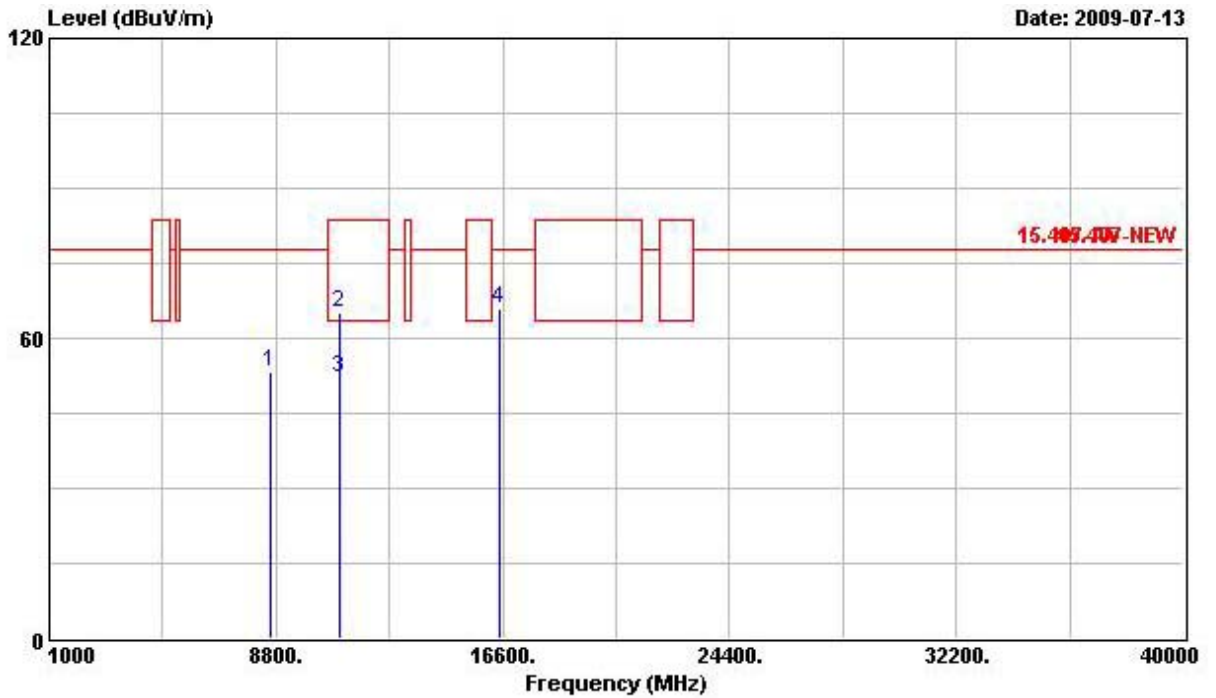
Final Test date	Jul. 13, 2009	Test Site No.	03CH02-HY
Temperature	24.9°C	Humidity	52.2%
Test Engineer	David	Configuration	802.11n CH 100 (20MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8596.000	52.62	-25.22	77.84	43.63	38.42	5.99	35.42	---	---	PEAK
2	11000.000	48.67	-14.87	63.54	36.00	40.40	7.17	34.90	---	---	Average
3	11000.000	61.61	-21.93	83.54	48.94	40.40	7.17	34.90	---	---	PEAK
4	16496.000	62.21	-15.63	77.84	45.67	43.50	8.24	35.20	---	---	PEAK

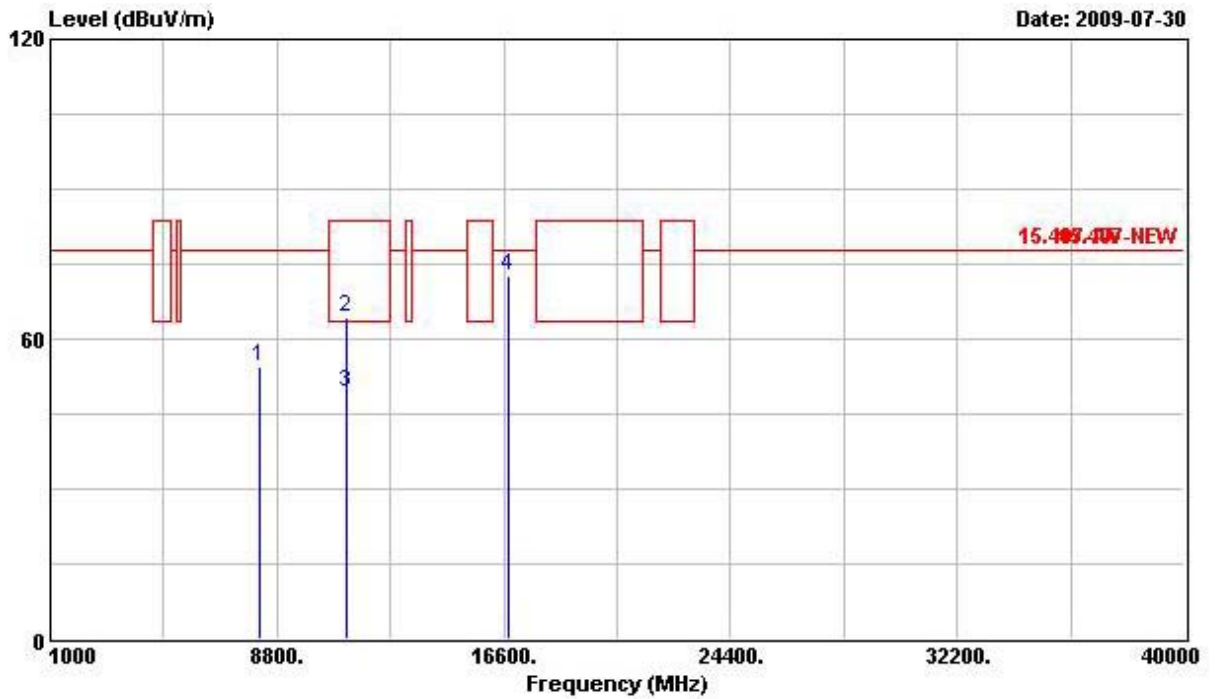
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8596.000	53.24	-24.60	77.84	44.25	38.42	5.99	35.42	---	---	PEAK
2	11000.000	65.23	-18.31	83.54	52.56	40.40	7.17	34.90	---	---	PEAK
3	11000.000	52.07	-11.47	63.54	39.40	40.40	7.17	34.90	---	---	Average
4	16504.000	65.74	-12.10	77.84	49.17	43.50	8.27	35.20	---	---	PEAK

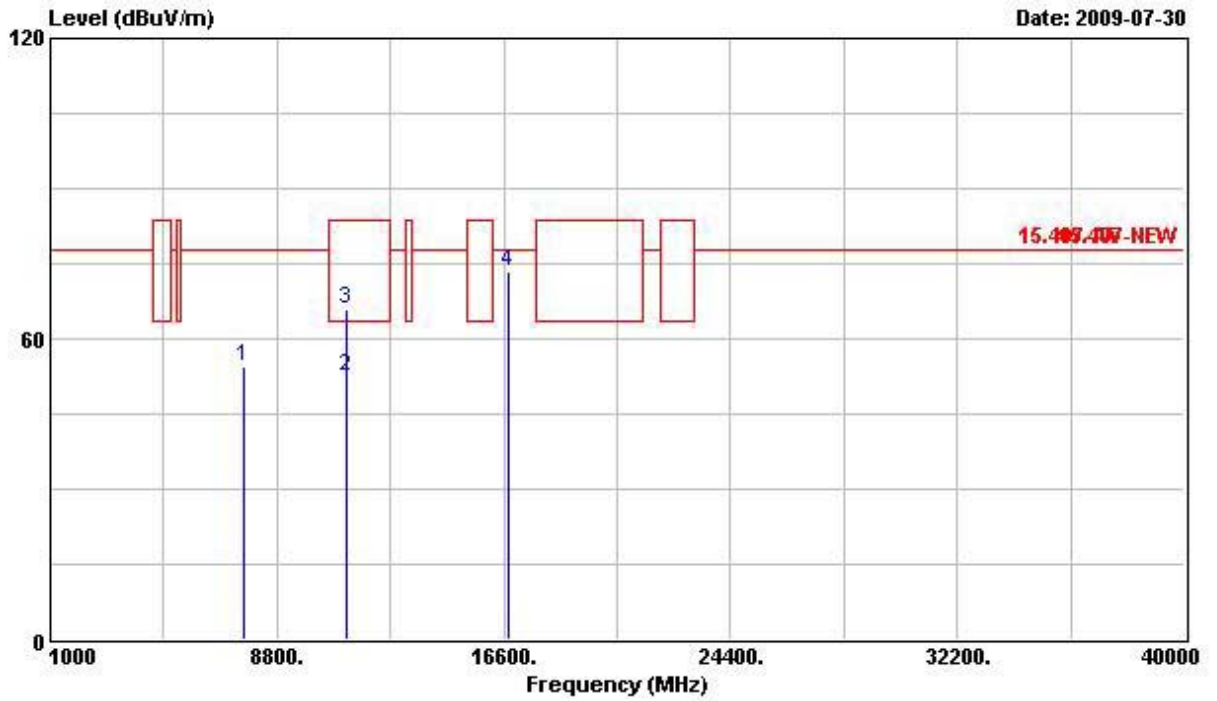
Final Test date	Jul. 30, 2009	Test Site No.	03CH02-HY
Temperature	24.9°C	Humidity	52.2%
Test Engineer	David	Configuration	802.11n CH 116 (20MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8188.000	54.31	-23.53	77.84	44.45	38.31	5.85	34.31	---	---	Peak
2	11163.900	64.17	-19.37	83.54	50.23	40.47	6.96	33.48	---	---	PEAK
3	11163.900	49.20	-14.34	63.54	35.26	40.47	6.96	33.48	---	---	Average
4	16770.400	72.66	-5.18	77.84	53.12	43.61	8.47	32.54	---	---	PEAK

Vertical

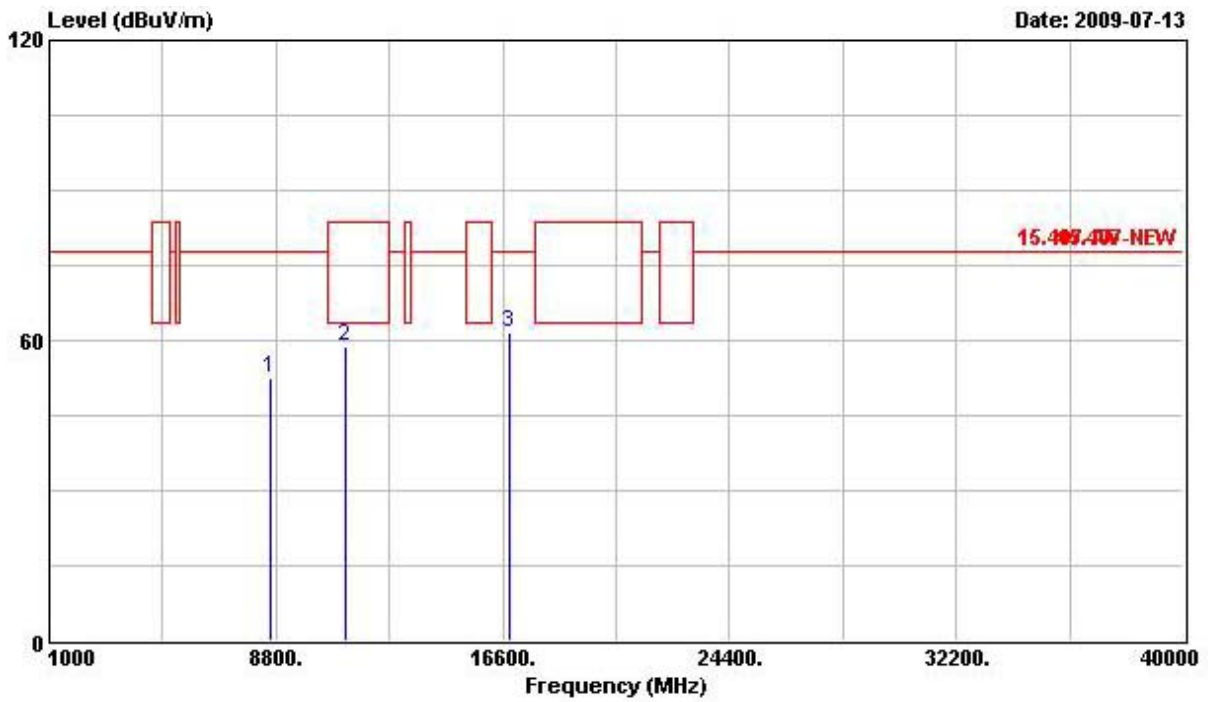


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	7632.000	54.42	-23.42	77.84	45.06	37.98	5.70	34.31	---	---	Peak
2	11160.800	52.41	-11.13	63.54	38.45	40.47	6.96	33.47	---	---	Average
3	11160.800	65.76	-17.78	83.54	51.80	40.47	6.96	33.47	---	---	PEAK
4	16750.000	73.44	-4.40	77.84	53.91	43.60	8.47	32.54	---	---	PEAK



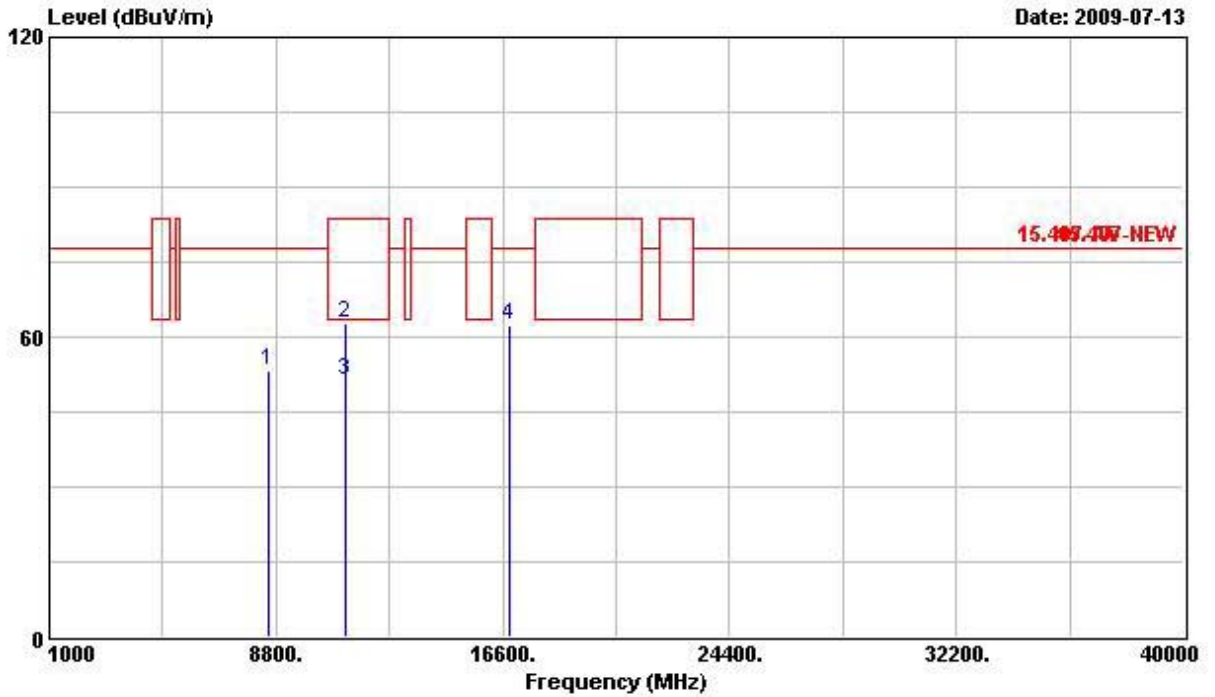
Final Test date	Jul. 13, 2009	Test Site No.	03CH02-HY
Temperature	24.9°C	Humidity	52.2%
Test Engineer	David	Configuration	802.11n CH 120 (20MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8632.000	52.67	-25.17	77.84	43.70	38.39	6.01	35.43	---	---	PEAK
2	11200.000	58.69	-4.85	63.54	46.23	40.48	6.92	34.94	---	---	PK
3	16800.000	61.59	-16.25	77.84	44.04	43.62	8.50	34.57	---	---	PEAK

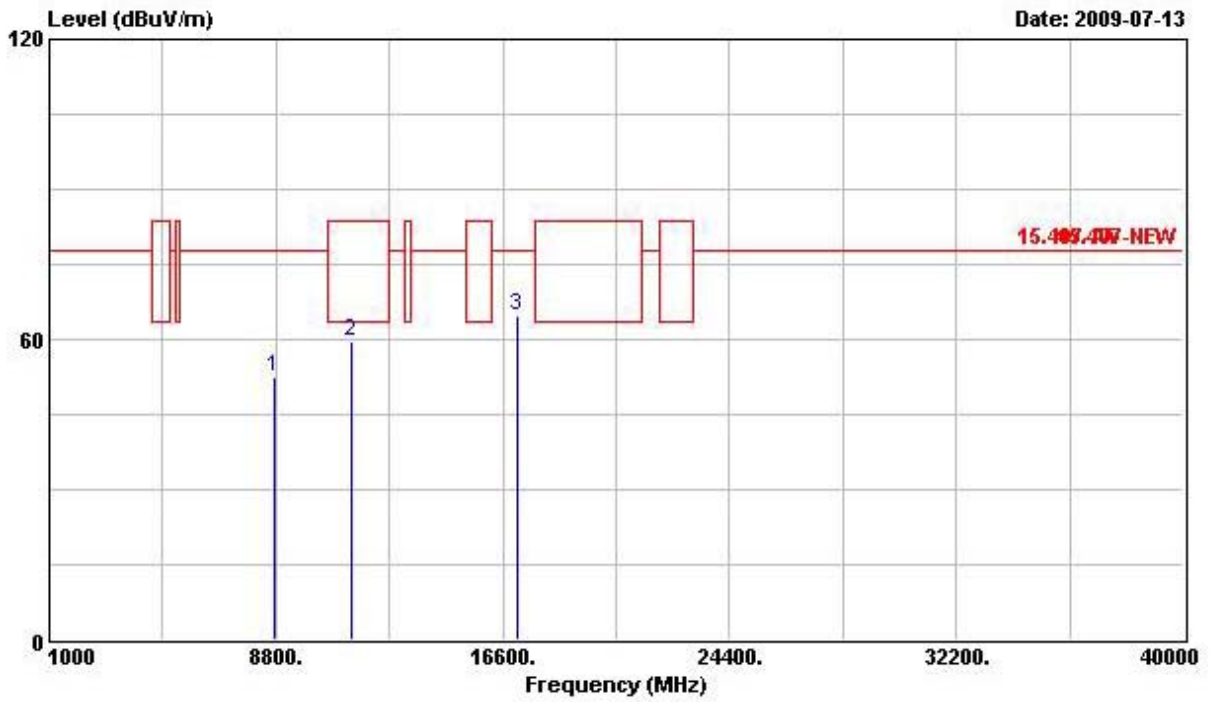
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8548.000	53.27	-24.57	77.84	44.25	38.46	5.97	35.41	---	---	PEAK
2	11200.000	62.85	-20.69	83.54	50.39	40.48	6.92	34.94	---	---	PEAK
3	11200.000	51.36	-12.18	63.54	38.90	40.48	6.92	34.94	---	---	Average
4	16800.000	62.47	-15.37	77.84	44.92	43.62	8.50	34.57	---	---	PEAK

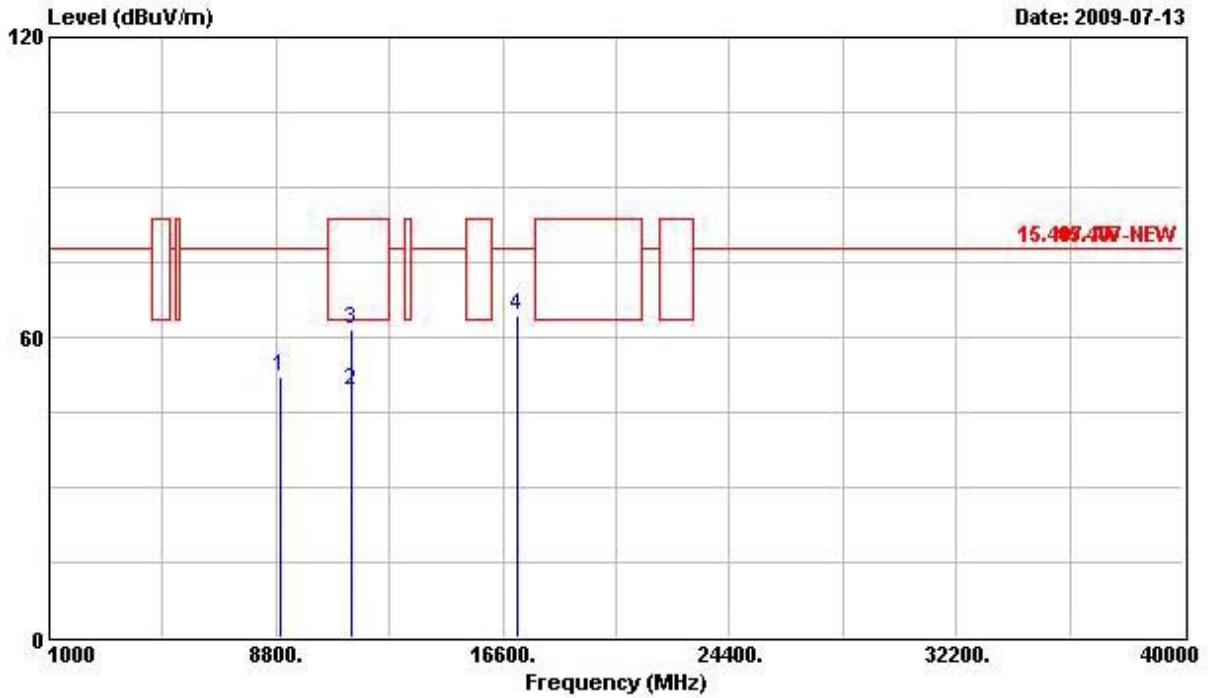
Final Test date	Jul. 13, 2009	Test Site No.	03CH02-HY
Temperature	24.9°C	Humidity	52.2%
Test Engineer	David	Configuration	802.11n CH 140 (20MHz)

Horizontal



	Freq	Level	Limit	Line	Level	enna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	Loss	Factor	Pos	Pos	
							dB	dB	cm	deg	
1	8744.000	52.31	-25.53	77.84	43.40	38.30	6.06	35.45	---	---	PEAK
2 @	11404.000	59.74	-3.80	63.54	47.45	40.56	6.71	34.98	---	---	PK
3	17100.000	64.73	-13.11	77.84	46.64	43.64	8.61	34.16	---	---	Peak

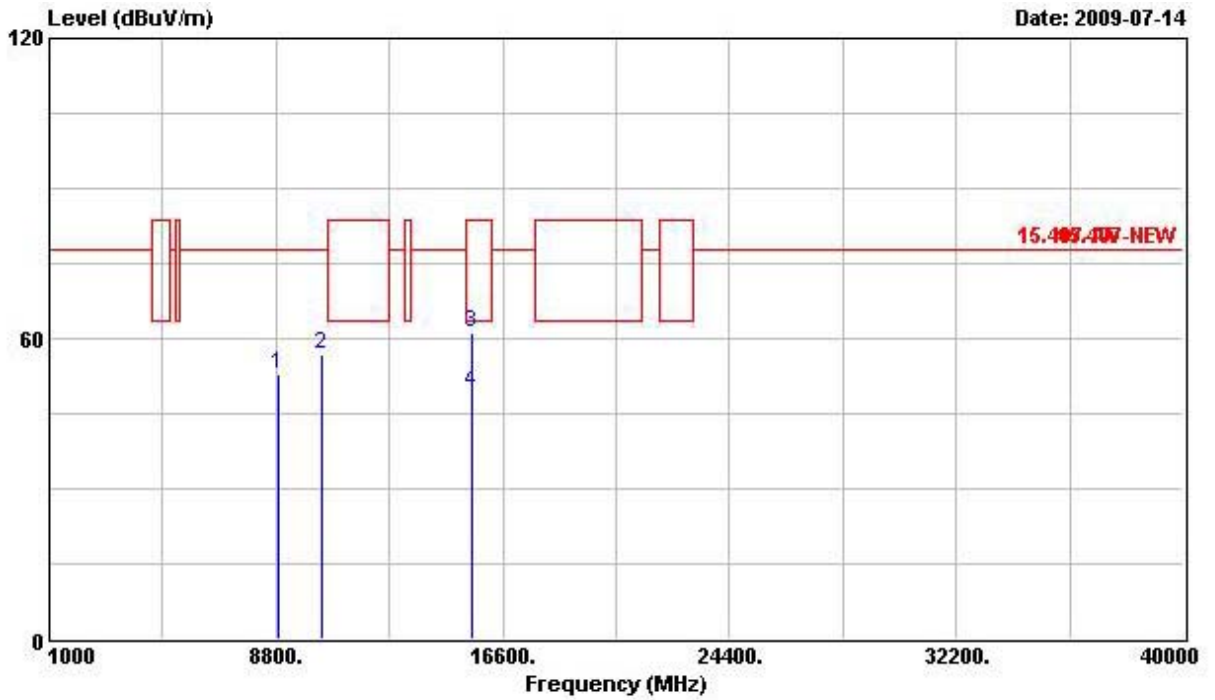
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8920.000	52.26	-25.58	77.84	43.45	38.17	6.13	35.49	---	---	PEAK
2	11400.000	49.29	-14.25	63.54	37.00	40.56	6.71	34.98	---	---	Average
3	11400.000	61.44	-22.10	83.54	49.15	40.56	6.71	34.98	---	---	PEAK
4	17100.000	64.48	-13.36	77.84	46.38	43.64	8.61	34.16	---	---	PEAK

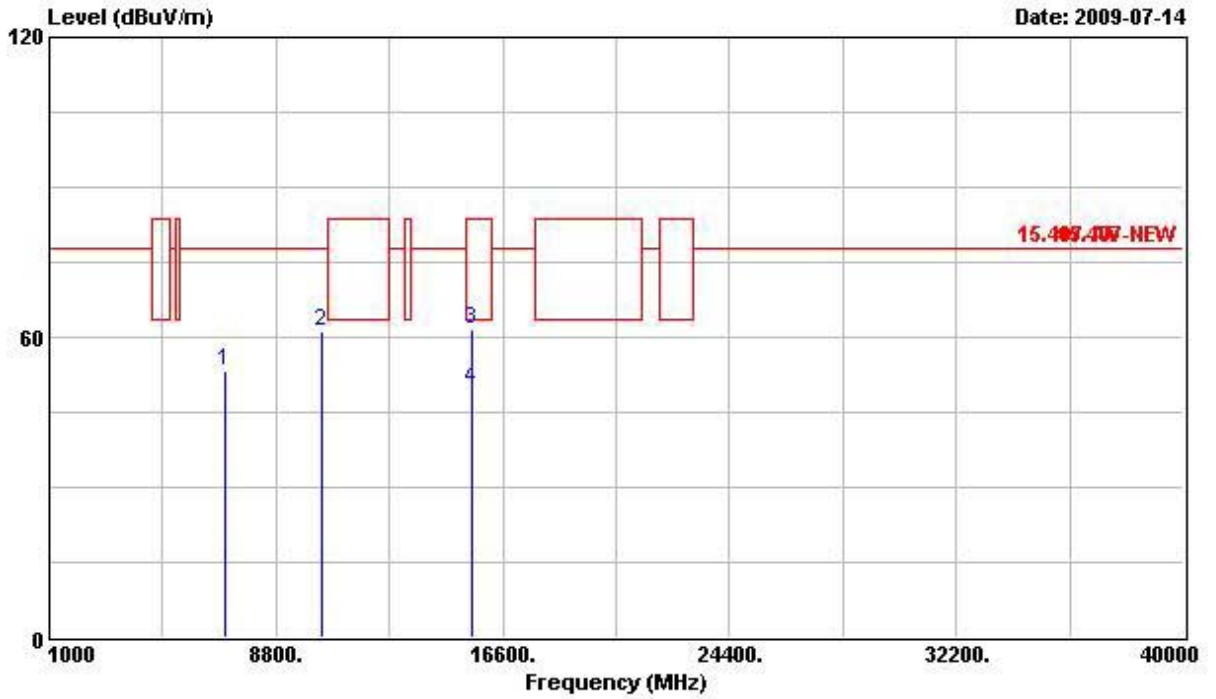
Final Test date	Jul. 14, 2009	Test Site No.	03CH02-HY
Temperature	24.9°C	Humidity	52.2%
Test Engineer	David	Configuration	802.11n CH 38 (40MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8912.000	52.97	-24.87	77.84	44.14	38.18	6.13	35.48	---	---	Peak
2	10368.000	56.83	-21.01	77.84	45.52	40.02	6.71	35.42	---	---	Peak
3	15570.000	61.33	-22.21	83.54	45.23	42.81	8.45	35.16	---	---	Peak
4	15570.000	49.40	-14.14	63.54	33.30	42.81	8.45	35.16	---	---	Average

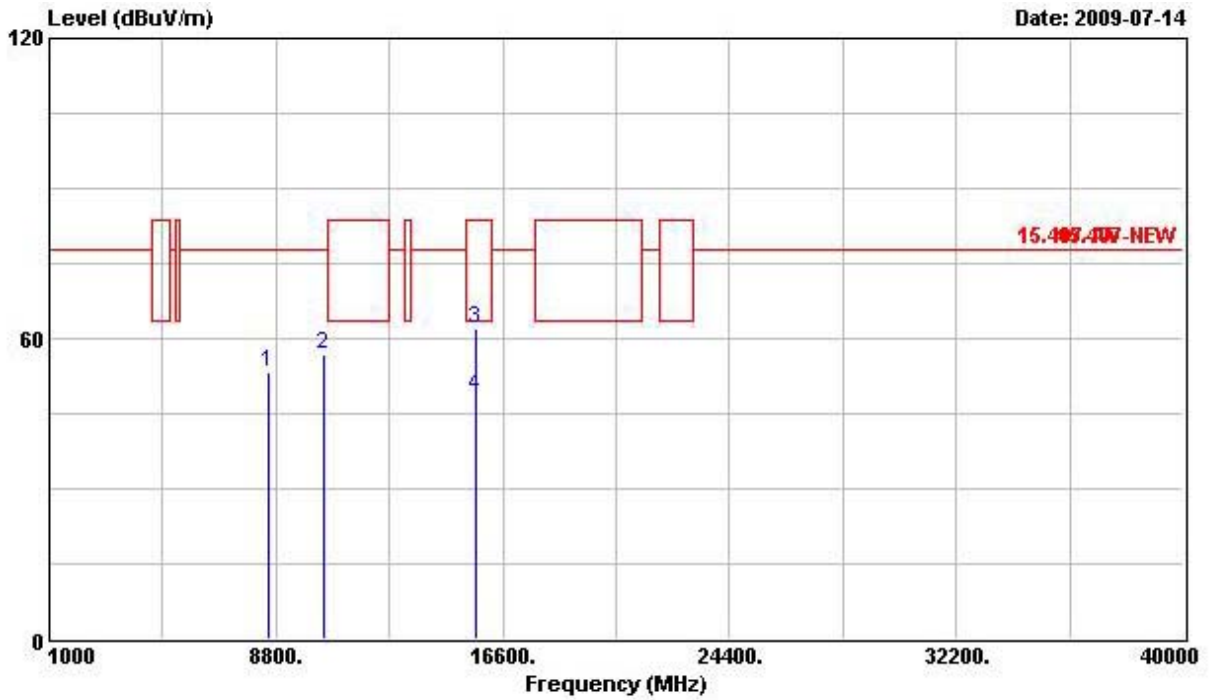
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	7080.000	53.12	-24.72	77.84	44.91	37.82	5.61	35.22	---	---	Peak
2	10376.000	61.26	-16.58	77.84	49.92	40.03	6.71	35.40	---	---	Peak
3	15570.000	61.49	-22.05	83.54	45.39	42.81	8.45	35.16	---	---	Peak
4	15570.000	49.77	-13.77	63.54	33.67	42.81	8.45	35.16	---	---	Average

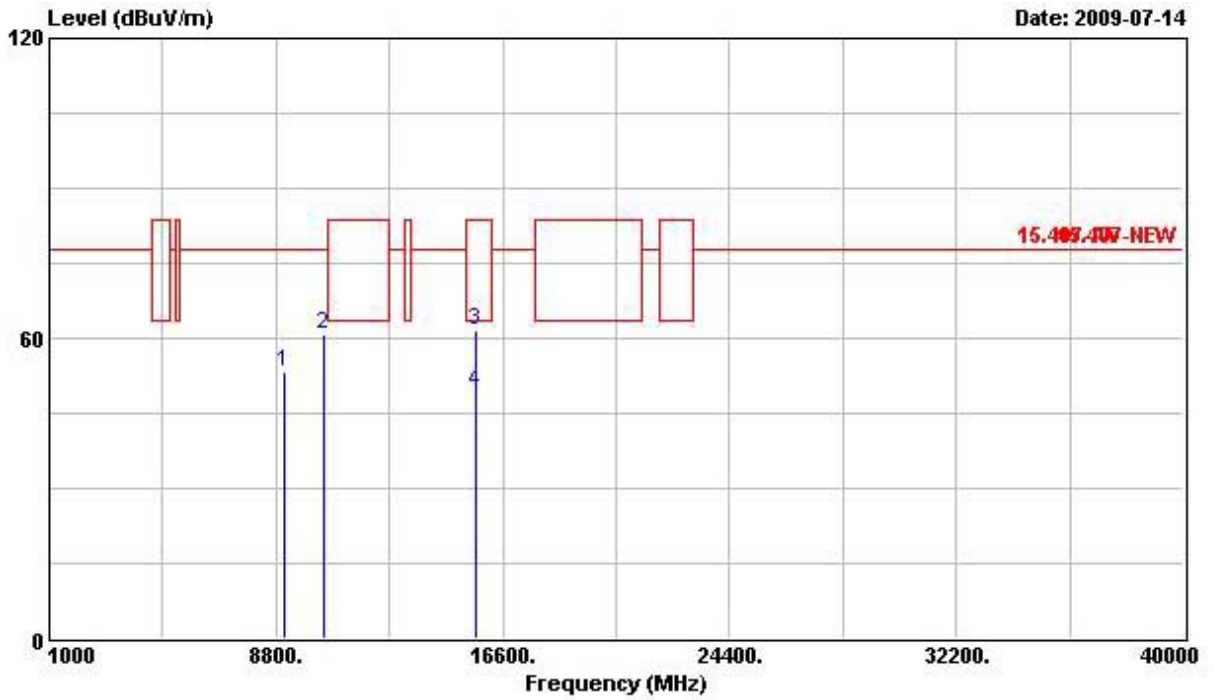
Final Test date	Jul. 14, 2009	Test Site No.	03CH02-HY
Temperature	24.9°C	Humidity	52.2%
Test Engineer	David	Configuration	802.11n CH 46 (40MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8556.000	53.11	-24.73	77.84	44.08	38.46	5.97	35.41	---	---	PEAK
2	10460.000	56.81	-21.03	77.84	45.26	40.07	6.82	35.34	---	---	PEAK
3	15690.000	61.98	-21.56	83.54	46.00	42.84	8.46	35.32	---	---	PEAK
4	15690.000	48.56	-14.98	63.54	32.59	42.84	8.46	35.32	---	---	Average

Vertical

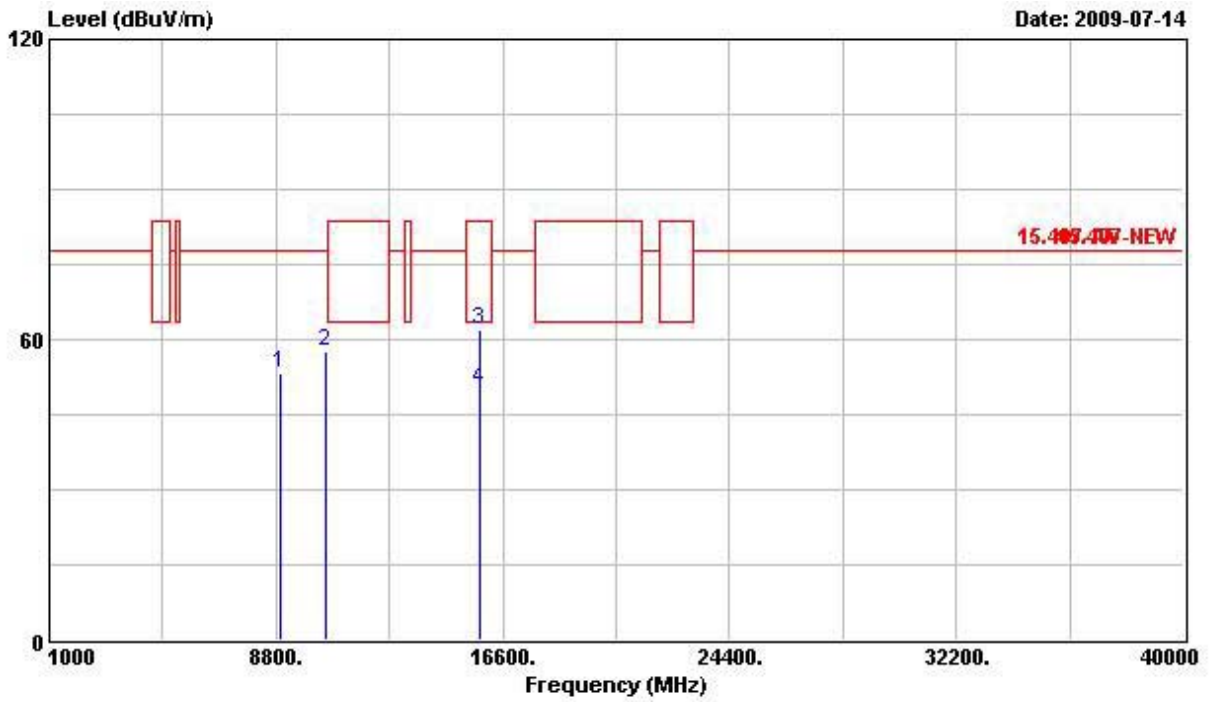


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	9080.000	53.35	-24.49	77.84	44.44	38.25	6.18	35.53	---	---	PEAK
2	10464.000	60.95	-16.89	77.84	49.40	40.08	6.82	35.34	---	---	PEAK
3	15690.000	61.53	-22.01	83.54	45.56	42.84	8.46	35.32	---	---	PEAK
4	15690.000	49.53	-14.01	63.54	33.56	42.84	8.46	35.32	---	---	Average



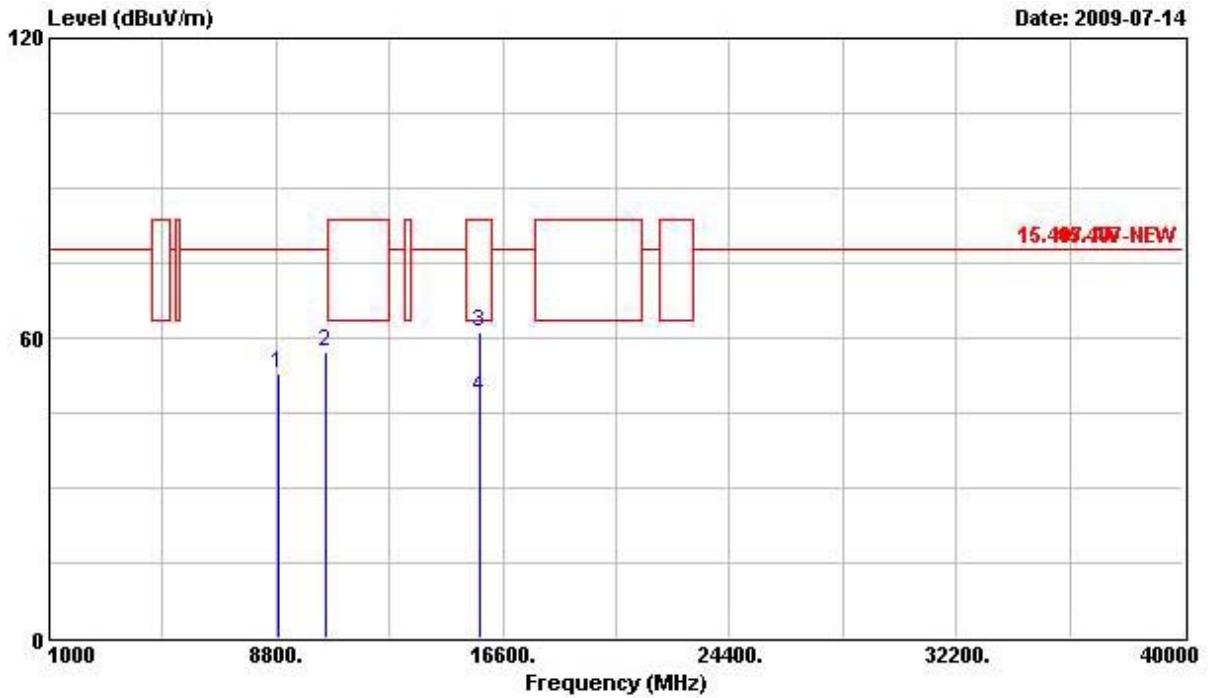
Final Test date	Jul. 14, 2009	Test Site No.	03CH02-HY
Temperature	24.9°C	Humidity	52.2%
Test Engineer	David	Configuration	802.11n CH 54 (40MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8972.000	53.30	-24.54	77.84	44.53	38.13	6.14	35.50	---	---	PEAK
2	10540.000	57.63	-20.21	77.84	45.92	40.12	6.88	35.28	---	---	PEAK
3	15808.000	61.94	-21.60	83.54	46.10	42.86	8.46	35.48	---	---	PEAK
4	15808.000	50.16	-13.38	63.54	34.31	42.86	8.46	35.48	---	---	Average

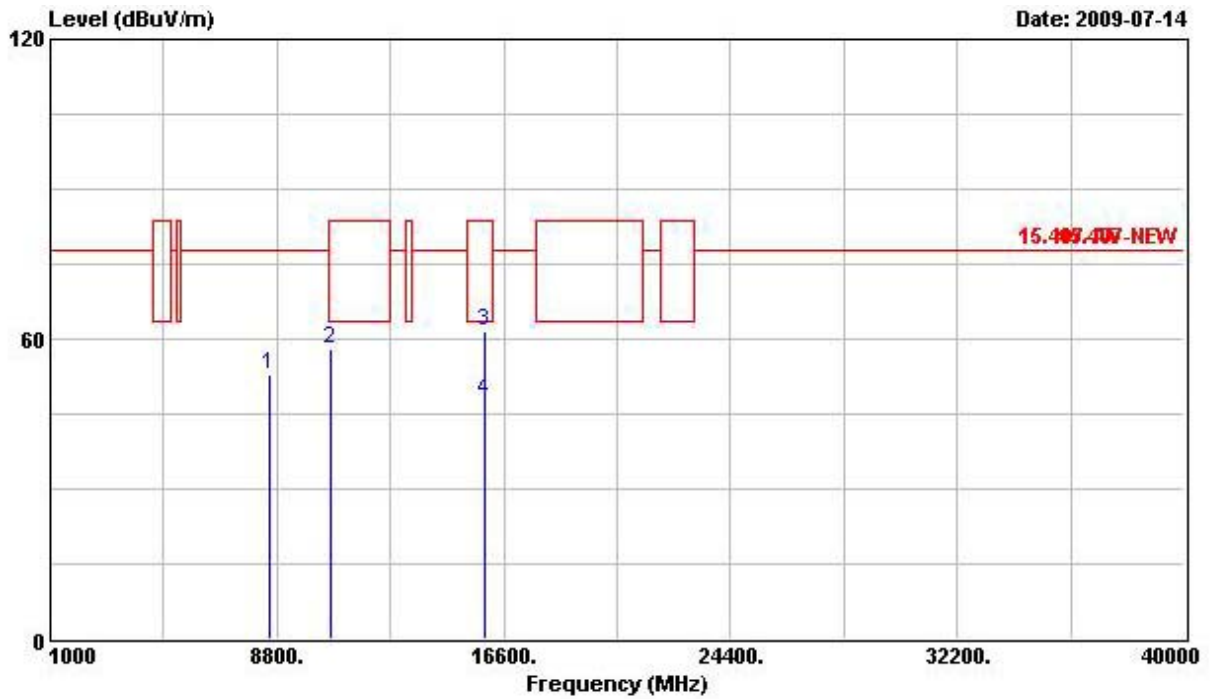
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8880.000	52.98	-24.86	77.84	44.15	38.19	6.11	35.48	---	---	PEAK
2	10544.000	57.23	-20.61	77.84	45.51	40.12	6.88	35.28	---	---	PEAK
3	15810.000	61.37	-22.17	83.54	45.52	42.86	8.46	35.48	---	---	PEAK
4	15810.000	48.26	-15.28	63.54	32.41	42.86	8.46	35.48	---	---	Average

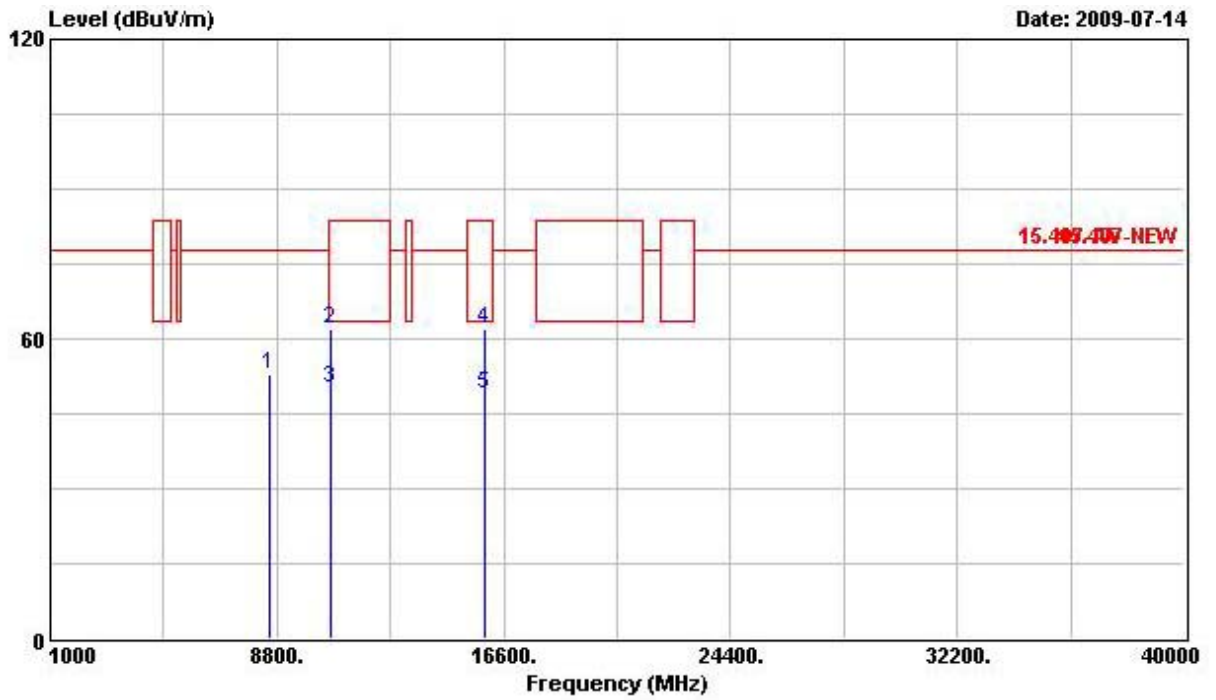
Final Test date	Jul. 14, 2009	Test Site No.	03CH02-HY
Temperature	24.9°C	Humidity	52.2%
Test Engineer	David	Configuration	802.11n CH 62 (40MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8568.000	52.88	-24.96	77.84	43.88	38.45	5.97	35.42	---	---	PEAK
2	10622.000	57.98	-5.56	63.54	46.09	40.17	6.93	35.22	---	---	PK
3	15926.000	61.55	-21.99	83.54	45.80	42.89	8.47	35.61	---	---	PEAK
4	15926.000	47.91	-15.63	63.54	32.16	42.89	8.47	35.61	---	---	Average

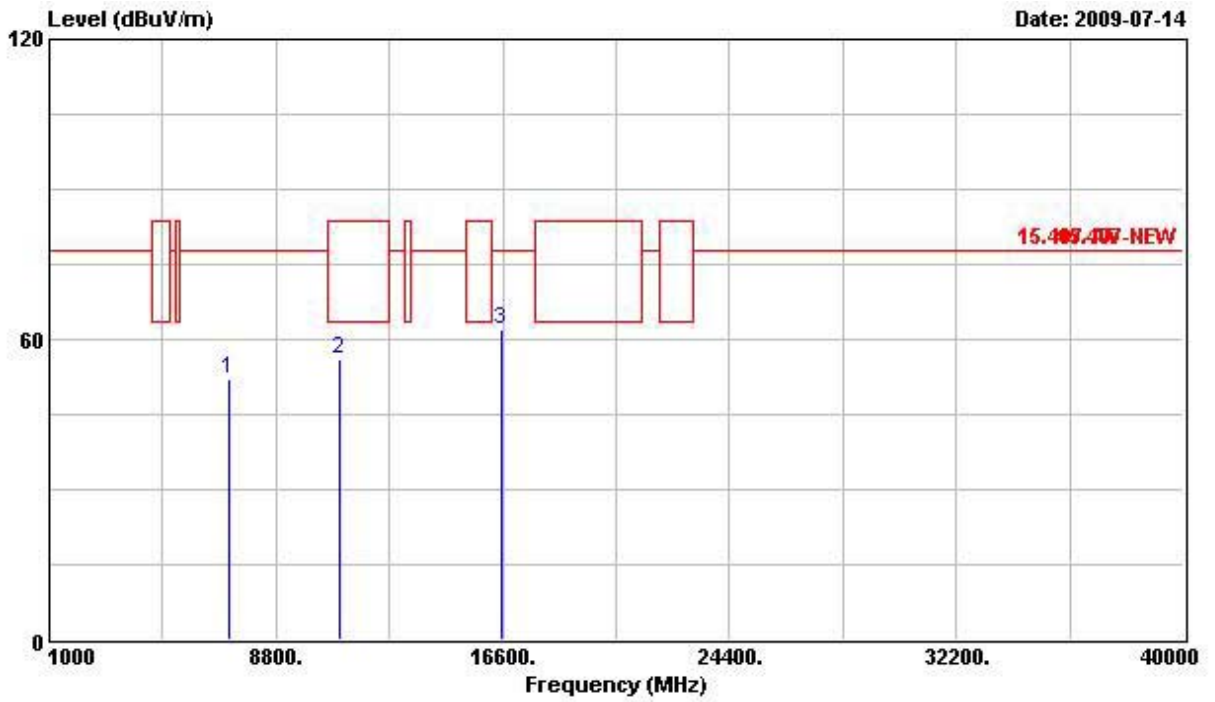
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8528.000	52.84	-25.00	77.84	43.81	38.47	5.96	35.41	---	---	PEAK
2	10624.000	62.13	-21.41	83.54	50.25	40.17	6.93	35.22	---	---	PEAK
3	10624.000	50.25	-13.29	63.54	38.36	40.17	6.93	35.22	---	---	Average
4	15926.000	61.83	-21.71	83.54	46.08	42.89	8.47	35.61	---	---	PEAK
5	15926.000	48.81	-14.73	63.54	33.06	42.89	8.47	35.61	---	---	Average

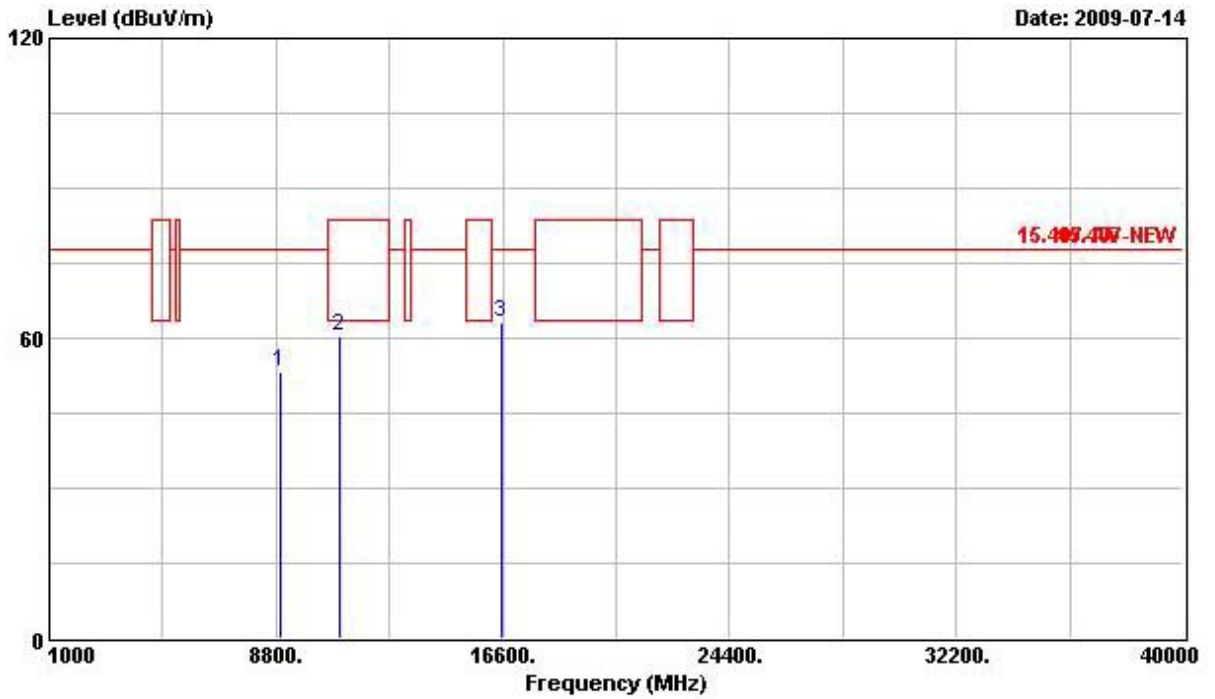
Final Test date	Jul. 14, 2009	Test Site No.	03CH02-HY
Temperature	24.9°C	Humidity	52.2%
Test Engineer	David	Configuration	802.11n CH 102 (40MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBUV/m	dB	dBUV/m	dBUV	dB/m	dB	dB	cm	deg	
1	7160.000	52.00	-25.84	77.84	43.78	37.83	5.62	35.24	---	---	PEAK
2 @	11020.000	56.18	-7.36	63.54	43.55	40.41	7.13	34.91	---	---	PK
3	16530.000	62.07	-15.77	77.84	45.43	43.51	8.27	35.15	---	---	PEAK

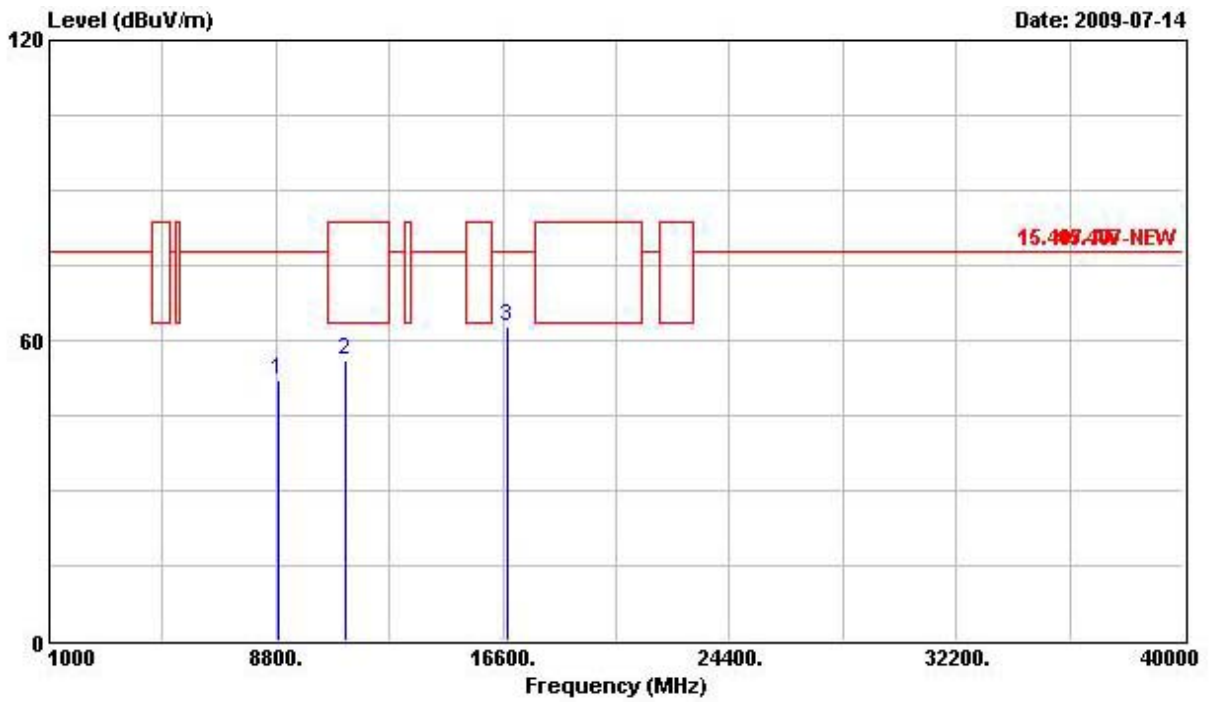
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8932.000	53.35	-24.49	77.84	44.55	38.15	6.13	35.49	---	---	PEAK
2	11020.000	60.39	-3.15	63.54	47.76	40.41	7.13	34.91	---	---	PK
3	16532.000	63.09	-14.75	77.84	46.45	43.51	8.27	35.15	---	---	PEAK

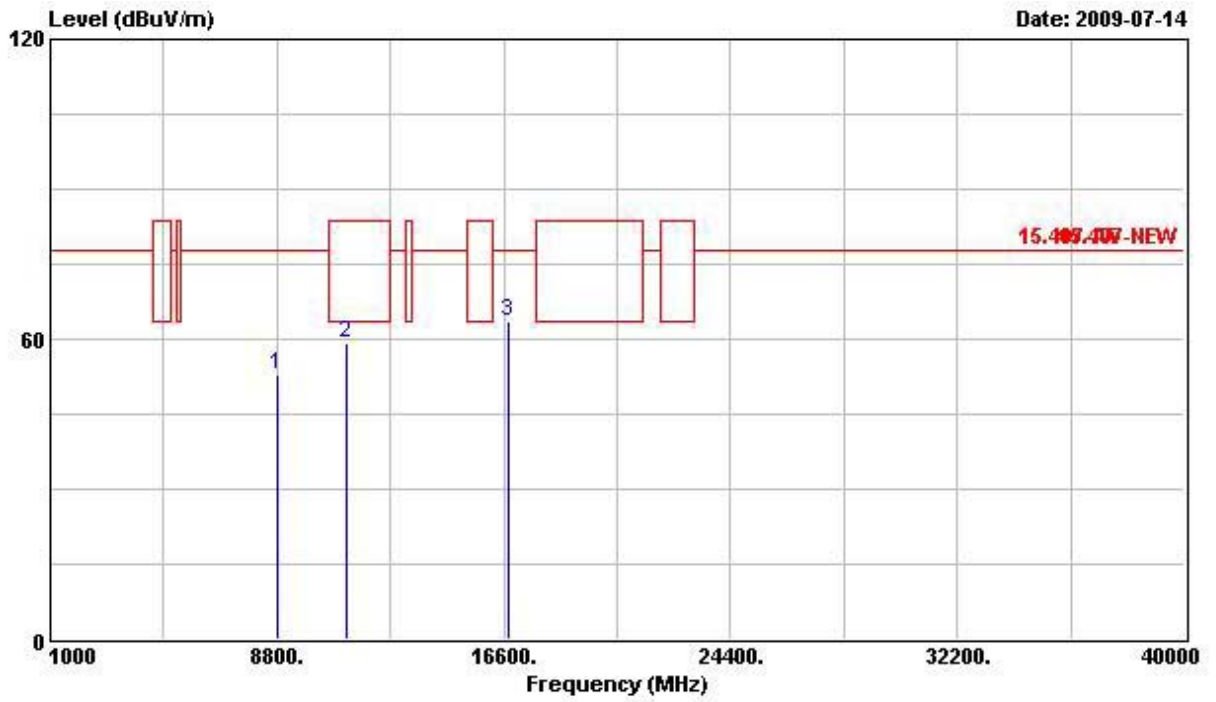
Final Test date	Jul. 14, 2009	Test Site No.	03CH02-HY
Temperature	24.9°C	Humidity	52.2%
Test Engineer	David	Configuration	802.11n CH 118 (40MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8876.000	52.19	-25.65	77.84	43.35	38.21	6.11	35.48	---	---	PEAK
2	11180.000	55.96	-7.58	63.54	43.46	40.47	6.96	34.94	---	---	PK
3	16772.000	62.81	-15.03	77.84	45.35	43.61	8.47	34.62	---	---	PEAK

Vertical

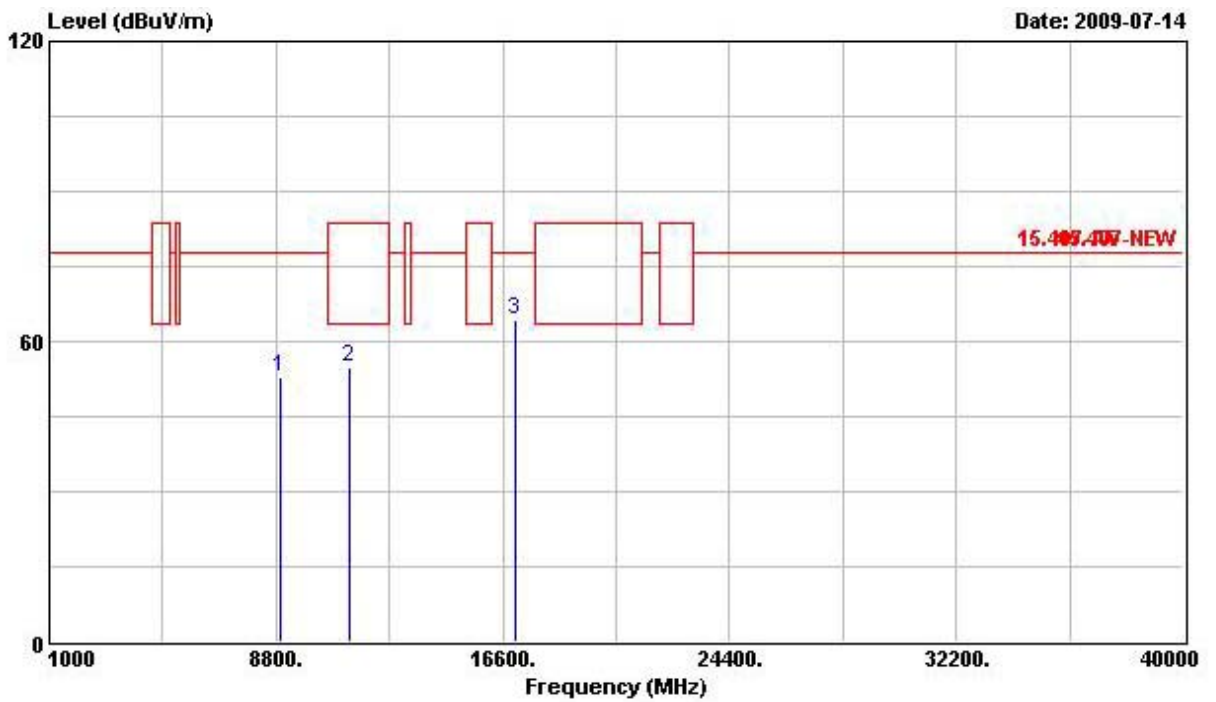


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8824.000	52.71	-25.13	77.84	43.83	38.25	6.09	35.47	---	---	PEAK
2	11176.000	59.36	-4.18	63.54	46.86	40.47	6.96	34.94	---	---	PK
3	16772.000	63.48	-14.36	77.84	46.02	43.61	8.47	34.62	---	---	PEAK



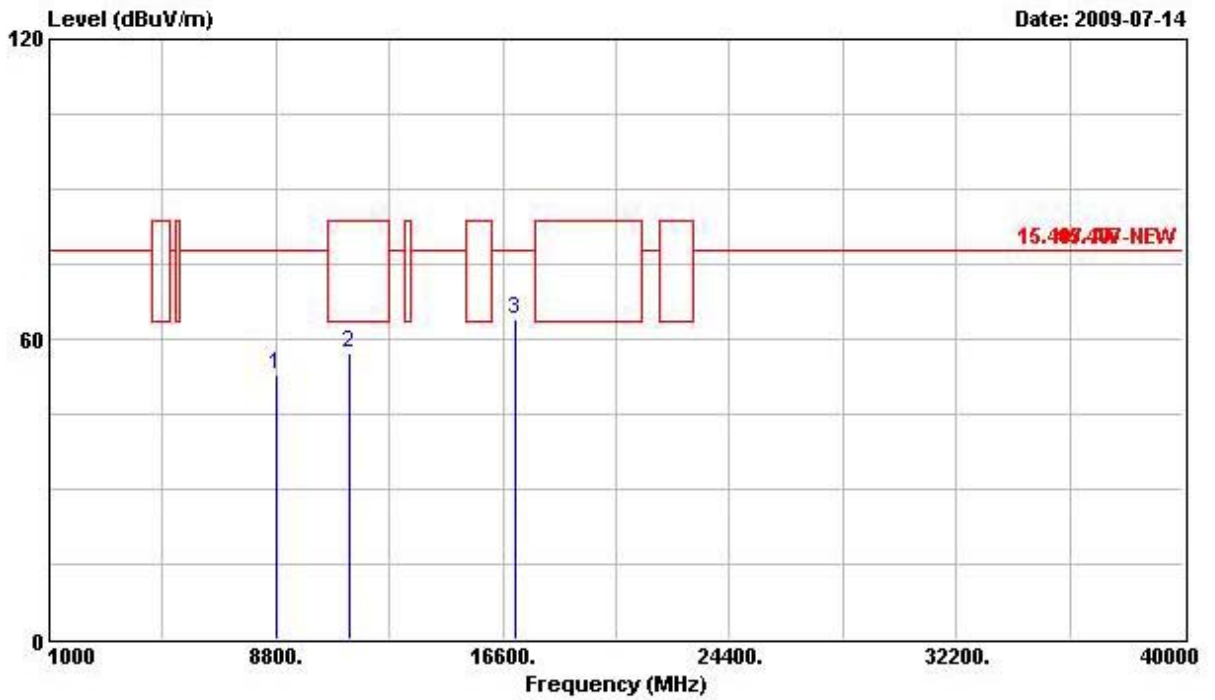
Final Test date	Jul. 14, 2009	Test Site No.	03CH02-HY
Temperature	24.9°C	Humidity	52.2%
Test Engineer	David	Configuration	802.11n CH 134 (40MHz)

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8952.000	52.92	-24.92	77.84	44.12	38.14	6.14	35.49	---	---	PEAK
2	11344.000	54.99	-8.55	63.54	42.64	40.53	6.80	34.97	---	---	PK
3	17006.000	64.25	-13.59	77.84	46.08	43.69	8.67	34.19	---	---	PEAK

Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	8840.000	53.01	-24.83	77.84	44.15	38.23	6.09	35.47	---	---	PEAK
2 @	11336.000	57.29	-6.25	63.54	44.93	40.53	6.80	34.97	---	---	PK
3	17014.000	63.96	-13.88	77.84	45.81	43.69	8.65	34.19	---	---	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 form 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). For transmitters operating in the 5.725-5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz (78.3dBuV/m at 3m); for frequencies 10 MHz or greater above or below the band edge, emissions 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.

<b>Frequencies (MHz)</b>	<b>Field Strength (micorvolts/meter)</b>	<b>Measurement Distance (meters)</b>
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.

<b>Spectrum Parameter</b>	<b>Setting</b>
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

For Single Chain:

<b>Final Test date</b>	Jul. 14, 2009	<b>Test Site No.</b>	03CH02-HY
<b>Temperature</b>	24.9°C	<b>Humidity</b>	52.2%
<b>Test Engineer</b>	David	<b>Configuration</b>	802.11a CH 36, 40, 48

Channel 36

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	5146.150	76.66	-6.88	83.54	35.67	36.21	4.78	0.00	---	---	Peak
2 @	5182.950	114.21			73.16	36.26	4.80	0.00	---	---	Peak
1 @	5150.000	59.94	-3.60	63.54	18.95	36.21	4.78	0.00	---	---	Average
2 @	5181.150	103.48			62.43	36.26	4.80	0.00	---	---	Average

An item 2 is Fundamental Emissions.

Channel 40

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	5142.100	71.85	-11.69	83.54	30.86	36.21	4.78	0.00	---	---	Peak
2 @	5197.000	113.58			72.49	36.28	4.81	0.00	---	---	Peak
3	5363.800	71.88	-11.66	83.54	30.50	36.51	4.87	0.00	---	---	Peak
1 @	5146.900	59.24	-4.30	63.54	18.25	36.21	4.78	0.00	---	---	Average
2 @	5196.100	102.88			61.79	36.28	4.81	0.00	---	---	Average
3 @	5381.800	59.05	-4.49	63.54	17.65	36.54	4.87	0.00	---	---	Average

An item 2 is Fundamental Emissions.

Channel 48

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	5236.810	114.21			73.06	36.33	4.83	0.00	---	---	Peak
2	5359.740	71.31	-12.23	83.54	29.95	36.49	4.87	0.00	---	---	Peak
1 @	5238.330	103.70			62.55	36.33	4.83	0.00	---	---	Average
2 @	5355.370	58.20	-5.34	63.54	16.84	36.49	4.87	0.00	---	---	Average

An item 1 is Fundamental Emissions.

<b>Final Test date</b>	Jul. 14, 2009	<b>Test Site No.</b>	03CH02-HY
<b>Temperature</b>	24.9°C	<b>Humidity</b>	52.2%
<b>Test Engineer</b>	David	<b>Configuration</b>	802.11a CH 52, 56, 64

**Channel 52**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	5115.400	71.22	-12.32	83.54	30.27	36.16	4.78	0.00	---	---	Peak
2 @	5261.800	113.14			71.94	36.37	4.83	0.00	---	---	Peak
3	5365.000	72.07	-11.47	83.54	30.69	36.51	4.87	0.00	---	---	Peak
1 @	5119.300	58.72	-4.82	63.54	17.77	36.16	4.78	0.00	---	---	Average
2 @	5263.000	102.54			61.34	36.37	4.83	0.00	---	---	Average
3 @	5405.800	59.33	-4.21	63.54	17.89	36.56	4.88	0.00	---	---	Average

An item 2 is Fundamental Emissions.

**Channel 56**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	5110.900	71.54	-12.00	83.54	30.61	36.16	4.77	0.00	---	---	Peak
2 @	5281.300	114.97			73.73	36.40	4.84	0.00	---	---	Peak
3	5396.200	72.52	-11.02	83.54	31.08	36.56	4.88	0.00	---	---	Peak
1 @	5130.100	58.52	-5.02	63.54	17.55	36.19	4.78	0.00	---	---	Average
2 @	5283.400	104.31			63.07	36.40	4.84	0.00	---	---	Average
3 @	5393.800	59.07	-4.47	63.54	17.65	36.54	4.88	0.00	---	---	Average

An item 2 is Fundamental Emissions.

**Channel 64**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	5321.620	114.67			73.37	36.44	4.85	0.00	---	---	Peak
2	5366.420	73.04	-10.50	83.54	31.66	36.51	4.87	0.00	---	---	Peak
1 @	5321.060	103.90			62.60	36.44	4.85	0.00	---	---	Average
2 @	5372.650	59.68	-3.86	63.54	18.30	36.51	4.87	0.00	---	---	Average

An item 1 is Fundamental Emissions.



<b>Final Test date</b>	Jul. 14, 2009	<b>Test Site No.</b>	03CH02-HY
<b>Temperature</b>	24.9°C	<b>Humidity</b>	52.2%
<b>Test Engineer</b>	David	<b>Configuration</b>	802.11a CH 100, 116,120, 140

**Channel 100**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	5446.700	74.27	-9.27	83.54	32.74	36.63	4.90	0.00	---	---	Peak
2 @	5501.800	112.74			71.13	36.70	4.91	0.00	---	---	Peak
1 @	5447.400	60.09	-3.45	63.54	18.56	36.63	4.90	0.00	---	---	Average
2 @	5502.200	101.95			60.34	36.70	4.91	0.00	---	---	Average

An item 2 is Fundamental Emissions.

**Channel 116**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	5360.810	73.66	-9.88	83.54	32.28	36.51	4.87	0.00	---	---	Peak
2 X	5576.540	112.69			70.95	36.78	4.95	0.00	---	---	Peak
3	5761.250	74.63	-3.21	77.84	32.55	37.01	5.07	0.00	---	---	Peak
1	5368.330	60.53	-23.01	83.54	19.15	36.51	4.87	0.00	---	---	Peak
2 X	5580.770	101.09			59.35	36.78	4.95	0.00	---	---	Peak
3	5813.890	61.22	-16.62	77.84	19.06	37.07	5.09	0.00	---	---	Peak

An item 2 is Fundamental Emissions.

**Channel 120**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	5454.300	72.25	-11.29	83.54	30.72	36.63	4.90	0.00	---	---	Peak
2 @	5601.650	107.73			65.93	36.82	4.98	0.00	---	---	Peak
3 @	5748.650	73.41	-4.43	77.84	31.35	36.99	5.07	0.00	---	---	Peak
1 @	5443.450	59.38	-4.16	63.54	17.88	36.61	4.90	0.00	---	---	Average
2 @	5601.650	96.96			55.16	36.82	4.98	0.00	---	---	Average
3	5754.250	60.06	-17.78	77.84	17.98	37.01	5.07	0.00	---	---	Average

An item 2 is Fundamental Emissions.

**Channel 140**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	5697.150	105.96			64.01	36.93	5.02	0.00	---	---	Peak
2 @	5731.150	73.60	-4.24	77.84	31.59	36.97	5.04	0.00	---	---	Peak
1 @	5698.300	95.32			53.37	36.93	5.02	0.00	---	---	Average
2	5733.350	60.01	-17.83	77.84	18.00	36.97	5.04	0.00	---	---	Average

An item 1 is Fundamental Emissions.

For Two Chain:

Final Test date	Jul. 14, 2009	Test Site No.	03CH02-HY
Temperature	24.9°C	Humidity	52.2%
Test Engineer	David	Configuration	802.11n CH 36, 40, 48 (20MHz)

Channel 36

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	5146.300	72.88	-10.66	83.54	31.89	36.21	4.78	0.00	---	---	Peak
2 @	5176.950	114.68			73.63	36.26	4.80	0.00	---	---	Peak
1 @	5149.100	59.09	-4.45	63.54	18.10	36.21	4.78	0.00	---	---	Average
2 @	5178.100	103.02			61.97	36.26	4.80	0.00	---	---	Average

An item 2 is Fundamental Emissions.

Channel 40

	Freq	Level	Over Li	Limit	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	5127.700	72.41	-11.13	83.54	31.44	36.19	4.78	0.00	---	---	Peak
2 @	5202.100	114.83			73.74	36.28	4.81	0.00	---	---	Peak
3	5393.800	72.98	-10.56	83.54	31.56	36.54	4.88	0.00	---	---	Peak
1 @	5147.800	59.19	-4.35	63.54	18.20	36.21	4.78	0.00	---	---	Average
2 @	5197.300	102.62			61.53	36.28	4.81	0.00	---	---	Average
3 @	5392.900	59.02	-4.52	63.54	17.60	36.54	4.88	0.00	---	---	Average

An item 2 is Fundamental Emissions.

Channel 48

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	5236.700	113.78			72.63	36.33	4.83	0.00	---	---	Peak
2	5351.720	72.71	-10.83	83.54	31.35	36.49	4.87	0.00	---	---	Peak
1 @	5242.280	102.45			61.28	36.35	4.83	0.00	---	---	Average
2 @	5355.320	58.87	-4.67	63.54	17.51	36.49	4.87	0.00	---	---	Average

An item 1 is Fundamental Emissions.

<b>Final Test date</b>	Jul. 14, 2009	<b>Test Site No.</b>	03CH02-HY
<b>Temperature</b>	24.9°C	<b>Humidity</b>	52.2%
<b>Test Engineer</b>	David	<b>Configuration</b>	802.11n CH 52, 56, 64 (20MHz)

**Channel 52**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	5126.200	72.21	-11.33	83.54	31.24	36.19	4.78	0.00	---	---	Peak
2 @	5261.800	115.18			73.98	36.37	4.83	0.00	---	---	Peak
3	5399.800	72.54	-11.00	83.54	31.10	36.56	4.88	0.00	---	---	Peak
1 @	5145.700	58.48	-5.06	63.54	17.49	36.21	4.78	0.00	---	---	Average
2 @	5264.200	103.25			62.05	36.37	4.83	0.00	---	---	Average
3 @	5394.100	59.02	-4.52	63.54	17.60	36.54	4.88	0.00	---	---	Average

An item 2 is Fundamental Emissions.

**Channel 56**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	5115.700	72.28	-11.26	83.54	31.33	36.16	4.78	0.00	---	---	Peak
2 @	5282.200	116.18			74.94	36.40	4.84	0.00	---	---	Peak
3	5397.400	72.92	-10.62	83.54	31.48	36.56	4.88	0.00	---	---	Peak
1 @	5119.000	58.47	-5.07	63.54	17.52	36.16	4.78	0.00	---	---	Average
2 @	5277.700	104.32			63.08	36.40	4.84	0.00	---	---	Average
3 @	5362.600	59.01	-4.53	63.54	17.63	36.51	4.87	0.00	---	---	Average

An item 2 is Fundamental Emissions.

**Channel 64**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	5315.530	116.26			74.96	36.44	4.85	0.00	---	---	Peak
2 @	5361.450	76.08	-7.46	83.54	34.70	36.51	4.87	0.00	---	---	Peak
1 @	5321.340	103.39			62.09	36.44	4.85	0.00	---	---	Average
2 @	5372.090	59.44	-4.10	63.54	18.06	36.51	4.87	0.00	---	---	Average

An item 1 is Fundamental Emissions.



<b>Final Test date</b>	Jul. 14, 2009	<b>Test Site No.</b>	03CH02-HY
<b>Temperature</b>	24.9°C	<b>Humidity</b>	52.2%
<b>Test Engineer</b>	David	<b>Configuration</b>	802.11n CH 100, 116,120,140 (20MHz)

**Channel 100**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	5432.200	74.44	-9.10	83.54	32.94	36.61	4.90	0.00	---	---	Peak
2 @	5496.700	115.38			73.77	36.70	4.91	0.00	---	---	Peak
1 @	5447.900	59.89	-3.65	63.54	18.36	36.63	4.90	0.00	---	---	Average
2 @	5497.000	103.01			61.40	36.70	4.91	0.00	---	---	Average

An item 2 is Fundamental Emissions.

**Channel 116**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	5354.700	74.04	-9.50	83.54	32.68	36.49	4.87	0.00	---	---	Peak
2 @	5576.540	113.45			71.71	36.78	4.95	0.00	---	---	Peak
3	5783.340	74.79	-3.05	77.84	32.67	37.03	5.09	0.00	---	---	Peak
1	5355.170	60.51	-3.03	63.54	19.15	36.49	4.87	0.00	---	---	Average
2 X	5578.420	101.54			59.80	36.78	4.95	0.00	---	---	Average
3	5783.810	61.11	-16.73	77.84	18.99	37.03	5.09	0.00	---	---	Average

An item 2 is Fundamental Emissions.

**Channel 120**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	5454.650	72.93	-10.61	83.54	31.40	36.63	4.90	0.00	---	---	Peak
2 @	5597.100	111.71			69.93	36.80	4.98	0.00	---	---	Peak
3 @	5759.850	73.97	-3.87	77.84	31.89	37.01	5.07	0.00	---	---	Peak
1 @	5432.250	59.18	-4.36	63.54	17.68	36.61	4.90	0.00	---	---	Average
2 @	5597.450	100.00			58.22	36.80	4.98	0.00	---	---	Average
3	5758.450	59.69	-18.15	77.84	17.61	37.01	5.07	0.00	---	---	Average

An item 2 is Fundamental Emissions.

**Channel 140**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	5694.100	107.30			65.35	36.93	5.02	0.00	---	---	Peak
2 @	5736.500	73.45	-4.39	77.84	31.42	36.99	5.04	0.00	---	---	Peak
1 @	5696.700	95.53			53.58	36.93	5.02	0.00	---	---	Average
2	5736.300	59.62	-18.22	77.84	17.59	36.99	5.04	0.00	---	---	Average

An item 1 is Fundamental Emissions.

<b>Final Test date</b>	Jul. 14, 2009	<b>Test Site No.</b>	03CH02-HY
<b>Temperature</b>	24.9°C	<b>Humidity</b>	52.2%
<b>Test Engineer</b>	David	<b>Configuration</b>	802.11n CH 38, 46, 54 (40MHz)

**Channel 38**

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	5148.720	79.25	-4.29	83.54	38.26	36.21	4.78	0.00	---	---	Peak
2 @	5194.480	110.44			69.35	36.28	4.81	0.00	---	---	Peak
1 @	5150.000	61.96	-1.58	63.54	20.97	36.21	4.78	0.00	---	---	Average
2 @	5194.160	98.70			57.61	36.28	4.81	0.00	---	---	Average

An item 2 is Fundamental Emissions.

**Channel 46**

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	5142.100	72.28	-11.26	83.54	31.29	36.21	4.78	0.00	---	---	Peak
2 @	5223.400	109.93			8.82	36.30	4.81	0.00	---	---	Peak
3	5356.600	72.78	-10.76	83.54	31.42	36.49	4.87	0.00	---	---	Peak
1 @	5123.800	58.62	-4.92	63.54	17.65	36.19	4.78	0.00	---	---	Average
2 @	5231.800	97.69			56.54	36.33	4.83	0.00	---	---	Average
3 @	5362.900	58.97	-4.57	63.54	17.59	36.51	4.87	0.00	---	---	Average

An item 2 is Fundamental Emissions.

**Channel 54**

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	5122.900	72.87	-10.67	83.54	31.90	36.19	4.78	0.00	---	---	Peak
2 @	5273.800	111.16			69.95	36.37	4.84	0.00	---	---	Peak
3	5388.100	72.78	-10.76	83.54	31.36	36.54	4.88	0.00	---	---	Peak
1 @	5132.200	58.48	-5.06	63.54	17.51	36.19	4.78	0.00	---	---	Average
2 @	5274.100	100.11			58.90	36.37	4.84	0.00	---	---	Average
3 @	5372.200	59.16	-4.38	63.54	17.78	36.51	4.87	0.00	---	---	Average

An item 2 is Fundamental Emissions.

<b>Final Test date</b>	Jul. 14, 2009	<b>Test Site No.</b>	03CH02-HY
<b>Temperature</b>	24.9°C	<b>Humidity</b>	52.2%
<b>Test Engineer</b>	David	<b>Configuration</b>	802.11n CH 62, 102, 134 (40MHz)

**Channel 62**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	5317.720	111.57			70.27	36.44	4.85	0.00	---	---	Peak
2	5350.840	75.91	-7.63	83.54	34.55	36.49	4.87	0.00	---	---	Peak
1 @	5314.360	99.49			58.19	36.44	4.85	0.00	---	---	Average
2	5350.120	61.41	-2.13	63.54	20.05	36.49	4.87	0.00	---	---	Average

An item 1 is Fundamental Emissions.

**Channel 102**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	5443.980	73.28	-10.26	83.54	31.78	36.61	4.90	0.00	---	---	Peak
2 @	5503.490	110.59			68.98	36.70	4.91	0.00	---	---	Peak
1 @	5460.000	59.34	-4.20	63.54	17.81	36.63	4.90	0.00	---	---	Average
2 @	5511.850	98.78			57.15	36.70	4.93	0.00	---	---	Average

An item 2 is Fundamental Emissions.

**Channel 134**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	5663.500	106.58			64.67	36.89	5.02	0.00	---	---	Peak
2 @	5739.100	73.90	-3.94	77.84	31.84	36.99	5.07	0.00	---	---	Peak
1 @	5673.220	94.80			52.87	36.91	5.02	0.00	---	---	Average
2	5738.020	59.69	-18.15	77.84	17.66	36.99	5.04	0.00	---	---	Average

An item 1 is Fundamental Emissions.

Note:

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].

**3.8 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 ±20ppm (IEEE 802.11a specification).

**3.8.2 Measuring Instruments and Setting**

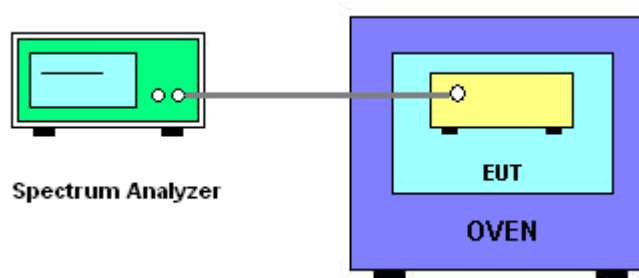
Please refer to section 4 of equipments list in this report. The following table is the setting of the spectrum analyzer.

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 analyser.
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. fc is declaring of channel frequency. Then the frequency error formula is  $(fc-f)/fc \times 10^6$  ppm and the limit is less than ±20ppm (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°C~50°C.
8. When measuring maximum conducted output power within multiple antenna systems, add every result of the values by mathematic formula.

**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)	<b>5320</b>
126.5	5319.989710
110	5319.988010
93.5	5319.988410
Max. Deviation (MHz)	0.011990
Max. Deviation (ppm)	2.25

**Temperature vs. Frequency Stability**

Temperature	Measurement Frequency (MHz)
(°C)	<b>5320</b>
-30	5320.009600
-20	5320.010200
-10	5320.011400
0	5320.009600
10	5320.000600
20	5319.989800
30	5319.986200
40	5319.973000
50	5319.974200
Max. Deviation (MHz)	0.027000
Max. Deviation (ppm)	5.08

### **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 2.3 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	100174	9kHz – 2.75GHz	Apr. 15, 2009	Conduction (CO04-HY)
LISN	MessTec	NNB-2/16Z	99079	9kHz – 30MHz	Mar. 23, 2009	Conduction (CO04-HY)
LISN (Support Unit)	EMCO	3810/2NM	9703-1839	9kHz – 30MHz	Mar. 22, 2009	Conduction (CO04-HY)
RF Cable-CON	UTIFLEX	3102-26886-4	CB049	9kHz – 30MHz	Apr. 20, 2009	Conduction (CO04-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	Oct. 28, 2008	Conducted (TH01-HY)
Power Meter	R&S	NRVS	100444	DC ~ 40GHz	Jul. 10, 2009	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z51	100458	DC ~ 30GHz	Jul. 10, 2009	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z32	100057	30MHz ~ 6GHz	Jul. 10, 2009	Conducted (TH01-HY)
DC Power Source	G.W.	GPC-6030D	C671845	DC 1V ~ 60V	Mar. 13, 2009	Conducted (TH01-HY)
Temp. and Humidity Chamber	Giant Force	GTH-225-20-S	MAB0103-001	N/A	Jul. 18, 2009	Conducted (TH01-HY)
RF CABLE-1m	Jye Bao	RG142	CB034-1m	20MHz ~ 7GHz	Dec. 01, 2008	Conducted (TH01-HY)
RF CABLE-2m	Jye Bao	RG142	CB035-2m	20MHz ~ 1GHz	Dec. 01, 2008	Conducted (TH01-HY)
Vector Signal Generator	R&S	SMU200A	102098	100kHz ~ 6GHz	Feb. 13, 2009	Conducted (TH01-HY)
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Mar. 25, 2009	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. 12, 2009*	Conducted (TH01-HY)

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

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	30 MHz - 1 GHz 3m	May 11, 2009	Radiation (03CH02-HY)
Amplifier	Agilent	8447D	2944A11146	100 kHz – 1.3 GHz	Jul. 04, 2009	Radiation (03CH02-HY)
Spectrum Analyzer	R&S	FSP40	100305/040	9 kHz - 40GHz	Feb. 04, 2009	Radiation (03CH02-HY)
Bilog Antenna	SCHAFFNER	CBL61128	2723	30 MHz - 2 GHz	Nov. 30, 2008	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)
RF Cable-R03m	Jye Bao	RG142	CB020	30 MHz - 1 GHz	Dec. 17, 2008	Radiation (03CH02-HY)
Amplifier	Agilent	8449B	3008A02373	1GHz – 26.5 GHz	Jul. 04, 2009	Radiation (03CH02-HY)
Horn Antenna	ETS-LINDGREN	3117	00091920	1GHz~18GHz	Oct. 22, 2008	Radiation (03CH02-HY)
RF Cable-HIGH	SUHNER	SUCOFLEX106	03CH02-HY	1GHz~40GHz	Dec. 17, 2008	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 28, 2008*	Radiation (03CH02-HY)

Note: Calibration Interval of instruments listed above is one 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 <sup>nd</sup> 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. : L1190-090318

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, 2007 to January 09, 2010
- 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 : March 18, 2009

P1, total 19 pages