7. Radiated Emission

7.1. Test Equipment

The following test equipment are used during the radiated emission test:

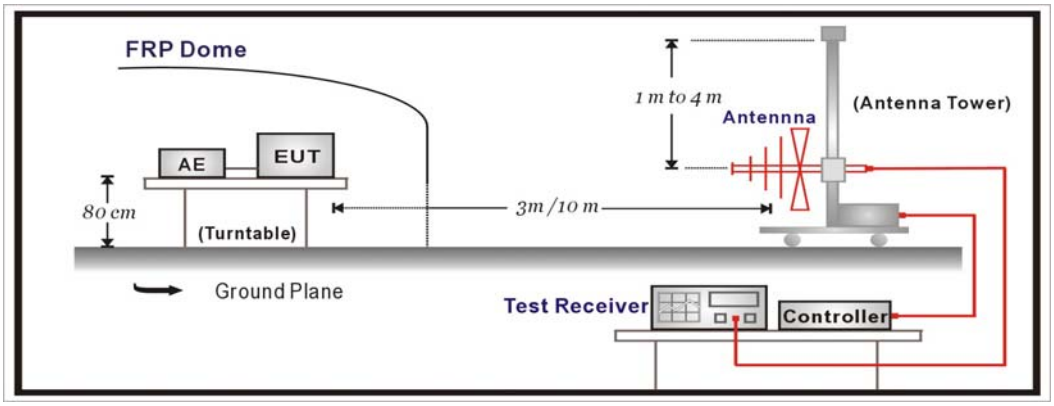
Radiated Emission / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Bilog Antenna	SCHAFFNER	CBL6112B	2895	2011/08/14
Horn Antenna	Schwarzback	BBHA 9120D	743	2011/03/14
Pre-Amplifier	MITEQ	AMF-4D-005180-24-10P	888003	2010/12/03
Pre-Amplifier	QuieTek	AP-025C	CHM-0706049	2011/03/25
Spectrum Analyzer	Agilent	E4440A	MY46187335	2011/01/14
Coaxial Cable	Huber+Suhner AG	Sucoflex 102	25623/2	2011/04/07

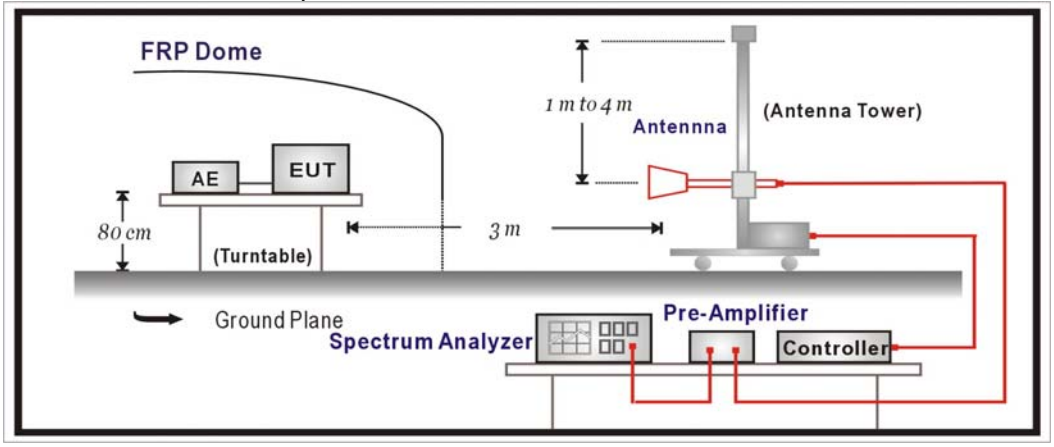
Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

7.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



7.3. Limits

➢ General Radiated Emission Limits

The provisions of Section 15.205 of this part apply to intentional radiators operating under this section. Radiated emissions which fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209:

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	uV/m @3m	dBuV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Remark:

1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
2. In the Above Table, the tighter limit applies at the band edges.
3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

➢ Unwanted Emission out of the restricted bands Limits

FCC Part 15 Subpart C Paragraph 15.407(b) Limits		
Frequency (MHz)	EIRP Limit (dBm)	Equivalent Field Strength (dBuV/m@3m)
5150~5250	-27	68.3
5250~5350	-27	68.3
5470~5725	-27	68.3
5725~5825	-27 (Note1)	68.3
	-17 (Note2)	78.3

Remark:

1. For frequencies more than 10 MHz above or below the band edges.
2. For frequency range from the band edges to 10 MHz above or below the band edges.
3. uV/m = $\frac{1000000\sqrt{30 \times EIRP}}{3}$, RF Voltage (dBuV/m) = 20 log RF Voltage (uV/m)

7.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to
ANSI C63.4: 2003 on radiated measurement.
The additional latch filter below 1GHz was used to measure the level of harmonics radiated emission during field dtrength of harmonics measurement.
The bandwidth below 1GHz setting on the field strength meter (R&S Test Receiver ESCS 30)is 120 KHz, above 1GHz are 1 MHz.
The frequency range from 30MHz to 10th harminics is checked.

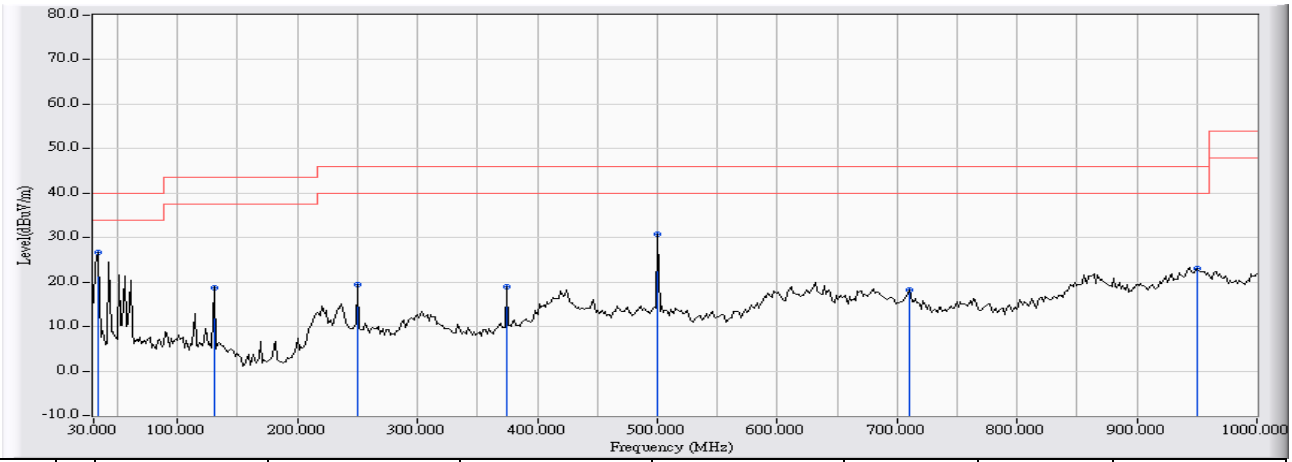
7.5. Uncertainty

The measurement uncertainty
30MHz～1GHz as ±3.43dB
1GHz～26.5Ghz as ±3.65dB

7.6. Test Result

30MHz-1GHz Spurious

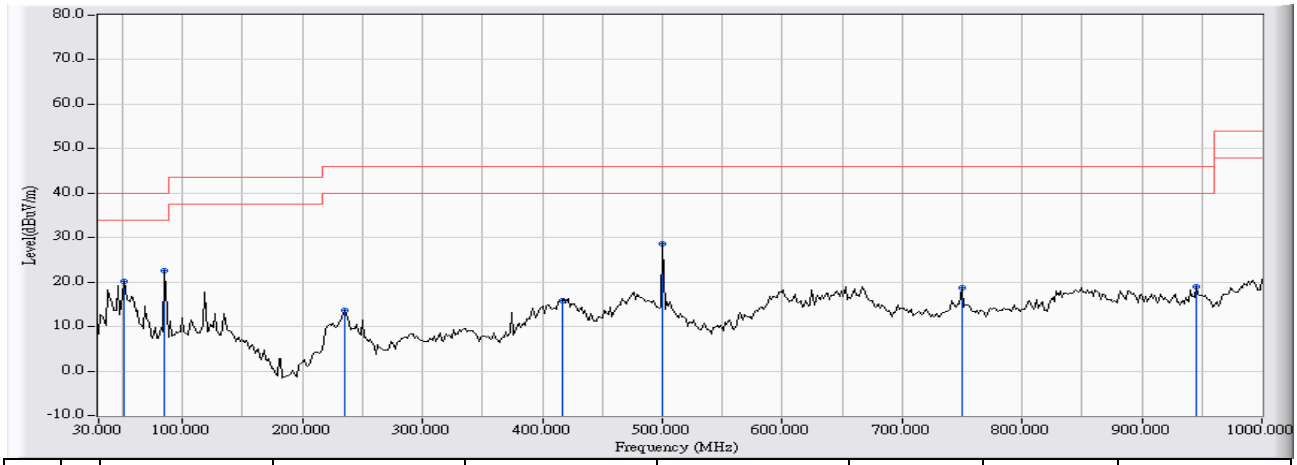
Site : CB1	**Time : 2010/08/26 - 21:16**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_30-1G(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 1: Transmit (Adapter: DVE_DSA-24PFD-15 FUS 120200)_802.11a**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	33.238	-15.372	41.953	26.581	-13.419	40.000	QUASIPEAK
2		130.237	-16.295	35.111	18.816	-24.684	43.500	QUASIPEAK
3		249.859	-13.345	32.700	19.355	-26.645	46.000	QUASIPEAK
4		374.355	-11.196	30.123	18.927	-27.073	46.000	QUASIPEAK
5		500.443	-7.521	38.230	30.709	-15.291	46.000	QUASIPEAK
6		710.608	-4.516	22.728	18.212	-27.788	46.000	QUASIPEAK
7		949.877	2.059	20.885	22.944	-23.056	46.000	QUASIPEAK

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

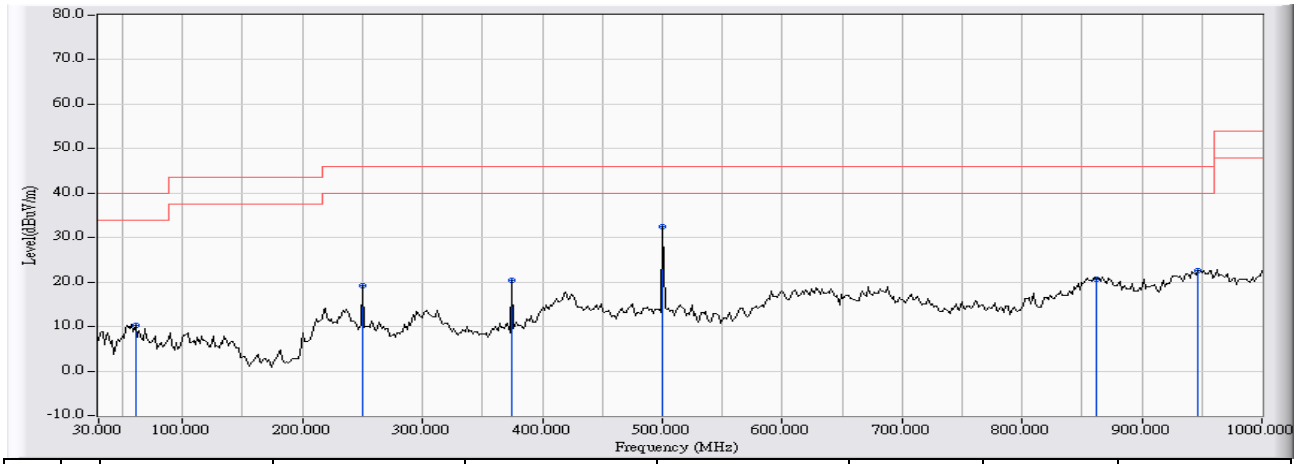
Site : CB1	**Time : 2010/08/26 - 20:55**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_30-1G(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 1: Transmit** **(Adapter: DVE_DSA-24PFD-15 FUS 120200)_802.11a**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		51.022	-14.501	34.775	20.274	-19.726	40.000	QUASIPEAK
2		84.969	-14.959	37.502	22.543	-17.457	40.000	QUASIPEAK
3		235.317	-12.013	25.694	13.681	-32.319	46.000	QUASIPEAK
4		416.386	-4.897	20.779	15.882	-30.118	46.000	QUASIPEAK
5	*	500.451	-6.839	35.563	28.724	-17.276	46.000	QUASIPEAK
6		749.411	-5.785	24.414	18.629	-27.371	46.000	QUASIPEAK
7		945.036	-2.680	21.644	18.964	-27.036	46.000	QUASIPEAK

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

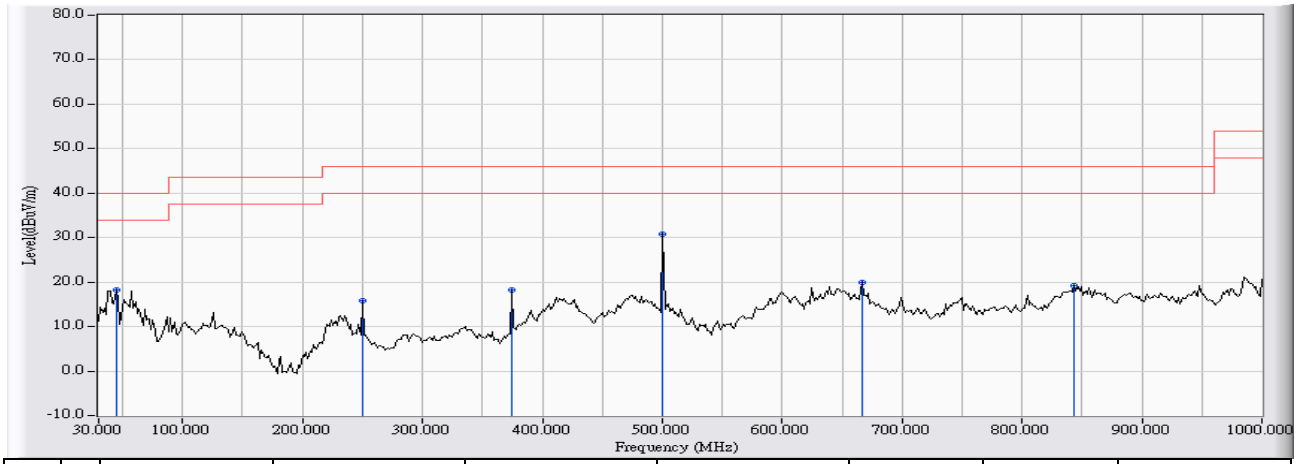
Site : CB1	**Time : 2010/08/26 - 20:55**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_30-1G(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 1: Transmit (Adapter: DVE_DSA-24PFD-15 FUS 120200) _802.11n(20M)**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		60.720	-14.386	24.746	10.360	-29.640	40.000	QUASIPEAK
2		249.860	-13.345	32.452	19.107	-26.893	46.000	QUASIPEAK
3		374.351	-11.196	31.499	20.303	-25.697	46.000	QUASIPEAK
4	*	500.452	-7.521	40.034	32.513	-13.487	46.000	QUASIPEAK
5		862.577	-0.008	20.616	20.608	-25.392	46.000	QUASIPEAK
6		946.651	1.611	21.066	22.677	-23.323	46.000	QUASIPEAK

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

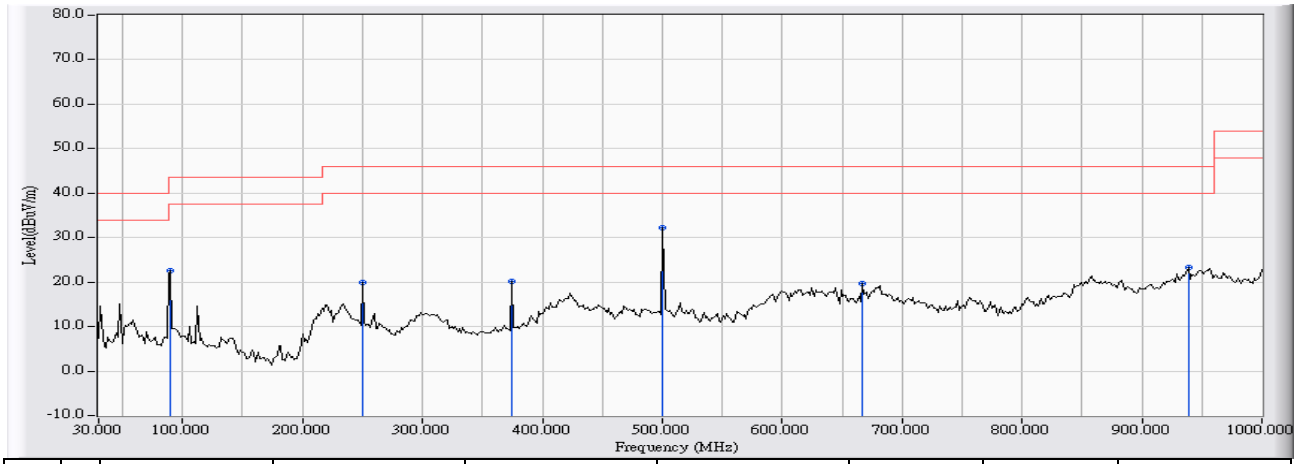
Site : CB1	**Time : 2010/08/26 - 20:55**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_30-1G(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 1: Transmit** **(Adapter: DVE_DSA-24PFD-15 FUS 120200)** **_802.11n(20M)**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		44.541	-13.310	31.573	18.263	-21.737	40.000	QUASIPEAK
2		249.869	-14.145	29.860	15.715	-30.285	46.000	QUASIPEAK
3		374.345	-12.824	31.120	18.296	-27.704	46.000	QUASIPEAK
4	*	500.440	-6.839	37.727	30.888	-15.112	46.000	QUASIPEAK
5		666.960	-3.707	23.743	20.036	-25.964	46.000	QUASIPEAK
6		843.184	-2.316	21.478	19.162	-26.838	46.000	QUASIPEAK

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

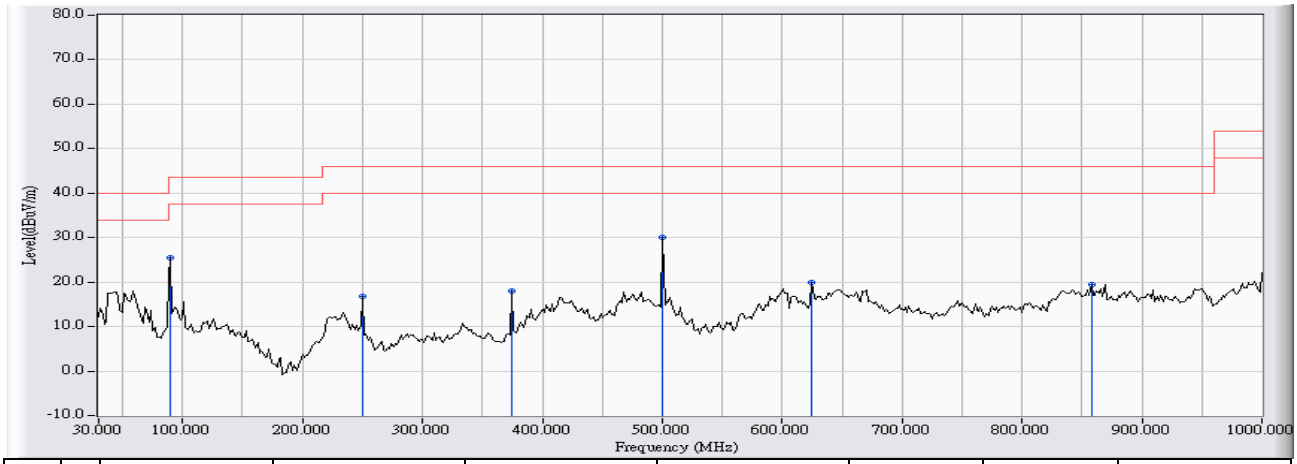
Site : CB1	**Time : 2010/08/26 - 20:56**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_30-1G(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 1: Transmit (Adapter: DVE_DSA-24PFD-15 FUS 120200) _802.11n(40M)**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		89.808	-15.431	37.893	22.462	-21.038	43.500	QUASIPEAK
2		249.870	-13.345	33.307	19.962	-26.038	46.000	QUASIPEAK
3		374.342	-11.196	31.400	20.204	-25.796	46.000	QUASIPEAK
4	*	500.443	-7.521	39.633	32.112	-13.888	46.000	QUASIPEAK
5		666.968	-3.698	23.321	19.623	-26.377	46.000	QUASIPEAK
6		938.559	0.770	22.481	23.251	-22.749	46.000	QUASIPEAK

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

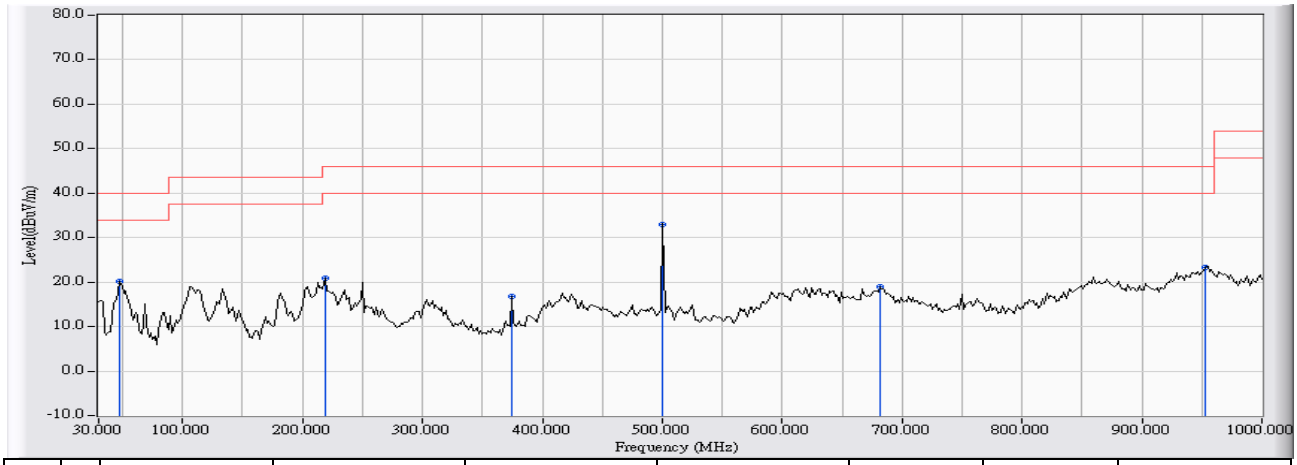
Site : CB1	**Time : 2010/08/26 - 20:56**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_30-1G(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 1: Transmit (Adapter: DVE_DSA-24PFD-15 FUS 120200) _802.11n(40M)**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		89.821	-13.427	38.870	25.443	-18.057	43.500	QUASIPEAK
2		249.868	-14.145	30.974	16.829	-29.171	46.000	QUASIPEAK
3		374.352	-12.824	30.884	18.060	-27.940	46.000	QUASIPEAK
4	*	500.443	-6.839	36.835	29.996	-16.004	46.000	QUASIPEAK
5		624.934	-5.410	25.305	19.895	-26.105	46.000	QUASIPEAK
6		857.724	-2.614	22.069	19.455	-26.545	46.000	QUASIPEAK

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

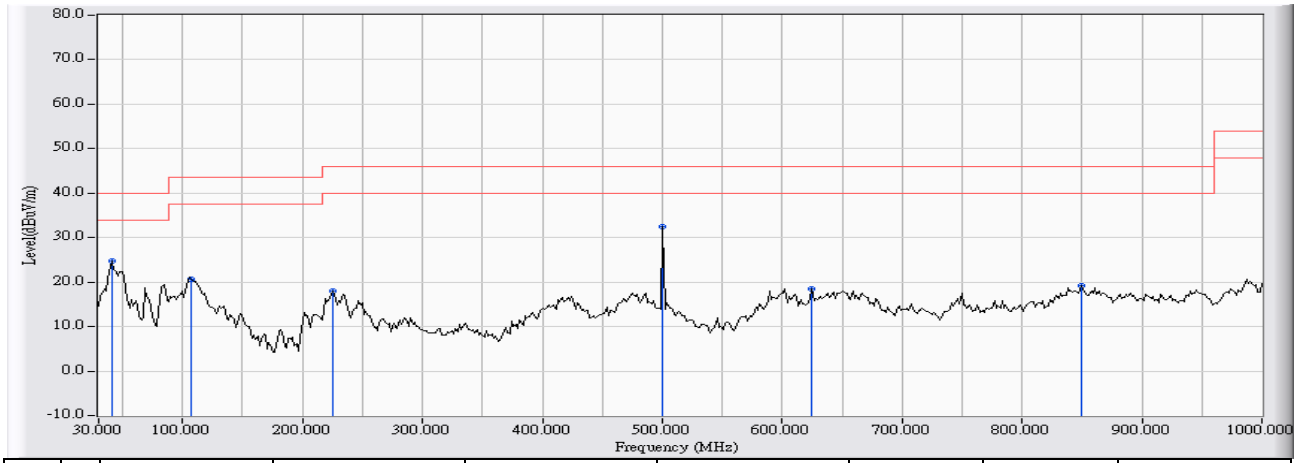
Site : CB1	**Time : 2010/08/26 - 20:56**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_30-1G(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note Mode 2: Transmit (Adapter: ASUS_AD820M0)_802.11a**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		47.784	-14.744	34.902	20.158	-19.842	40.000	QUASIPEAK
2		219.144	-13.947	34.843	20.896	-25.104	46.000	QUASIPEAK
3		374.355	-11.196	27.874	16.678	-29.322	46.000	QUASIPEAK
4	*	500.442	-7.521	40.502	32.981	-13.019	46.000	QUASIPEAK
5		681.521	-2.522	21.506	18.984	-27.016	46.000	QUASIPEAK
6		953.117	2.015	21.369	23.384	-22.616	46.000	QUASIPEAK

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

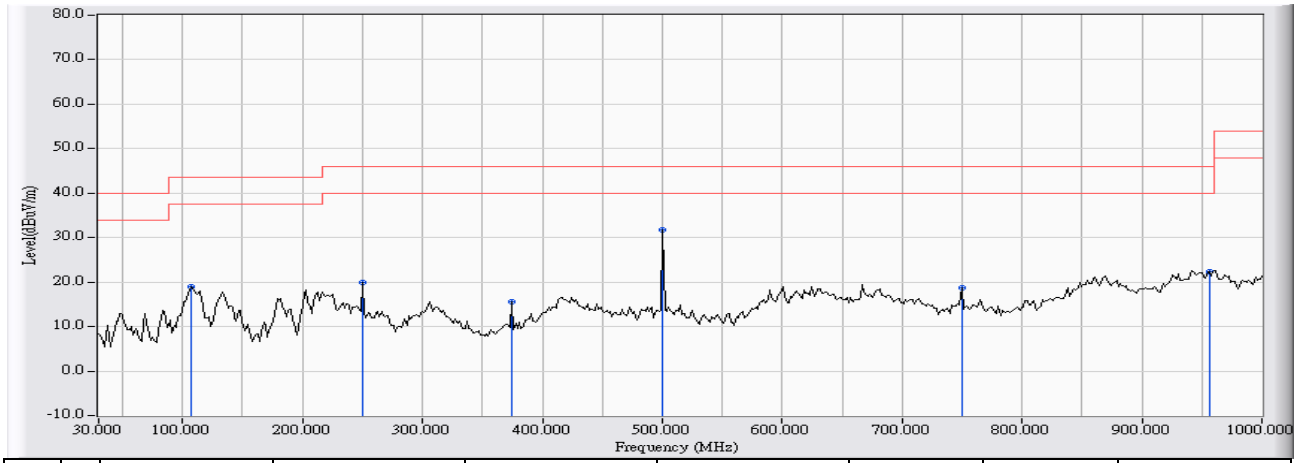
Site : CB1	**Time : 2010/08/26 - 20:57**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_30-1G(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 2: Transmit (Adapter: ASUS_AD820M0)_802.11a**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		41.309	-10.037	34.779	24.742	-15.258	40.000	QUASIPEAK
2		107.602	-12.499	33.168	20.669	-22.831	43.500	QUASIPEAK
3		225.621	-12.238	30.275	18.037	-27.963	46.000	QUASIPEAK
4	*	500.442	-6.839	39.219	32.380	-13.620	46.000	QUASIPEAK
5		624.924	-5.410	23.856	18.446	-27.554	46.000	QUASIPEAK
6		849.652	-2.390	21.595	19.205	-26.795	46.000	QUASIPEAK

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

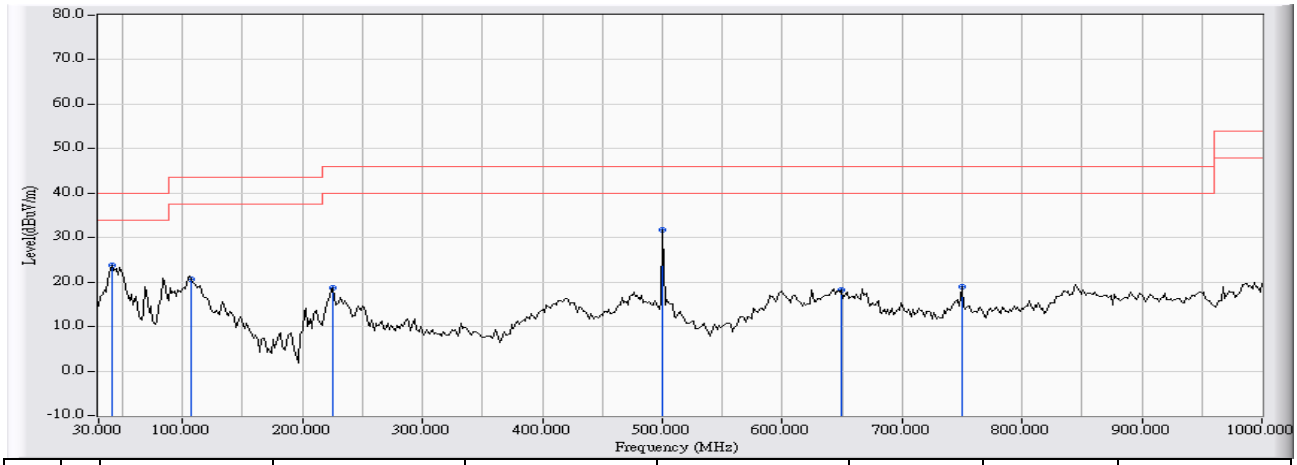
Site : CB1	**Time : 2010/08/26 - 20:57**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_30-1G(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 2: Transmit (Adapter: ASUS_AD820M0) _802.11n(20M)**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		107.591	-15.670	34.558	18.888	-24.612	43.500	QUASIPEAK
2		249.861	-13.345	33.183	19.838	-26.162	46.000	QUASIPEAK
3		374.340	-11.196	26.711	15.515	-30.485	46.000	QUASIPEAK
4	*	500.451	-7.521	39.186	31.665	-14.335	46.000	QUASIPEAK
5		749.418	-6.535	25.187	18.652	-27.348	46.000	QUASIPEAK
6		956.343	1.753	20.617	22.370	-23.630	46.000	QUASIPEAK

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

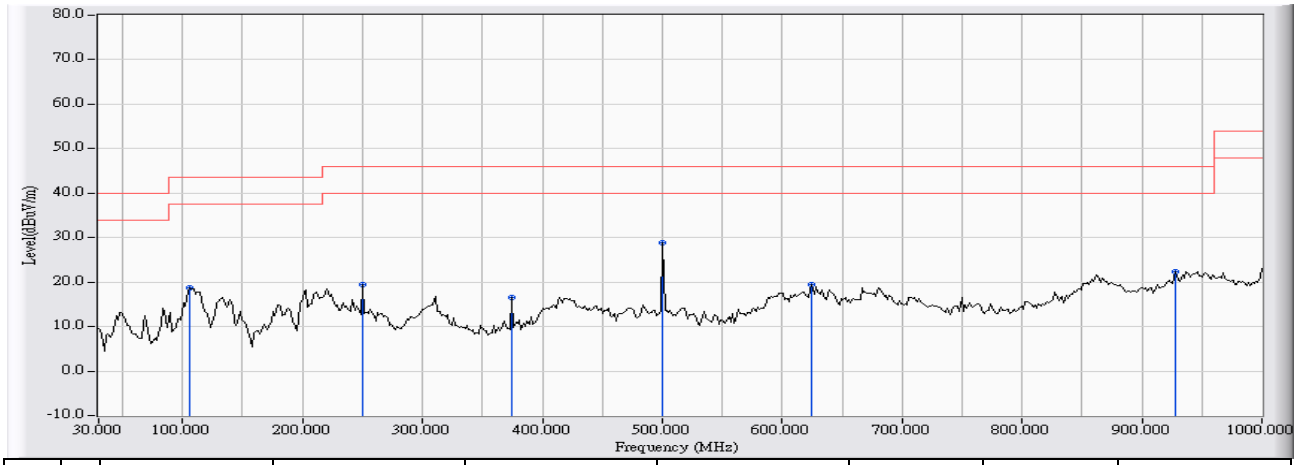
Site : CB1	**Time : 2010/08/26 - 20:57**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_30-1G(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 2: Transmit** **(Adapter: ASUS_AD820M0) _802.11n(20M)**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		41.311	-10.037	33.932	23.895	-16.105	40.000	QUASIPEAK
2		107.603	-12.499	33.206	20.707	-22.793	43.500	QUASIPEAK
3		225.620	-12.238	30.970	18.732	-27.268	46.000	QUASIPEAK
4	*	500.443	-6.839	38.595	31.756	-14.244	46.000	QUASIPEAK
5		649.176	-3.129	21.378	18.249	-27.751	46.000	QUASIPEAK
6		749.408	-5.785	24.628	18.843	-27.157	46.000	QUASIPEAK

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

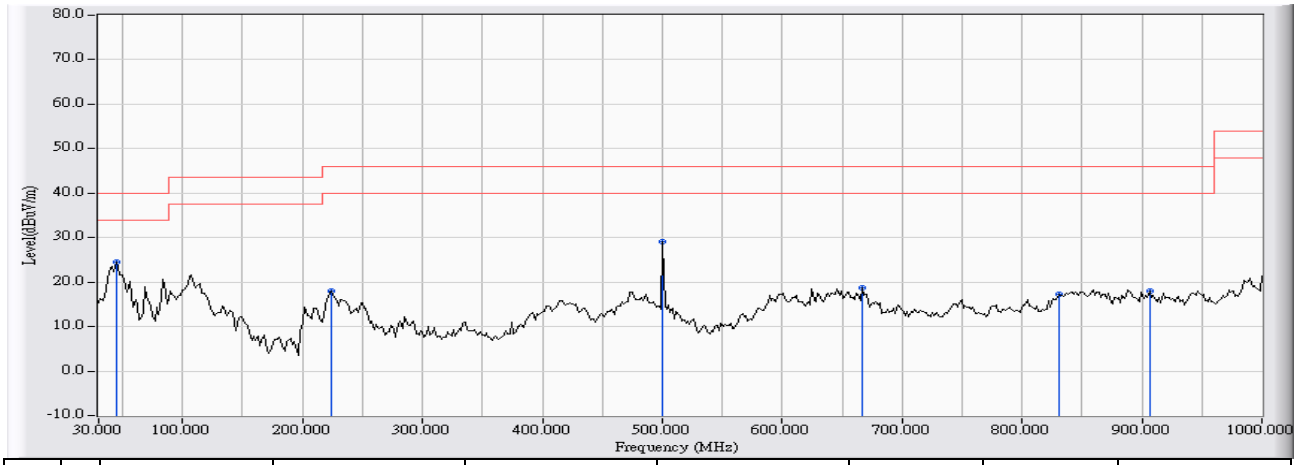
Site : CB1	**Time : 2010/08/26 - 20:57**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_30-1G(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 2: Transmit (Adapter: ASUS_AD820M0) _802.11n(40M)**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		105.974	-15.660	34.295	18.635	-24.865	43.500	QUASIPEAK
2		249.867	-13.345	32.749	19.404	-26.596	46.000	QUASIPEAK
3		374.353	-11.196	27.700	16.504	-29.496	46.000	QUASIPEAK
4	*	500.453	-7.521	36.316	28.795	-17.205	46.000	QUASIPEAK
5		624.926	-3.654	23.073	19.419	-26.581	46.000	QUASIPEAK
6		927.240	0.455	21.825	22.280	-23.720	46.000	QUASIPEAK

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

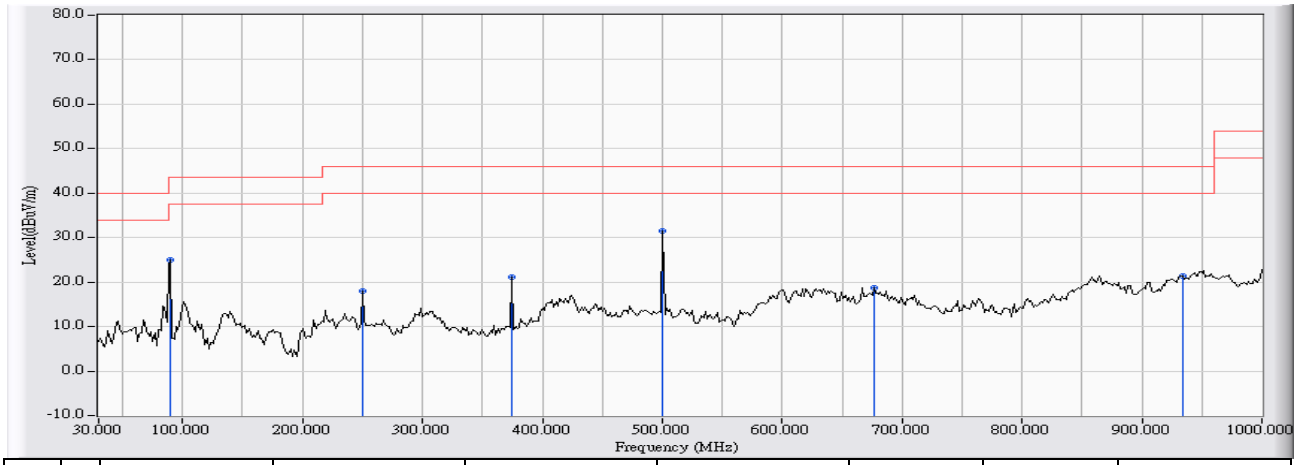
Site : CB1	**Time : 2010/08/26 - 20:57**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_30-1G(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 2: Transmit (Adapter: ASUS_AD820M0) _802.11n(40M)**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	44.554	-13.310	37.827	24.517	-15.483	40.000	QUASIPEAK
2		224.003	-12.777	30.749	17.972	-28.028	46.000	QUASIPEAK
3		500.454	-6.839	35.868	29.029	-16.971	46.000	QUASIPEAK
4		666.969	-3.707	22.528	18.821	-27.179	46.000	QUASIPEAK
5		830.254	-3.345	20.534	17.189	-28.811	46.000	QUASIPEAK
6		906.236	-3.341	21.413	18.072	-27.928	46.000	QUASIPEAK

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

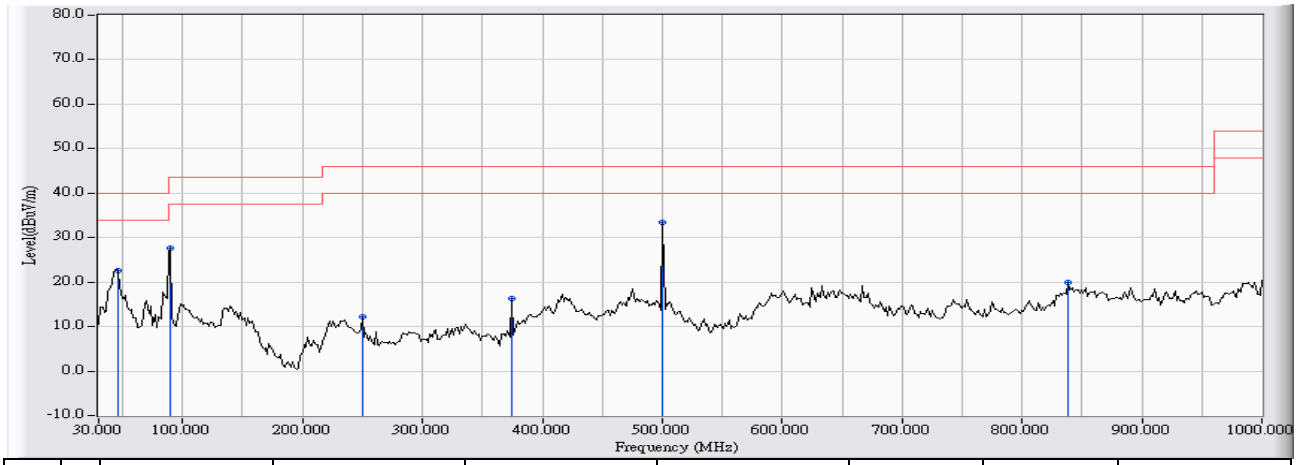
Site : CB1	**Time : 2010/08/26 - 20:57**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_30-1G(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 3: Transmit (Adapter: ASUS_EXA1004UH)_802.11a**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		89.819	-15.431	40.485	25.054	-18.446	43.500	QUASIPEAK
2		249.859	-13.345	31.333	17.988	-28.012	46.000	QUASIPEAK
3		374.342	-11.196	32.235	21.039	-24.961	46.000	QUASIPEAK
4	*	500.443	-7.521	39.054	31.533	-14.467	46.000	QUASIPEAK
5		676.671	-3.145	21.797	18.652	-27.348	46.000	QUASIPEAK
6		933.721	0.426	20.926	21.352	-24.648	46.000	QUASIPEAK

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

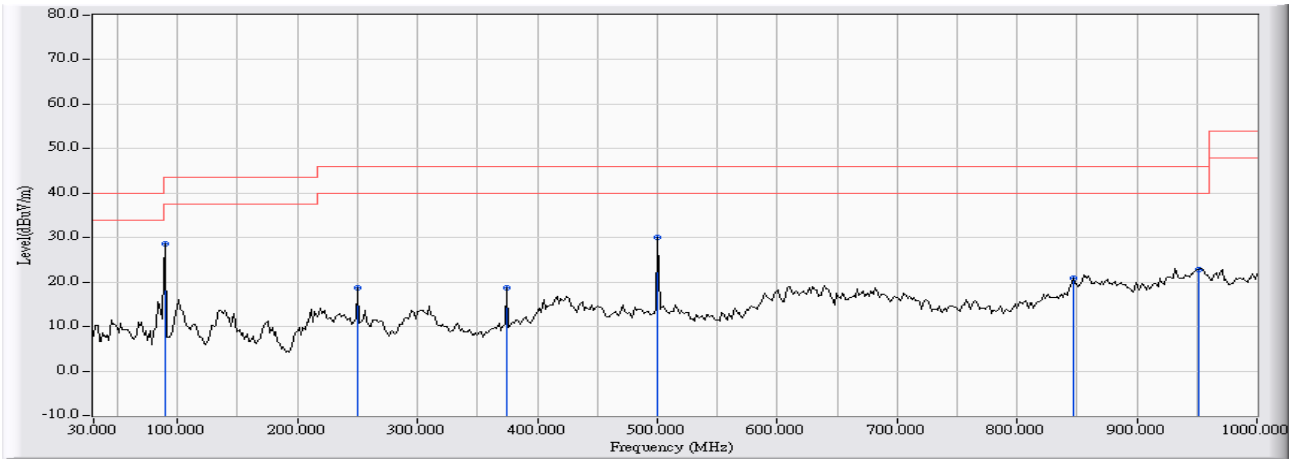
Site : CB1	**Time : 2010/08/26 - 20:58**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_30-1G(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 3: Transmit (Adapter: ASUS_EXA1004UH)_802.11a**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		46.160	-13.844	36.349	22.505	-17.495	40.000	QUASIPEAK
2		89.821	-13.427	40.953	27.526	-15.974	43.500	QUASIPEAK
3		249.871	-14.145	26.318	12.173	-33.827	46.000	QUASIPEAK
4		374.342	-12.824	29.063	16.239	-29.761	46.000	QUASIPEAK
5	*	500.444	-6.839	40.299	33.460	-12.540	46.000	QUASIPEAK
6		838.324	-2.686	22.615	19.929	-26.071	46.000	QUASIPEAK

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

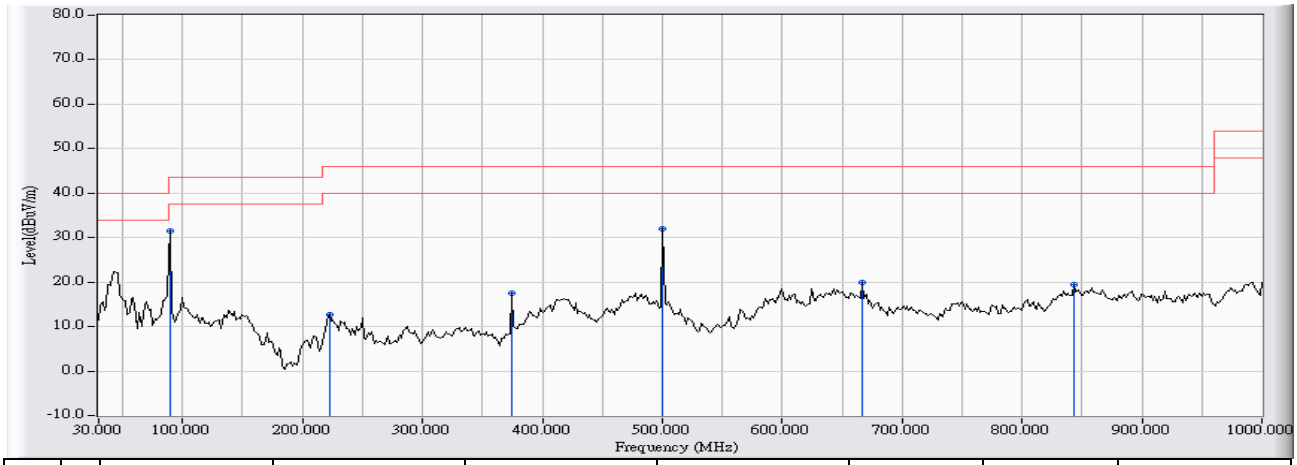
Site : CB1	**Time : 2010/08/26 - 20:58**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_30-1G(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 3: Transmit** **(Adapter: ASUS_EXA1004UH) _802.11n(20M)**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	89.808	-15.431	43.953	28.522	-14.978	43.500	QUASIPEAK
2		249.868	-13.345	32.119	18.774	-27.226	46.000	QUASIPEAK
3		374.341	-11.196	29.917	18.721	-27.279	46.000	QUASIPEAK
4		500.443	-7.521	37.478	29.957	-16.043	46.000	QUASIPEAK
5		846.419	-1.549	22.444	20.895	-25.105	46.000	QUASIPEAK
6		951.492	2.063	20.660	22.723	-23.277	46.000	QUASIPEAK

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

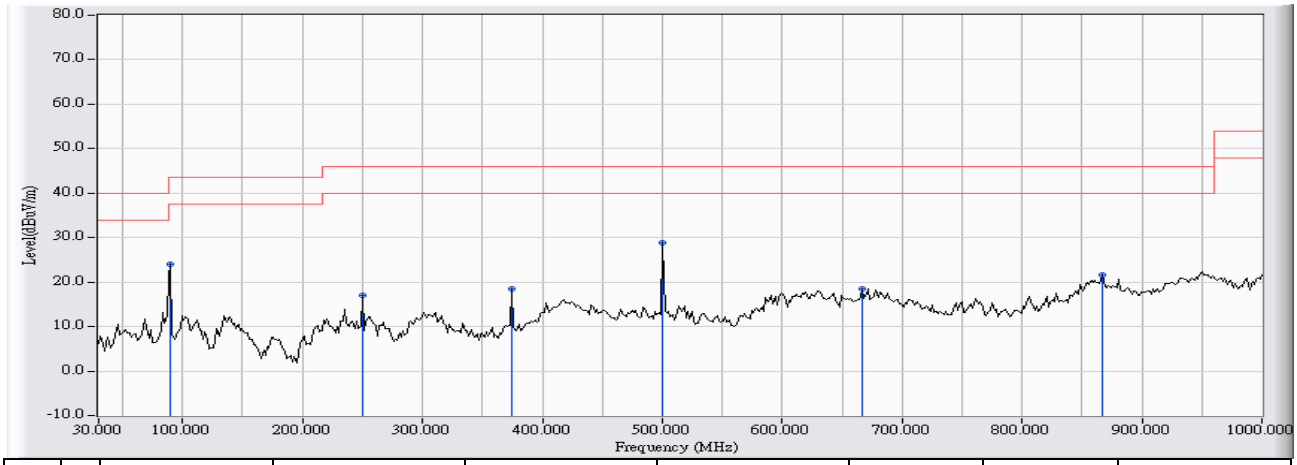
Site : CB1	**Time : 2010/08/26 - 20:58**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_30-1G(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 3: Transmit** **(Adapter: ASUS_EXA1004UH) _802.11n(20M)**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	89.808	-13.427	44.815	31.388	-12.112	43.500	QUASIPEAK
2		222.376	-13.898	26.699	12.801	-33.199	46.000	QUASIPEAK
3		374.354	-12.824	30.323	17.499	-28.501	46.000	QUASIPEAK
4		500.455	-6.839	38.938	32.099	-13.901	46.000	QUASIPEAK
5		666.961	-3.707	23.723	20.016	-25.984	46.000	QUASIPEAK
6		843.174	-2.316	21.735	19.419	-26.581	46.000	QUASIPEAK

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

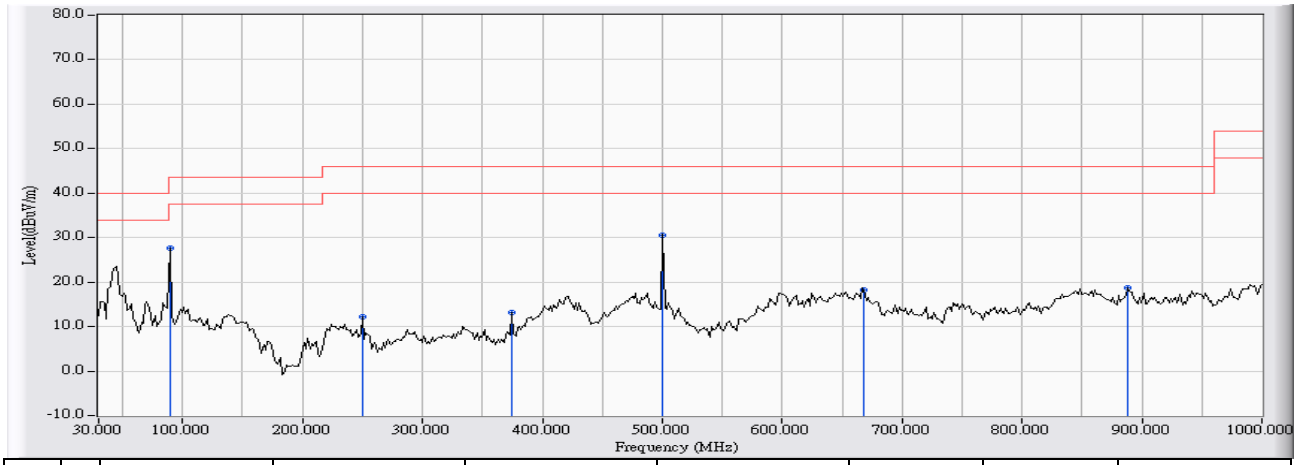
Site : CB1	**Time : 2010/08/26 - 20:58**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_30-1G(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 3: Transmit (Adapter: ASUS_EXA1004UH) _802.11n(40M)**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		89.821	-15.431	39.447	24.016	-19.484	43.500	QUASIPEAK
2		249.868	-13.345	30.317	16.972	-29.028	46.000	QUASIPEAK
3		374.344	-11.196	29.560	18.364	-27.636	46.000	QUASIPEAK
4	*	500.453	-7.521	36.438	28.917	-17.083	46.000	QUASIPEAK
5		666.968	-3.698	22.135	18.437	-27.563	46.000	QUASIPEAK
6		867.425	-0.299	21.988	21.689	-24.311	46.000	QUASIPEAK

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2010/08/26 - 20:58**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_30-1G(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 3: Transmit (Adapter: ASUS_EXA1004UH) _802.11n(40M)**



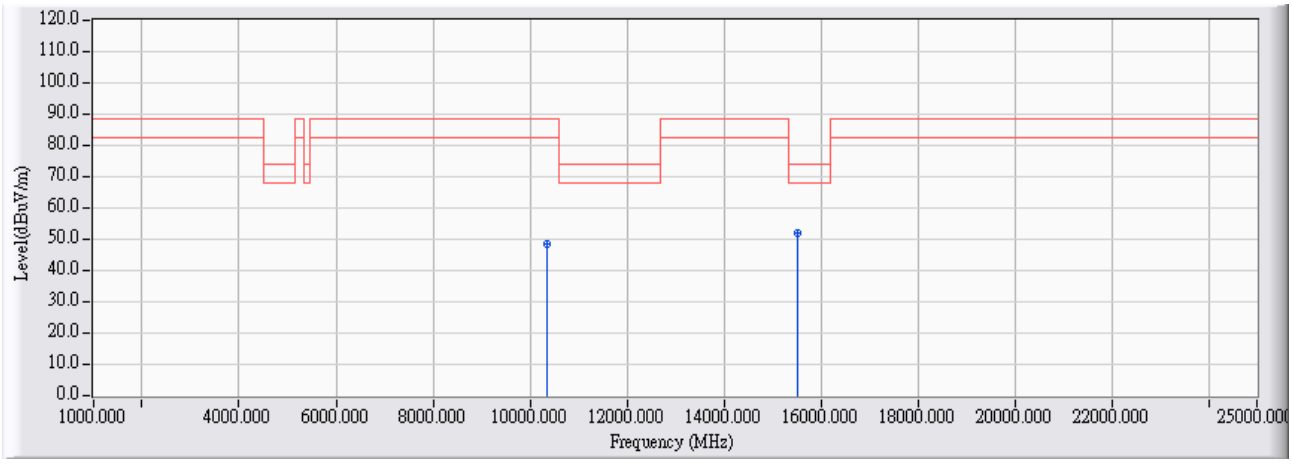
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		89.811	-13.427	41.072	27.645	-15.855	43.500	QUASIPEAK
2		249.859	-14.145	26.444	12.299	-33.701	46.000	QUASIPEAK
3		374.341	-12.824	26.072	13.248	-32.752	46.000	QUASIPEAK
4	*	500.441	-6.839	37.462	30.623	-15.377	46.000	QUASIPEAK
5		668.576	-3.350	21.487	18.137	-27.863	46.000	QUASIPEAK
6		888.452	-3.113	21.759	18.646	-27.354	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Above 1GHz Spurious:

Site : CB1	**Time : 2010/08/28 - 13:33**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 1: Transmit (Adapter: DVE_DSA-24PFD-15 FUS 120200)- 5180 MHz_802.11a**

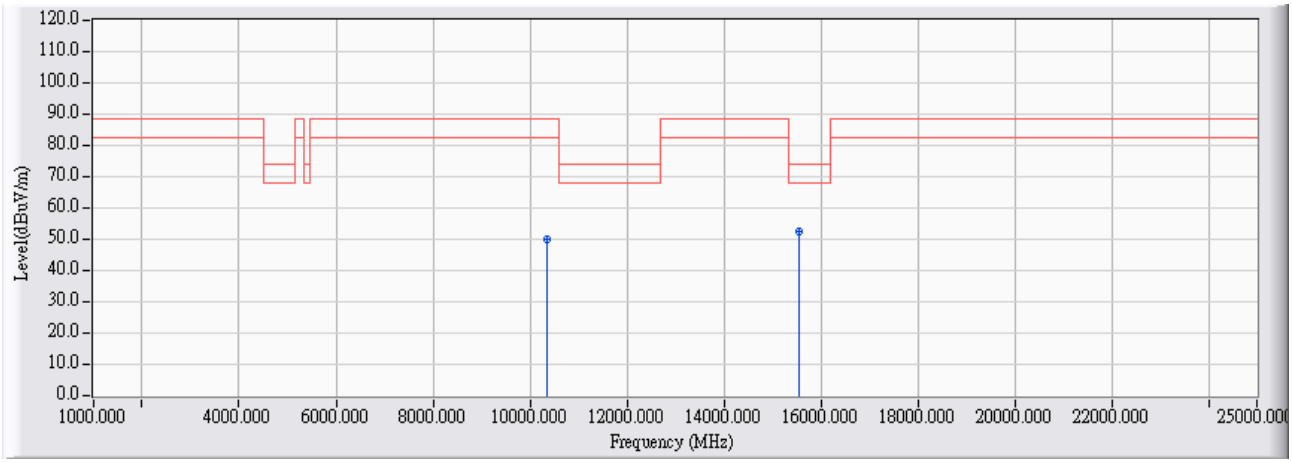


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	#	10360.000	12.362	36.355	48.717	-39.583	88.300	68.300	PEAK
2	*	15510.000	14.563	37.588	52.151	-21.849	74.000	54.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. " # ", means the frequency is out of the restricted band.
6. Measurement Level = Reading Level + Correct Factor.
7. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/28 - 13:34**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 1: Transmit (Adapter: DVE_DSA-24PFD-15 FUS 120200)- 5180 MHz _802.11a**

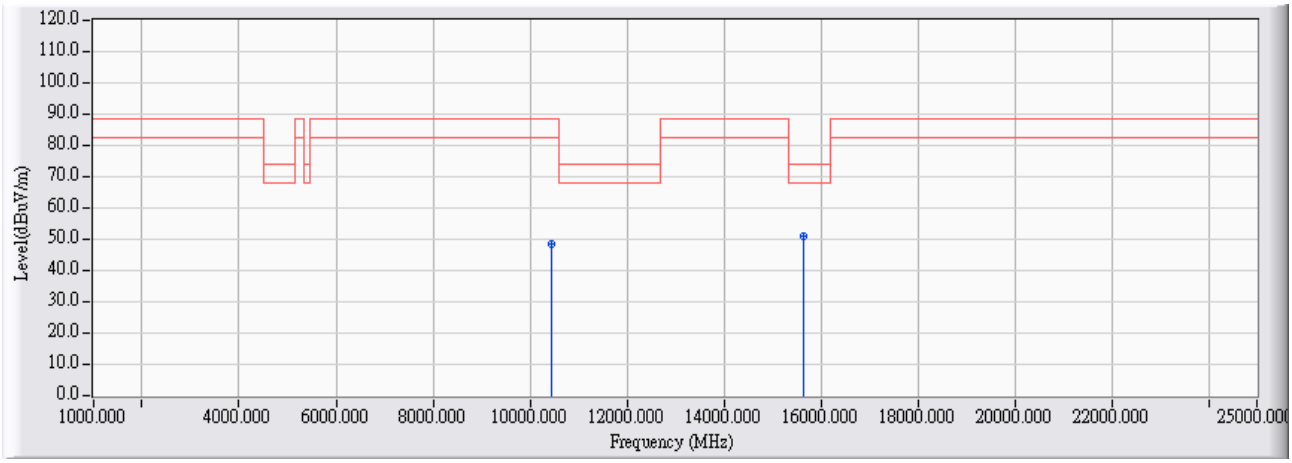


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	#	10360.000	13.737	36.223	49.960	-38.340	88.300	68.300	PEAK
2	*	15540.000	16.697	35.995	52.692	-21.308	74.000	54.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. " # ", means the frequency is out of the restricted band.
6. Measurement Level = Reading Level + Correct Factor.
7. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/28 - 13:40**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 1: Transmit (Adapter: DVE_DSA-24PFD-15 FUS 120200)- 5220 MHz _802.11a**

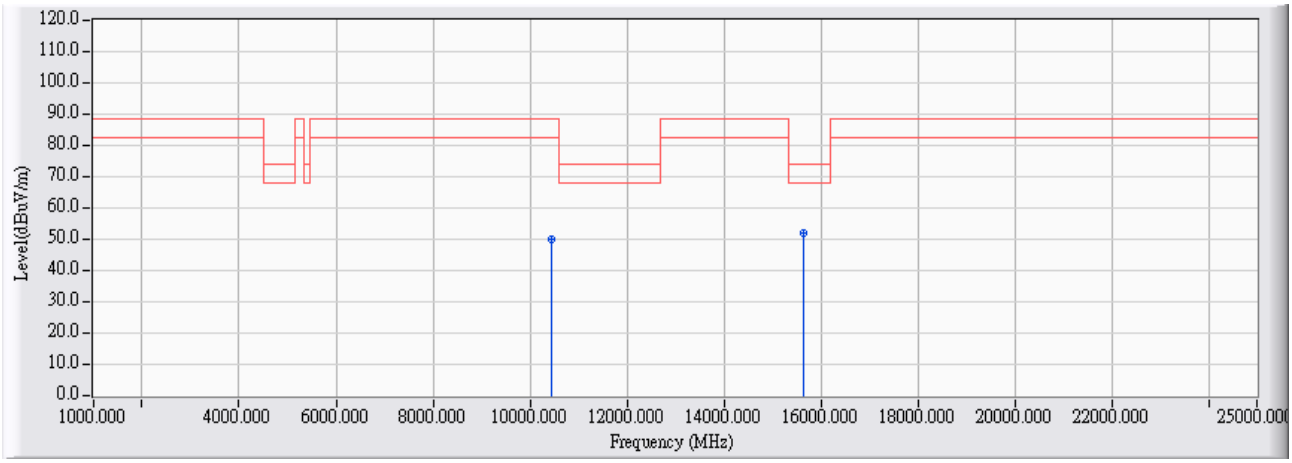


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	#	10440.000	12.492	36.105	48.597	-39.703	88.300	68.300	PEAK
2	*	15660.000	15.004	36.021	51.025	-22.975	74.000	54.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. " # ", means the frequency is out of the restricted band.
6. Measurement Level = Reading Level + Correct Factor.
7. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/28 - 13:45**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 1: Transmit (Adapter: DVE_DSA-24PFD-15 FUS 120200)- 5220 MHz _802.11a**

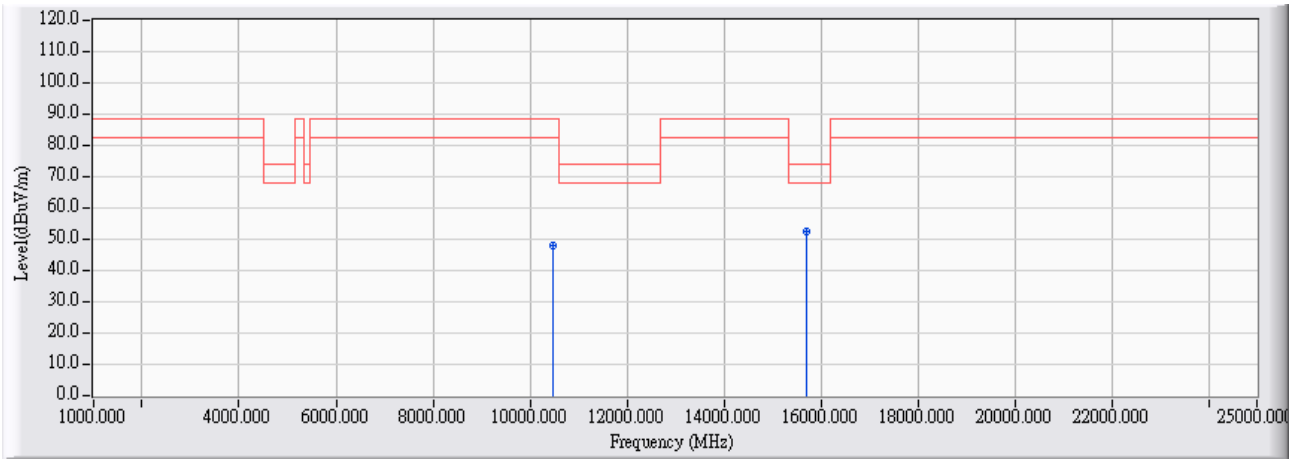


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	#	10440.000	13.938	36.242	50.180	-38.120	88.300	68.300	PEAK
2	*	15660.000	17.097	34.948	52.045	-21.955	74.000	54.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. " # ", means the frequency is out of the restricted band.
6. Measurement Level = Reading Level + Correct Factor.
7. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/28 - 13:50**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 1: Transmit (Adapter: DVE_DSA-24PFD-15 FUS 120200)- 5240 MHz _802.11a**

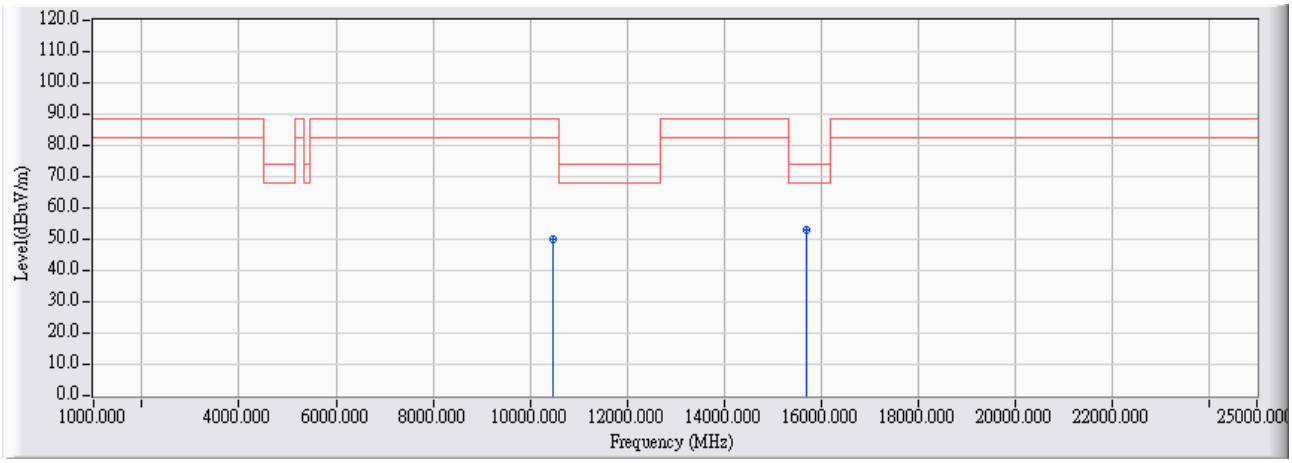


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	#	10480.000	12.624	35.433	48.057	-40.243	88.300	68.300	PEAK
2	*	15720.000	15.177	37.251	52.428	-21.572	74.000	54.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. " # ", means the frequency is out of the restricted band.
6. Measurement Level = Reading Level + Correct Factor.
7. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/28 - 13:54**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 1: Transmit (Adapter: DVE_DSA-24PFD-15 FUS 120200)- 5240 MHz _802.11a**

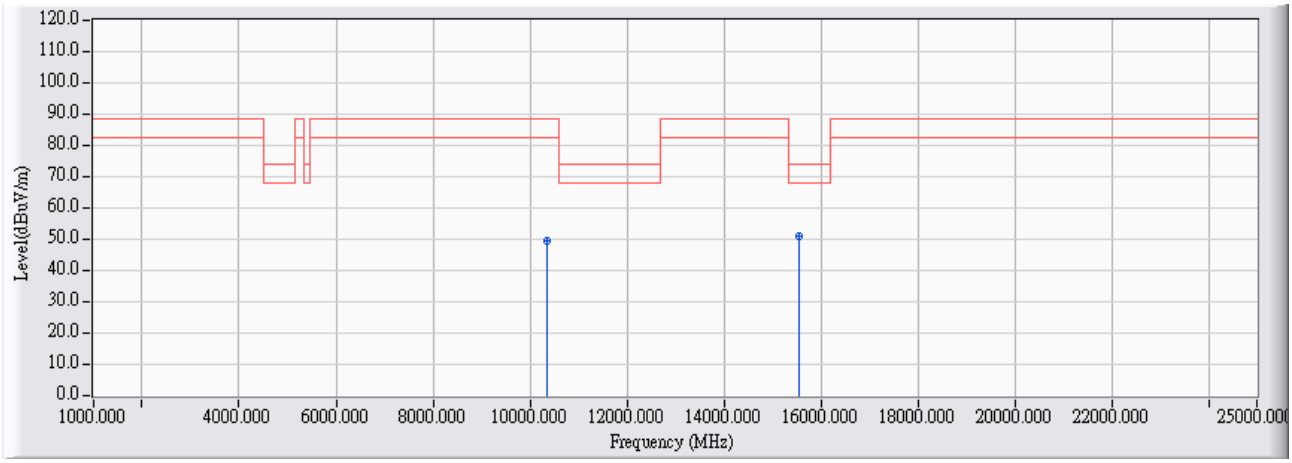


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	#	10480.000	14.034	36.169	50.203	-38.097	88.300	68.300	PEAK
2	*	15720.000	17.299	35.561	52.860	-21.140	74.000	54.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. " # ", means the frequency is out of the restricted band.
6. Measurement Level = Reading Level + Correct Factor.
7. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/28 - 14:08**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 1: Transmit (Adapter: DVE_DSA-24PFD-15 FUS 120200)- 5180 MHz _802.11n(20M)**

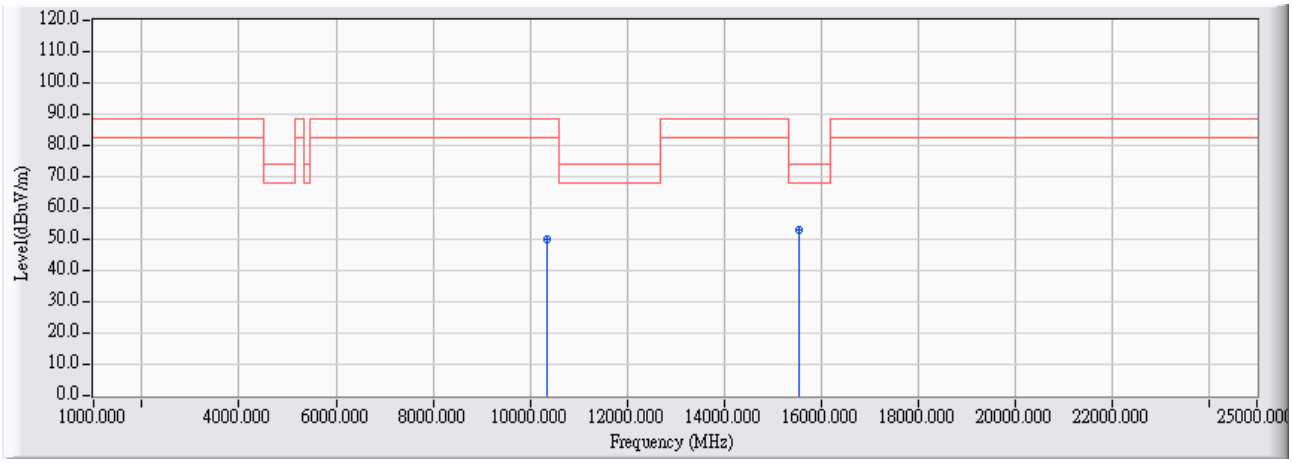


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	#	10360.000	12.362	37.024	49.386	-38.914	88.300	68.300	PEAK
2	*	15540.000	14.650	36.353	51.003	-22.997	74.000	54.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. " # ", means the frequency is out of the restricted band.
6. Measurement Level = Reading Level + Correct Factor.
7. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/28 - 14:14**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 1: Transmit (Adapter: DVE_DSA-24PFD-15 FUS 120200)- 5180 MHz _802.11n(20M)**

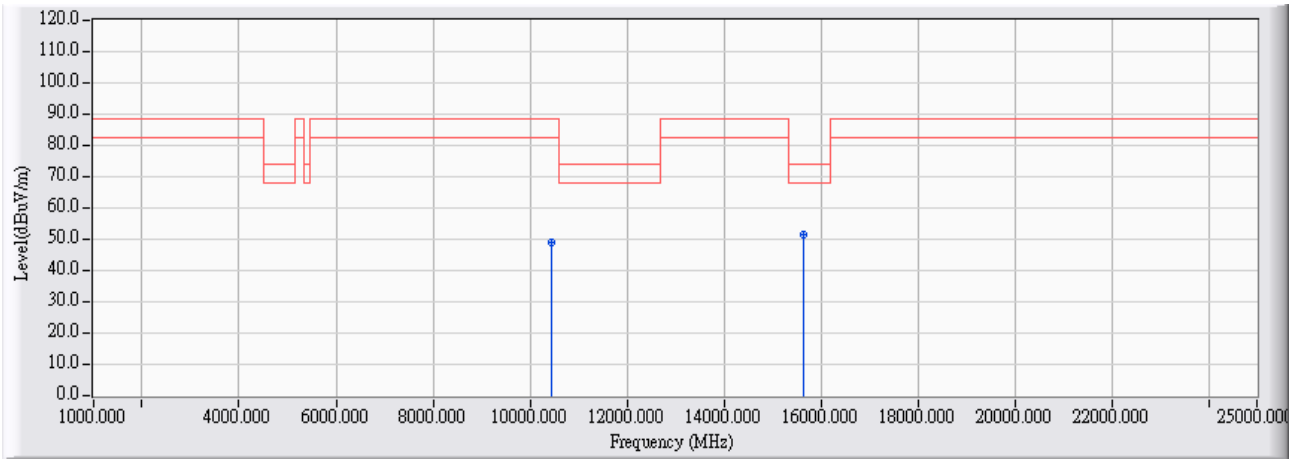


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	#	10360.000	13.737	36.190	49.927	-38.373	88.300	68.300	PEAK
2	*	15540.000	16.697	36.109	52.806	-21.194	74.000	54.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. " # ", means the frequency is out of the restricted band.
6. Measurement Level = Reading Level + Correct Factor.
7. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/28 - 14:17**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 1: Transmit (Adapter: DVE_DSA-24PFD-15 FUS 120200)- 5220 MHz _802.11n(20M)**

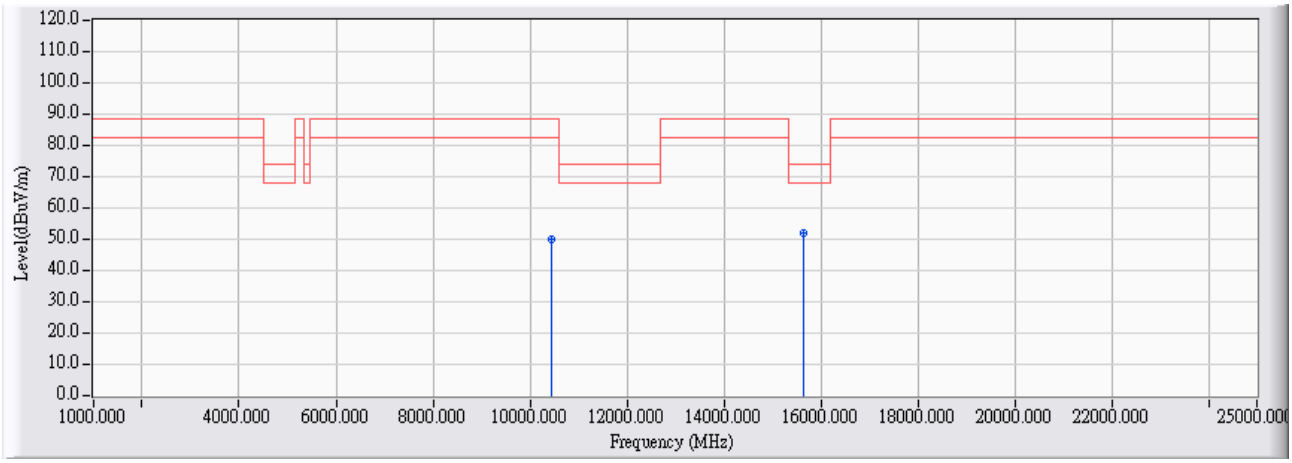


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	#	10440.000	12.492	36.410	48.902	-39.398	88.300	68.300	PEAK
2	*	15660.000	15.004	36.269	51.273	-22.727	74.000	54.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. " # ", means the frequency is out of the restricted band.
6. Measurement Level = Reading Level + Correct Factor.
7. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/28 - 14:21**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 1: Transmit (Adapter: DVE_DSA-24PFD-15 FUS 120200)- 5220 MHz _802.11n(20M)**

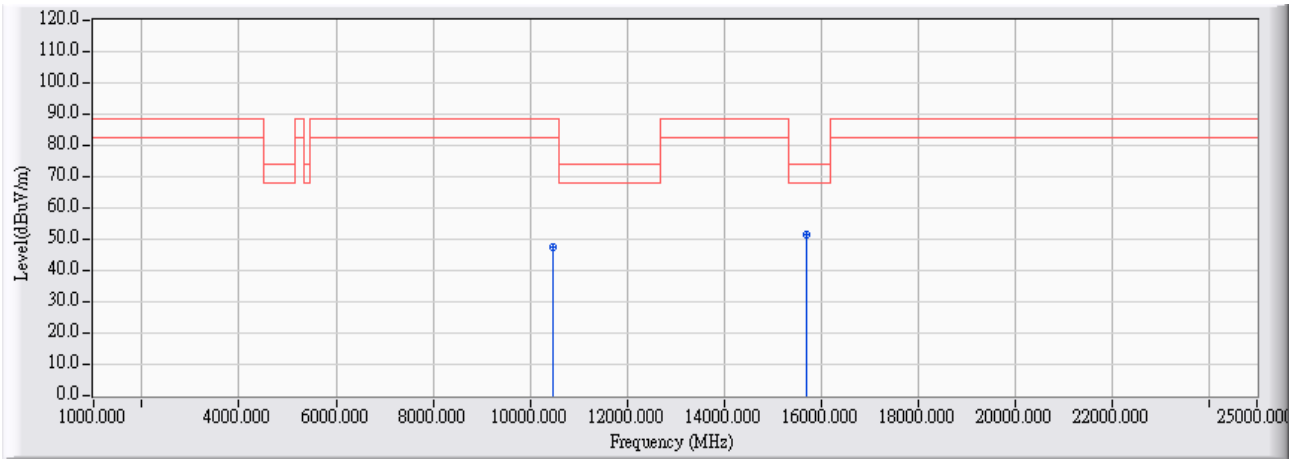


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	#	10440.000	13.938	36.142	50.080	-38.220	88.300	68.300	PEAK
2	*	15660.000	17.097	35.084	52.181	-21.819	74.000	54.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. " # ", means the frequency is out of the restricted band.
6. Measurement Level = Reading Level + Correct Factor.
7. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/28 - 14:24**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 1: Transmit (Adapter: DVE_DSA-24PFD-15 FUS 120200)- 5240 MHz _802.11n(20M)**

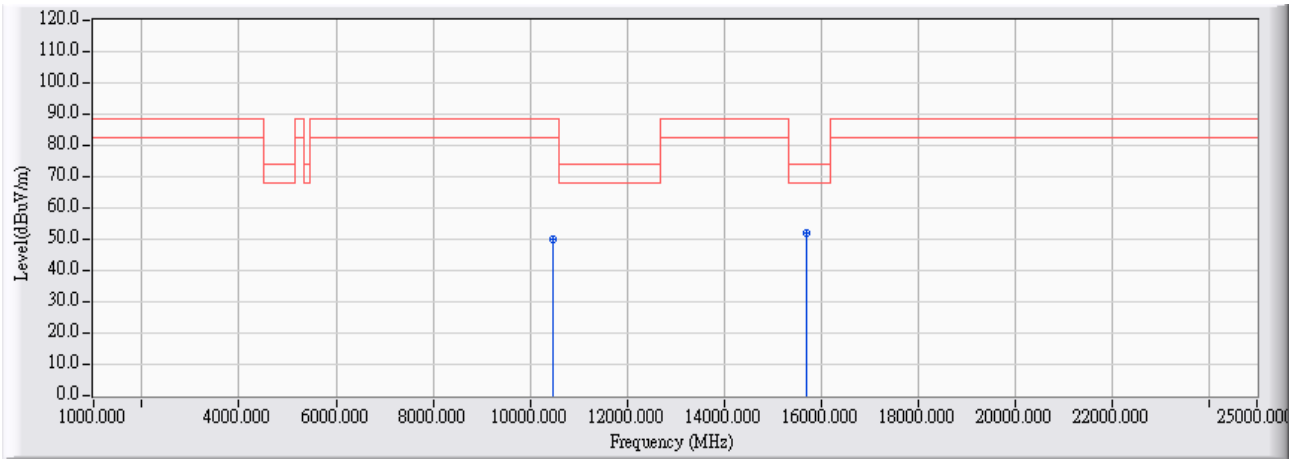


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	#	10480.000	12.624	35.068	47.692	-40.608	88.300	68.300	PEAK
2	*	15720.000	15.177	36.172	51.349	-22.651	74.000	54.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. " # ", means the frequency is out of the restricted band.
6. Measurement Level = Reading Level + Correct Factor.
7. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/28 - 14:27**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 1: Transmit (Adapter: DVE_DSA-24PFD-15 FUS 120200)- 5240 MHz _802.11n(20M)**

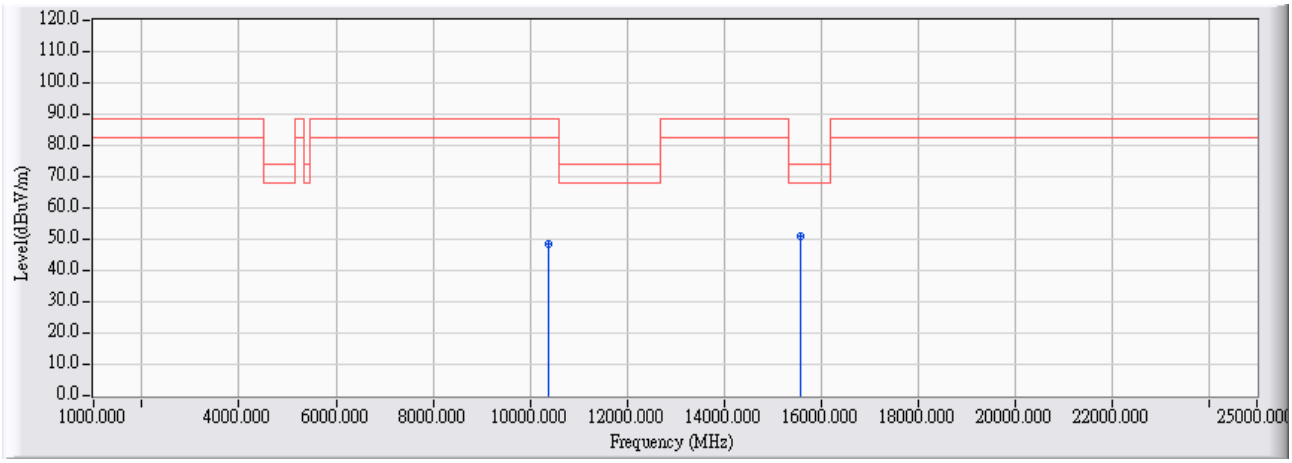


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	#	10480.000	14.034	35.767	49.801	-38.499	88.300	68.300	PEAK
2	*	15720.000	17.299	34.902	52.201	-21.799	74.000	54.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. " # ", means the frequency is out of the restricted band.
6. Measurement Level = Reading Level + Correct Factor.
7. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/28 - 14:30**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 1: Transmit (Adapter: DVE_DSA-24PFD-15 FUS 120200)- 5190 MHz _802.11n(40M)**

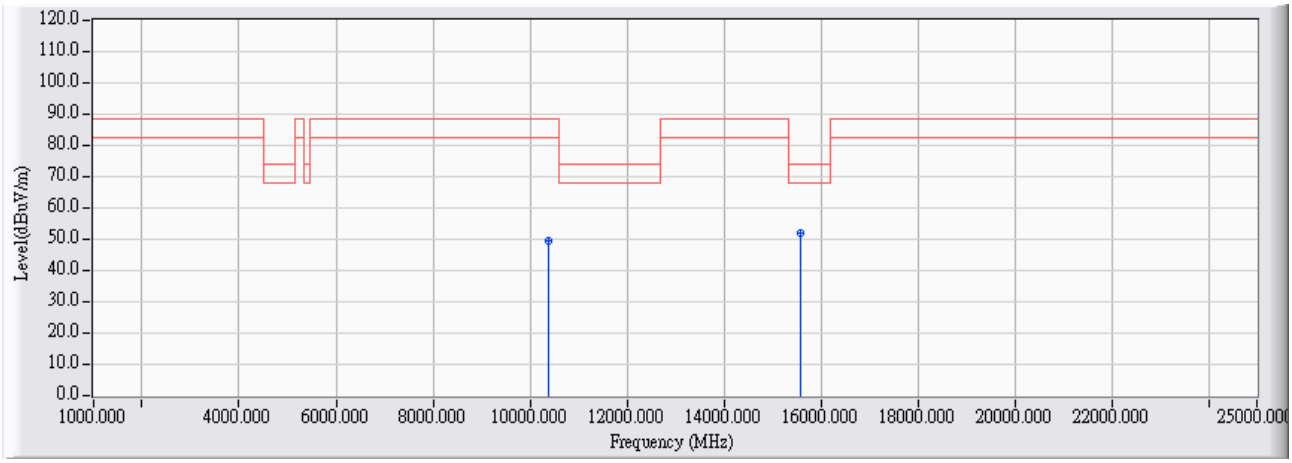


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	#	10380.000	12.364	36.179	48.542	-39.758	88.300	68.300	PEAK
2	*	15570.000	14.741	36.177	50.918	-23.082	74.000	54.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. " # ", means the frequency is out of the restricted band.
6. Measurement Level = Reading Level + Correct Factor.
7. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/28 - 14:35**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 1: Transmit (Adapter: DVE_DSA-24PFD-15 FUS 120200)- 5190 MHz _802.11n(40M)**

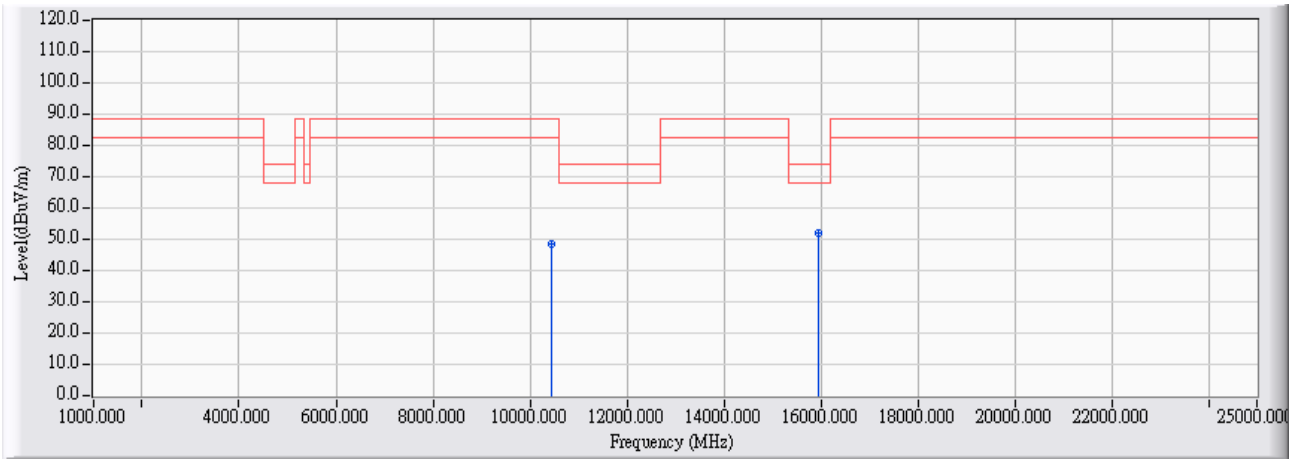


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	#	10380.000	13.785	35.699	49.483	-38.817	88.300	68.300	PEAK
2	*	15570.000	16.801	35.221	52.021	-21.979	74.000	54.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. " # ", means the frequency is out of the restricted band.
6. Measurement Level = Reading Level + Correct Factor.
7. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/28 - 14:39**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 1: Transmit (Adapter: DVE_DSA-24PFD-15 FUS 120200)- 5230 MHz _802.11n(40M)**

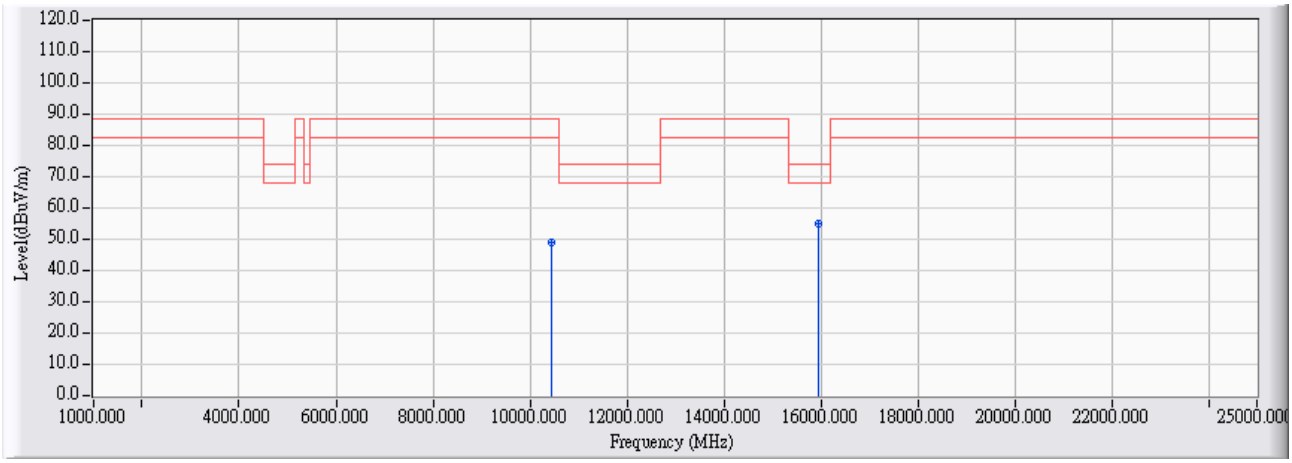


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	#	10460.000	12.558	35.890	48.448	-39.852	88.300	68.300	PEAK
2	*	15960.000	15.884	36.052	51.936	-22.064	74.000	54.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. " # ", means the frequency is out of the restricted band.
6. Measurement Level = Reading Level + Correct Factor.
7. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/28 - 14:42**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : Mode 1: Transmit (Adapter: DVE_DSA-24PFD-15 FUS 120200)- 5230 MHz _802.11n(40M)**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	#	10460.000	13.982	35.204	49.186	-39.114	88.300	68.300	PEAK
2	*	15960.000	18.104	37.058	55.162	-18.838	74.000	54.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. " # ", means the frequency is out of the restricted band.
6. Measurement Level = Reading Level + Correct Factor.
7. The average measurement was not performed when the peak measured data under the limit of average detection.

8. Band Edge

8.1. Test Equipment

The following test equipments are used during the band edge tests:

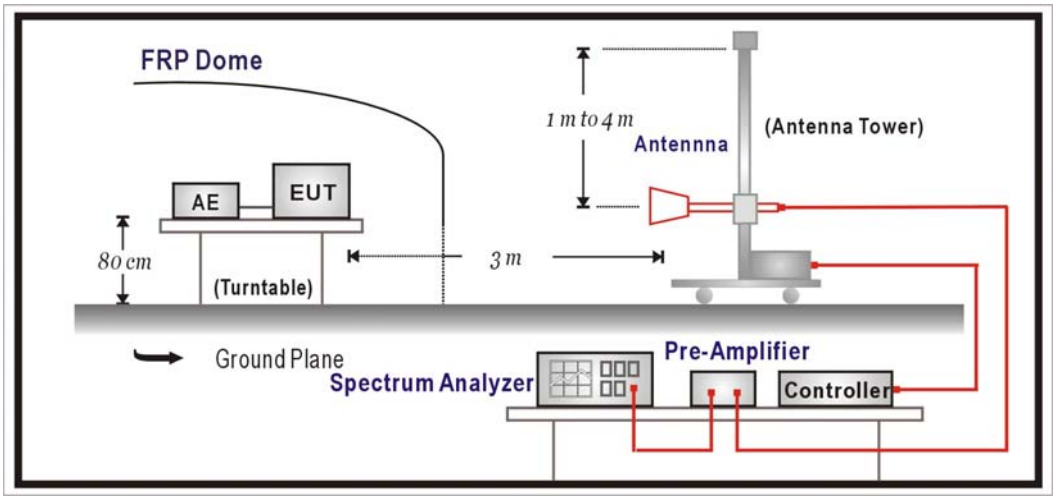
Radiated Emission Band Edge / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Horn Antenna	Schwarzback	BBHA 9120D	743	2011/03/14
Spectrum Analyzer	Agilent	E4440A	MY46187335	2011/01/14
Coaxial Cable	Huber+Suhner AG	Sucoflex 102	25623/2	2011/04/07

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

8.2. Test Setup

RF Radiated Measurement:



8.3. Limits

➢ **General Radiated Emission Limits**

The provisions of Section 15.205 of this part apply to intentional radiators operating under this section. Radiated emissions which fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209:

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	uV/m @3m	dBuV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Remark:

4. RF Voltage (dBuV) = 20 log RF Voltage (uV)
5. In the Above Table, the tighter limit applies at the band edges.
6. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

➢ **Unwanted Emission out of the restricted bands Limits**

FCC Part 15 Subpart C Paragraph 15.407(b) Limits		
Frequency (MHz)	EIRP Limit (dBm)	Equivalent Field Strength (dBuV/m@3m)
5150~5250	-27	68.3
5250~5350	-27	68.3
5470~5725	-27	68.3
5725~5825	-27 (Note1)	68.3
	-17 (Note2)	78.3

Remark:

4. For frequencies more than 10 MHz above or below the band edges.
5. For frequency range from the band edges to 10 MHz above or below the band edges.
6. uV/m = $\frac{1000000\sqrt{30 \times EIRP}}{3}$, RF Voltage (dBuV/m) = 20 log RF Voltage (uV/m)

8.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4: 2003on radiated measurement.

The bandwidth below 1GHz setting on the field strength meter (R&S Test Receiver ESCS 30)is 120 KHz, above 1GHz are 1 MHz.

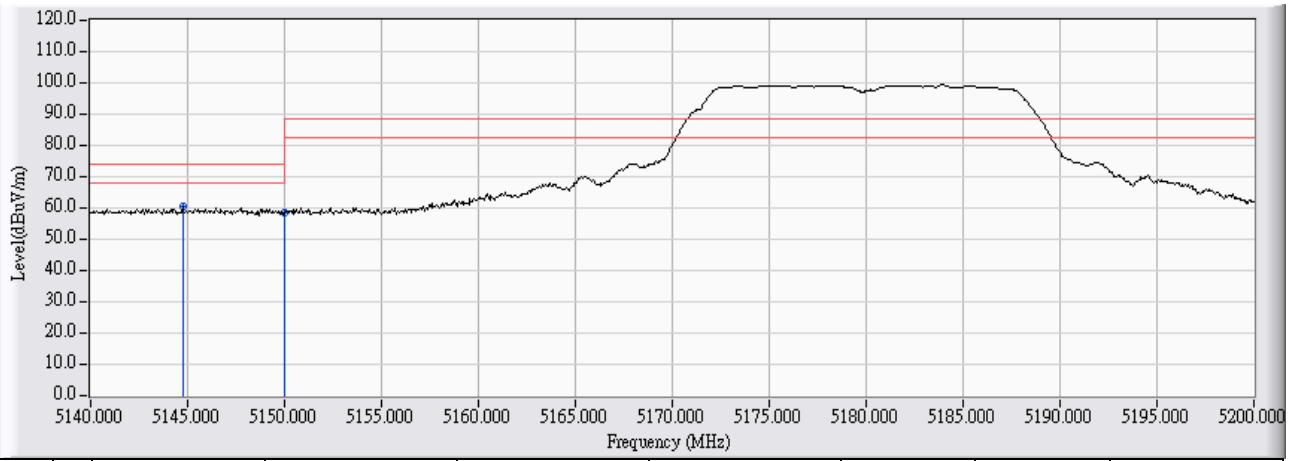
8.5. Uncertainty

The measurement uncertainty is defined as ± 3.65dB

8.6. Test Result

Radiated is defined as

Site : CB1	**Time : 2010/08/31 - 09:45**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : TX-5180_802.11a**

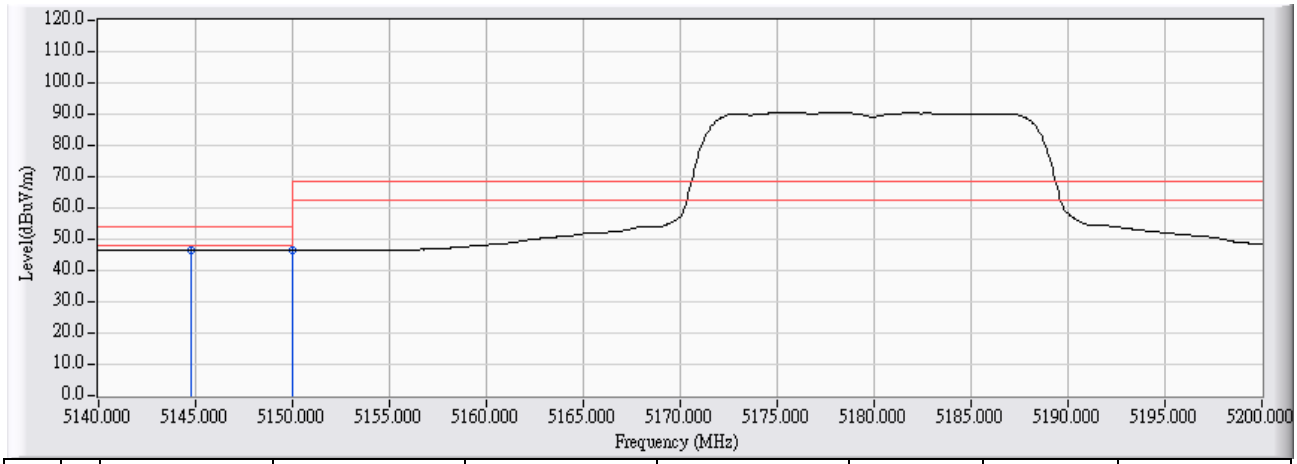


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	5144.740	1.112	59.237	60.349	-13.651	74.000	PEAK
2		5150.000	1.119	57.220	58.339	-15.661	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/31 - 09:46**
Limit : FCC_SpartE_15.407_H_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : TX-5180_802.11a**

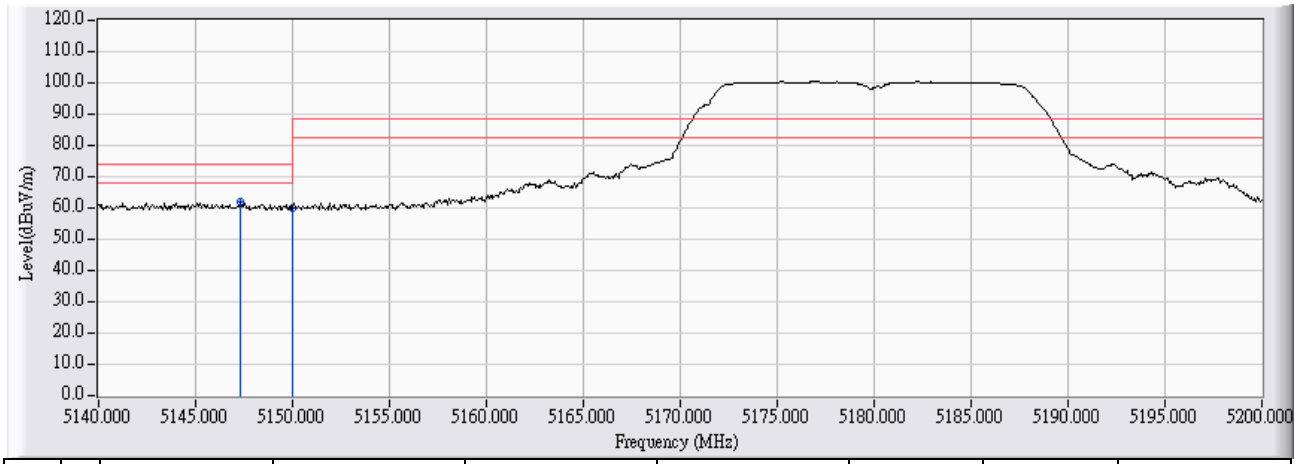


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	5144.740	1.112	45.460	46.572	-7.428	54.000	AVERAGE
2		5150.000	1.119	45.223	46.342	-7.658	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/31 - 10:43**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : TX-5180_802.11a**

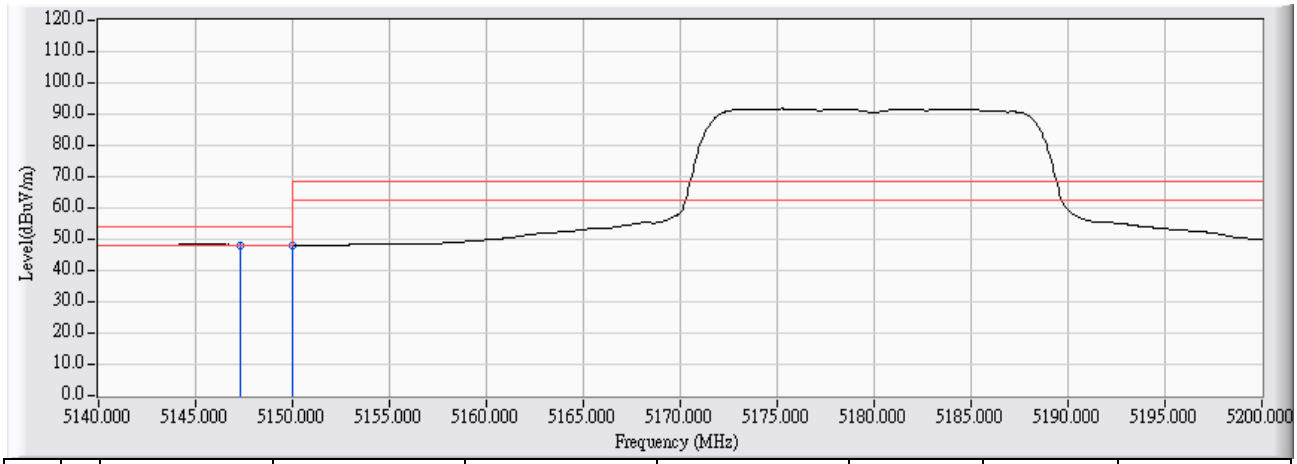


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	5147.320	3.030	58.812	61.842	-12.158	74.000	PEAK
2		5150.000	3.036	56.758	59.794	-14.206	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/31 - 10:43**
Limit : FCC_SpartE_15.407_H_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : TX-5180_802.11a**

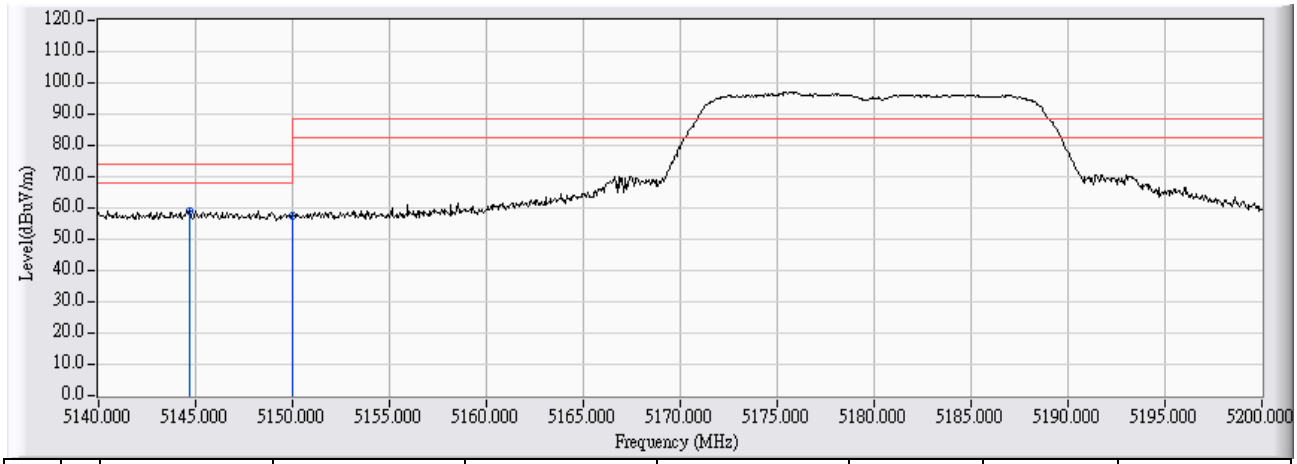


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	5147.320	3.030	45.141	48.171	-5.829	54.000	AVERAGE
2		5150.000	3.036	45.013	48.049	-5.951	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/31 - 09:55**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : TX-5180 _802.11n(20M)**

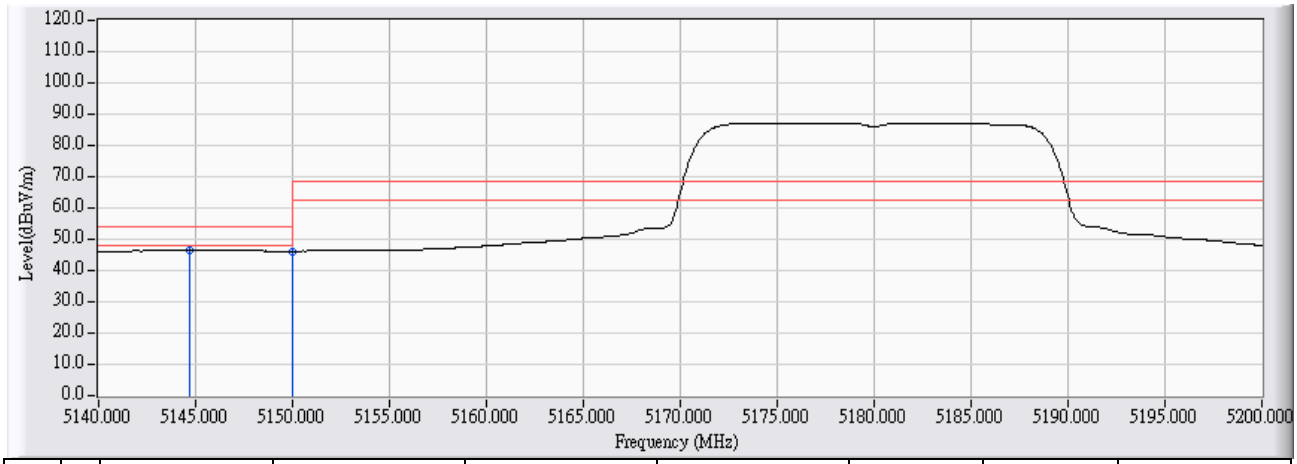


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	5144.680	1.112	57.947	59.059	-14.941	74.000	PEAK
2		5150.000	1.119	56.626	57.745	-16.255	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/31 - 09:56**
Limit : FCC_SpartE_15.407_H_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : TX-5180 _802.11n(20M)**

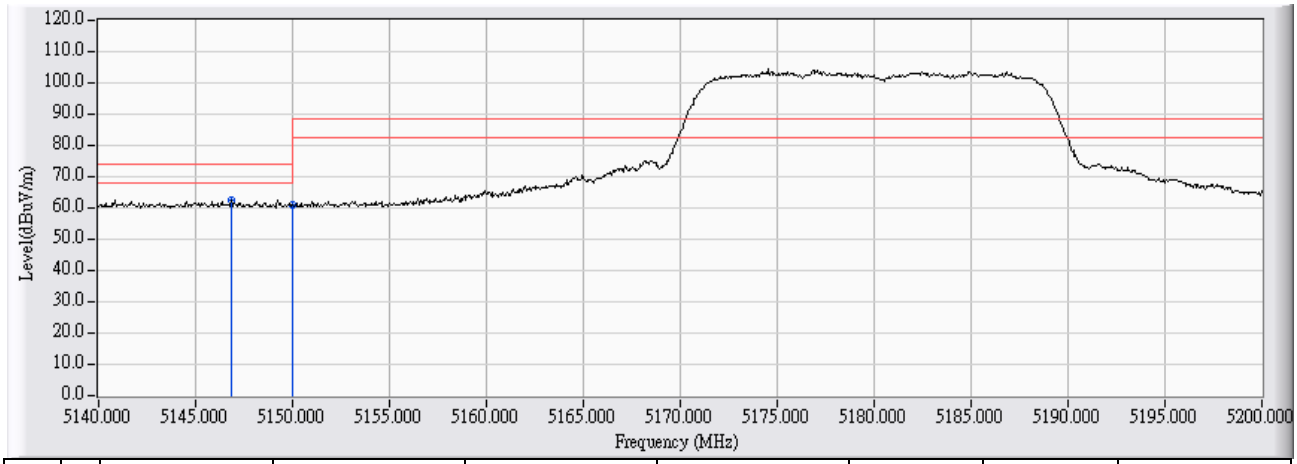


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	5144.680	1.112	45.321	46.433	-7.567	54.000	AVERAGE
2		5150.000	1.119	45.095	46.214	-7.786	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/31 - 10:39**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : TX-5180 _802.11n(20M)**

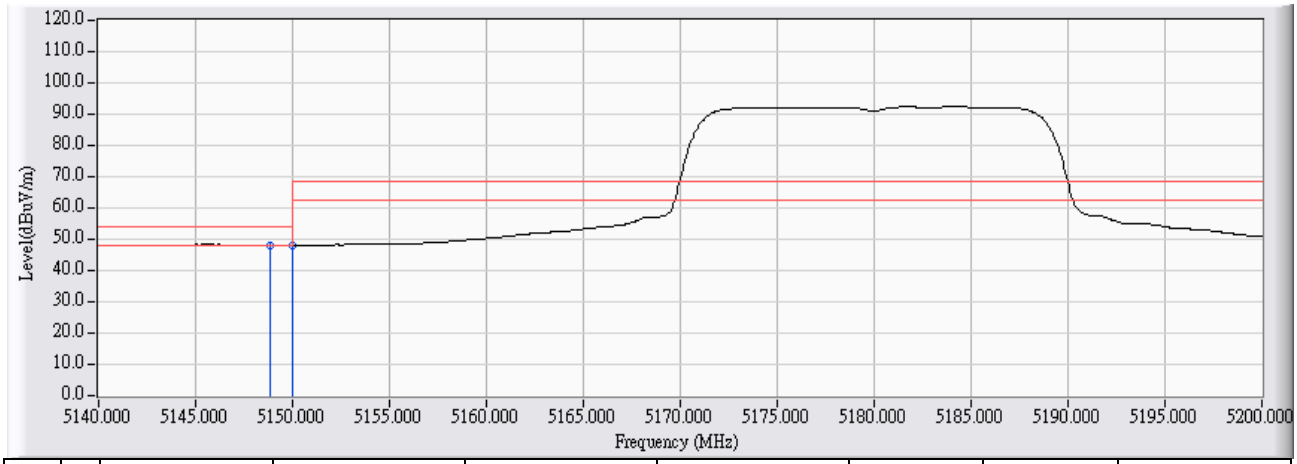


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	5146.840	3.029	59.325	62.354	-11.646	74.000	PEAK
2		5150.000	3.036	58.028	61.064	-12.936	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/31 - 10:41**
Limit : FCC_SpartE_15.407_H_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : TX-5180 _802.11n(20M)**

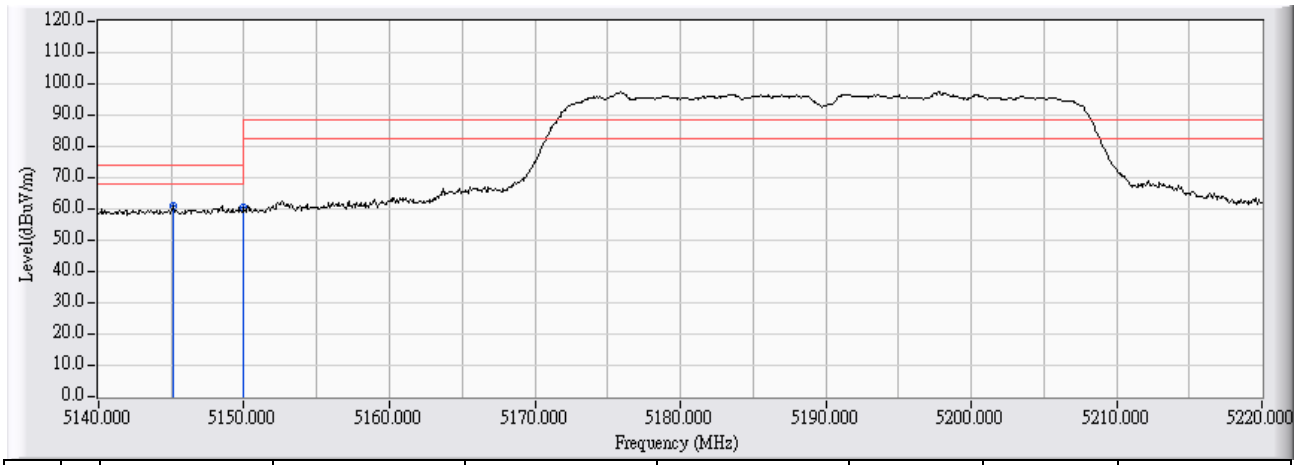


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5148.840	3.033	45.038	48.072	-5.928	54.000	AVERAGE
2	*	5150.000	3.036	45.040	48.076	-5.924	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/31 - 10:32**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : TX-5190 _802.11n(40M)**

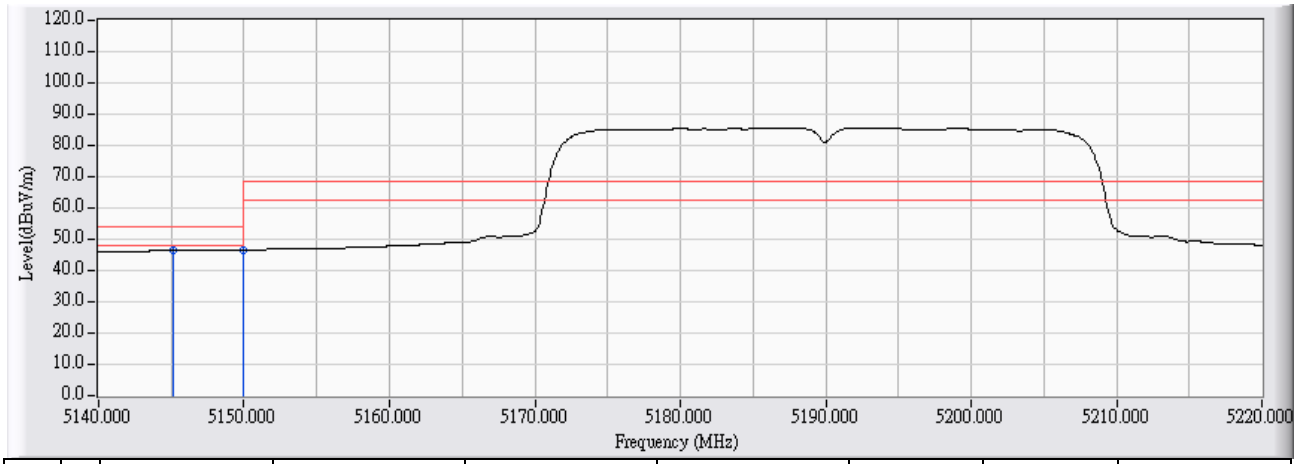


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	5145.120	1.113	59.658	60.771	-13.229	74.000	PEAK
2		5150.000	1.119	59.239	60.358	-13.642	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/31 - 10:33**
Limit : FCC_SpartE_15.407_H_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : TX-5190 _802.11n(40M)**

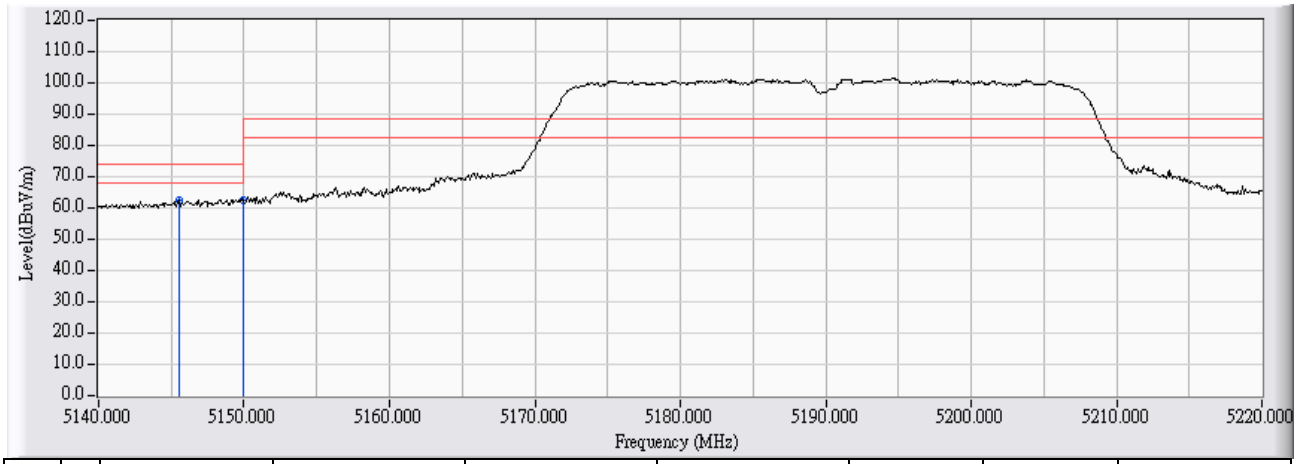


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5145.120	1.113	45.279	46.392	-7.608	54.000	AVERAGE
2	*	5150.000	1.119	45.414	46.533	-7.467	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/31 - 10:48**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : TX-5190 _802.11n(40M)**

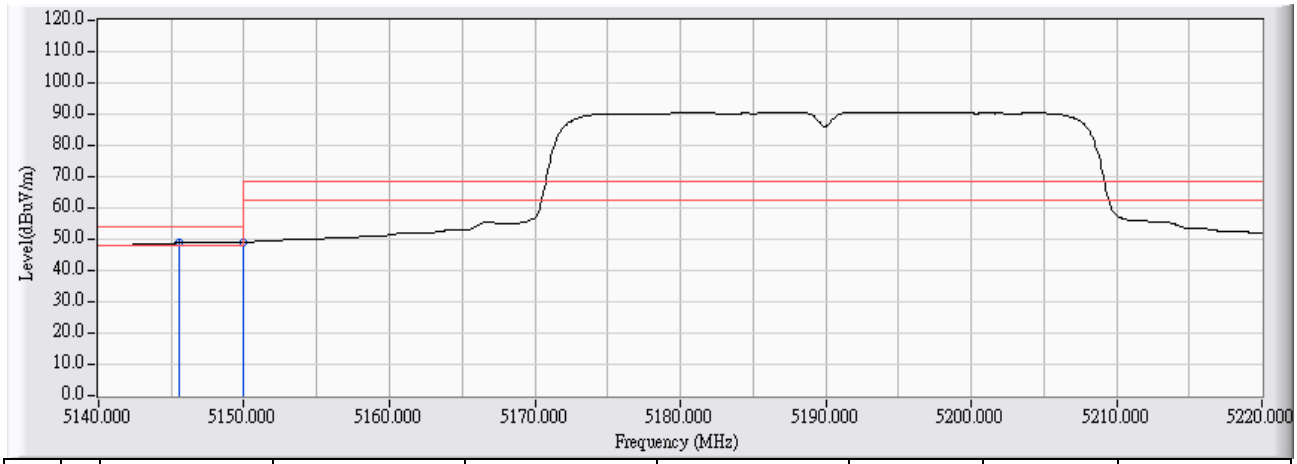


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	5145.520	3.025	59.304	62.329	-11.671	74.000	PEAK
2		5150.000	3.036	59.256	62.292	-11.708	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/08/31 - 10:50**
Limit : FCC_SpartE_15.407_H_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G_AS(2009) - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-band Gigabit Wireless-N Router	**Note : TX-5190 _802.11n(40M)**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5145.520	3.025	45.742	48.767	-5.233	54.000	AVERAGE
2	*	5150.000	3.036	46.066	49.102	-4.898	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 1MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

9. Frequency Stability

9.1. Test Equipment

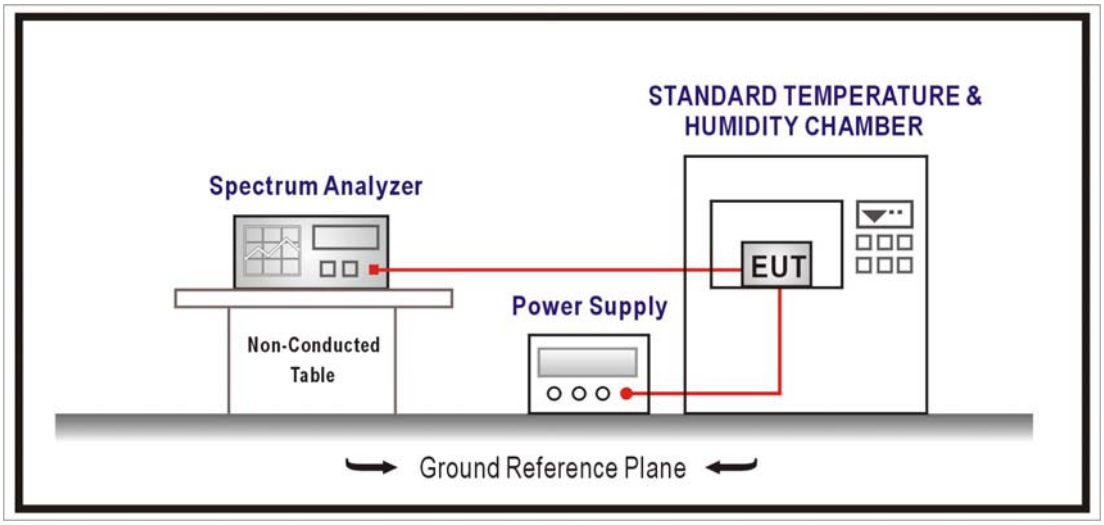
The following test equipments are used during the radiated emission tests:

Frequency Stability / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2010/11/01
STANDARD TEMPERATURE & HUMIDITY CHAMBER	WIT	TH-1S-B	1082101	2011/02/03

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

9.2. Test Setup



9.3. Limits

Manufactures of U _802.11nII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified

9.4. Test Procedure

The EUT was setup to ANSI C63.4, 2003; tested to DTS test procedure of Aug 2002 DA 02-2138 for compliance to FCC 47CFR Subpart E requirements.

9.5. Uncertainty

The measurement uncertainty is defined as ± 150 Hz

9.6. Test Result

Product	Dual-band Gigabit Wireless _N Router		
Test Item	Frequency Stability		
Test Mode	Transmit - 802.11a - 5180MHz		
Date of Test	2010/08/25	Test Site	No.7 Shielding Room

Startup

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5180.4196	80.9980	Pass
-10		5180.3199	61.7491	Pass
0		5180.4563	88.0830	Pass
10		5180.1995	38.5104	Pass
20		5180.1323	25.5442	Pass
30		5180.1085	20.9370	Pass
40		5180.3716	71.7354	Pass
50		5180.2303	44.4594	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5180.0672	12.9777	Pass
	120	5180.1352	26.1048	Pass
	138	5180.1316	25.4058	Pass

2 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5180.3817	73.6956	Pass
-10		5180.2524	48.7348	Pass
0		5180.4702	90.7685	Pass
10		5180.1649	31.8397	Pass
20		5180.2540	49.0432	Pass
30		5180.0678	13.0890	Pass
40		5180.3818	73.7076	Pass
50		5180.4791	92.4928	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Resault
25	102	5180.1578	30.4724	Pass
	120	5180.2695	52.0239	Pass
	138	5180.2050	39.5703	Pass

5 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5180.6013	116.0719	Pass
-10		5180.0673	12.9862	Pass
0		5180.3528	68.1155	Pass
10		5180.1426	27.5237	Pass
20		5180.4308	83.1691	Pass
30		5180.7034	135.8009	Pass
40		5180.7966	153.7834	Pass
50		5180.0580	11.1925	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5180.0825	15.9206	Pass
	120	5180.2621	50.5945	Pass
	138	5180.6077	117.3181	Pass

10 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5180.0873	16.8497	Pass
-10		5180.1529	29.5185	Pass
0		5180.1068	20.6091	Pass
10		5180.1435	27.6960	Pass
20		5180.0758	14.6244	Pass
30		5180.0614	11.8442	Pass
40		5180.0879	16.9635	Pass
50		5180.4643	89.6334	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Resault
25	102	5180.1362	26.2907	Pass
	120	5180.3101	59.8688	Pass
	138	5180.4146	80.0417	Pass

Product	Dual-band Gigabit Wireless _N Router		
Test Item	Frequency Stability		
Test Mode	Transmit - 802.11a - 5240MHz		
Date of Test	2010/08/21	Test Site	No.7 Shielding Room

Startup

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5240.4274	81.5709	Pass
-10		5240.4349	82.9888	Pass
0		5240.2567	48.9847	Pass
10		5240.4596	87.7074	Pass
20		5240.2065	39.4145	Pass
30		5240.4578	87.3576	Pass
40		5240.2046	39.0398	Pass
50		5240.1752	33.4387	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5240.3751	71.5897	Pass
	120	5240.3155	60.2049	Pass
	138	5240.0704	13.4412	Pass

2 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5240.4757	90.7838	Pass
-10		5240.4561	87.0354	Pass
0		5240.1271	24.2609	Pass
10		5240.1232	23.5058	Pass
20		5240.1265	24.1411	Pass
30		5240.2230	42.5531	Pass
40		5240.4033	76.9619	Pass
50		5240.4950	94.4735	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Resault
25	102	5240.2186	41.7179	Pass
	120	5240.3092	59.0069	Pass
	138	5240.1608	30.6868	Pass

5 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5240.3955	75.4693	Pass
-10		5240.4025	76.8042	Pass
0		5240.1089	20.7843	Pass
10		5240.2359	45.0097	Pass
20		5240.4233	80.7902	Pass
30		5240.4896	93.4343	Pass
40		5240.4539	86.6133	Pass
50		5240.2705	51.6183	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5240.3871	73.8829	Pass
	120	5240.3628	69.2285	Pass
	138	5240.2475	47.2357	Pass

10 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5240.1142	21.7932	Pass
-10		5240.2041	38.9462	Pass
0		5240.4988	95.1965	Pass
10		5240.2092	39.9206	Pass
20		5240.2473	47.1921	Pass
30		5240.4250	81.1014	Pass
40		5240.1818	34.7017	Pass
50		5240.3245	61.9276	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Resault
25	102	5240.2365	45.1318	Pass
	120	5240.1811	34.5567	Pass
	138	5240.3980	75.9509	Pass

Product	Dual-band Gigabit Wireless _N Router		
Test Item	Frequency Stability		
Test Mode	Transmit - 802.11n_20M - 5180MHz(ANT A)		
Date of Test	2010/08/21	Test Site	No.7 Shielding Room

Startup

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5180.4533	87.5143	Pass
-10		5180.1388	26.7978	Pass
0		5180.4369	84.3363	Pass
10		5180.2956	57.0606	Pass
20		5180.3826	73.8567	Pass
30		5180.3111	60.0525	Pass
40		5180.1184	22.8516	Pass
50		5180.2683	51.7863	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5180.2339	45.1550	Pass
	120	5180.1450	27.9865	Pass
	138	5180.4058	78.3334	Pass

2 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5180.2838	54.7962	Pass
-10		5180.0874	16.8642	Pass
0		5180.3840	74.1326	Pass
10		5180.2127	41.0663	Pass
20		5180.1521	29.3712	Pass
30		5180.3700	71.4367	Pass
40		5180.2466	47.5985	Pass
50		5180.3188	61.5445	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Resault
25	102	5180.2737	52.8363	Pass
	120	5180.2852	55.0583	Pass
	138	5180.3224	62.2371	Pass

5 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5180.0765	14.7719	Pass
-10		5180.2648	51.1248	Pass
0		5180.4103	79.1997	Pass
10		5180.1891	36.5098	Pass
20		5180.4616	89.1191	Pass
30		5180.3414	65.9018	Pass
40		5180.3271	63.1425	Pass
50		5180.0946	18.2629	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5180.0841	16.2295	Pass
	120	5180.0736	14.2027	Pass
	138	5180.4830	93.2470	Pass

10 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5180.1507	29.0941	Pass
-10		5180.3432	66.2575	Pass
0		5180.3096	59.7776	Pass
10		5180.4013	77.4749	Pass
20		5180.0721	13.9152	Pass
30		5180.1109	21.4150	Pass
40		5180.1902	36.7136	Pass
50		5180.3243	62.6115	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Resault
25	102	5180.0758	14.6399	Pass
	120	5180.2860	55.2126	Pass
	138	5180.4383	84.6088	Pass

Product	Dual-band Gigabit Wireless _N Router		
Test Item	Frequency Stability		
Test Mode	Transmit - 802.11n_20M - 5240MHz(ANT A)		
Date of Test	2010/08/21	Test Site	No.7 Shielding Room

Startup

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5240.3111	59.3630	Pass
-10		5240.2040	38.9288	Pass
0		5240.3170	60.5024	Pass
10		5240.1846	35.2266	Pass
20		5240.3127	59.6786	Pass
30		5240.1365	26.0579	Pass
40		5240.4630	88.3669	Pass
50		5240.1447	27.6167	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5240.2201	42.0041	Pass
	120	5240.2761	52.6974	Pass
	138	5240.4684	89.3821	Pass

2 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5240.2995	57.1527	Pass
-10		5240.3449	65.8299	Pass
0		5240.3471	66.2426	Pass
10		5240.0861	16.4233	Pass
20		5240.3510	66.9930	Pass
30		5240.1848	35.2746	Pass
40		5240.2517	48.0303	Pass
50		5240.1320	25.1884	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Resault
25	102	5240.1714	32.7179	Pass
	120	5240.2632	50.2199	Pass
	138	5240.4978	95.0021	Pass

5 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5240.3305	63.0655	Pass
-10		5240.1389	26.5170	Pass
0		5240.2226	42.4758	Pass
10		5240.2187	41.7400	Pass
20		5240.1952	37.2530	Pass
30		5240.3920	74.8142	Pass
40		5240.4098	78.2001	Pass
50		5240.1999	38.1408	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5240.2716	51.8284	Pass
	120	5240.1430	27.2977	Pass
	138	5240.4266	81.4142	Pass

10 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5240.4256	81.2225	Pass
-10		5240.1387	26.4723	Pass
0		5240.4629	88.3376	Pass
10		5240.4208	80.3073	Pass
20		5240.3791	72.3429	Pass
30		5240.1229	23.4584	Pass
40		5240.1502	28.6639	Pass
50		5240.4902	93.5490	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Resault
25	102	5240.1550	29.5787	Pass
	120	5240.3194	60.9475	Pass
	138	5240.1947	37.1476	Pass

Product	Dual-band Gigabit Wireless _N Router		
Test Item	Frequency Stability		
Test Mode	Transmit - 802.11n_20M - 5180MHz(ANT B)		
Date of Test	2010/08/21	Test Site	No.7 Shielding Room

Startup

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5180.1957	37.7787	Pass
-10		5180.2906	56.1005	Pass
0		5180.3315	64.0041	Pass
10		5180.3720	71.8117	Pass
20		5180.2293	44.2742	Pass
30		5180.0830	16.0245	Pass
40		5180.2284	44.0982	Pass
50		5180.1927	37.2091	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5180.2412	46.5644	Pass
	120	5180.3194	61.6520	Pass
	138	5180.3825	73.8504	Pass

2 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5180.2163	41.7564	Pass
-10		5180.1109	21.4005	Pass
0		5180.3085	59.5589	Pass
10		5180.0842	16.2550	Pass
20		5180.1724	33.2860	Pass
30		5180.3311	63.9167	Pass
40		5180.1260	24.3219	Pass
50		5180.4714	91.0098	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Resault
25	102	5180.2069	39.9493	Pass
	120	5180.1801	34.7705	Pass
	138	5180.4774	92.1575	Pass

5 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5180.1086	20.9720	Pass
-10		5180.2798	54.0156	Pass
0		5180.1075	20.7567	Pass
10		5180.2158	41.6513	Pass
20		5180.1910	36.8761	Pass
30		5180.3396	65.5630	Pass
40		5180.0626	12.0924	Pass
50		5180.3481	67.1997	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5180.0868	16.7549	Pass
	120	5180.1963	37.9028	Pass
	138	5180.3388	65.4054	Pass

10 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5180.1705	32.9129	Pass
-10		5180.2180	42.0840	Pass
0		5180.1941	37.4801	Pass
10		5180.3101	59.8704	Pass
20		5180.3075	59.3561	Pass
30		5180.4537	87.5809	Pass
40		5180.0752	14.5181	Pass
50		5180.4075	78.6632	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Resault
25	102	5180.3641	70.2847	Pass
	120	5180.3359	64.8463	Pass
	138	5180.1906	36.7912	Pass

Product	Dual-band Gigabit Wireless _N Router		
Test Item	Frequency Stability		
Test Mode	Transmit - 802.11n_20M - 5240MHz(ANT B)		
Date of Test	2010/08/21	Test Site	No.7 Shielding Room

Startup

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5240.2611	49.8321	Pass
-10		5240.4144	79.0864	Pass
0		5240.4227	80.6749	Pass
10		5240.3530	67.3610	Pass
20		5240.3052	58.2417	Pass
30		5240.0529	10.0934	Pass
40		5240.4993	95.2851	Pass
50		5240.3037	57.9668	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5240.3720	70.9863	Pass
	120	5240.1689	32.2236	Pass
	138	5240.3793	72.3929	Pass

2 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5240.2856	54.5130	Pass
-10		5240.2048	39.0867	Pass
0		5240.4465	85.2058	Pass
10		5240.1202	22.9470	Pass
20		5240.0852	16.2637	Pass
30		5240.0678	12.9431	Pass
40		5240.1849	35.2843	Pass
50		5240.2978	56.8387	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Resault
25	102	5240.3628	69.2443	Pass
	120	5240.0889	16.9749	Pass
	138	5240.4237	80.8554	Pass

5 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5240.3706	70.7307	Pass
-10		5240.4706	89.8148	Pass
0		5240.1685	32.1583	Pass
10		5240.4112	78.4703	Pass
20		5240.1630	31.1017	Pass
30		5240.4977	94.9719	Pass
40		5240.2537	48.4095	Pass
50		5240.4985	95.1322	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5240.4238	80.8754	Pass
	120	5240.3638	69.4303	Pass
	138	5240.1152	21.9871	Pass

10 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5240.3986	76.0728	Pass
-10		5240.1300	24.8134	Pass
0		5240.0545	10.4099	Pass
10		5240.1141	21.7816	Pass
20		5240.2639	50.3610	Pass
30		5240.4513	86.1233	Pass
40		5240.0740	14.1274	Pass
50		5240.3656	69.7693	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Resault
25	102	5240.3596	68.6325	Pass
	120	5240.4245	81.0149	Pass
	138	5240.4276	81.6100	Pass

Product	Dual-band Gigabit Wireless _N Router		
Test Item	Frequency Stability		
Test Mode	Transmit - 802.11n_40M - 5190MHz(ANT A)		
Date of Test	2010/08/21	Test Site	No.7 Shielding Room

Startup

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5190.2036	39.2200	Pass
-10		5190.1003	19.3172	Pass
0		5190.2211	42.5975	Pass
10		5190.3418	65.8484	Pass
20		5190.4620	89.0133	Pass
30		5190.0926	17.8513	Pass
40		5190.2734	52.6781	Pass
50		5190.3698	71.2509	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5190.3368	64.9009	Pass
	120	5190.4042	77.8815	Pass
	138	5190.4623	89.0747	Pass

2 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5190.1137	21.9162	Pass
-10		5190.3877	74.7093	Pass
0		5190.3012	58.0355	Pass
10		5190.4189	80.7181	Pass
20		5190.4678	90.1260	Pass
30		5190.3562	68.6344	Pass
40		5190.1811	34.8875	Pass
50		5190.1137	21.9162	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Resault
25	102	5190.4421	85.1788	Pass
	120	5190.2804	54.0180	Pass
	138	5190.3442	66.3286	Pass

5 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5190.2680	51.6419	Pass
-10		5190.0669	12.8831	Pass
0		5190.3964	76.3760	Pass
10		5190.3254	62.6884	Pass
20		5190.2953	56.8896	Pass
30		5190.1196	23.0364	Pass
40		5190.1336	25.7502	Pass
50		5190.4525	87.1874	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5190.4681	90.1856	Pass
	120	5190.4319	83.2113	Pass
	138	5190.4711	90.7639	Pass

10 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5190.3987	76.8254	Pass
-10		5190.2971	57.2540	Pass
0		5190.0984	18.9557	Pass
10		5190.1431	27.5744	Pass
20		5190.3960	76.3088	Pass
30		5190.2716	52.3394	Pass
40		5190.2325	44.7934	Pass
50		5190.1270	24.4772	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Resault
25	102	5190.0590	11.3696	Pass
	120	5190.4949	95.3528	Pass
	138	5190.3293	63.4446	Pass

Product	Dual-band Gigabit Wireless _N Router		
Test Item	Frequency Stability		
Test Mode	Transmit - 802.11n_40M - 5230MHz(ANT A)		
Date of Test	2010/08/21	Test Site	No.7 Shielding Room

Startup

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5230.4224	80.7715	Pass
-10		5230.0658	12.5778	Pass
0		5230.1482	28.3306	Pass
10		5230.4432	84.7440	Pass
20		5230.2713	51.8823	Pass
30		5230.4813	92.0318	Pass
40		5230.1522	29.1104	Pass
50		5230.2089	39.9467	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5230.1897	36.2699	Pass
	120	5230.2243	42.8917	Pass
	138	5230.4340	82.9887	Pass

2 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5230.4190	80.1074	Pass
-10		5230.2458	47.0040	Pass
0		5230.1322	25.2678	Pass
10		5230.4543	86.8666	Pass
20		5230.3442	65.8096	Pass
30		5230.3368	64.4038	Pass
40		5230.3623	69.2751	Pass
50		5230.3411	65.2140	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Resault
25	102	5230.1312	25.0918	Pass
	120	5230.4118	78.7357	Pass
	138	5230.2703	51.6838	Pass

5 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5230.2863	54.7411	Pass
-10		5230.3489	66.7164	Pass
0		5230.3292	62.9383	Pass
10		5230.3587	68.5887	Pass
20		5230.0847	16.1932	Pass
30		5230.4141	79.1713	Pass
40		5230.1483	28.3533	Pass
50		5230.4596	87.8775	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5230.3654	69.8679	Pass
	120	5230.4280	81.8428	Pass
	138	5230.1958	37.4353	Pass

10 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5230.2063	39.4457	Pass
-10		5230.4825	92.2653	Pass
0		5230.1600	30.5928	Pass
10		5230.2828	54.0726	Pass
20		5230.1034	19.7644	Pass
30		5230.2077	39.7074	Pass
40		5230.0687	13.1318	Pass
50		5230.0978	18.6922	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Resault
25	102	5230.1845	35.2770	Pass
	120	5230.4684	89.5685	Pass
	138	5230.4832	92.3910	Pass

Product	Dual-band Gigabit Wireless _N Router		
Test Item	Frequency Stability		
Test Mode	Transmit - 802.11n_40M - 5190MHz(ANT B)		
Date of Test	2010/08/21	Test Site	No.7 Shielding Room

Startup

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5190.1706	32.8681	Pass
-10		5190.0719	13.8581	Pass
0		5190.1174	22.6113	Pass
10		5190.1129	21.7571	Pass
20		5190.3926	75.6502	Pass
30		5190.1352	26.0594	Pass
40		5190.2690	51.8264	Pass
50		5190.2428	46.7787	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5190.1365	26.3038	Pass
	120	5190.1137	21.9131	Pass
	138	5190.1583	30.4979	Pass

2 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5190.4672	90.0110	Pass
-10		5190.1158	22.3039	Pass
0		5190.4852	93.4841	Pass
10		5190.4196	80.8491	Pass
20		5190.2002	38.5788	Pass
30		5190.0656	12.6436	Pass
40		5190.3825	73.6964	Pass
50		5190.2246	43.2850	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Resault
25	102	5190.1596	30.7438	Pass
	120	5190.4164	80.2239	Pass
	138	5190.1795	34.5855	Pass

5 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5190.1817	35.0119	Pass
-10		5190.4618	88.9769	Pass
0		5190.4249	81.8659	Pass
10		5190.3069	59.1334	Pass
20		5190.0880	16.9617	Pass
30		5190.0569	10.9595	Pass
40		5190.3274	63.0892	Pass
50		5190.2942	56.6883	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5190.1942	37.4173	Pass
	120	5190.4036	77.7727	Pass
	138	5190.0810	15.6030	Pass

10 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5190.4895	94.3133	Pass
-10		5190.4062	78.2740	Pass
0		5190.2439	46.9856	Pass
10		5190.1912	36.8384	Pass
20		5190.1918	36.9614	Pass
30		5190.3274	63.0775	Pass
40		5190.3348	64.5172	Pass
50		5190.4023	77.5222	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Resault
25	102	5190.1273	24.5306	Pass
	120	5190.3699	71.2705	Pass
	138	5190.4768	91.8643	Pass

Product	Dual-band Gigabit Wireless _N Router		
Test Item	Frequency Stability		
Test Mode	Transmit - 802.11n_40M - 5230MHz(ANT B)		
Date of Test	2010/08/21	Test Site	No.7 Shielding Room

Startup

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5230.1606	30.7031	Pass
-10		5230.1552	29.6785	Pass
0		5230.2308	44.1356	Pass
10		5230.2873	54.9245	Pass
20		5230.2829	54.0995	Pass
30		5230.2737	52.3314	Pass
40		5230.1873	35.8051	Pass
50		5230.0842	16.0921	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5230.2742	52.4188	Pass
	120	5230.2591	49.5353	Pass
	138	5230.1212	23.1813	Pass

2 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5230.1444	27.6186	Pass
-10		5230.1632	31.1960	Pass
0		5230.2433	46.5124	Pass
10		5230.3229	61.7485	Pass
20		5230.1969	37.6567	Pass
30		5230.4911	93.9045	Pass
40		5230.3917	74.8948	Pass
50		5230.1176	22.4922	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Resault
25	102	5230.4397	84.0669	Pass
	120	5230.4233	80.9366	Pass
	138	5230.4040	77.2501	Pass

5 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5230.3970	75.9072	Pass
-10		5230.3582	68.4937	Pass
0		5230.1313	25.1146	Pass
10		5230.0859	16.4248	Pass
20		5230.4260	81.4573	Pass
30		5230.3034	58.0052	Pass
40		5230.0680	13.0070	Pass
50		5230.3601	68.8466	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5230.4718	90.2080	Pass
	120	5230.3481	66.5611	Pass
	138	5230.3857	73.7479	Pass

10 Minute

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5230.4171	79.7468	Pass
-10		5230.4811	91.9871	Pass
0		5230.4844	92.6125	Pass
10		5230.4357	83.3028	Pass
20		5230.4435	84.8003	Pass
30		5230.0772	14.7551	Pass
40		5230.0678	12.9563	Pass
50		5230.0761	14.5543	Pass

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Resault
25	102	5230.3330	63.6756	Pass
	120	5230.2128	40.6817	Pass
	138	5230.3988	76.2522	Pass