6. Peak Excursion

6.1. Test Equipment

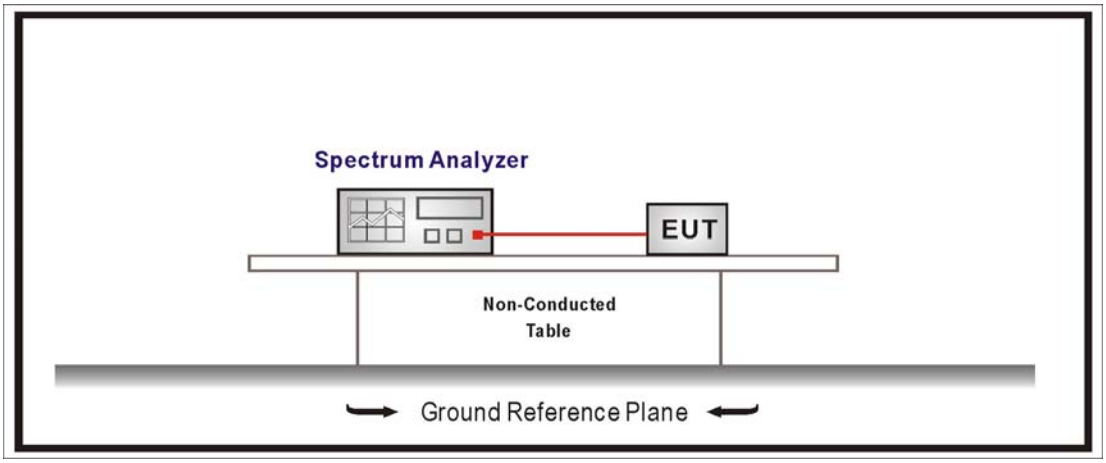
The following test equipments are used during the radiated emission tests:

Peak Excursion / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	R&S	FSP	100561	2013/02/19

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

6.2. Test Setup



6.3. Limits

The ratio of the peak excursion of the modulation envelope (measured suing a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

6.4. Test Procedure

The EUT was setup to ANSI C63.4, 2009; tested to U-NII test procedure of March 2012 KDB 789033 for compliance to FCC 47CFR Subpart E requirements.

1st Trace:

Set RBW = 1MHz, VBW = 3MHz with peak detector and max-hold settings.

2nd Trace:

Set RBW = 1MHz, VBW = 3MHz with RMS detector and trace average 100 traces in power averaging mode.

6.5. Uncertainty

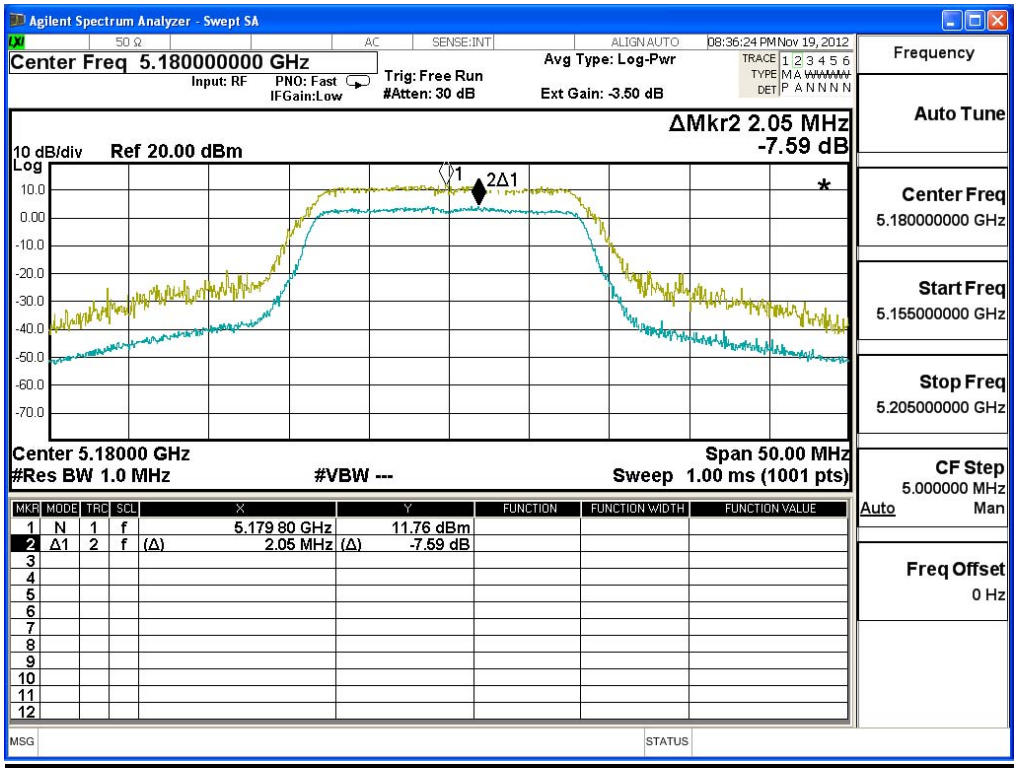
The measurement uncertainty is defined as ± 1.27 dB

6.6. Test Result

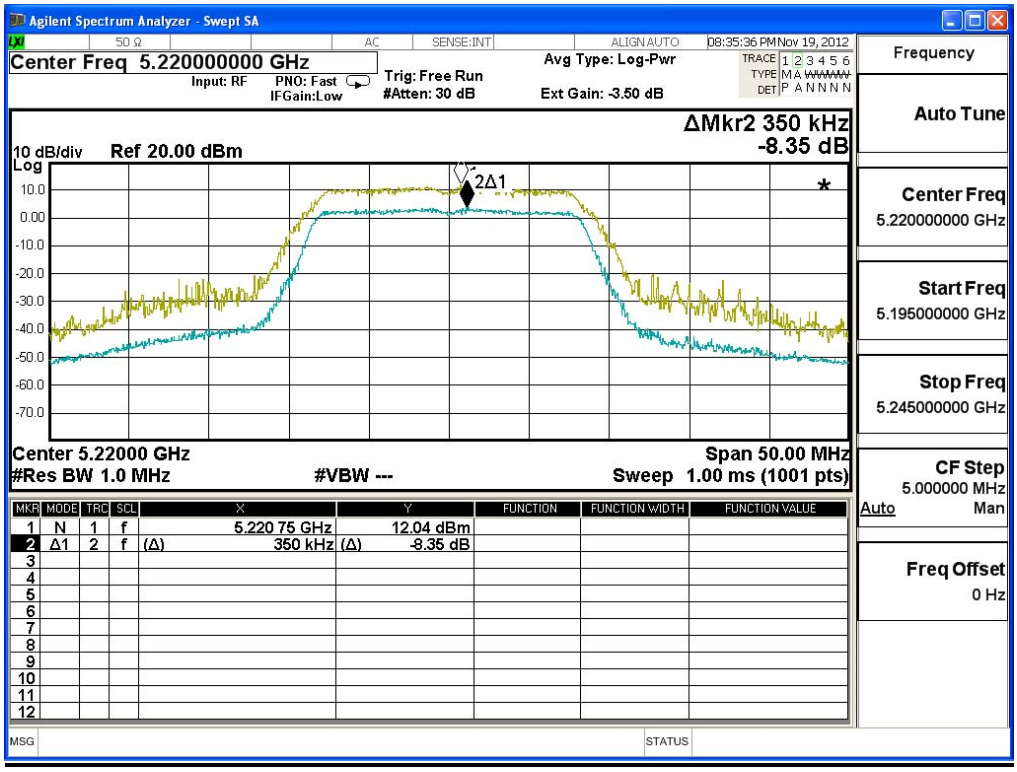
Product	Dual-band Wireless-AC1200 USB Adapter		
Test Item	Peak Excursion		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/19	Test Site	SR7

IEEE 802.11a				
Channel No.	Frequency (MHz)	Measure Level (dB)	Required Limit (dB)	Result
36	5180	7.59	≦13	Pass
44	5220	8.35	≦13	Pass
48	5240	8.42	≦13	Pass

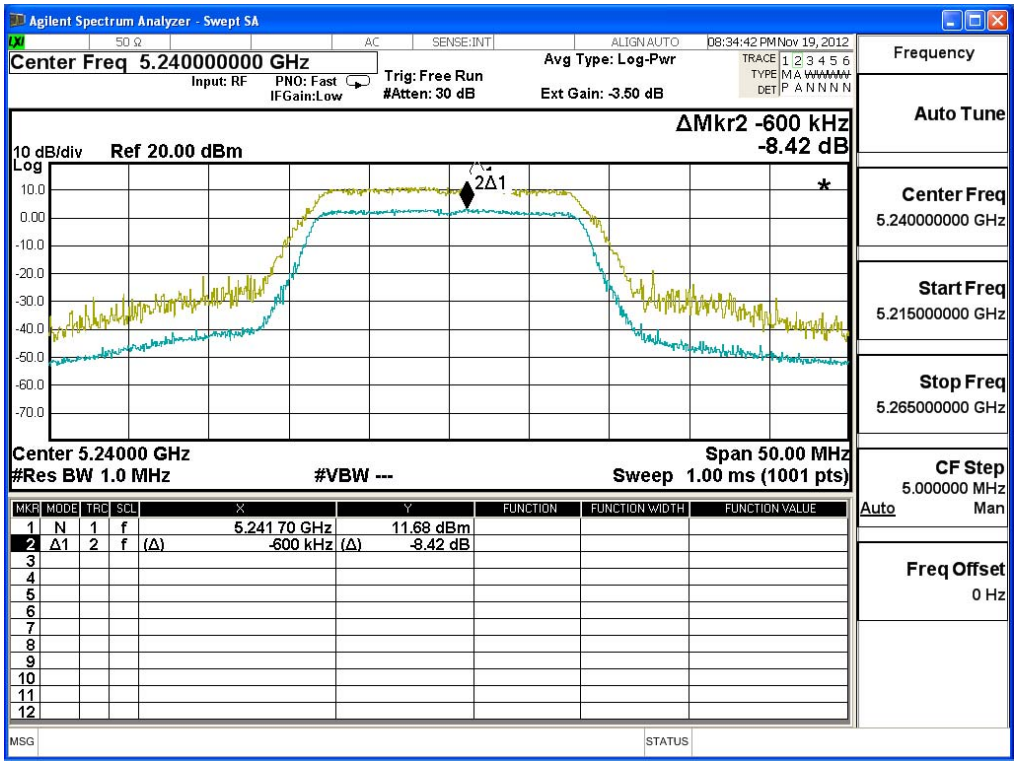
Power Excursion – Channel 36



Power Excursion – Channel 44



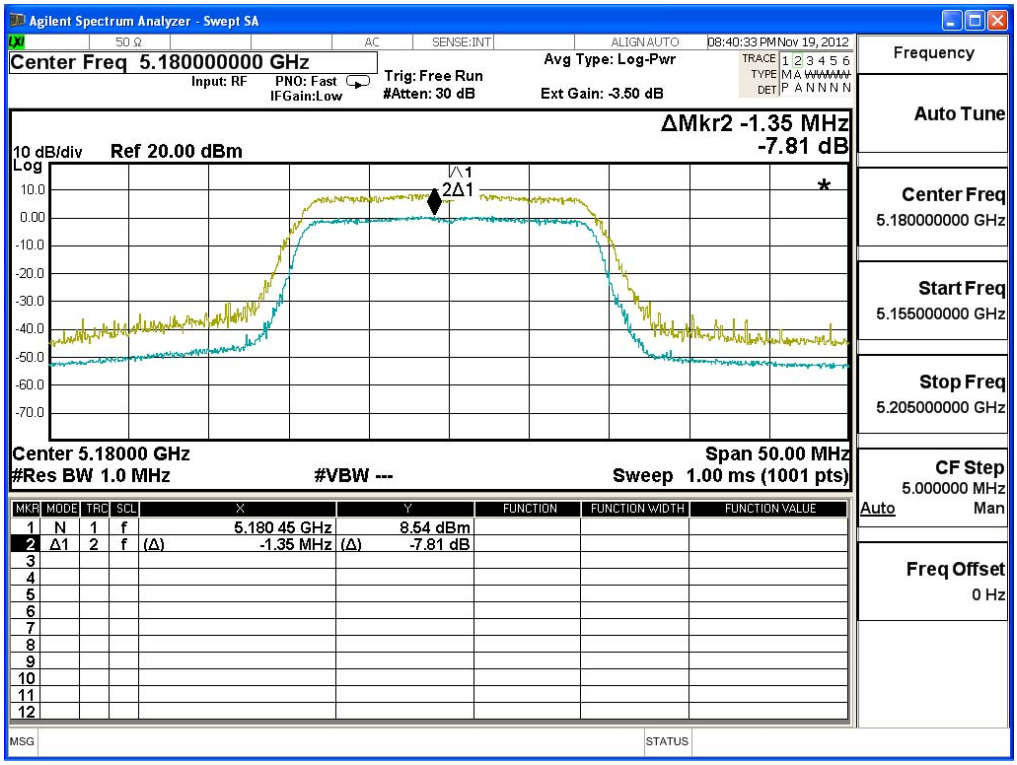
Power Excursion – Channel 48



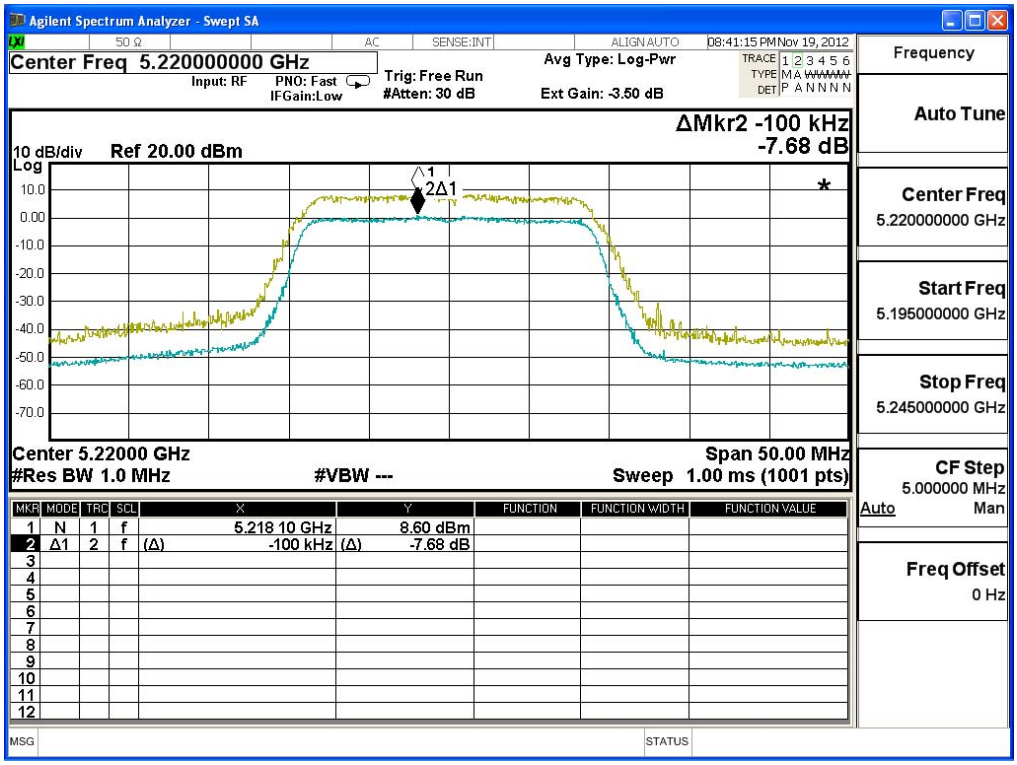
Product	Dual-band Wireless-AC1200 USB Adapter		
Test Item	Peak Excursion		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/19	Test Site	SR7

IEEE 802.11n_20M(ANT 0)				
Channel No.	Frequency (MHz)	Measure Level (dB)	Required Limit (dB)	Result
36	5180	7.81	≦13	Pass
44	5220	7.68	≦13	Pass
48	5240	7.50	≦13	Pass

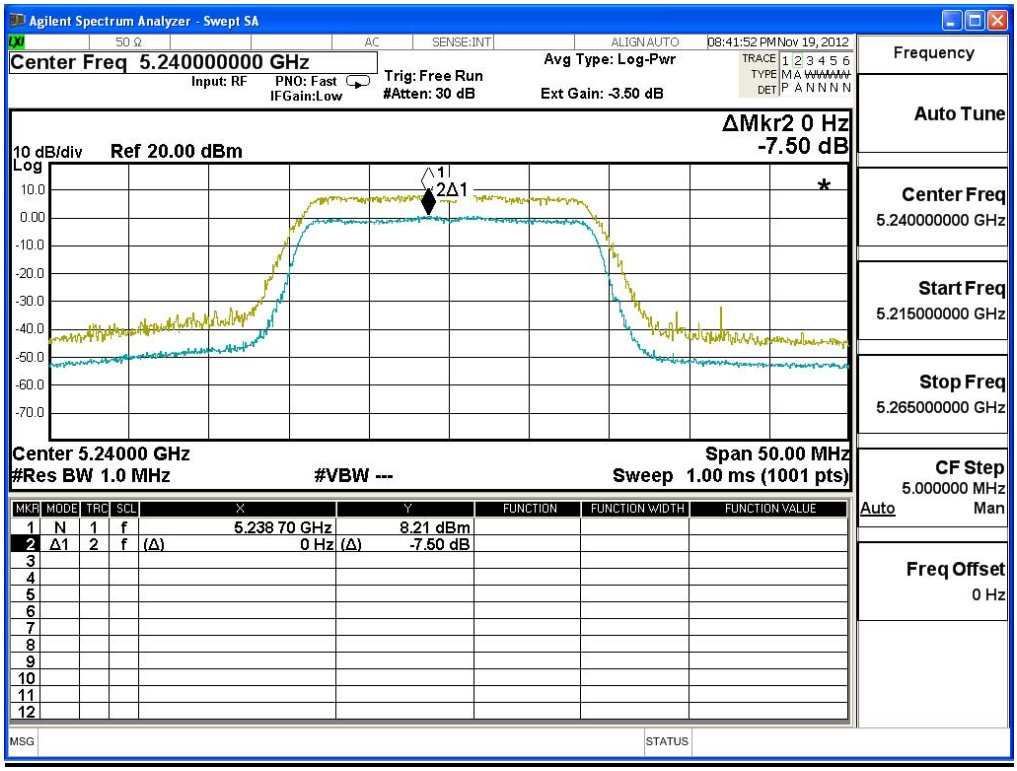
Power Excursion – Channel 36



Power Excursion – Channel 44



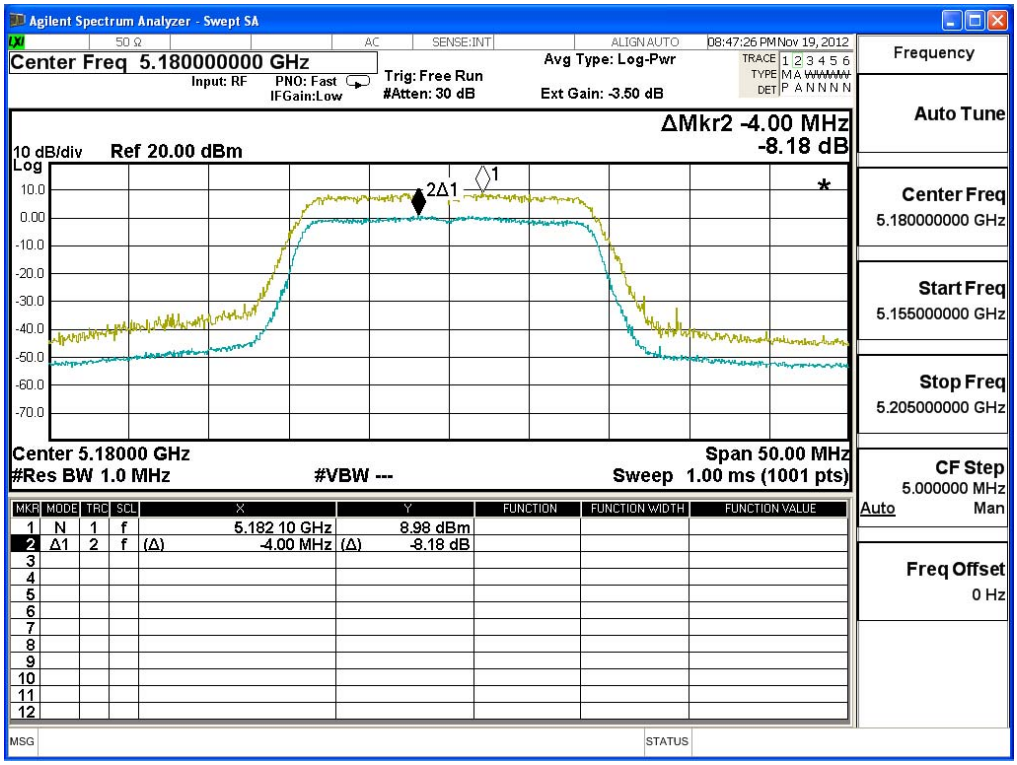
Power Excursion – Channel 48



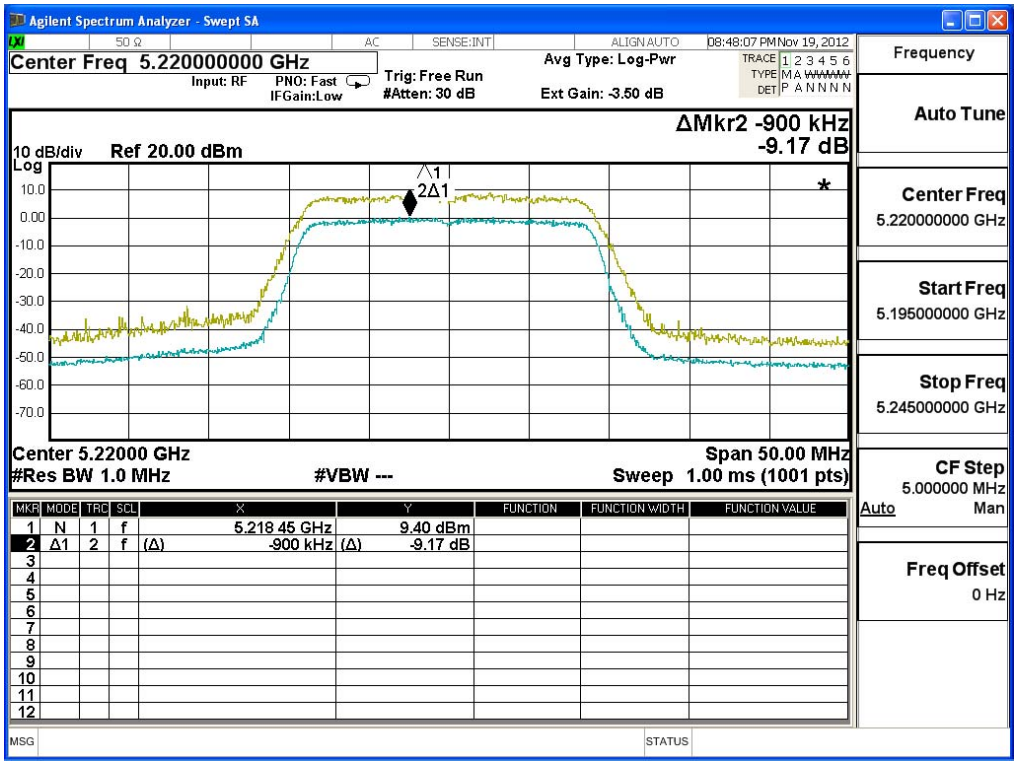
Product	Dual-band Wireless-AC1200 USB Adapter		
Test Item	Peak Excursion		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/19	Test Site	SR7

IEEE 802.11n_20M(ANT 1)				
Channel No.	Frequency (MHz)	Measure Level (dB)	Required Limit (dB)	Result
36	5180	8.18	≦13	Pass
44	5220	9.17	≦13	Pass
48	5240	8.12	≦13	Pass

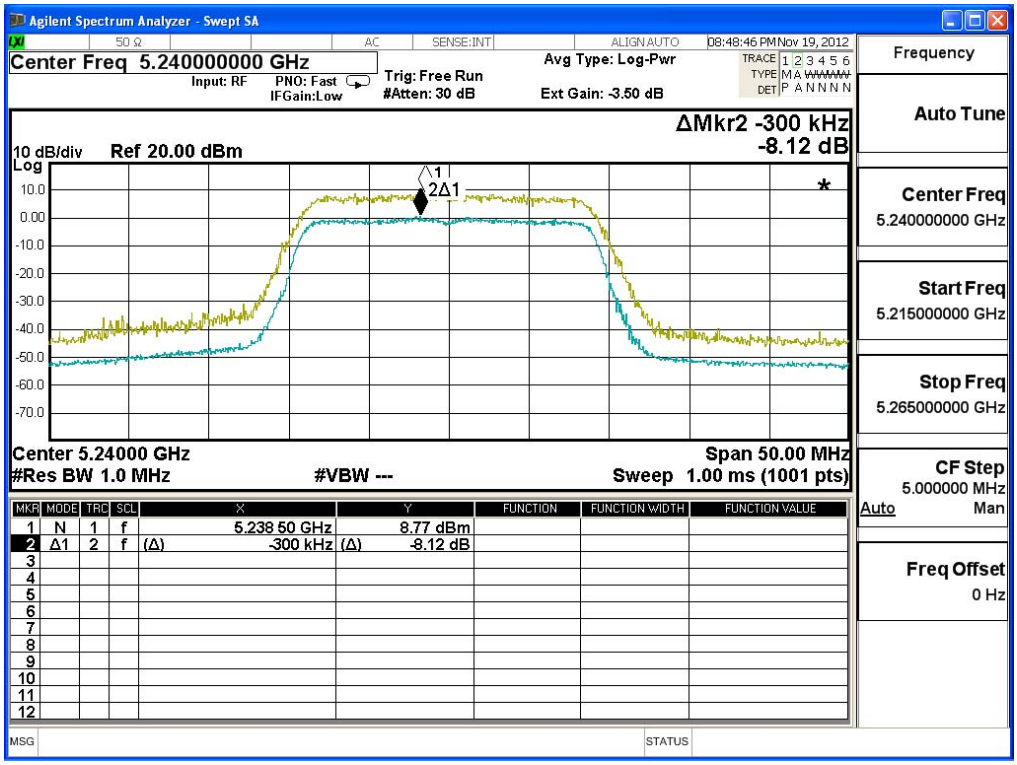
Power Excursion – Channel 36



Power Excursion – Channel 44



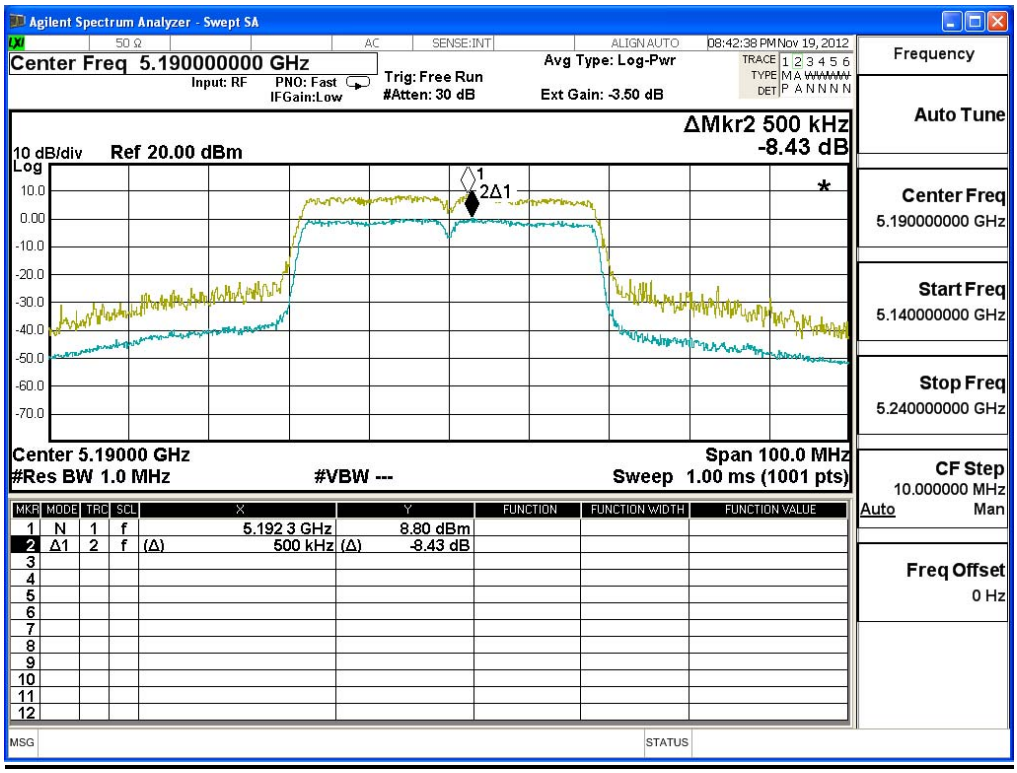
Power Excursion – Channel 48



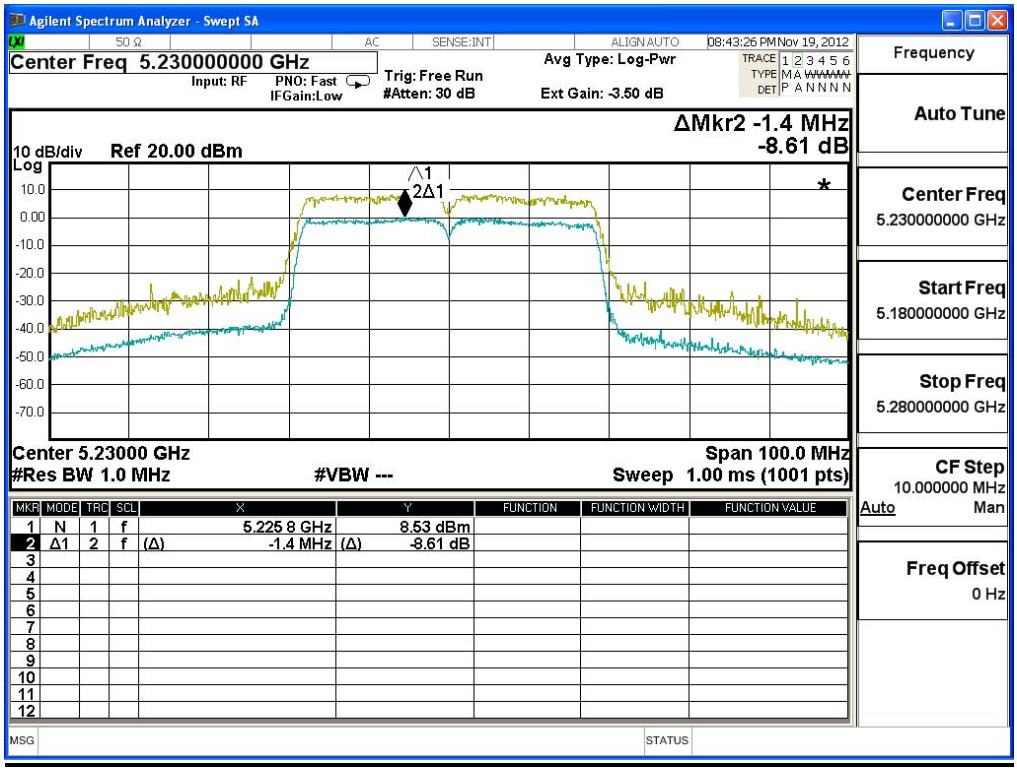
Product	Dual-band Wireless-AC1200 USB Adapter		
Test Item	Peak Excursion		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/19	Test Site	SR7

IEEE 802.11n_40M(ANT 0)				
Channel No.	Frequency (MHz)	Measure Level (dB)	Required Limit (dB)	Result
38	5190	8.43	≦13	Pass
46	5230	8.61	≦13	Pass

Power Excursion – Channel 38



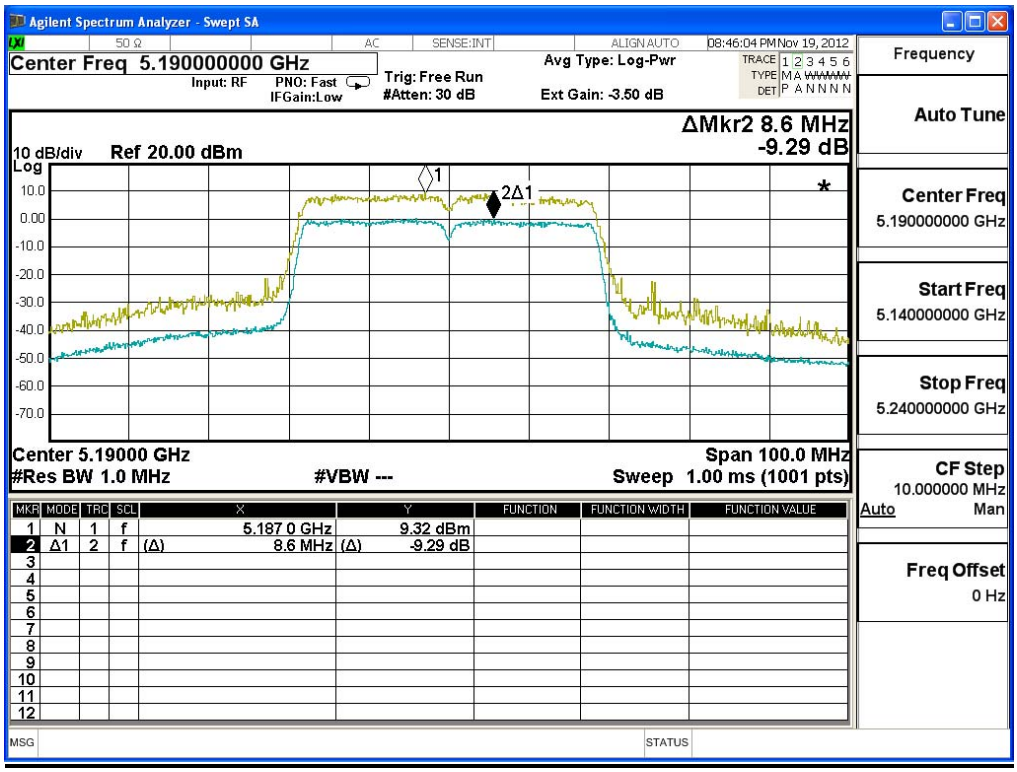
Power Excursion – Channel 46



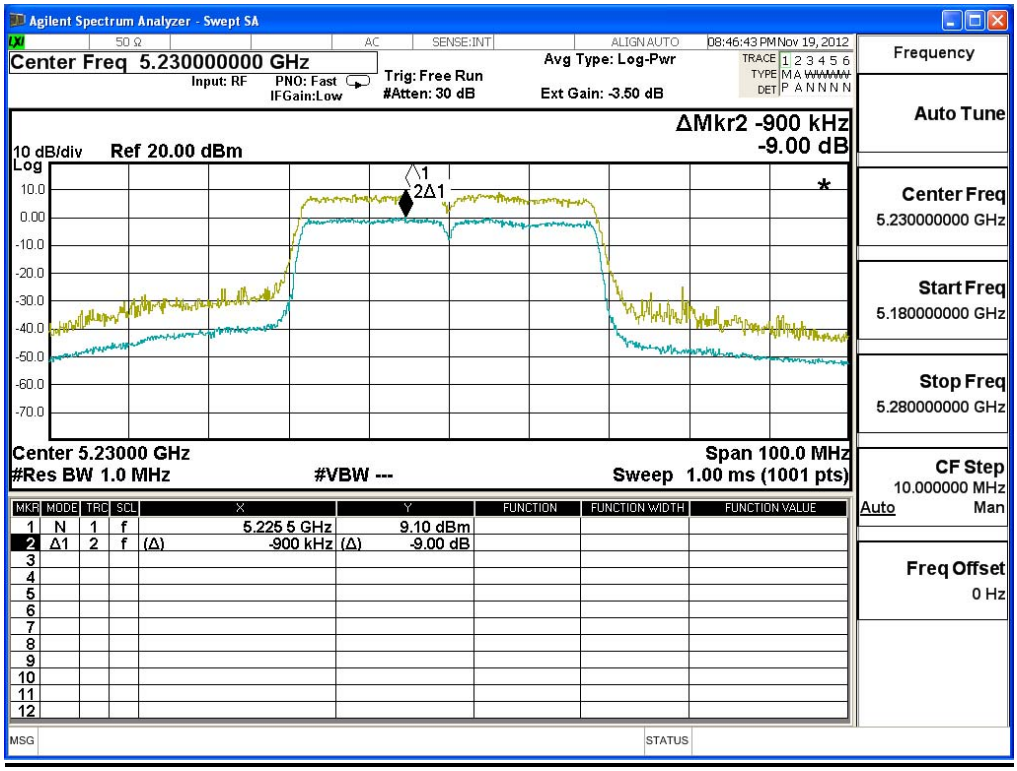
Product	Dual-band Wireless-AC1200 USB Adapter		
Test Item	Peak Excursion		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/19	Test Site	SR7

IEEE 802.11n_40M(ANT 1)				
Channel No.	Frequency (MHz)	Measure Level (dB)	Required Limit (dB)	Result
38	5190	9.29	≦13	Pass
46	5230	9.00	≦13	Pass

Power Excursion – Channel 38



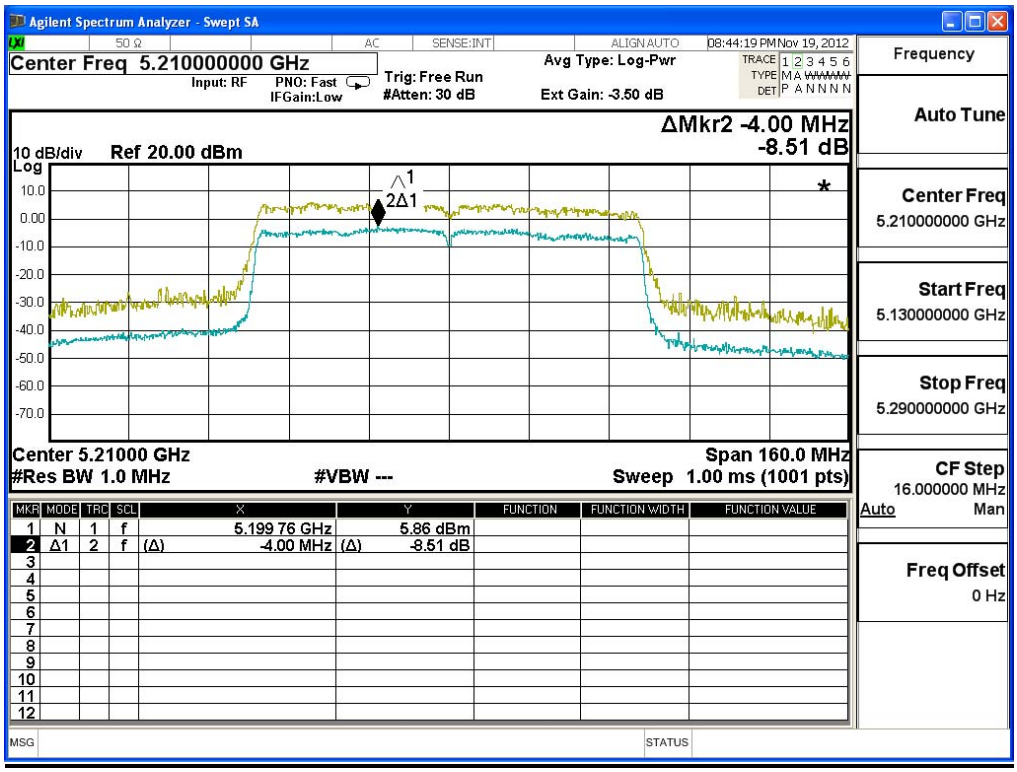
Power Excursion – Channel 46



Product	Dual-band Wireless-AC1200 USB Adapter		
Test Item	Peak Excursion		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/19	Test Site	SR7

IEEE 802.11ac_80M(ANT 0)				
Channel No.	Frequency (MHz)	Measure Level (dB)	Required Limit (dB)	Result
42	5210	8.51	≦13	Pass

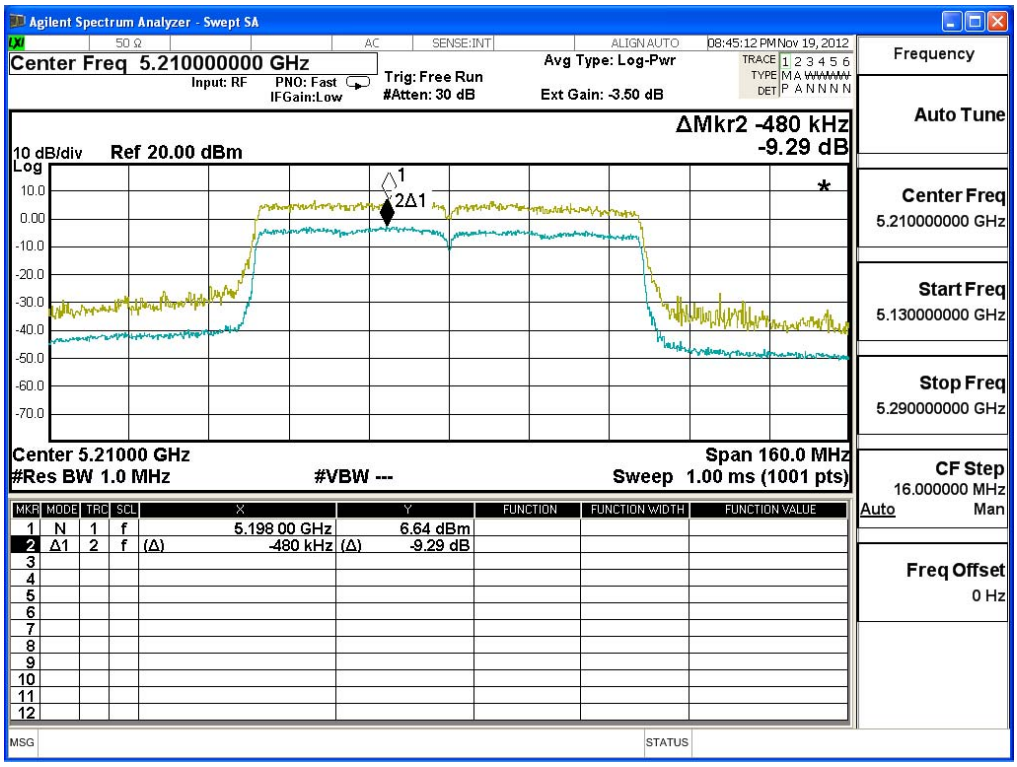
Power Excursion – Channel 42



Product	Dual-band Wireless-AC1200 USB Adapter		
Test Item	Peak Excursion		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/19	Test Site	SR7

IEEE 802.11ac_80M(ANT 1)				
Channel No.	Frequency (MHz)	Measure Level (dB)	Required Limit (dB)	Result
42	5210	9.29	≦13	Pass

Power Excursion – Channel 42



7. Radiated Emission

7.1. Test Equipment

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

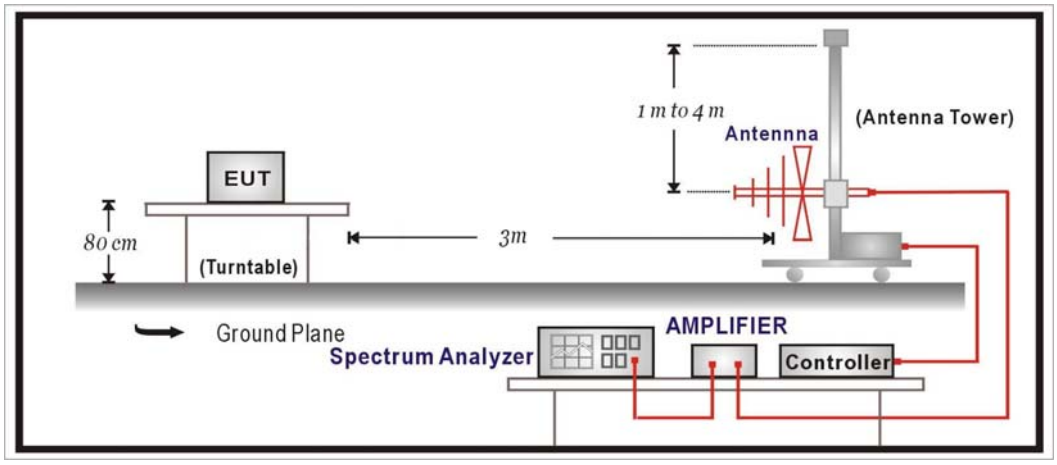
Radiated Emission / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Bilog Antenna	SCHAFFNER	CBL6112B	2895	2013/08/14
Double Ridged Guide Horn Antenna	Schwarzback	BBHA 9120	D743	2013/02/02
Pre-Amplifier	MITEQ	AMF-4D-005180-24-10P	888003	2013/12/02
Pre-Amplifier	QuieTek	AP-025C	CHM-0706049	2013/03/01
Spectrum Analyzer	Agilent	E4440A	MY46187335	2013/02/07
Coaxial Cable	Huber+Suhner AG	Sucoflex 102	25623/2	2013/03/04

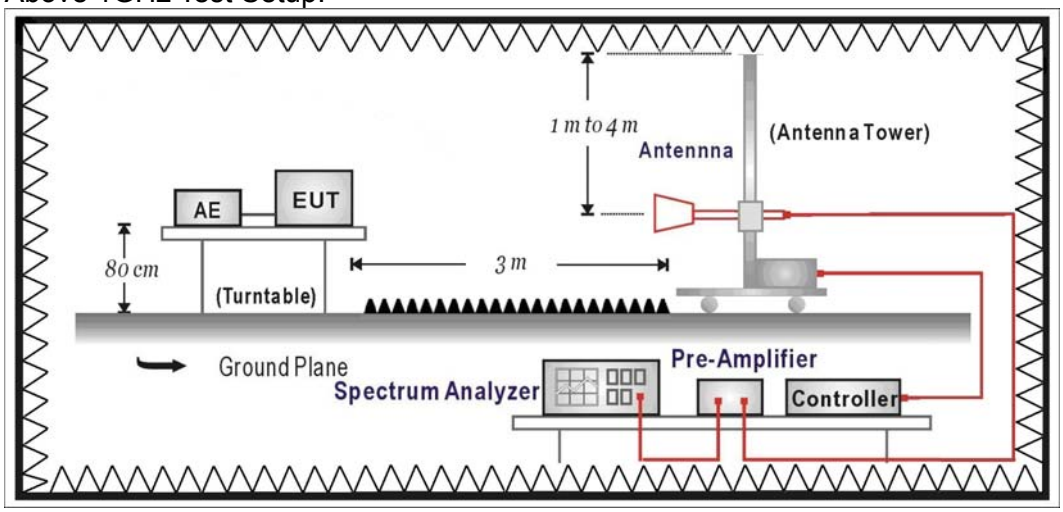
Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

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: 2009 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.

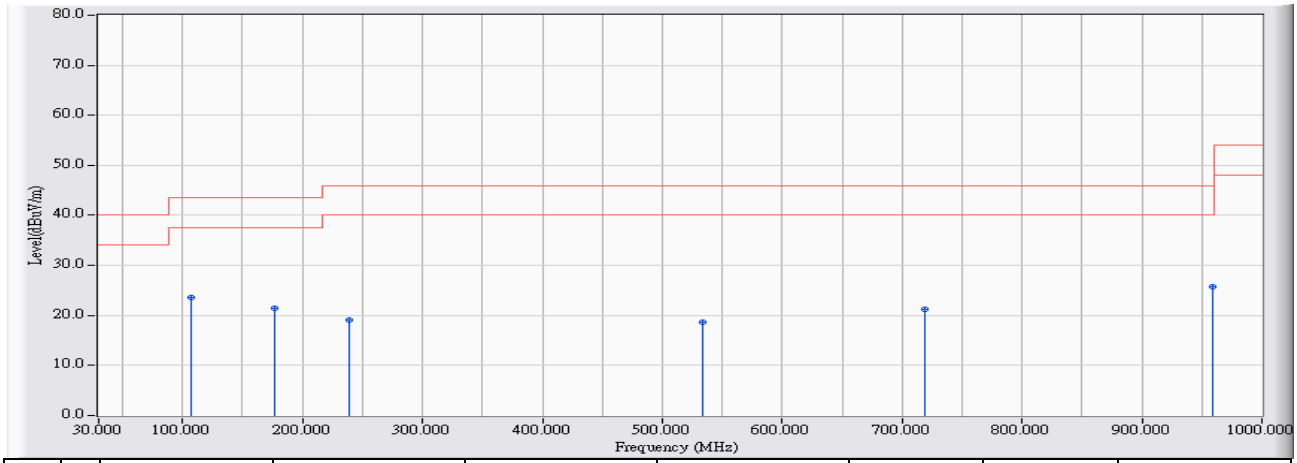
7.5. Uncertainty

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

7.6. Test Result

30MHz-1GHz Spurious

Site : CB1	**Time : 2012/11/05 - 21:45**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - HORIZONTAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5220MHz_802.11a**

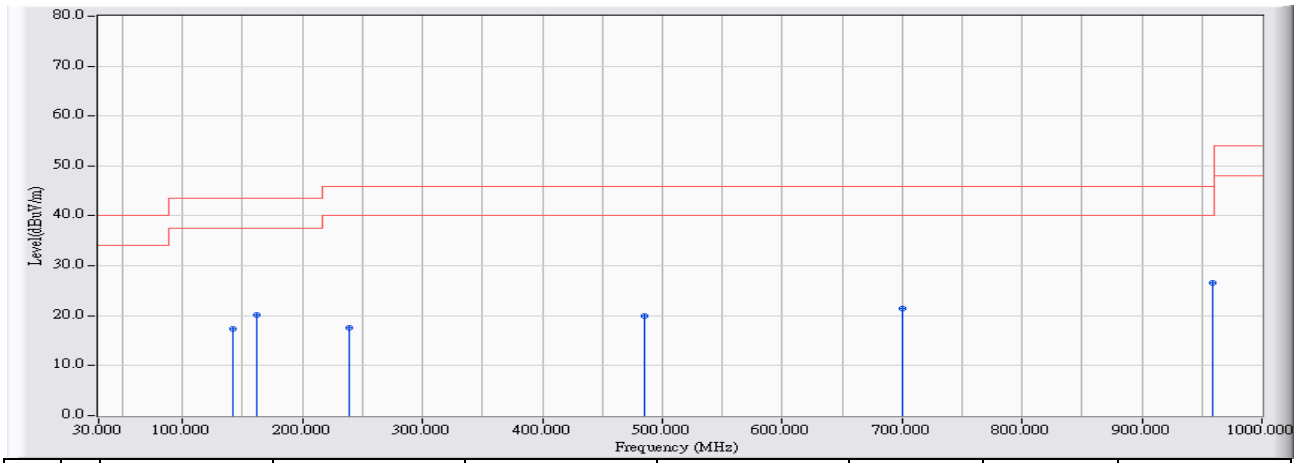


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	107.445	-12.408	35.959	23.551	-19.949	43.500	QUASIPEAK
2		177.146	-14.387	35.749	21.362	-22.138	43.500	QUASIPEAK
3		239.102	-11.738	30.810	19.072	-26.928	46.000	QUASIPEAK
4		533.393	-5.006	23.607	18.600	-27.400	46.000	QUASIPEAK
5		719.261	-3.981	25.186	21.205	-24.795	46.000	QUASIPEAK
6		959.341	-1.773	27.446	25.673	-20.327	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.

Site : CB1	**Time : 2012/11/05 - 21:46**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - VERTICAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5220MHz_802.11a**

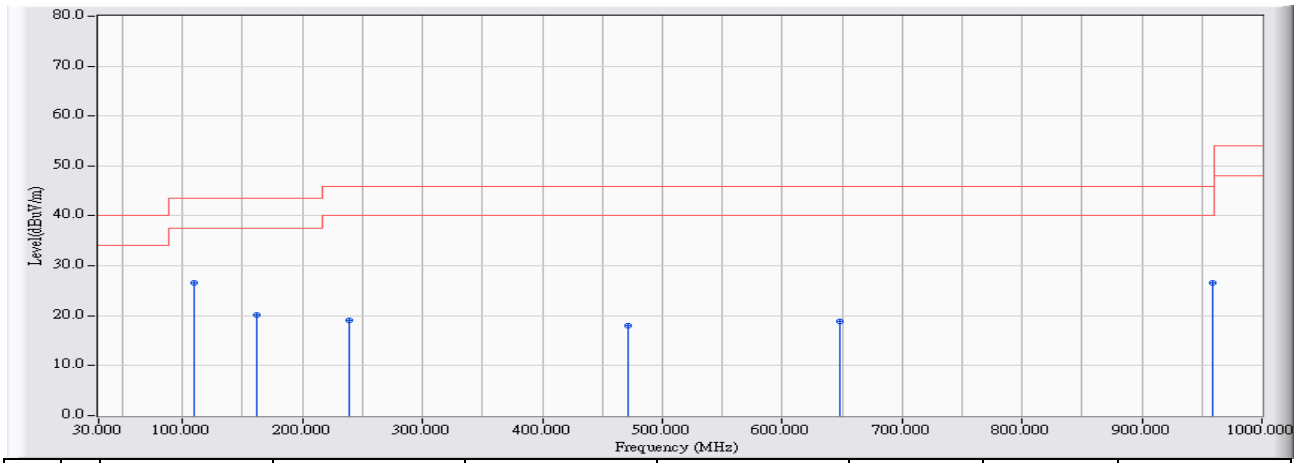


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		142.295	-12.668	30.076	17.408	-26.092	43.500	QUASIPEAK
2		161.657	-13.668	33.920	20.252	-23.248	43.500	QUASIPEAK
3		239.102	-11.738	29.375	17.637	-28.363	46.000	QUASIPEAK
4		484.990	-5.451	25.350	19.899	-26.101	46.000	QUASIPEAK
5		699.900	-4.225	25.749	21.523	-24.477	46.000	QUASIPEAK
6	*	959.341	-1.773	28.306	26.533	-19.467	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.

Site : CB1	**Time : 2012/11/05 - 21:46**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - HORIZONTAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5220MHz_802.11n(20M)**

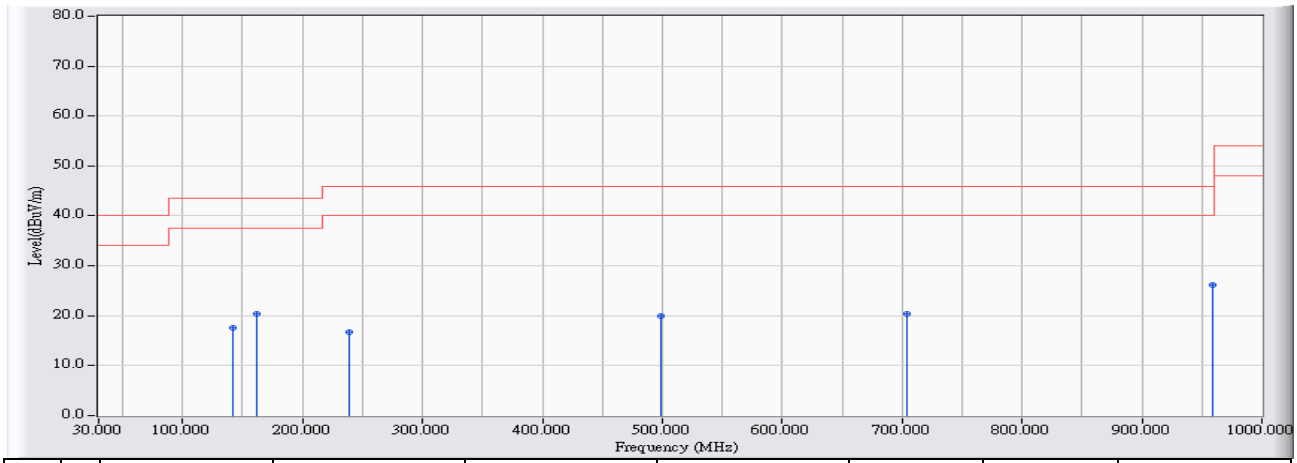


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	109.381	-12.318	38.934	26.616	-16.884	43.500	QUASIPEAK
2		161.657	-13.668	33.730	20.062	-23.438	43.500	QUASIPEAK
3		239.102	-11.738	30.836	19.098	-26.902	46.000	QUASIPEAK
4		471.437	-5.777	23.876	18.100	-27.900	46.000	QUASIPEAK
5		647.625	-4.568	23.424	18.855	-27.145	46.000	QUASIPEAK
6		959.341	-1.773	28.431	26.658	-19.342	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.

Site : CB1	**Time : 2012/11/05 - 21:46**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - VERTICAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5220MHz_802.11n(20M)**

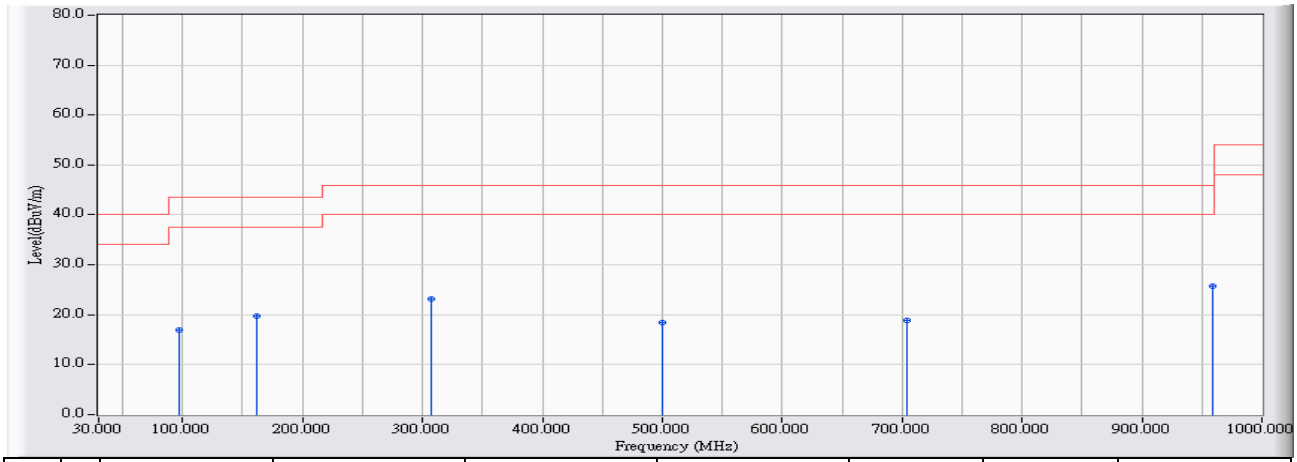


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		142.295	-12.668	30.291	17.623	-25.877	43.500	QUASIPEAK
2		161.657	-13.668	34.036	20.368	-23.132	43.500	QUASIPEAK
3		239.102	-11.738	28.394	16.656	-29.344	46.000	QUASIPEAK
4		498.543	-5.125	25.086	19.961	-26.039	46.000	QUASIPEAK
5		703.772	-4.178	24.558	20.380	-25.620	46.000	QUASIPEAK
6	*	959.341	-1.773	28.045	26.272	-19.728	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.

Site : CB1	**Time : 2012/11/05 - 21:46**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - HORIZONTAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5190MHz_802.11n(40M)**

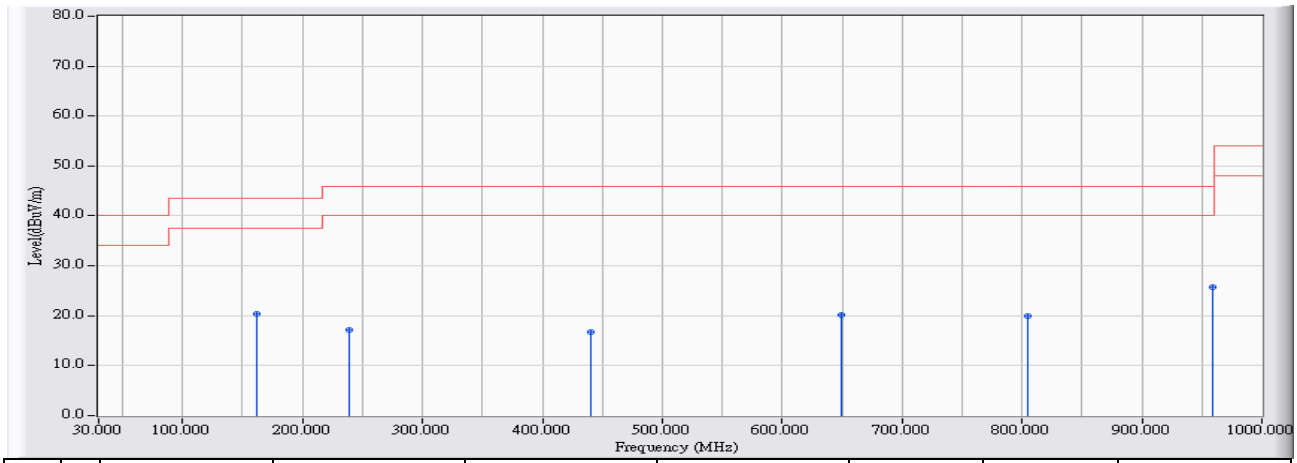


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		97.764	-13.280	30.136	16.856	-26.644	43.500	QUASIPEAK
2		161.657	-13.668	33.425	19.757	-23.743	43.500	QUASIPEAK
3		306.866	-9.758	32.822	23.064	-22.936	46.000	QUASIPEAK
4		500.479	-5.089	23.592	18.503	-27.497	46.000	QUASIPEAK
5		703.772	-4.178	23.144	18.966	-27.034	46.000	QUASIPEAK
6	*	959.341	-1.773	27.409	25.636	-20.364	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.

Site : CB1	**Time : 2012/11/05 - 21:47**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - VERTICAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5190MHz_802.11n(40M)**

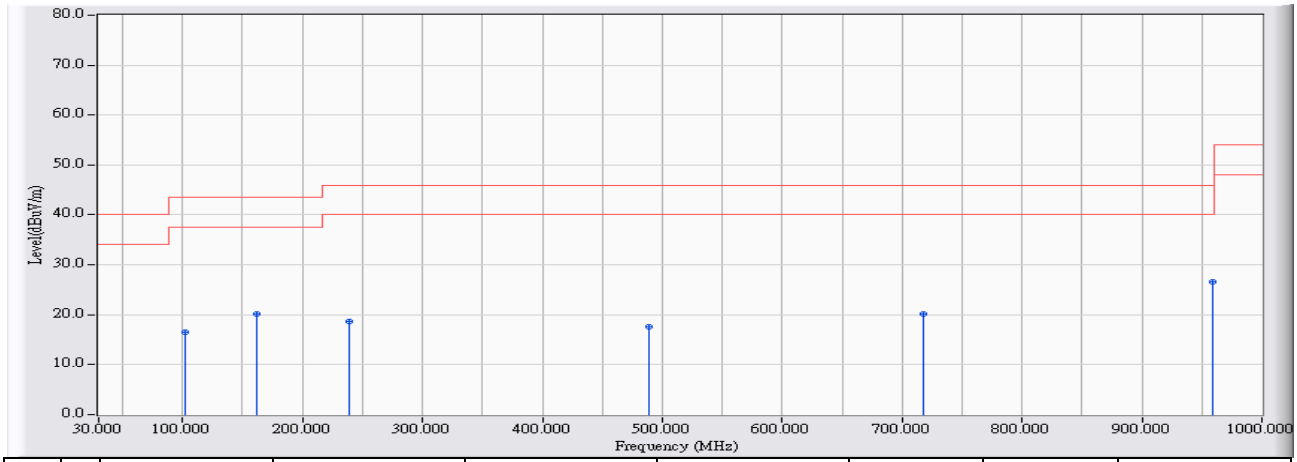


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		161.657	-13.668	34.126	20.458	-23.042	43.500	QUASIPEAK
2		239.102	-11.738	28.814	17.076	-28.924	46.000	QUASIPEAK
3		440.459	-6.504	23.338	16.835	-29.165	46.000	QUASIPEAK
4		649.561	-4.556	24.610	20.054	-25.946	46.000	QUASIPEAK
5		804.451	-2.960	22.819	19.859	-26.141	46.000	QUASIPEAK
6	*	959.341	-1.773	27.447	25.674	-20.326	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.

Site : CB1	**Time : 2012/11/05 - 21:47**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - HORIZONTAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5210MHz_802.11ac(80M)**

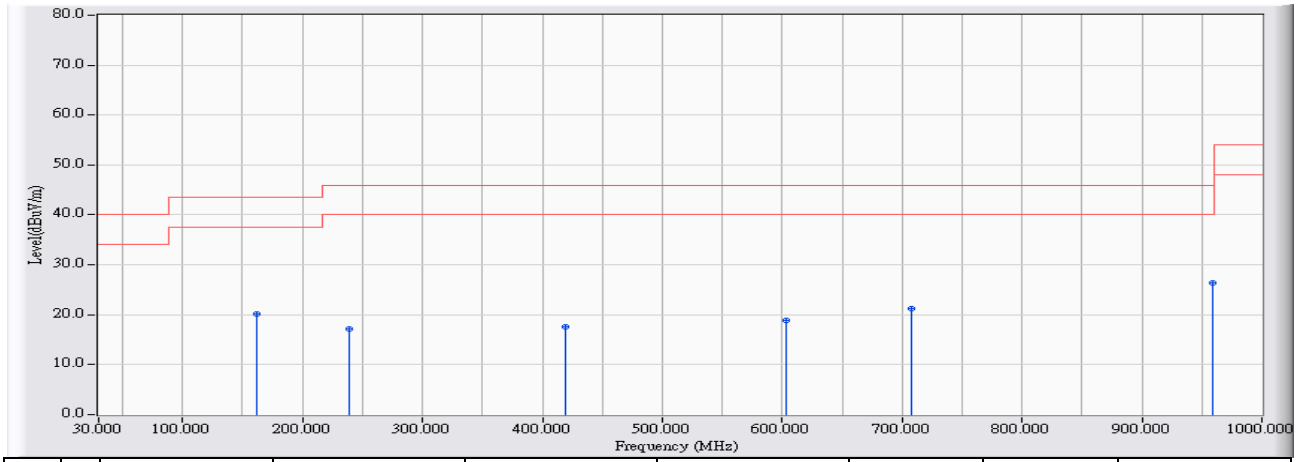


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		101.637	-12.679	29.285	16.606	-26.894	43.500	QUASIPEAK
2		161.657	-13.668	33.897	20.229	-23.271	43.500	QUASIPEAK
3		239.102	-11.738	30.313	18.575	-27.425	46.000	QUASIPEAK
4		488.862	-5.358	22.978	17.620	-28.380	46.000	QUASIPEAK
5		717.325	-4.005	24.252	20.247	-25.753	46.000	QUASIPEAK
6	*	959.341	-1.773	28.458	26.685	-19.315	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.

Site : CB1	**Time : 2012/11/05 - 21:47**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - VERTICAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5210MHz_802.11ac(80M)**



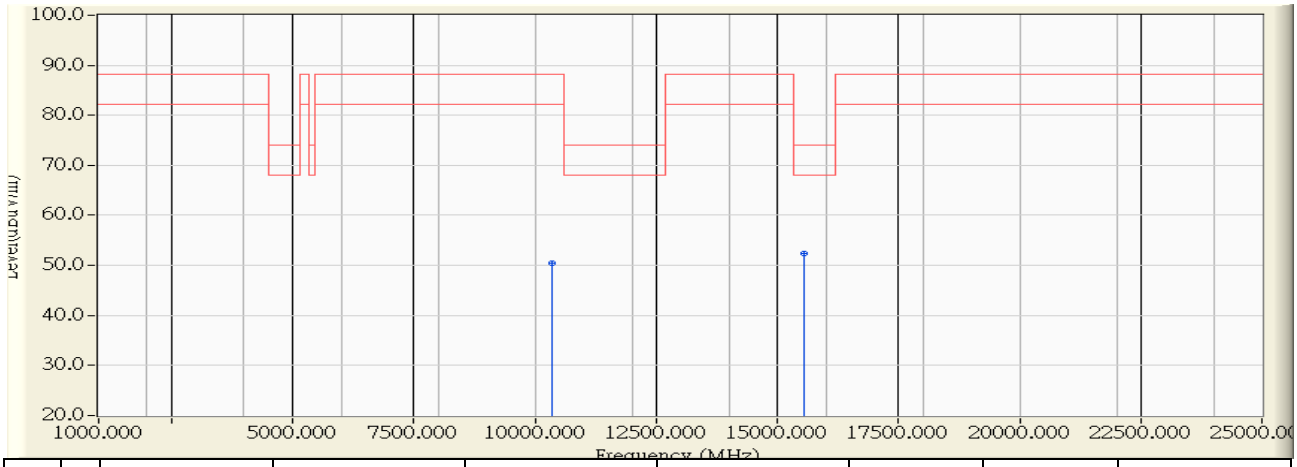
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		161.657	-13.668	33.831	20.163	-23.337	43.500	QUASIPEAK
2		239.102	-11.738	28.848	17.110	-28.890	46.000	QUASIPEAK
3		419.162	-6.976	24.566	17.591	-28.409	46.000	QUASIPEAK
4		603.094	-4.862	23.637	18.774	-27.226	46.000	QUASIPEAK
5		707.645	-4.128	25.468	21.339	-24.661	46.000	QUASIPEAK
6	*	959.341	-1.773	28.088	26.315	-19.685	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.

Harmonic & Spurious:

Site : CB1	**Time : 2012/11/20 - 14:51**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5180MHz_802.11a**

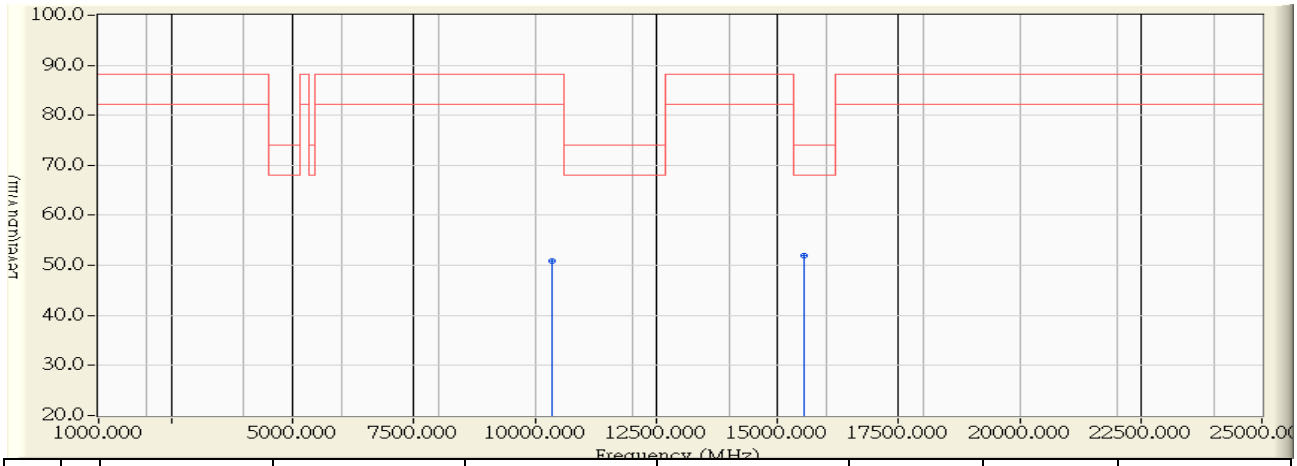


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		10367.300	10.774	39.750	50.524	-37.776	88.300	PEAK
2	*	15543.700	11.401	41.010	52.411	-21.589	74.000	PEAK

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 : 2012/11/20 - 14:52**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5180MHz_802.11a**

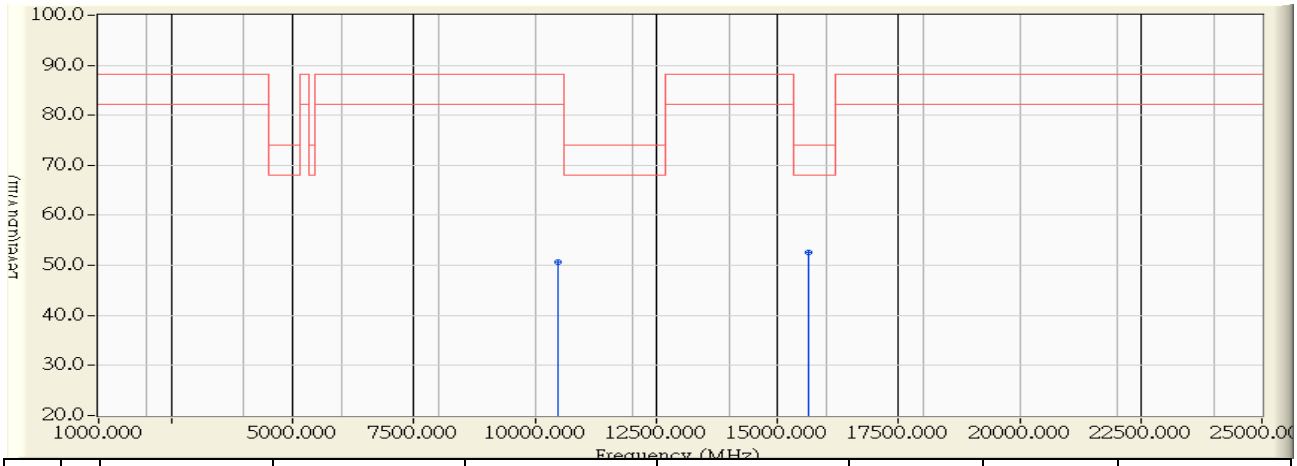


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		10357.300	10.801	40.060	50.861	-37.439	88.300	PEAK
2	*	15545.400	11.400	40.630	52.030	-21.970	74.000	PEAK

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 : 2012/11/20 - 14:56**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5220MHz_802.11a**

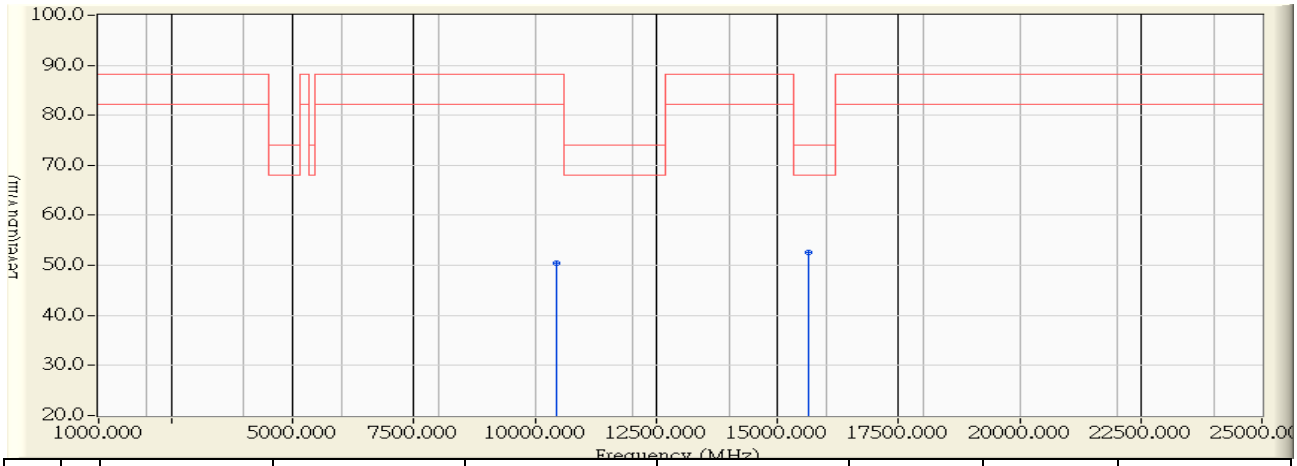


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		10463.700	10.508	40.130	50.638	-37.662	88.300	PEAK
2	*	15643.100	11.334	41.260	52.593	-21.407	74.000	PEAK

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 : 2012/11/20 - 14:58**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5220MHz_802.11a**

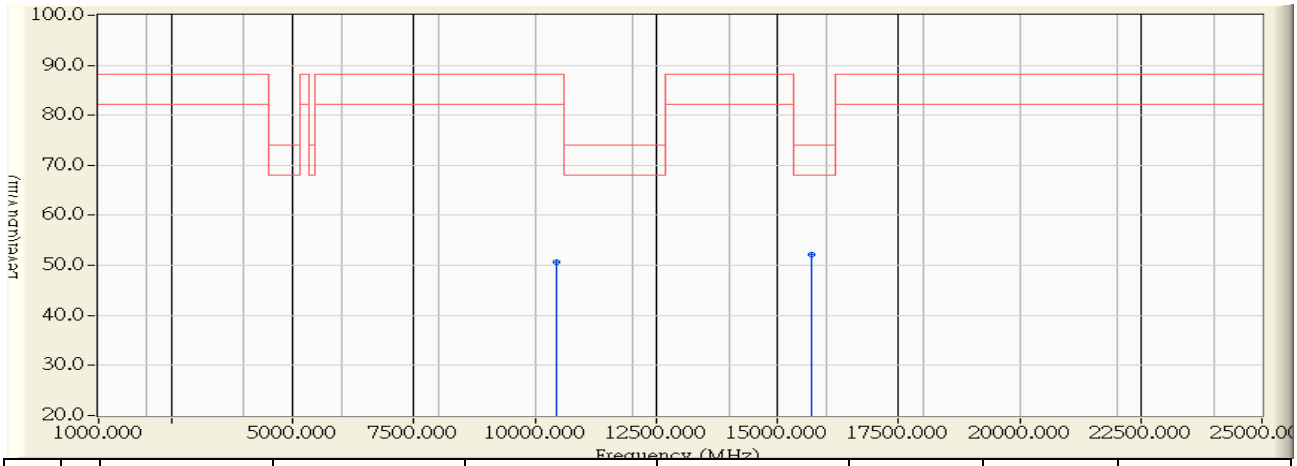


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		10444.800	10.560	39.920	50.480	-37.820	88.300	PEAK
2	*	15639.100	11.336	41.320	52.656	-21.344	74.000	PEAK

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 : 2012/11/20 - 15:03**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5240MHz_802.11a**

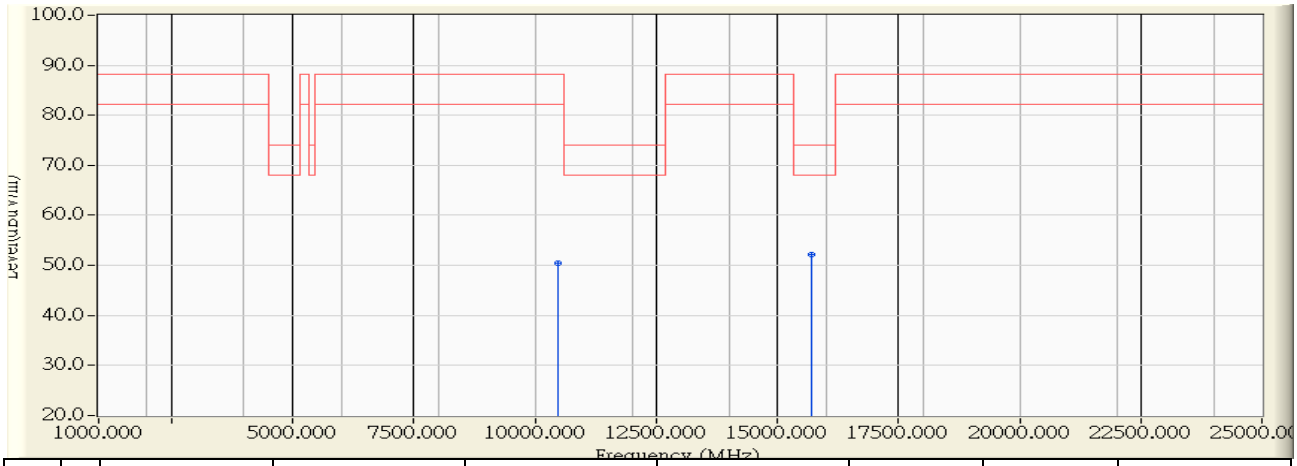


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		10456.300	10.528	40.090	50.618	-37.682	88.300	PEAK
2	*	15716.200	11.283	40.810	52.093	-21.907	74.000	PEAK

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 : 2012/11/20 - 15:05**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5240MHz_802.11a**

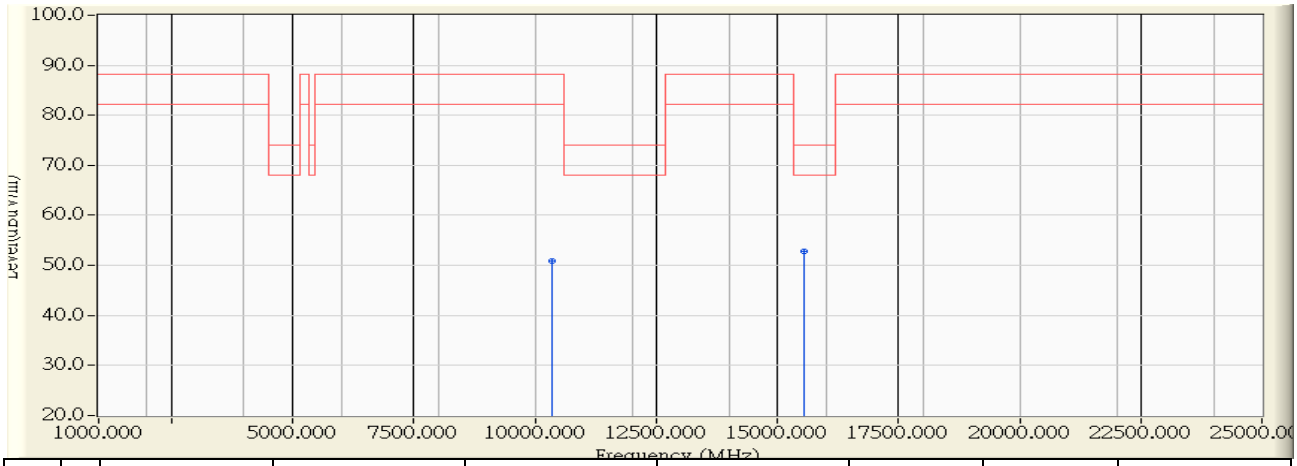


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		10463.000	10.509	39.890	50.399	-37.901	88.300	PEAK
2	*	15722.300	11.279	40.910	52.189	-21.811	74.000	PEAK

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 : 2012/11/20 - 15:09**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5180MHz_802.11n(20M)**

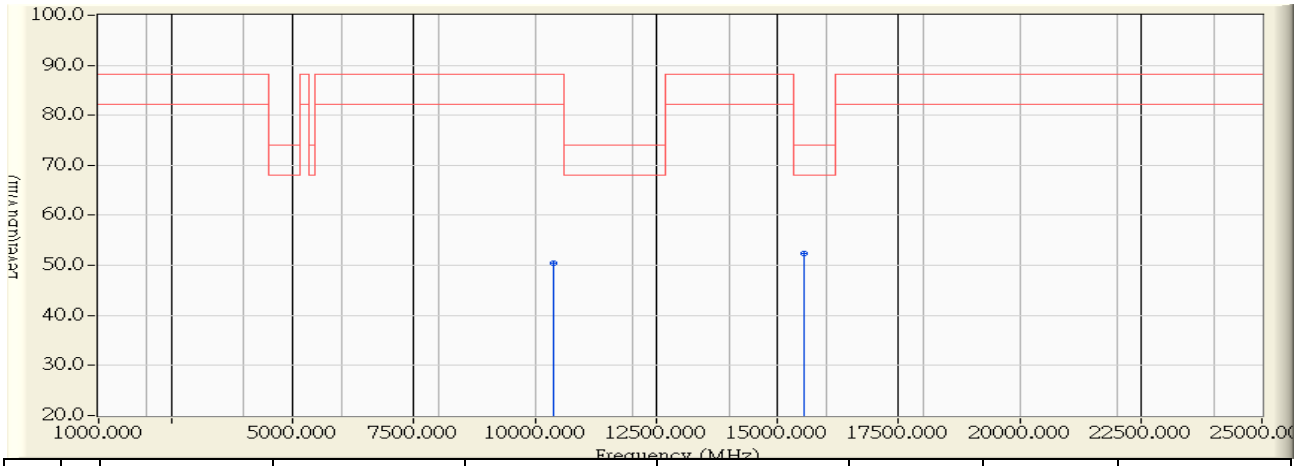


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		10359.500	10.796	40.020	50.815	-37.485	88.300	PEAK
2	*	15542.300	11.402	41.490	52.892	-21.108	74.000	PEAK

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 : 2012/11/20 - 15:11**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5180MHz_802.11n(20M)**

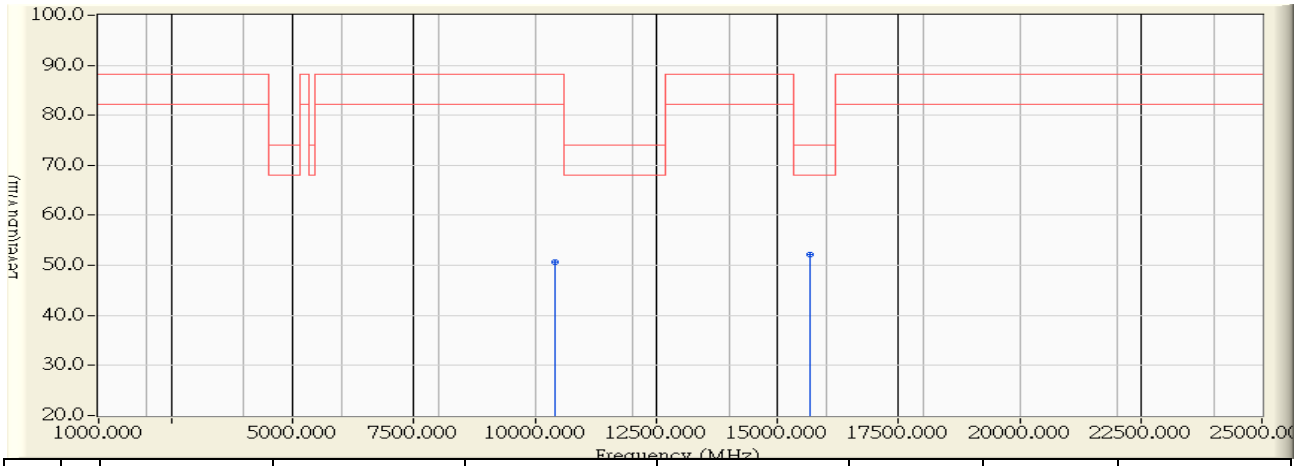


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		10381.600	10.734	39.640	50.374	-37.926	88.300	PEAK
2	*	15545.500	11.401	41.080	52.480	-21.520	74.000	PEAK

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 : 2012/11/20 - 15:14**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5220MHz_802.11n(20M)**

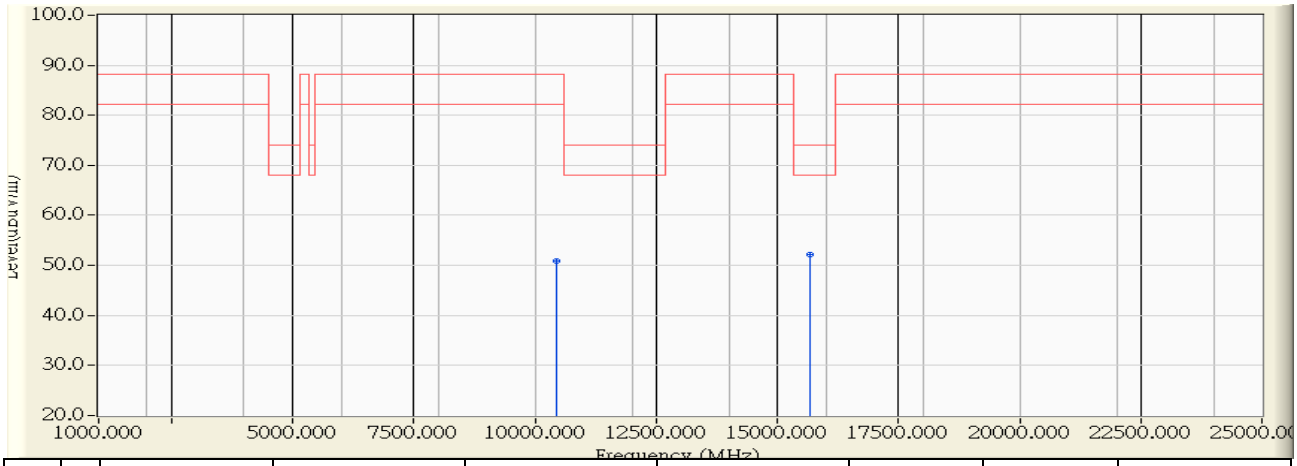


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		10419.200	10.631	40.030	50.660	-37.640	88.300	PEAK
2	*	15665.200	11.318	40.960	52.278	-21.722	74.000	PEAK

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 : 2012/11/20 - 15:16**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5220MHz_802.11n(20M)**

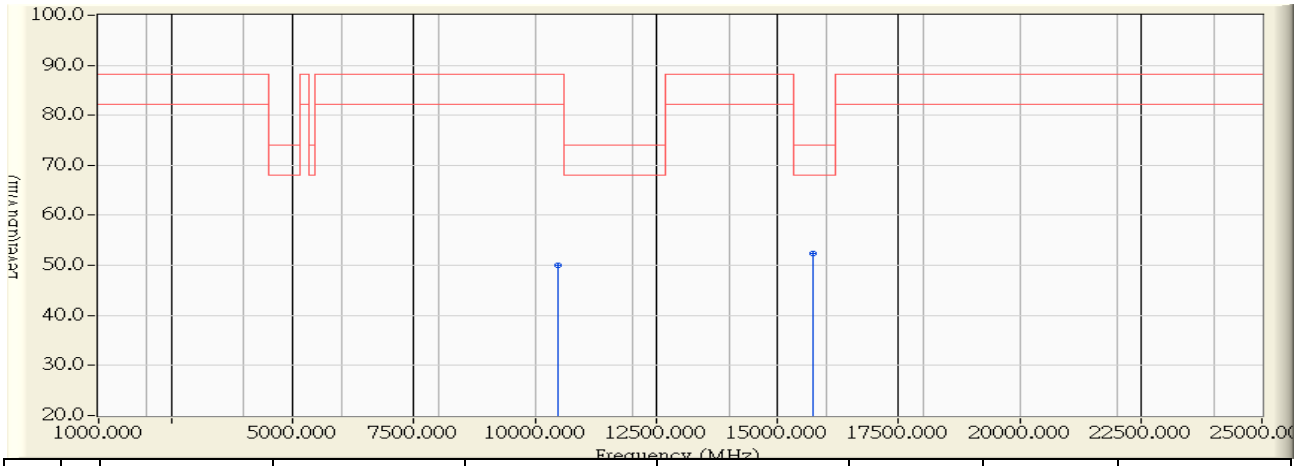


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		10431.100	10.598	40.310	50.908	-37.392	88.300	PEAK
2	*	15674.600	11.312	40.790	52.102	-21.898	74.000	PEAK

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 : 2012/11/20 - 15:19**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5240MHz_802.11n(20M)**

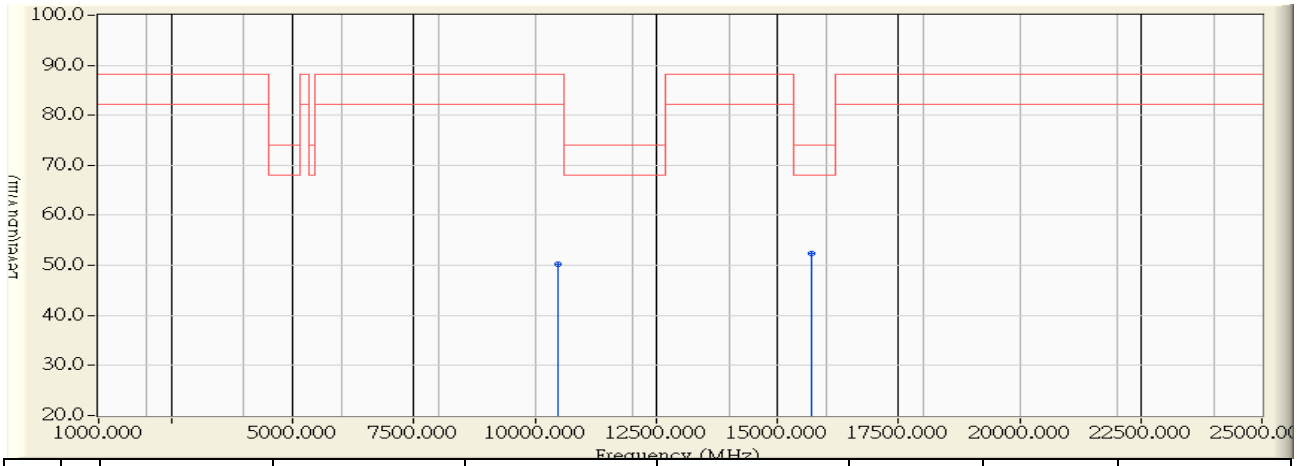


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		10472.500	10.483	39.630	50.113	-38.187	88.300	PEAK
2	*	15724.700	11.278	41.190	52.467	-21.533	74.000	PEAK

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 : 2012/11/20 - 15:20**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5240MHz_802.11n(20M)**

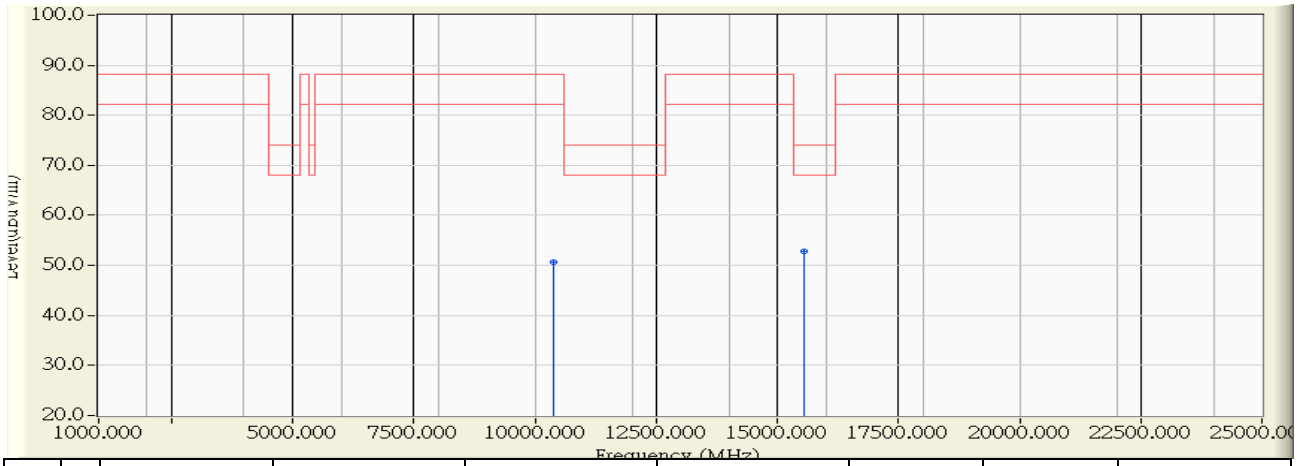


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		10473.100	10.482	39.670	50.152	-38.148	88.300	PEAK
2	*	15712.800	11.285	41.120	52.405	-21.595	74.000	PEAK

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 : 2012/11/20 - 15:28**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5190MHz_802.11n(40M)**

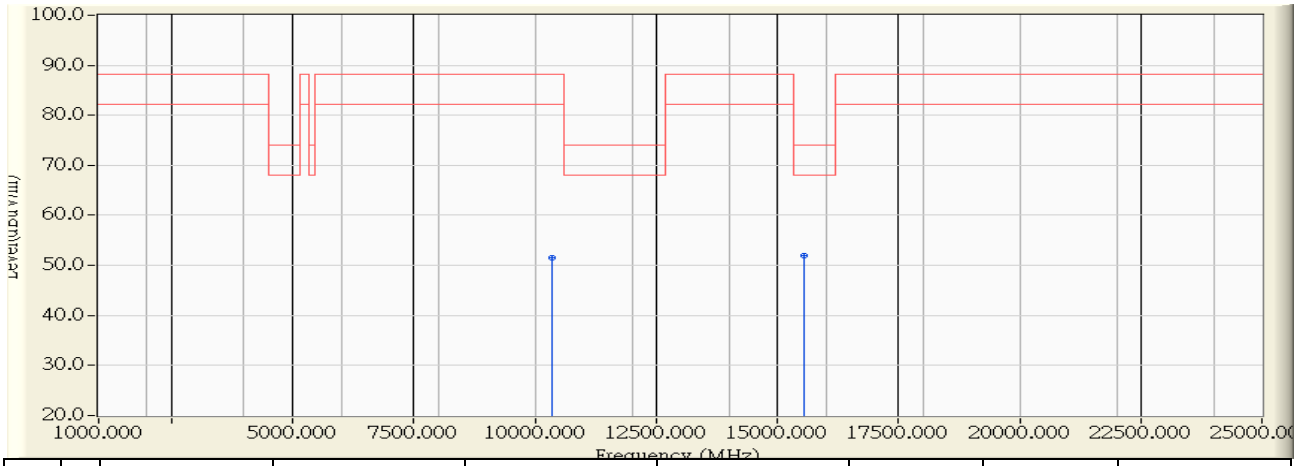


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		10394.300	10.700	39.900	50.599	-37.701	88.300	PEAK
2	*	15545.900	11.400	41.500	52.900	-21.100	74.000	PEAK

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 : 2012/11/20 - 15:29**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5190MHz_802.11n(40M)**

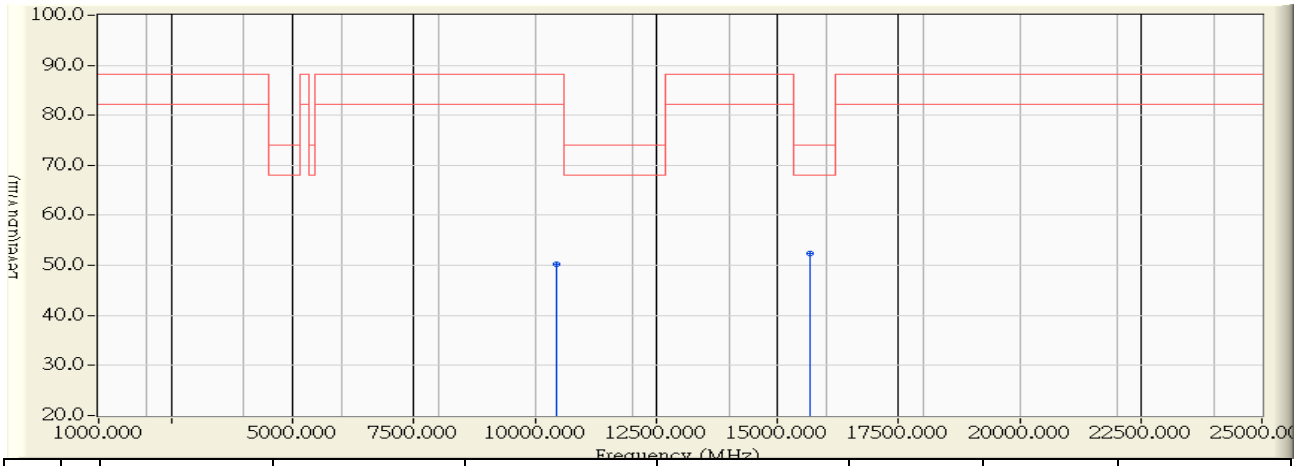


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		10355.400	10.807	40.690	51.497	-36.803	88.300	PEAK
2	*	15558.900	11.392	40.670	52.061	-21.939	74.000	PEAK

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 : 2012/11/20 - 15:32**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5230MHz_802.11n(40M)**

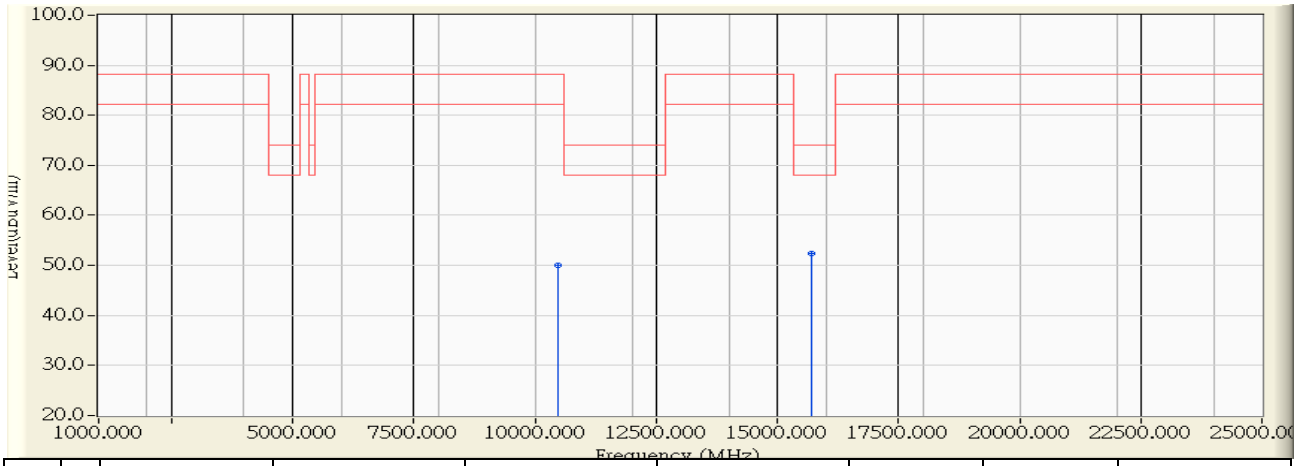


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		10458.000	10.523	39.620	50.143	-38.157	88.300	PEAK
2	*	15678.200	11.309	40.980	52.289	-21.711	74.000	PEAK

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 : 2012/11/20 - 15:34**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5230MHz_802.11n(40M)**

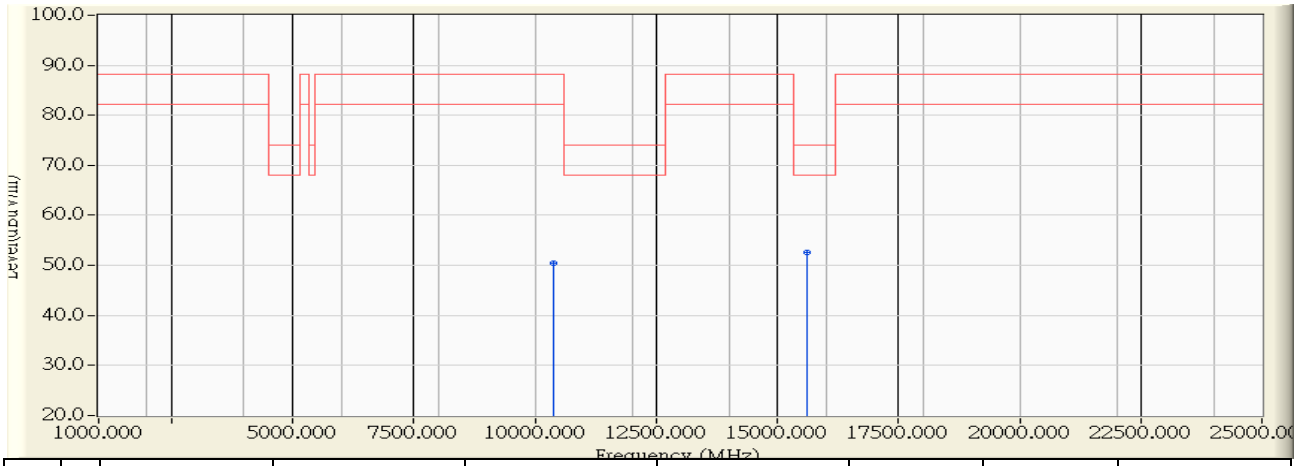


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		10463.500	10.508	39.550	50.058	-38.242	88.300	PEAK
2	*	15695.900	11.297	41.150	52.447	-21.553	74.000	PEAK

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 : 2012/11/20 - 15:36**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5210MHz_802.11ac(80M)**

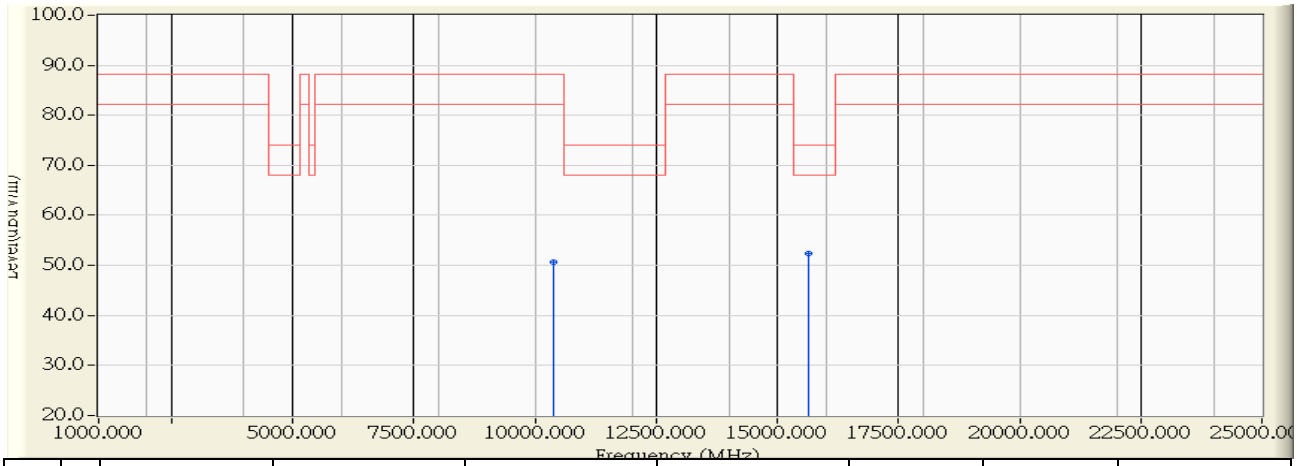


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		10394.560	10.699	39.850	50.548	-37.752	88.300	PEAK
2	*	15615.760	11.352	41.160	52.512	-21.488	74.000	PEAK

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 : 2012/11/20 - 15:38**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit -5210MHz_802.11ac(80M)**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		10380.480	10.737	40.010	50.747	-37.553	88.300	PEAK
2	*	15657.200	11.324	41.110	52.434	-21.566	74.000	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:

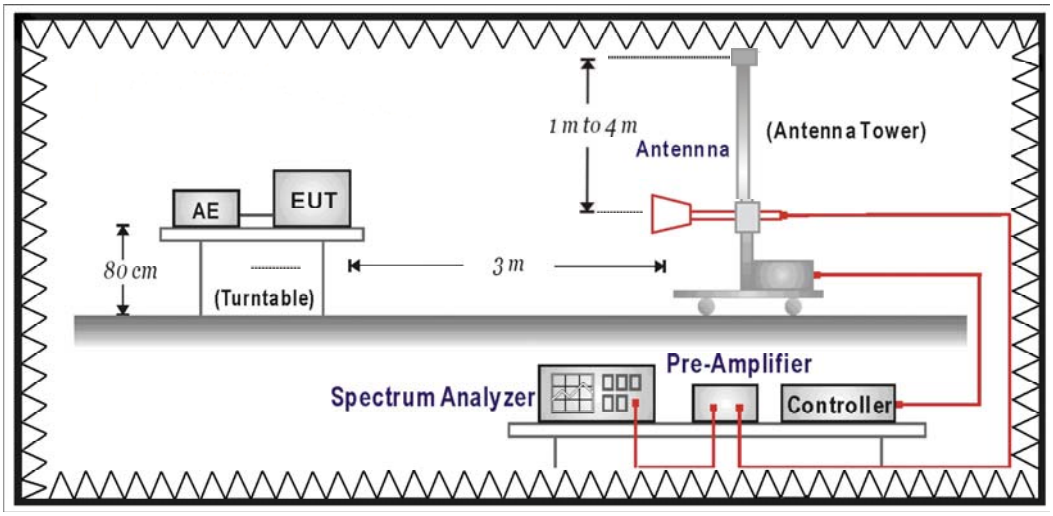
Radiated Emission Band Edge / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Double Ridged Guide Horn Antenna	Schwarzback	BBHA 9120D	743	2013/02/02
Spectrum Analyzer	Agilent	E4440A	MY46187335	2013/02/07
Coaxial Cable	Huber+Suhner AG	Sucoflex 102	25623/2	2013/03/04

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: 2009on 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.

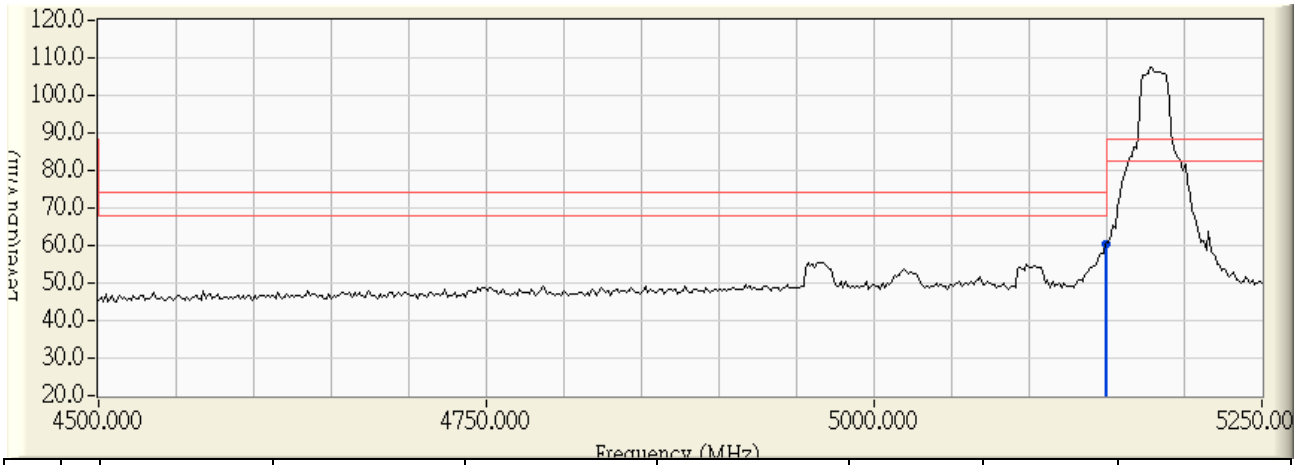
8.5. Uncertainty

The measurement uncertainty is defined as ± 3.65dB

8.6. Test Result

Radiated is defined as

Site : CB1	**Time : 2012/09/10 - 17:07**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit_5180MHz_802.11a**

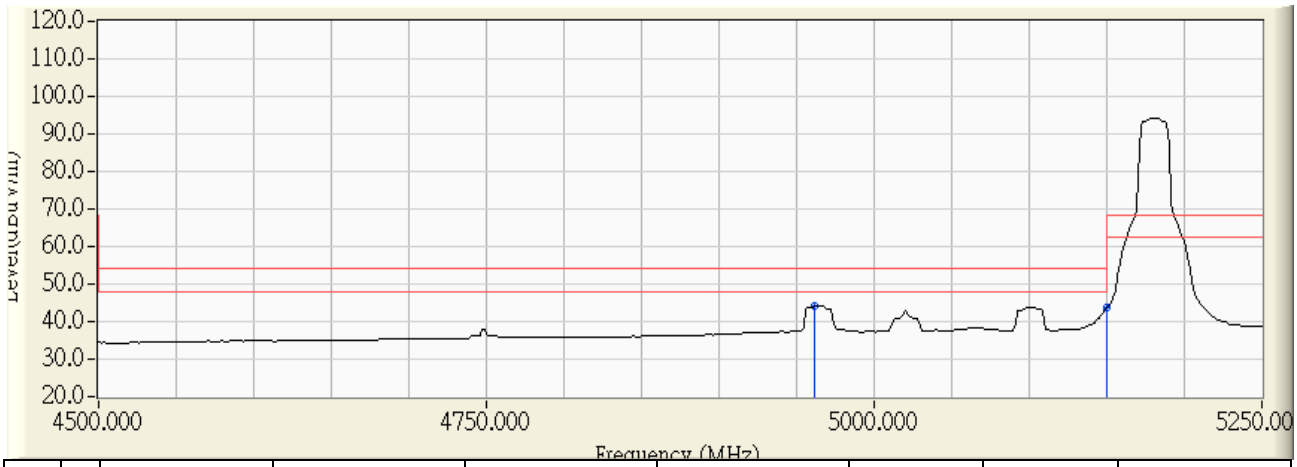


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5149.500	0.826	59.593	60.420	-13.580	74.000	PEAK
2	*	5150.000	0.831	59.676	60.507	-13.493	74.000	PEAK

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 : 2012/09/10 - 17:11**
Limit : FCC_SpartE_15.407_H_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit_5180MHz_802.11a**

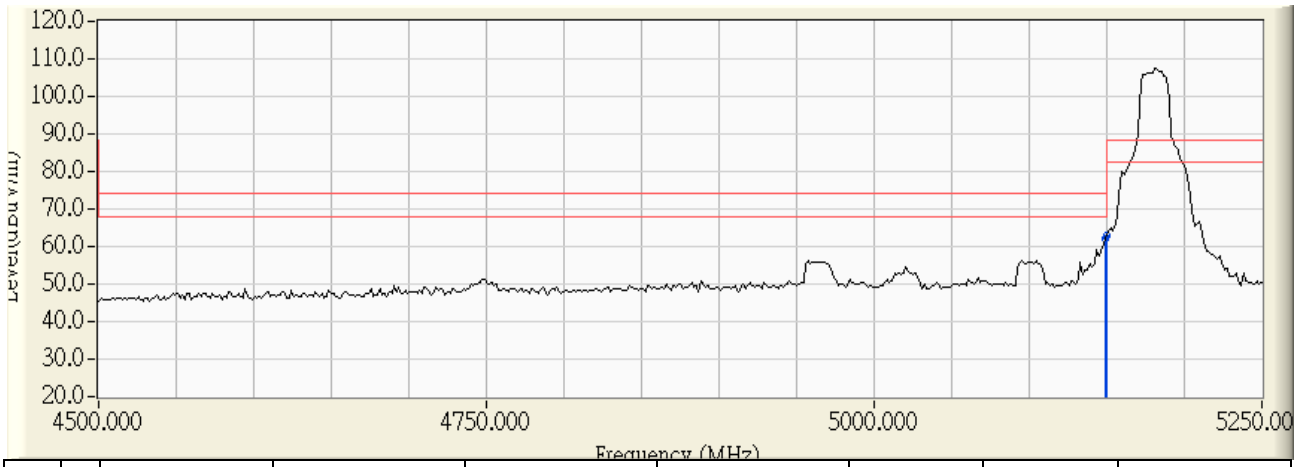


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4962.000	-0.441	44.721	44.280	-9.720	54.000	AVERAGE
2		5150.000	0.831	42.722	43.553	-10.447	54.000	AVERAGE

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 : 2012/09/10 - 17:13**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit_5180MHz_802.11a**

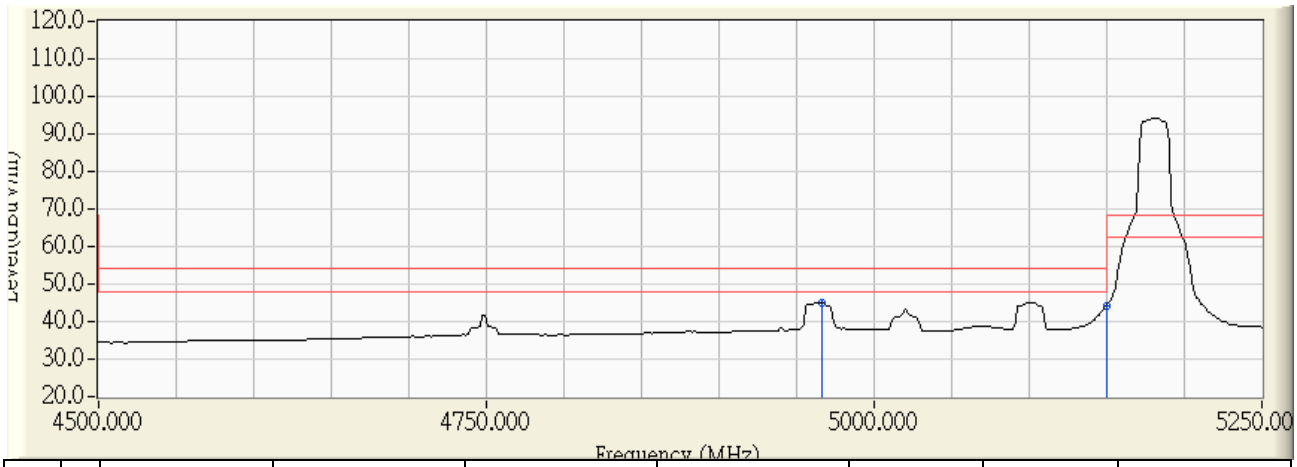


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5149.500	0.826	61.192	62.019	-11.981	74.000	PEAK
2	*	5150.000	0.831	61.910	62.741	-11.259	74.000	PEAK

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 : 2012/09/10 - 17:15**
Limit : FCC_SpartE_15.407_H_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit_5180MHz_802.11a**

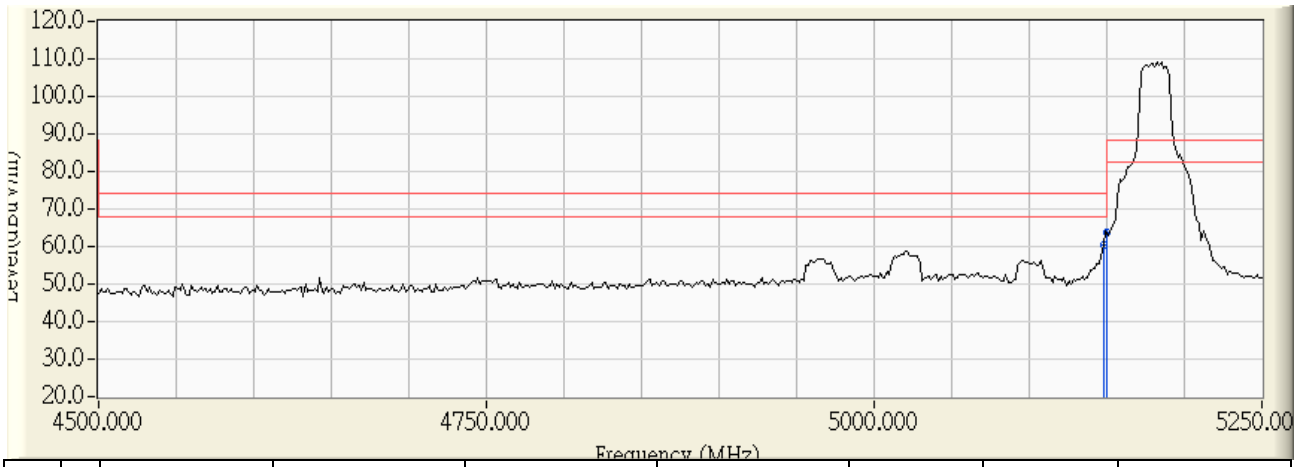


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4966.500	-0.429	45.433	45.004	-8.996	54.000	AVERAGE
2		5150.000	0.831	43.514	44.345	-9.655	54.000	AVERAGE

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 : 2012/09/10 - 17:19**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit_5180MHz_802.11n(20M)**

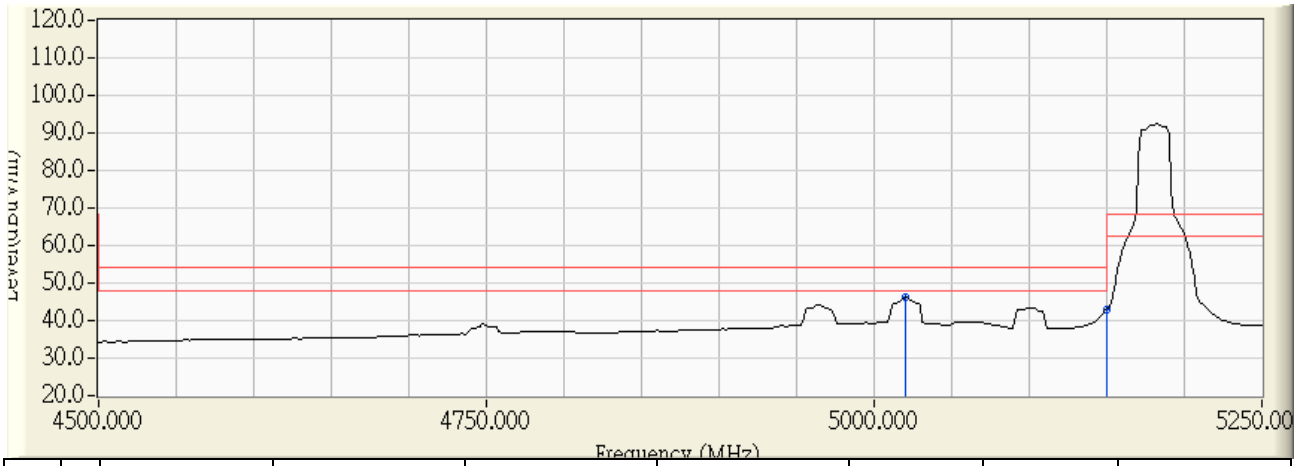


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5148.000	0.815	59.606	60.421	-13.579	74.000	PEAK
2	*	5150.000	0.831	62.910	63.741	-10.259	74.000	PEAK

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 : 2012/09/10 - 17:21**
Limit : FCC_SpartE_15.407_H_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit_5180MHz_802.11n(20M)**

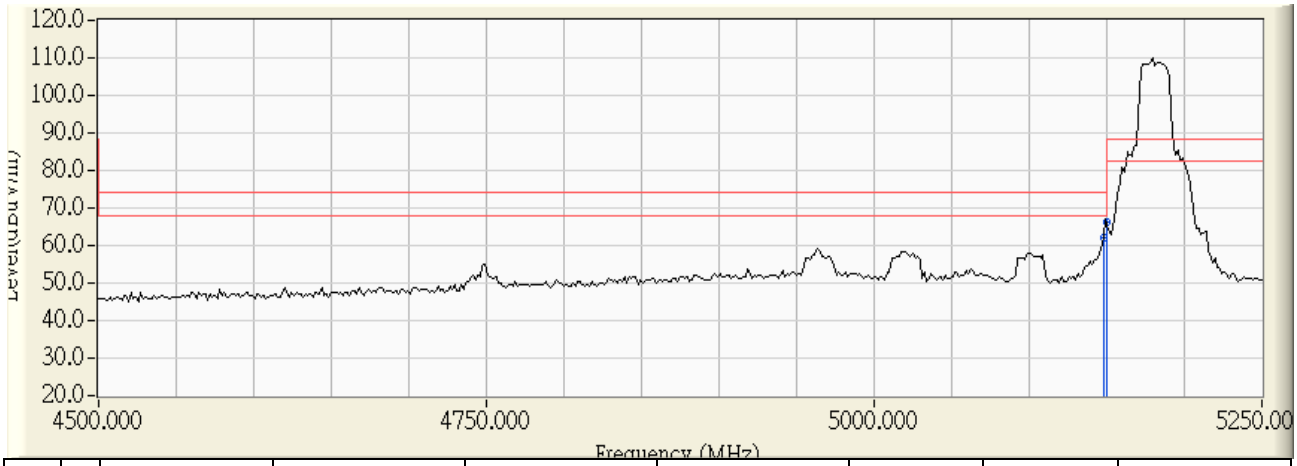


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	5020.500	-0.181	46.507	46.326	-7.674	54.000	AVERAGE
2		5150.000	0.831	42.143	42.974	-11.026	54.000	AVERAGE

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 : 2012/09/10 - 17:26**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit_5180MHz_802.11n(20M)**

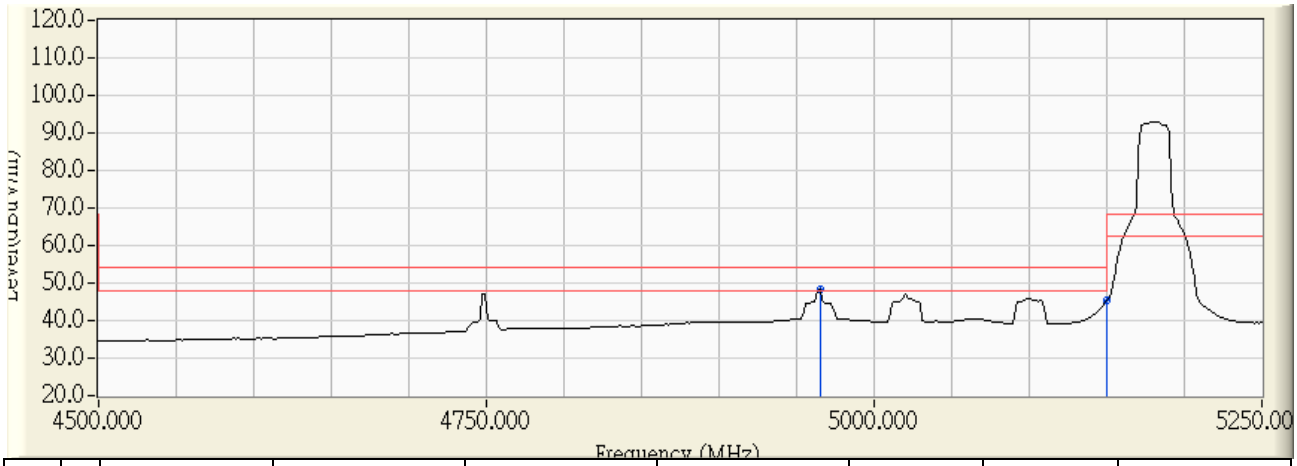


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5148.000	0.815	61.257	62.072	-11.928	74.000	PEAK
2	*	5150.000	0.831	65.266	66.097	-7.903	74.000	PEAK

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 : 2012/09/10 - 17:27**
Limit : FCC_SpartE_15.407_H_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit_5180MHz_802.11n(20M)**

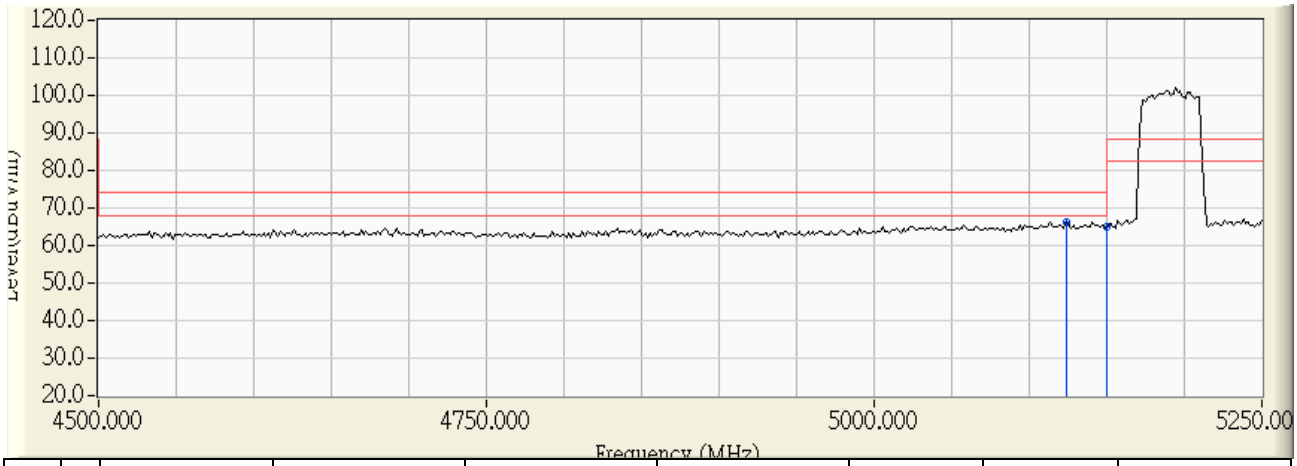


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4965.000	-0.433	48.602	48.169	-5.831	54.000	AVERAGE
2		5150.000	0.831	44.500	45.331	-8.669	54.000	AVERAGE

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 : 2013/02/07 - 17:24**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : USB**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit_5190MHz_802.11n(40M)**

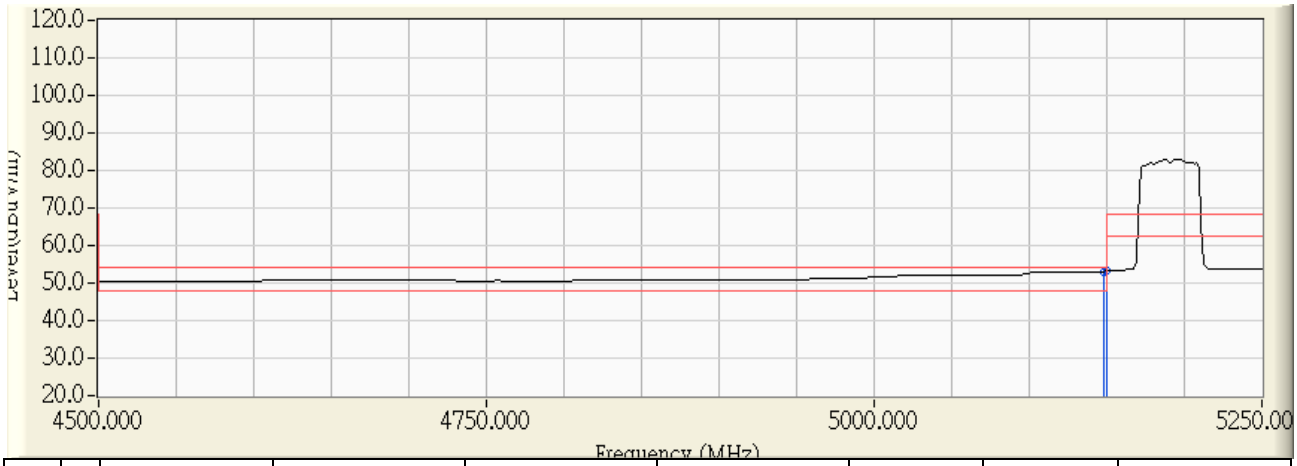


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	5124.000	35.153	31.133	66.285	-7.715	74.000	PEAK
2		5150.000	35.361	29.480	64.841	-9.159	74.000	PEAK

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 : 2013/02/07 - 17:32**
Limit : FCC_SpartE_15.407_H_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : USB**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit_5190MHz_802.11n(40M)**

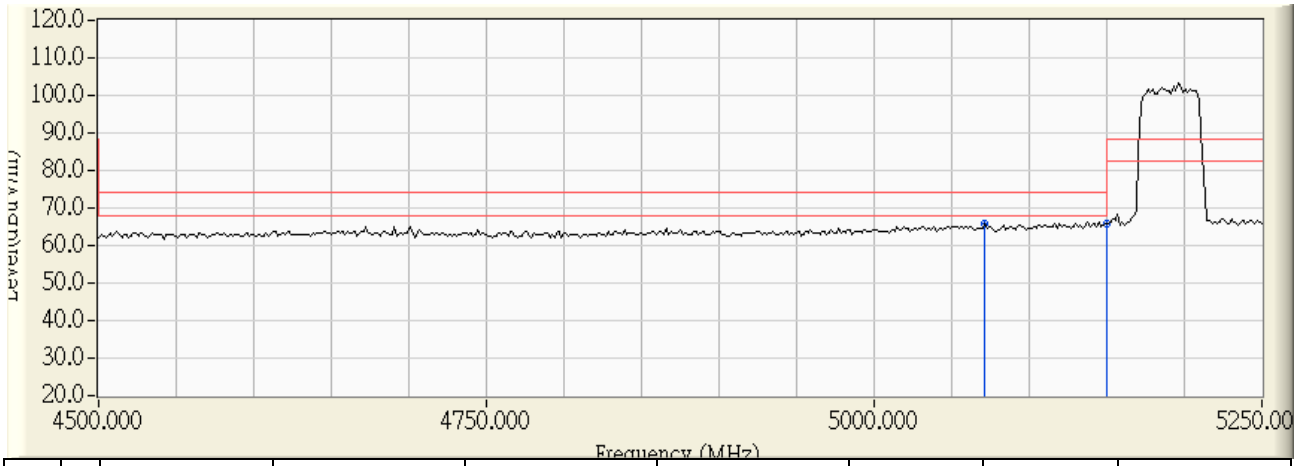


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5148.000	35.345	16.654	51.999	-2.001	54.000	AVERAGE
2	*	5150.000	35.361	16.636	53.210	-2.003	54.000	AVERAGE

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 : 2013/02/07 - 17:45**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : USB**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit_5190MHz_802.11n(40M)**

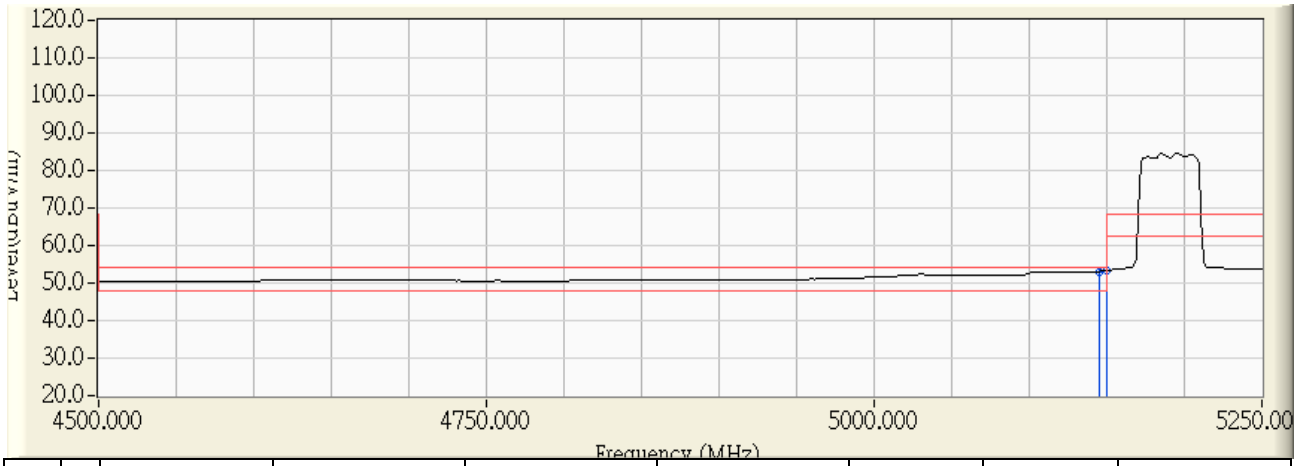


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	5071.500	34.731	31.233	65.965	-8.035	74.000	PEAK
2		5150.000	35.361	30.482	65.843	-8.157	74.000	PEAK

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 : 2013/02/07 - 17:58**
Limit : FCC_SpartE_15.407_H_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : USB**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit_5190MHz_802.11n(40M)**

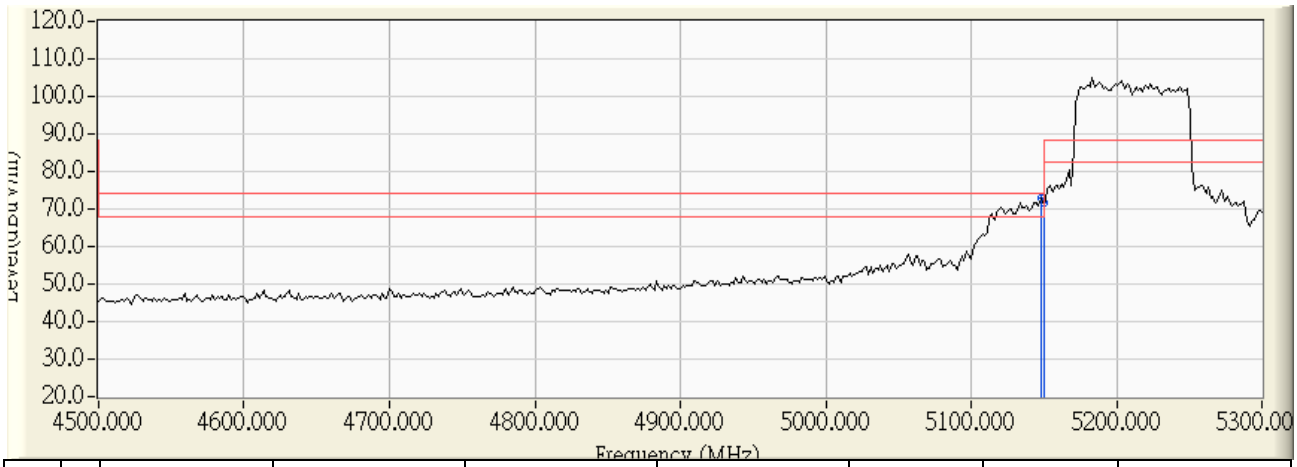


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5145.000	35.321	16.589	51.910	-2.090	54.000	AVERAGE
2	*	5150.000	35.361	16.589	51.950	-2.050	54.000	AVERAGE

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 : 2012/09/10 - 17:56**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit_5210MHz_802.11ac(80M)**

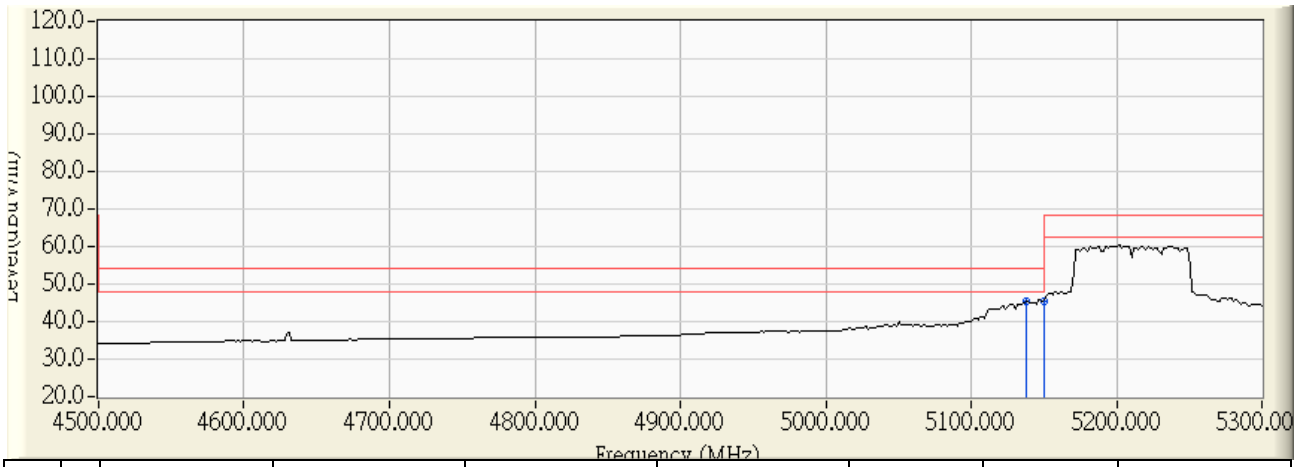


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	5148.000	0.815	71.183	71.998	-2.002	74.000	PEAK
2		5150.000	0.831	70.911	71.742	-2.258	74.000	PEAK

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 : 2012/09/10 - 17:58**
Limit : FCC_SpartE_15.407_H_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit_5210MHz_802.11ac(80M)**

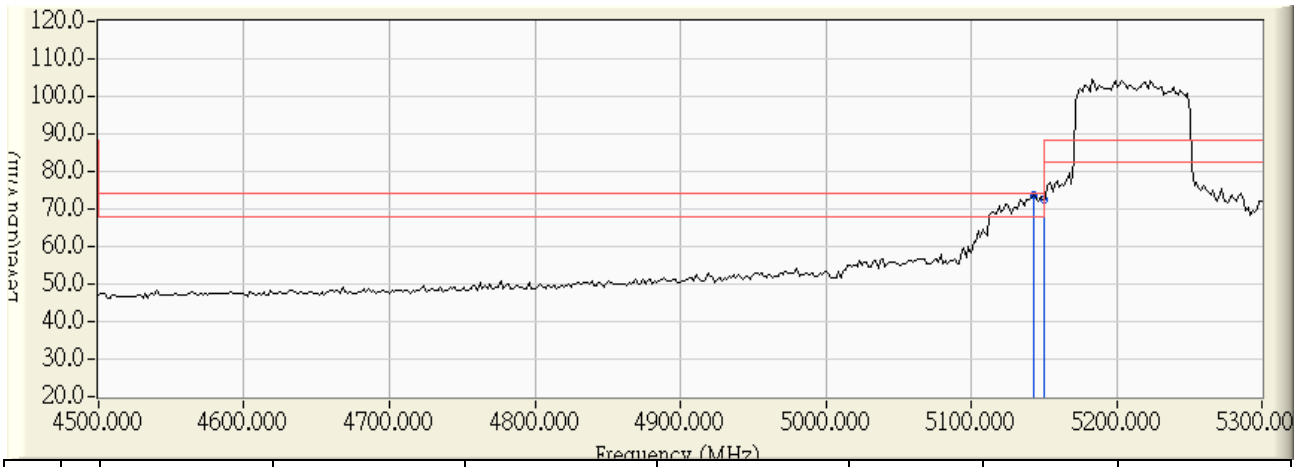


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5138.400	0.740	44.495	45.235	-8.765	54.000	AVERAGE
2	*	5150.000	0.831	44.754	45.585	-8.415	54.000	AVERAGE

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 : 2012/09/10 - 18:01**
Limit : FCC_SpartE_15.407_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit_5210MHz_802.11ac(80M)**

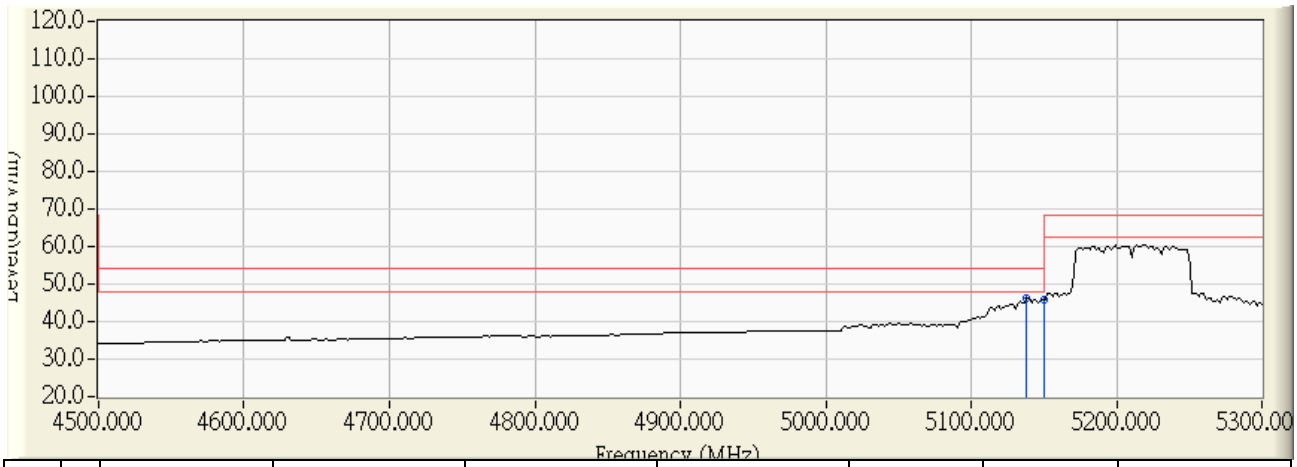


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	5143.200	0.778	71.221	71.999	-2.001	74.000	PEAK
2		5150.000	0.831	71.167	71.998	-2.002	74.000	PEAK

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 : 2012/09/10 - 18:03**
Limit : FCC_SpartE_15.407_H_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : DC 5V (Power by PC)**
EUT : Dual-band Wireless-AC1200 USB Adapter	**Note : Mode 1: Transmit_5210MHz_802.11ac(80M)**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	5138.400	0.740	45.356	46.096	-7.904	54.000	AVERAGE
2		5150.000	0.831	44.922	45.753	-8.247	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

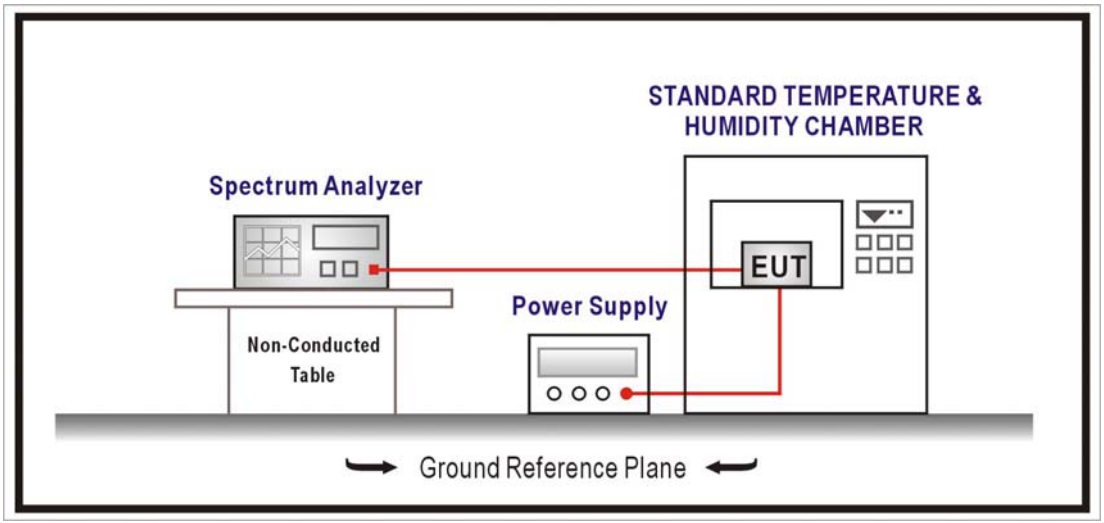
The following test equipments are used during the radiated emission tests:

Frequency Stability / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	R&S	FSP	100561	2013/02/19
Standard Temperature & Humidity Chamber	WIT	TH-1S-B	1082101	2013/01/29

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

9.2. Test Setup



9.3. Limits

Manufactures of all 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, 2009; tested to U-NII test procedure of March 2012 KDB 789033 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 Wireless-AC1200 USB Adapter		
Test Item	Frequency Stability		
Test Mode	Mode 1: Transmit - 802.11a - 5180MHz		
Date of Test	2012/11/19	Test Site	SR7

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5180.8225	158.7868	PASS
-10		5180.3984	76.9108	PASS
0		5180.5341	103.1167	PASS
10		5180.0237	4.5790	PASS
20		5180.7915	152.7987	PASS
30		5180.2811	54.2682	PASS
40		5180.5681	109.6724	PASS
50		5180.1268	24.4808	PASS

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5180.2394	46.2222	PASS
	120	5180.8236	159.0030	PASS
	138	5180.1104	21.3034	PASS

Product	Dual-band Wireless-AC1200 USB Adapter		
Test Item	Frequency Stability		
Test Mode	Mode 1: Transmit - 802.11a - 5240MHz		
Date of Test	2012/11/19	Test Site	SR7

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5240.3370	64.3065	PASS
-10		5240.0714	13.6222	PASS
0		5240.2493	47.5761	PASS
10		5240.6673	127.3438	PASS
20		5240.3388	64.6608	PASS
30		5240.2156	41.1519	PASS
40		5240.4042	77.1293	PASS
50		5240.0461	8.7985	PASS

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5240.0303	5.7894	PASS
	120	5240.6285	119.9359	PASS
	138	5240.6779	129.3728	PASS

Product	Dual-band Wireless-AC1200 USB Adapter		
Test Item	Frequency Stability		
Test Mode	Mode 1: Transmit - 802.11n_20M - 5180MHz(ANT 0)		
Date of Test	2012/11/19	Test Site	SR7

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5180.5916	114.1998	PASS
-10		5180.0676	13.0518	PASS
0		5180.1980	38.2240	PASS
10		5180.8069	155.7713	PASS
20		5180.2906	56.1081	PASS
30		5180.0311	6.0129	PASS
40		5180.8579	165.6114	PASS
50		5180.7595	146.6236	PASS

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5180.2414	46.5962	PASS
	120	5180.1076	20.7771	PASS
	138	5180.8422	162.5844	PASS

Product	Dual-band Wireless-AC1200 USB Adapter		
Test Item	Frequency Stability		
Test Mode	Mode 1: Transmit - 802.11n_20M - 5240MHz(ANT 0)		
Date of Test	2012/11/19	Test Site	SR7

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5240.3527	67.3099	PASS
-10		5240.8701	166.0444	PASS
0		5240.7491	142.9526	PASS
10		5240.2113	40.3162	PASS
20		5240.6647	126.8426	PASS
30		5240.0833	15.8995	PASS
40		5240.4006	76.4516	PASS
50		5240.1417	27.0434	PASS

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5240.0678	12.9300	PASS
	120	5240.5801	110.7006	PASS
	138	5240.3127	59.6776	PASS

Product	Dual-band Wireless-AC1200 USB Adapter		
Test Item	Frequency Stability		
Test Mode	Mode 1: Transmit - 802.11n_20M - 5180MHz(ANT 1)		
Date of Test	2012/11/19	Test Site	SR7

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5180.1523	29.4058	PASS
-10		5180.0986	19.0283	PASS
0		5180.5570	107.5292	PASS
10		5180.6473	124.9652	PASS
20		5180.6576	126.9445	PASS
30		5180.7950	153.4816	PASS
40		5180.2043	39.4396	PASS
50		5180.4813	92.9225	PASS

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5180.2089	40.3242	PASS
	120	5180.5329	102.8783	PASS
	138	5180.1649	31.8317	PASS

Product	Dual-band Wireless-AC1200 USB Adapter		
Test Item	Frequency Stability		
Test Mode	Mode 1: Transmit - 802.11n_20M - 5240MHz(ANT 1)		
Date of Test	2012/11/19	Test Site	SR7

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5240.3457	65.9782	PASS
-10		5240.7108	135.6561	PASS
0		5240.3012	57.4832	PASS
10		5240.8160	155.7258	PASS
20		5240.7109	135.6742	PASS
30		5240.7265	138.6400	PASS
40		5240.4900	93.5050	PASS
50		5240.6171	117.7650	PASS

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5240.4968	94.8170	PASS
	120	5240.3962	75.6084	PASS
	138	5240.4569	87.2011	PASS

Product	Dual-band Wireless-AC1200 USB Adapter		
Test Item	Frequency Stability		
Test Mode	Mode 1: Transmit - 802.11n_40M - 5190MHz(ANT 0)		
Date of Test	2012/11/19	Test Site	SR7

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5190.8002	154.1773	PASS
-10		5190.5445	104.9109	PASS
0		5190.6176	118.9961	PASS
10		5190.1539	29.6558	PASS
20		5190.7308	140.8090	PASS
30		5190.8149	157.0185	PASS
40		5190.7451	143.5563	PASS
50		5190.2055	39.5877	PASS

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5190.7125	137.2889	PASS
	120	5190.5976	115.1442	PASS
	138	5190.0060	1.1562	PASS

Product	Dual-band Wireless-AC1200 USB Adapter		
Test Item	Frequency Stability		
Test Mode	Mode 1: Transmit - 802.11n_40M - 5230MHz(ANT 0)		
Date of Test	2012/11/19	Test Site	SR7

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5230.8579	164.0368	PASS
-10		5230.7015	134.1220	PASS
0		5230.4396	84.0599	PASS
10		5230.6772	129.4859	PASS
20		5230.7627	145.8380	PASS
30		5230.7786	148.8679	PASS
40		5230.3969	75.8897	PASS
50		5230.2157	41.2364	PASS

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5230.4422	84.5498	PASS
	120	5230.3050	58.3195	PASS
	138	5230.6215	118.8360	PASS

Product	Dual-band Wireless-AC1200 USB Adapter		
Test Item	Frequency Stability		
Test Mode	Mode 1: Transmit - 802.11n_40M - 5190MHz(ANT 1)		
Date of Test	2012/11/19	Test Site	SR7

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5190.8993	173.2729	PASS
-10		5190.8539	164.5186	PASS
0		5190.0449	8.6475	PASS
10		5190.5139	99.0168	PASS
20		5190.4506	86.8184	PASS
30		5190.3295	63.4865	PASS
40		5190.0140	2.6949	PASS
50		5190.3783	72.8892	PASS

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5190.6857	132.1115	PASS
	120	5190.1879	36.2099	PASS
	138	5190.5190	100.0011	PASS

Product	Dual-band Wireless-AC1200 USB Adapter		
Test Item	Frequency Stability		
Test Mode	Mode 1: Transmit - 802.11ac_80M - 5210MHz(ANT 0)		
Date of Test	2012/11/19	Test Site	SR7

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5210.5319	102.0902	PASS
-10		5210.3463	66.4739	PASS
0		5210.3894	74.7486	PASS
10		5210.7801	149.7401	PASS
20		5210.3056	58.6536	PASS
30		5210.7446	142.9193	PASS
40		5210.5005	96.0639	PASS
50		5210.6288	120.6870	PASS

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5210.3347	64.2393	PASS
	120	5210.3346	64.2289	PASS
	138	5210.7176	137.7272	PASS

Product	Dual-band Wireless-AC1200 USB Adapter		
Test Item	Frequency Stability		
Test Mode	Mode 1: Transmit - 802.11ac_80M - 5210MHz(ANT 1)		
Date of Test	2012/11/19	Test Site	SR7

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
-20	120	5210.5922	113.6676	PASS
-10		5210.7836	150.3996	PASS
0		5210.7470	143.3689	PASS
10		5210.1030	19.7602	PASS
20		5210.5681	109.0363	PASS
30		5210.1973	37.8667	PASS
40		5210.0309	5.9248	PASS
50		5210.0476	9.1307	PASS

Temperature Interval (°C)	AC Voltage (V)	Frequency (MHz)	Deviation (ppm)	Result
25	102	5210.0756	14.5015	PASS
	120	5210.2863	54.9455	PASS
	138	5210.0077	1.4753	PASS