

## 6. Radiated Emission Band Edge

### 6.1. Test Equipment

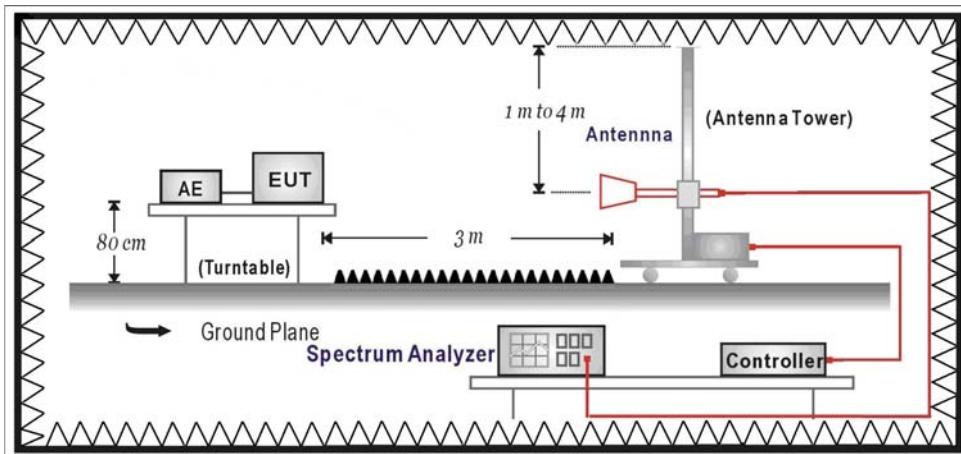
The following test equipments are used during the test:

#### Band Edge / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Double Ridged Guide Horn Antenna	Schwarzbeck	BBHA 9120	D743	2014/02/17
Spectrum Analyzer	Agilent	E4440A	MY46187335	2014/01/27
k Type Cable	Huber Suhner	Sucoflex 102	25623/2	2014/02/21

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

### 6.2. Test Setup



### **6.3. Limits**

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

### **6.4. Test Procedure**

The EUT was setup according to ANSI C63.4: 2009 and tested according to DTS test procedure of Jan. 2012 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

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.

### **6.5. Test Specification**

According to FCC Part 15 Subpart C Paragraph 15.247: 2012

### **6.6. Uncertainty**

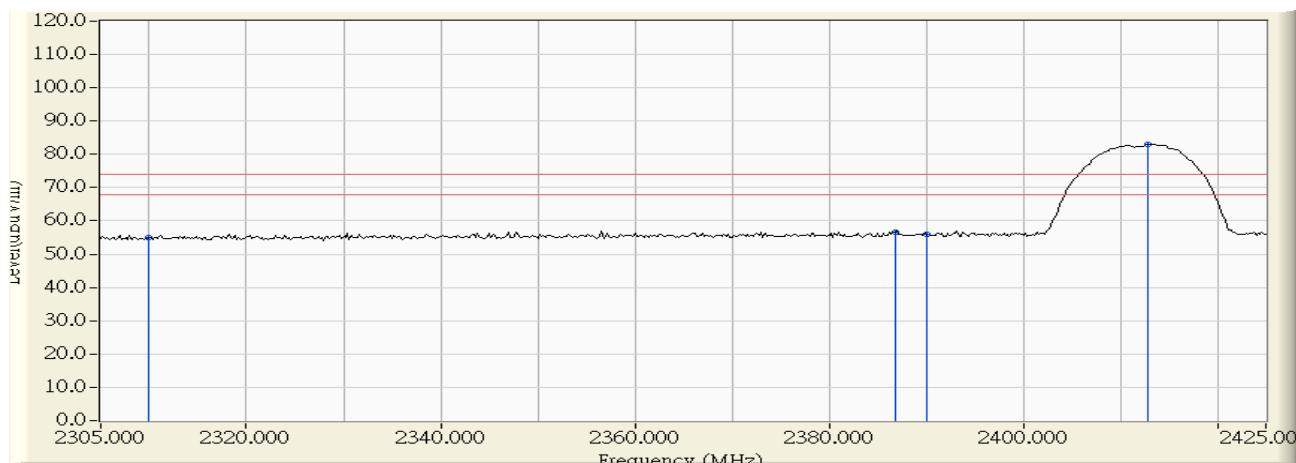
The measurement uncertainty

± 3.9 dB above 1GHz

## 6.7. Test Result

Radiated is defined as

Site : CB1	Time : 2013/08/09 - 15:56
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11b_1Mbps_2412MHz



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	30.059	24.822	54.881	-19.119	74.000	PEAK
2	2386.800	30.856	25.925	56.780	-17.220	74.000	PEAK
3	2390.000	30.888	24.964	55.852	-18.148	74.000	PEAK
4	* 2412.800	31.125	51.856	82.981	8.981	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 = 3 MHz, 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 : 2013/08/09 - 15:59
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11b_1Mbps_2412MHz

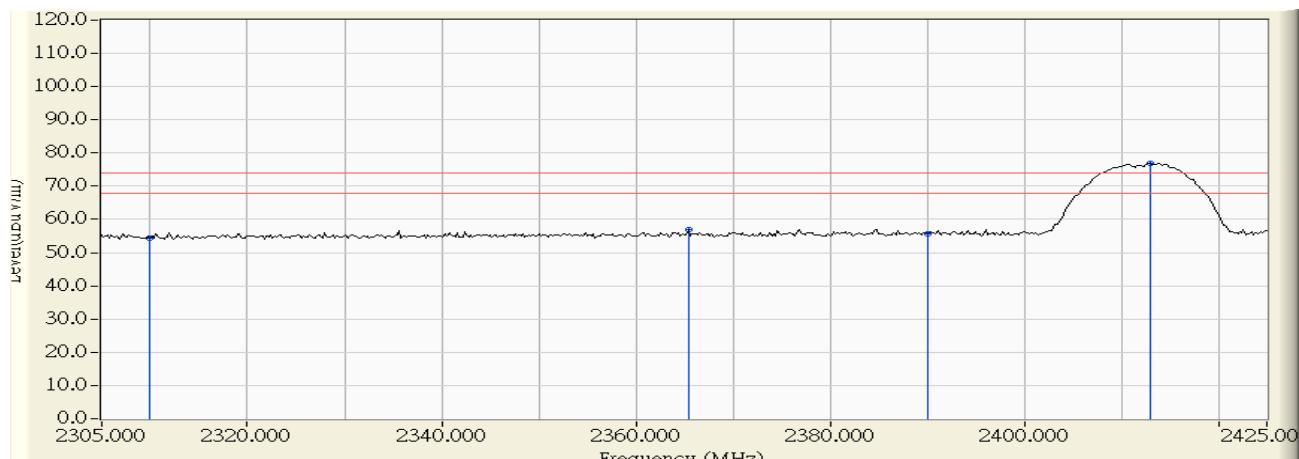


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	30.059	11.445	41.504	-12.496	54.000	AVERAGE
2	2389.800	30.886	11.666	42.552	-11.448	54.000	AVERAGE
3	2390.000	30.888	11.670	42.558	-11.442	54.000	AVERAGE
4	* 2412.800	31.125	48.626	79.751	25.751	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 = 3 MHz, 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 : 2013/08/09 - 16:02
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11b_1Mbps_2412MHz



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	
1	2310.000	30.059	24.218	54.277	-19.723	74.000	PEAK	
2	2365.400	30.634	26.318	56.951	-17.049	74.000	PEAK	
3	2390.000	30.888	24.617	55.505	-18.495	74.000	PEAK	
4	*	2413.000	31.127	45.634	76.761	2.761	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 = 3 MHz, 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 : 2013/09/23 - 13:24
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11b_1Mbps_2412MHz

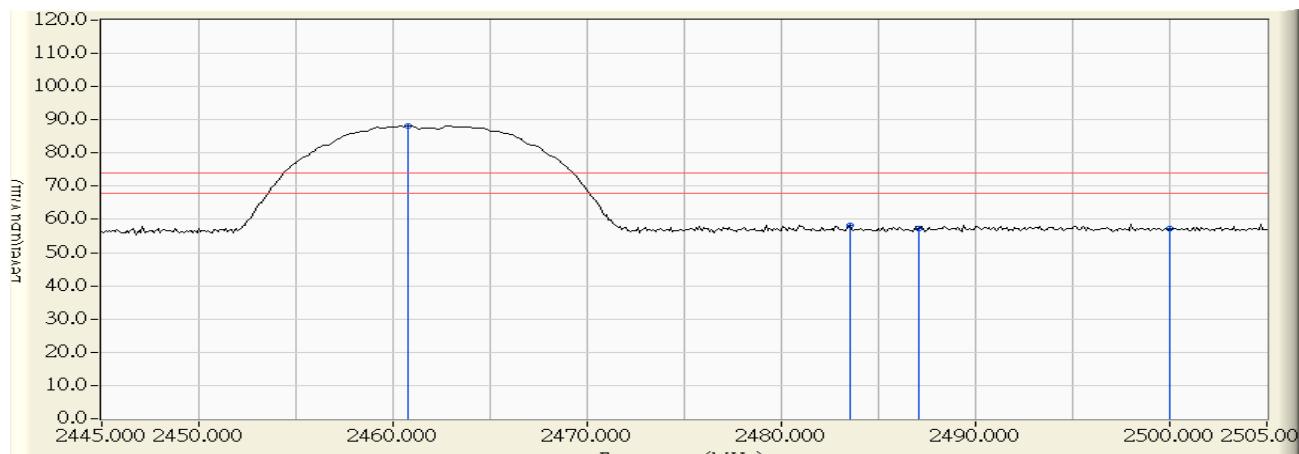


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	30.059	11.436	41.495	-12.505	54.000	AVERAGE
2	2389.600	30.884	11.640	42.524	-11.476	54.000	AVERAGE
3	2390.000	30.888	11.673	42.561	-11.439	54.000	AVERAGE
4	* 2412.600	31.123	42.292	73.415	19.415	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 = 3 MHz, 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 : 2013/08/09 - 16:14
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11b_1Mbps_2462MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2460.800	31.622	56.543	88.166	14.166	74.000	PEAK
2		2483.500	31.858	26.486	58.344	-15.656	74.000	PEAK
3		2487.100	31.895	25.523	57.418	-16.582	74.000	PEAK
4		2500.000	31.988	25.259	57.248	-16.752	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 = 3 MHz, 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 : 2013/08/09 - 16:14
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11b_1Mbps_2462MHz

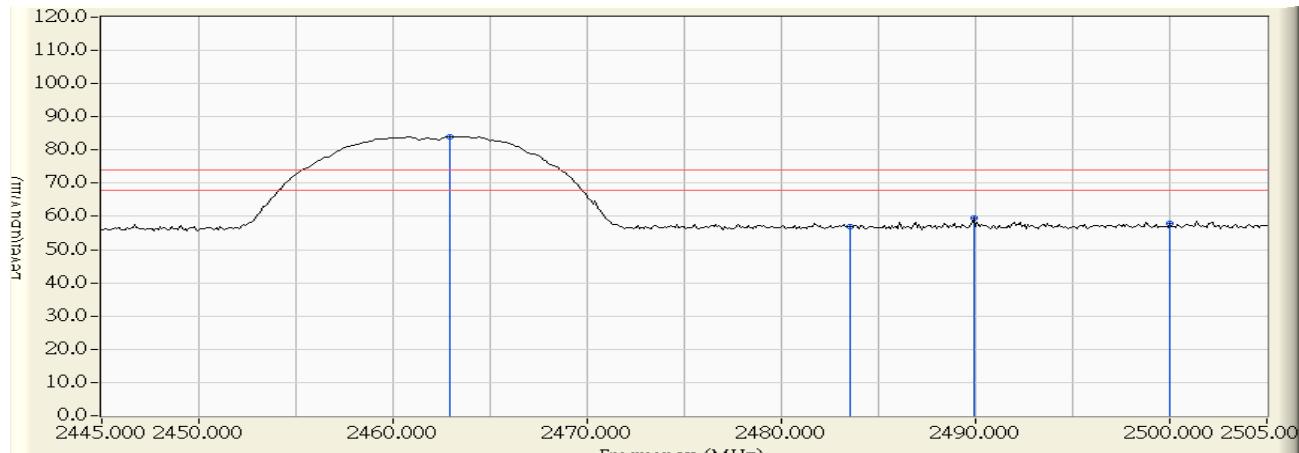


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2461.100	31.626	53.823	85.449	31.449	54.000	AVERAGE
2		2483.500	31.858	12.230	44.088	-9.912	54.000	AVERAGE
3		2483.800	31.861	12.246	44.107	-9.893	54.000	AVERAGE
4		2500.000	31.988	12.220	44.209	-9.791	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 = 3 MHz, 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 : 2013/08/09 - 16:18
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11b_1Mbps_2462MHz

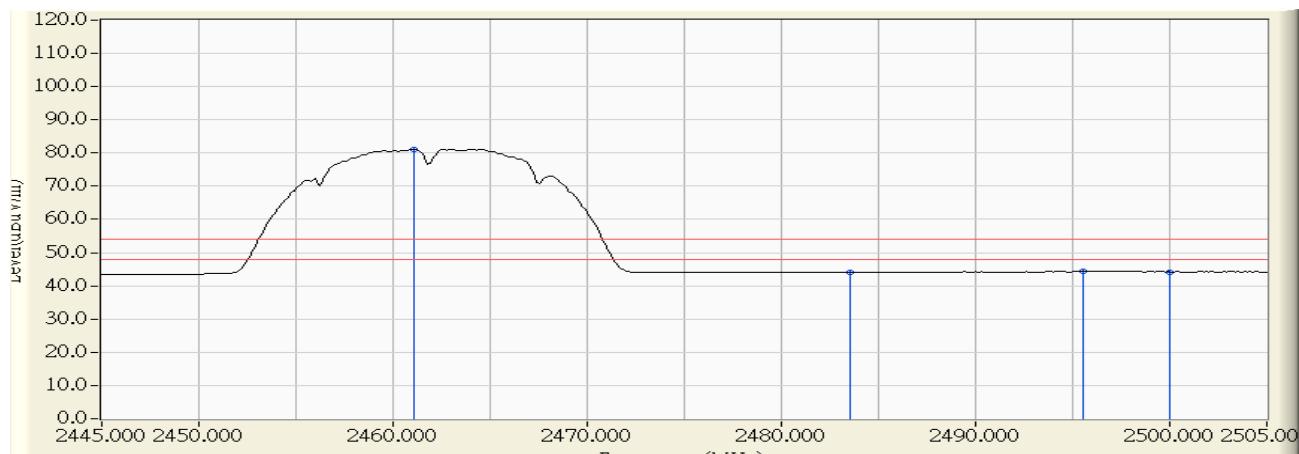


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2462.900	31.645	52.423	84.067	10.067	74.000	PEAK
2		2483.500	31.858	25.020	56.878	-17.122	74.000	PEAK
3		2489.900	31.924	27.532	59.456	-14.544	74.000	PEAK
4		2500.000	31.988	26.018	58.007	-15.993	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 = 3 MHz, 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 : 2013/08/09 - 16:19
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11b_1Mbps_2462MHz

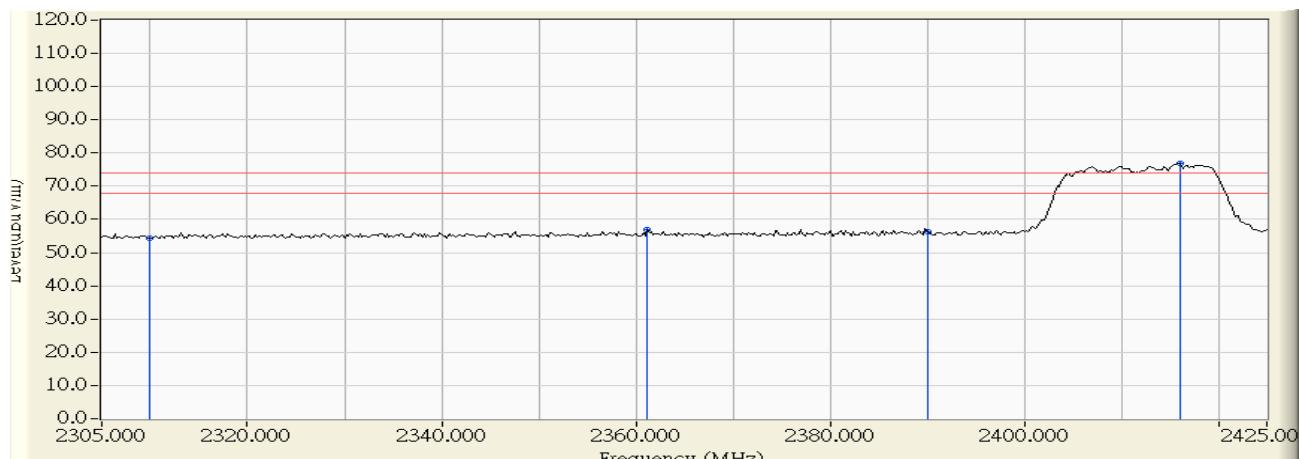


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2461.100	31.626	49.512	81.138	27.138	54.000	AVERAGE
2		2483.500	31.858	12.215	44.073	-9.927	54.000	AVERAGE
3		2495.500	31.983	12.276	44.258	-9.742	54.000	AVERAGE
4		2500.000	31.988	12.234	44.223	-9.777	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 = 3 MHz, 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 : 2013/08/09 - 16:27
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11g_12Mbps_2412MHz



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	30.059	24.357	54.416	-19.584	74.000	PEAK
2	2361.200	30.590	26.313	56.903	-17.097	74.000	PEAK
3	2390.000	30.888	25.262	56.150	-17.850	74.000	PEAK
4	*	2416.000	31.158	45.637	2.795	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 = 3 MHz, 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 : 2013/08/09 - 16:28
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11g_12Mbps_2412MHz

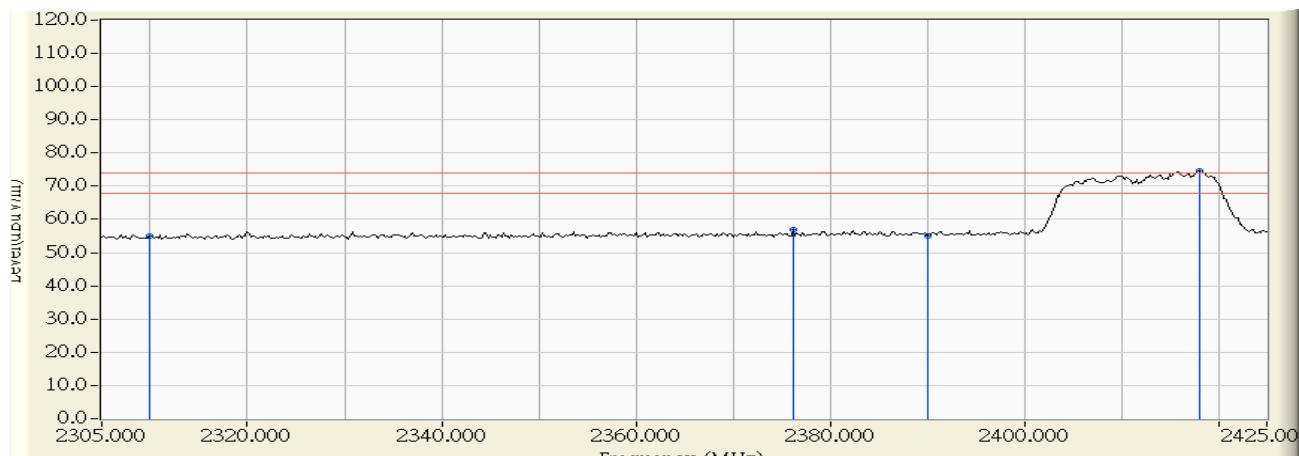


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	
1	2310.000	30.059	11.648	41.707	-12.293	54.000	AVERAGE	
2	2389.600	30.884	11.614	42.498	-11.502	54.000	AVERAGE	
3	2390.000	30.888	11.596	42.484	-11.516	54.000	AVERAGE	
4	*	2417.800	31.177	34.511	65.688	11.688	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 = 3 MHz, 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 : 2013/08/09 - 16:32
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11g_12Mbps_2412MHz



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	30.059	24.921	54.980	-19.020	74.000	PEAK
2	2376.200	30.745	26.139	56.884	-17.116	74.000	PEAK
3	2390.000	30.888	24.268	55.156	-18.844	74.000	PEAK
4	* 2418.000	31.179	43.453	74.632	0.632	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 = 3 MHz, 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 : 2013/08/09 - 16:33
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11g_12Mbps_2412MHz

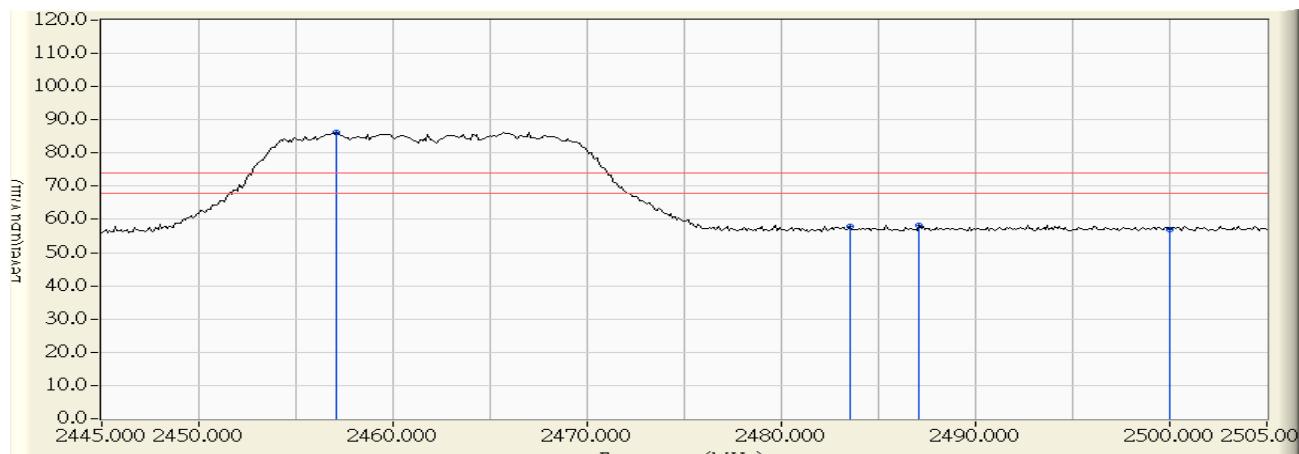


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	
1	2310.000	30.059	11.415	41.474	-12.526	54.000	AVERAGE	
2	2389.400	30.882	11.784	42.666	-11.334	54.000	AVERAGE	
3	2390.000	30.888	11.821	42.709	-11.291	54.000	AVERAGE	
4	*	2418.200	31.180	31.939	63.120	9.120	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 = 3 MHz, 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 : 2013/08/09 - 16:39
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11g_12Mbps_2462MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2457.100	31.584	54.595	86.179	12.179	74.000	PEAK
2		2483.500	31.858	25.986	57.844	-16.156	74.000	PEAK
3		2487.100	31.895	26.378	58.273	-15.727	74.000	PEAK
4		2500.000	31.988	25.076	57.065	-16.935	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 = 3 MHz, 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 : 2013/08/09 - 16:40
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11g_12Mbps_2462MHz

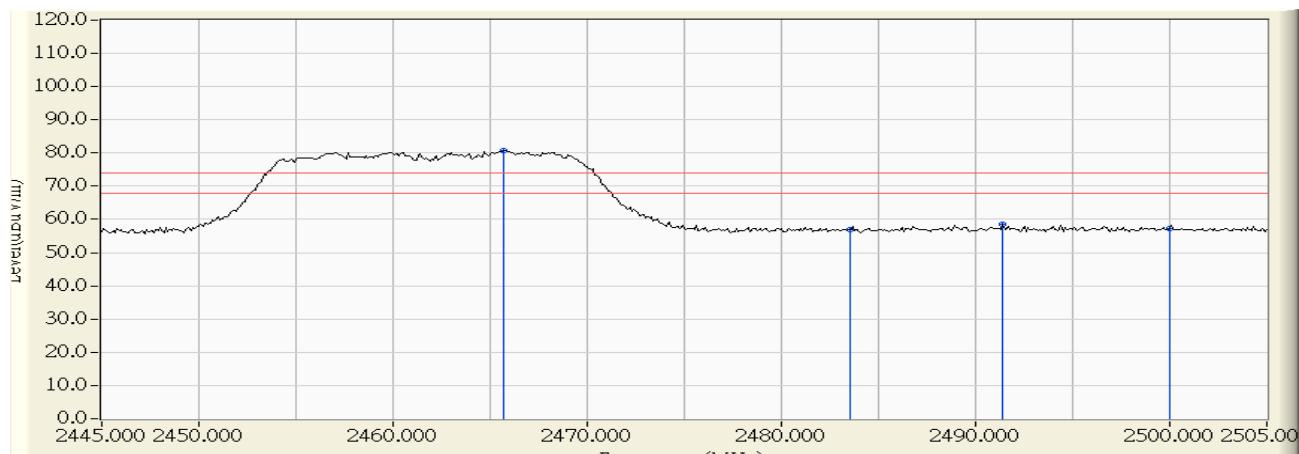


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2466.400	31.681	43.163	74.844	20.844	54.000	AVERAGE
2		2483.500	31.858	11.808	43.666	-10.334	54.000	AVERAGE
3		2491.000	31.936	11.850	43.786	-10.214	54.000	AVERAGE
4		2500.000	31.988	11.888	43.877	-10.123	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 = 3 MHz, 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 : 2013/08/09 - 16:43
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11g_12Mbps_2462MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2465.700	31.673	49.098	80.771	6.771	74.000	PEAK
2		2483.500	31.858	25.011	56.869	-17.131	74.000	PEAK
3		2491.400	31.940	26.561	58.501	-15.499	74.000	PEAK
4		2500.000	31.988	25.196	57.185	-16.815	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 = 3 MHz, 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 : 2013/09/23 - 13:27
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11g_12Mbps_2462MHz

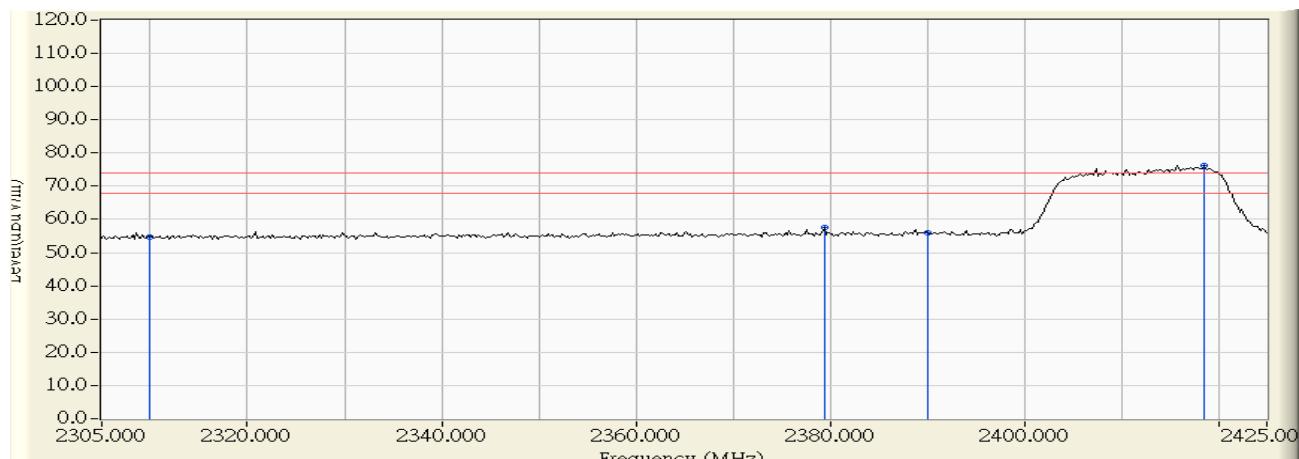


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2466.500	31.682	37.618	69.300	15.300	54.000	AVERAGE
2		2483.500	31.858	11.778	43.636	-10.364	54.000	AVERAGE
3		2490.500	31.931	11.843	43.774	-10.226	54.000	AVERAGE
4		2500.000	31.988	11.778	43.767	-10.233	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 = 3 MHz, 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 : 2013/08/09 - 16:51
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11n(20MHz) 6.5Mbps 2412MHz



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	
1	2310.000	30.059	24.733	54.792	-19.208	74.000	PEAK	
2	2379.400	30.778	26.766	57.544	-16.456	74.000	PEAK	
3	2390.000	30.888	25.124	56.012	-17.988	74.000	PEAK	
4	*	2418.600	31.185	45.127	76.312	2.312	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 = 3 MHz, 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 : 2013/08/09 - 16:52
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11n(20MHz) 6.5Mbps 2412MHz

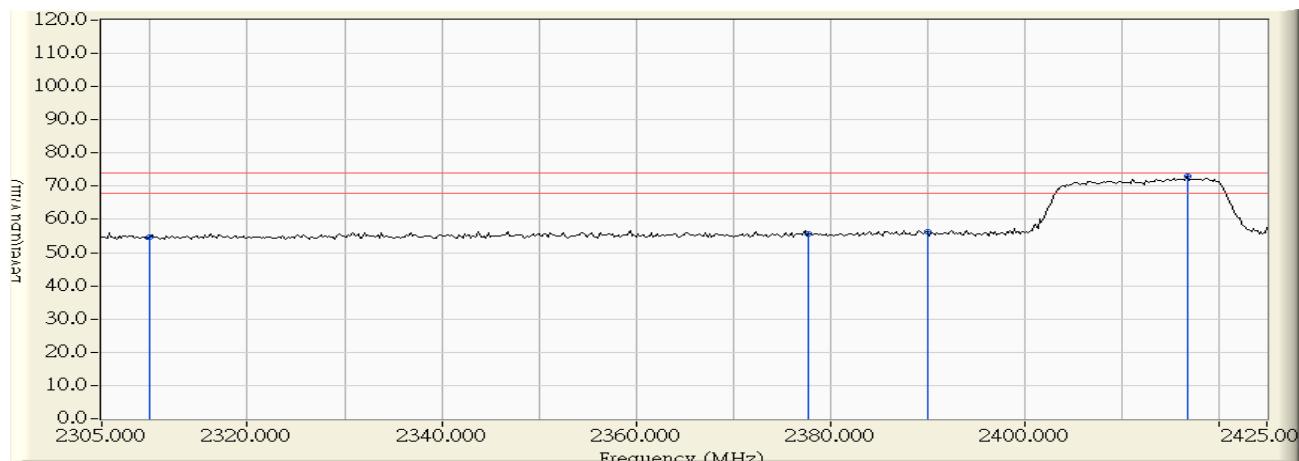


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	30.059	11.375	41.434	-12.566	54.000	AVERAGE
2	2389.400	30.882	11.625	42.507	-11.493	54.000	AVERAGE
3	2390.000	30.888	11.618	42.506	-11.494	54.000	AVERAGE
4	*	2417.200	31.170	33.883	65.053	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 = 3 MHz, 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 : 2013/08/09 - 16:55
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11n(20MHz) 6.5Mbps 2412MHz



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	
1	2310.000	30.059	24.548	54.607	-19.393	74.000	PEAK	
2	2377.800	30.762	25.002	55.764	-18.236	74.000	PEAK	
3	2390.000	30.888	25.267	56.155	-17.845	74.000	PEAK	
4	*	2416.800	31.167	41.965	73.131	-0.869	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 = 3 MHz, 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 : 2013/08/09 - 16:56
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11n(20MHz) 6.5Mbps 2412MHz

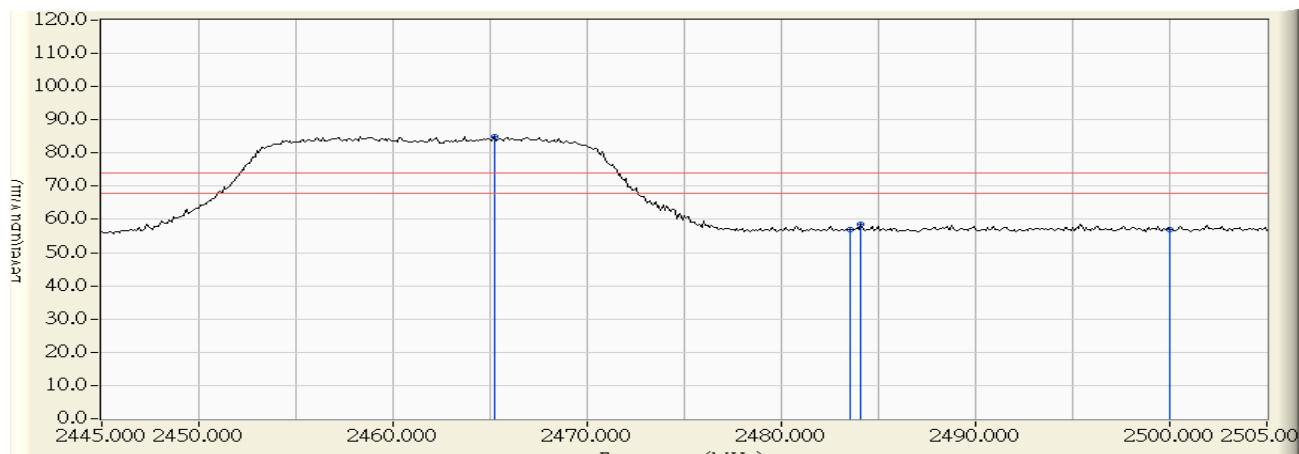


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	
1	2310.000	30.059	11.391	41.450	-12.550	54.000	AVERAGE	
2	2389.600	30.884	11.621	42.505	-11.495	54.000	AVERAGE	
3	2390.000	30.888	11.586	42.474	-11.526	54.000	AVERAGE	
4	*	2417.200	31.170	30.827	61.997	7.997	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 = 3 MHz, 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 : 2013/08/09 - 17:04
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11n(20MHz) 6.5Mbps_2462MHz

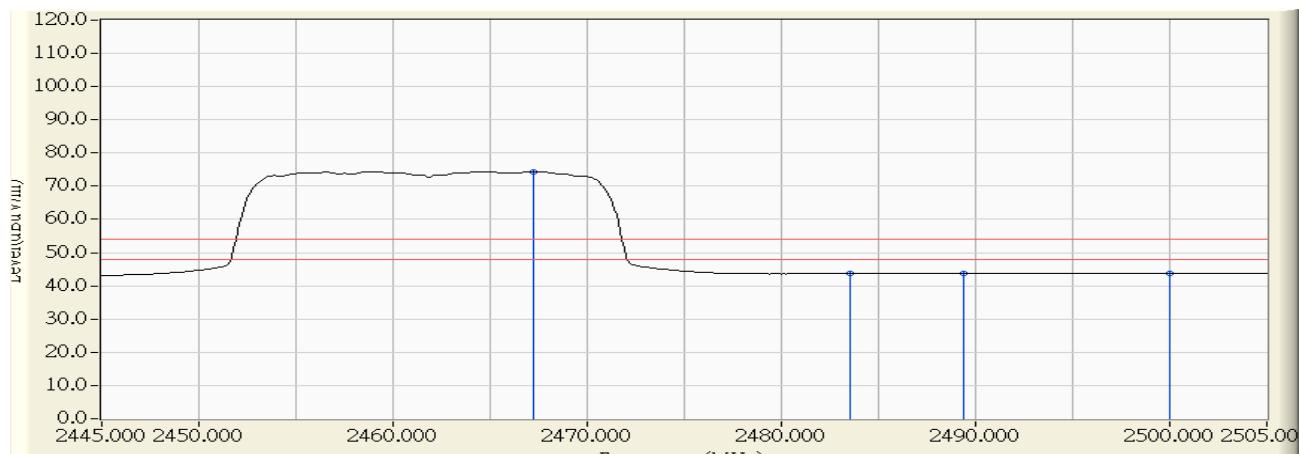


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2465.200	31.668	53.210	84.878	10.878	74.000	PEAK
2		2483.500	31.858	25.066	56.924	-17.076	74.000	PEAK
3		2484.100	31.864	26.661	58.525	-15.475	74.000	PEAK
4		2500.000	31.988	24.920	56.909	-17.091	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 = 3 MHz, 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 : 2013/08/09 - 17:04
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11n(20MHz) 6.5Mbps 2462MHz

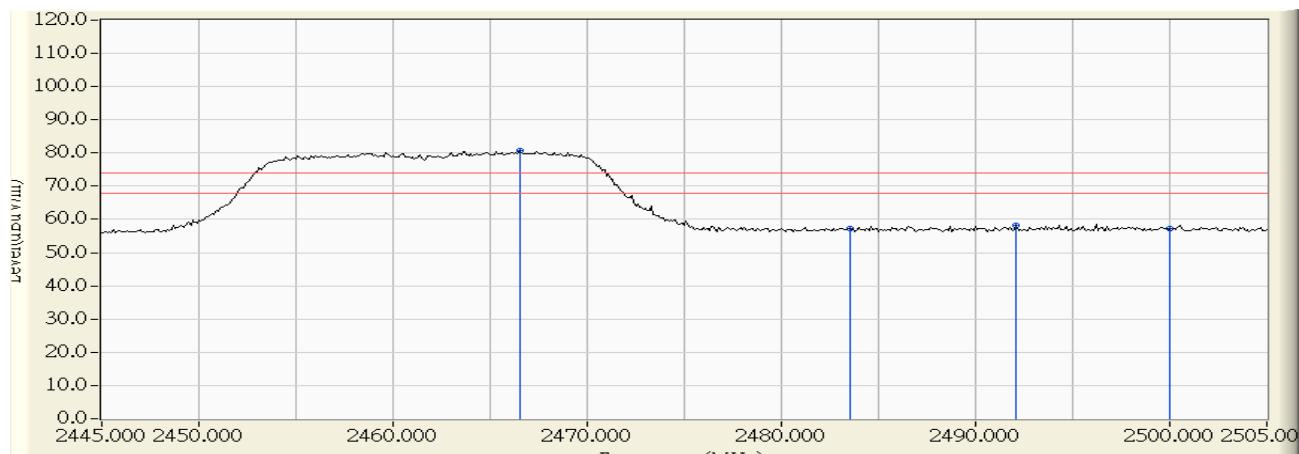


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2467.200	31.689	42.745	74.434	20.434	54.000	AVERAGE
2		2483.500	31.858	11.784	43.642	-10.358	54.000	AVERAGE
3		2489.400	31.919	11.850	43.769	-10.231	54.000	AVERAGE
4		2500.000	31.988	11.754	43.743	-10.257	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 = 3 MHz, 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 : 2013/08/09 - 17:08
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11n(20MHz) 6.5Mbps 2462MHz

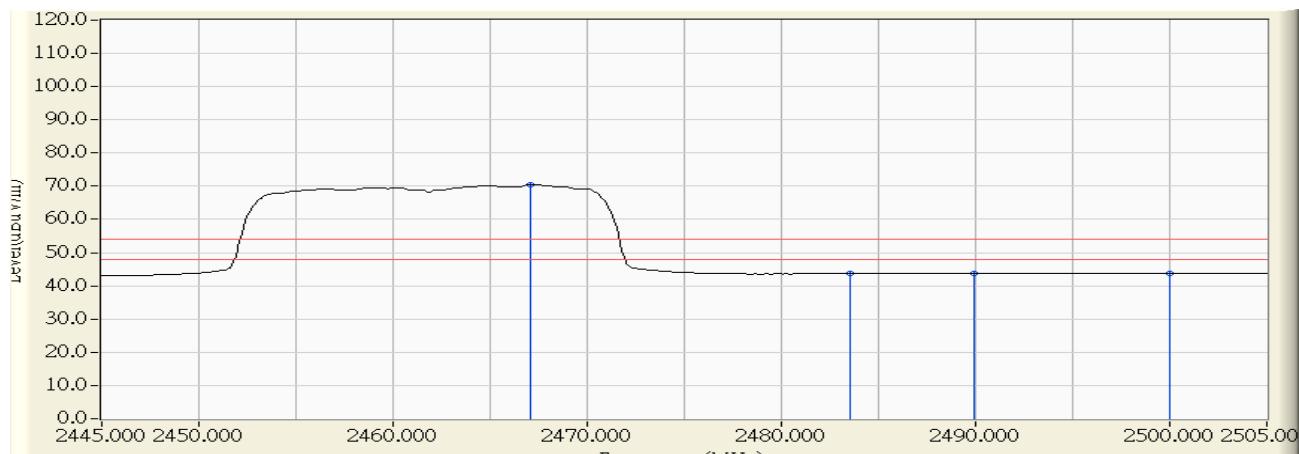


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2466.500	31.682	49.121	80.803	6.803	74.000	PEAK
2		2483.500	31.858	25.425	57.283	-16.717	74.000	PEAK
3		2492.100	31.947	26.418	58.365	-15.635	74.000	PEAK
4		2500.000	31.988	25.170	57.159	-16.841	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 = 3 MHz, 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 : 2013/08/09 - 17:09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 5V
EUT : High Resolution Car Recorder	Note : 802.11n(20MHz) 6.5Mbps_2462MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2467.100	31.688	38.705	70.393	16.393	54.000	AVERAGE
2		2483.500	31.858	11.783	43.641	-10.359	54.000	AVERAGE
3		2489.900	31.924	11.834	43.758	-10.242	54.000	AVERAGE
4		2500.000	31.988	11.797	43.786	-10.214	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 = 3 MHz, 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.

## 7. Occupied Bandwidth

### 7.1. Test Equipment

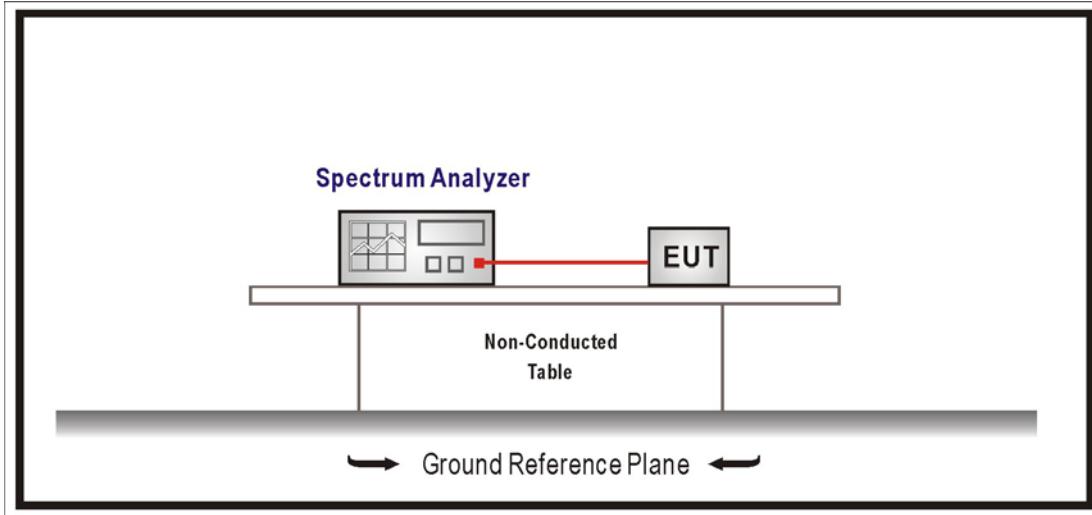
The following test equipments are used during the test:

Occupied Bandwidth / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A-EXA	US47140172	2014/08/05

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

### 7.2. Test Setup



### 7.3. Test Procedures

The EUT was setup according to ANSI C63.4: 2009; tested according to DTS test procedure of Jan. 2012 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Span greater than RBW.

### 7.4. Limits

The 6 dB bandwidth must be greater than 500 kHz.

### 7.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2012

### 7.6. Uncertainty

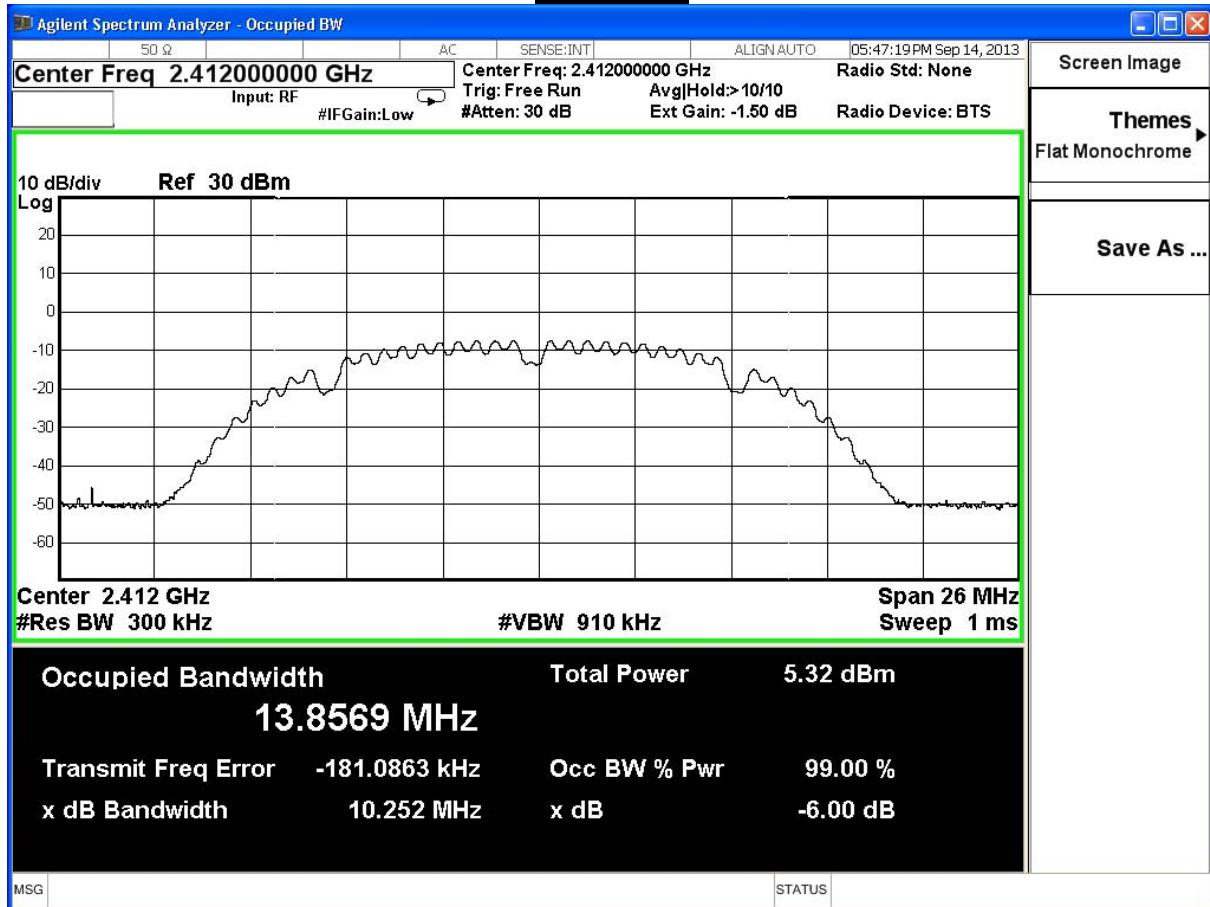
The measurement uncertainty is defined as  $\pm 150\text{Hz}$

## 7.7. Test Result

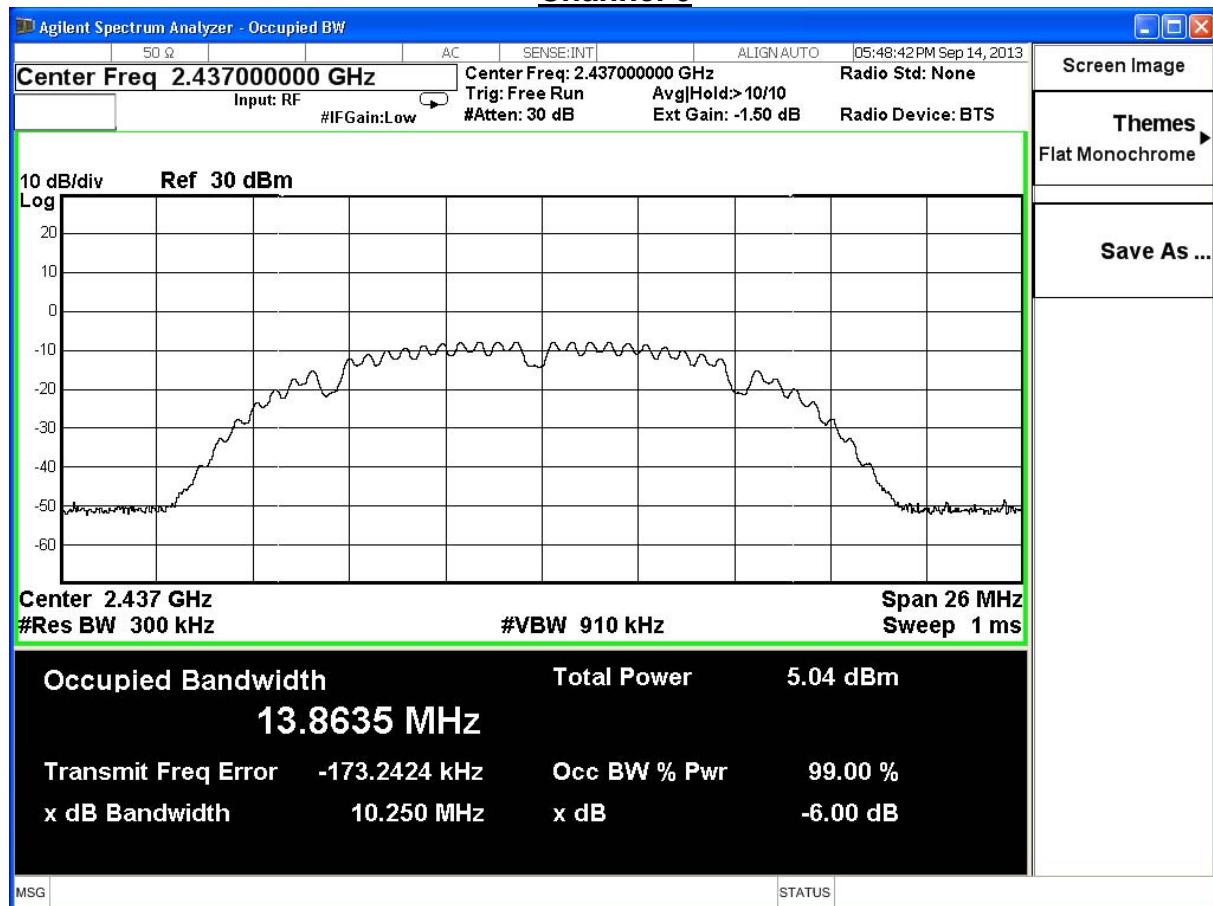
Product	High Resolution Car Recorder		
Test Item	Occupied Bandwidth		
Test Mode	Transmit		
Date of Test	2013/09/14	Test Site	SR7

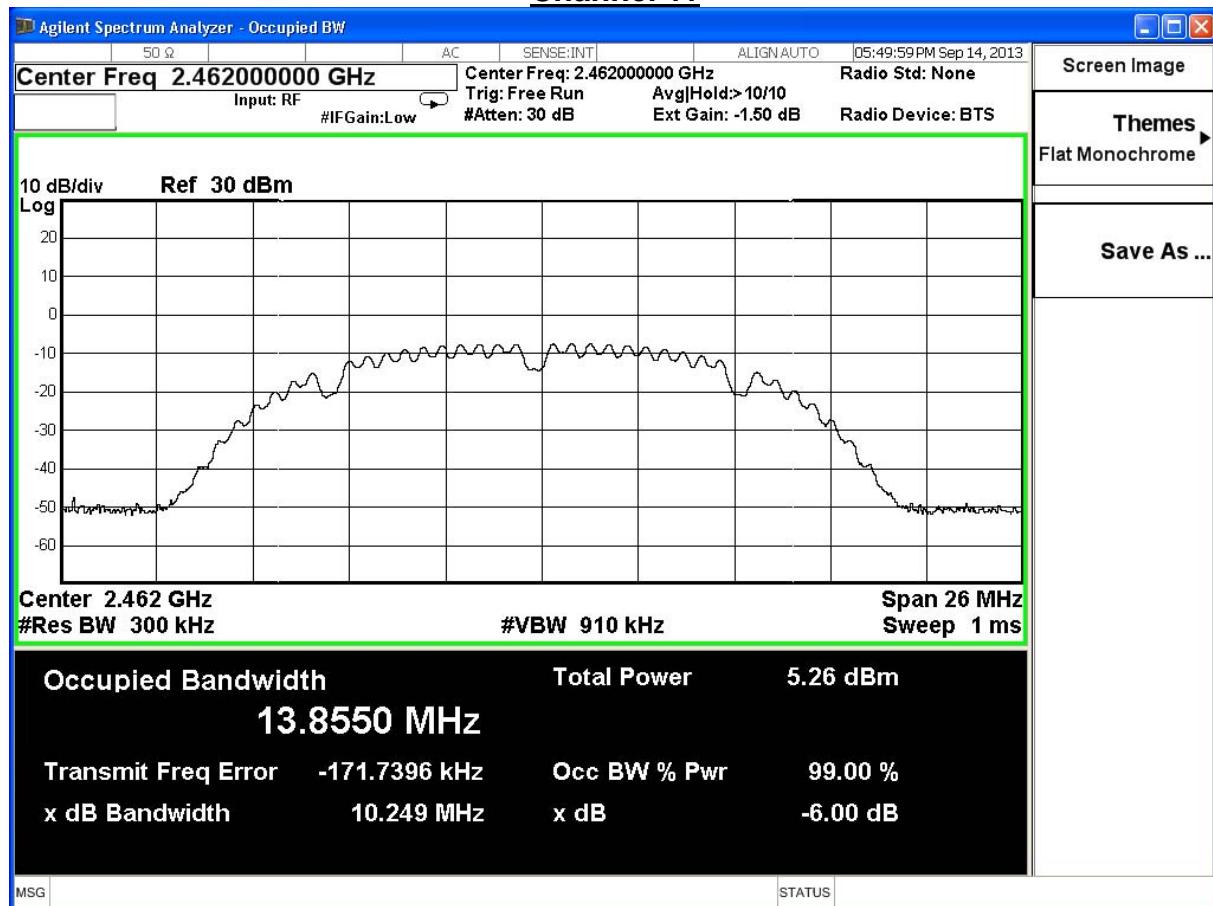
802.11 b				
Channel No.	Frequency (MHz)	Measurement Level (MHz)	Required Limit (MHz)	Result
1	2412	10.25	≥0.5	Pass
6	2437	10.25	≥0.5	Pass
11	2462	10.24	≥0.5	Pass

### Channel 1



## Channel 6



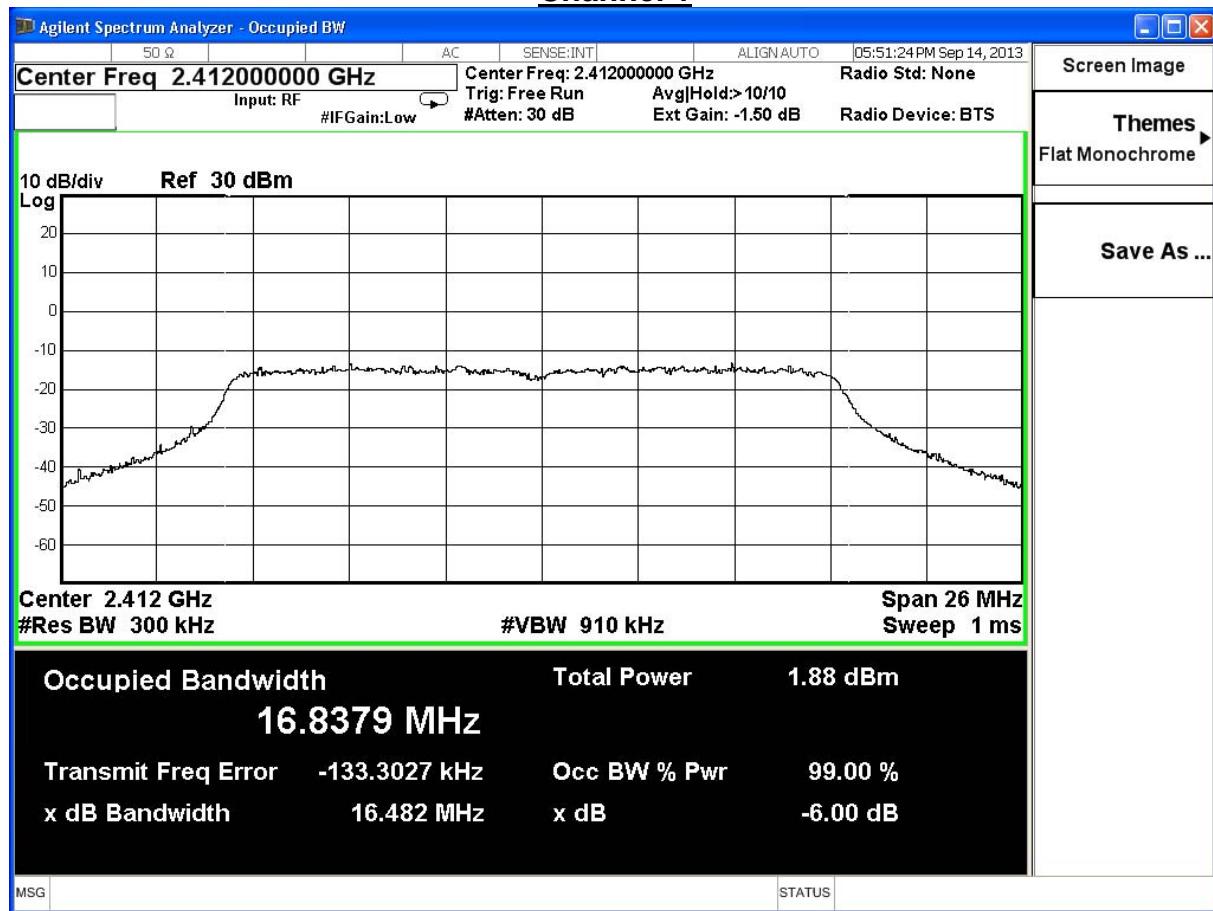
**Channel 11**

Product	High Resolution Car Recorder		
Test Item	Occupied Bandwidth		
Test Mode	Transmit		
Date of Test	2013/09/14	Test Site	SR7

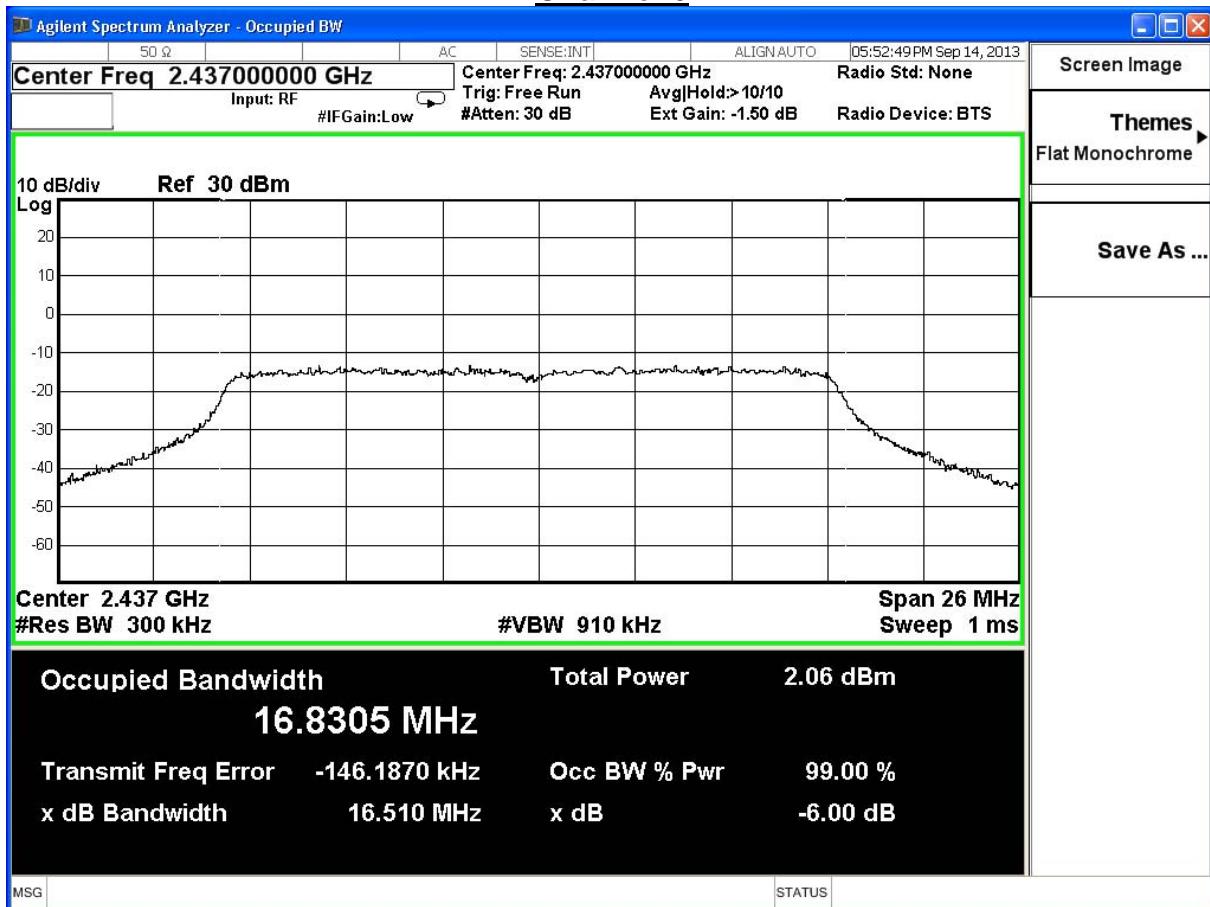
## IEEE 802.11g

Channel No.	Frequency (MHz)	Measurement Level (MHz)	Required Limit (MHz)	Result
1	2412	16.48	≥0.5	Pass
6	2437	16.51	≥0.5	Pass
11	2462	16.48	≥0.5	Pass

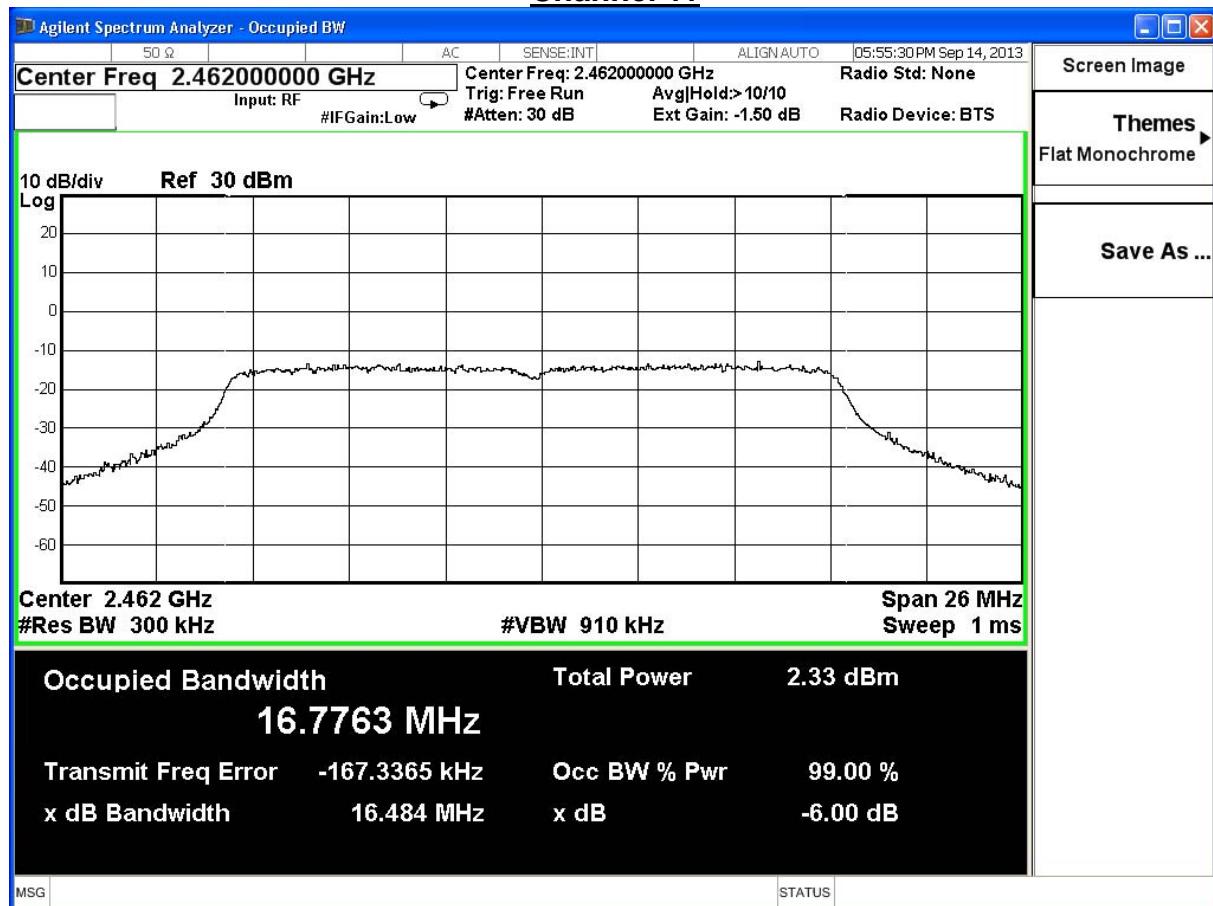
## Channel 1



## Channel 6



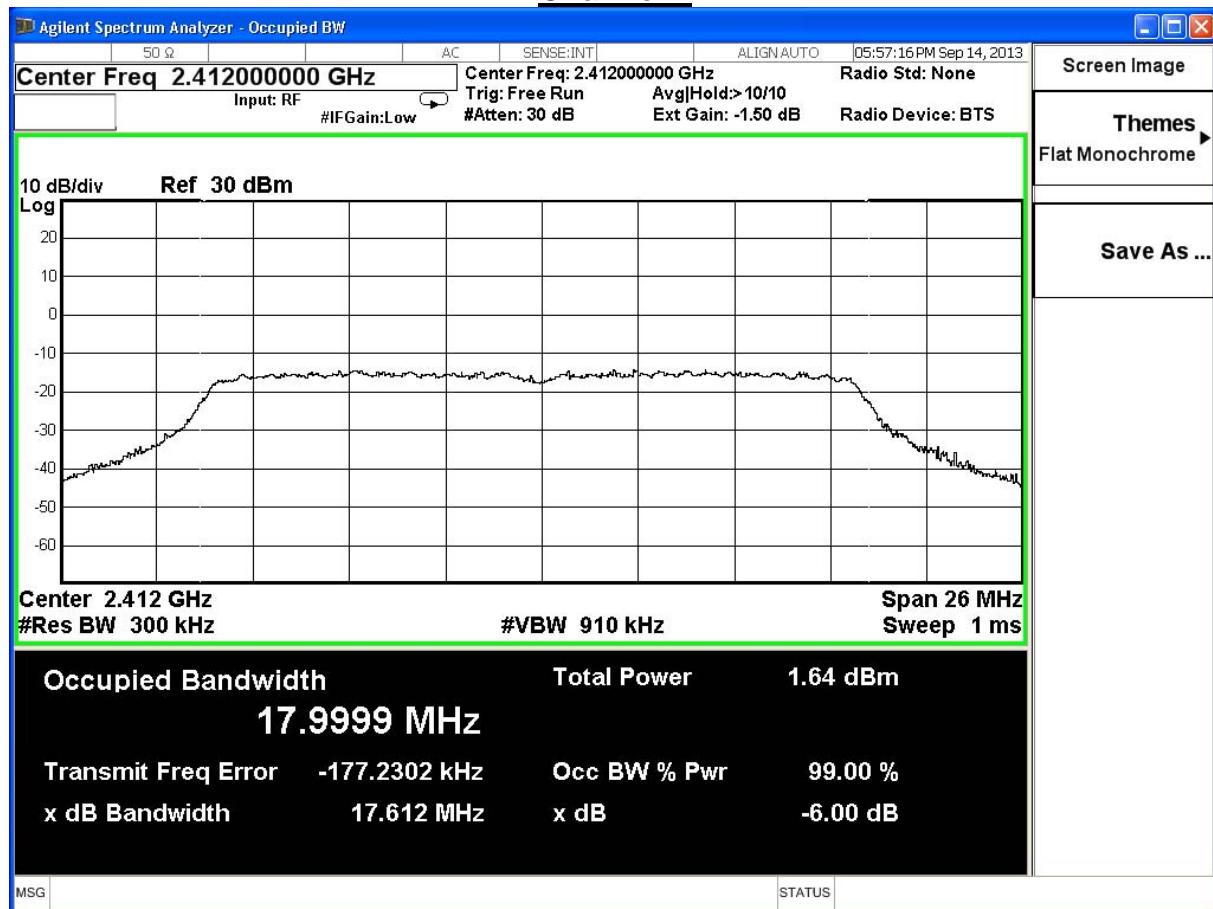
## Channel 11



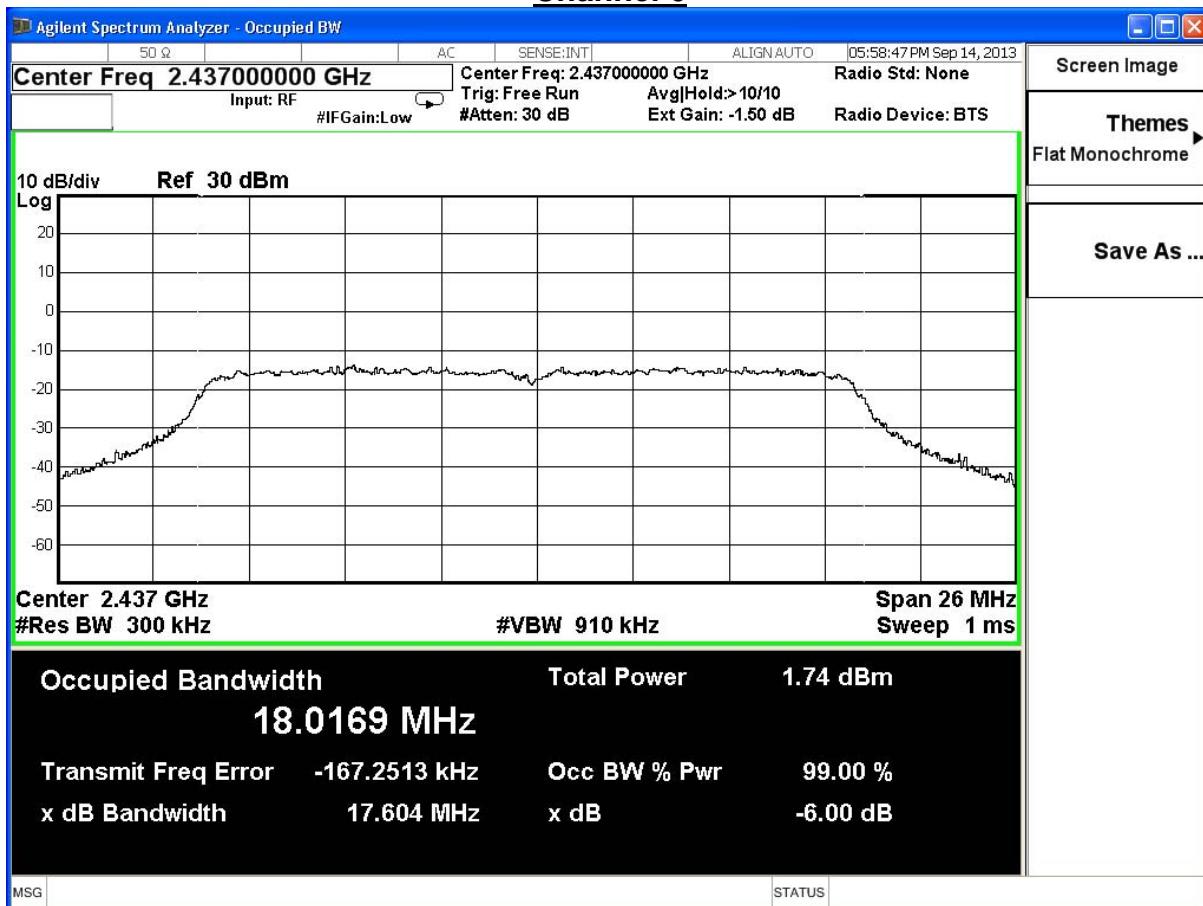
Product	High Resolution Car Recorder		
Test Item	Occupied Bandwidth		
Test Mode	Transmit		
Date of Test	2013/09/14	Test Site	SR7

## IEEE 802.11n (20MHz)(ANT 0)

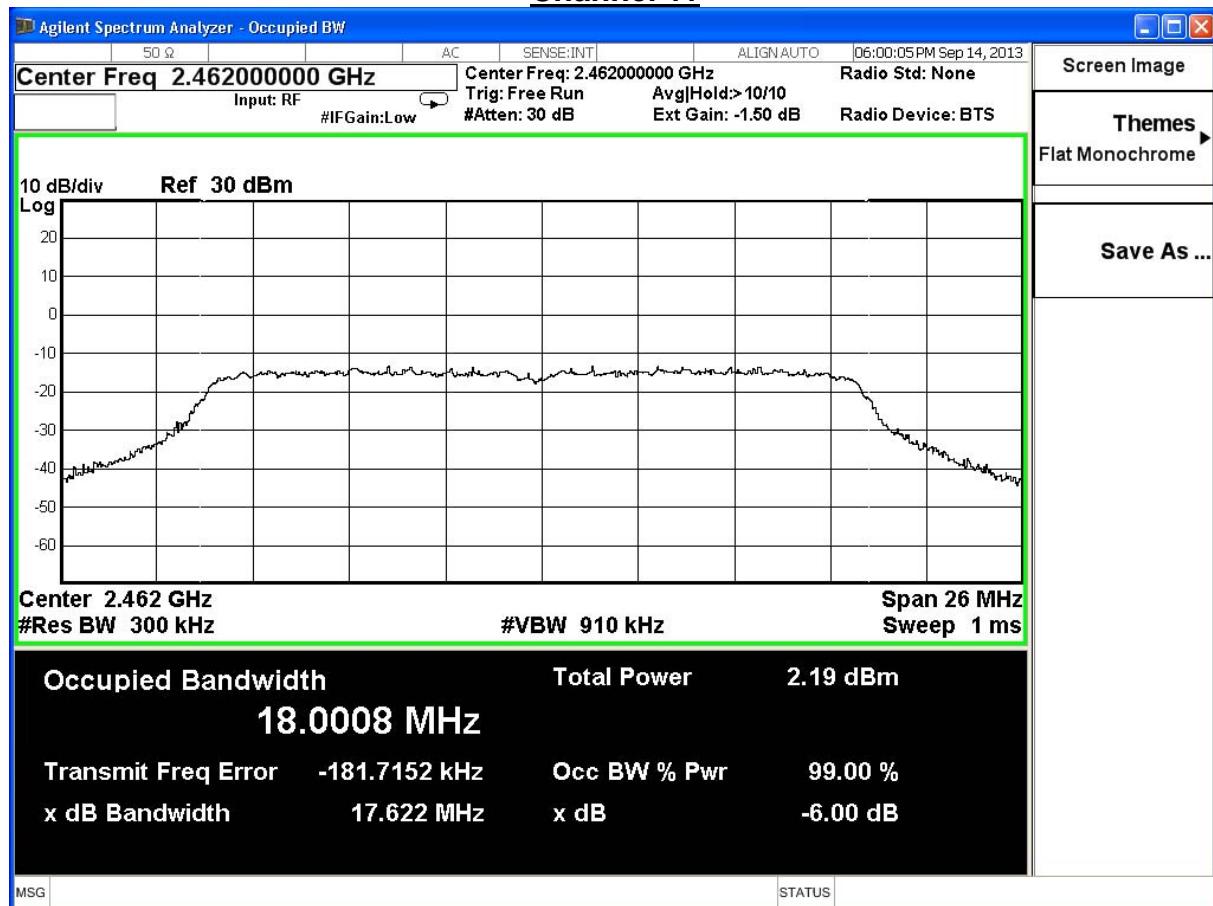
Channel No.	Frequency (MHz)	Measurement Level (MHz)	Required Limit (MHz)	Result
1	2412	17.61	≥0.5	Pass
6	2437	17.60	≥0.5	Pass
11	2462	17.62	≥0.5	Pass

Channel 1

## Channel 6



## Channel 11



## 8. Power Density

### 8.1. Test Equipment

The following test equipment is used during the test:

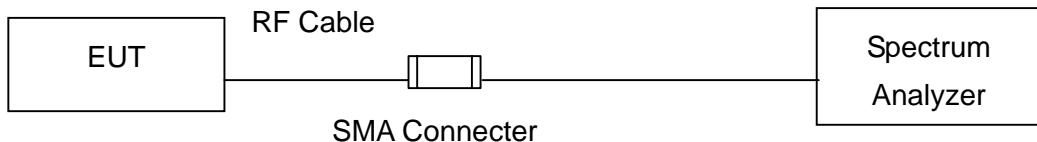
Power Density / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A-EXA	US47140172	2014/08/05

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

### 8.2. Test Setup

IEEE 802.11 b / g / n ( 20M / 40M ) MODE



### 8.3. Limits

The peak power spectral density conducted from the intentional radiated to the antenna shall not be greater than +8dBm in any 3kHz band during any time interval of continuous transmission.

### 8.4. Test Procedures

The EUT was setup according to ANSI C63.4: 2009; tested according to DTS test procedure of Jan. 2012 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW= 100 kHz, Set VBW= 300 kHz, Sweep time=Auto, Set detector=Peak detector.

Scale the observed power level to an equivalent value in 3 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where  $BWCF = 10\log(3\text{ kHz}/100\text{ kHz}) = -15.2\text{ dB}$ .

### 8.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2012

### 8.6. Uncertainty

The measurement uncertainty is defined as  $\pm 1.27\text{ dB}$ .

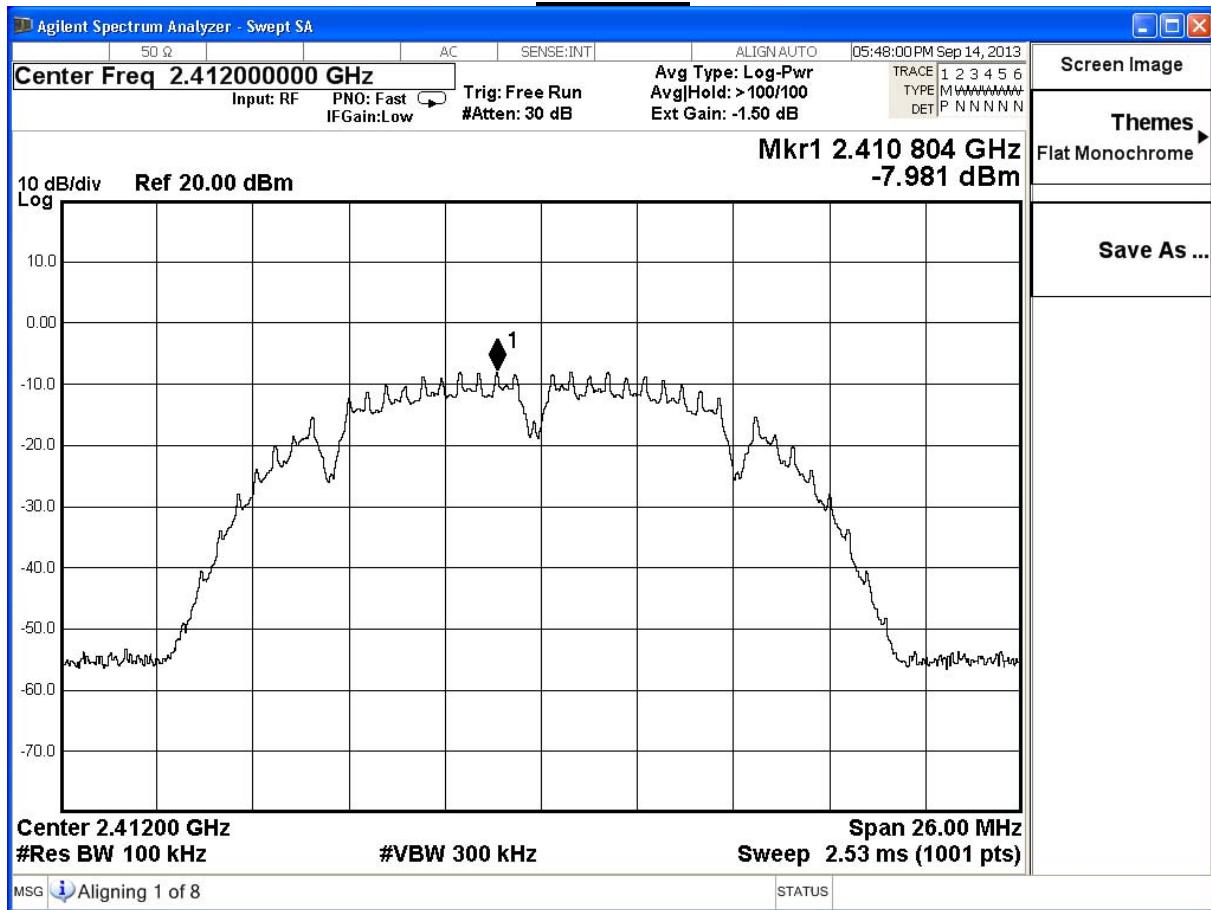
## 8.7. Test Result

Product	High Resolution Car Recorder		
Test Item	Power Density		
Test Mode	Transmit		
Date of Test	2013/09/14	Test Site	SR7

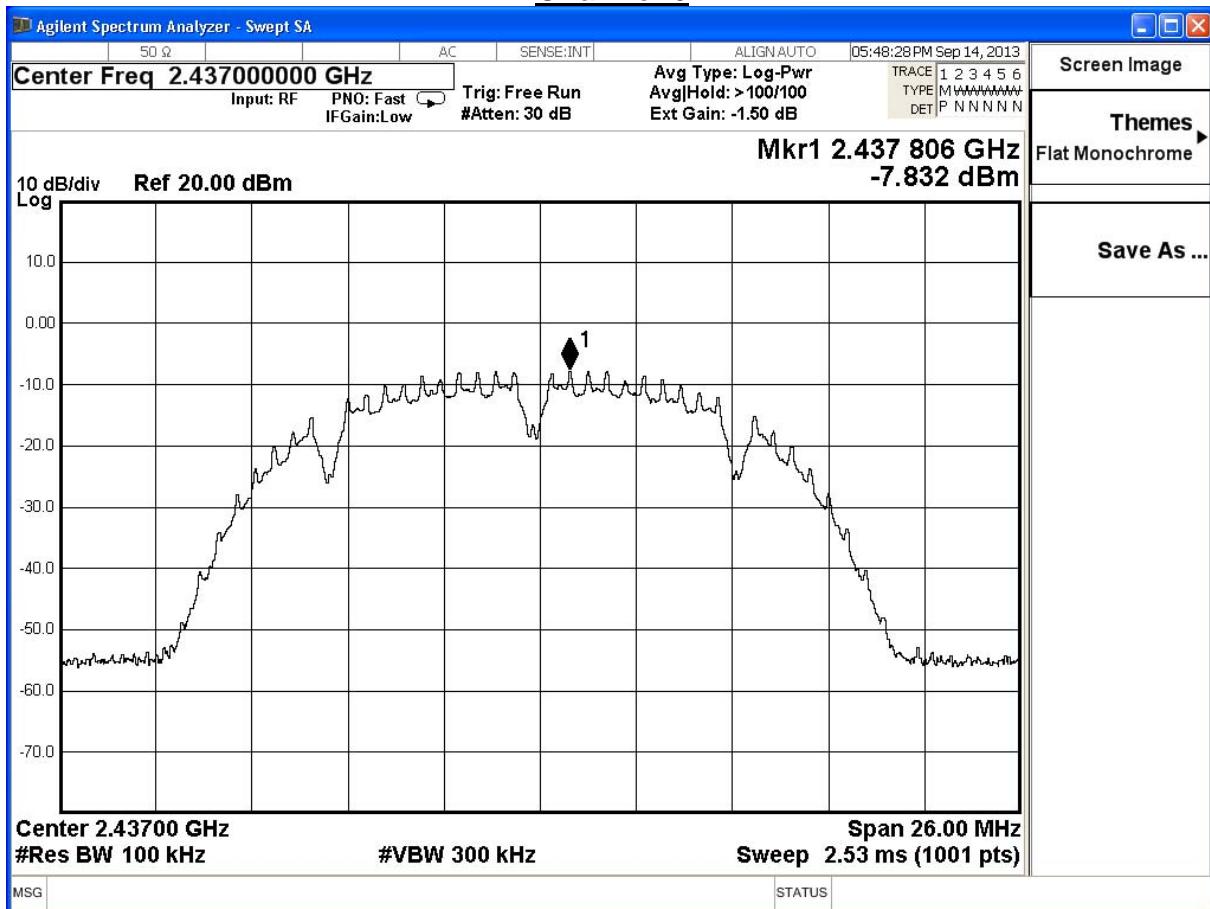
IEEE 802.11b					
Channel No.	Frequency (MHz)	Reading Level(dBm)	Measure Level(dBm)	Limit (dBm)	Result
1	2412	-7.98	-23.18	≤8	Pass
6	2437	-7.83	-23.03	≤8	Pass
11	2462	-7.57	-22.77	≤8	Pass

\* Emission Level = Reading Level + BWCF = Reading Level +  $10\log(3\text{kHz}/100\text{kHz})$

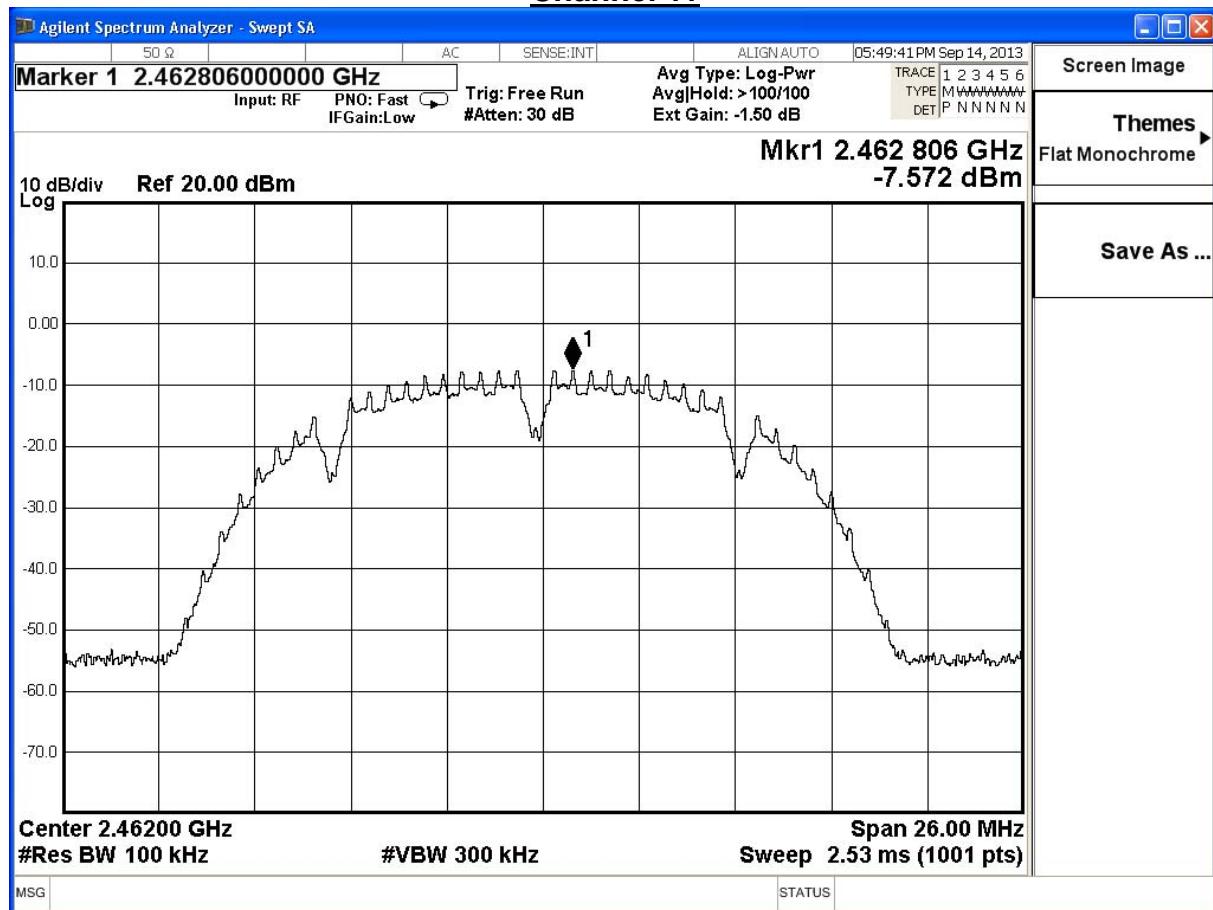
### Channel 1



## Channel 6



## Channel 11



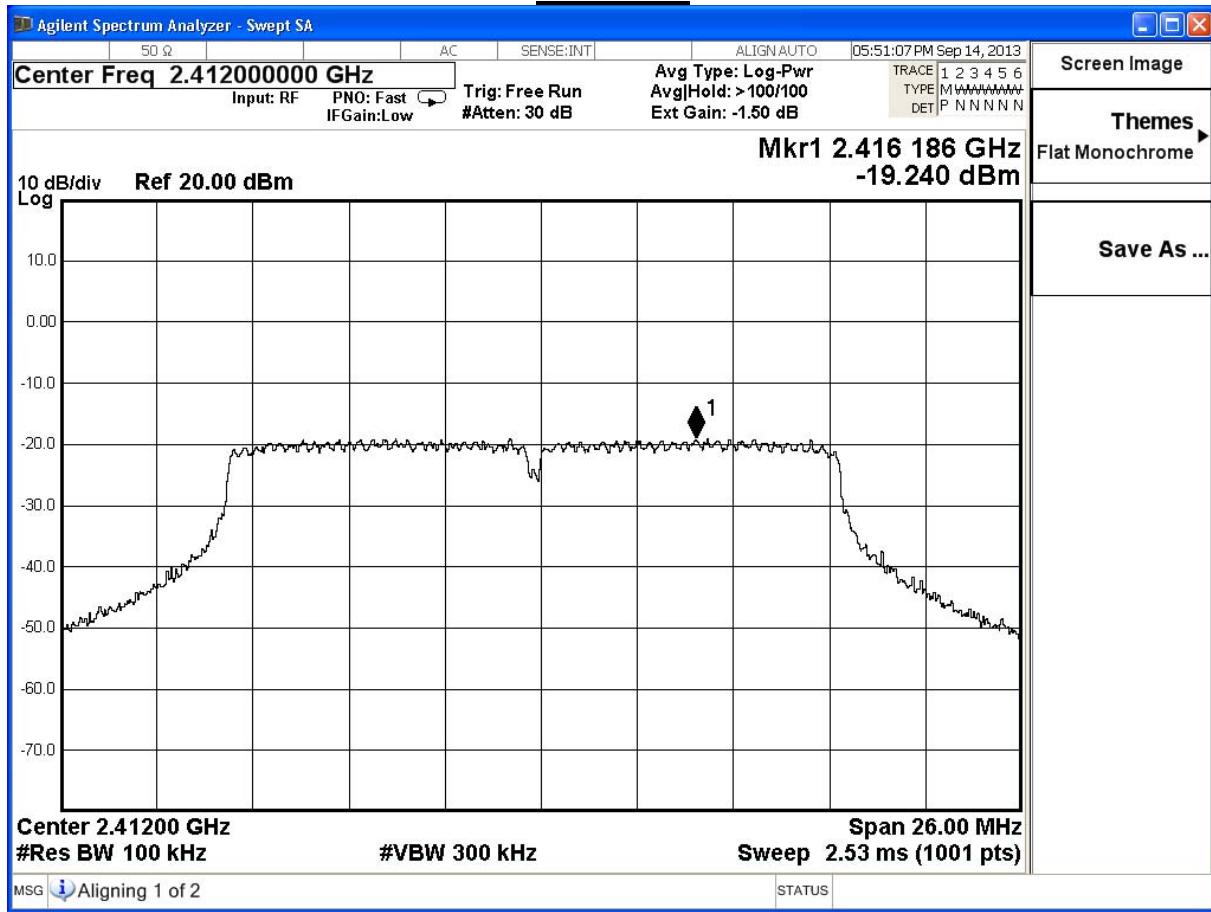
Product	High Resolution Car Recorder				
Test Item	Power Density				
Test Mode	Transmit				
Date of Test	2013/09/14	Test Site		SR7	

## IEEE 802.11g

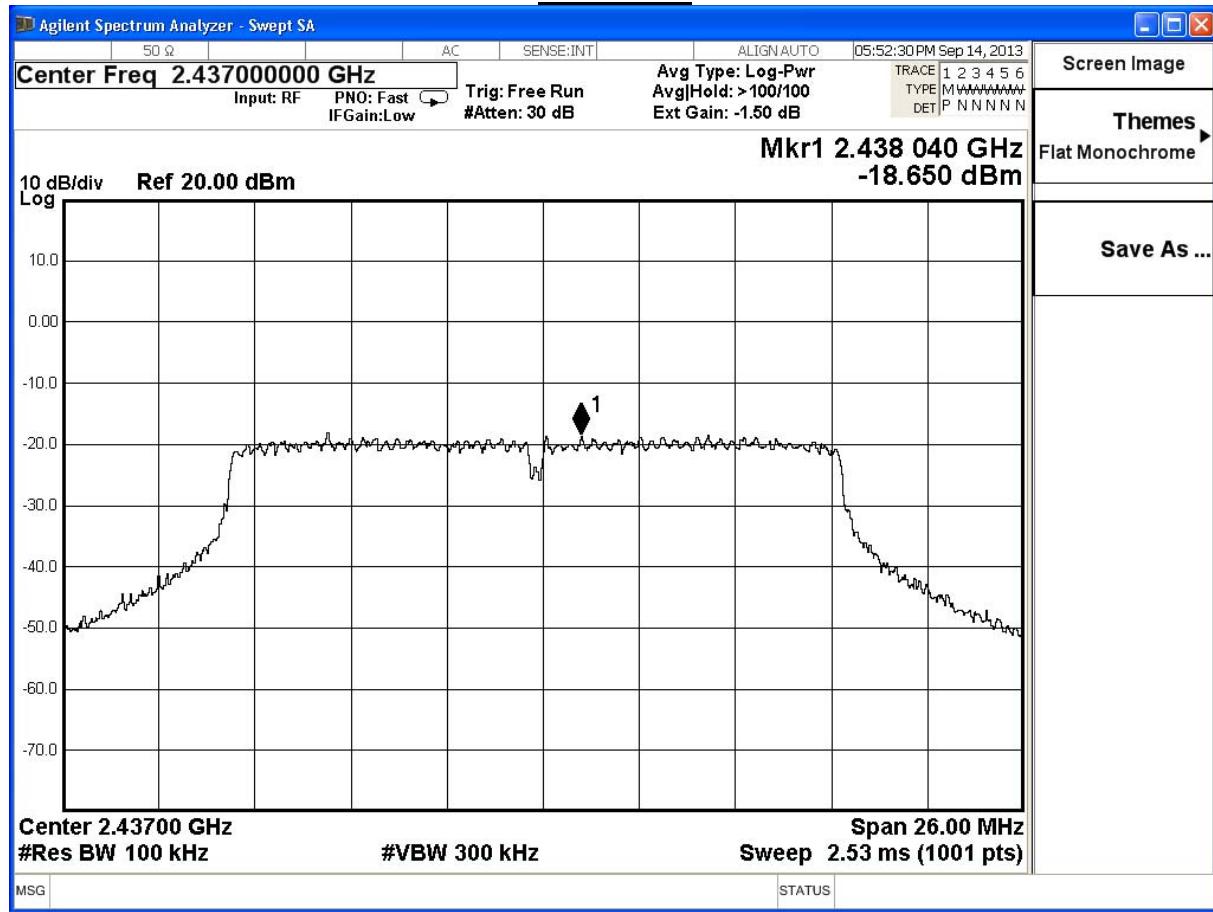
Channel No.	Frequency (MHz)	Reading Level(dBm)	Measure Level(dBm)	Limit (dBm)	Result
1	2412	-19.24	-34.44	≤8	Pass
6	2437	-18.65	-33.85	≤8	Pass
11	2462	-17.70	-32.90	≤8	Pass

\* Emission Level = Reading Level + BWCF = Reading Level +  $10\log(3\text{kHz}/100\text{kHz})$

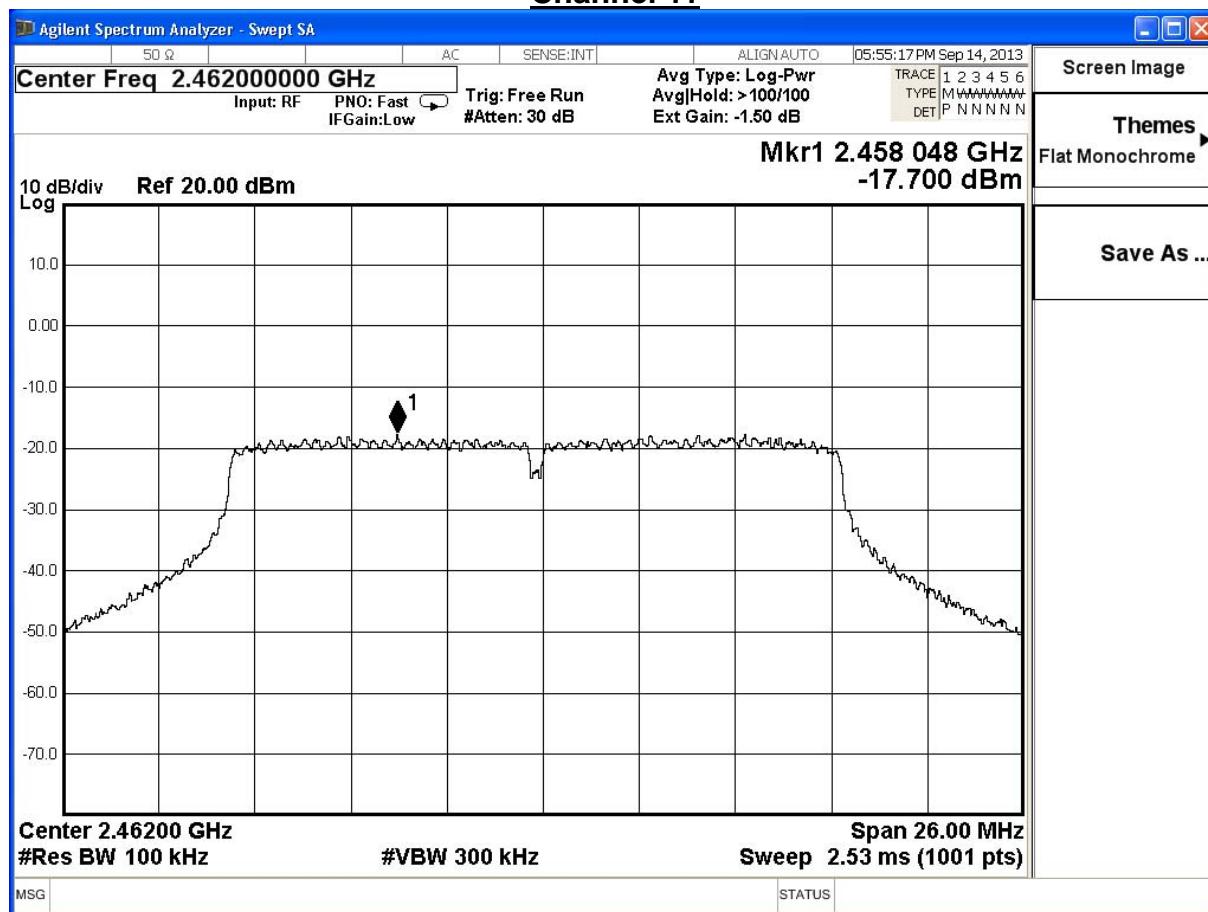
## Channel 1



## Channel 6



## Channel 11



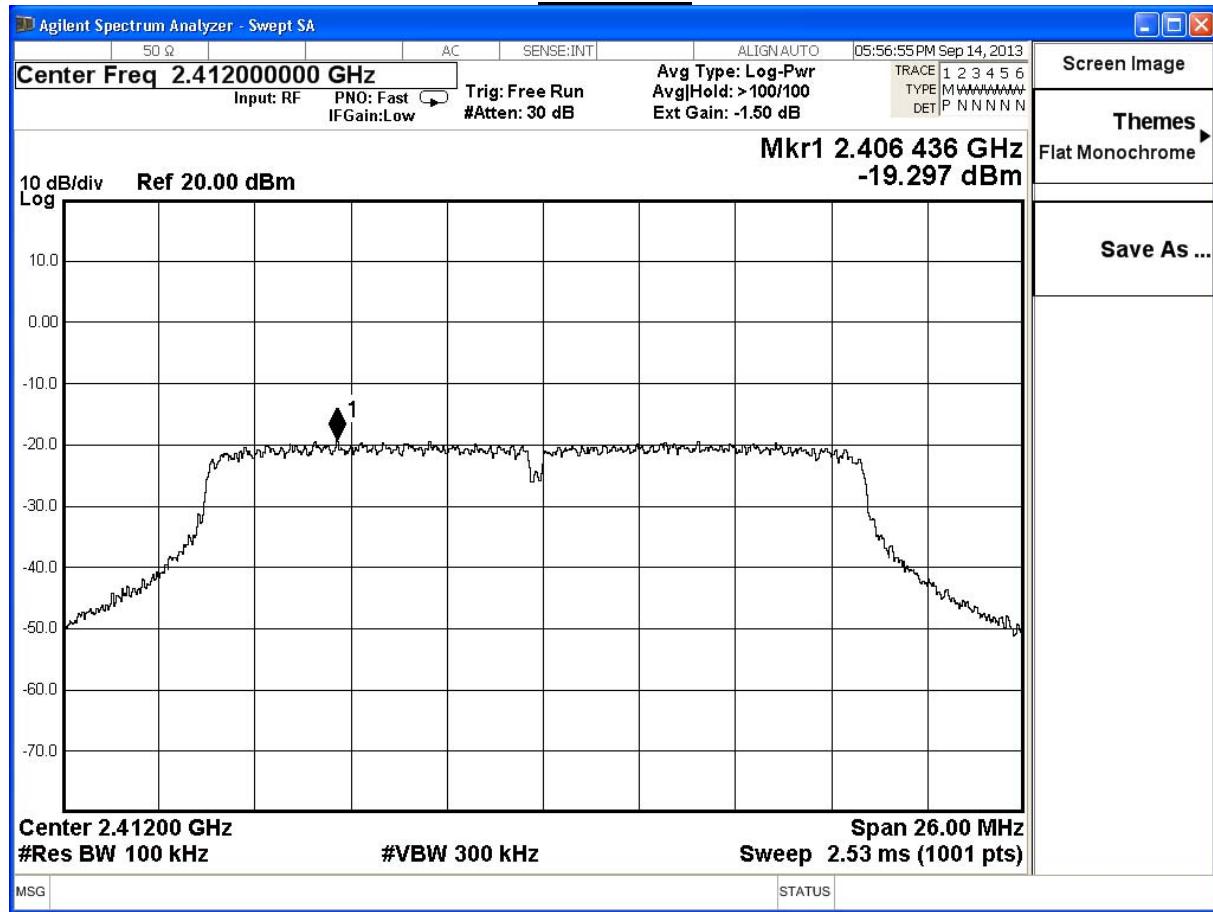
Product	High Resolution Car Recorder			
Test Item	Power Density			
Test Mode	Transmit			
Date of Test	2013/09/14	Test Site		SR7

## IEEE802.11n\_20MHz\_(ANT 0)

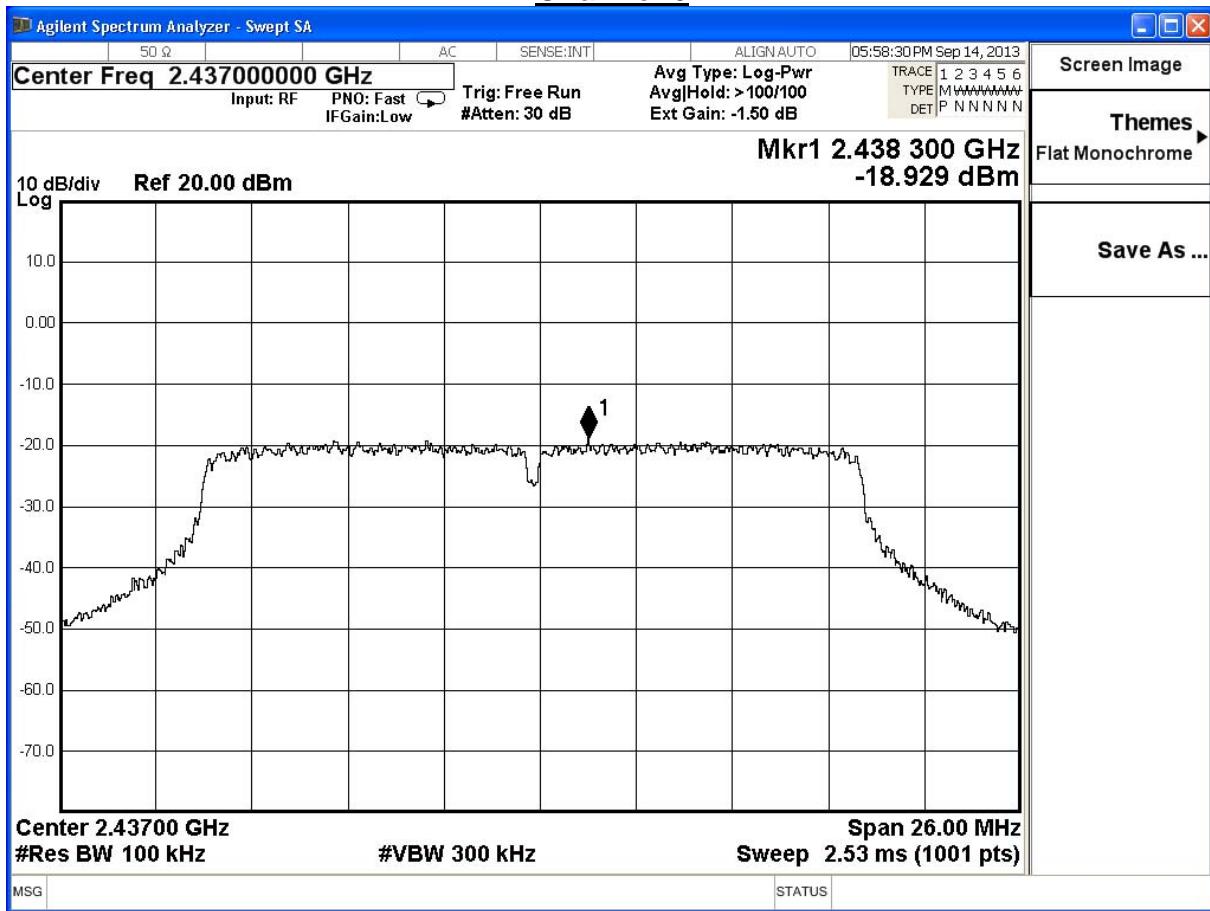
Channel No.	Frequency (MHz)	Reading Level(dBm)	Measure Level(dBm)	Limit (dBm)	Result
1	2412	-19.29	-34.49	≤8	Pass
6	2437	-18.92	-34.12	≤8	Pass
11	2462	-18.61	-33.81	≤8	Pass

\* Emission Level = Reading Level + BWCF = Reading Level +  $10\log(3\text{kHz}/100\text{kHz})$

## Channel 1



## Channel 6



## Channel 11

