



802.11g Out-of-Band Emissions

Channel 01 (2412MHz)

100kHz PSD reference Level



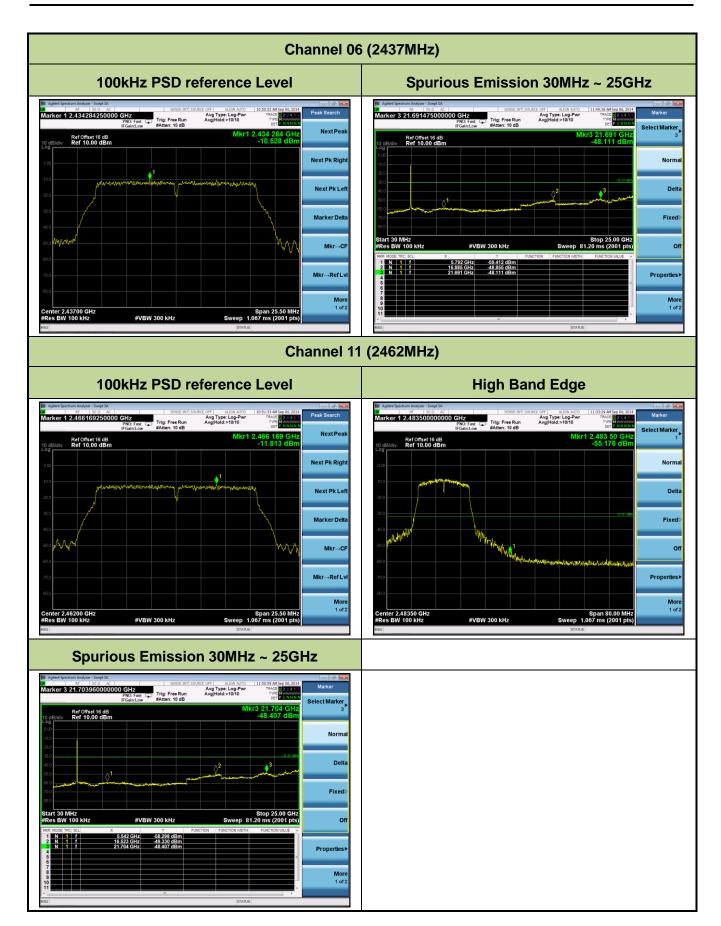
Low Band Edge



Spurious Emission 30MHz ~ 25GHz









802.11n-HT20 Out-of-Band Emissions

Channel 01 (2412MHz)

100kHz PSD reference Level



Low Band Edge



Spurious Emission 30MHz ~ 25GHz



Channel 06 (2437MHz)

100kHz PSD reference Level

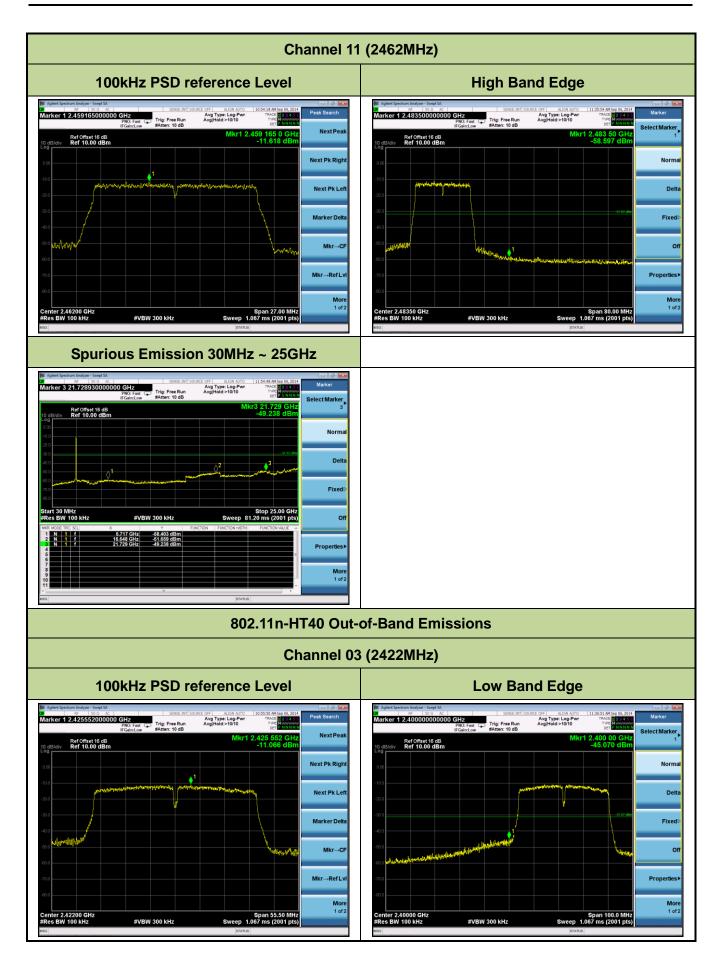


Spurious Emission 30MHz ~ 25GHz

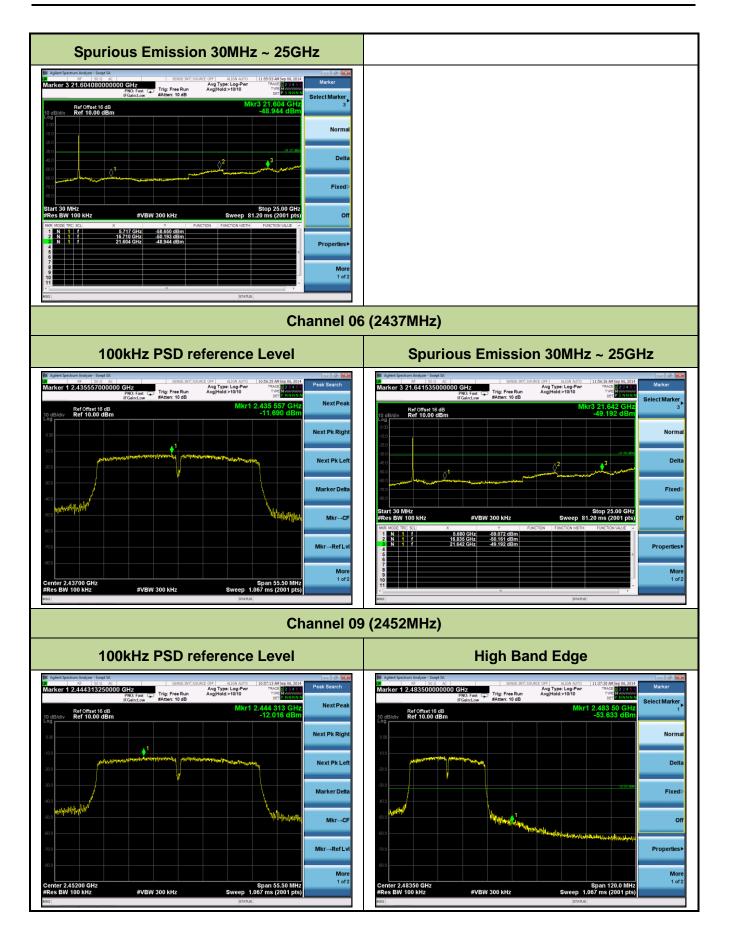


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7.6. Radiated Spurious Emission Measurement

7.6.1. Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209									
Frequency [MHz]	Field Strength [V/m]	Measured Distance [Meters]							
0.009 – 0.490	2400/F (kHz)	300							
0.490 – 1.705	24000/F (kHz)	30							
1.705 - 30	30	30							
30 - 88	100	3							
88 - 216	150	3							
216 - 960	200	3							
Above 960	500	3							

7.6.2. Test Procedure Used

KDB 558074 D01v03r02 – Section 12.2.3 (quasi-peak measurements)

KDB 558074 D01v03r02 – Section 12.2.4 (peak power measurements)

KDB 558074 D01v03r02 – Section 12.2.5 (average power measurements)

7.6.3. Test Setting

Peak Field Strength Measurements per Section 12.2.4 of KDB 558074 D01v03r02

- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. RBW = as specified in Table 1
- 3. VBW = 3MHz
- 4. Detector = peak
- 5. Sweep time = auto couple

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- 6. Trace mode = max hold
- 7. Trace was allowed to stabilize

Table 1—RBW as a function of frequency

Frequency	RBW		
9 ~ 150 kHz	200 ~ 300 Hz		
0.15 ~ 30 MHz	9 ~ 10 kHz		
30 ~ 1000 MHz	100 ~ 120 kHz		
> 1000 MHz	1 MHz		

Average Field Strength Measurements per Section 12.2.5.1 of KDB 558074 D01v03r02

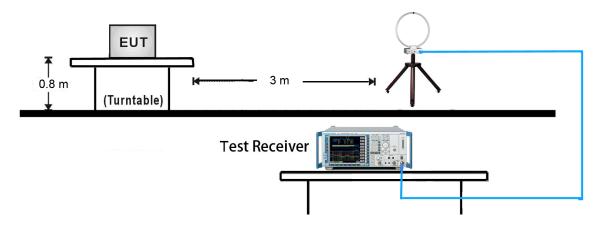
- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. RBW = 1MHz
- 3. VBW ≥ 1/T
- 4. De As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to "Voltage" regardless of the display mode
- 5. Detector = Peak
- 6. Sweep time = auto
- 7. Trace mode = max hold
- 8. Allow max hold to run for at least 50 times (1/duty cycle) traces

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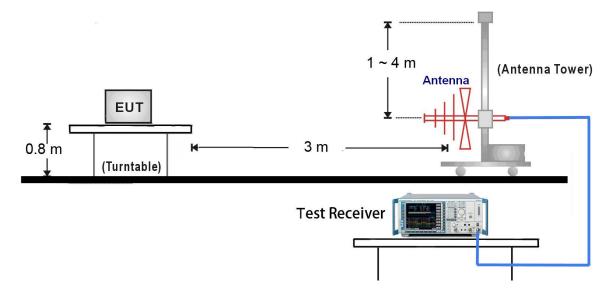


7.6.4. Test Setup

9kHz ~ 30MHz Test Setup:



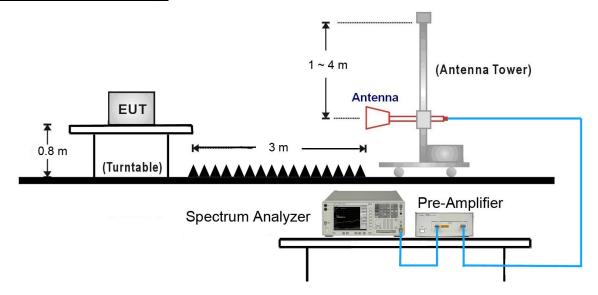
30MHz ~ 1GHz Test Setup:



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1GHz ~ 25GHz Test Setup:





7.6.5. Test Result

Test Mode:	802.11g							
Test Channel:	01	Test Engineer: Milo Li						
Remark:	1. Average measurement was not performed if peak level lower than average							
	limit.							
	2. The worst case of Radiated Spurious Emission.							
	3. Other frequency was 20dB below limit line within 1-18GHz, there is not show in							
	the report.							

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	3152.4	37.3	3.6	40.9	73.2	-32.3	Peak	Horizontal
*	3512.4	37.2	3.9	41.1	73.2	-32.1	Peak	Horizontal
	4639.3	36.0	5.9	41.9	74.0	-32.1	Peak	Horizontal
	7236.0	35.0	13.8	48.8	74.0	-25.2	Peak	Horizontal
*	3125.4	37.5	3.6	41.1	73.2	-32.1	Peak	Vertical
*	3563.4	36.6	4.1	40.7	73.2	-32.5	Peak	Vertical
	4636.3	36.2	5.9	42.1	74.0	-31.9	Peak	Vertical
	7236.0	34.9	13.8	48.7	74.0	-25.3	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (93.2dBµV/m).

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB)

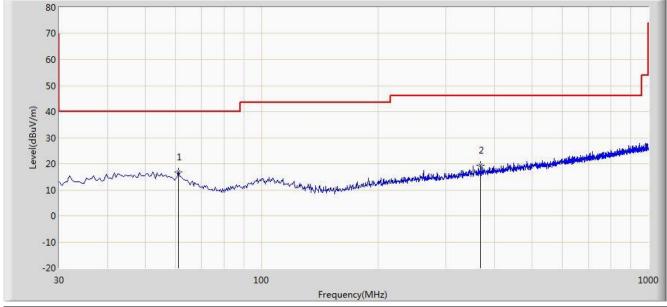
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

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The worst case of Radiated Emission below 1GHz:

Engineer: Milo Li					
Site: AC1	Time: 2014/09/09 - 09:33				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: VULB9162_0.03-8GHz	Polarity: Horizontal				
EUT: Sport Camera	Power: By Battery				
Worst Case Mode: 802.11b at channel 2462	MHz				



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	61.040	16.840	3.320	-23.160	40.000	13.520	QP
2			368.045	19.456	3.829	-26.544	46.000	15.627	QP

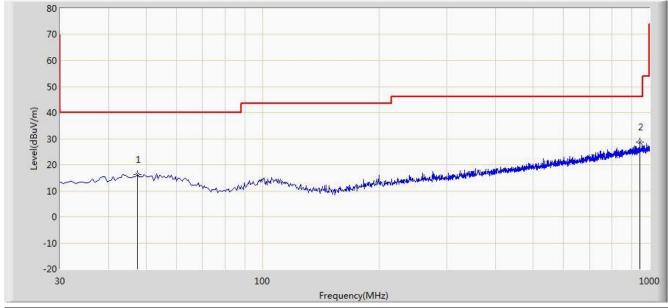
Note: Measure Level (dB μ V/m) = Reading Level (dB μ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

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Engineer: Milo Li					
Site: AC1	Time: 2014/09/09 - 09:33				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: VULB9162_0.03-8GHz	Polarity: Vertical				
EUT: Sport Camera	Power: By Battery				
Worst Case Mode: 802.11b at channel 2462MHz					



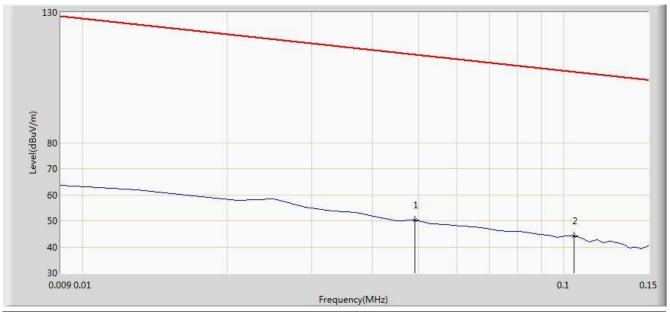
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	47.460	16.296	1.497	-23.704	40.000	14.799	QP
2			942.770	28.785	5.177	-17.215	46.000	23.608	QP

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

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EUT: Sport Camera Power: By Battery	Limit: FCC_Part15.209_RE(3m) Probe: FMZB1519_0.009-30MHz	Margin: 0 Polarity: Face On
Note: There is the ambient noise within frequency range 9kHz~30MHz.		



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			0.049	50.367	29.861	-63.422	113.789	20.505	QP
2		*	0.105	44.143	23.996	-63.029	107.173	20.147	QP



Engineer: Roy Cheng					
Site: AC1	Time: 2014/09/03 - 16:41				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: FMZB1519_0.009-30MHz	Polarity: Face On				
EUT: Sport Camera Power: By Battery					
Note: There is the ambient noise within frequency range 9kHz~30MHz.					

10 80 40 40 40 20 10 0.15 1 Trequency(MHz)

No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			2.513	30.495	10.336	-39.005	69.500	20.159	QP
2		*	7.041	30.974	10.579	-38.526	69.500	20.395	QP

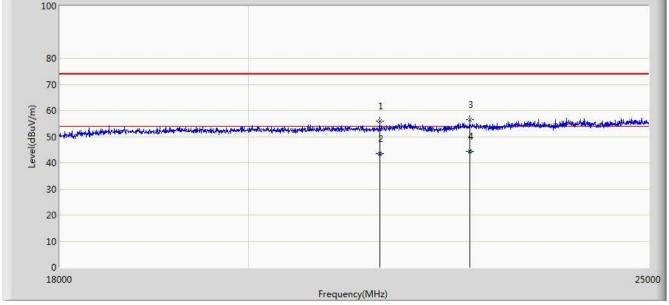
Note: Measure Level (dB μ V/m) = Reading Level (dB μ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

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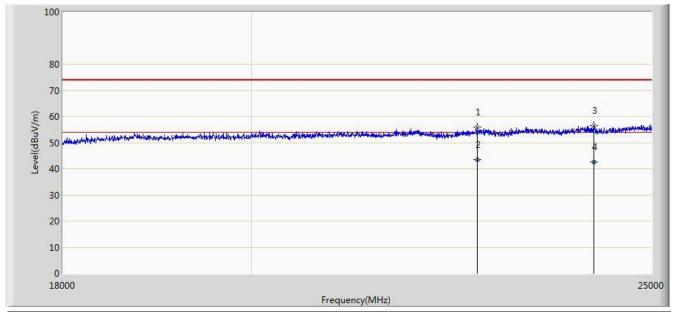
Engineer: Roy Cheng					
Site: AC1	Time: 2014/09/03 - 17:39				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9170_18-40GHz	Polarity: Horizontal				
EUT: Sport Camera	Power: By Battery				
Note: There is the ambient noise within frequency range 18 ~ 25GHz.					



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			21517.500	55.869	17.883	-18.131	74.000	37.986	PK
2			21517.650	43.351	5.365	-10.649	54.000	37.986	AV
3			22630.500	56.509	18.223	-17.491	74.000	38.286	PK
4		*	22630.540	44.310	6.024	-9.690	54.000	38.286	AV



Engineer: Roy Cheng					
Site: AC1	Time: 2014/09/03 - 17:43				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9170_18-40GHz	Polarity: Vertical				
EUT: Sport Camera	Power: By Battery				
Note: There is the ambient noise within frequency range 18 ~ 25GHz					



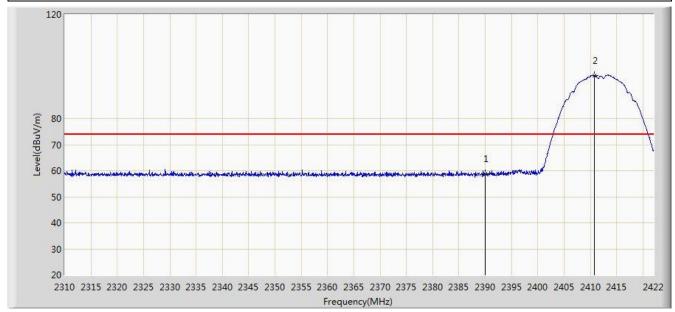
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			22686.500	55.811	17.457	-18.189	74.000	38.354	PK
2		*	22686.540	43.598	5.244	-10.402	54.000	38.354	AV
3			24205.500	56.430	17.607	-17.570	74.000	38.823	PK
4			24205.658	42.518	3.695	-11.482	54.000	38.823	AV



7.7. Radiated Restricted Band Edge Measurement

7.7.1. Test Result

Engineer: Milo Li						
Site: AC1	Time: 2014/09/04 - 11:58					
Limit: FCC_Part15.209_RE(3m)	Margin: 0					
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal					
EUT: Sport Camera	Power: By Battery					
Worst Case Mode: 802.11b at channel 2412MHz						



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			2390.000	58.808	28.124	-15.192	74.000	30.684	PK
2		*	2410.800	96.630	65.983	N/A	N/A	30.647	PK

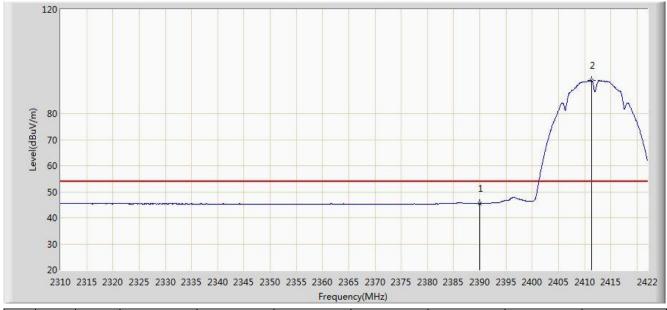
Note: Measure Level (dB μ V/m) = Reading Level (dB μ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

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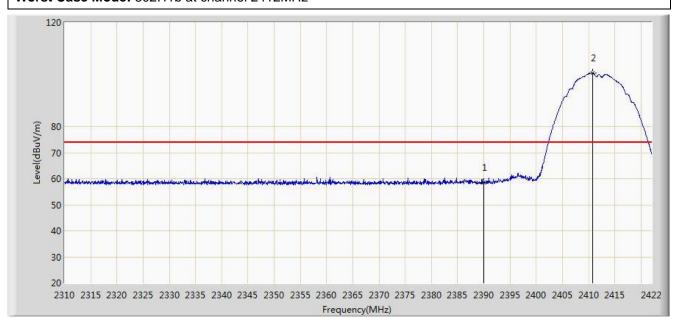
Engineer: Milo Li					
Site: AC1	Time: 2014/09/04 - 12:03				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: Sport Camera	Power: By Battery				
Worst Case Mode: 802.11b at channel 2412MHz					



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			2390.000	45.501	14.817	-8.499	54.000	30.684	AV
2		*	2411.304	92.844	62.198	N/A	N/A	30.646	AV



Engineer: Milo Li					
Site: AC1	Time: 2014/09/04 - 12:04				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: Sport Camera	Power: By Battery				
Worst Case Mode: 802.11b at channel 2412MHz					



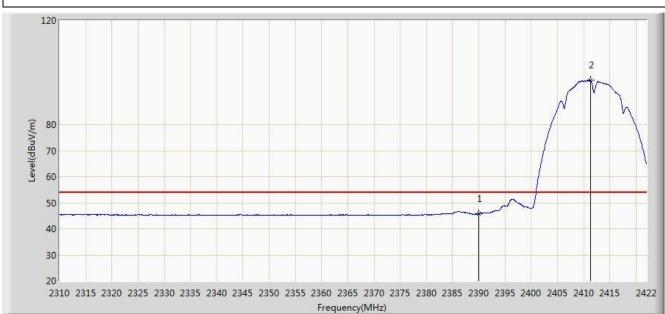
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			2390.000	58.495	27.811	-15.505	74.000	30.684	PK
2		*	2410.800	100.523	69.876	N/A	N/A	30.647	PK

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

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Engineer: Milo Li					
Site: AC1	Time: 2014/09/04 - 12:07				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: Sport Camera	Power: By Battery				
Worst Case Mode: 802.11b at channel 2412MHz					



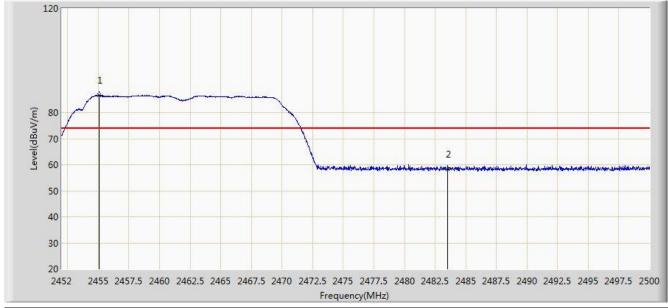
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			2390.000	45.851	15.167	-8.149	54.000	30.684	AV
2		*	2411.304	97.024	66.378	N/A	N/A	30.646	AV

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

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Engineer: Milo Li					
Site: AC1	Time: 2014/09/04 - 12:08				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: Sport Camera	Power: By Battery				
Worst Case Mode: 802.11n-HT20 at channel 2462MHz					



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	2455.048	86.655	56.054	N/A	N/A	30.601	PK
2			2483.500	58.333	27.660	-15.667	74.000	30.673	PK



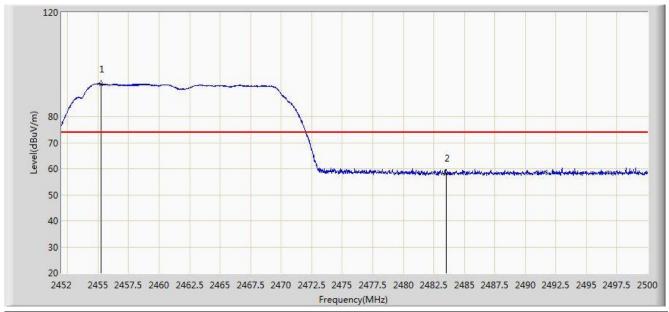
Engineer: Milo Li					
Site: AC1	Time: 2014/09/04 - 13:28				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: Sport Camera Power: By Battery					
Worst Case Mode: 802.11n-HT20 at channel 2462MHz					



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	2468.776	76.094	45.464	N/A	N/A	30.630	AV
2			2483.500	45.456	14.783	-8.544	54.000	30.673	AV



Engineer: Milo Li					
Site: AC1	Time: 2014/09/04 - 13:29				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: Sport Camera	Power: By Battery				
Worst Case Mode: 802.11n-HT20 at channel 2462MHz					



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	2455.264	92.583	61.982	N/A	N/A	30.601	PK
2			2483.500	58.258	27.585	-15.742	74.000	30.673	PK



Engineer: Milo Li					
Site: AC1	Time: 2014/09/04 - 13:31				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: Sport Camera Power: By Battery					
Worst Case Mode: 802.11n-HT20 at channel 2462MHz					



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	2464.960	82.040	51.422	N/A	N/A	30.618	AV
2			2483.500	45.522	14.849	-8.478	54.000	30.673	AV



7.8. AC Conducted Emissions Measurement

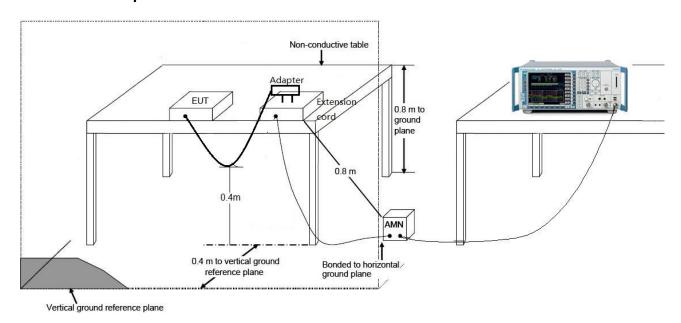
7.8.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits						
Frequency (MHz)	QP (dBuV)	AV (dBuV)				
0.15 - 0.50	66 - 56	56 – 46				
0.50 - 5.0	56	46				
5.0 - 30	60	50				

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

7.8.2. Test Setup

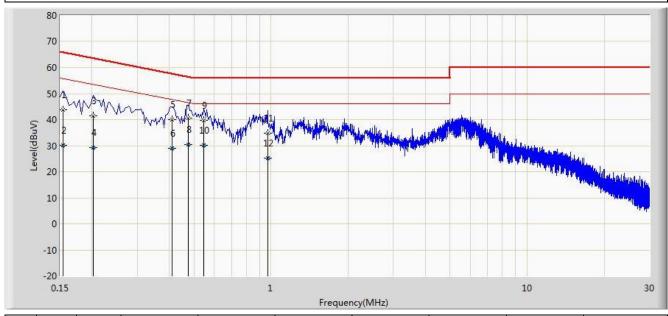


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7.8.3. Test Result

Engineer: Milo Li					
Site: SR2	Time: 2014/09/01 - 18:53				
Limit: FCC_Part15.207_CE_AC Power	Margin: 0				
Probe: ENV216_101683_Filter On	Polarity: Line				
EUT: Sport Camera	Power: AC 120V/60Hz				
Note: Normal Operation					



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV)	(dB)	
				(dBuV)	(dBuV)				
1		*	0.154	43.848	33.108	-21.934	65.781	10.740	QP
2			0.154	30.256	19.516	-25.525	55.781	10.740	AV
3			0.202	41.517	31.524	-22.011	63.528	9.993	QP
4			0.202	29.414	19.421	-24.114	53.528	9.993	AV
5			0.410	39.942	29.849	-17.706	57.648	10.093	QP
6			0.410	29.035	18.942	-18.613	47.648	10.093	AV
7			0.474	40.479	30.333	-15.965	56.444	10.145	QP
8			0.474	30.383	20.238	-16.060	46.444	10.145	AV
9			0.546	39.694	29.551	-16.306	56.000	10.143	QP
10			0.546	30.148	20.005	-15.852	46.000	10.143	AV
11			0.970	34.862	24.938	-21.138	56.000	9.924	QP
12			0.970	25.211	15.287	-20.789	46.000	9.924	AV

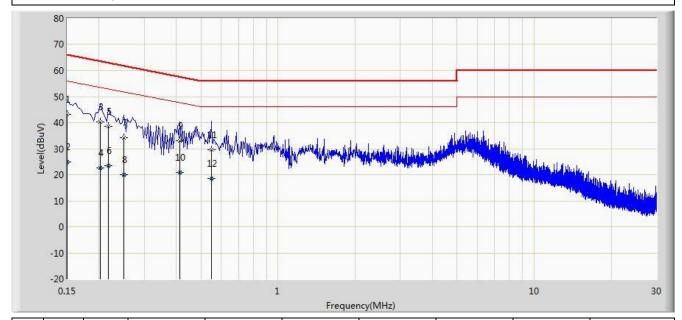
Note: Measure Level (dB μ V) = Reading Level (dB μ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

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Engineer: Milo Li					
Site: SR2	Time: 2014/09/01 - 18:57				
Limit: FCC_Part15.207_CE_AC Power	Margin: 0				
Probe: ENV216_101683_Filter On	Polarity: Neutral				
EUT: Sport Camera	Power: AC 120V/60Hz				
Note: Normal Operation					



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV)	(dB)	
				(dBuV)	(dBuV)				
1		*	0.150	43.188	32.046	-22.812	66.000	11.142	QP
2			0.150	24.881	13.739	-31.119	56.000	11.142	AV
3			0.202	40.308	30.300	-23.220	63.528	10.008	QP
4			0.202	22.692	12.684	-30.836	53.528	10.008	AV
5			0.218	38.689	28.708	-24.206	62.895	9.981	QP
6			0.218	23.574	13.593	-29.320	52.895	9.981	AV
7			0.250	34.175	24.174	-27.582	61.757	10.001	QP
8			0.250	19.969	9.968	-31.788	51.757	10.001	AV
9			0.414	33.149	23.026	-24.419	57.568	10.123	QP
10			0.414	20.908	10.786	-26.659	47.568	10.123	AV
11			0.550	29.708	19.549	-26.292	56.000	10.159	QP
12			0.550	18.493	8.334	-27.507	46.000	10.159	AV

Factor (dB) = Cable Loss (dB) + LISN Factor (dB)



8. CONCLUSION

The data collected relate only the item(s) tested and show that the Sport Camera FCC ID
2AC42DV500SA is in compliance with Part 15C of the FCC Rules.

_______ The End _______
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