

**For PCB Antenna**

Test Mode:	802.11a - Ant 0	Test Site:	AC1
Test Channel:	36	Test Engineer:	Jone Zhang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7927.5	35.8	8.5	44.3	68.2	-23.9	Peak	Horizontal
*	8684.0	36.1	9.0	45.1	68.2	-23.1	Peak	Horizontal
	14478.0	34.8	15.8	50.6	74.0	-23.4	Peak	Horizontal
	15543.5	41.1	12.2	53.3	74.0	-20.7	Peak	Horizontal
*	8641.5	36.4	8.8	45.2	68.2	-23.0	Peak	Vertical
*	10367.0	35.5	12.2	47.7	68.2	-20.5	Peak	Vertical
	14471.2	34.8	15.8	50.6	74.0	-23.4	Peak	Vertical
	15535.0	42.7	12.2	54.9	74.0	-19.1	Peak	Vertical
	15537.2	32.7	12.2	44.9	54.0	-9.1	Average	Vertical

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Test Mode:	802.11a - Ant 0	Test Site:	AC1
Test Channel:	44	Test Engineer:	Jone Zhang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7919.0	35.9	8.4	44.3	68.2	-23.9	Peak	Horizontal
*	8616.0	36.5	8.8	45.3	68.2	-22.9	Peak	Horizontal
	10996.0	36.4	13.0	49.4	74.0	-24.6	Peak	Horizontal
	15662.5	42.9	12.0	54.9	74.0	-19.1	Peak	Horizontal
	15662.5	31.5	12.0	43.5	54.0	-10.5	Average	Horizontal
*	8633.0	36.7	8.8	45.5	68.2	-22.7	Peak	Vertical
*	10027.0	34.9	11.5	46.4	68.2	-21.8	Peak	Vertical
	10970.5	35.3	13.1	48.4	74.0	-25.6	Peak	Vertical
	15671.0	42.8	11.9	54.7	74.0	-19.3	Peak	Vertical
	15671.0	31.5	11.9	43.4	54.0	-10.6	Average	Vertical

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Test Mode:	802.11a - Ant 0	Test Site:	AC1
Test Channel:	48	Test Engineer:	Jone Zhang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7043.5	35.3	7.0	42.3	68.2	-25.9	Peak	Horizontal
*	9253.5	35.6	10.2	45.8	68.2	-22.4	Peak	Horizontal
	10936.5	34.9	13.0	47.9	74.0	-26.1	Peak	Horizontal
	15730.5	43.2	11.8	55.0	74.0	-19.0	Peak	Horizontal
	15730.5	31.5	11.8	43.3	54.0	-10.7	Average	Horizontal
*	8862.5	35.8	9.1	44.9	68.2	-23.3	Peak	Vertical
*	10214.0	35.1	11.8	46.9	68.2	-21.3	Peak	Vertical
	11285.0	35.5	12.4	47.9	74.0	-26.1	Peak	Vertical
	15730.5	41.9	11.8	53.7	74.0	-20.3	Peak	Vertical

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Test Mode:	802.11a - Ant 1	Test Site:	AC1
Test Channel:	36	Test Engineer:	Jone Zhang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	8726.5	36.4	9.0	45.4	68.2	-22.8	Peak	Horizontal
*	10171.5	35.4	11.7	47.1	68.2	-21.1	Peak	Horizontal
	14476.3	35.6	15.8	51.4	74.0	-22.6	Peak	Horizontal
	15535.0	41.5	12.2	53.7	74.0	-20.3	Peak	Horizontal
*	7783.0	35.9	8.3	44.2	68.2	-24.0	Peak	Vertical
*	10358.5	36.9	12.2	49.1	68.2	-19.1	Peak	Vertical
	14478.5	35.5	15.8	51.3	74.0	-22.7	Peak	Vertical
	15535.0	44.0	12.2	56.2	74.0	-17.8	Peak	Vertical
	15542.8	34.0	12.2	46.2	54.0	-7.8	Average	Vertical

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Test Mode:	802.11a - Ant 1	Test Site:	AC1
Test Channel:	44	Test Engineer:	Jone Zhang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	7842.5	36.3	8.4	44.7	68.2	-23.5	Peak	Horizontal
*	9202.5	34.9	10.1	45.0	68.2	-23.2	Peak	Horizontal
	12041.5	35.7	12.0	47.7	74.0	-26.3	Peak	Horizontal
	15662.5	41.2	12.0	53.2	74.0	-20.8	Peak	Horizontal
*	7910.5	35.4	8.4	43.8	68.2	-24.4	Peak	Vertical
*	10443.5	37.3	12.0	49.3	68.2	-18.9	Peak	Vertical
	11353.0	35.1	12.5	47.6	74.0	-26.4	Peak	Vertical
	15662.5	42.1	12.0	54.1	74.0	-19.9	Peak	Vertical
	15662.5	31.5	12.0	43.5	54.0	-10.5	Average	Vertical

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Test Mode:	802.11a - Ant 1	Test Site:	AC1
Test Channel:	48	Test Engineer:	Jone Zhang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dB $\mu$ V)	Factor (dB)	Measure Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Detector	Polarization
*	7978.5	36.2	8.7	44.9	68.2	-23.3	Peak	Horizontal
*	9253.5	34.2	10.2	44.4	68.2	-23.8	Peak	Horizontal
	11234.0	35.5	12.4	47.9	74.0	-26.1	Peak	Horizontal
	15722.0	44.2	11.8	56.0	74.0	-18.0	Peak	Horizontal
	15722.0	33.5	11.8	45.3	54.0	-8.7	Average	Horizontal
*	7842.5	34.1	8.4	42.5	68.2	-25.7	Peak	Vertical
*	8862.5	36.4	9.1	45.5	68.2	-22.7	Peak	Vertical
	11251.0	36.2	12.4	48.6	74.0	-25.4	Peak	Vertical
	15730.5	41.6	11.8	53.4	74.0	-20.6	Peak	Vertical

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dB $\mu$ V/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Test Mode:	802.11n-HT20 - Ant 0 + 1	Test Site:	AC1
Test Channel:	36	Test Engineer:	Jone Zhang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dB $\mu$ V)	Factor (dB)	Measure Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Detector	Polarization
*	8571.0	35.0	8.7	43.7	68.2	-24.5	Peak	Horizontal
*	8837.0	35.7	9.1	44.8	68.2	-23.4	Peak	Horizontal
	10928.0	35.3	13.0	48.3	74.0	-25.7	Peak	Horizontal
	15543.5	44.4	12.2	56.6	74.0	-17.4	Peak	Horizontal
	15543.5	32.5	12.2	44.7	54.0	-9.3	Average	Horizontal
*	8752.0	36.5	9.0	45.5	68.2	-22.7	Peak	Vertical
*	10350.0	38.6	12.2	50.8	68.2	-17.4	Peak	Vertical
	11089.5	35.2	12.8	48.0	74.0	-26.0	Peak	Vertical
	15535.0	44.5	12.2	56.7	74.0	-17.3	Peak	Vertical
	15542.8	36.0	12.2	48.2	54.0	-5.8	Average	Vertical

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dB $\mu$ V/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Test Mode:	802.11n-HT20 - Ant 0 + 1	Test Site:	AC1
Test Channel:	44	Test Engineer:	Jone Zhang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dB $\mu$ V)	Factor (dB)	Measure Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Detector	Polarization
*	7910.5	34.4	8.4	42.8	68.2	-25.4	Peak	Horizontal
*	10129.0	35.2	11.6	46.8	68.2	-21.4	Peak	Horizontal
	11463.5	35.3	12.7	48.0	74.0	-26.0	Peak	Horizontal
	15654.0	43.0	12.0	55.0	74.0	-19.0	Peak	Horizontal
	15654.0	31.5	12.0	43.5	54.0	-10.5	Average	Horizontal
*	7953.0	36.0	8.6	44.6	68.2	-23.6	Peak	Vertical
*	10435.0	37.4	12.0	49.4	68.2	-18.8	Peak	Vertical
	11021.5	35.9	13.0	48.9	74.0	-25.1	Peak	Vertical
	15662.5	43.1	12.0	55.1	74.0	-18.9	Peak	Vertical
	15662.5	32.7	12.0	44.7	54.0	-9.3	Average	Vertical

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dB $\mu$ V/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

Note 2: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Test Mode:	802.11n-HT20 - Ant 0 + 1	Test Site:	AC1
Test Channel:	48	Test Engineer:	Jone Zhang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	8854.0	36.1	9.1	45.2	68.2	-23.0	Peak	Horizontal
*	10537.0	34.0	12.5	46.5	68.2	-21.7	Peak	Horizontal
	11336.0	35.1	12.5	47.6	74.0	-26.4	Peak	Horizontal
	15713.5	44.6	11.8	56.4	74.0	-17.6	Peak	Horizontal
	15722.1	33.2	11.8	45.0	54.0	-9.0	Average	Horizontal
*	8692.5	36.1	9.0	45.1	68.2	-23.1	Peak	Vertical
*	10299.0	34.8	12.0	46.8	68.2	-21.4	Peak	Vertical
	11650.5	35.6	12.3	47.9	74.0	-26.1	Peak	Vertical
	15722.0	39.8	11.8	51.6	74.0	-22.4	Peak	Vertical

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Test Mode:	802.11n-HT40 - Ant 0 + 1	Test Site:	AC1
Test Channel:	38	Test Engineer:	Jone Zhang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	8021.0	36.3	8.7	45.0	68.2	-23.2	Peak	Horizontal
*	10129.0	35.4	11.6	47.0	68.2	-21.2	Peak	Horizontal
	12033.0	36.0	12.0	48.0	74.0	-26.0	Peak	Horizontal
	14474.9	35.6	15.8	51.4	74.0	-22.6	Peak	Horizontal
*	7944.5	35.9	8.5	44.4	68.2	-23.8	Peak	Vertical
*	8658.5	35.2	8.8	44.0	68.2	-24.2	Peak	Vertical
	11004.5	34.9	13.0	47.9	74.0	-26.1	Peak	Vertical
	14472.5	35.4	15.8	51.2	74.0	-22.8	Peak	Vertical

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Test Mode:	802.11n-HT40 - Ant 0 + 1	Test Site:	AC1
Test Channel:	46	Test Engineer:	Jone Zhang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
*	9270.5	35.5	10.3	45.8	68.2	-22.4	Peak	Horizontal
*	10018.5	33.9	11.4	45.3	68.2	-22.9	Peak	Horizontal
	11072.5	34.8	12.8	47.6	74.0	-26.4	Peak	Horizontal
	13384.5	37.3	13.7	51.0	74.0	-23.0	Peak	Horizontal
*	8633.0	36.2	8.8	45.0	68.2	-23.2	Peak	Vertical
*	10503.0	34.8	12.4	47.2	68.2	-21.0	Peak	Vertical
	10996.0	34.8	13.0	47.8	74.0	-26.2	Peak	Vertical
	12041.5	35.4	12.0	47.4	74.0	-26.6	Peak	Vertical

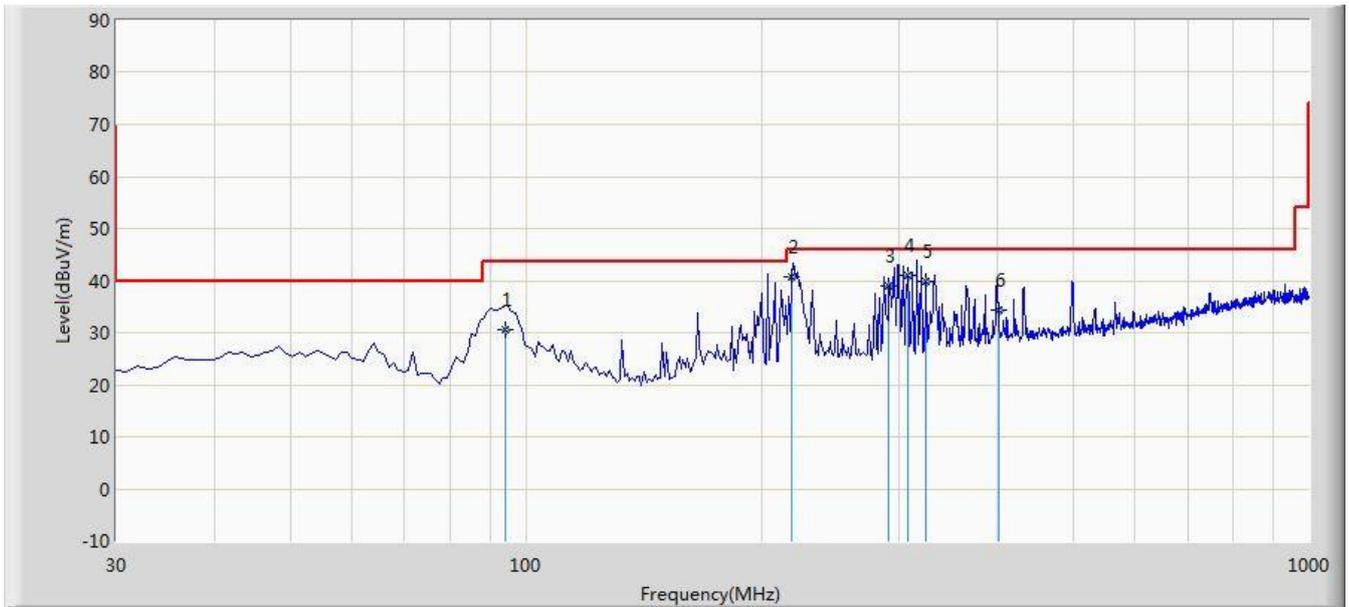
Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.

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

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

**The worst case of Radiated Emission below 1GHz:**

Site: AC1	Time: 2016/11/14 - 02:19
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: VULB9162_0.03-8GHz	Polarity: Horizontal
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
<b>Worst Mode:</b> Transmit by 802.11n-HT20 at channel 5220MHz Ant 0 + 1	

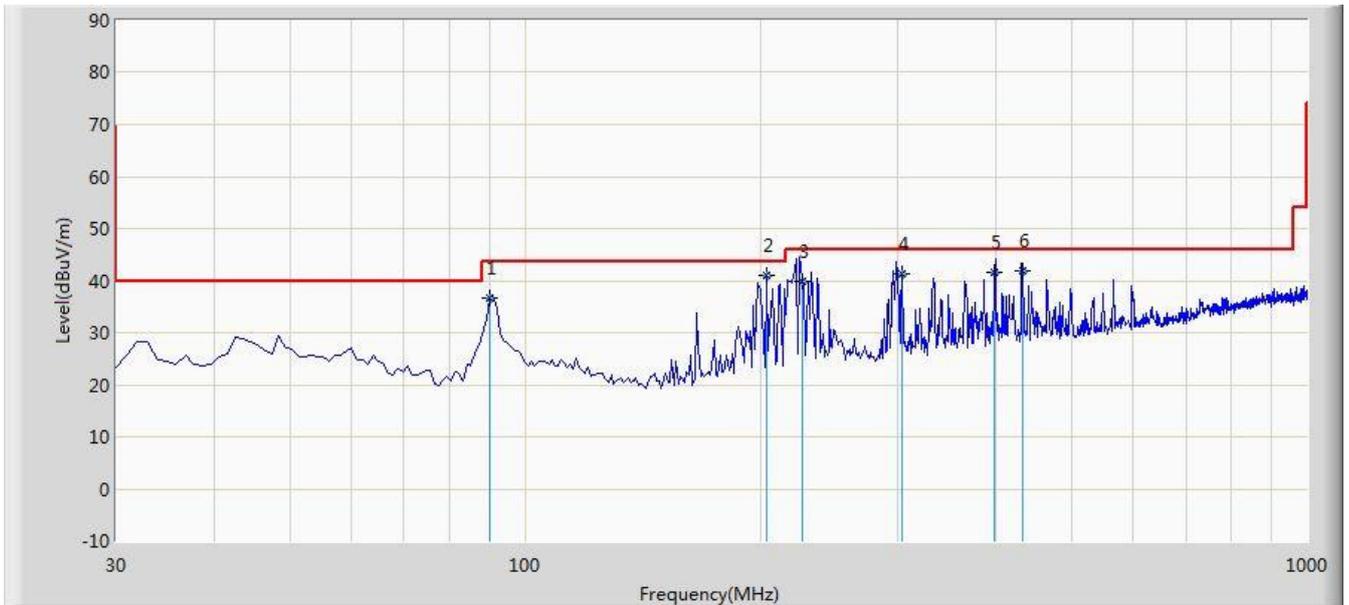


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			94.020	30.567	18.400	-12.933	43.500	12.167	QP
2			218.180	40.835	28.273	-5.165	46.000	12.562	QP
3			290.930	38.881	24.568	-7.119	46.000	14.313	QP
4		*	307.420	41.111	26.424	-4.889	46.000	14.687	QP
5			324.880	39.750	24.601	-6.250	46.000	15.149	QP
6			401.510	34.376	17.699	-11.624	46.000	16.677	QP

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

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

Site: AC1	Time: 2016/11/14 - 02:20
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: VULB9162_0.03-8GHz	Polarity: Vertical
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
<b>Worst Mode:</b> Transmit by 802.11n-HT20 at channel 5220MHz Ant 0 + 1	

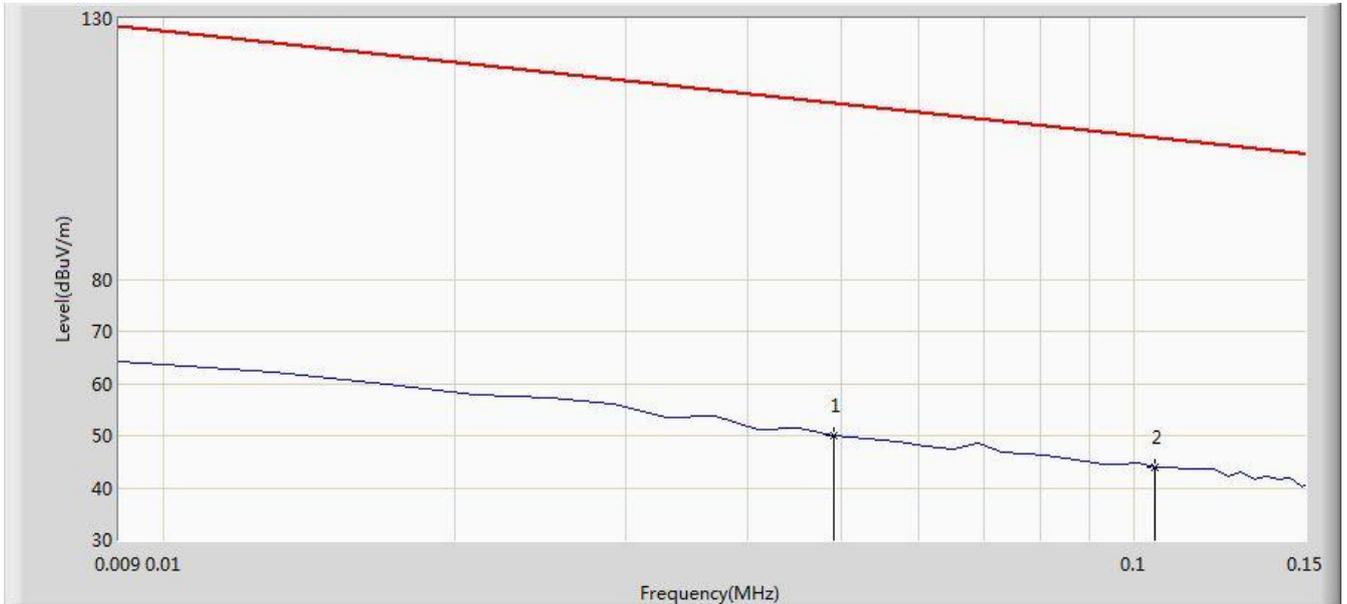


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			90.140	36.705	25.456	-6.795	43.500	11.249	QP
2		*	203.630	41.054	28.761	-2.446	43.500	12.293	QP
3			225.940	39.943	27.100	-6.057	46.000	12.843	QP
4			303.540	41.373	26.784	-4.627	46.000	14.589	QP
5			398.600	41.623	24.996	-4.377	46.000	16.627	QP
6			433.520	41.935	24.837	-4.065	46.000	17.098	QP

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

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

Site: AC1	Time: 2016/11/12 - 15:24
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: FMZB1519_0.009-30MHz	Polarity: Face on
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
<b>Note: There is the ambient noise within frequency range 9kHz~30MHz.</b>	



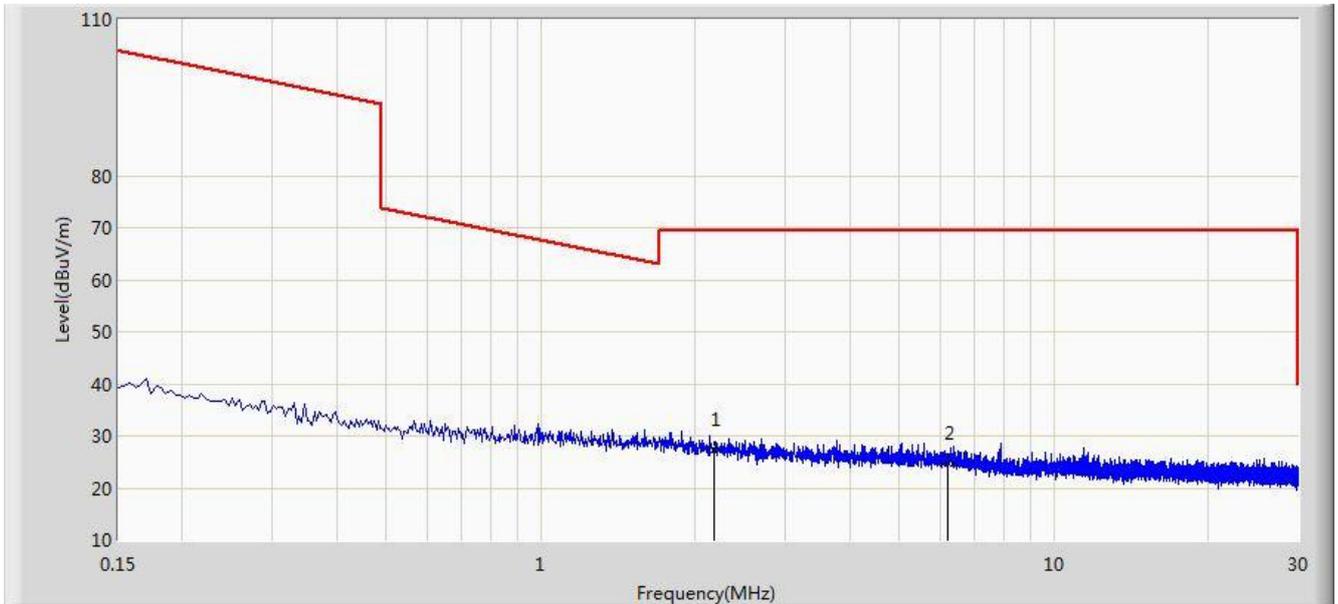
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			0.049	50.112	29.552	-63.688	113.800	20.560	AV
2		*	0.105	44.043	23.845	-63.137	107.180	20.198	QP

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

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

Limit@3m = 20\*Log((2400/49) $\mu$ V/m) + 40\*Log(300m/3m) = 113.800dB $\mu$ V/m (Average detector)

Site: AC1	Time: 2016/11/12 - 15:33
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: FMZB1519_0.009-30MHz	Polarity: Face on
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
<b>Note: There is the ambient noise within frequency range 9kHz~30MHz.</b>	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2.175	27.371	6.960	-42.129	69.500	20.412	QP
2			6.216	24.786	4.701	-44.714	69.500	20.085	QP

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

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

Limit@3m =  $20 \cdot \log(30 \mu\text{V/m}) + 20 \cdot \log(30\text{m}/3\text{m}) = 49.5 \text{ dB}\mu\text{V/m}$  (Average detector), and  $69.5 \text{ dB}\mu\text{V/m}$  (Quasi-Peak detector).

Site: AC1	Time: 2016/11/12 - 19:14
Limit: FCC_Part15.209_RE(1m)	Engineer: Jone Zhang
Probe: BBHA9170_18-40GHz	Polarity: Horizontal
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
<b>Note: There is the ambient noise within frequency range 18GHz~40GHz.</b>	

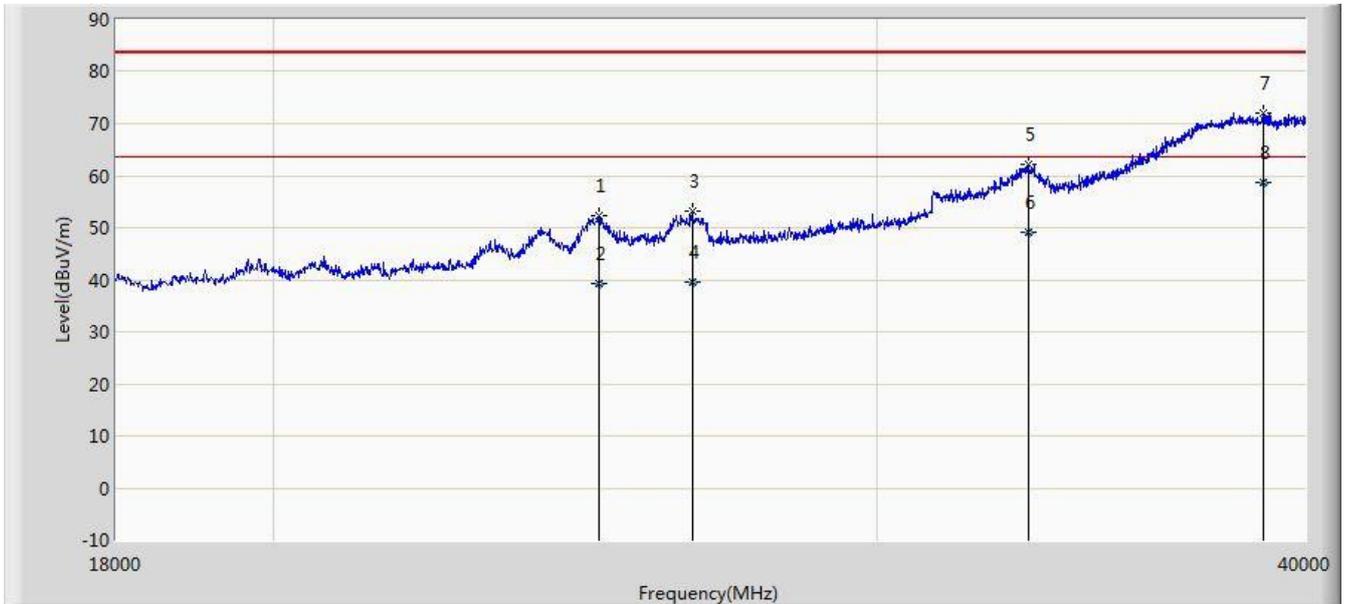


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			24864.000	51.836	37.061	-31.664	83.500	14.775	PK
2			24864.088	39.225	24.450	-24.275	63.500	14.775	AV
3			26260.988	39.469	24.050	-24.031	63.500	15.419	AV
4			26261.000	51.956	36.537	-31.544	83.500	15.419	PK
5			33180.000	61.461	39.940	-22.039	83.500	21.521	PK
6			33180.361	49.061	27.540	-14.439	63.500	21.521	AV
7		*	38437.980	58.523	31.190	-4.977	63.500	27.333	AV
8			38438.000	72.021	44.688	-11.479	83.500	27.333	PK

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

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) – Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/12 - 19:23
Limit: FCC_Part15.209_RE(1m)	Engineer: Jone Zhang
Probe: BBHA9170_18-40GHz	Polarity: Vertical
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
<b>Note: There is the ambient noise within frequency range 18GHz~40GHz.</b>	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			24886.000	52.313	37.528	-31.187	83.500	14.785	PK
2			24886.970	39.234	24.449	-24.266	63.500	14.785	AV
3			26503.000	53.227	37.207	-30.273	83.500	16.020	PK
4			26503.872	39.572	23.550	-23.928	63.500	16.022	AV
5			33213.000	62.110	40.572	-21.390	83.500	21.538	PK
6			33213.984	49.098	27.560	-14.402	63.500	21.538	AV
7			38900.000	72.096	44.211	-11.404	83.500	27.885	PK
8		*	38900.755	58.705	30.820	-4.795	63.500	27.885	AV

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

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) – Pre\_Amplifier Gain (dB)

## 7.7. Radiated Restricted Band Edge Measurement

### 7.7.1. Test Limit

#### **For 15.205 requirement:**

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
<sup>1</sup> 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.25 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	( <sup>2</sup> )
13.36 - 13.41	--	--	--

**For 15.407(b)(1) requirement:**

For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

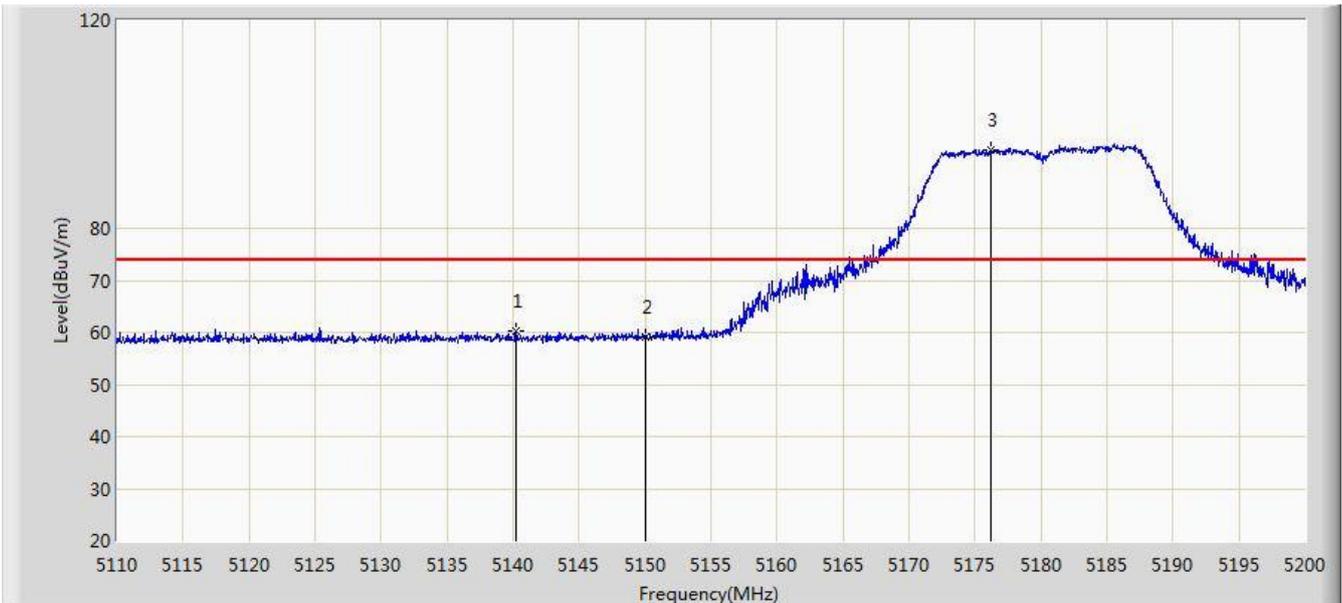
All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/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

### 7.7.2. Test Result of Radiated Restricted Band Edge

#### For Dipole Antenna

Site: AC1	Time: 2016/11/11 - 22:25
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz Ant 0	

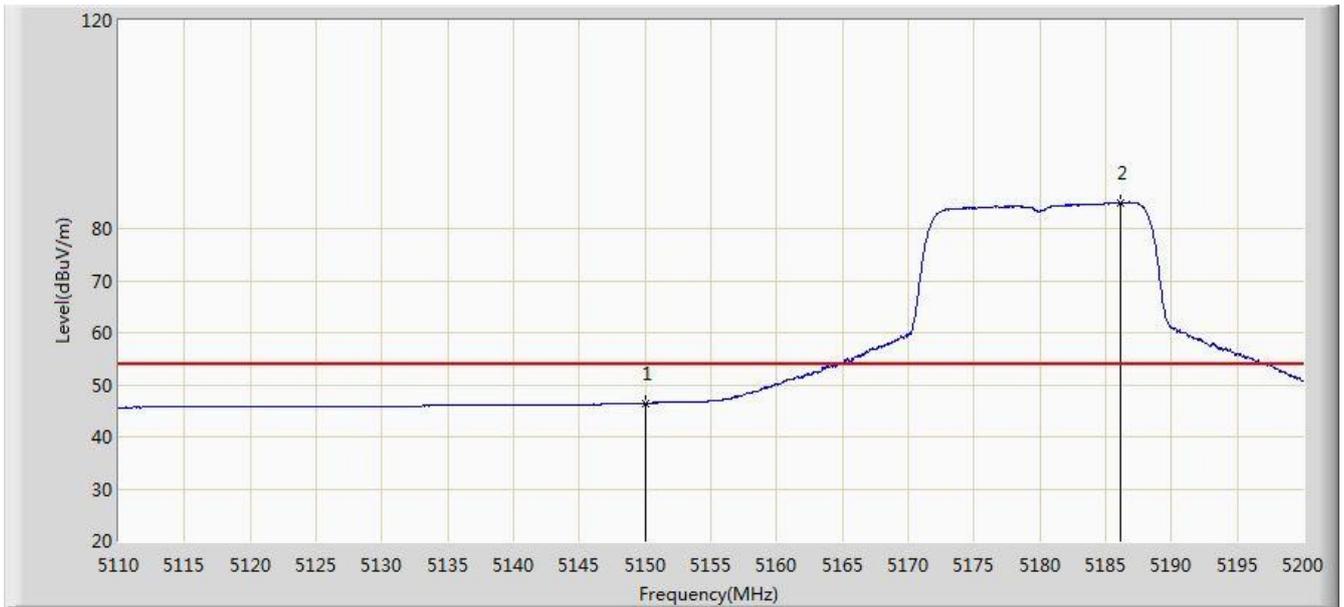


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5140.195	60.405	57.095	-13.595	74.000	3.310	PK
2			5150.000	59.175	55.866	-14.825	74.000	3.309	PK
3		*	5176.195	95.200	91.924	N/A	N/A	3.276	PK

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

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 22:28
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz Ant 0	

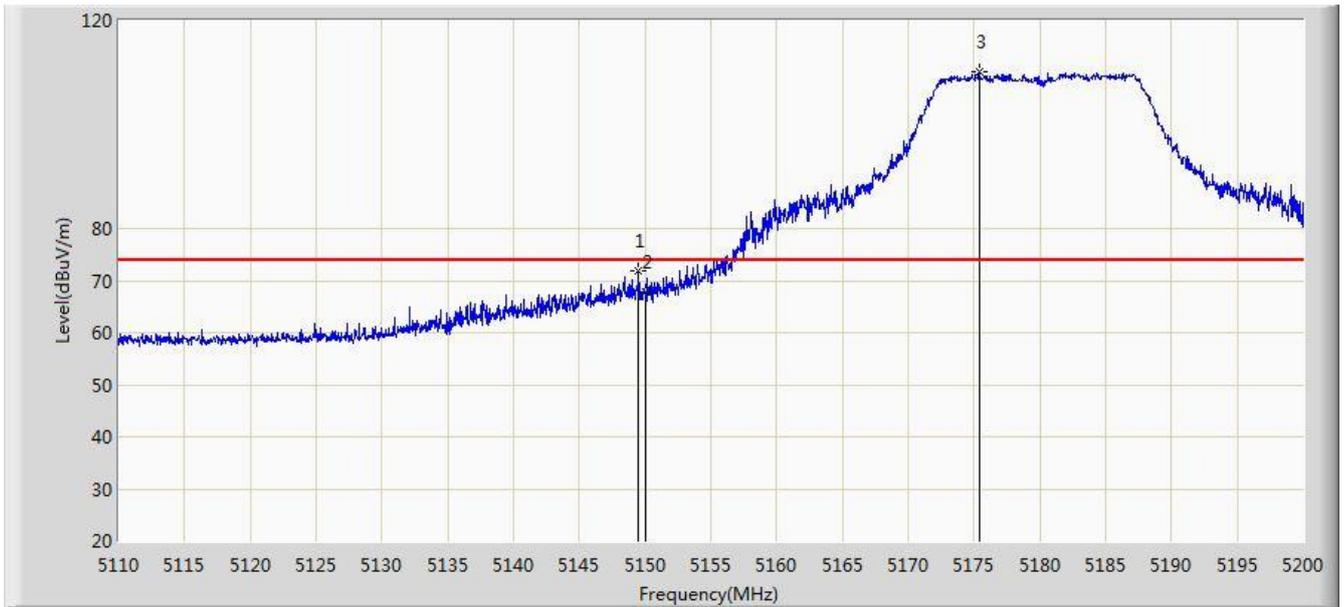


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	46.470	43.161	-7.530	54.000	3.309	AV
2		*	5186.095	84.925	81.659	N/A	N/A	3.266	AV

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 22:25
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz Ant 0	

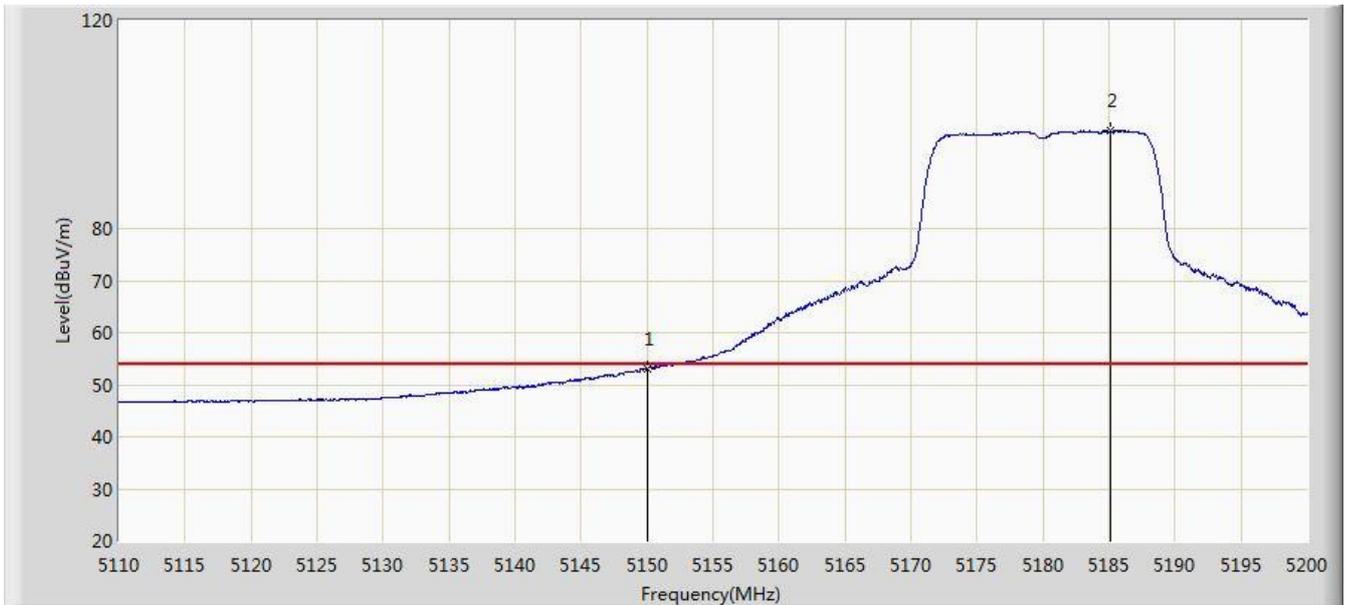


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5149.510	71.797	68.488	-2.203	74.000	3.309	PK
2			5150.000	67.780	64.471	-6.220	74.000	3.309	PK
3		*	5175.385	110.253	106.976	N/A	N/A	3.277	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 22:24
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz Ant 0	

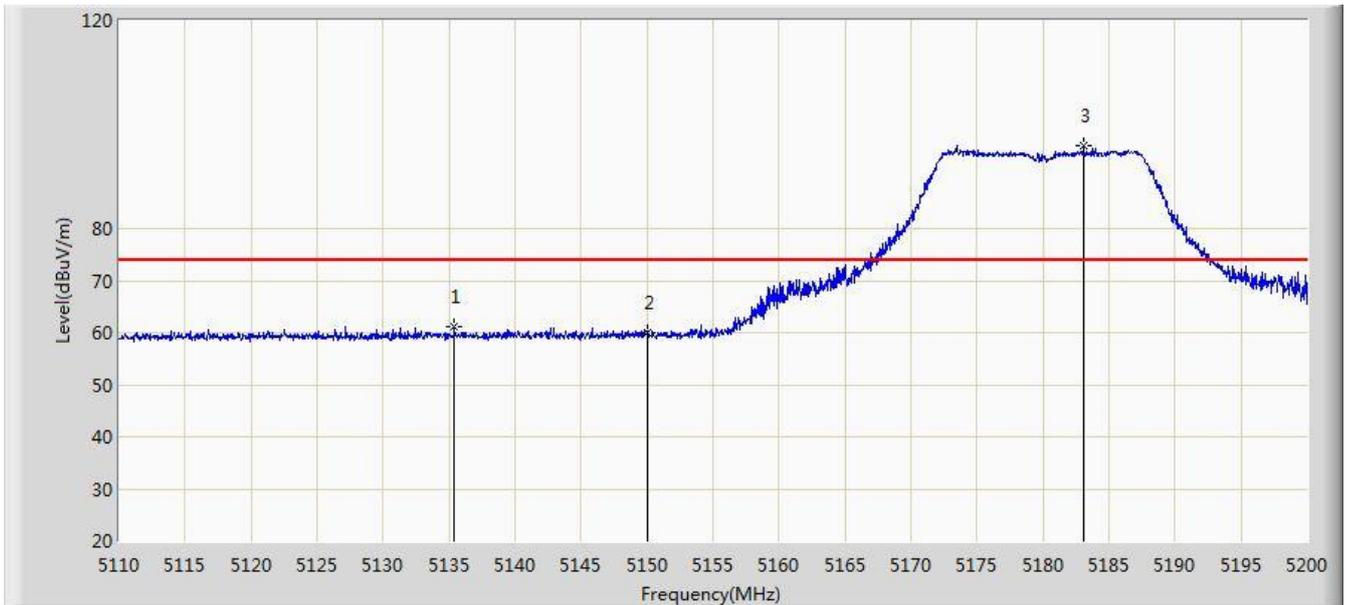


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	53.176	49.867	-0.824	54.000	3.309	AV
2		*	5185.060	98.732	95.465	N/A	N/A	3.268	AV

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 22:36
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz Ant 1	

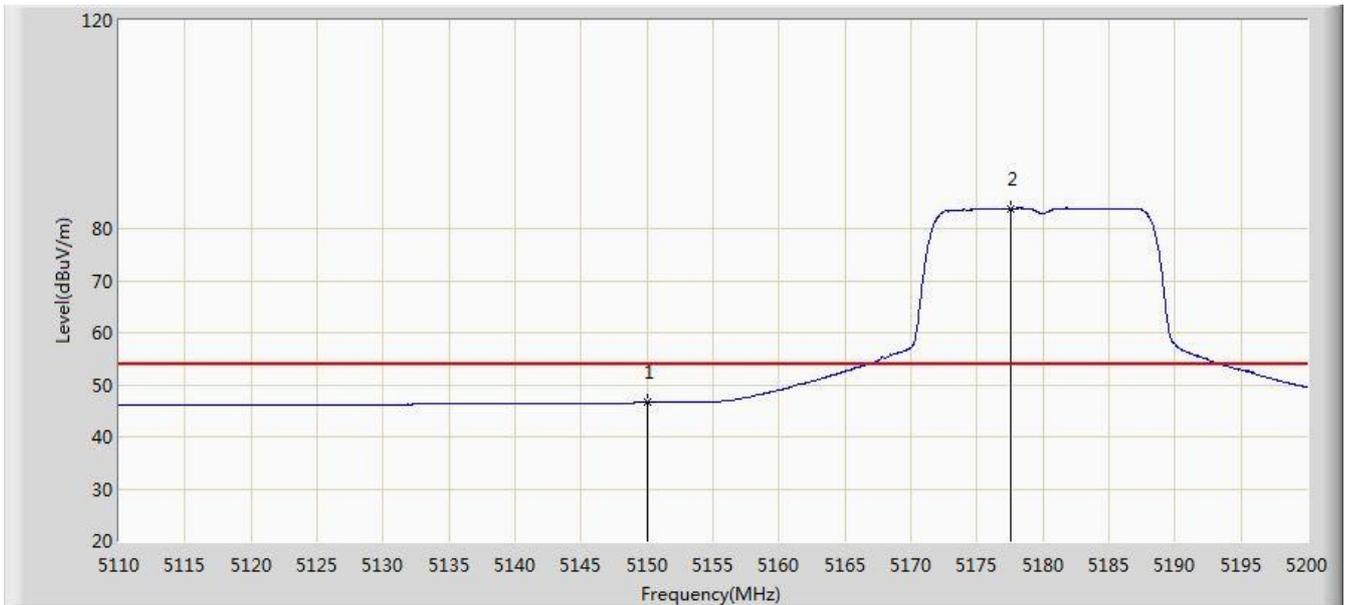


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5135.425	61.288	57.978	-12.712	74.000	3.310	PK
2			5150.000	59.943	56.634	-14.057	74.000	3.309	PK
3		*	5183.080	95.851	92.581	N/A	N/A	3.269	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 22:40
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz Ant 1	

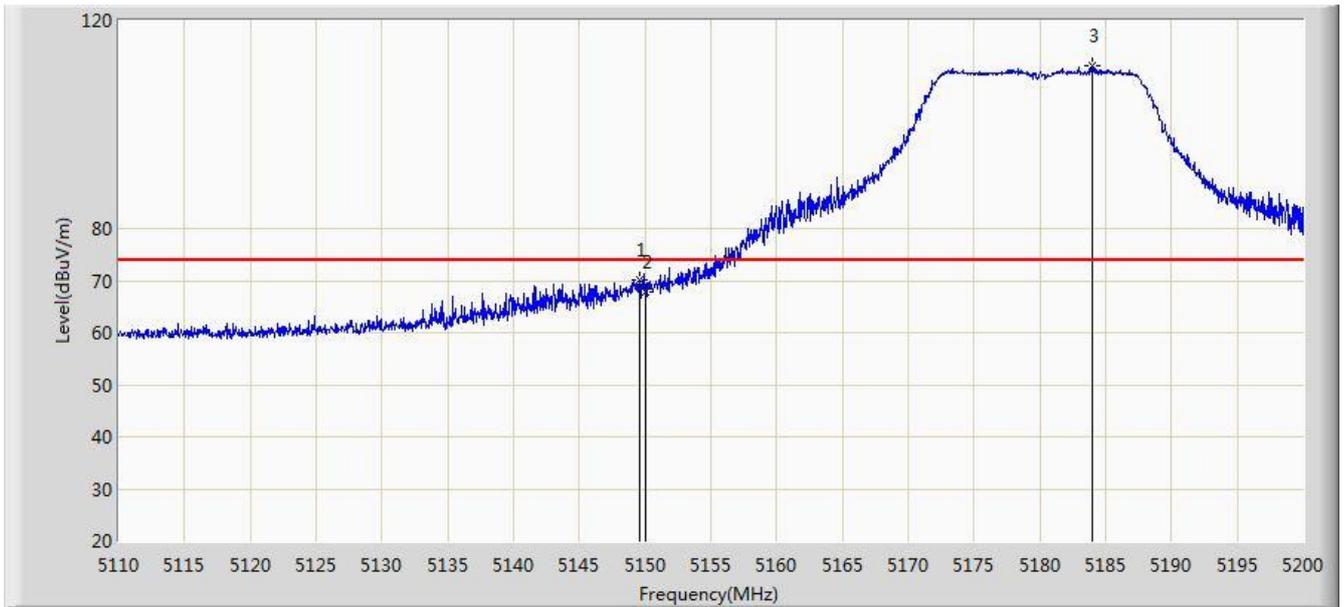


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	46.560	43.251	-7.440	54.000	3.309	AV
2		*	5177.545	83.884	80.609	N/A	N/A	3.276	AV

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 22:35
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz Ant 1	

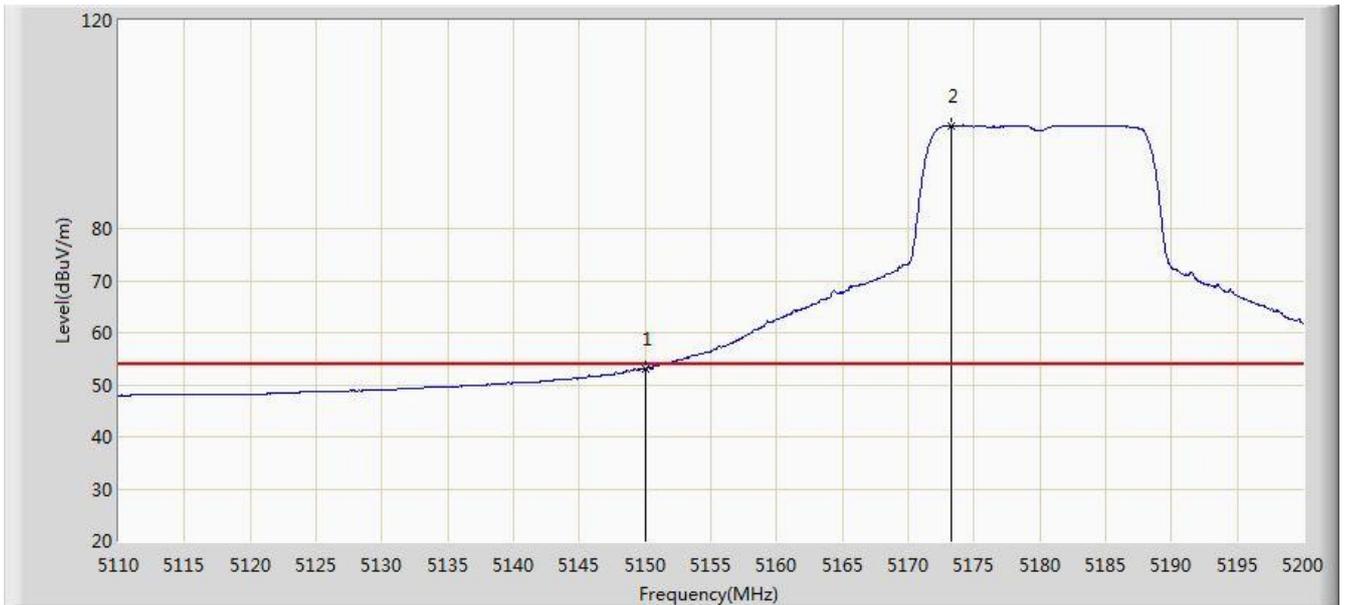


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5149.555	70.144	66.835	-3.856	74.000	3.309	PK
2			5150.000	67.810	64.501	-6.190	74.000	3.309	PK
3		*	5183.935	111.336	108.067	N/A	N/A	3.269	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 22:34
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz Ant 1	

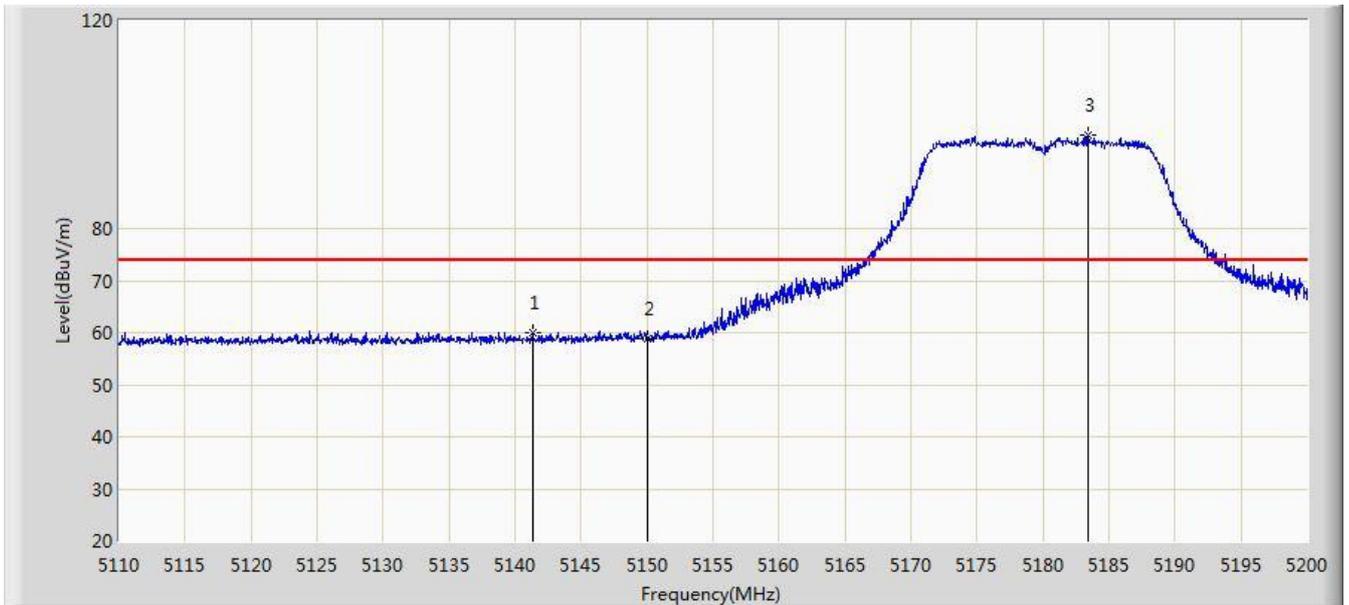


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	53.138	49.829	-0.862	54.000	3.309	AV
2		*	5173.225	99.840	96.561	N/A	N/A	3.279	AV

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

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 22:48
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 5180MHz Ant 0 + 1	

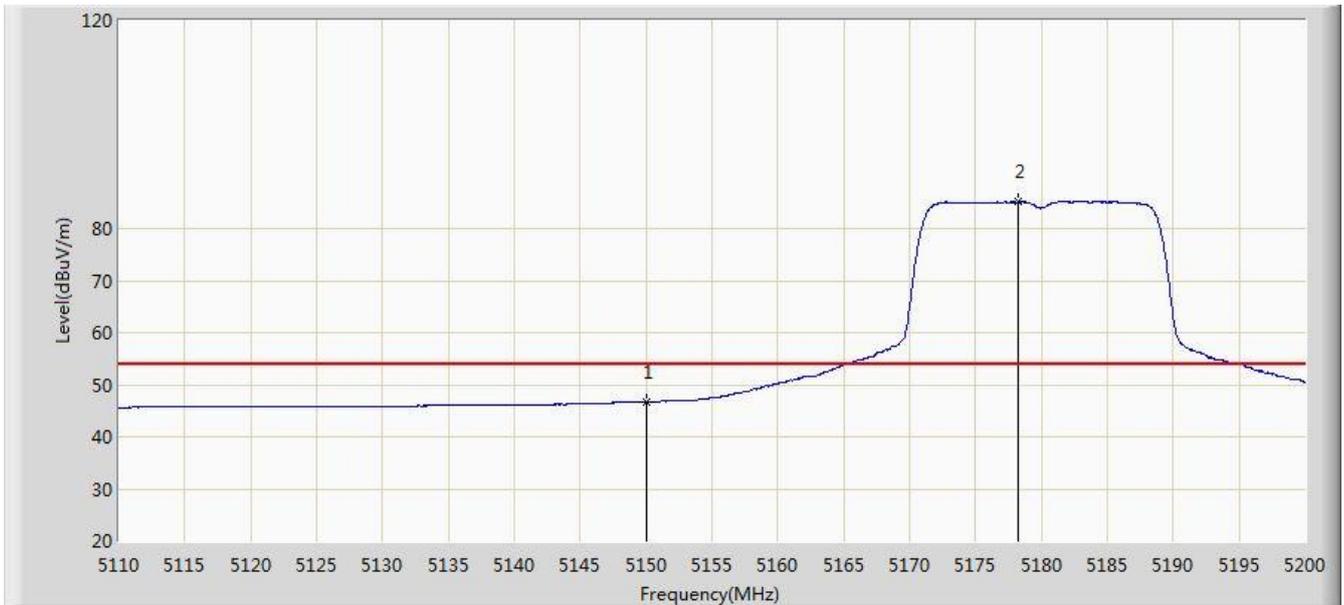


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5141.320	60.034	56.724	-13.966	74.000	3.309	PK
2			5150.000	58.850	55.541	-15.150	74.000	3.309	PK
3		*	5183.440	97.919	94.650	N/A	N/A	3.269	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 22:50
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 5180MHz Ant 0 + 1	

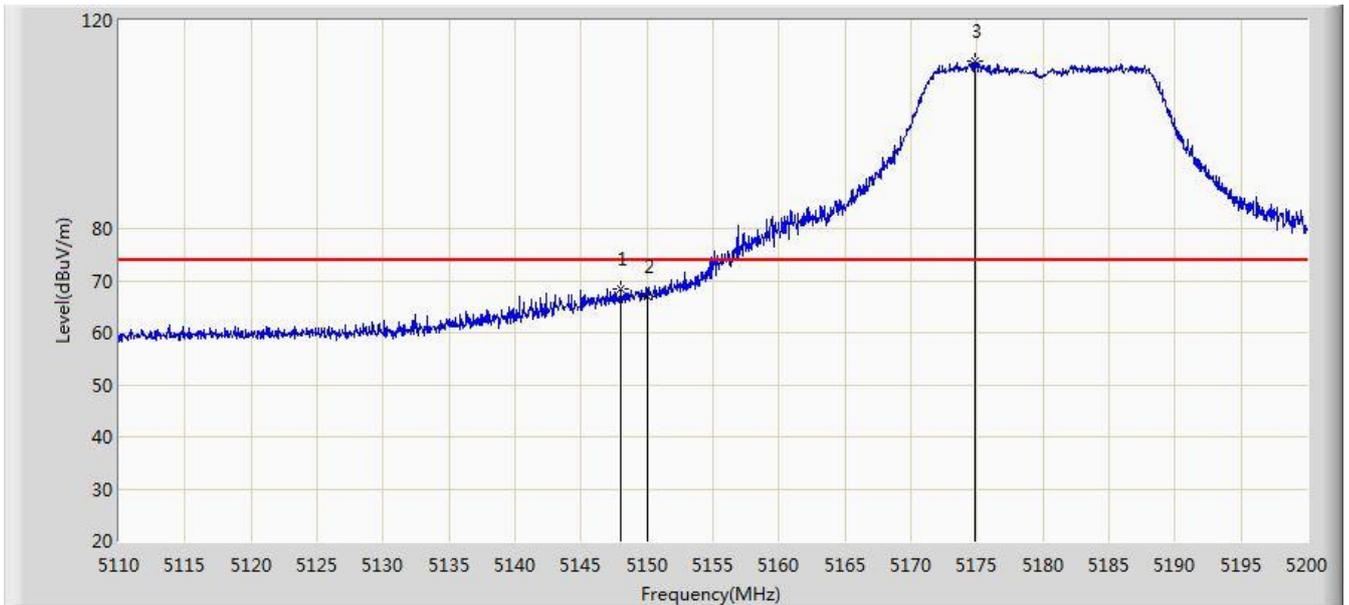


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	46.704	43.395	-7.296	54.000	3.309	AV
2		*	5178.265	85.075	81.801	N/A	N/A	3.275	AV

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 22:48
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 5180MHz Ant 0 + 1	

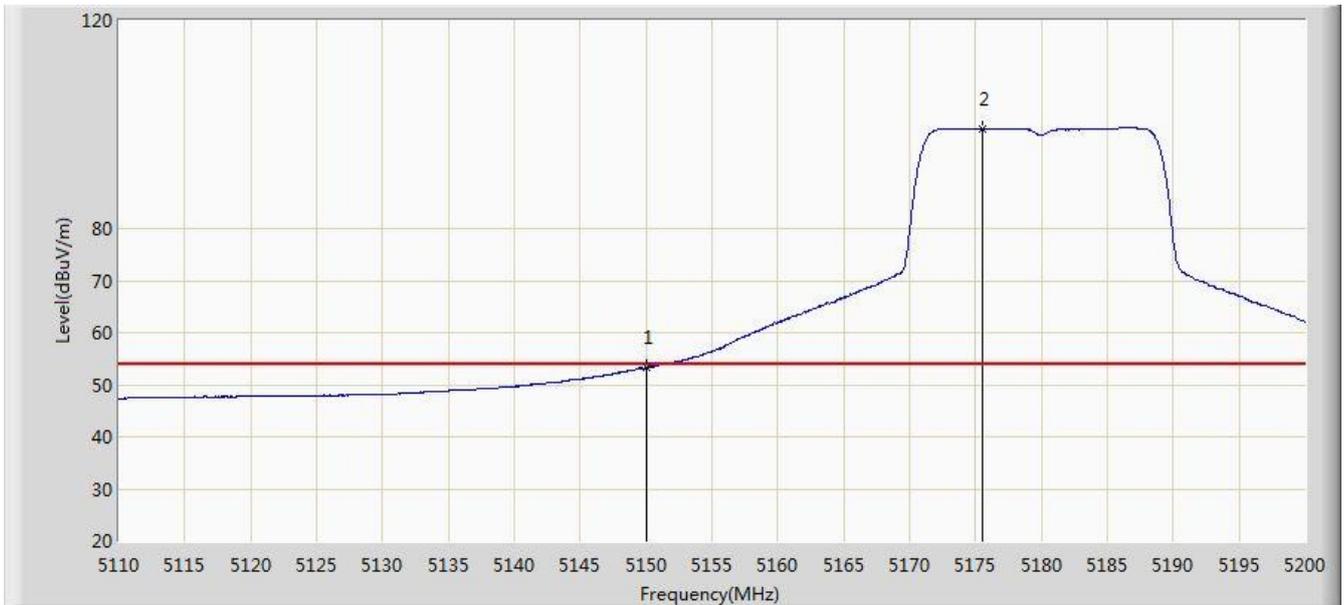


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5148.025	68.473	65.164	-5.527	74.000	3.309	PK
2			5150.000	67.065	63.756	-6.935	74.000	3.309	PK
3		*	5174.890	112.167	108.890	N/A	N/A	3.278	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 22:46
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 5180MHz Ant 0 + 1	

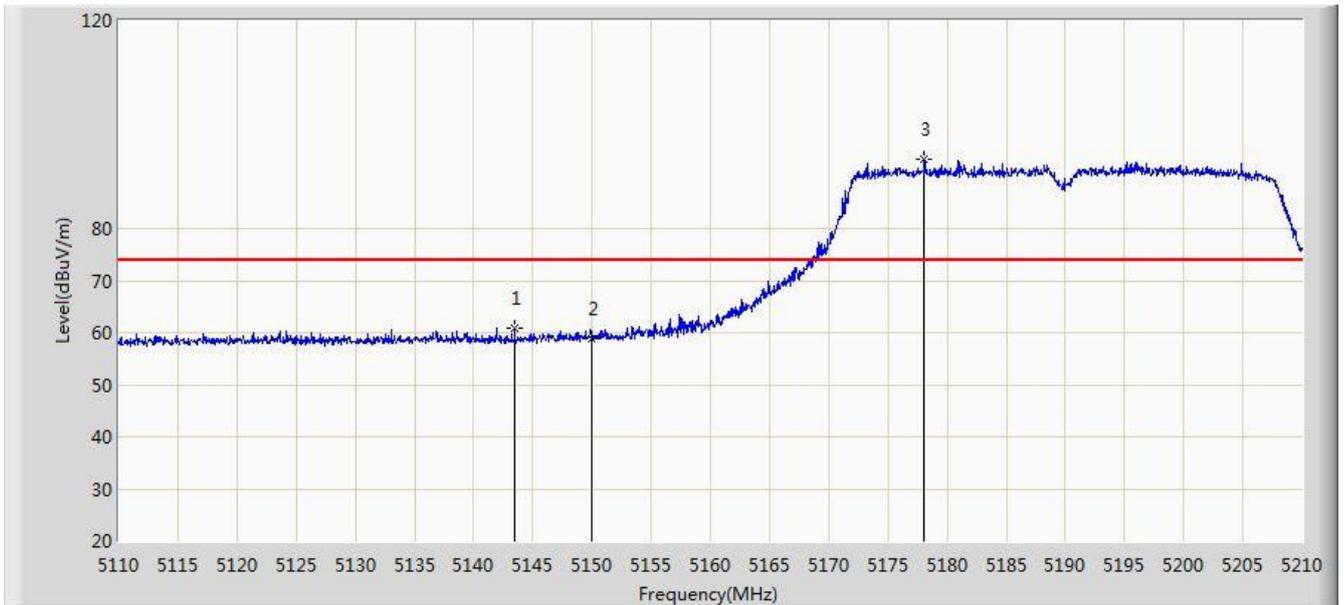


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	53.317	50.008	-0.683	54.000	3.309	AV
2		*	5175.475	99.167	95.890	N/A	N/A	3.277	AV

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

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 22:58
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 5190MHz Ant 0 + 1	

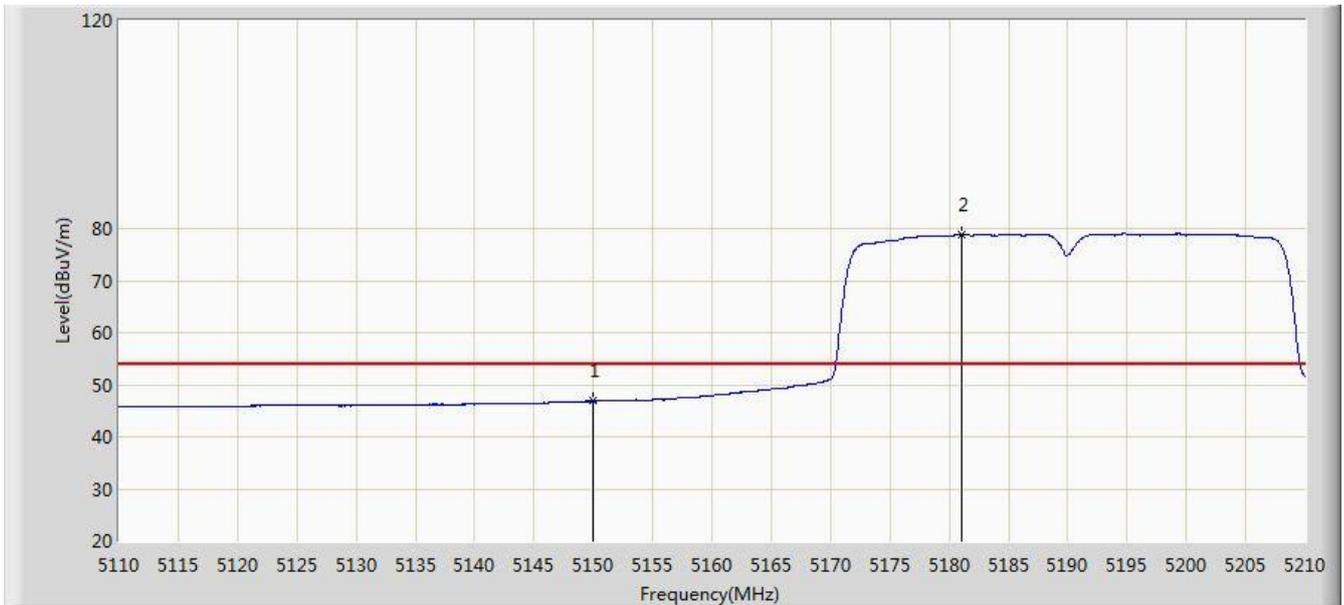


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5143.450	60.933	57.624	-13.067	74.000	3.309	PK
2			5150.000	58.877	55.568	-15.123	74.000	3.309	PK
3		*	5178.100	93.226	89.951	N/A	N/A	3.274	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 23:00
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 5190MHz Ant 0 + 1	

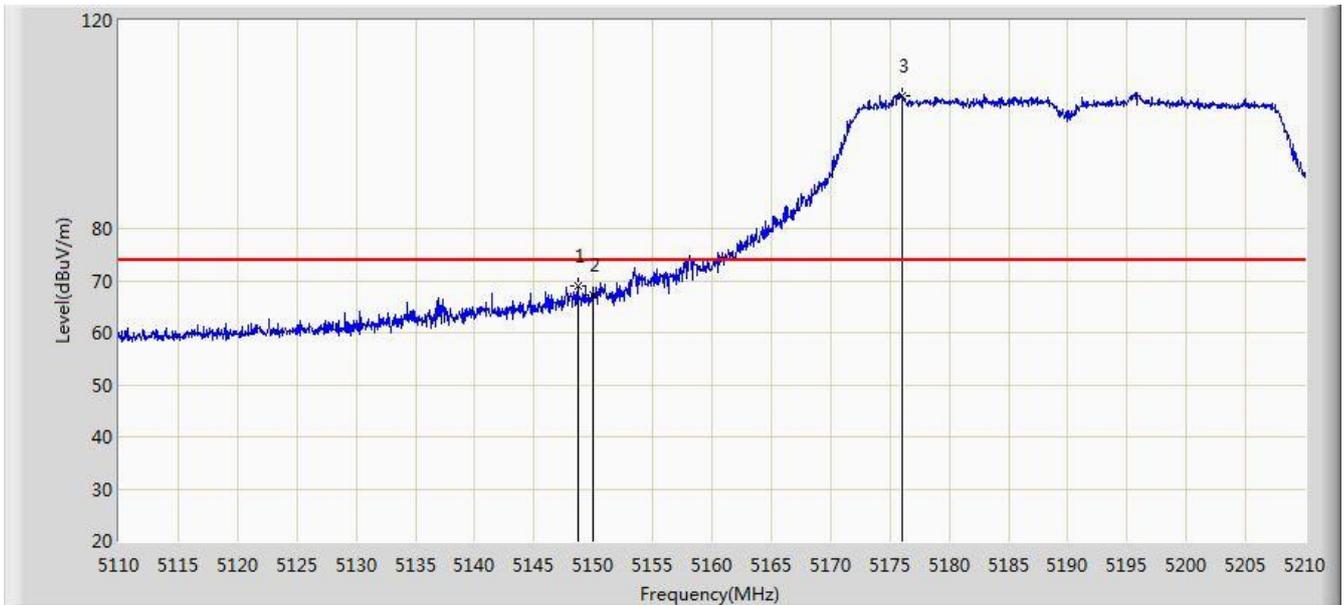


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	46.841	43.532	-7.159	54.000	3.309	AV
2		*	5181.000	78.980	75.708	N/A	N/A	3.273	AV

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 22:58
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 5190MHz Ant 0 + 1	

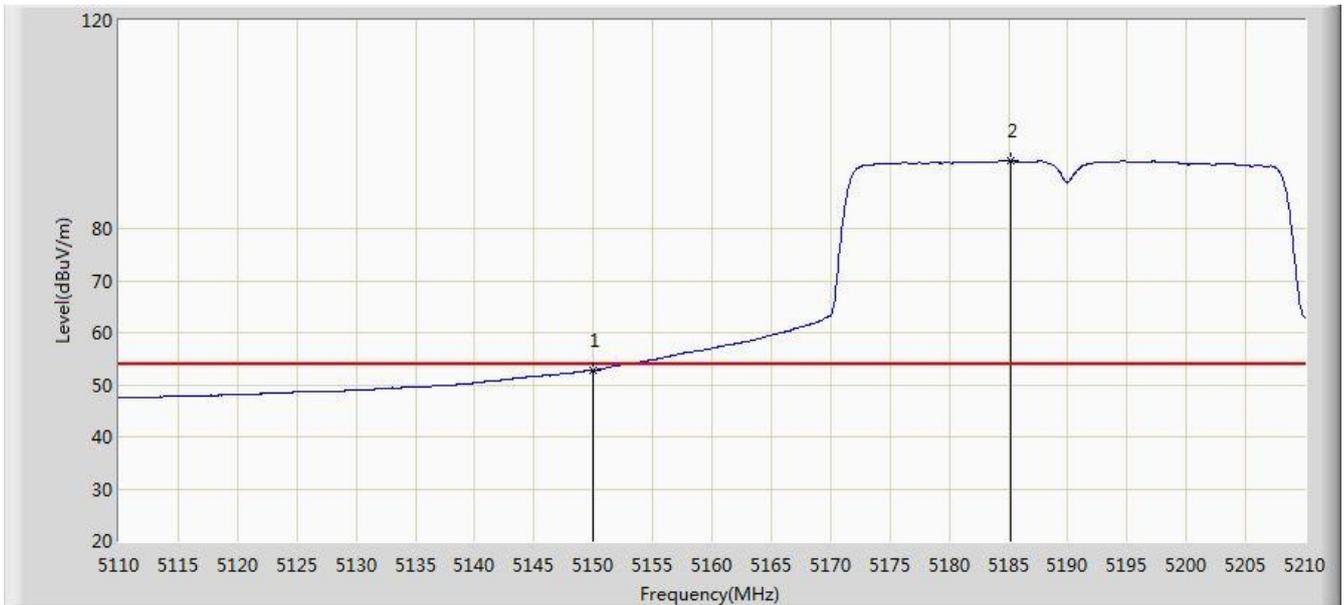


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5148.700	68.923	65.614	-5.077	74.000	3.309	PK
2			5150.000	67.150	63.841	-6.850	74.000	3.309	PK
3		*	5176.000	105.632	102.356	N/A	N/A	3.277	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 22:57
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 5190MHz Ant 0 + 1	



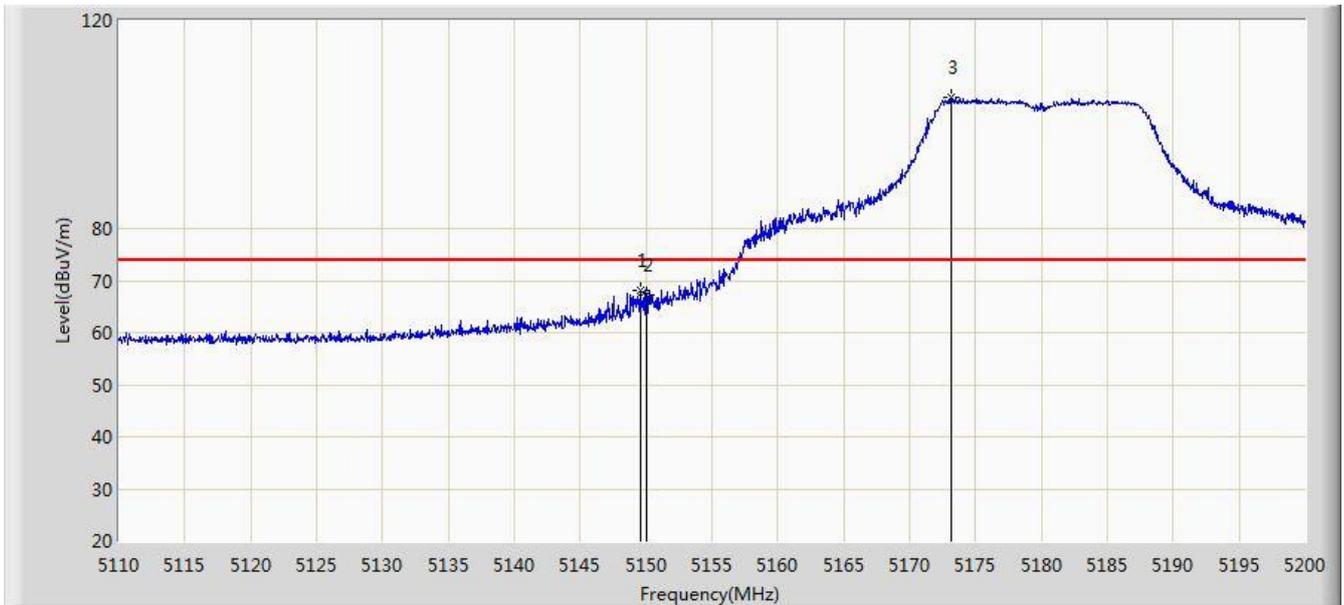
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	52.799	49.490	-1.201	54.000	3.309	AV
2		*	5185.200	93.002	89.735	N/A	N/A	3.267	AV

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

**For PCB Antenna**

Site: AC1	Time: 2016/11/11 - 11:06
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz Ant 0	

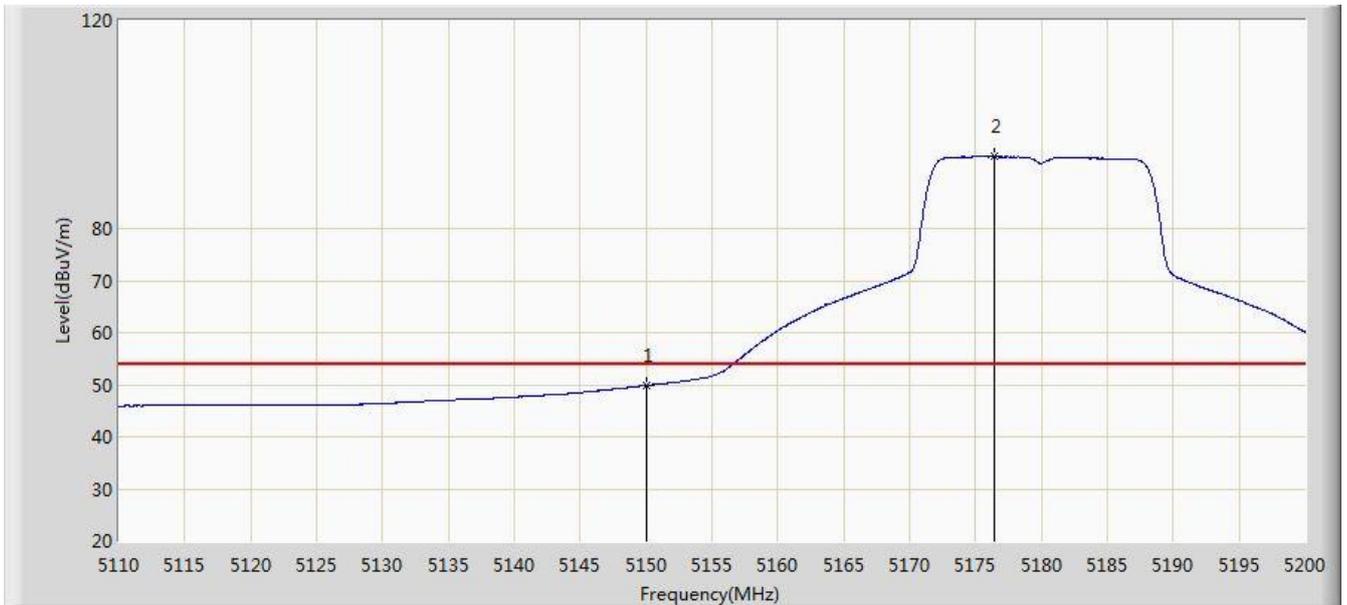


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5149.555	68.124	64.815	-5.876	74.000	3.309	PK
2			5150.000	67.264	63.955	-6.736	74.000	3.309	PK
3		*	5173.135	105.185	101.906	N/A	N/A	3.279	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 11:08
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz Ant 0	

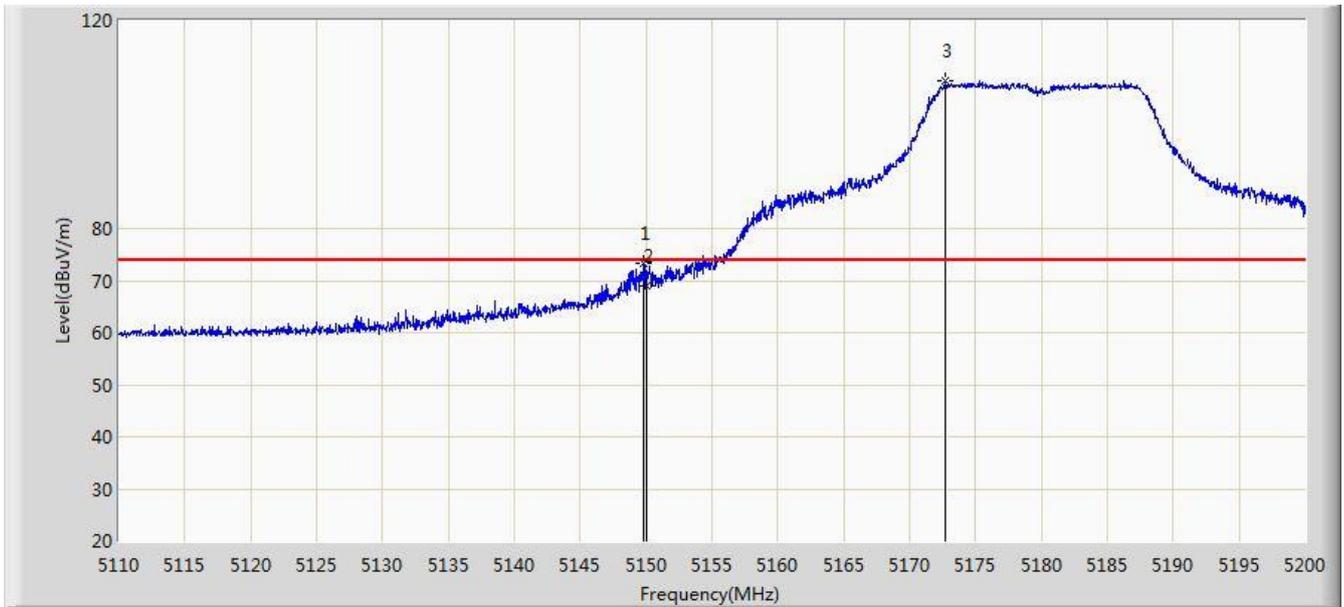


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	49.848	46.539	-4.152	54.000	3.309	AV
2		*	5176.375	93.842	90.566	N/A	N/A	3.276	AV

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 11:00
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz Ant 0	

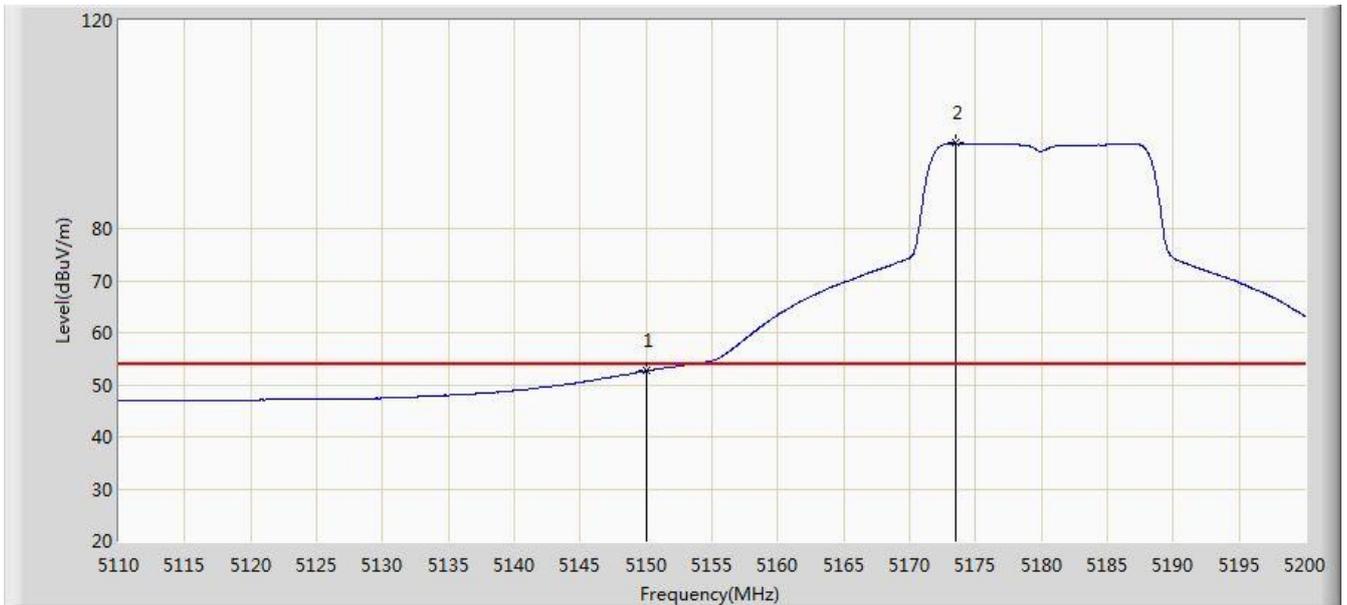


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5149.825	73.224	69.915	-0.776	74.000	3.309	PK
2			5150.000	68.937	65.628	-5.063	74.000	3.309	PK
3		*	5172.730	108.342	105.063	N/A	N/A	3.279	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 11:05
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz Ant 0	

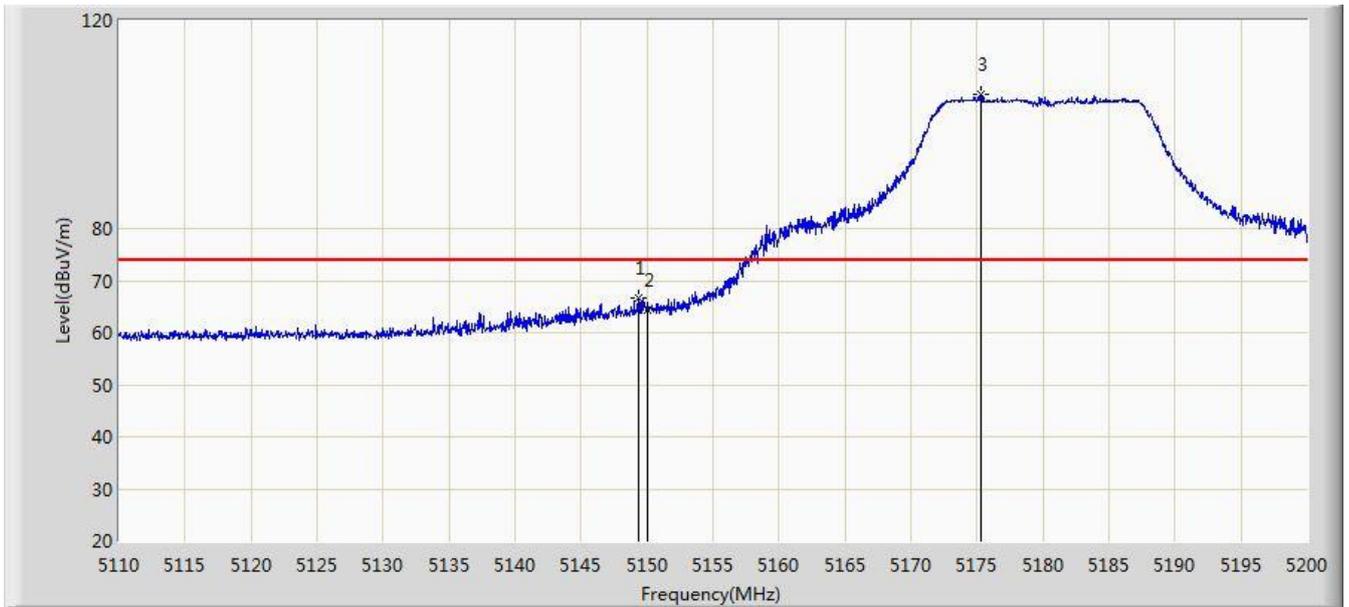


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	52.615	49.306	-1.385	54.000	3.309	AV
2		*	5173.450	96.431	93.152	N/A	N/A	3.279	AV

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 12:04
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz Ant 1	

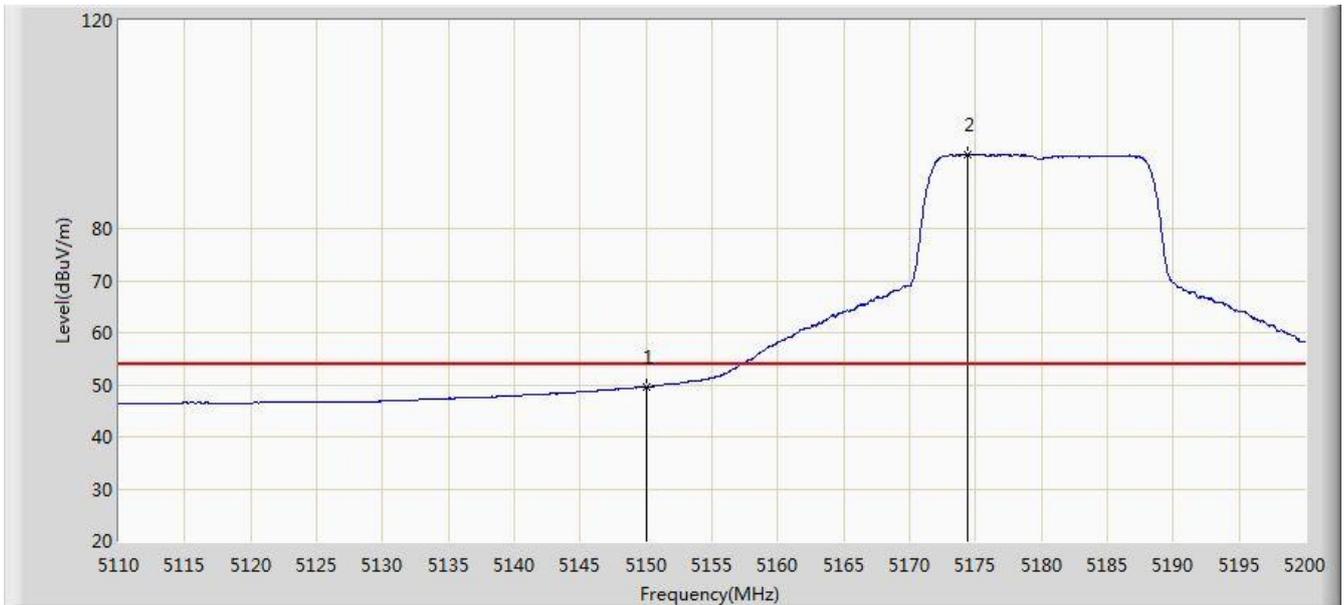


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5149.330	66.652	63.343	-7.348	74.000	3.309	PK
2			5150.000	64.315	61.006	-9.685	74.000	3.309	PK
3		*	5175.340	105.803	102.526	N/A	N/A	3.277	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 14:51
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz Ant 1	

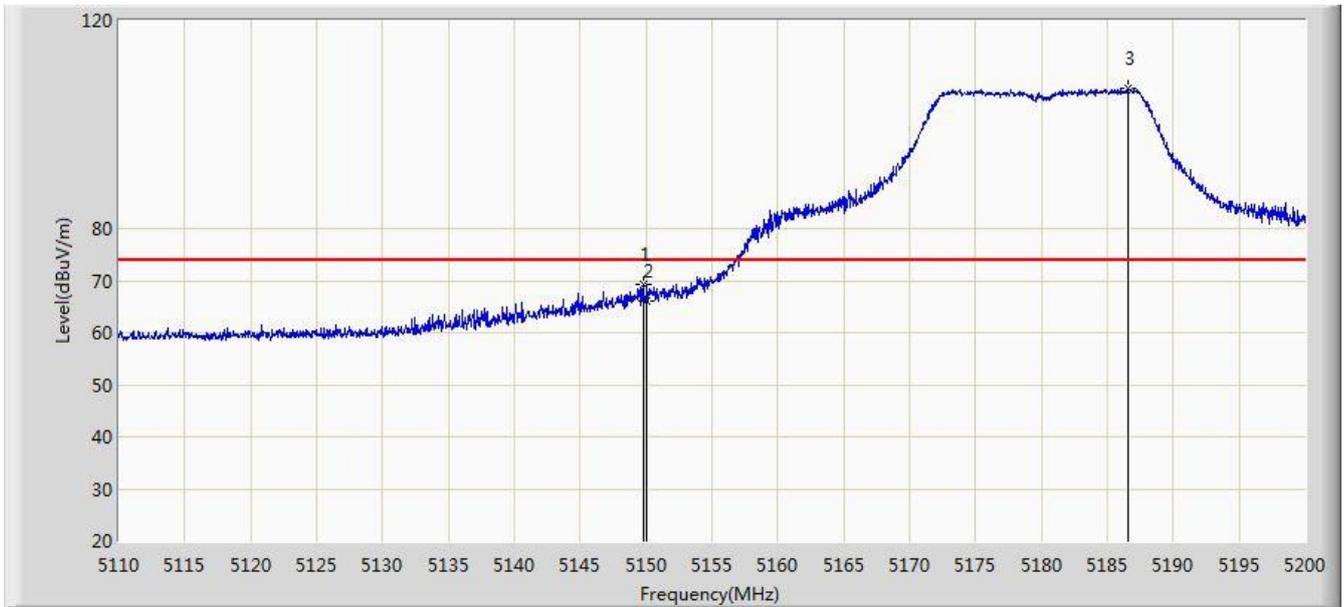


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	49.592	46.283	-4.408	54.000	3.309	AV
2		*	5174.350	94.224	90.946	N/A	N/A	3.278	AV

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 11:54
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz Ant 1	

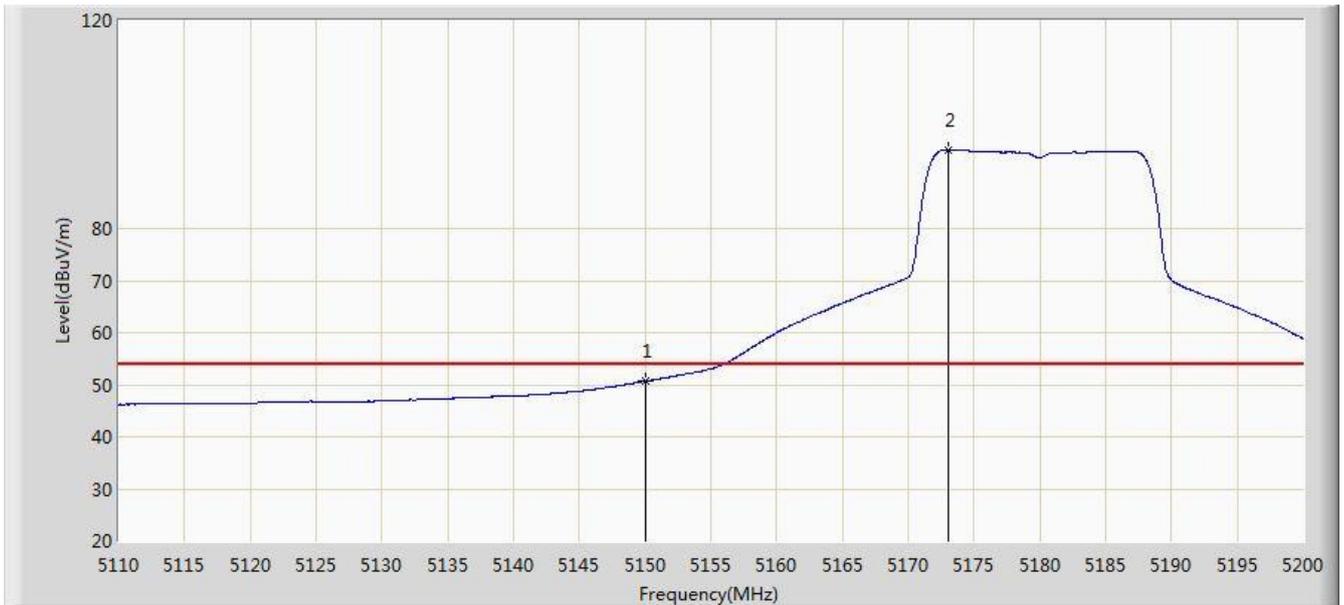


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5149.780	69.340	66.031	-4.660	74.000	3.309	PK
2			5150.000	66.102	62.793	-7.898	74.000	3.309	PK
3		*	5186.545	106.890	103.625	N/A	N/A	3.266	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 12:03
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11a at Channel 5180MHz Ant 1	

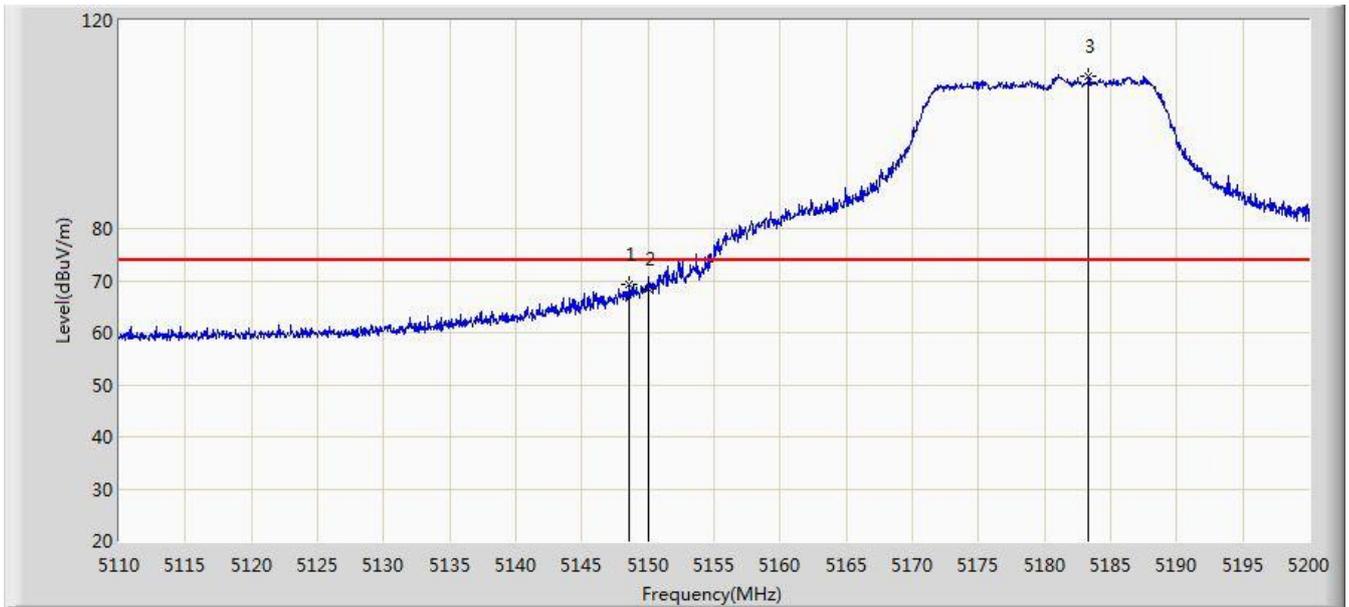


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	50.659	47.350	-3.341	54.000	3.309	AV
2		*	5173.090	95.168	91.889	N/A	N/A	3.279	AV

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 20:17
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 5180MHz Ant 0 + 1	

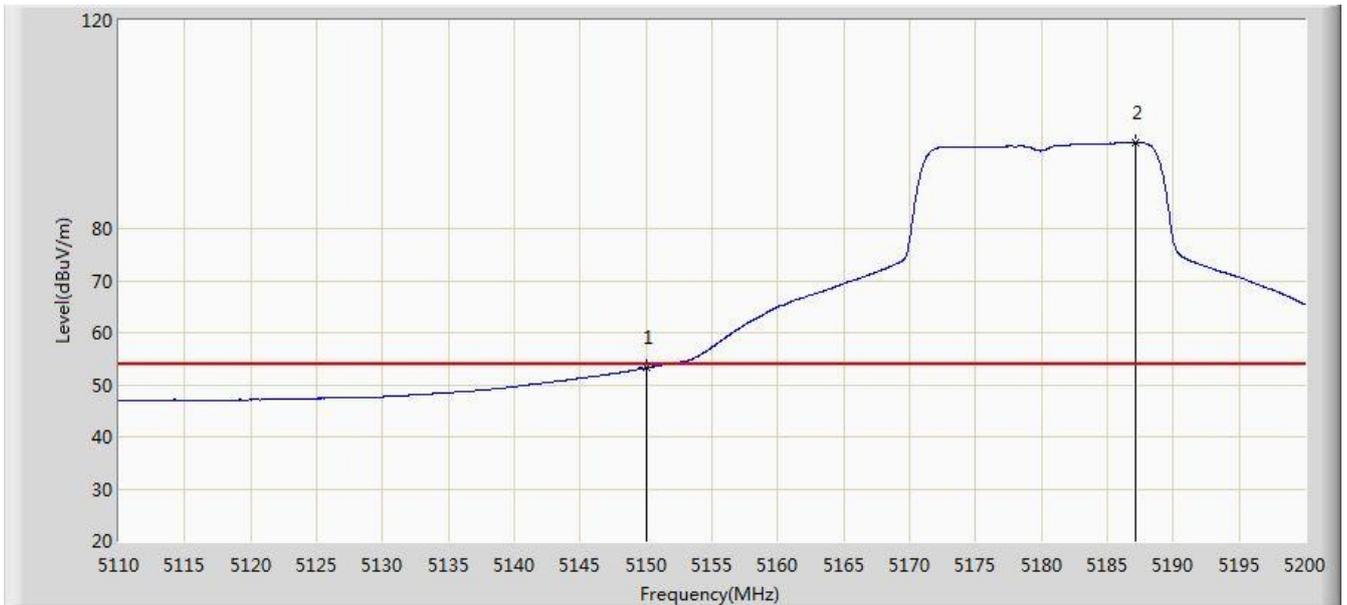


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5148.610	69.320	66.011	-4.680	74.000	3.309	PK
2			5150.000	68.431	65.122	-5.569	74.000	3.309	PK
3		*	5183.305	109.356	106.087	N/A	N/A	3.270	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 20:18
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 5180MHz Ant 0 + 1	

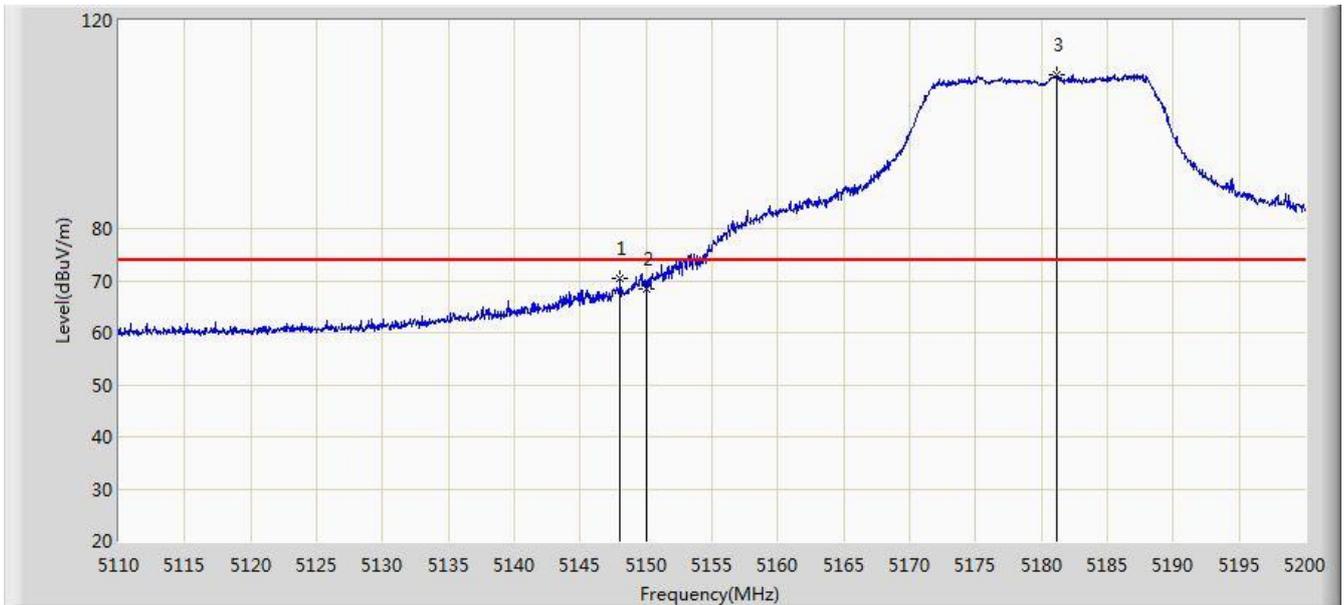


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	53.251	49.942	-0.749	54.000	3.309	AV
2		*	5187.175	96.555	93.291	N/A	N/A	3.264	AV

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 20:04
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 5180MHz Ant 0 + 1	

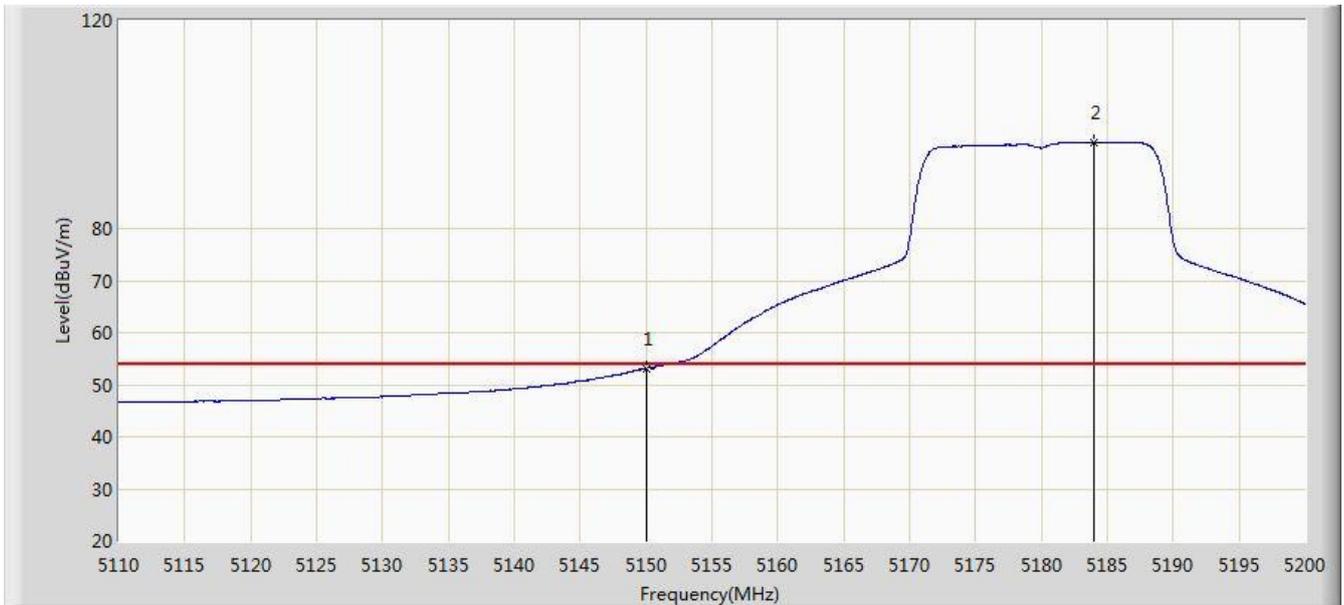


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5148.025	70.313	67.004	-3.687	74.000	3.309	PK
2			5150.000	68.440	65.131	-5.560	74.000	3.309	PK
3		*	5181.145	109.697	106.425	N/A	N/A	3.272	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 20:16
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at Channel 5180MHz Ant 0 + 1	

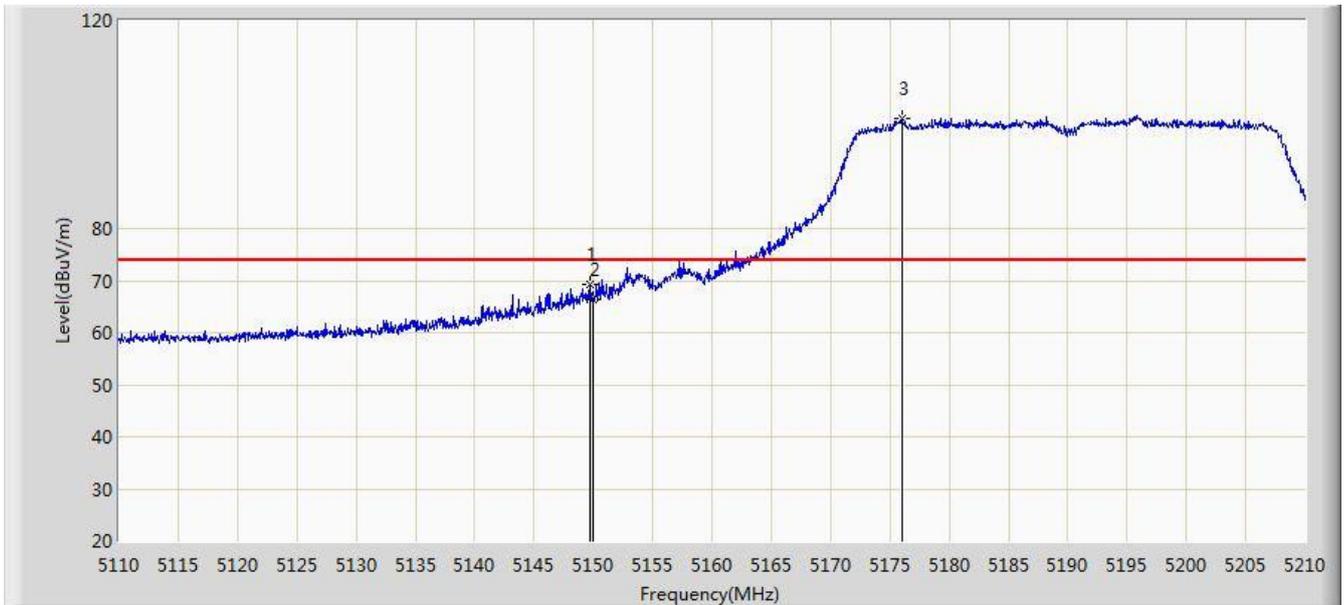


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	53.139	49.830	-0.861	54.000	3.309	AV
2		*	5183.980	96.554	93.285	N/A	N/A	3.268	AV

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 20:34
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 5190MHz Ant 0 + 1	

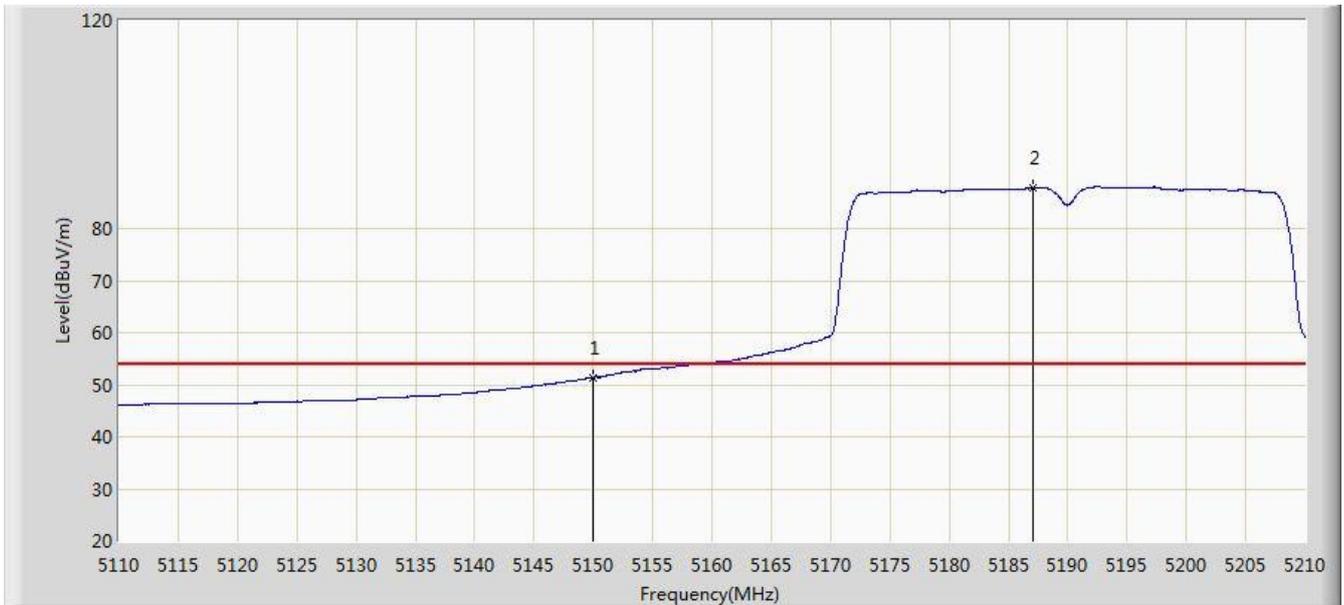


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5149.750	69.403	66.094	-4.597	74.000	3.308	PK
2			5150.000	66.474	63.165	-7.526	74.000	3.309	PK
3		*	5176.000	101.082	97.806	N/A	N/A	3.277	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 20:36
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 5190MHz Ant 0 + 1	

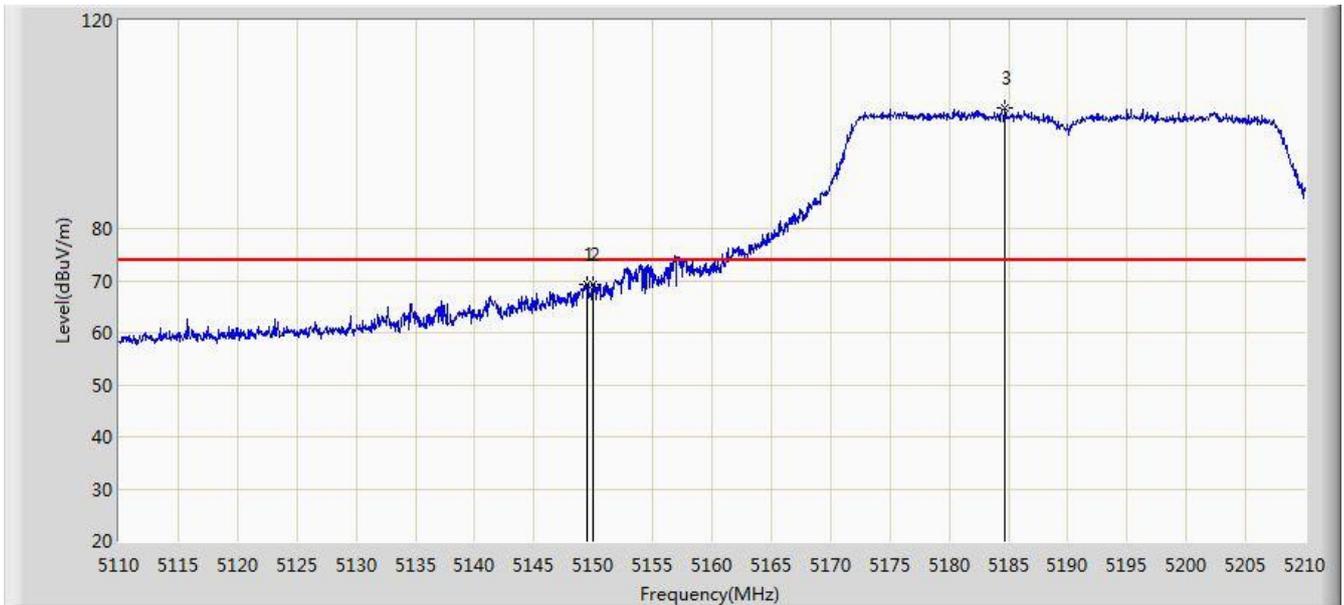


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	51.354	48.045	-2.646	54.000	3.309	AV
2		*	5187.100	87.877	84.613	N/A	N/A	3.265	AV

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

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 20:34
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 5190MHz Ant 0 + 1	

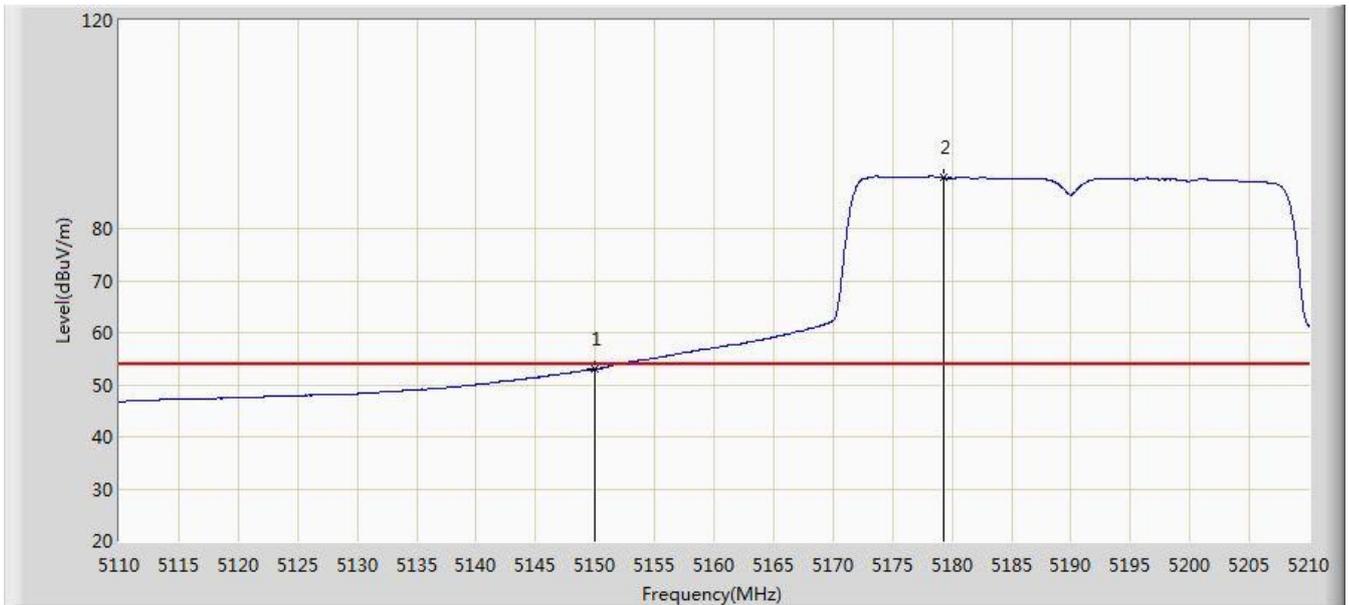


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5149.500	69.377	66.068	-4.623	74.000	3.309	PK
2			5150.000	69.376	66.067	-4.624	74.000	3.309	PK
3		*	5184.700	103.221	99.953	N/A	N/A	3.267	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 20:33
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 5190MHz Ant 0 + 1	

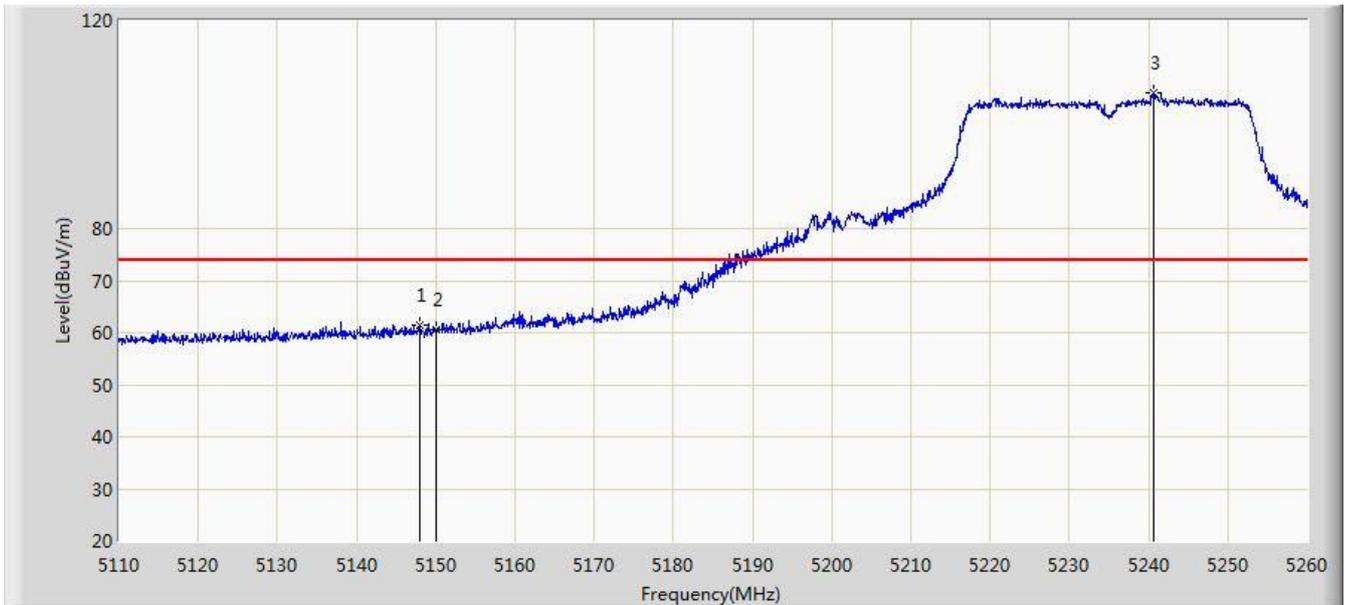


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	53.006	49.697	-0.994	54.000	3.309	AV
2		*	5179.300	89.826	86.552	N/A	N/A	3.273	AV

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 20:44
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 5230MHz Ant 0 + 1	

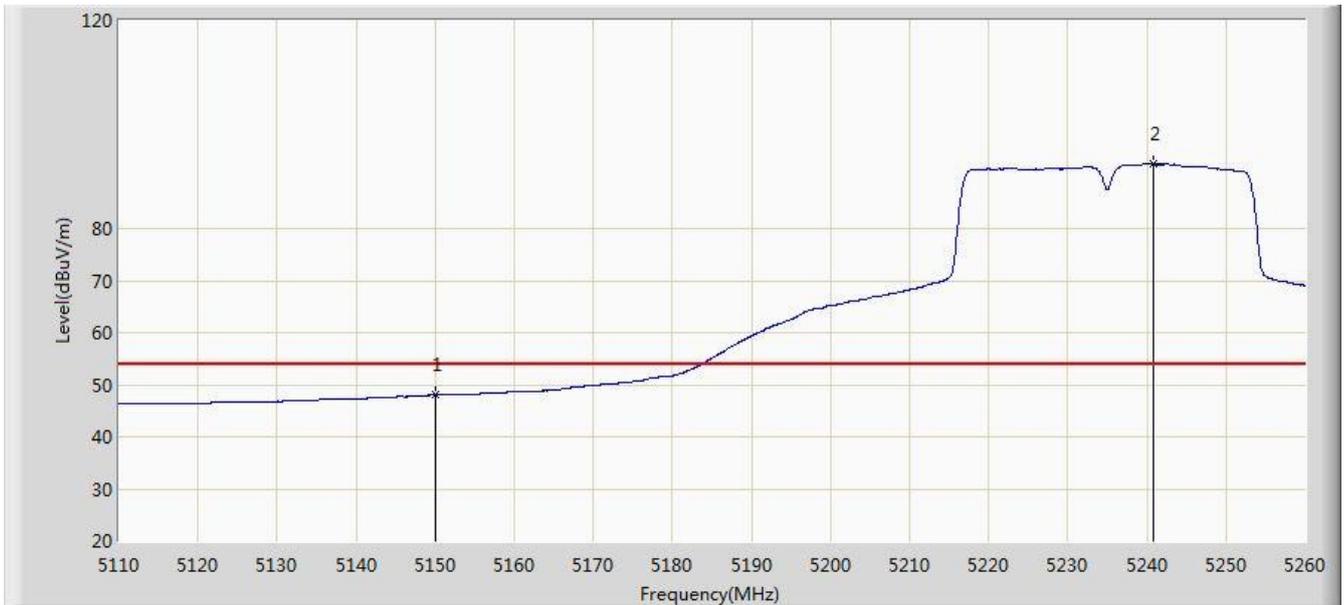


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5147.950	61.475	58.166	-12.525	74.000	3.309	PK
2			5150.000	60.530	57.221	-13.470	74.000	3.309	PK
3		*	5240.650	105.944	102.755	N/A	N/A	3.189	PK

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

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 20:45
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 5230MHz Ant 0 + 1	

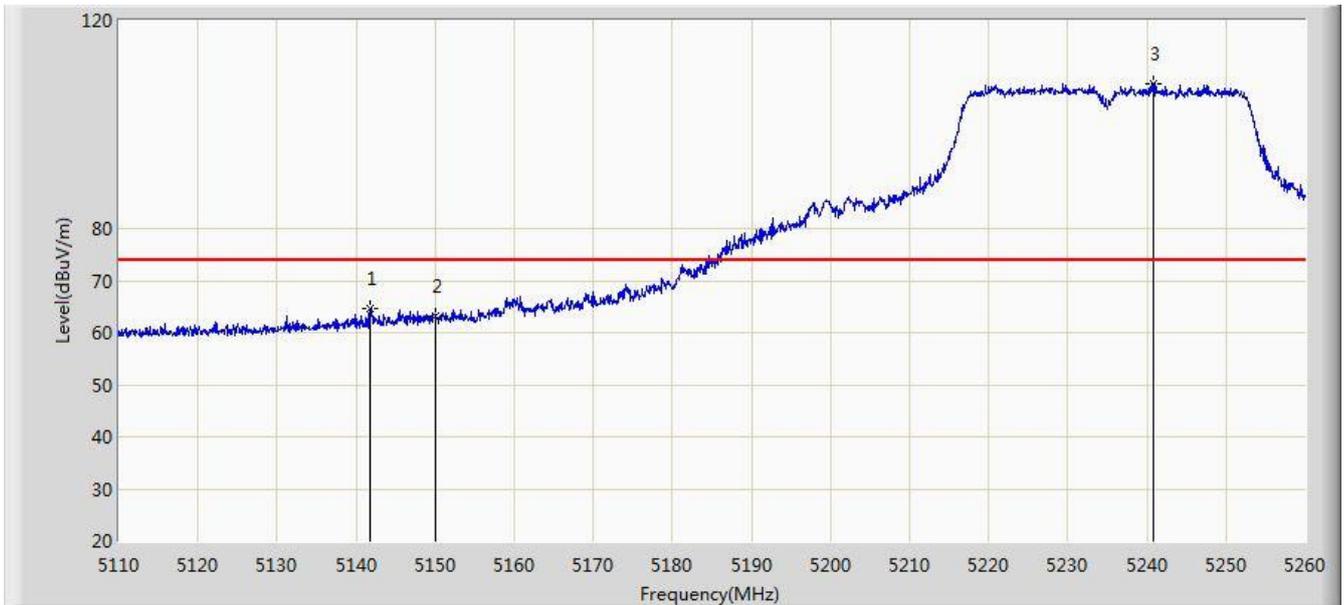


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	48.051	44.742	-5.949	54.000	3.309	AV
2		*	5240.800	92.343	89.154	N/A	N/A	3.190	AV

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 20:38
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 5230MHz Ant 0 + 1	

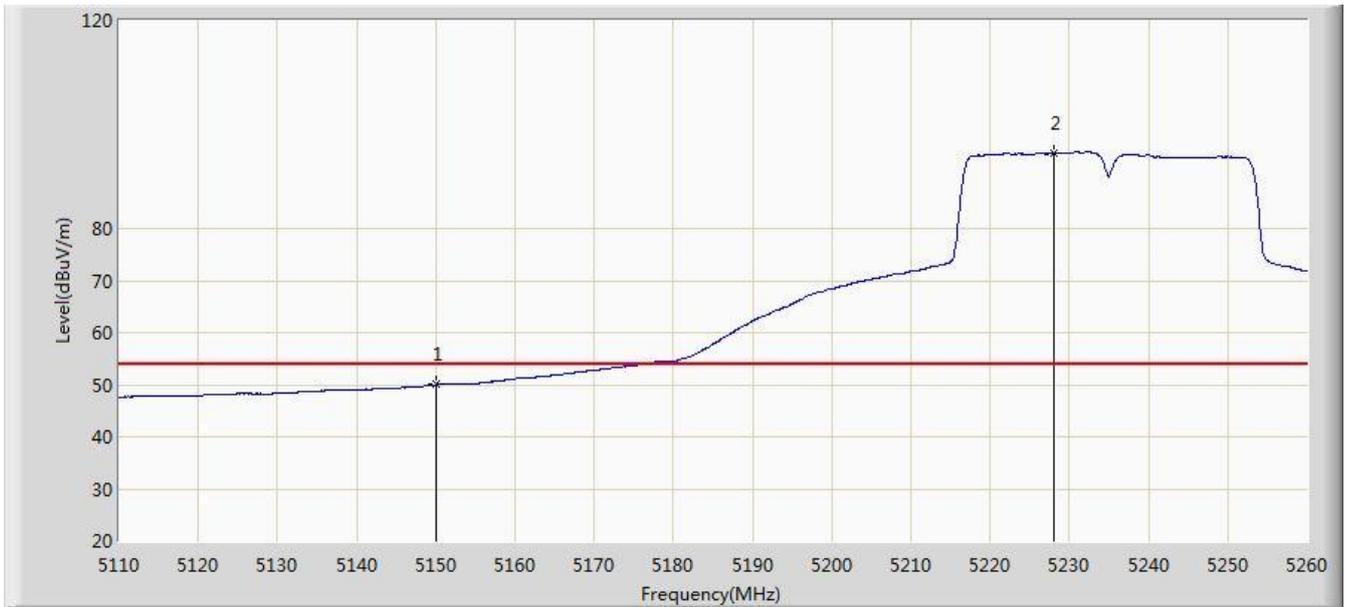


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5141.725	64.598	61.289	-9.402	74.000	3.310	PK
2			5150.000	63.173	59.864	-10.827	74.000	3.309	PK
3		*	5240.875	107.912	104.723	N/A	N/A	3.189	PK

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: AC1	Time: 2016/11/11 - 20:43
Limit: FCC_Part15.209_RE(3m)	Engineer: Jone Zhang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT40 at Channel 5230MHz Ant 0 + 1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			5150.000	50.003	46.694	-3.997	54.000	3.309	AV
2		*	5227.975	94.430	91.226	N/A	N/A	3.204	AV

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

## 7.8. AC Conducted Emissions Measurement

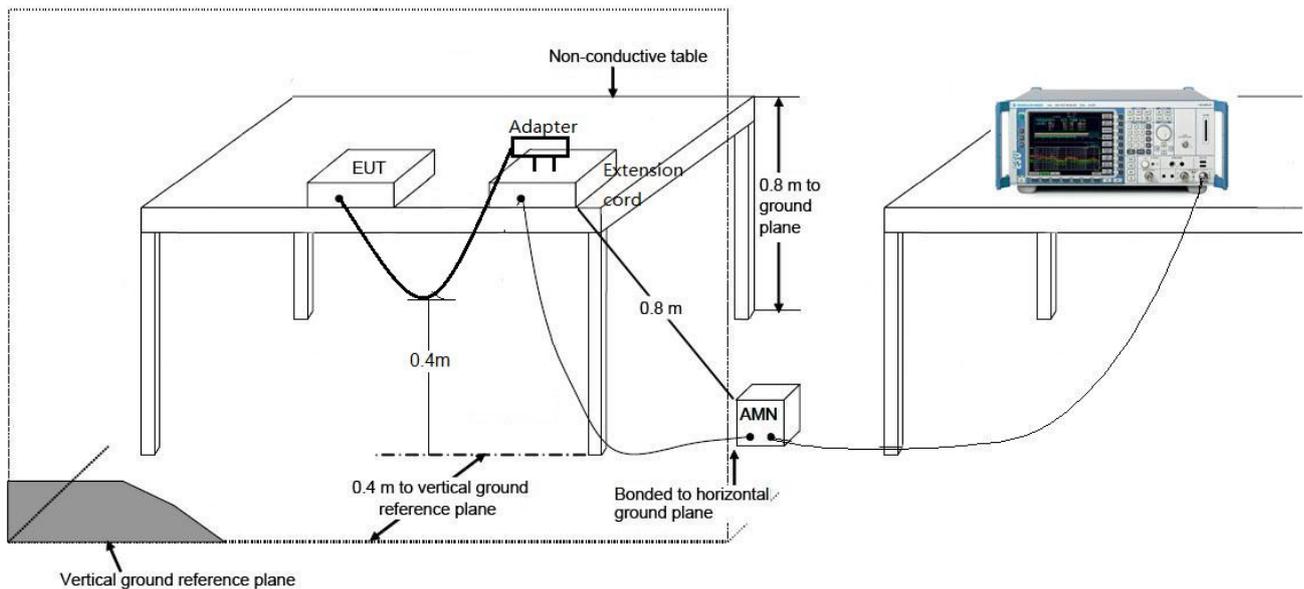
### 7.8.1. Test Limit

FCC Part 15.207 & RSS-Gen Issue 4 Section 8.8 Limits		
Frequency (MHz)	QP (dB $\mu$ V)	AV (dB $\mu$ V)
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.

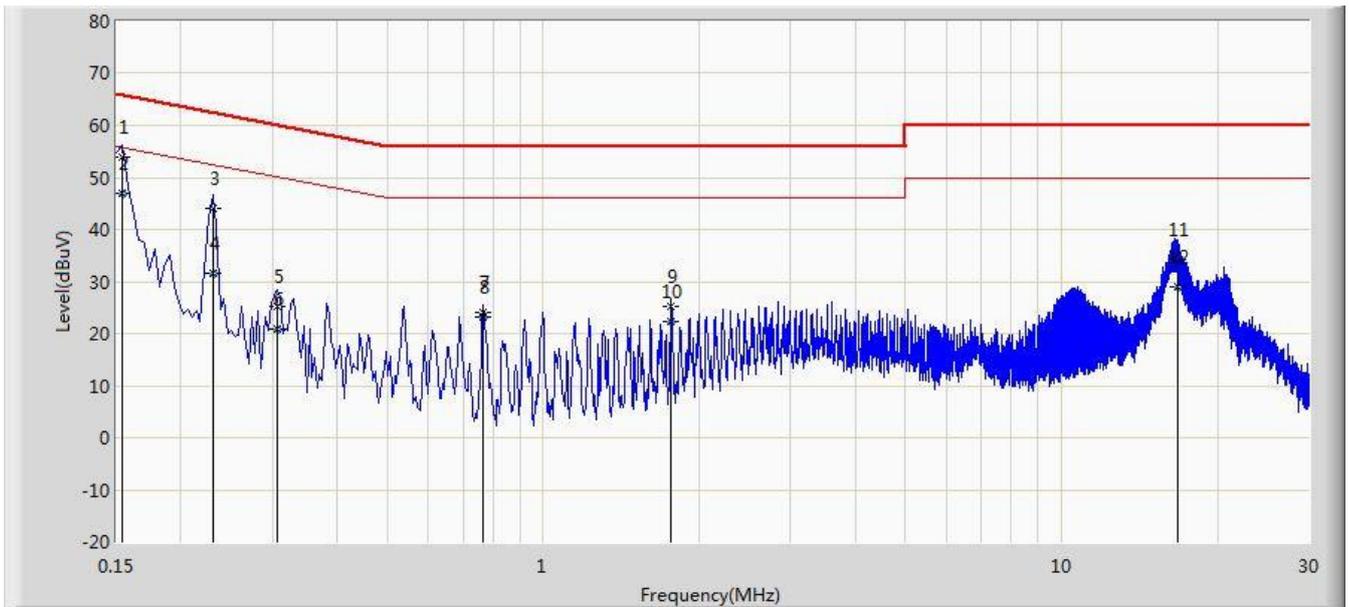
Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

### 7.8.2. Test Setup



### 7.8.3. Test Result

Site: SR2	Time: 2016/11/13 - 15:33
Limit: FCC_Part15.107_CE_AC Power_Class B	Engineer: Milo Li
Probe: ENV216_101683_Filter Off	Polarity: Line
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Note: Mode 1	

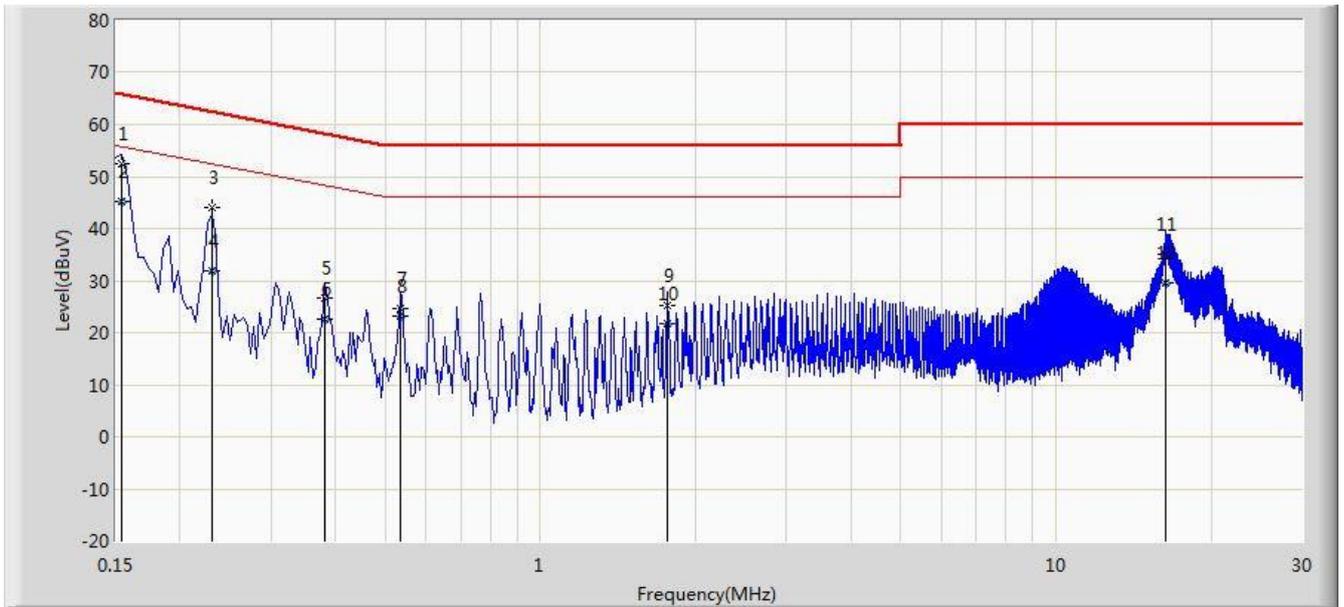


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.154	54.054	44.345	-11.727	65.781	9.709	QP
2		*	0.154	46.908	37.198	-8.874	55.781	9.709	AV
3			0.230	43.940	34.256	-18.510	62.450	9.683	QP
4			0.230	31.580	21.897	-20.870	52.450	9.683	AV
5			0.306	25.167	15.483	-34.911	60.078	9.684	QP
6			0.306	20.833	11.149	-29.245	50.078	9.684	AV
7			0.766	23.999	14.325	-32.001	56.000	9.675	QP
8			0.766	23.326	13.651	-22.674	46.000	9.675	AV
9			1.766	25.137	15.442	-30.863	56.000	9.695	QP
10			1.766	22.228	12.534	-23.772	46.000	9.695	AV
11			16.770	34.108	24.103	-25.892	60.000	10.005	QP
12			16.770	28.894	18.889	-21.106	50.000	10.005	AV

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

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

Site: SR2	Time: 2016/11/13 - 15:39
Limit: FCC_Part15.107_CE_AC Power_Class B	Engineer: Milo Li
Probe: ENV216_101683_Filter Off	Polarity: Neutral
EUT: WIRELESS-N NETWORK MINI PCI ADAPTER	Power: AC 120V/60Hz
Note: Mode 1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.154	52.605	42.845	-13.177	65.781	9.759	QP
2		*	0.154	45.099	35.340	-10.682	55.781	9.759	AV
3			0.230	44.032	34.414	-18.418	62.450	9.618	QP
4			0.230	31.811	22.193	-20.639	52.450	9.618	AV
5			0.382	26.701	17.055	-31.535	58.236	9.645	QP
6			0.382	22.688	13.043	-25.548	48.236	9.645	AV
7			0.534	24.696	15.029	-31.304	56.000	9.667	QP
8			0.534	23.136	13.470	-22.864	46.000	9.667	AV
9			1.762	25.271	15.579	-30.729	56.000	9.692	QP
10			1.762	21.635	11.943	-24.365	46.000	9.692	AV
11			16.302	35.002	24.974	-24.998	60.000	10.028	QP
12			16.302	29.654	19.626	-20.346	50.000	10.028	AV

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

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

## 8. CONCLUSION

The data collected relate only the item(s) tested and show that the **WIRELESS-N NETWORK MINI PCI ADAPTER FCC ID: TK4WLM200NX** is in compliance with Part 15E of the FCC Rules.

————— The End —————