

Test Mode:	802.11ac-VHT20	Test Site:	AC1						
Test Channel:	36	Test Engineer:	Roy Cheng						
Remark:	Average measurement was no	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	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7045.6	35.4	13.1	48.5	68.2	-19.7	Peak	Horizontal
*	7752.1	33.5	14.8	48.3	68.2	-19.9	Peak	Horizontal
	9179.5	35.4	15.3	50.7	74.0	-23.3	Peak	Horizontal
	12526.0	33.7	19.8	53.5	74.0	-20.5	Peak	Horizontal
*	7025.7	36.4	12.9	49.3	68.2	-18.9	Peak	Vertical
*	7691.5	34.9	14.5	49.4	68.2	-18.8	Peak	Vertical
	9482.5	35.2	15.4	50.6	74.0	-23.4	Peak	Vertical
	12424.0	33.2	19.2	52.4	74.0	-21.6	Peak	Vertical

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:	802.11ac-VHT20	Test Site:	AC1
Test Channel:	44	Test Engineer:	Roy Cheng
Remark:	Average measurement was no limit.	t performed if peak I	evel lower than average
	Other frequency was 20dB bel in the report.	ow limit line within 1	-18GHz, there is not show

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7184.7	34.0	13.6	47.6	68.2	-20.6	Peak	Horizontal
*	8015.5	34.5	15.1	49.6	68.2	-18.6	Peak	Horizontal
	9418.3	35.3	15.5	50.8	74.0	-23.2	Peak	Horizontal
	11803.5	32.9	19.3	52.2	74.0	-21.8	Peak	Horizontal
*	7048.7	35.7	13.1	48.8	68.2	-19.4	Peak	Vertical
*	8512.6	34.7	14.6	49.3	68.2	-18.9	Peak	Vertical
	9472.5	35.7	15.4	51.1	74.0	-22.9	Peak	Vertical
	11914.0	33.6	19.6	53.2	74.0	-20.8	Peak	Vertical

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:	802.11ac-VHT20	Test Site:	AC1
Test Channel:	48	Test Engineer:	Roy Cheng
Remark:	Average measurement was no limit.	t performed if peak l	evel lower than average
	Other frequency was 20dB bel in the report.	ow limit line within 1	-18GHz, there is not show

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7204.9	34.9	13.6	48.5	68.2	-19.7	Peak	Horizontal
*	8543.7	34.0	14.5	48.5	68.2	-19.7	Peak	Horizontal
	9173.5	35.5	15.3	50.8	74.0	-23.2	Peak	Horizontal
	12407.0	34.4	19.0	53.4	74.0	-20.6	Peak	Horizontal
*	7173.7	34.5	13.6	48.1	68.2	-20.1	Peak	Vertical
*	8517.6	35.1	14.6	49.7	68.2	-18.5	Peak	Vertical
	9173.6	35.0	15.3	50.3	74.0	-23.7	Peak	Vertical
	12475.0	33.8	19.6	53.4	74.0	-20.6	Peak	Vertical

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	Test Site:	AC1
Test Channel:	38	Test Engineer:	Roy Cheng
Remark:	Average measurement was no limit.		Ç
	<ol><li>Other frequency was 20dB bel in the report.</li></ol>	ow limit line within 1	-18GHz, there is not show

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7126.5	34.9	13.5	48.4	68.2	-19.8	Peak	Horizontal
*	8536.5	34.4	14.5	48.9	68.2	-19.3	Peak	Horizontal
	9402.5	35.5	15.4	50.9	74.0	-23.1	Peak	Horizontal
	11803.5	33.1	19.3	52.4	74.0	-21.6	Peak	Horizontal
*	7044.0	35.9	13.1	49.0	68.2	-19.2	Peak	Vertical
*	7760.5	34.3	14.8	49.1	68.2	-19.1	Peak	Vertical
	9372.2	36.6	15.3	51.9	74.0	-22.1	Peak	Vertical
	12424.0	33.8	19.2	53.0	74.0	-21.0	Peak	Vertical

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	Test Site:	AC1					
Test Channel:	46	Test Engineer:	Roy Cheng					
Remark:	Average measurement was not performed if peak level lower than average							
	limit.	limit.						
	2. 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)				
*	7215.5	34.6	13.7	48.3	68.2	-19.9	Peak	Horizontal
*	8925.5	35.2	14.3	49.5	68.2	-18.7	Peak	Horizontal
	9412.5	35.3	15.5	50.8	74.0	-23.2	Peak	Horizontal
	11812.0	32.7	19.3	52.0	74.0	-22.0	Peak	Horizontal
*	7002.5	35.2	12.7	47.9	68.2	-20.3	Peak	Vertical
*	8572.7	33.6	14.5	48.1	68.2	-20.1	Peak	Vertical
	9415.6	35.8	15.5	51.3	74.0	-22.7	Peak	Vertical
	11795.0	33.8	19.4	53.2	74.0	-20.8	Peak	Vertical

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:	802.11ac-VHT40	Test Site:	AC1
Test Channel:	38	Test Engineer:	Roy Cheng
Remark:	Average measurement was no limit.	t performed if peak l	evel lower than average
	Other frequency was 20dB bel in the report.	ow limit line within 1	-18GHz, there is not show

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7173.6	34.1	13.6	47.7	68.2	-20.5	Peak	Horizontal
*	8592.6	33.9	14.8	48.7	68.2	-19.5	Peak	Horizontal
	9403.5	35.0	15.4	50.4	74.0	-23.6	Peak	Horizontal
	11803.5	32.9	19.3	52.2	74.0	-21.8	Peak	Horizontal
*	7146.6	34.2	13.5	47.7	68.2	-20.5	Peak	Vertical
*	8535.3	34.1	14.5	48.6	68.2	-19.6	Peak	Vertical
	9125.6	35.2	14.9	50.1	74.0	-23.9	Peak	Vertical
	11803.5	33.2	19.3	52.5	74.0	-21.5	Peak	Vertical

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:	802.11ac-VHT40	Test Site:	AC1					
Test Channel:	46	Test Engineer:	Roy Cheng					
Remark:	Average measurement was not performed if peak level lower than average							
	limit.							
	2. Other frequency was 20dB bel	ow 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)				
*	7146.6	34.8	13.5	48.3	68.2	-19.9	Peak	Horizontal
*	8572.5	34.0	14.5	48.5	68.2	-19.7	Peak	Horizontal
	9173.5	34.8	15.3	50.1	74.0	-23.9	Peak	Horizontal
	12067.0	33.9	19.2	53.1	74.0	-20.9	Peak	Horizontal
*	7045.7	35.5	13.1	48.6	68.2	-19.6	Peak	Vertical
*	7983.6	34.3	15.0	49.3	68.2	-18.9	Peak	Vertical
	9183.5	35.7	15.3	51.0	74.0	-23.0	Peak	Vertical
	11803.5	32.6	19.3	51.9	74.0	-22.1	Peak	Vertical

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:	802.11ac-VHT80	Test Site:	AC1						
Test Channel:	42	Test Engineer: Roy Cheng							
Remark:	Average measurement was no limit.	Average measurement was not performed if peak level lower than average limit.							
	Other frequency was 20dB bel in the report.	ow limit line within 1	-18GHz, there is not show						

Mark	Frequency	Reading	Factor	Measure	Limit	Margin	Detector	Polarization
	(MHz)	Level	(dB)	Level	(dBµV/m)	(dB)		
		(dBµV)		(dBµV/m)				
*	7263.5	34.7	13.9	48.6	68.2	-19.6	Peak	Horizontal
*	8515.5	34.5	14.6	49.1	68.2	-19.1	Peak	Horizontal
	9376.6	35.3	15.3	50.6	74.0	-23.4	Peak	Horizontal
	11854.5	33.4	19.5	52.9	74.0	-21.1	Peak	Horizontal
*	7163.5	34.5	13.6	48.1	68.2	-20.1	Peak	Vertical
*	8547.5	33.9	14.5	48.4	68.2	-19.8	Peak	Vertical
	9392.5	34.9	15.4	50.3	74.0	-23.7	Peak	Vertical
	11259.5	33.6	18.8	52.4	74.0	-21.6	Peak	Vertical

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

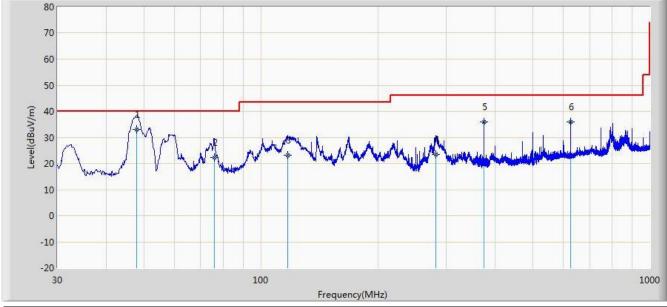
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)





# The worst case of Radiated Emission below 1GHz:

Engineer: Sunny Sun					
Site: AC1	Time: 2014/07/27 - 14:11				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: VULB9162_0.03-8GHz	Polarity: Horizontal				
EUT: WIFI dual band 4 GE LAN GPON HGU	Power: AC 120V/60Hz				
Worst Case Mode: 802.11a Channel 5180MHz					



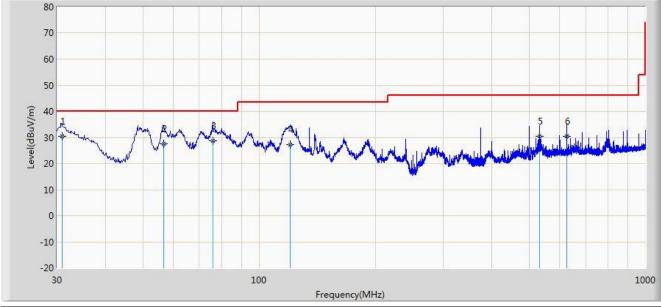
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			47.945	33.151	18.360	-6.849	40.000	14.792	QP
2			75.833	22.228	12.900	-17.772	40.000	9.328	QP
3			117.201	23.141	11.700	-20.359	43.500	11.441	QP
4			281.959	23.394	9.600	-22.606	46.000	13.794	QP
5		*	374.992	35.832	20.100	-10.168	46.000	15.732	QP
6			625.003	35.922	16.200	-10.078	46.000	19.722	QP

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





Engineer: Sunny Sun					
Site: AC1	Time: 2014/07/27 - 13:39				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: VULB9162_0.03-8GHz	Polarity: Vertical				
EUT: WIFI dual band 4 GE LAN GPON HGU	Power: AC 120V/60Hz				
Worst Case Mode: 802.11a Channel 5180MHz					

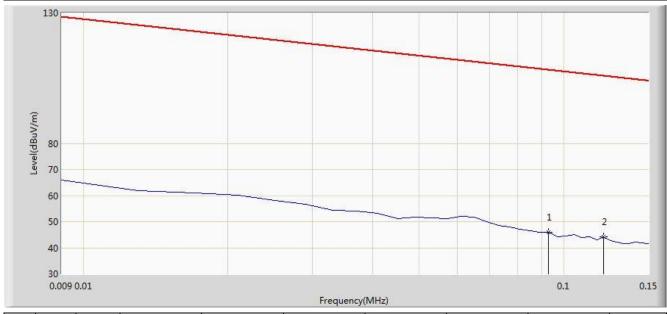


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	30.937	30.372	18.300	-9.628	40.000	12.072	QP
2			56.581	27.646	13.400	-12.354	40.000	14.246	QP
3			75.965	28.796	19.500	-11.204	40.000	9.296	QP
4			120.238	27.373	16.400	-16.127	43.500	10.973	QP
5			531.260	30.387	12.200	-15.613	46.000	18.187	QP
6			624.999	30.522	10.800	-15.478	46.000	19.722	QP





obe: FMZB1519 0.009-30MHz	Polarity: Face On
mit: FCC_Part15.209_RE(3m)	Margin: 0
te: AC1	Time: 2014/07/27 - 13:42
ngineer: Roy Cheng	Time: 2044/07/27 42:42



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			0.093	46.049	25.820	-62.178	108.226	20.229	QP
2		*	0.121	44.063	23.875	-61.879	105.942	20.188	QP





Engineer: Roy Cheng						
Site: AC1	Time: 2014/07/27 - 13:42					
Limit: FCC_Part15.209_RE(3m)	Margin: 0					
Probe: FMZB1519_0.009-30MHz	Polarity: Face On					
EUT: WIFI dual band 4 GE LAN GPON HGU	Power: AC 120V/60Hz					
Note: There is the ambient noise within frequency range 9kHz~30MHz.						

110 80 80 40 40 30 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			0.482	36.594	16.194	-57.348	93.943	20.401	QP
2		*	1.258	31.288	10.788	-34.345	65.633	20.500	QP

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





Engineer: Roy Cheng					
Site: AC1	Time: 2014/07/27 - 12:31				
Limit: FCC_Part15.209_RE(1m)	Margin: 0				
Probe: BBHA9170_18-40GHz	Polarity: Horizontal				
EUT: WIFI dual band 4 GE LAN GPON HGU	Power: AC 120V/60Hz				
Note: There is the ambient noise within frequency range 18GHz~40GHz.					



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			33179.678	48.619	27.098	-14.881	63.500	21.521	AV
2			33180.000	61.501	39.980	-21.999	83.500	21.521	PK
3			38790.000	72.332	44.416	-11.168	83.500	27.916	PK
4			38790.560	59.594	31.678	-3.906	63.500	27.916	AV

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





Engineer: Roy Cheng					
Site: AC1	Time: 2014/07/27 - 12:31				
Limit: FCC_Part15.209_RE(1m)	Margin: 0				
Probe: BBHA9170_18-40GHz	Polarity: Vertical				
EUT: WIFI dual band 4 GE LAN GPON HGU	Power: AC 120V/60Hz				
Note: There is the ambient noise within frequency range 18GHz~40GHz.					



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			33212.889	49.517	27.980	-13.983	63.500	21.537	AV
2			33213.000	62.169	40.632	-21.331	83.500	21.538	PK
3			38118.567	58.968	32.567	-4.532	63.500	26.402	AV
4			38119.000	71.963	45.561	-11.537	83.500	26.403	PK

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



## 7.9. Radiated Restricted Band Edge Measurement

### 7.9.1. 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).

MHz	MHz	MHz	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	8.025 - 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 - 156.52525	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> )

### For 15.407(b) 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 -27dBm/MHz.

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

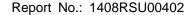
For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27dBm/MHz.

For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of

-17dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27dBm/MHz.

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Operating Frequency Band (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength at 3m (dBuV/m)
5150 - 5350	-27	68.2
5470 - 5725	-27	68.2
	-17	78.2
5725 - 5850	-27	68.2

Note: Refer to KDB 789033 D01v01r04 G)2)c), as specified in § 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a maximum emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in § 15.407(b)(4)). However, an out-of-band emission that complies with both the peak and average limits of § 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz maximum emission 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.

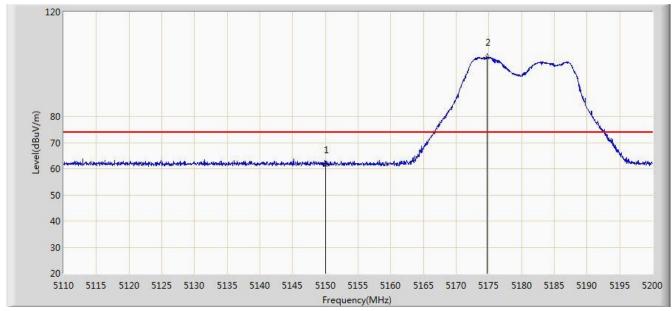
FCC Part 15 Subpart C Paragraph 15.209							
Frequency [MHz]	Field Strength [V/m]	Measured Distance [Meters]					
0.009 – 0.490	2400/F (kHz)	300					
0.490 – 1.705	24000/F (kHz)	30					
1.705 - 30	30	30					
30 - 88	100	3					
88 - 216	150	3					
216 - 960	200	3					
Above 960	500	3					





## 7.9.2. Test Result of Radiated Restricted Band Edge

Engineer: Roy Cheng					
Site: AC1	Time: 2014/07/15 - 19:25				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: WIFI dual band 4 GE LAN GPON HGU Power: AC 120V/60Hz					
Note: Mode 1: Transmit by 802.11a at channel 5180MHz Ant 0+1+2+3					



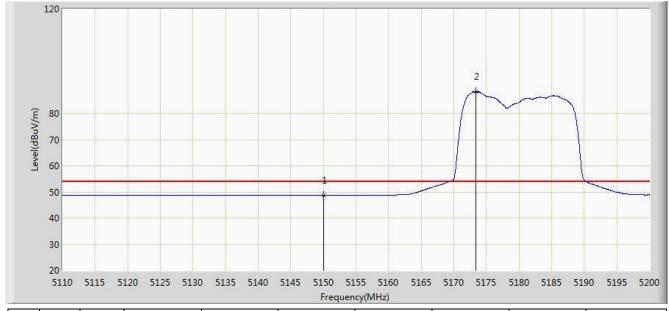
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	61.490	24.738	-12.510	74.000	36.752	PK
2		*	5174.755	102.612	65.930	N/A	N/A	36.682	PK

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





Engineer: Roy Cheng				
Site: AC1	Time: 2014/07/15 - 19:30			
Limit: FCC_Part15.209_RE(3m)	Margin: 0			
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal			
EUT: WIFI dual band 4 GE LAN GPON HGU	Power: AC 120V/60Hz			
Note: Mode 1: Transmit by 802.11a at channel 5180MHz Ant 0+1+2+3				

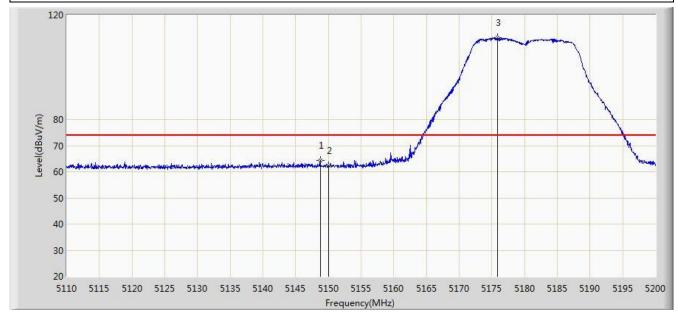


Ν	0	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
				(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
					(dBuV/m)	(dBuV)				
1				5150.000	48.779	12.027	-5.221	54.000	36.752	AV
2			*	5173.360	88.318	51.632	N/A	N/A	36.686	AV





Engineer: Roy Cheng				
Site: AC1	Time: 2014/07/15 - 19:32			
Limit: FCC_Part15.209_RE(3m)	Margin: 0			
Probe: BBHA9120D_1-18GHz	Polarity: Vertical			
EUT: WIFI dual band 4 GE LAN GPON HGU	Power: AC 120V/60Hz			
Note: Mode 1: Transmit by 802.11a at channel 5180MHz Ant 0+1+2+3				

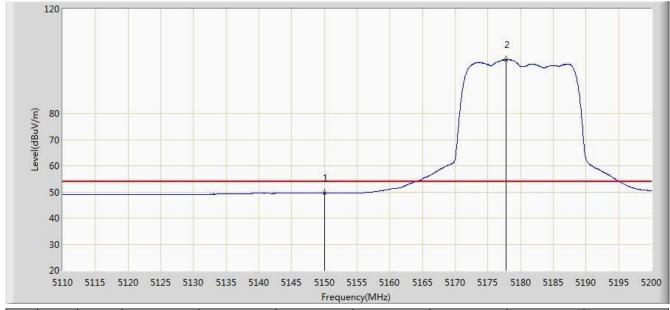


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5148.745	64.212	27.458	-9.788	74.000	36.754	PK
2			5150.000	62.384	25.632	-11.616	74.000	36.752	PK
3		*	5175.835	111.195	74.516	N/A	N/A	36.678	PK





Engineer: Roy Cheng						
Site: AC1	Time: 2014/07/15 - 19:36					
Limit: FCC_Part15.209_RE(3m)	Margin: 0					
Probe: BBHA9120D_1-18GHz	Polarity: Vertical					
EUT: WIFI dual band 4 GE LAN GPON HGU	Power: AC 120V/60Hz					
Note: Mode 1: Transmit by 802.11a at channel 5180MHz Ant 0+1+2+3						

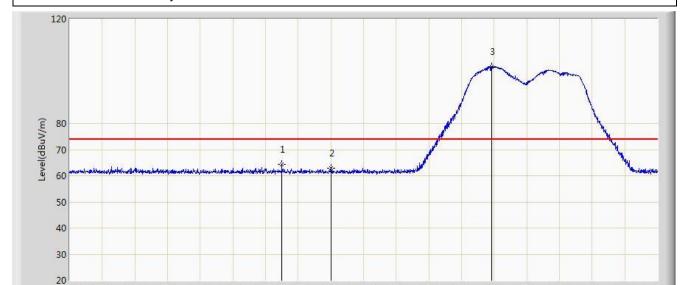


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	49.480	12.728	-4.520	54.000	36.752	AV
2		*	5177.815	100.604	63.932	N/A	N/A	36.673	AV





Engineer: Roy Cheng					
Site: AC1	Time: 2014/07/15 - 20:16				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: WIFI dual band 4 GE LAN GPON HGU Power: AC 120V/60Hz					
Note: Mode 2: Transmit by 802.11n20 at channel 5180MHz Ant 0+1+2+3					



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5142.490	64.393	27.630	-9.607	74.000	36.763	PK
2			5150.000	62.934	26.182	-11.066	74.000	36.752	PK
3		*	5174.575	101.842	65.159	N/A	N/A	36.683	PK

Frequency(MHz)

5150 5155 5160 5165 5170 5175 5180 5185 5190

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

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

5110 5115 5120 5125 5130 5135 5140 5145

5195 5200

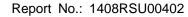




Engineer: Roy Cheng					
Site: AC1	Time: 2014/07/15 - 20:19				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: WIFI dual band 4 GE LAN GPON HGU Power: AC 120V/60Hz					
Note: Mode 2: Transmit by 802.11n20 at channel 5180MHz Ant 0+1+2+3					

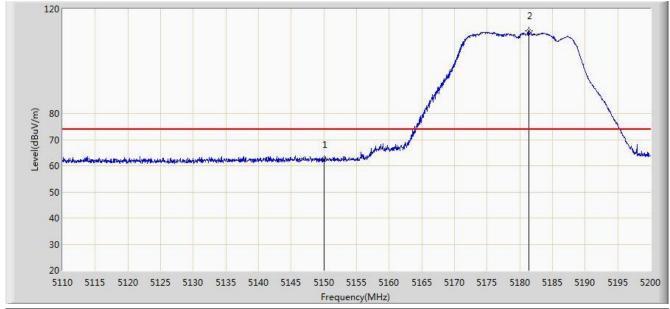


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	48.605	11.853	-5.395	54.000	36.752	AV
2		*	5175.475	91.292	54.612	N/A	N/A	36.680	AV





Engineer: Roy Cheng					
Site: AC1	Time: 2014/07/15 - 20:24				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: WIFI dual band 4 GE LAN GPON HGU Power: AC 120V/60Hz					
Note: Mode 2: Transmit by 802.11n20 at channel 5180MHz Ant 0+1+2+3					

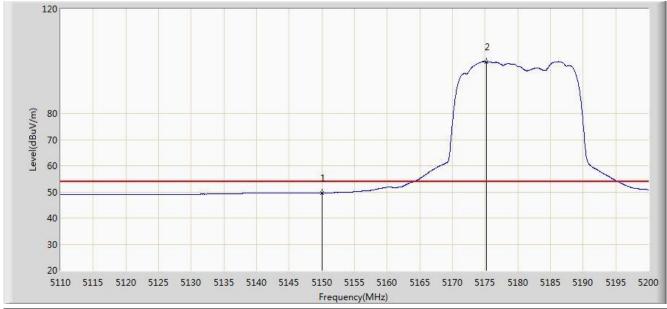


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	62.359	25.607	-11.641	74.000	36.752	PK
2		*	5181.415	111.600	74.939	N/A	N/A	36.661	PK





Engineer: Roy Cheng					
Site: AC1	Time: 2014/07/15 - 20:26				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: WIFI dual band 4 GE LAN GPON HGU Power: AC 120V/60Hz					
Note: Mode 2: Transmit by 802.11n20 at channel 5180MHz Ant 0+1+2+3					

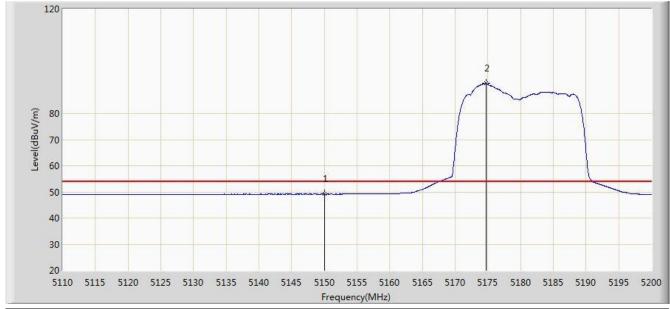


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	49.632	12.880	-4.368	54.000	36.752	AV
2		*	5175.160	99.707	63.026	N/A	N/A	36.681	AV





Engineer: Roy Cheng					
Site: AC1	Time: 2014/07/15 - 21:51				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: WIFI dual band 4 GE LAN GPON HGU Power: AC 120V/60Hz					
Note: Mode 3: Transmit by 802.11ac20 at channel 5180MHz Ant 0+1+2+3					

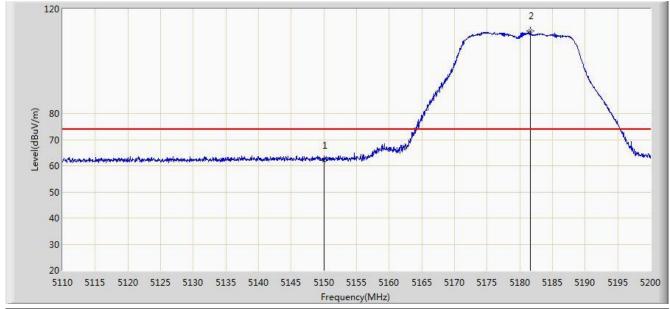


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	49.132	12.380	-4.868	54.000	36.752	AV
2		*	5174.755	91.454	54.772	N/A	N/A	36.682	AV





Engineer: Roy Cheng					
Site: AC1	Time: 2014/07/15 - 21:54				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: WIFI dual band 4 GE LAN GPON HGU	Power: AC 120V/60Hz				
Note: Mode 3: Transmit by 802.11ac20 at channel 5180MHz Ant 0+1+2+3					

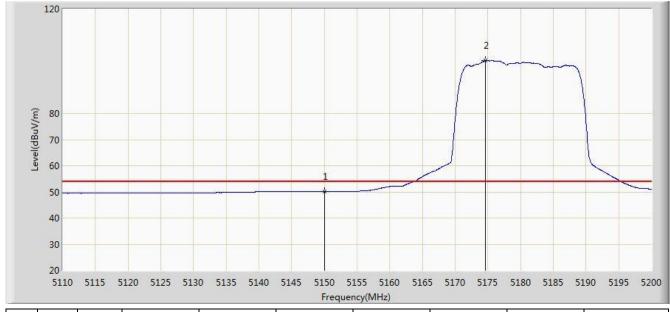


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	62.029	25.277	-11.971	74.000	36.752	PK
2		*	5181.595	111.603	74.943	N/A	N/A	36.661	PK





Engineer: Roy Cheng					
Site: AC1	Time: 2014/07/15 - 21:56				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: WIFI dual band 4 GE LAN GPON HGU	Power: AC 120V/60Hz				
Note: Mode 3: Transmit by 802.11ac20 at channel 5180MHz Ant 0+1+2+3					

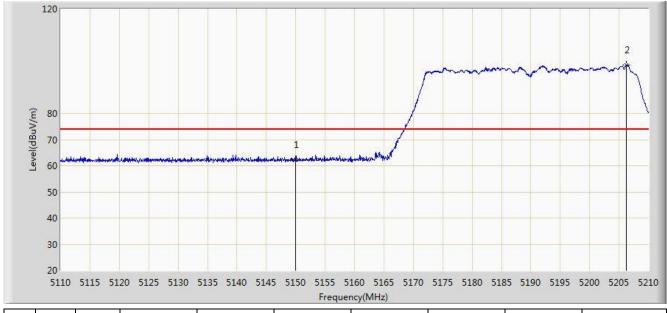


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	50.031	13.279	-3.969	54.000	36.752	AV
2		*	5174.665	100.288	63.606	N/A	N/A	36.682	AV





Engineer: Roy Cheng					
Site: AC1	Time: 2014/07/15 - 22:38				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: WIFI dual band 4 GE LAN GPON HGU	Power: AC 120V/60Hz				
Note: Mode 4: Transmit by 802.11n40 at channel 5190MHz Ant 0+1+2+3					

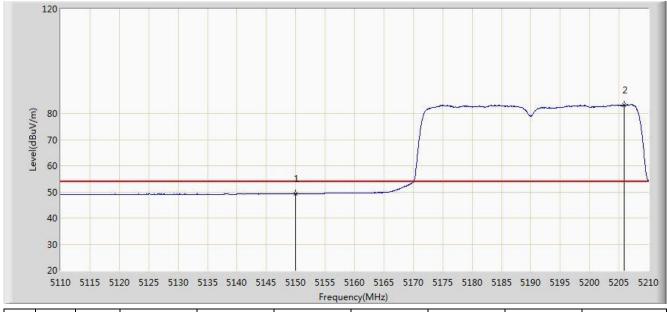


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	62.304	25.552	-11.696	74.000	36.752	PK
2		*	5206.250	98.458	61.858	N/A	N/A	36.600	PK





Engineer: Roy Cheng					
Site: AC1	Time: 2014/07/15 - 22:49				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: WIFI dual band 4 GE LAN GPON HGU	Power: AC 120V/60Hz				
Note: Mode 4: Transmit by 802.11n40 at channel 5190MHz Ant 0+1+2+3					

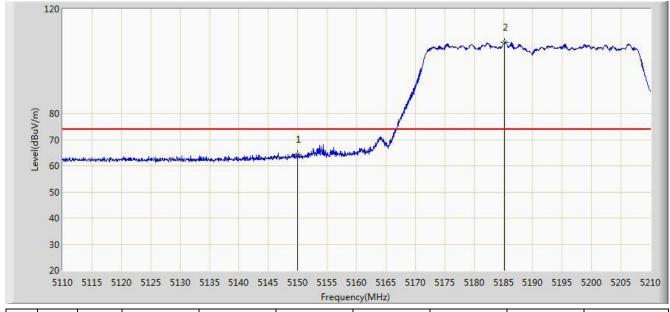


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	49.335	12.583	-4.665	54.000	36.752	AV
2		*	5205.900	83.208	46.607	N/A	N/A	36.601	AV





Engineer: Roy Cheng					
Site: AC1	Time: 2014/07/15 - 22:49				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: WIFI dual band 4 GE LAN GPON HGU	Power: AC 120V/60Hz				
Note: Mode 4: Transmit by 802.11n40 at channel 5190MHz Ant 0+1+2+3					

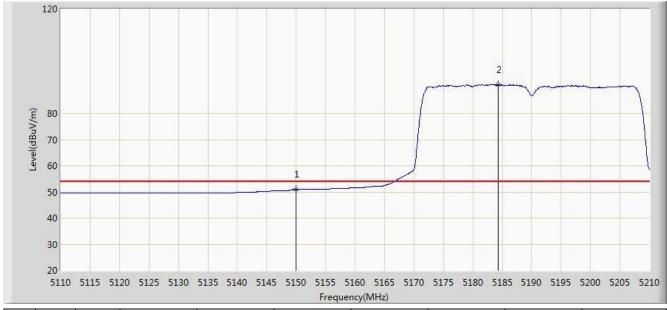


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	64.219	27.467	-9.781	74.000	36.752	PK
2		*	5185.150	107.177	70.526	N/A	N/A	36.650	PK





Engineer: Roy Cheng					
Site: AC1	Time: 2014/07/15 - 22:51				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: WIFI dual band 4 GE LAN GPON HGU	Power: AC 120V/60Hz				
Note: Mode 4: Transmit by 802.11n40 at channel 5190MHz Ant 0+1+2+3					

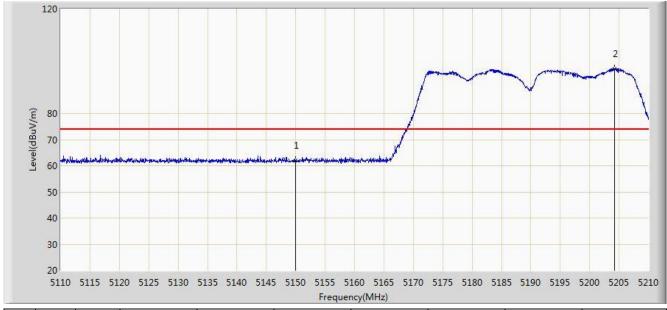


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	50.895	14.143	-3.105	54.000	36.752	AV
2		*	5184.300	91.081	54.428	N/A	N/A	36.653	AV





Engineer: Roy Cheng						
Site: AC1	Time: 2014/07/18 - 15:04					
Limit: FCC_Part15.209_RE(3m)	Margin: 0					
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal					
EUT: WIFI dual band 4 GE LAN GPON HGU Power: AC 120V/60Hz						
Note: Mode 5: Transmit by 802.11ac40 at channel 5190MHz Ant 0+1+2+3						

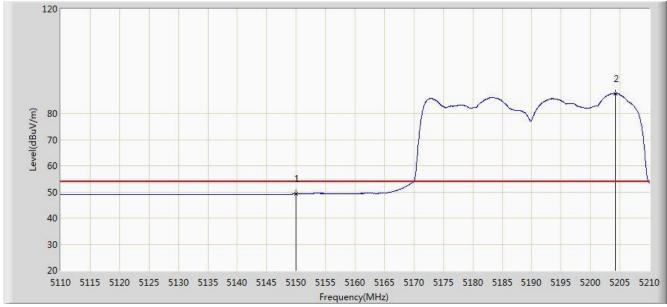


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	61.992	25.240	-12.008	74.000	36.752	PK
2		*	5204.200	97.206	60.602	N/A	N/A	36.604	PK





Engineer: Roy Cheng						
Site: AC1	Time: 2014/07/18 - 15:10					
Limit: FCC_Part15.209_RE(3m)	Margin: 0					
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal					
EUT: WIFI dual band 4 GE LAN GPON HGU Power: AC 120V/60Hz						
Note: Mode 5: Transmit by 802.11ac40 at channel 5190MHz Ant 0+1+2+3						

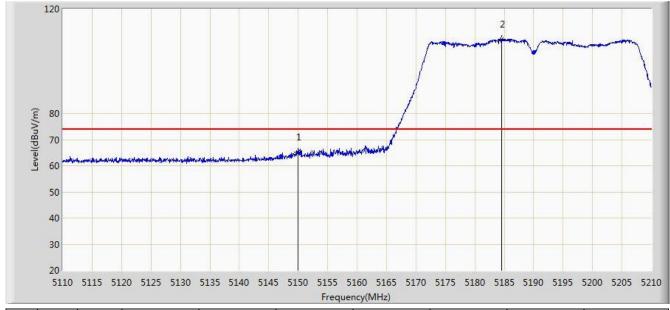


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	49.175	12.423	-4.825	54.000	36.752	AV
2		*	5204.200	87.672	51.068	N/A	N/A	36.604	AV





Engineer: Roy Cheng						
Site: AC1	Time: 2014/07/18 - 15:13					
Limit: FCC_Part15.209_RE(3m)	Margin: 0					
Probe: BBHA9120D_1-18GHz	Polarity: Vertical					
EUT: WIFI dual band 4 GE LAN GPON HGU Power: AC 120V/60Hz						
Note: Mode 5: Transmit by 802.11ac40 at channel 5190MHz Ant 0+1+2+3						

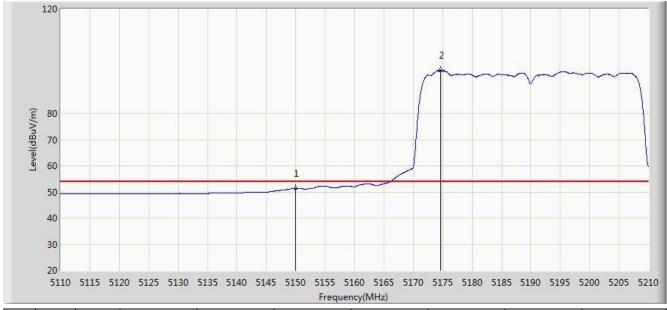


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	65.111	28.359	-8.889	74.000	36.752	PK
2		*	5184.600	108.400	71.748	N/A	N/A	36.652	PK





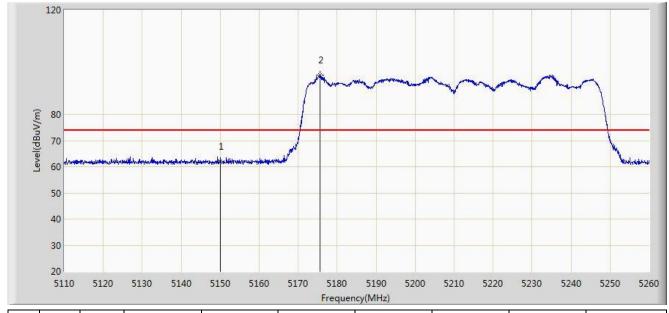
Engineer: Roy Cheng						
Site: AC1	Time: 2014/07/18 - 15:14					
Limit: FCC_Part15.209_RE(3m)	Margin: 0					
Probe: BBHA9120D_1-18GHz	Polarity: Vertical					
EUT: WIFI dual band 4 GE LAN GPON HGU Power: AC 120V/60Hz						
Note: Mode 5: Transmit by 802.11ac40 at channel 5190MHz Ant 0+1+2+3						



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	51.344	14.592	-2.656	54.000	36.752	AV
2		*	5174.650	96.397	59.715	N/A	N/A	36.683	AV



Engineer: Roy Cheng					
Site: AC1	Time: 2014/07/18 - 15:59				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: WIFI dual band 4 GE LAN GPON HGU Power: AC 120V/60Hz					
Note: Mode 6: Transmit by 802.11ac80 at channel 5210MHz Ant 0+1+2+3					



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	61.969	25.217	-12.031	74.000	36.752	PK
2	·	*	5175.625	94.961	58.282	N/A	N/A	36.679	PK





Engineer: Roy Cheng						
Site: AC1	Time: 2014/07/18 - 16:01					
Limit: FCC_Part15.209_RE(3m)	Margin: 0					
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal					
EUT: WIFI dual band 4 GE LAN GPON HGU Power: AC 120V/60Hz						
Note: Mode 6: Transmit by 802.11ac80 at channel 5210MHz Ant 0+1+2+3						



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5150.000	49.185	12.433	-4.815	54.000	36.752	AV
2		*	5213.500	82.118	45.532	N/A	N/A	36.586	AV





Engineer: Roy Cheng					
Site: AC1	Time: 2014/07/18 - 16:05				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: WIFI dual band 4 GE LAN GPON HGU	Power: AC 120V/60Hz				
Note: Mode 6: Transmit by 802.11ac80 at channel 5210MHz Ant 0+1+2+3					



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5139.250	68.843	32.076	-5.157	74.000	36.767	PK
2			5150.000	64.352	27.600	-9.648	74.000	36.752	PK
3		*	5175.475	106.933	70.253	N/A	N/A	36.680	PK





Engineer: Roy Cheng					
Site: AC1	Time: 2014/07/18 - 16:06				
Limit: FCC_Part15.209_RE(3m)	Margin: 0				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: WIFI dual band 4 GE LAN GPON HGU	Power: AC 120V/60Hz				
Note: Mode 6: Transmit by 802.11ac80 at channel 5210MHz Ant					



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			5140.750	52.493	15.728	-1.507	54.000	36.765	AV
2			5150.000	52.483	15.731	-1.517	54.000	36.752	AV
3		*	5176.675	93.507	56.831	N/A	N/A	36.676	AV



## 7.10. AC Conducted Emissions Measurement §15.207); RSS-210 [7.2.4]

7.10.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.207 & RSS-210 [7.2.4]							
Frequency (MHz)	QP (dBµV)	ΑV (dBμV)					
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.

#### 7.10.2. Test Procedure

The EUT was setup according to ANSI C63.4, 2009 and tested according to KDB 789033 for compliance to FCC 47CFR 15.247 requirements. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs) Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

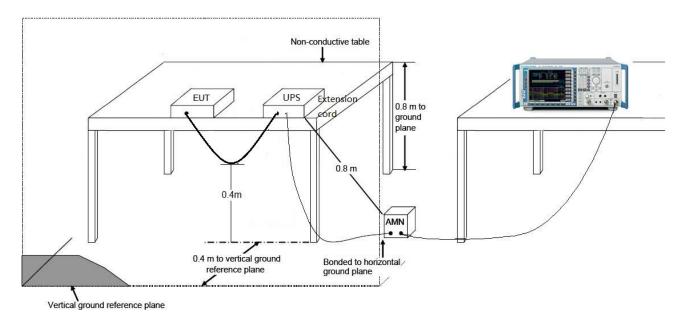
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

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IC: 4009A-8X4G1



# 7.10.3. Test Setup

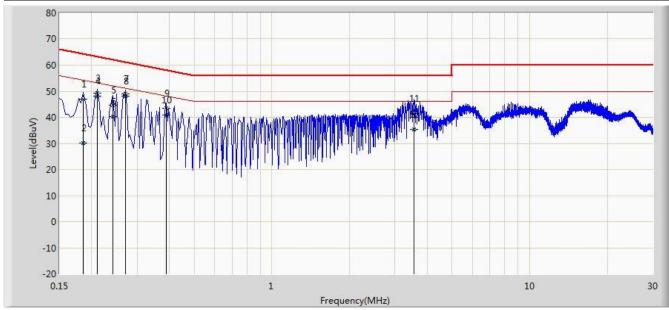






## 7.10.4. Test Result

Tested By	Roy Cheng	Test Date	2014/07/15 - 11:48
Site	SR2	Power	AC 120V/60Hz
Limit	FCC_Part15.207_CE _Class B	Polarity	Line
AMN	LISN_101683-FILTER ON	Test Mode	Normal Operation



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV)	(dB)	
				(dBuV)	(dBuV)				
1			0.186	46.970	36.935	-17.243	64.213	10.035	QP
2			0.186	30.198	20.162	-24.016	54.213	10.035	AV
3		*	0.210	49.275	39.281	-13.930	63.205	9.995	QP
4			0.210	48.161	38.167	-5.044	53.205	9.995	AV
5			0.242	44.585	34.590	-17.442	62.027	9.995	QP
6			0.242	40.350	30.355	-11.677	52.027	9.995	AV
7			0.270	49.083	39.067	-12.035	61.118	10.016	QP
8			0.270	47.979	37.963	-3.139	51.118	10.016	AV
9			0.390	43.467	33.362	-14.597	58.064	10.105	QP
10			0.390	40.835	30.730	-7.228	48.064	10.105	AV
11			3.546	41.421	31.503	-14.579	56.000	9.919	QP
12			3.546	35.301	25.382	-10.699	46.000	9.919	AV

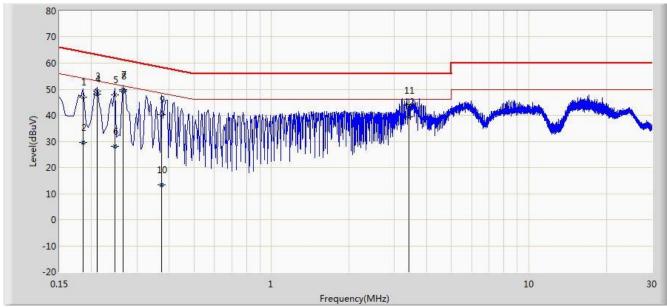
Note: Measure Level (dB $\mu$ V) = Reading Level (dB $\mu$ V) + Factor (dB)

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





Tested By	Roy Cheng	Test Date	2014/07/15 - 11:54
Site	SR2	Power	AC 120V/60Hz
Limit	FCC_Part15.207_CE_Class B	Polarity	Neutral
AMN	LISN_101683-FILTER ON	Test Mode	Normal Operation



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV)	(dB)	
				(dBuV)	(dBuV)				
1			0.186	47.051	37.016	-17.162	64.213	10.035	QP
2			0.186	29.500	19.464	-24.714	54.213	10.035	AV
3		*	0.210	49.244	39.250	-13.961	63.205	9.995	QP
4			0.210	48.122	38.128	-5.083	53.205	9.995	AV
5			0.246	47.706	37.708	-14.185	61.891	9.998	QP
6			0.246	28.218	18.220	-23.674	51.891	9.998	AV
7			0.266	49.771	39.758	-11.471	61.242	10.013	QP
8			0.266	49.155	39.142	-2.087	51.242	10.013	AV
9			0.374	40.313	30.220	-18.098	58.412	10.093	QP
10			0.374	13.310	3.217	-35.102	48.412	10.093	AV
11			3.418	43.902	33.994	-12.098	56.000	9.907	QP
12			3.418	39.552	29.644	-6.448	46.000	9.907	AV

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

Report No.: 1408RSU00402

# 8. CONCLUSION

The data collected relate only the item(s) tested and show that the WIFI dual band 4 GE LAN GPON HGU FCC ID: 2ABLK-8X4G-1 is in compliance with Part 15E of the FCC Rules.

————— The End

IC: 4009A-8X4G1

FCC ID: 2ABLK-8X4G-1