



7.6. Frequency Stability Measurement

7.6.1. Test Limit

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

7.6.2. Test Procedure Used

Frequency Stability Under Temperature Variations:

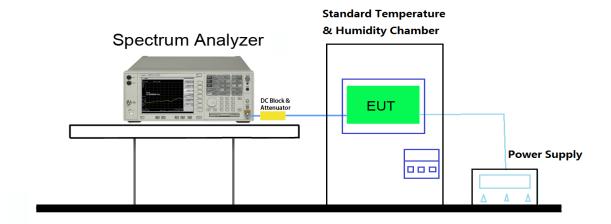
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to highest. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C decreased per stage until the lowest temperature reached.

Frequency Stability Under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation (±15%) and endpoint, record the maximum frequency change.

7.6.3. Test Setup





7.6.4. Test Result

Voltage	Power	Temp	Frequency	Freq. Dev.	Deviation
(%)	(VAC)	(°C)	(Hz)	(Hz)	(%)
		. 00 (D-f)	5299983519	-16481.36	-0.000311
		+ 20 (Ref)	5599991482	-8518.29	-0.000152
		- 30	5300020537	20537.21	0.000387
		- 30	5600026165	26165.12	0.000467
		20	5300014376	14376.32	0.000271
		- 20	5600013146	13146.10	0.000235
		40	5299998406	-1593.76	-0.000030
		- 10	5599998739	-1260.81	-0.000023
		0	5299997589	-2410.69	-0.000045
		0	5599998567	-1432.84	-0.000026
		+ 10	5299993081	-6918.94	-0.000131
		+ 10	5599992741	-7258.84	-0.000130
		. 20	5299991549	-8451.36	-0.000159
		+ 20	5599991482	-8518.29	-0.000152
		+ 30	5299992086	-7913.72	-0.000149
		+ 30	5599990278	-9721.78	-0.000174
		+ 40	5299991813	-8187.39	-0.000154
		+ 40	5599991016	-8984.26	-0.000160
		. 50	5299994509	-5491.49	-0.000104
		+ 50	5599995851	-4148.75	-0.000074
4450/	400	. 00	5299993648	-6351.62	-0.000120
115%	138	+ 20	5599992581	-7418.76	-0.000132
050/	400	. 00	5299994451	-5548.51	-0.000105
85%	102	+ 20	5599993179	-6821.15	-0.000122



7.7. Radiated Spurious Emission Measurement

7.7.1. Test Limit

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

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

7.7.2. Test Procedure Used

KDB 789033 D02v01 - Section G

7.7.3. Test Setting

Peak Measurements above 1GHz

- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. RBW = 1MHz
- 3. VBW = 3MHz
- 4. Detector = peak
- 5. Sweep time = auto couple
- 6. Trace mode = max hold
- 7. Trace was allowed to stabilize



Quasi-Peak Measurements below 1GHz

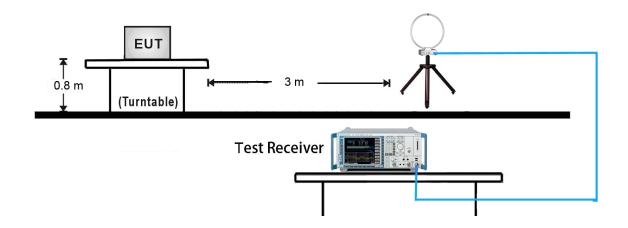
- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. Span was set greater than 1MHz
- 3. RBW = 120 kHz
- 4. Detector = CISPR quasi-peak
- 5. Sweep time = auto couple
- 6. Trace was allowed to stabilize

Average Measurements above 1GHz (Method AD)

- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. RBW = 1MHz
- 3. VBW = 3MHz
- 4. Detector = power average (RMS)
- 5. Number of measurement points = 1001 (Number of points must be > 2 x span/RBW)
- 6. Sweep time = auto
- 7. Trace was averaged over at 100 sweeps

7.7.4. Test Setup

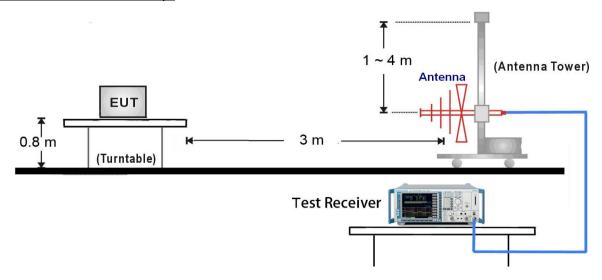
9kHz ~ 30MHz Test Setup:



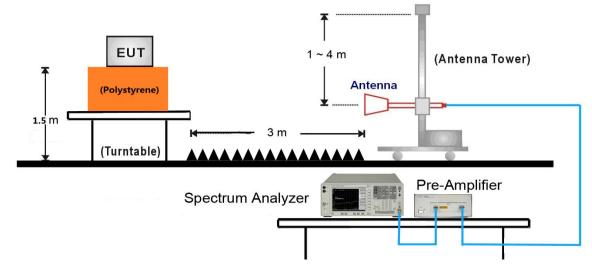




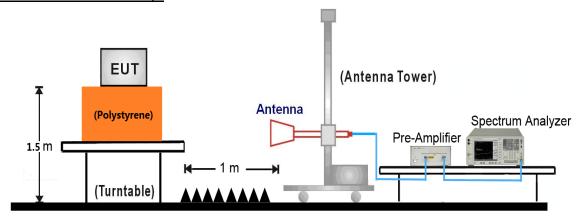
30MHz ~ 1GHz Test Setup:



1GHz ~18GHz Test Setup:



18GHz ~40GHz Test Setup:







7.7.5. Test Result

Test Mode:	802.11a	Test Site:	AC1					
Test Channel:	52	Test Engineer:	Roy Cheng					
Remark:	1. Average measurement was no	t performed if peak I	evel 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)				
	8327.0	37.4	8.0	45.4	74.0	-28.6	Peak	Horizontal
*	10520.0	40.1	12.4	52.5	88.2	-35.7	Peak	Horizontal
	12645.0	36.3	11.4	47.7	74.0	-26.3	Peak	Horizontal
*	16351.0	35.1	12.9	48.0	88.2	-40.2	Peak	Horizontal
	8055.0	38.3	8.8	47.1	74.0	-26.9	Peak	Vertical
*	10520.0	42.1	12.4	54.5	88.2	-33.7	Peak	Vertical
	12500.5	36.1	11.4	47.5	74.0	-26.5	Peak	Vertical
*	16385.0	35.6	13.0	48.6	88.2	-39.6	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 emission.

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



Test Mode:	802.11a	Test Site:	AC1					
Test Channel:	60	Test Engineer:	Roy Cheng					
Remark:	1. Average measurement was no	t performed if peak I	evel 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)				
	8497.0	37.3	8.3	45.6	74.0	-28.4	Peak	Horizontal
*	10596.5	39.3	12.4	51.7	88.2	-36.5	Peak	Horizontal
	12500.5	35.4	11.4	46.8	74.0	-27.2	Peak	Horizontal
*	16215.0	35.4	12.6	48.0	88.2	-40.2	Peak	Horizontal
	7341.0	36.8	8.0	44.8	74.0	-29.2	Peak	Vertical
*	9525.5	36.5	10.7	47.2	88.2	-41.0	Peak	Vertical
	10601.9	31.3	12.4	43.7	54.0	-10.3	Average	Vertical
	10605.0	41.9	12.4	54.3	74.0	-19.7	Peak	Vertical
*	12781.0	35.8	11.7	47.5	88.2	-40.7	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)



Test Mode:	802.11a	Test Site:	AC1						
Test Channel:	64	Test Engineer:	Roy Cheng						
Remark:	1. Average measurement was no	t performed if peak I	evel lower than average						
	limit.								
	2. Other frequency was 20dB bel	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)				
	7528.0	36.6	8.3	44.9	74.0	-29.1	Peak	Horizontal
*	8862.5	37.0	9.1	46.1	88.2	-42.1	Peak	Horizontal
	10639.0	40.1	12.3	52.4	74.0	-21.6	Peak	Horizontal
*	13529.0	37.1	13.8	50.9	88.2	-37.3	Peak	Horizontal
	7621.5	36.8	8.0	44.8	74.0	-29.2	Peak	Vertical
*	13104.0	36.1	12.5	48.6	88.2	-39.6	Peak	Vertical
	10639.0	43.1	12.3	55.4	74.0	-18.6	Average	Vertical
	10643.0	29.8	12.3	42.1	54.0	-11.9	Peak	Vertical
*	16453.0	35.8	13.2	49.0	88.2	-39.2	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)



Test Mode:	802.11a	Test Site:	AC1						
Test Channel:	100	Test Engineer:	Roy Cheng						
Remark:	1. Average measurement was no	t performed if peak	evel 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)				
	8426.5	36.2	8.2	44.4	74.0	-29.6	Peak	Horizontal
*	10154.5	36.7	11.6	48.3	88.2	-39.9	Peak	Horizontal
	11013.0	39.6	13.0	52.6	74.0	-21.4	Peak	Horizontal
*	16308.5	36.3	12.9	49.2	88.2	-39.0	Peak	Horizontal
	7862.4	36.3	8.4	44.7	74.0	-29.3	Peak	Vertical
*	9235.4	35.0	10.1	45.1	88.2	-43.1	Peak	Vertical
	11000.1	29.2	13.0	42.2	54.0	-11.8	Average	Vertical
	11004.5	41.2	13.0	54.2	74.0	-19.8	Peak	Vertical
*	16215.0	37.5	12.6	50.1	88.2	-38.1	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)



Test Mode:	802.11a	Test Site:	AC1						
Test Channel:	120	Test Engineer:	Roy Cheng						
Remark:	1. Average measurement was no	t performed if peak I	evel lower than average						
	limit.								
	2. Other frequency was 20dB bel	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)				
	8492.8	36.2	8.3	44.5	74.0	-29.5	Peak	Horizontal
*	10256.5	35.7	11.9	47.6	88.2	-40.6	Peak	Horizontal
	11157.5	39.5	12.6	52.1	74.0	-21.9	Peak	Horizontal
*	16461.5	36.0	13.3	49.3	88.2	-38.9	Peak	Horizontal
	8412.0	36.7	8.1	44.8	74.0	-29.2	Peak	Vertical
*	9772.0	35.7	11.4	47.1	88.2	-41.1	Peak	Vertical
	11157.5	37.7	12.6	50.3	74.0	-23.7	Peak	Vertical
*	13503.5	35.9	13.7	49.6	88.2	-38.6	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)



Test Mode:	802.11a	Test Site:	AC1					
Test Channel:	140	Test Engineer:	Roy Cheng					
Remark:	1. Average measurement was no	Average measurement was not performed if peak level lower than average						
	limit.							
	2. Other frequency was 20dB bel	. 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)				
	8038.0	36.8	8.8	45.6	74.0	-28.4	Peak	Horizontal
*	9959.0	35.0	11.4	46.4	88.2	-41.8	Peak	Horizontal
	11404.0	38.7	12.6	51.3	74.0	-22.7	Peak	Horizontal
*	13614.0	35.8	13.9	49.7	88.2	-38.5	Peak	Horizontal
	8072.0	37.6	8.7	46.3	74.0	-27.7	Peak	Vertical
*	9721.0	35.5	11.1	46.6	88.2	-41.6	Peak	Vertical
	11404.0	38.1	12.6	50.7	74.0	-23.3	Peak	Vertical
*	13614.0	35.8	13.9	49.7	88.2	-38.5	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)



Test Mode:	802.11n-HT20	Test Site:	AC1					
Test Channel:	52	Test Engineer:	Roy Cheng					
Remark:	1. 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)				
	8301.5	38.5	8.0	46.5	74.0	-27.5	Peak	Horizontal
*	10520.0	38.6	12.4	51.0	88.2	-37.2	Peak	Horizontal
	13359.0	35.4	13.6	49.0	74.0	-25.0	Peak	Horizontal
*	16903.5	38.1	15.3	53.4	88.2	-34.8	Peak	Horizontal
	8423.7	35.3	8.2	43.5	74.0	-30.5	Peak	Vertical
*	10520.0	42.5	12.4	54.9	88.2	-33.3	Peak	Vertical
	13269.0	34.4	12.8	47.2	74.0	-26.8	Peak	Vertical
*	14623.5	34.5	15.7	50.2	88.2	-38.0	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)



Test Mode:	802.11n-HT20	Test Site:	AC1					
Test Channel:	60	Test Engineer:	Roy Cheng					
Remark:	1. Average measurement was no	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)				
	7326.4	36.0	8.0	44.0	74.0	-30.0	Peak	Horizontal
*	8516.3	36.6	8.4	45.0	88.2	-43.2	Peak	Horizontal
	10596.5	41.6	12.4	54.0	74.0	-20.0	Peak	Horizontal
	10597.6	29.0	12.4	41.4	54.0	-12.6	Average	Horizontal
*	13426.3	34.3	13.6	47.9	88.2	-40.3	Peak	Horizontal
	7269.4	36.2	8.0	44.2	74.0	-29.8	Peak	Vertical
*	7926.4	36.0	8.5	44.5	88.2	-43.7	Peak	Vertical
	10600.8	29.7	12.4	42.1	54.0	-11.9	Average	Vertical
	10605.0	42.1	12.4	54.5	74.0	-19.5	Peak	Vertical
*	12736.4	35.1	11.7	46.8	88.2	-41.4	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)



Test Mode:	802.11n-HT20	Test Site:	AC1					
Test Channel:	64	Test Engineer:	Roy Cheng					
Remark:	1. 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 (MHz)	Reading Level	Factor (dB)	Measure Level	Limit (dBµV/m)	Margin (dB)	Detector	Polarization
	, ,	(dBµV)	,	(dBµV/m)	· · ,	,		
	7359.4	35.4	8.0	43.4	74.0	-30.6	Peak	Horizontal
*	8612.7	35.6	8.8	44.4	88.2	-43.8	Peak	Horizontal
	10638.6	27.9	12.3	40.2	54.0	-13.8	Average	Horizontal
	10639.0	41.4	12.3	53.7	74.0	-20.3	Peak	Horizontal
*	14126.0	34.6	15.3	49.9	88.2	-38.3	Peak	Horizontal
	7658.1	35.5	8.0	43.5	74.0	-30.5	Peak	Vertical
*	9253.4	36.4	10.2	46.6	88.2	-41.6	Peak	Vertical
	10639.0	42.3	12.3	54.6	74.0	-19.4	Peak	Vertical
	10643.1	29.6	12.3	41.9	54.0	-12.1	Average	Vertical
*	13456.4	34.3	13.7	48.0	88.2	-40.2	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)



Test Mode:	802.11n-HT20	Test Site:	AC1						
Test Channel:	100	Test Engineer:	Roy Cheng						
Remark:	1. Average measurement was no	Average measurement was not performed if peak level lower than average							
	limit.								
	2. Other frequency was 20dB bel	2. Other frequency was 20dB below limit line within 1-18GHz, there is not show							
	in the report.								

Mark	Frequency (MHz)	Reading Level	Factor (dB)	Measure Level	Limit (dBµV/m)	Margin (dB)	Detector	Polarization
		(dBµV)		(dBµV/m)				
	7352.4	35.5	8.0	43.5	74.0	-30.5	Peak	Horizontal
*	9256.3	35.3	10.3	45.6	88.2	-42.6	Peak	Horizontal
	10992.5	27.3	13.0	40.3	54.0	-13.7	Average	Horizontal
	10996.0	41.0	13.0	54.0	74.0	-20.0	Peak	Horizontal
*	13426.4	34.4	13.6	48.0	88.2	-40.2	Peak	Horizontal
	7259.9	36.1	7.9	44.0	74.0	-30.0	Peak	Vertical
*	9263.4	35.6	10.3	45.9	88.2	-42.3	Peak	Vertical
	10996.0	41.6	13.0	54.6	74.0	-19.4	Peak	Vertical
	11001.0	29.3	13.0	42.3	54.0	-11.7	Average	Vertical
*	13462.8	34.6	13.7	48.3	88.2	-39.9	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)



Test Mode:	802.11n-HT20	Test Site:	AC1					
Test Channel:	120	Test Engineer:	Roy Cheng					
Remark:	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)				
	7443.0	39.3	8.0	47.3	74.0	-26.7	Peak	Horizontal
*	9245.9	34.9	10.2	45.1	88.2	-43.1	Peak	Horizontal
	11149.0	40.6	12.6	53.2	74.0	-20.8	Peak	Horizontal
*	13452.9	34.6	13.7	48.3	88.2	-39.9	Peak	Horizontal
	7443.0	38.4	8.0	46.4	74.0	-27.6	Peak	Vertical
*	9257.8	34.7	10.3	45.0	88.2	-43.2	Peak	Vertical
	11157.5	39.7	12.6	52.3	74.0	-21.7	Peak	Vertical
*	13452.8	35.5	13.7	49.2	88.2	-39.0	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)



Test Mode:	802.11n-HT20	Test Site:	AC1					
Test Channel:	140	Test Engineer:	Roy Cheng					
Remark:	1. Average measurement was no	Average measurement was not performed if peak level lower than average						
	limit.							
	2. Other frequency was 20dB bel	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)				
	7357.5	35.9	8.0	43.9	74.0	-30.1	Peak	Horizontal
*	9284.7	34.4	10.3	44.7	88.2	-43.5	Peak	Horizontal
	11400.0	35.7	12.6	48.3	74.0	-25.7	Peak	Horizontal
*	13487.3	34.0	13.7	47.7	88.2	-40.5	Peak	Horizontal
	7316.4	35.5	8.0	43.5	74.0	-30.5	Peak	Vertical
*	9253.8	34.9	10.2	45.1	88.2	-43.1	Peak	Vertical
	11400.0	35.4	12.6	48.0	74.0	-26.0	Peak	Vertical
*	13452.0	34.7	13.7	48.4	88.2	-39.8	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)



Test Mode:	802.11n-HT40	Test Site:	AC1					
Test Channel:	54	Test Engineer:	Roy Cheng					
Remark:	1. Average measurement was no	. Average measurement was not performed if peak level lower than average						
	limit.							
	2. Other frequency was 20dB bel	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)				
	8652.3	35.4	8.8	44.2	74.0	-29.8	Peak	Horizontal
*	10537.0	37.6	12.5	50.1	88.2	-38.1	Peak	Horizontal
	11482.1	35.1	12.7	47.8	74.0	-26.2	Peak	Horizontal
*	14504.5	34.9	15.7	50.6	88.2	-37.6	Peak	Horizontal
	7358.3	36.5	8.0	44.5	74.0	-29.5	Peak	Vertical
*	10545.5	40.1	12.5	52.6	88.2	-35.6	Peak	Vertical
	13254.2	34.8	12.7	47.5	74.0	-26.5	Peak	Vertical
*	16204.2	35.2	12.5	47.7	88.2	-40.5	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)



Test Mode:	802.11n-HT40	Test Site:	AC1						
Test Channel:	62	Test Engineer:	Roy Cheng						
Remark:	1. Average measurement was no	Average measurement was not performed if peak level lower than average							
	limit.	limit.							
	2. Other frequency was 20dB bel	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)				
	8143.2	35.6	8.5	44.1	74.0	-29.9	Peak	Horizontal
*	9253.6	35.4	10.2	45.6	88.2	-42.6	Peak	Horizontal
	10622.0	38.0	12.4	50.4	74.0	-23.6	Peak	Horizontal
*	13403.4	34.5	13.7	48.2	88.2	-40.0	Peak	Horizontal
	7653.2	36.1	8.0	44.1	74.0	-29.9	Peak	Vertical
*	9245.3	34.4	10.2	44.6	88.2	-43.6	Peak	Vertical
	10622.0	39.1	12.4	51.5	74.0	-22.5	Peak	Vertical
*	13423.4	34.6	13.6	48.2	88.2	-40.0	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)



Test Mode:	802.11n-HT40	Test Site:	AC1					
Test Channel:	102	Test Engineer:	Roy Cheng					
Remark:	1. 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)				
	8246.4	35.8	8.1	43.9	74.0	-30.1	Peak	Horizontal
*	9253.4	34.1	10.2	44.3	88.2	-43.9	Peak	Horizontal
	11013.0	37.9	13.0	50.9	74.0	-23.1	Peak	Horizontal
*	13422.4	33.9	13.6	47.5	88.2	-40.7	Peak	Horizontal
	7653.6	35.7	8.0	43.7	74.0	-30.3	Peak	Vertical
*	8636.4	35.0	8.8	43.8	88.2	-44.4	Peak	Vertical
	11021.5	40.2	13.0	53.2	74.0	-20.8	Peak	Vertical
*	13426.4	34.8	13.6	48.4	88.2	-39.8	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)



Test Mode:	802.11n-HT40	Test Site:	AC1					
Test Channel:	118	Test Engineer:	Roy Cheng					
Remark:		Average measurement was not performed if peak level lower than average						
	limit.							
	2. Other frequency was 20dB bel	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)				
	8263.4	35.9	8.1	44.0	74.0	-30.0	Peak	Horizontal
*	9253.4	34.8	10.2	45.0	88.2	-43.2	Peak	Horizontal
	11020.0	34.4	13.0	47.4	74.0	-26.6	Peak	Horizontal
*	13426.4	33.9	13.6	47.5	88.2	-40.7	Peak	Horizontal
	7653.3	35.5	8.0	43.5	74.0	-30.5	Peak	Vertical
*	9254.6	35.5	10.2	45.7	88.2	-42.5	Peak	Vertical
	11020.0	35.1	13.0	48.1	74.0	-25.9	Peak	Vertical
*	13463.6	34.2	13.7	47.9	88.2	-40.3	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)



Test Mode:	802.11n-HT40	Test Site:	AC1					
Test Channel:	134	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)				
	7254.4	36.3	7.9	44.2	74.0	-29.8	Peak	Horizontal
*	8862.4	34.9	9.1	44.0	88.2	-44.2	Peak	Horizontal
	11336.0	36.6	12.5	49.1	74.0	-24.9	Peak	Horizontal
*	13420.4	34.4	13.6	48.0	88.2	-40.2	Peak	Horizontal
	7653.8	35.9	8.0	43.9	74.0	-30.1	Peak	Vertical
*	8758.5	35.1	9.0	44.1	88.2	-44.1	Peak	Vertical
	11340.0	35.6	12.5	48.1	74.0	-25.9	Peak	Vertical
*	13521.4	34.8	13.8	48.6	88.2	-39.6	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)



Test Mode:	802.11ac-VHT20	Test Site:	AC1
Test Channel:	52	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)				
	7359.7	36.0	8.0	44.0	74.0	-30.0	Peak	Horizontal
*	10520.0	39.0	12.4	51.4	88.2	-36.8	Peak	Horizontal
	13265.5	34.6	12.8	47.4	74.0	-26.6	Peak	Horizontal
*	16243.6	35.2	12.7	47.9	88.2	-40.3	Peak	Horizontal
	8653.7	35.5	8.8	44.3	74.0	-29.7	Peak	Vertical
*	10520.0	43.3	12.4	55.7	88.2	-32.5	Peak	Vertical
	11532.4	34.3	12.7	47.0	74.0	-27.0	Peak	Vertical
*	13426.4	34.7	13.6	48.3	88.2	-39.9	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)



Test Mode:	802.11ac-VHT20	Test Site:	AC1						
Test Channel:	60	Test Engineer:	Roy Cheng						
Remark:	1. Average measurement was no	. Average measurement was not performed if peak level lower than average							
	limit.								
	2. Other frequency was 20dB bel	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)				
	8362.4	35.9	8.0	43.9	74.0	-30.1	Peak	Horizontal
*	10596.5	40.5	12.4	52.9	88.2	-35.3	Peak	Horizontal
	11953.4	35.4	11.9	47.3	74.0	-26.7	Peak	Horizontal
*	13453.4	35.5	13.7	49.2	88.2	-39.0	Peak	Horizontal
	8253.7	36.1	8.1	44.2	74.0	-29.8	Peak	Vertical
*	9253.7	34.7	10.2	44.9	88.2	-43.3	Peak	Vertical
	10605.0	40.8	12.4	53.2	74.0	-20.8	Peak	Vertical
*	12723.6	35.1	11.7	46.8	88.2	-41.4	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)



Test Mode:	802.11ac-VHT20	Test Site:	AC1
Test Channel:	64	Test Engineer:	Roy Cheng
Remark:	Average measurement was no limit.	t performed if peak l	evel lower than average
	Other frequency was 20dB bellin 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)				
	8153.7	36.4	8.4	44.8	74.0	-29.2	Peak	Horizontal
*	9236.4	34.6	10.1	44.7	88.2	-43.5	Peak	Horizontal
	10638.4	28.5	12.3	40.8	54.0	-13.2	Average	Horizontal
	10639.0	41.0	12.3	53.3	74.0	-20.7	Peak	Horizontal
*	12736.4	34.9	11.7	46.6	88.2	-41.6	Peak	Horizontal
	8253.4	35.8	8.1	43.9	74.0	-30.1	Peak	Vertical
*	9253.4	34.8	10.2	45.0	88.2	-43.2	Peak	Vertical
	10639.0	40.5	12.3	52.8	74.0	-21.2	Peak	Vertical
*	12703.4	34.9	11.6	46.5	88.2	-41.7	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)



Test Mode:	802.11ac-VHT20	Test Site:	AC1						
Test Channel:	100	Test Engineer:	Roy Cheng						
Remark:	1. Average measurement was no	Average measurement was not performed if peak level lower than average							
	limit.								
	2. Other frequency was 20dB bel	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)				
	7352.4	36.1	8.0	44.1	74.0	-29.9	Peak	Horizontal
*	8652.2	35.4	8.8	44.2	88.2	-44.0	Peak	Horizontal
	10987.5	39.3	13.0	52.3	74.0	-21.7	Peak	Horizontal
*	12703.4	35.6	11.6	47.2	88.2	-41.0	Peak	Horizontal
	7263.4	35.6	7.9	43.5	74.0	-30.5	Peak	Vertical
*	8652.2	35.8	8.8	44.6	88.2	-43.6	Peak	Vertical
	11004.5	40.0	13.0	53.0	74.0	-21.0	Peak	Vertical
*	12726.4	34.6	11.6	46.2	88.2	-42.0	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)



Test Mode:	802.11ac-VHT20	Test Site:	AC1					
Test Channel:	120	Test Engineer:	Roy Cheng					
Remark:	1. 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)				
	7356.3	35.8	8.0	43.8	74.0	-30.2	Peak	Horizontal
*	8654.4	35.2	8.8	44.0	88.2	-44.2	Peak	Horizontal
	11149.0	39.1	12.6	51.7	74.0	-22.3	Peak	Horizontal
*	12732.4	34.8	11.7	46.5	88.2	-41.7	Peak	Horizontal
	7259.7	36.2	7.9	44.1	74.0	-29.9	Peak	Vertical
*	8645.3	35.5	8.8	44.3	88.2	-43.9	Peak	Vertical
	11157.5	38.0	12.6	50.6	74.0	-23.4	Peak	Vertical
*	12756.4	34.9	11.7	46.6	88.2	-41.6	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)



Test Mode:	802.11ac-VHT20	Test Site:	AC1					
Test Channel:	140	Test Engineer:	Roy Cheng					
Remark:	1. 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)				
	7325.4	36.3	8.0	44.3	74.0	-29.7	Peak	Horizontal
*	8642.0	35.4	8.8	44.2	88.2	-44.0	Peak	Horizontal
	11400.0	35.3	12.6	47.9	74.0	-26.1	Peak	Horizontal
*	12754.9	34.2	11.7	45.9	88.2	-42.3	Peak	Horizontal
	7326.4	35.2	8.0	43.2	74.0	-30.8	Peak	Vertical
*	8671.4	35.1	8.9	44.0	88.2	-44.2	Peak	Vertical
	11400.0	35.9	12.6	48.5	74.0	-25.5	Peak	Vertical
*	12864.9	34.1	12.0	46.1	88.2	-42.1	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)



Test Mode:	802.11ac-VHT20	Test Site:	AC1		
Test Channel:	144	Test Engineer:	Roy Cheng		
Remark:	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)				
	7524.5	36.4	8.3	44.7	74.0	-29.3	Peak	Horizontal
*	8643.8	35.0	8.8	43.8	88.2	-44.4	Peak	Horizontal
	11438.0	40.1	12.6	52.7	74.0	-21.3	Peak	Horizontal
*	17158.5	44.5	15.7	60.2	88.2	-28.0	Peak	Horizontal
	7435.6	35.9	8.0	43.9	74.0	-30.1	Peak	Vertical
*	8653.4	35.4	8.8	44.2	88.2	-44.0	Peak	Vertical
	11438.0	37.1	12.6	49.7	74.0	-24.3	Peak	Vertical
*	17158.5	38.3	15.7	54.0	88.2	-34.2	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)



Test Mode:	802.11ac-VHT40	Test Site:	AC1		
Test Channel:	54	Test Engineer:	Roy Cheng		
Remark:	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)				
	8421.6	35.7	8.2	43.9	74.0	-30.1	Peak	Horizontal
*	10537.0	37.1	12.5	49.6	88.2	-38.6	Peak	Horizontal
	11587.7	35.5	12.6	48.1	74.0	-25.9	Peak	Horizontal
*	13421.6	34.4	13.6	48.0	88.2	-40.2	Peak	Horizontal
	7653.4	36.7	8.0	44.7	74.0	-29.3	Peak	Vertical
*	10545.5	38.0	12.5	50.5	88.2	-37.7	Peak	Vertical
	11586.7	35.2	12.6	47.8	74.0	-26.2	Peak	Vertical
*	13496.9	34.3	13.7	48.0	88.2	-40.2	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)



Test Mode:	802.11ac-VHT40	Test Site:	AC1					
Test Channel:	62	Test Engineer:	Roy Cheng					
Remark:	1. Average measurement was no	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)				
	7340.2	36.0	8.0	44.0	74.0	-30.0	Peak	Horizontal
*	8653.7	35.3	8.8	44.1	88.2	-44.1	Peak	Horizontal
	10613.5	37.9	12.4	50.3	74.0	-23.7	Peak	Horizontal
*	13426.4	33.9	13.6	47.5	88.2	-40.7	Peak	Horizontal
	7268.9	35.6	8.0	43.6	74.0	-30.4	Peak	Vertical
*	8626.4	35.2	8.8	44.0	88.2	-44.2	Peak	Vertical
	10622.0	39.8	12.4	52.2	74.0	-21.8	Peak	Vertical
*	13426.6	35.0	13.6	48.6	88.2	-39.6	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)



Test Mode:	802.11ac-VHT40	Test Site:	AC1				
Test Channel:	102	Test Engineer:	Roy Cheng				
Remark:	1. Average measurement was no	. 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)				
	7348.7	37.0	8.0	45.0	74.0	-29.0	Peak	Horizontal
*	8642.2	35.1	8.8	43.9	88.2	-44.3	Peak	Horizontal
	11013.0	37.4	13.0	50.4	74.0	-23.6	Peak	Horizontal
*	12726.4	34.7	11.6	46.3	88.2	-41.9	Peak	Horizontal
	7457.5	35.9	8.1	44.0	74.0	-30.0	Peak	Vertical
*	8629.9	34.9	8.8	43.7	88.2	-44.5	Peak	Vertical
	11021.5	36.9	13.0	49.9	74.0	-24.1	Peak	Vertical
*	12749.3	34.6	11.7	46.3	88.2	-41.9	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)



Test Mode:	802.11ac-VHT40	Test Site:	AC1					
Test Channel:	118	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)				
	7346.4	35.3	8.0	43.3	74.0	-30.7	Peak	Horizontal
*	8642.3	34.8	8.8	43.6	88.2	-44.6	Peak	Horizontal
	11174.5	39.3	12.6	51.9	74.0	-22.1	Peak	Horizontal
*	12742.4	34.9	11.7	46.6	88.2	-41.6	Peak	Horizontal
	7264.0	36.0	7.9	43.9	74.0	-30.1	Peak	Vertical
*	8642.4	35.3	8.8	44.1	88.2	-44.1	Peak	Vertical
	11100.0	34.7	12.8	47.5	74.0	-26.5	Peak	Vertical
*	12813.5	34.4	11.8	46.2	88.2	-42.0	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)



Test Mode:	802.11ac-VHT40	Test Site:	AC1					
Test Channel:	134	Test Engineer:	Roy Cheng					
Remark:	1. Average measurement was no	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)				
	7326.4	35.7	8.0	43.7	74.0	-30.3	Peak	Horizontal
*	8626.4	35.6	8.8	44.4	88.2	-43.8	Peak	Horizontal
	11336.0	38.0	12.5	50.5	74.0	-23.5	Peak	Horizontal
*	13403.4	34.8	13.7	48.5	88.2	-39.7	Peak	Horizontal
	7426.4	36.1	8.0	44.1	74.0	-29.9	Peak	Vertical
*	8626.3	35.7	8.8	44.5	88.2	-43.7	Peak	Vertical
	11336.0	36.4	12.5	48.9	74.0	-25.1	Peak	Vertical
*	12763.5	34.6	11.7	46.3	88.2	-41.9	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)



Test Mode:	802.11ac-VHT40	Test Site:	AC1					
Test Channel:	142	Test Engineer:	Roy Cheng					
Remark:	1. Average measurement was no	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)				
	7392.8	35.5	7.9	43.4	74.0	-30.6	Peak	Horizontal
*	8659.6	35.6	8.8	44.4	88.2	-43.8	Peak	Horizontal
	11421.0	36.8	12.6	49.4	74.0	-24.6	Peak	Horizontal
*	12746.4	35.0	11.7	46.7	88.2	-41.5	Peak	Horizontal
	7395.4	36.2	7.9	44.1	74.0	-29.9	Peak	Vertical
*	8653.5	34.7	8.8	43.5	88.2	-44.7	Peak	Vertical
	11429.5	36.5	12.6	49.1	74.0	-24.9	Peak	Vertical
*	13063.4	34.9	12.3	47.2	88.2	-41.0	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)



Test Mode:	802.11ac-VHT80	Test Site:	AC1					
Test Channel:	58	Test Engineer:	Roy Cheng					
Remark:	1. Average measurement was no	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)				
	7358.5	35.4	8.0	43.4	74.0	-30.6	Peak	Horizontal
*	8629.8	34.8	8.8	43.6	88.2	-44.6	Peak	Horizontal
	10580.0	34.4	12.4	46.8	74.0	-27.2	Peak	Horizontal
*	12726.3	34.8	11.6	46.4	88.2	-41.8	Peak	Horizontal
	7359.5	35.4	8.0	43.4	74.0	-30.6	Peak	Vertical
*	8625.2	35.4	8.8	44.2	88.2	-44.0	Peak	Vertical
	10580.0	35.6	12.4	48.0	74.0	-26.0	Peak	Vertical
*	12738.0	34.8	11.7	46.5	88.2	-41.7	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)



Test Mode:	802.11ac-VHT80	Test Site:	AC1						
Test Channel:	106	Test Engineer:	Roy Cheng						
Remark:	1. Average measurement was no	Average measurement was not performed if peak level lower than average							
	limit.								
	2. Other frequency was 20dB bel	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)				
	7375.0	39.2	7.9	47.1	74.0	-26.9	Peak	Horizontal
*	8648.6	35.5	8.8	44.3	88.2	-43.9	Peak	Horizontal
	11060.0	34.8	12.9	47.7	74.0	-26.3	Peak	Horizontal
*	12726.5	34.9	11.7	46.6	88.2	-41.6	Peak	Horizontal
	7329.9	36.3	8.0	44.3	74.0	-29.7	Peak	Vertical
*	8648.4	35.1	8.8	43.9	88.2	-44.3	Peak	Vertical
	11060.0	34.8	12.9	47.7	74.0	-26.3	Peak	Vertical
*	12723.9	34.7	11.7	46.4	88.2	-41.8	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)



Test Mode:	802.11ac-VHT80	Test Site:	AC1						
Test Channel:	122	Test Engineer:	Roy Cheng						
Remark:	Average measurement was no limit.	Average measurement was not performed if peak level lower than average							
	Other frequency was 20dB bell 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)				
	7375.0	37.6	7.9	45.5	74.0	-28.5	Peak	Horizontal
*	9610.5	35.2	10.9	46.1	88.2	-42.1	Peak	Horizontal
	11550.0	36.0	12.7	48.7	74.0	-25.3	Peak	Horizontal
*	14030.5	34.5	14.9	49.4	88.2	-38.8	Peak	Horizontal
	7653.7	35.7	8.0	43.7	74.0	-30.3	Peak	Vertical
*	9253.5	35.2	10.2	45.4	88.2	-42.8	Peak	Vertical
	11013.0	35.6	13.0	48.6	74.0	-25.4	Peak	Vertical
*	13724.5	35.1	14.1	49.2	88.2	-39.0	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)



Test Mode:	802.11ac-VHT80	Test Site:	AC1						
Test Channel:	138	Test Engineer:	Roy Cheng						
Remark:	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)				
	7587.5	39.7	8.2	47.9	74.0	-26.1	Peak	Horizontal
*	8647.2	35.2	8.8	44.0	88.2	-44.2	Peak	Horizontal
	11378.5	36.8	12.6	49.4	74.0	-24.6	Peak	Horizontal
*	12751.1	34.7	11.7	46.4	88.2	-41.8	Peak	Horizontal
	7269.2	35.7	8.0	43.7	74.0	-30.3	Peak	Vertical
*	8625.4	35.1	8.8	43.9	88.2	-44.3	Peak	Vertical
	11380.0	35.1	12.6	47.7	74.0	-26.3	Peak	Vertical
*	13026.7	34.7	12.2	46.9	88.2	-41.3	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)



The worst case of Radiated Emission below 1GHz:

Note: There is the worst case within frequency range 30MHz~1GHz.					
EUT: Indoor GPON HGU	Power: AC 120V/60Hz				
Probe: VULB9162_0.03-8GHz	Polarity: Horizontal				
Limit: FCC_Part15.209_RE(3m)	Engineer: Milo Li				
Site: AC1	Time: 2015/02/05 - 09:32				

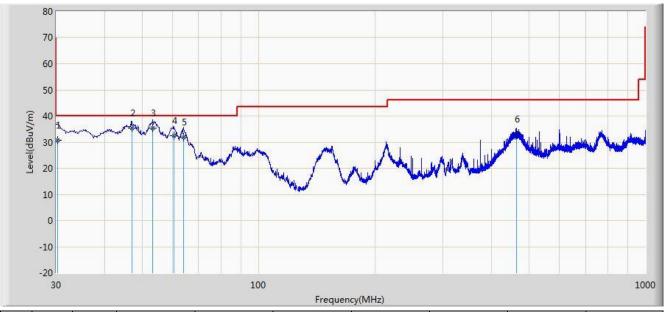
80 70 60 50 40 Level(dBuV/m) 30 20 10 0 -10 -20 30 100 1000 Frequency(MHz)

No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			46.265	22.229	7.264	-17.771	40.000	14.966	QP
2			150.225	23.815	14.366	-19.685	43.500	9.449	QP
3			214.241	29.723	17.256	-13.777	43.500	12.467	QP
4			375.025	33.503	17.350	-12.497	46.000	16.152	QP
5			625.200	31.298	11.035	-14.702	46.000	20.263	QP
6		*	875.020	37.017	13.240	-8.983	46.000	23.777	QP

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



Note: There is the worst case within frequency range 30MHz~1GHz.					
EUT: Indoor GPON HGU	Power: AC 120V/60Hz				
Probe: VULB9162_0.03-8GHz	Polarity: Vertical				
Limit: FCC_Part15.209_RE(3m)	Engineer: Milo Li				
Site: AC1	Time: 2015/02/05 - 09:37				



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			30.200	30.613	18.556	-9.387	40.000	12.057	QP
2		*	47.095	35.302	20.350	-4.698	40.000	14.952	QP
3			53.156	35.219	20.365	-4.781	40.000	14.854	QP
4			60.435	32.467	18.684	-7.533	40.000	13.784	QP
5			64.074	31.773	18.950	-8.227	40.000	12.823	QP
6			465.200	33.124	15.520	-12.876	46.000	17.604	QP

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



Site: AC1	Time: 2015/02/05 - 09:44				
Limit: FCC_Part15.209_RE(3m)	Engineer: Roy Cheng				
Probe: FMZB1519_0.009-30MHz	Polarity: Face on				
EUT: Indoor GPON HGU	Power: AC 120V/60Hz				
Note: There is the ambient noise within frequency range 9kHz~30MHz.					

130 (E) 80 10 60 50 40 30 0.009 0.01 Frequency(MHz)

No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			0.029	56.610	35.660	-61.732	118.342	21.049	QP
2		*	0.061	51.899	31.588	-59.988	111.887	20.311	QP

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



Site: AC1	Time: 2015/02/05 - 09:48			
Limit: FCC_Part15.209_RE(3m)	Engineer: Roy Cheng			
Probe: FMZB1519_0.009-30MHz	Polarity: Face on			
EUT: Indoor GPON HGU	Power: AC 120V/60Hz			
Note: There is the ambient noise within frequency range 9kHz~30MHz.				

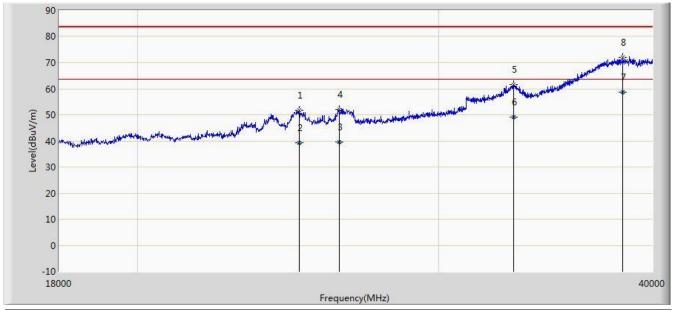
110 80 40 40 40 10 0.15 1 10 10 30 Frequency(MHz)

No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			0.482	36.584	16.183	-57.359	93.943	20.401	QP
2		*	1.338	31.001	10.512	-34.098	65.099	20.489	QP

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



Site: AC1	Time: 2015/02/05 - 10:21				
Limit: FCC_Part15.209_RE(3m)	Engineer: Roy Cheng				
Probe: BBHA9170_18-40GHz	Polarity: Horizontal				
EUT: Indoor GPON HGU	Power: AC 120V/60Hz				
Note: There is the ambient noise within frequency range 18GHz~40GHz.					

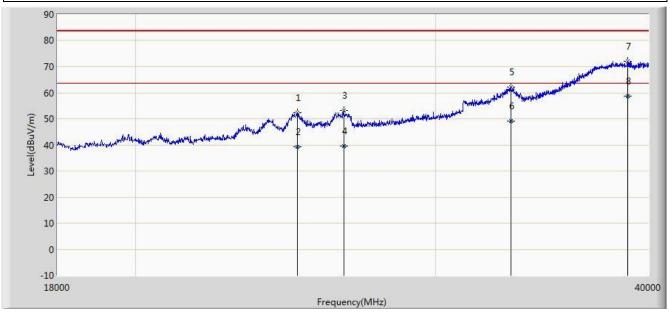


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			24864.000	51.836	37.061	-31.664	83.500	14.775	PK
2			24864.088	39.225	24.450	-24.275	63.500	14.775	AV
3			26260.988	39.469	24.050	-24.031	63.500	15.419	AV
4			26261.000	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 (dB μ V/m) = Reading Level (dB μ V) + Factor (dB)



Site: AC1	Time: 2015/02/05 - 10:21			
Limit: FCC_Part15.209_RE(3m)	Engineer: Roy Cheng			
Probe: BBHA9170_18-40GHz	Polarity: Vertical			
EUT: Indoor 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			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 (dB μ V/m) = Reading Level (dB μ V) + Factor (dB)



7.8. Radiated Restricted Band Edge Measurement

7.8.1. 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
¹ 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	(²)

For 15.407(b) requirement:

Note: Refer to KDB 789033 D02v01 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.

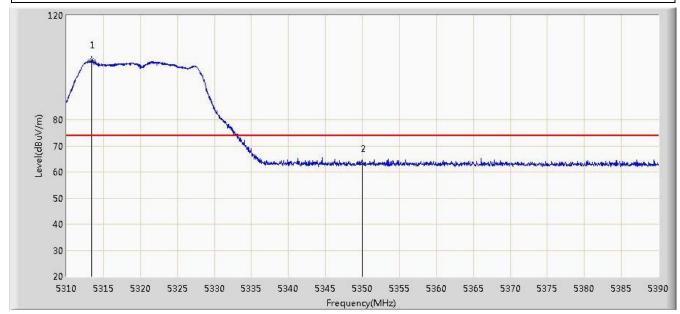


F	FCC Part 15 Subpart C Paragraph 15.209								
Frequency [MHz]	Field Strength [V/m]	Measured Distance [Meters]							
0.009 - 0.490	2400/F (kHz)	300							
0.490 - 1.705	24000/F (kHz)	30							
1.705 - 30	30	30							
30 - 88	100	3							
88 - 216	150	3							
216 - 960	200	3							
Above 960	500	3							



7.8.2. Test Result of Radiated Restricted Band Edge

Site: AC1	Time: 2015/01/11 - 10:40			
Limit: FCC_Part15.209_RE(3m)	Engineer: Roy Cheng			
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal			
EUT: Indoor GPON HGU	Power: AC 120V/60Hz			
Test Mode: Transmit at channel 5320MHz by 802.11a Ant 0+1+2+3				

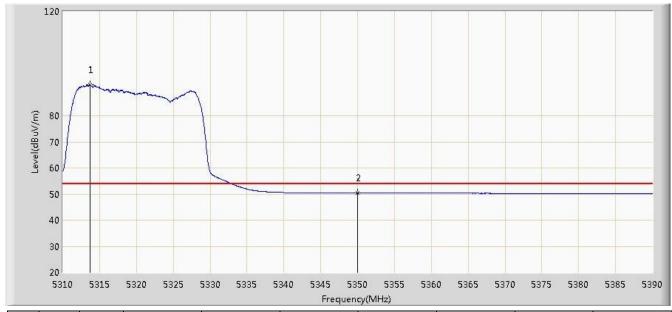


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	5313.440	102.777	65.575	N/A	N/A	37.202	PK
2			5350.000	63.307	26.021	-10.693	74.000	37.286	PK

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



Site: AC1	Time: 2015/01/11 - 10:44			
Limit: FCC_Part15.209_RE(3m)	Engineer: Roy Cheng			
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal			
EUT: Indoor GPON HGU	Power: AC 120V/60Hz			
Test Mode: Transmit at channel 5320MHz by 802.11a 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		*	5313.680	91.988	54.786	N/A	N/A	37.202	AV
2			5350.000	50.403	13.117	-3.597	54.000	37.286	AV

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