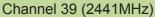
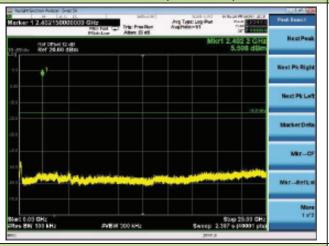


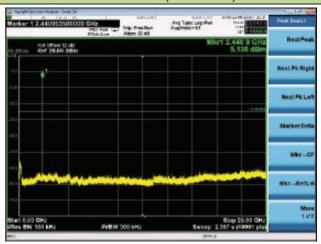


2DH5 Conducted Spurious Emissions

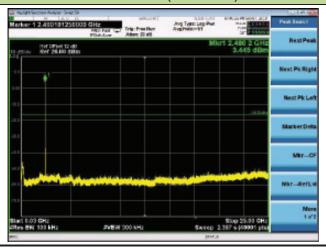
Channel 00 (2402MHz)





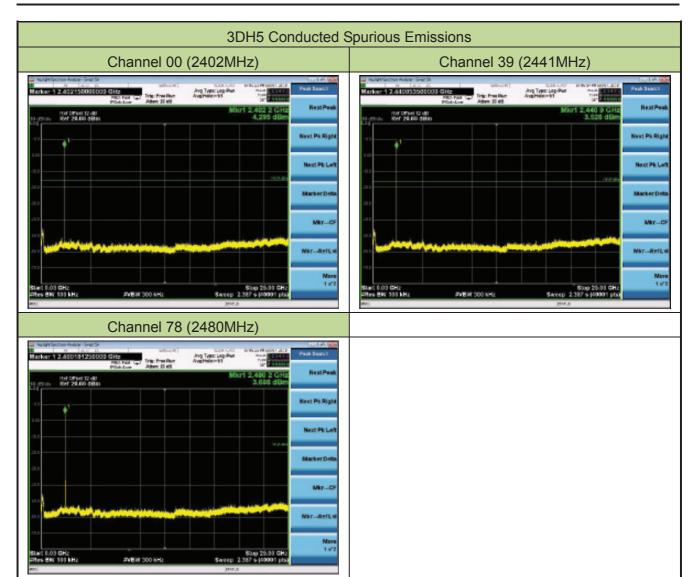


Channel 78 (2480MHz)











6.9. Radiated Spurious Emission Measurement

6.9.1.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 [uV/m]	Measured Distance [Meters]						
0.009 - 0.490	2400/F (kHz)	300						
0.490 - 1.705	24000/F (kHz)	30						
1.705 - 30	30	30						
30 - 88	100	3						
88 - 216	150	3						
216 - 960	200	3						
Above 960	500	3						

6.9.2.Test Procedure Used

ANSI C63.10 Section 6.3 (General Requirements)

ANSI C63.10 Section 6.4 (Standard test method below 30MHz)

ANSI C63.10 Section 6.5 (Standard test method above 30MHz to 1GHz)

ANSI C63.10 Section 6.6 (Standard test method above 1GHz)

6.9.3.Test Setting

Table 1 - RBW as a function of frequency

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

Page Number: 48 of 95



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 = as specified in Table 1
- 4. Detector = CISPR quasi-peak
- 5. Sweep time = auto couple
- 6. Trace was allowed to stabilize

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

Average Measurements above 1GHz (Method VB)

- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. RBW = 1MHz
- 3. VBW; If the EUT is configured to transmit with duty cycle \geq 98%, set VBW = 10 Hz.

If the EUT duty cycle is < 98%, set VBW $\ge 1/T$. T is the minimum transmission duration.

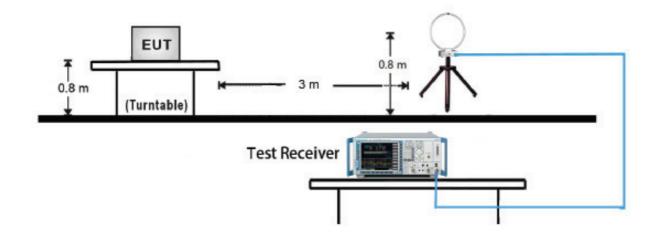
- 4. Detector = Peak
- 5. Sweep time = auto
- 6. Trace mode = max hold
- 7. Trace was allowed to stabilize



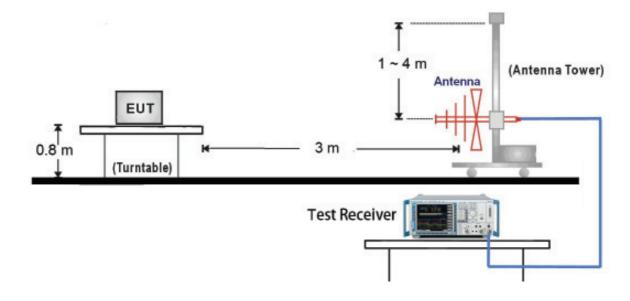


6.9.4.Test Setup

9kHz ~ 30MHz Test Setup:



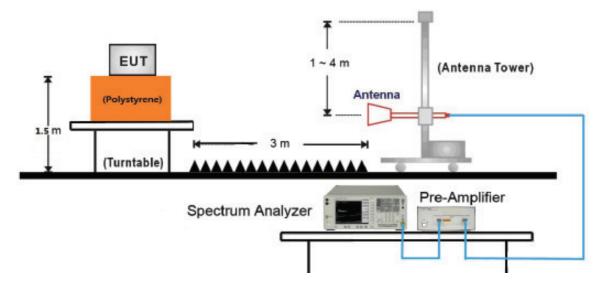
30MHz ~ 1GHz Test Setup:



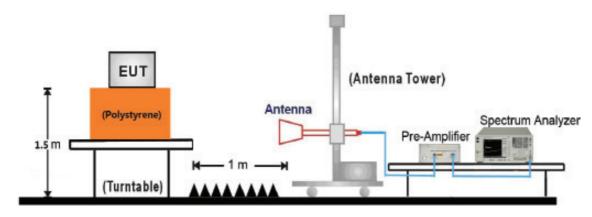




1GHz ~ 18GHz Test Setup:



18GHz ~25GHz Test Setup:







6.9.5.Test Result

Product	W-LAN + Bluetooth Module	Temperature	26°C				
Test Engineer	Bruce Wang	Relative Humidity	56%				
Test Site	AC1	Test Date	2018/08/23				
Test Mode:	DH5	Test Channel:	00				
Remark:	1. Average measurement was no	t performed if peak l	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 (MHz)	Reading Level	Factor (dB)	Measure Level	Limit (dBµV/m)	Margin (dB)	Detector	Polarization
		(dBµV)		(dBµV/m)				
	4799.5	39.0	5.8	44.9	74.0	-29.1	Peak	Horizontal
	7460.0	36.7	12.9	49.6	74.0	-24.4	Peak	Horizontal
*	10282.0	34.7	17.1	51.8	77.8	-26.0	Peak	Horizontal
*	12959.5	34.6	18.7	53.3	77.8	-24.5	Peak	Horizontal
	4799.5	36.9	5.8	42.7	74.0	-31.3	Peak	Vertical
	7434.5	36.4	12.8	49.3	74.0	-24.7	Peak	Vertical
*	10350.0	35.4	17.3	52.8	77.8	-25.0	Peak	Vertical
*	12849.0	34.9	18.6	53.5	77.8	-24.3	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (97.8dBµV/m) or 15.209 which is higher.

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

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

FCC ID: VPYLBEE5ZZ1PJ IC: 772C-LBEE5ZZ1PJ



Product	W-LAN + Bluetooth Module	Temperature	26°C				
Test Engineer	Bruce Wang	Relative Humidity	56%				
Test Site	AC1	Test Date	2018/08/23				
Test Mode:	DH5	Test Channel:	39				
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)				
	4884.5	40.5	6.0	46.5	74.0	-27.5	Peak	Horizontal
	7502.5	36.8	12.7	49.5	74.0	-24.5	Peak	Horizontal
*	10307.5	34.3	17.3	51.6	78.3	-26.7	Peak	Horizontal
*	13138.0	33.8	18.8	52.6	78.3	-25.7	Peak	Horizontal
	4884.5	37.7	6.0	43.7	74.0	-30.3	Peak	Vertical
	7307.0	36.5	12.5	49.0	74.0	-25.0	Peak	Vertical
*	9840.0	34.5	16.7	51.2	78.3	-27.1	Peak	Vertical
*	12993.5	34.4	18.6	53.0	78.3	-25.3	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (98.3dBµV/m) or 15.209 which is higher.

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



Product	W-LAN + Bluetooth Module	Temperature	26°C				
Test Engineer	Bruce Wang	Relative Humidity	56%				
Test Site	AC1	Test Date	2018/08/23				
Test Mode:	DH5	Test Channel:	78				
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)				
	4961.0	40.6	6.1	46.7	74.0	-27.3	Peak	Horizontal
	7477.0	36.7	12.9	49.6	74.0	-24.4	Peak	Horizontal
*	10188.5	34.9	17.1	52.0	78.6	-26.6	Peak	Horizontal
*	12798.0	35.3	18.1	53.3	78.6	-25.3	Peak	Horizontal
	4961.0	37.3	6.1	43.4	74.0	-30.6	Peak	Vertical
	7290.0	35.7	12.6	48.3	74.0	-25.7	Peak	Vertical
*	9993.0	34.5	16.7	51.3	78.6	-27.3	Peak	Vertical
*	12900.0	35.0	18.5	53.5	78.6	-25.1	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (98.6dBµV/m) or 15.209 which is higher.

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



Product	W-LAN + Bluetooth Module	Temperature	26°C				
Test Engineer	Bruce Wang	Relative Humidity	56%				
Test Site	AC1	Test Date	2018/08/23				
Test Mode:	2DH5	Test Channel:	00				
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 (MHz)	Reading Level	Factor (dB)	Measure Level	Limit (dBµV/m)	Margin (dB)	Detector	Polarization
	((dBµV)	(5.2)	(dBµV/m)	(4.2 4)	(4.2)		
	4799.5	37.8	5.8	43.7	74.0	-30.3	Peak	Horizontal
	7383.5	36.4	12.6	49.0	74.0	-25.0	Peak	Horizontal
*	10052.5	34.2	16.8	51.0	81.5	-30.5	Peak	Horizontal
*	12857.5	34.9	18.5	53.5	81.5	-28.0	Peak	Horizontal
	4799.5	35.6	5.8	41.5	74.0	-32.5	Peak	Vertical
	7400.5	36.0	12.6	48.6	74.0	-25.4	Peak	Vertical
*	10273.5	34.5	17.2	51.7	81.5	-29.8	Peak	Vertical
*	12823.5	34.6	18.3	53.0	81.5	-28.5	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (101.5dBµV/m) or 15.209 which is higher.

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



Product	W-LAN + Bluetooth Module	Temperature	26°C				
Test Engineer	Bruce Wang	Relative Humidity	56%				
Test Site	AC1	Test Date	2018/08/23				
Test Mode:	2DH5	Test Channel:	39				
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)				
	4884.5	37.4	6.0	43.3	74.0	-30.7	Peak	Horizontal
	7443.0	35.7	12.9	48.6	74.0	-25.4	Peak	Horizontal
*	9831.5	34.6	16.6	51.2	81.2	-30.0	Peak	Horizontal
*	12857.5	34.3	18.5	52.9	81.2	-28.3	Peak	Horizontal
	4884.5	36.2	6.0	42.1	74.0	-31.9	Peak	Vertical
	7417.5	35.8	12.7	48.4	74.0	-25.6	Peak	Vertical
*	10316.0	35.2	17.4	52.6	81.2	-28.6	Peak	Vertical
*	13053.0	34.9	18.5	53.4	81.2	-27.8	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (101.2dBµV/m) or 15.209 which is higher.

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



Product	W-LAN + Bluetooth Module	Temperature	26°C				
Test Engineer	Bruce Wang	Relative Humidity	56%				
Test Site	AC1	Test Date	2018/08/23				
Test Mode:	2DH5	Test Channel:	78				
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 (MHz)	Reading Level (dBµV)	Factor (dB)	Measure Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Polarization
	5105.5	36.0	6.6	42.7	74.0	-31.4	Peak	Horizontal
	7451.5	35.3	12.9	48.2	74.0	-25.8	Peak	Horizontal
*	9874.0	34.0	16.8	50.8	81.0	-30.2	Peak	Horizontal
*	12823.5	35.0	18.3	53.3	81.0	-27.7	Peak	Horizontal
	5037.5	35.6	6.5	42.1	74.0	-31.9	Peak	Vertical
	7485.5	35.9	12.8	48.7	74.0	-25.3	Peak	Vertical
*	9984.5	34.4	16.7	51.1	81.0	-29.9	Peak	Vertical
*	12857.5	34.7	18.5	53.2	81.0	-27.8	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (101.0dBµV/m) or 15.209 which is higher.

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



Product	W-LAN + Bluetooth Module	Temperature	26°C					
Test Engineer	Bruce Wang	Relative Humidity	56%					
Test Site	AC1	Test Date	2018/08/23					
Test Mode:	3DH5	Test Channel:	00					
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)				
	4969.5	36.8	6.1	43.0	74.0	-31.0	Peak	Horizontal
	7562.0	36.2	12.9	49.1	74.0	-24.9	Peak	Horizontal
*	9891.0	34.8	16.6	51.4	81.6	-30.2	Peak	Horizontal
*	12934.0	34.6	18.6	53.2	81.6	-28.4	Peak	Horizontal
	4825.0	36.5	5.9	42.3	74.0	-31.7	Peak	Vertical
	7672.5	36.0	12.8	48.8	74.0	-25.2	Peak	Vertical
*	10486.0	34.6	17.5	52.0	81.6	-29.6	Peak	Vertical
*	13155.0	34.7	18.8	53.5	81.6	-28.1	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (101.6dBµV/m) or 15.209 which is higher.

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



Product	W-LAN + Bluetooth Module	Temperature	26°C				
Test Engineer	Bruce Wang	Relative Humidity	56%				
Test Site	AC1	Test Date	2018/08/23				
Test Mode:	3DH5	Test Channel:	39				
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)				
	4935.5	36.2	6.1	42.3	74.0	-31.7	Peak	Horizontal
	7426.0	35.4	12.8	48.2	74.0	-25.8	Peak	Horizontal
*	10061.0	34.9	16.9	51.8	81.4	-29.6	Peak	Horizontal
*	13078.5	33.9	18.7	52.6	81.4	-28.8	Peak	Horizontal
	5003.5	36.6	6.3	42.9	74.0	-31.1	Peak	Vertical
	7426.0	36.4	12.8	49.1	74.0	-24.9	Peak	Vertical
*	10579.5	34.2	17.6	51.9	81.4	-29.5	Peak	Vertical
*	12866.0	34.1	18.5	52.6	81.4	-28.8	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (101.4dBµV/m) or 15.209 which is higher.

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



Product	W-LAN + Bluetooth Module	Temperature	26°C					
Test Engineer	Bruce Wang	Relative Humidity	56%					
Test Site	AC1	Test Date	2018/08/23					
Test Mode:	3DH5	Test Channel:	78					
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)				
	4799.5	36.9	5.8	42.7	74.0	-31.3	Peak	Horizontal
	7332.5	35.8	12.6	48.4	74.0	-25.6	Peak	Horizontal
*	10273.5	35.3	17.2	52.4	81.3	-28.9	Peak	Horizontal
*	12832.0	34.4	18.4	52.8	81.3	-28.5	Peak	Horizontal
	4833.5	36.2	5.9	42.1	74.0	-31.9	Peak	Vertical
	7562.0	35.4	12.9	48.3	74.0	-25.7	Peak	Vertical
*	9950.5	34.8	16.7	51.5	81.3	-29.8	Peak	Vertical
*	12849.0	34.6	18.6	53.2	81.3	-28.1	Peak	Vertical

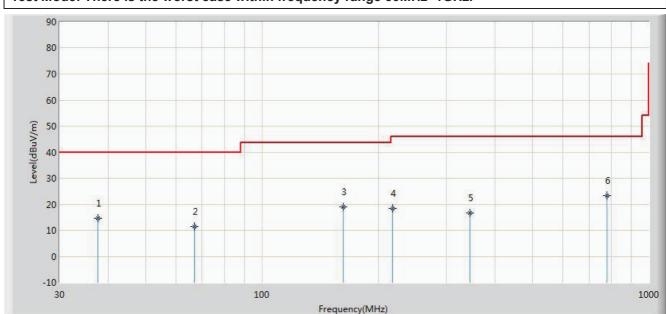
Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (101.3dBµV/m) or 15.209 which is higher.

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



The Worst Case of Radiated Emission below 1GHz:

Test Mode: There is the worst case within frequency	v range 30MHz~1GHz.		
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V		
Probe: VULB 9168 _20-2000MHz	Polarity: Horizontal		
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang		
Site: AC1	Time: 2018/08/25 - 07:11		



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			37.760	14.535	0.198	-25.465	40.000	14.337	QP
2			66.860	11.448	-0.730	-28.552	40.000	12.178	QP
3			161.920	18.930	3.800	-24.570	43.500	15.130	QP
4			217.695	18.342	6.480	-27.658	46.000	11.862	QP
5			344.765	16.714	1.256	-29.286	46.000	15.458	QP
6		*	778.840	23.375	0.225	-22.625	46.000	23.150	QP

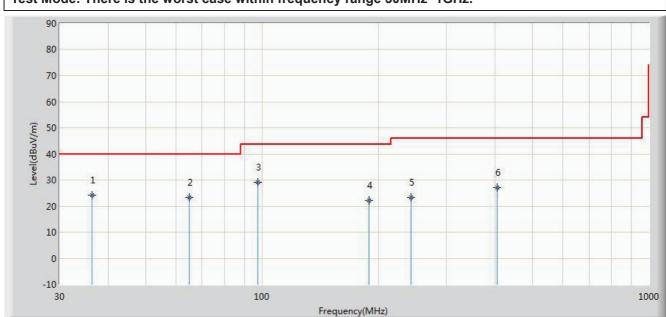
Note 1: Measure Level $(dB\mu V/m)$ = Reading Level $(dB\mu V)$ + Factor (dB)

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

Note 2: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: $9kHz \sim 30MHz$, $18GHz \sim 25GHz$), therefore no data appear in the report.



Test Mode: There is the worst case within frequence	v range 30MHz~1GHz
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V
Probe: VULB 9168 _20-2000MHz	Polarity: Vertical
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang
Site: AC1	Time: 2018/08/25 - 07:23



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
	9		(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	1,762
			,	(dBuV/m)	(dBuV)		, , ,	,	
1			36.305	24.225	10.100	-15.775	40.000	14.125	QP
2			64.920	23.193	10.650	-16.807	40.000	12.544	QP
3		*	97.390	29.271	18.400	-14.229	43.500	10.871	QP
4			189.080	22.207	10.360	-21.293	43.500	11.847	QP
5			242.915	23.315	10.400	-22.685	46.000	12.915	QP
6			404.905	27.022	10.300	-18.978	46.000	16.721	QP

Note 1: Measure Level ($dB\mu V/m$) = Reading Level ($dB\mu V$) + Factor (dB)

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

Note 2: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: $9kHz \sim 30MHz$, $18GHz \sim 25GHz$), therefore no data appear in the report.



6.10. Radiated Restricted Band Edge Measurement

6.10.1.Test Limit

For 15.205 requirement:

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

Frequency	Frequency	Frequency	Frequency
(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 - 156.525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41			





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

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





For RSS-Gen Section 8.10 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 8.10 of RSS-Gen, must also comply with the radiated emission limits specified in Section 8.9.

Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	149.9 -150.5	9.0 - 9.2
0.495 -0.505	156.52475 - 156.525225	9.3 - 9.5
2.1735 - 2.1905	156.7 - 156.9	10.6 - 12.7
3.020 - 3.026	162.0125 - 167.17	13.25 - 13.4
4.125 - 4.128	167.72 - 173.2	14.47 - 14.5
4.17725 - 4.17775	240 - 285	15.35 - 16.2
4.20725 - 4.20775	322 - 335.4	17.7 - 21.4
5.677 - 5.683	399.9 - 410	22.01 - 23.12
6.215 - 6.218	608 - 614	23.6 - 24.0
6.26775 - 6.26825	960 - 1427	31.2 - 31.8
6.31175 - 6.31225	1435 - 1626.5	36.43 - 36.5
8.291 - 8.294	1645.5 - 1646.5	Above 38.6
8.362 - 8.366	1660 - 1710	
8.37625 - 8.38675	1718.8 -1722.2	
8.41425 - 8.41475	2200 - 2300	
12.29 - 12.293	2310 -2390	
12.51975 - 12.52025	2483.5 - 2500	
12.57675 - 12.57725	2655 - 2900	
13.36 -13.41	3260 - 3267	
16.42 - 16.423	3332 -3339	
16.69475 - 16.69525	334.5 - 3358	
16.80425 - 16.80475	3500 - 4400	
25.5 - 25.67	4500 - 5150	
37.5 - 38.25	5350 - 5460	
73 - 74.6	7250 - 7750	
74.8 - 75.2	8025 - 8500	
108 - 138		



All out of band emissions appearing in a restricted band as specified in Section 8.10 of the RSS-Gen must not exceed the limits shown in Table per Section 8.9.

RSS-Gen Section 8.9							
Frequency	Magnetic field strength	Field Strength	Measured Distance				
[MHz]	(H-Field) [uA/m]	[uV/m]	[Meters]				
0.009 - 0.490	6.37/F(F in kHz)		300				
0.490 - 1.705	63.7/F(F in kHz)		30				
1.705 - 30	0.08		30				
30 - 88		100	3				
88 - 216		150	3				
216 - 960		200	3				
Above 960		500	3				

6.10.2.Test Procedure Used

ANSI C63.10 Section 6.3 (General Requirements)

ANSI C63.10 Section 6.6 (Standard test method above 1GHz)

6.10.3.Test Setting

Peak Field Strength Measurements

- 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

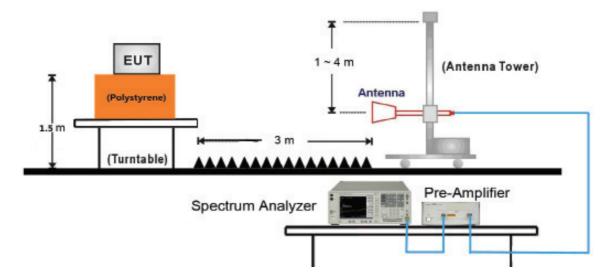




Average Measurements above 1GHz (Method VB)

- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. RBW = 1MHz
- VBW; If the EUT is configured to transmit with duty cycle ≥ 98%, set VBW = 10 Hz.
 If the EUT duty cycle is < 98%, set VBW ≥ 1/T. T is the minimum transmission duration.
- 4. Detector = Peak
- 5. Sweep time = auto
- 6. Trace mode = max hold
- 7. Trace was allowed to stabilize

6.10.4.Test Setup

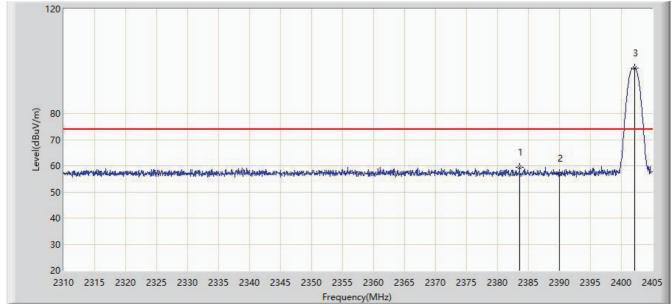






6.10.5.Test Result

Site: AC1	Time: 2018/09/06 - 03:57		
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang		
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal		
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V		
Test Mode: Transmit by DH5 at channel 2402MHz			



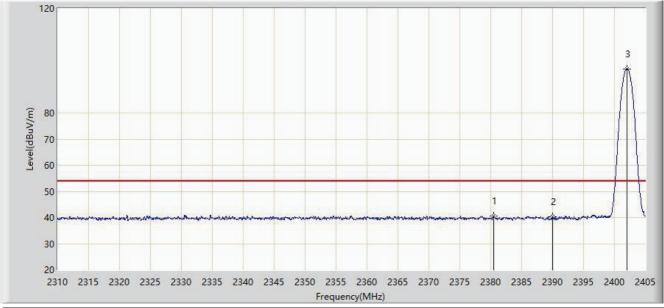
No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			2383.577	59.292	26.956	-14.708	74.000	32.335	PK
2			2390.000	57.111	24.784	-16.889	74.000	32.327	PK
3		*	2402.150	97.354	65.050	23.354	74.000	32.304	PK

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





Site: AC1	Time: 2018/09/06 - 04:01			
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang			
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal			
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V			
Test Mode: Transmit by DH5 at channel 2402MHz				

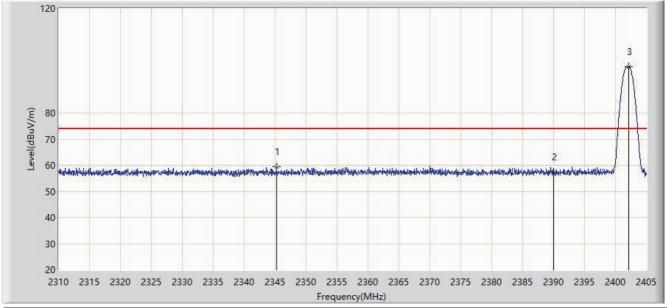


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			2380.442	40.438	8.098	-13.562	54.000	32.340	AV
2			2390.000	40.299	7.972	-13.701	54.000	32.327	AV
3		*	2402.008	96.924	64.620	42.924	54.000	32.305	AV





Site: AC1	Time: 2018/09/06 - 04:02			
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang			
Probe: BBHA9120D_1-18GHz	Polarity: Vertical			
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V			
Test Mode: Transmit by DH5 at channel 2402MHz				

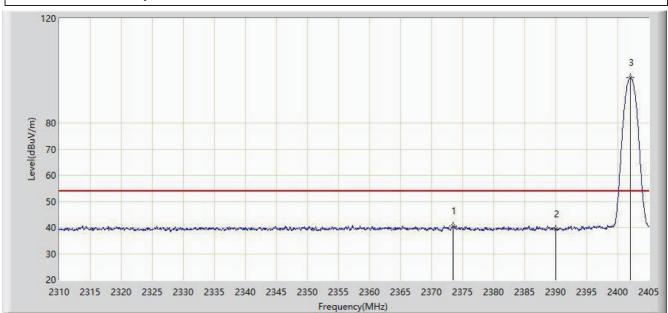


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			2345.245	59.502	27.088	-14.498	74.000	32.413	PK
2			2390.000	57.435	25.108	-16.565	74.000	32.327	PK
3		*	2402.198	97.784	65.480	23.784	74.000	32.304	PK





Site: AC1	Time: 2018/09/06 - 04:04			
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang			
Probe: BBHA9120D_1-18GHz	Polarity: Vertical			
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V			
Test Mode: Transmit by DH5 at channel 2402MHz				

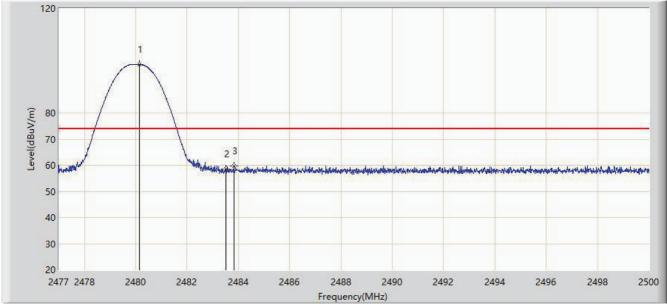


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			2373.508	40.677	8.326	-13.323	54.000	32.352	AV
2			2390.000	39.535	7.208	-14.465	54.000	32.327	AV
3		*	2402.055	97.315	65.011	43.315	54.000	32.304	AV





Site: AC1	Time: 2018/09/06 - 04:05			
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang			
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal			
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V			
Test Mode: Transmit by DH5 at channel 2480MHz				

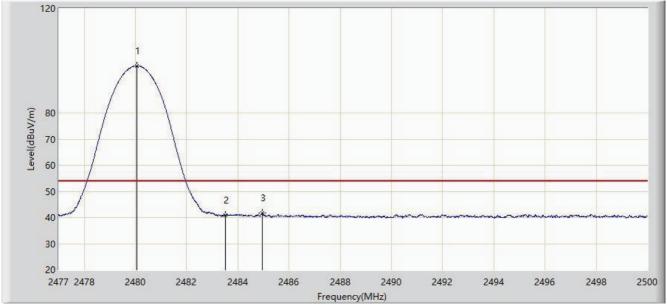


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	2480.128	98.553	66.227	24.553	74.000	32.326	PK
2			2483.500	58.411	26.072	-15.589	74.000	32.340	PK
3			2483.831	59.809	27.469	-14.191	74.000	32.340	PK





Site: AC1	Time: 2018/09/06 - 04:09			
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang			
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal			
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V			
Test Mode: Transmit by DH5 at channel 2480MHz				

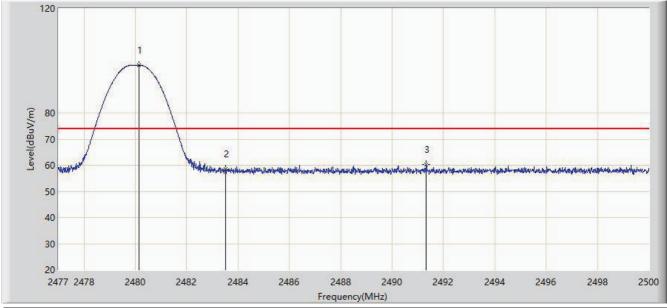


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	2480.048	98.034	65.708	44.034	54.000	32.325	AV
2			2483.500	40.888	8.549	-13.112	54.000	32.340	AV
3			2484.969	41.636	9.291	-12.364	54.000	32.345	AV





Site: AC1	Time: 2018/09/06 - 04:10			
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang			
Probe: BBHA9120D_1-18GHz	Polarity: Vertical			
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V			
Test Mode: Transmit by DH5 at channel 2480MHz				

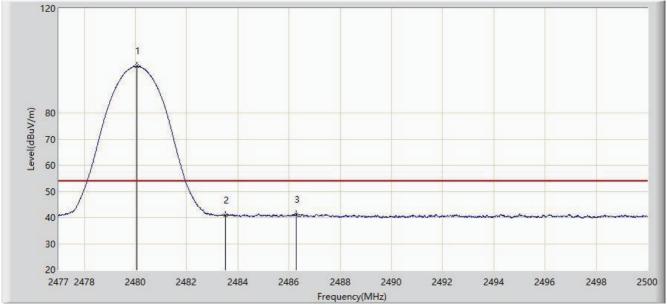


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	2480.140	98.304	65.978	24.304	74.000	32.326	PK
2			2483.500	58.512	26.173	-15.488	74.000	32.340	PK
3			2491.329	60.338	27.968	-13.662	74.000	32.370	PK





Site: AC1	Time: 2018/09/06 - 04:14			
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang			
Probe: BBHA9120D_1-18GHz	Polarity: Vertical			
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V			
Test Mode: Transmit by DH5 at channel 2480MHz				

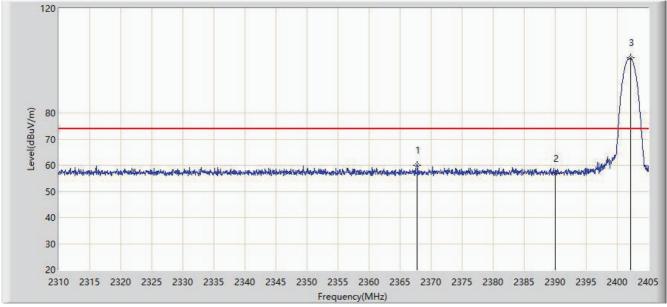


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	2480.059	97.829	65.503	43.829	54.000	32.325	AV
2			2483.500	40.827	8.488	-13.173	54.000	32.340	AV
3			2486.281	41.288	8.938	-12.712	54.000	32.350	AV





Site: AC1	Time: 2018/09/06 - 04:16
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V
Test Mode: Transmit by 2DH5 at channel 2402MHz	

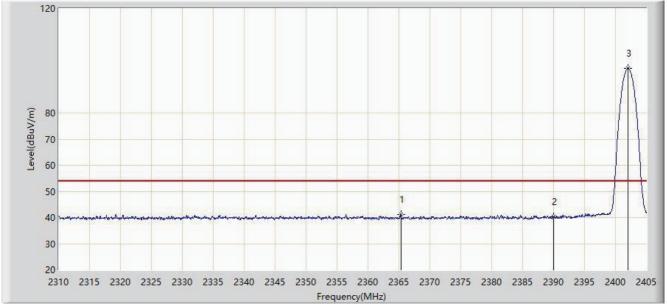


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			2367.760	59.905	27.543	-14.095	74.000	32.362	PK
2			2390.000	56.678	24.351	-17.322	74.000	32.327	PK
3		*	2402.198	101.084	68.780	27.084	74.000	32.304	PK





Site: AC1	Time: 2018/09/06 - 04:21
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V
Test Mode: Transmit by 2DH5 at channel 2402MHz	

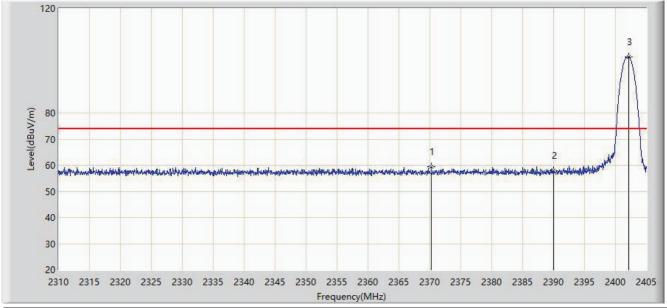


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			2365.337	41.190	8.823	-12.810	54.000	32.367	AV
2			2390.000	40.145	7.818	-13.855	54.000	32.327	AV
3		*	2402.055	97.012	64.708	43.012	54.000	32.304	AV





Site: AC1	Time: 2018/09/06 - 04:21
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V
Test Mode: Transmit by 2DH5 at channel 2402MHz	

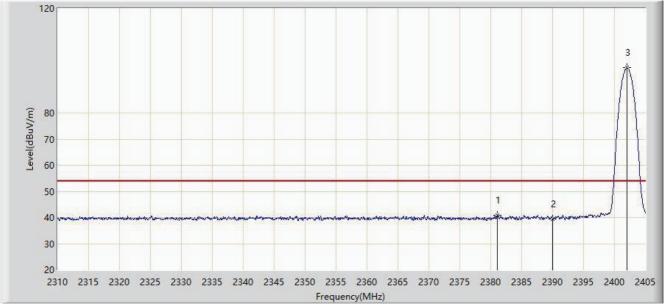


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			2370.230	59.448	27.091	-14.552	74.000	32.357	PK
2			2390.000	57.934	25.607	-16.066	74.000	32.327	PK
3		*	2402.102	101.514	69.210	27.514	74.000	32.304	PK





Site: AC1	Time: 2018/09/06 - 04:24
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V
Test Mode: Transmit by 2DH5 at channel 2402MHz	

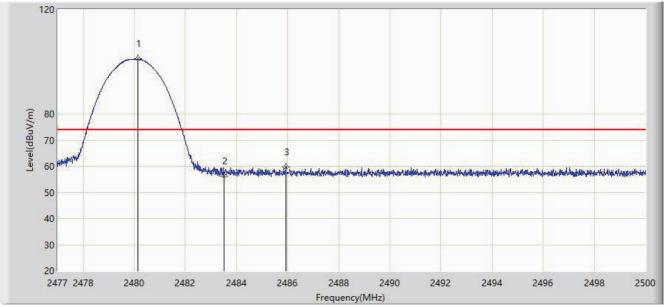


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			2381.012	40.847	8.508	-13.153	54.000	32.339	AV
2			2390.000	39.330	7.003	-14.670	54.000	32.327	AV
3		*	2402.008	97.264	64.960	43.264	54.000	32.305	AV





Site: AC1	Time: 2018/09/06 - 04:25
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V
Test Mode: Transmit by 2DH5 at channel 2480MHz	

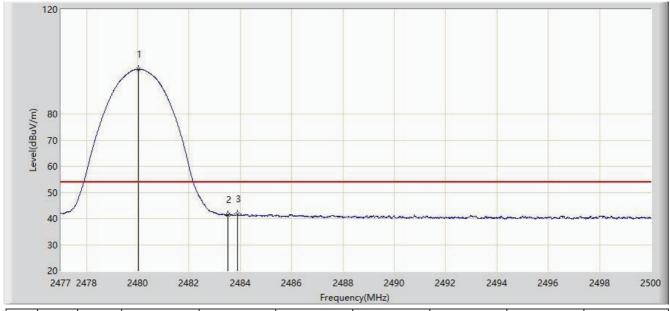


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	2480.140	101.047	68.721	27.047	74.000	32.326	PK
2			2483.500	56.368	24.029	-17.632	74.000	32.340	PK
3			2485.924	59.712	27.363	-14.288	74.000	32.349	PK





Site: AC1	Time: 2018/09/06 - 04:29
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V
Test Mode: Transmit by 2DH5 at channel 2480MHz	

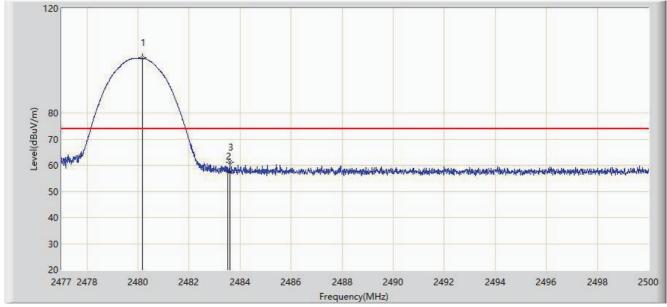


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	2480.036	97.224	64.898	43.224	54.000	32.325	AV
2			2483.500	41.323	8.984	-12.677	54.000	32.340	AV
3			2483.888	41.795	9.454	-12.205	54.000	32.340	AV





Site: AC1	Time: 2018/09/06 - 04:30
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V
Test Mode: Transmit by 2DH5 at channel 2480MHz	

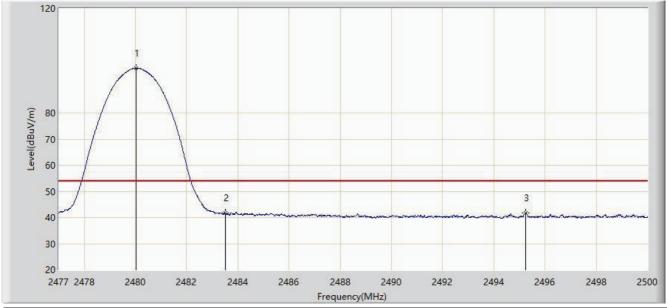


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	2480.163	101.042	68.716	27.042	74.000	32.326	PK
2			2483.500	57.596	25.257	-16.404	74.000	32.340	PK
3			2483.601	61.086	28.746	-12.914	74.000	32.340	PK





Site: AC1	Time: 2018/09/06 - 04:32
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V
Test Mode: Transmit by 2DH5 at channel 2480MHz	

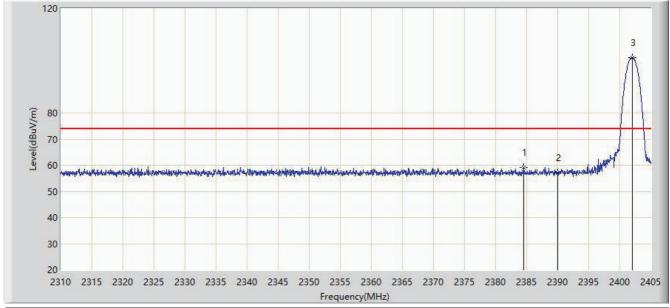


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	2480.036	97.198	64.872	43.198	54.000	32.325	AV
2			2483.500	41.623	9.284	-12.377	54.000	32.340	AV
3			2495.239	41.605	9.220	-12.395	54.000	32.385	AV





Site: AC1	Time: 2018/09/06 - 04:35
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V
Test Mode: Transmit by 3DH5 at channel 2402MHz	

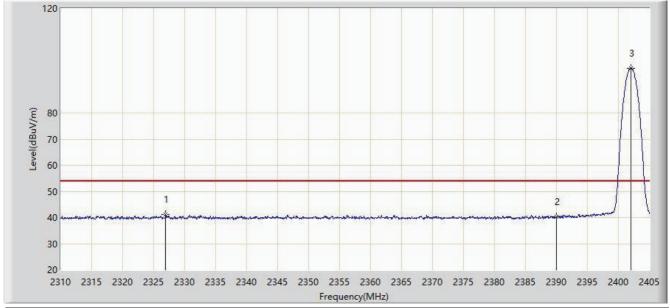


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			2384.575	59.002	26.668	-14.998	74.000	32.334	PK
2			2390.000	57.207	24.880	-16.793	74.000	32.327	PK
3		*	2402.055	101.261	68.957	27.261	74.000	32.304	PK





Site: AC1	Time: 2018/09/06 - 04:38
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V
Test Mode: Transmit by 3DH5 at channel 2402MHz	

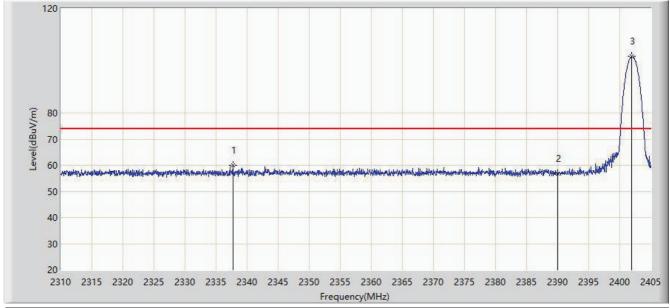


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			2326.958	41.097	8.608	-12.903	54.000	32.489	AV
2			2390.000	40.148	7.821	-13.852	54.000	32.327	AV
3		*	2402.055	97.154	64.850	43.154	54.000	32.304	AV





Site: AC1	Time: 2018/09/06 - 04:38
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V
Test Mode: Transmit by 3DH5 at channel 2402MHz	

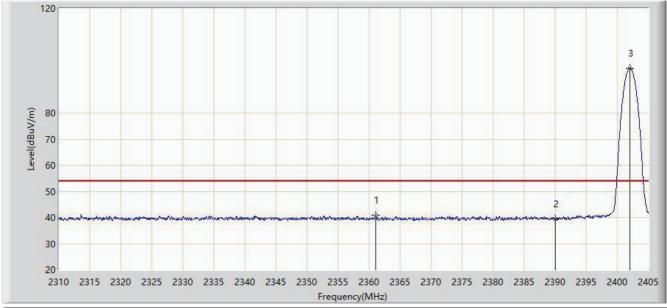


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			2337.740	59.923	27.483	-14.077	74.000	32.441	PK
2			2390.000	56.817	24.490	-17.183	74.000	32.327	PK
3		*	2401.960	101.645	69.340	27.645	74.000	32.305	PK





Site: AC1	Time: 2018/09/06 - 04:40
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V
Test Mode: Transmit by 3DH5 at channel 2402MHz	

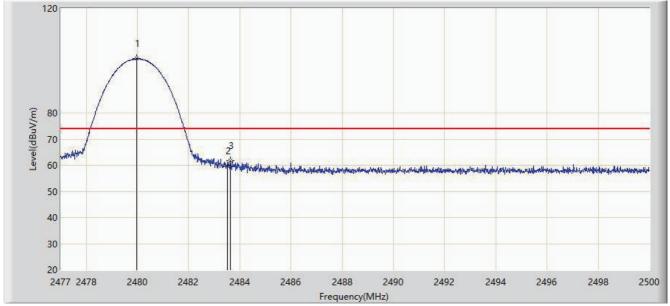


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1			2361.062	40.748	8.373	-13.252	54.000	32.375	AV
2			2390.000	39.513	7.186	-14.487	54.000	32.327	AV
3		*	2402.055	97.104	64.800	43.104	54.000	32.304	AV





Site: AC1	Time: 2018/09/06 - 04:41				
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V				
Test Mode: Transmit by 3DH5 at channel 2480MHz					

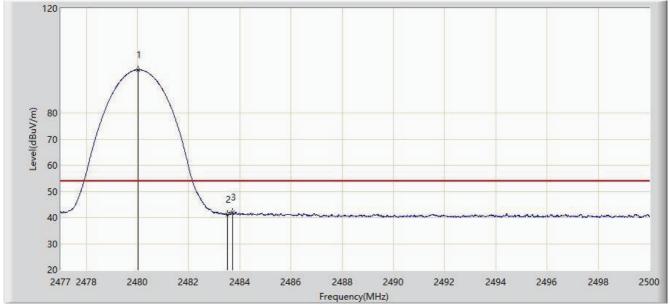


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	2479.979	100.866	68.541	26.866	74.000	32.325	PK
2			2483.500	59.610	27.271	-14.390	74.000	32.340	PK
3			2483.635	61.640	29.300	-12.360	74.000	32.340	PK





Site: AC1	Time: 2018/09/06 - 04:45				
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang				
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal				
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V				
Test Mode: Transmit by 3DH5 at channel 2480MHz					

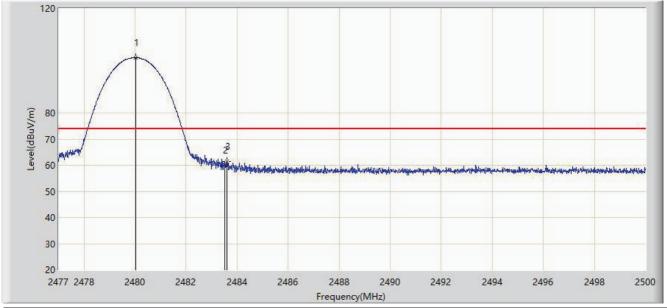


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	2480.025	96.511	64.185	42.511	54.000	32.325	AV
2			2483.500	41.166	8.827	-12.834	54.000	32.340	AV
3			2483.705	42.043	9.703	-11.957	54.000	32.340	AV





Site: AC1	Time: 2018/09/06 - 04:46				
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V				
Test Mode: Transmit by 3DH5 at channel 2480MHz					

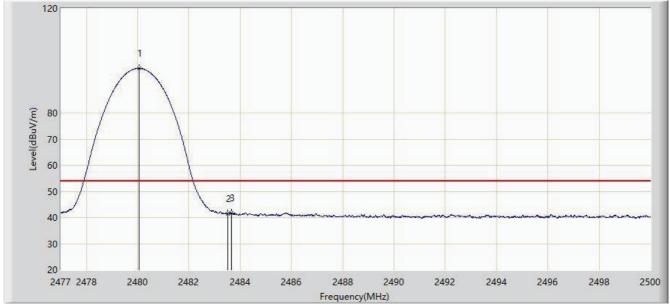


No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	2480.036	101.273	68.947	27.273	74.000	32.325	PK
2			2483.500	60.052	27.713	-13.948	74.000	32.340	PK
3			2483.601	61.364	29.024	-12.636	74.000	32.340	PK





Site: AC1	Time: 2018/09/06 - 04:50				
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang				
Probe: BBHA9120D_1-18GHz	Polarity: Vertical				
EUT: W-LAN + Bluetooth Module	Power: DC 3.3V				
Test Mode: Transmit by 3DH5 at channel 2480MHz					



No	Flag	Mark	Frequency	Measure	Reading	Over Limit	Limit	Factor	Туре
			(MHz)	Level	Level	(dB)	(dBuV/m)	(dB)	
				(dBuV/m)	(dBuV)				
1		*	2480.048	97.053	64.727	43.053	54.000	32.325	AV
2			2483.500	41.477	9.138	-12.523	54.000	32.340	AV
3			2483.670	41.795	9.455	-12.205	54.000	32.340	AV





6.11. AC Conducted Emissions Measurement

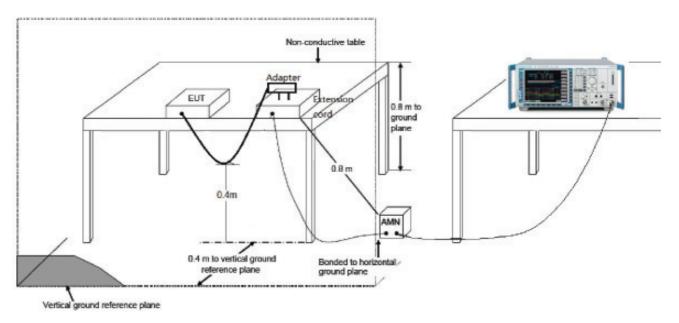
6.11.1.Test Limit

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

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

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

6.11.2.Test Setup



6.11.3.Test Result

Power supply of this device is by DC Source, so this item is not assessed.

FCC ID: VPYLBEE5ZZ1PJ IC: 772C-LBEE5ZZ1PJ



Report No.: 1808WSU011-U1

7. CONCLUSION

The data collected relate only the item(s) tested and show that the **W-LAN + Bluetooth Module** is in compliance with Part 15C of the FCC Rules and RSS-247 Issue 2 of ISED Rules.

_____ The End _____





Appendix A – Test Setup Photograph

Refer to "1808WSU011-UT" file.

Page Number: 94 of 95





Appendix B – EUT Photograph

Refer to "1808WSU011-UE" file.

FCC ID: VPYLBEE5ZZ1PJ IC: 772C-LBEE5ZZ1PJ