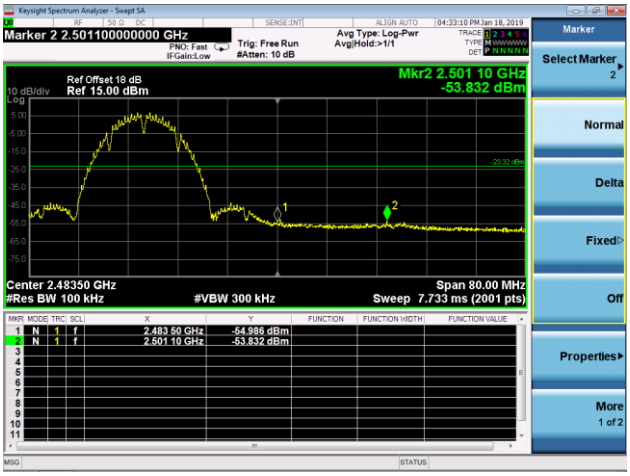
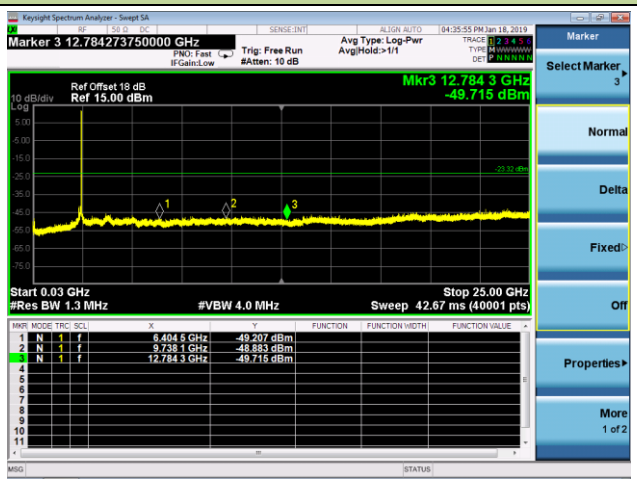
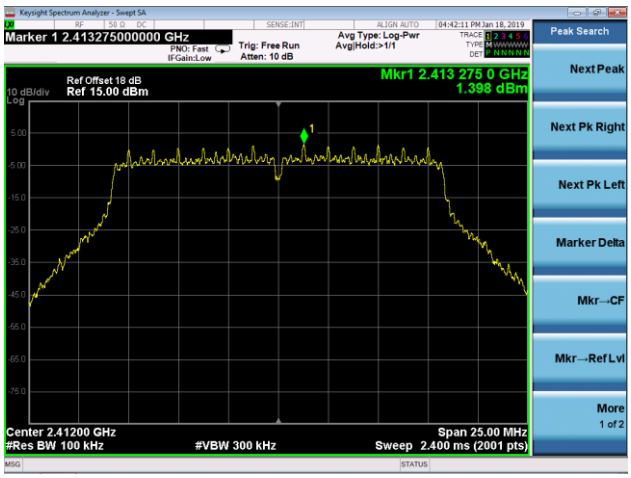
802.11b Out-of-Band Emissions - Ant 0 / Ant 0 + 1 + 2 + 3	
Channel 11 (2462MHz)	
100kHz PSD reference Level	High Band Edge
	
Spurious Emission	
	

802.11g Out-of-Band Emissions - Ant 0 / Ant 0 + 1 + 2 + 3

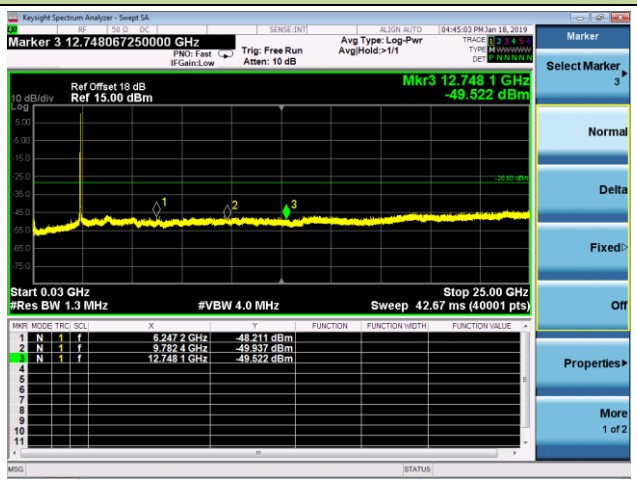
Channel 01 (2412MHz)

100kHz PSD reference Level



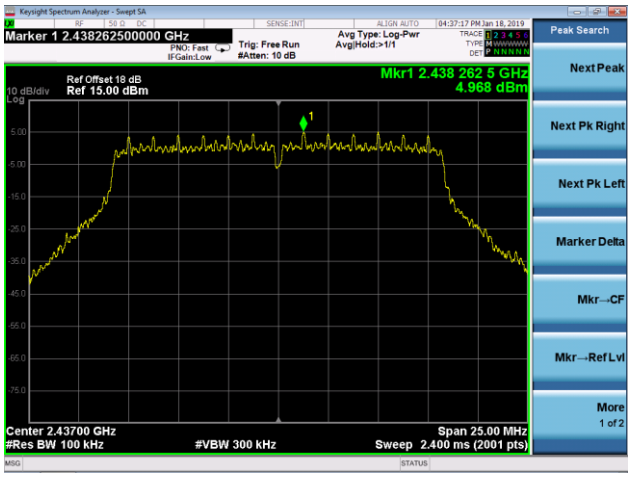
Low Band Edge

Spurious Emission

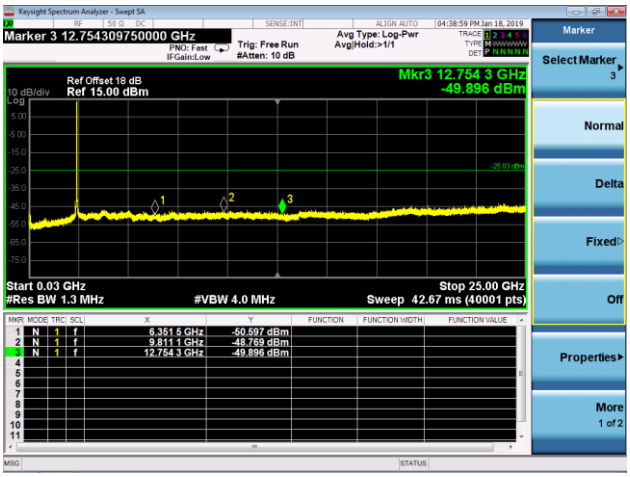


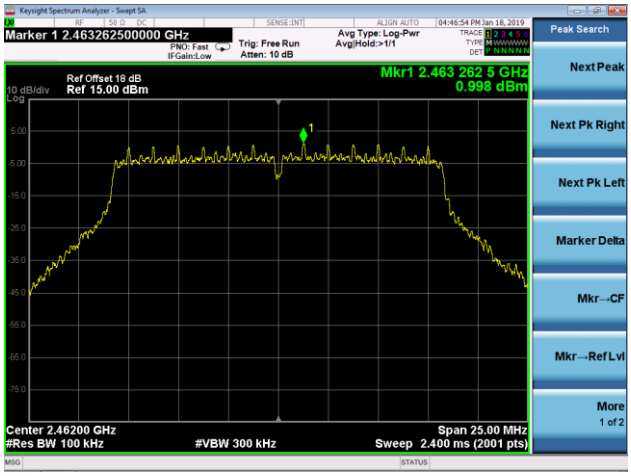
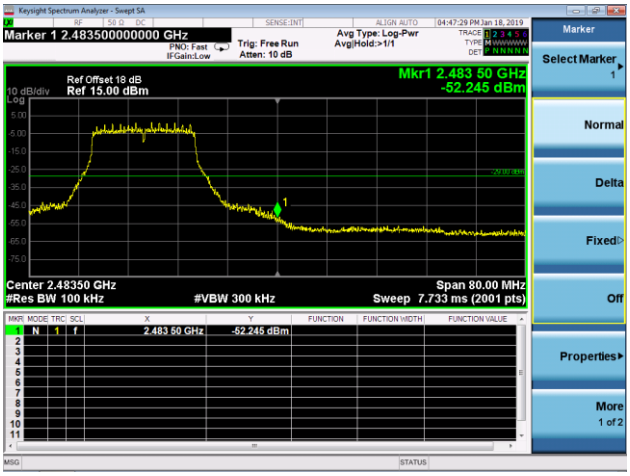
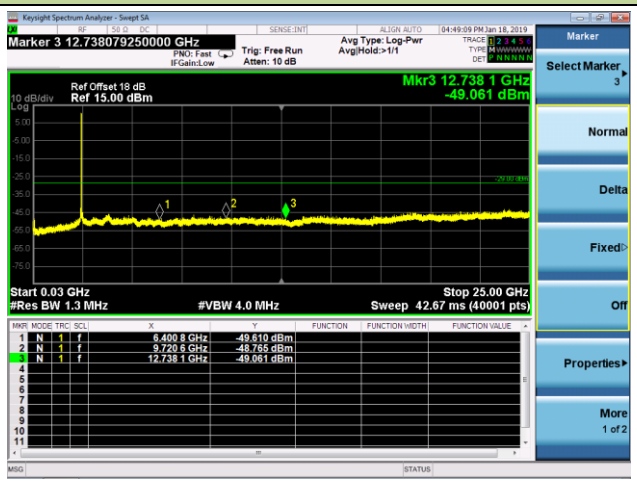
Channel 06 (2437MHz)

100kHz PSD reference Level



Spurious Emission



802.11g Out-of-Band Emissions - Ant 0 / Ant 0 + 1 + 2 + 3	
Channel 11 (2462MHz)	
100kHz PSD reference Level	High Band Edge
	
Spurious Emission	
	

7.6. Radiated Spurious Emission Measurement

7.6.1.Test Limit

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

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

7.6.2.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)

7.6.3.Test Setting

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 or average

5. Sweep time = auto couple

6. Trace was allowed to stabilize

Table 1 - RBW as a function of frequency

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

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 ≥ 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

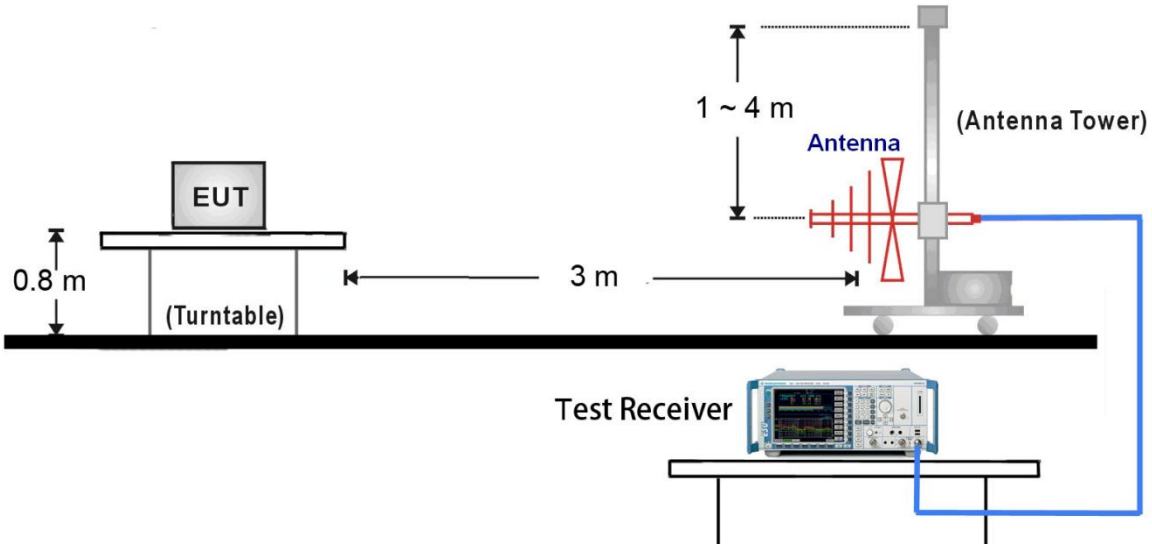
5. Sweep time = auto

6. Trace mode = max hold

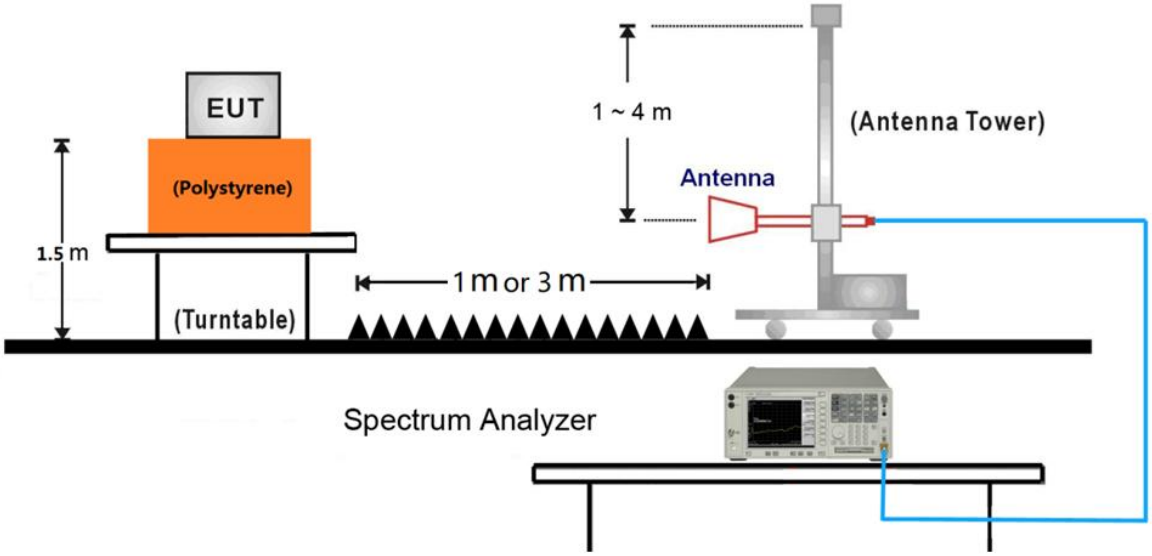
7. Trace was allowed to stabilize

7.6.4.Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



7.6.5.Test Result

Product	GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Temperature	26°C
Test Engineer	Max Wang	Relative Humidity	56%
Test Site	AC1	Test Date	2019/01/16
Test Mode:	802.11b - Ant 0 + 1 + 2 + 3	Test Channel:	01
Remark:	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 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
*	6856.5	34.9	10.6	45.5	83.3	-37.8	Peak	Horizontal
	7655.5	35.2	12.7	47.9	74.0	-26.1	Peak	Horizontal
*	9644.5	35.9	15.5	51.4	83.3	-31.9	Peak	Horizontal
	11132.0	32.9	17.7	50.6	74.0	-23.4	Peak	Horizontal
*	3218.5	51.1	1.2	52.3	83.3	-31.0	Peak	Vertical
	4825.0	40.3	5.9	46.2	74.0	-27.8	Peak	Vertical
*	9644.5	38.2	15.5	53.7	83.3	-29.6	Peak	Vertical
	12058.5	33.6	17.5	51.1	74.0	-22.9	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (113.3dBμV/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)

Product	GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Temperature	26°C
Test Engineer	Max Wang	Relative Humidity	56%
Test Site	AC1	Test Date	2019/01/16
Test Mode:	802.11b - Ant 0 + 1 + 2 + 3	Test Channel:	06
Remark:	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 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
*	6244.5	35.3	8.6	43.9	84.2	-40.3	Peak	Horizontal
	7307.0	37.0	12.5	49.5	74.0	-24.5	Peak	Horizontal
*	8735.0	32.7	13.0	45.7	84.2	-38.5	Peak	Horizontal
	11506.0	34.1	17.8	51.9	74.0	-22.1	Peak	Horizontal
*	3252.5	50.1	1.1	51.2	84.2	-33.0	Peak	Vertical
	4876.0	40.4	6.0	46.4	74.0	-27.6	Peak	Vertical
*	6559.0	35.0	10.2	45.2	84.2	-39.0	Peak	Vertical
	7315.5	39.4	12.6	52.0	74.0	-22.0	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (114.2dBμV/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)

Product	GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Temperature	26°C
Test Engineer	Max Wang	Relative Humidity	56%
Test Site	AC1	Test Date	2019/01/16
Test Mode:	802.11b - Ant 0 + 1 + 2 + 3	Test Channel:	11
Remark:	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 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
*	3286.5	48.0	0.9	48.9	83.1	-34.2	Peak	Horizontal
	4927.0	39.3	6.1	45.4	74.0	-28.6	Peak	Horizontal
*	6100.0	35.0	8.1	43.1	83.1	-40.0	Peak	Horizontal
	7451.5	35.0	12.9	47.9	74.0	-26.1	Peak	Horizontal
*	3286.5	49.6	0.9	50.5	83.1	-32.6	Peak	Vertical
	4927.0	38.9	6.1	45.0	74.0	-29.0	Peak	Vertical
*	9848.5	40.0	16.7	56.7	83.1	-26.4	Peak	Vertical
	7383.5	39.9	12.6	52.5	74.0	-21.5	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (113.1dBμV/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)

Product	GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Temperature	26°C
Test Engineer	Max Wang	Relative Humidity	56%
Test Site	AC1	Test Date	2019/01/16
Test Mode:	802.11g - Ant 0 + 1 + 2 + 3	Test Channel:	01
Remark:	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 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
*	7128.5	34.6	12.3	46.9	82.0	-35.1	Peak	Horizontal
	8131.5	35.8	13.4	49.2	74.0	-24.8	Peak	Horizontal
*	10290.5	34.5	17.2	51.7	82.0	-30.3	Peak	Horizontal
	11591.0	34.1	17.7	51.8	74.0	-22.2	Peak	Horizontal
*	6576.0	35.5	10.2	45.7	82.0	-36.3	Peak	Vertical
	8429.0	34.7	12.6	47.3	74.0	-26.7	Peak	Vertical
*	9644.5	35.3	15.5	50.8	82.0	-31.2	Peak	Vertical
	11616.5	33.5	17.6	51.1	74.0	-22.9	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (112.0dBμV/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)

Product	GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Temperature	26°C
Test Engineer	Max Wang	Relative Humidity	56%
Test Site	AC1	Test Date	2019/01/16
Test Mode:	802.11g - Ant 0 + 1 + 2 + 3	Test Channel:	06
Remark:	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 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
*	7196.5	34.2	12.5	46.7	88.0	-41.3	Peak	Horizontal
	8293.0	35.0	12.7	47.7	74.0	-26.3	Peak	Horizontal
*	8820.0	33.8	13.3	47.1	88.0	-40.9	Peak	Horizontal
	12568.5	34.7	17.4	52.1	74.0	-21.9	Peak	Horizontal
*	7103.0	34.8	12.1	46.9	88.0	-41.1	Peak	Vertical
	9134.5	34.3	13.9	48.2	74.0	-25.8	Peak	Vertical
*	9755.0	40.9	16.2	57.1	88.0	-30.9	Peak	Vertical
	11174.5	32.8	17.7	50.5	74.0	-23.5	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (118.0dBμV/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)

Product	GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Temperature	26°C
Test Engineer	Max Wang	Relative Humidity	56%
Test Site	AC1	Test Date	2019/01/16
Test Mode:	802.11g - Ant 0 + 1 + 2 + 3	Test Channel:	11
Remark:	1. Average measurement was not performed if peak level lower than average limit. So the margin was calculated using the average limit for emissions fall within the restricted bands. 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
*	7018.0	35.5	11.5	47.0	82.0	-35.0	Peak	Horizontal
	8208.0	35.0	13.0	48.0	74.0	-26.0	Peak	Horizontal
*	8828.5	35.0	13.3	48.3	82.0	-33.7	Peak	Horizontal
	10826.0	34.8	18.0	52.8	74.0	-21.2	Peak	Horizontal
*	7978.5	34.4	13.6	48.0	82.0	-34.0	Peak	Vertical
	8335.5	35.2	12.6	47.8	74.0	-26.2	Peak	Vertical
*	9942.0	33.9	16.8	50.7	82.0	-31.3	Peak	Vertical
	12169.0	33.5	17.5	51.0	74.0	-23.0	Peak	Vertical

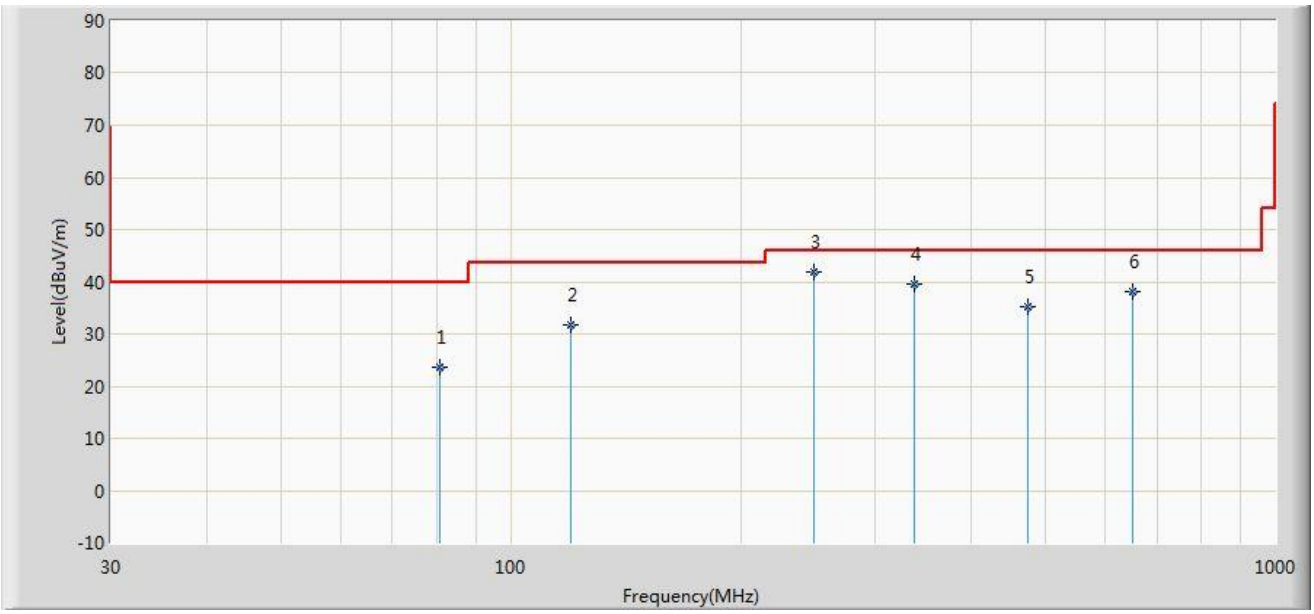
Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (112.0dBμV/m) or 15.209 which is higher.

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

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

The Worst Case of Radiated Emission below 1GHz:

Site: AC1	Time: 2019/01/22 - 19:40
Limit: FCC_Part15.209_RE(3m)	Engineer: Max Wang
Probe: VULB 9168 _20-2000MHz	Polarity: Horizontal
EUT: GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Power: By POE
Test Mode: There is the worst case within frequency range 30MHz~1GHz.	



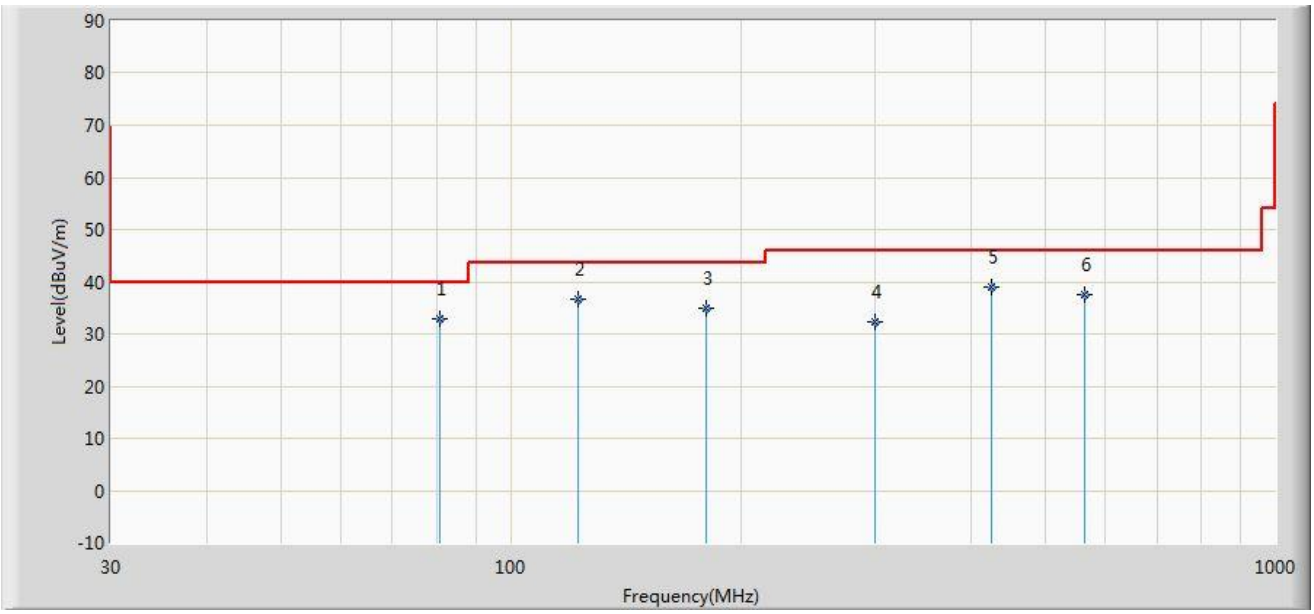
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			80.925	23.613	13.460	-16.387	40.000	10.153	QP
2			119.725	31.685	18.495	-11.815	43.500	13.190	QP
3		*	249.705	41.843	28.826	-4.157	46.000	13.016	QP
4			336.520	39.511	24.206	-6.489	46.000	15.304	QP
5			474.745	35.241	17.031	-10.759	46.000	18.210	QP
6			650.315	38.137	16.677	-7.863	46.000	21.460	QP

Note 1: Measure Level (dBμV/m) = Reading Level (dBμV) + 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 ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

Site: AC1	Time: 2019/01/22 - 19:40
Limit: FCC_Part15.209_RE(3m)	Engineer: Max Wang
Probe: VULB 9168 _20-2000MHz	Polarity: Vertical
EUT: GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Power: By POE
Test Mode: There is the worst case within frequency range 30MHz~1GHz.	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			80.925	32.933	22.780	-7.067	40.000	10.153	QP
2		*	122.635	36.565	23.167	-6.935	43.500	13.398	QP
3			180.350	34.858	21.986	-8.642	43.500	12.872	QP
4			299.660	32.288	17.900	-13.712	46.000	14.388	QP
5			424.790	38.964	21.692	-7.036	46.000	17.272	QP
6			563.985	37.397	17.587	-8.603	46.000	19.810	QP

Note 1: Measure Level (dBμV/m) = Reading Level (dBμV) + 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 ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

7.7. Radiated Restricted Band Edge Measurement

7.7.1.Test Limit

For 15.205 requirement:

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

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[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 [MHz]	Field Strength [uV/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

7.7.2.Test Procedure Used

ANSI C63.10 Section 6.3 (General Requirements)

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

7.7.3.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

3. 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.

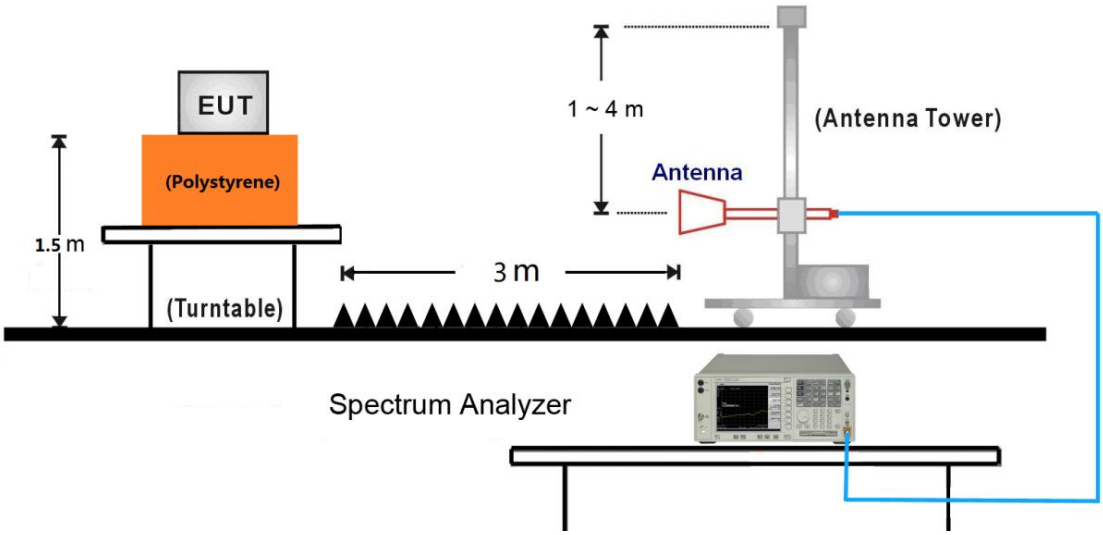
4. Detector = Peak

5. Sweep time = auto

6. Trace mode = max hold

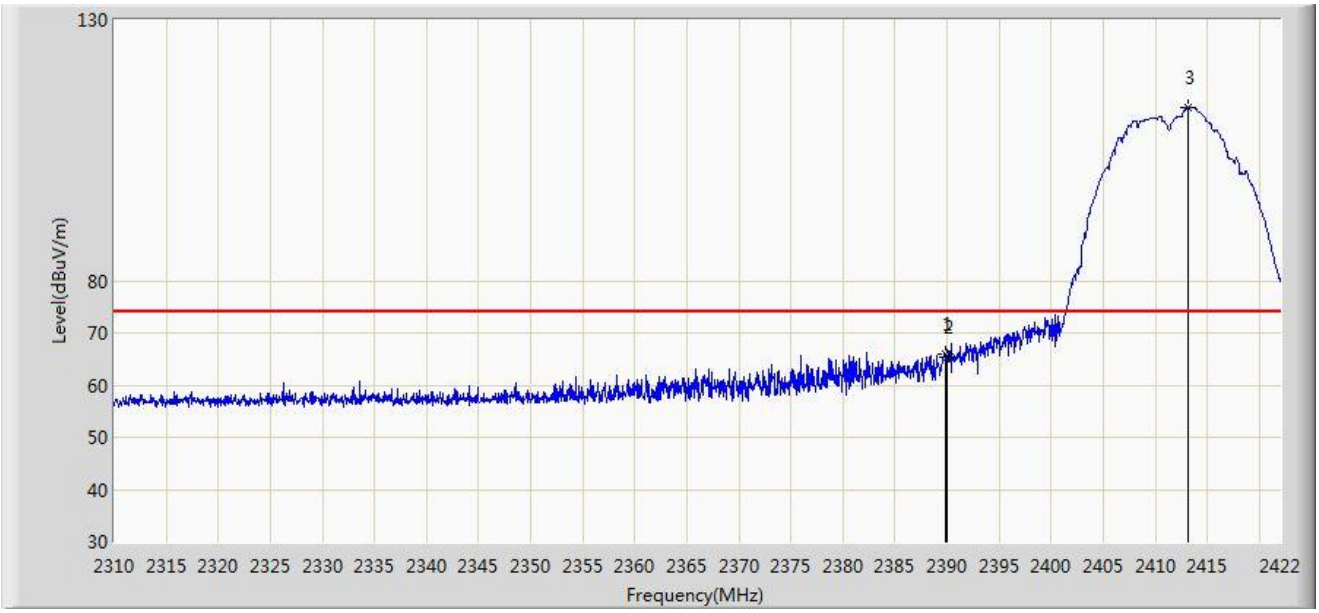
7. Trace was allowed to stabilize

7.7.4.Test Setup



7.7.5.Test Result

Site: AC1	Time: 2019/01/14 - 15:24
Limit: FCC_Part15.209_RE(3m)	Engineer: Max Wang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Power: By POE
Test Mode: Transmit by 802.11b at Channel 2412MHz	

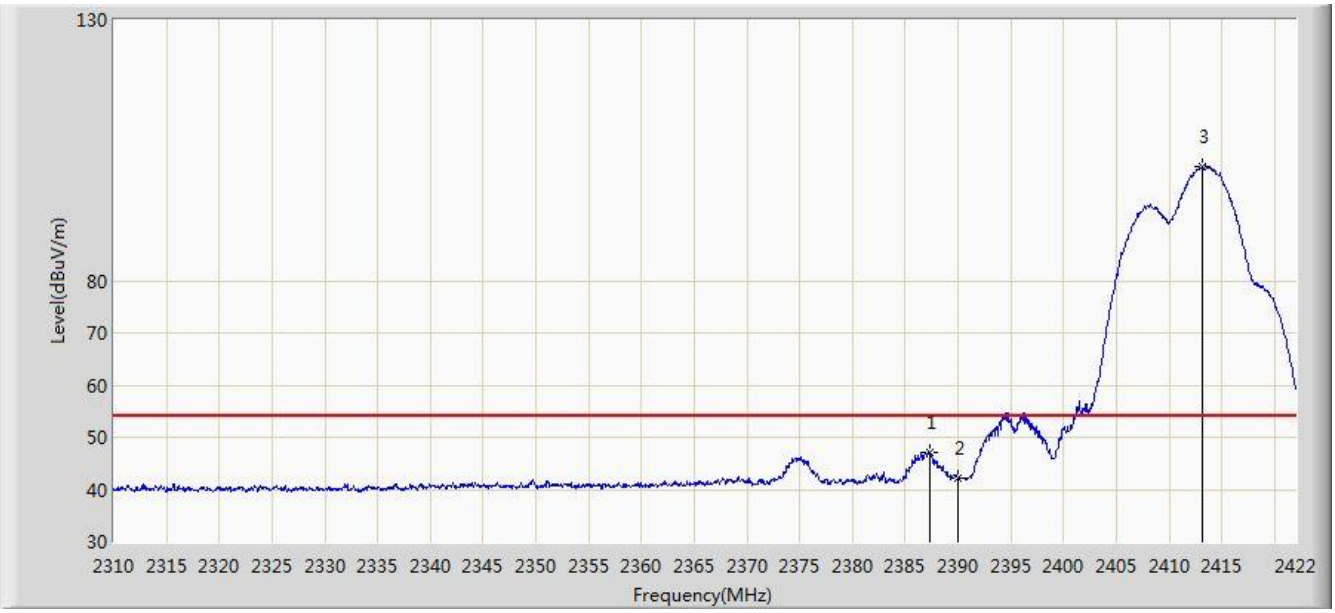


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.912	66.012	33.685	-7.988	74.000	32.327	PK
2			2390.000	65.287	32.960	-8.713	74.000	32.327	PK
3		*	2413.208	113.281	80.997	N/A	N/A	32.284	PK

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

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

Site: AC1	Time: 2019/01/14 - 15:43
Limit: FCC_Part15.209_RE(3m)	Engineer: Max Wang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Power: By POE
Test Mode: Transmit by 802.11b at Channel 2412MHz	

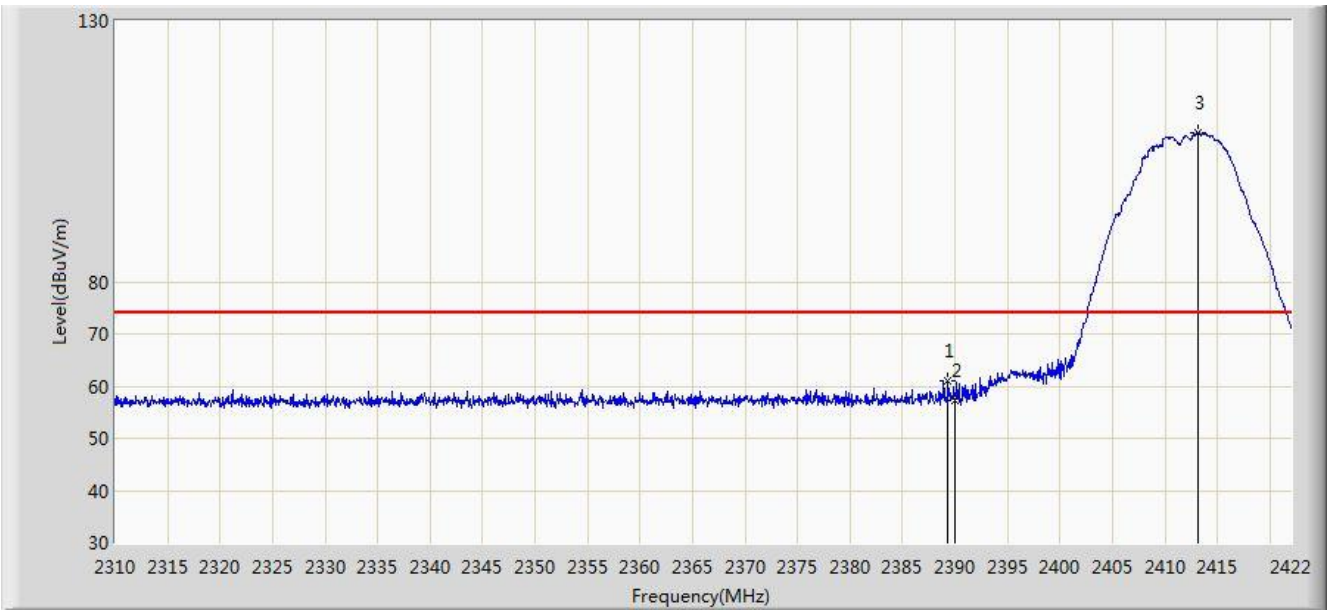


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2387.280	46.997	14.666	-7.003	54.000	32.331	AV
2			2390.000	42.183	9.856	-11.817	54.000	32.327	AV
3		*	2413.208	101.914	69.630	N/A	N/A	32.284	AV

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

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

Site: AC1	Time: 2019/01/14 - 15:59
Limit: FCC_Part15.209_RE(3m)	Engineer: Max Wang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Power: By POE
Test Mode: Transmit by 802.11b at Channel 2412MHz	

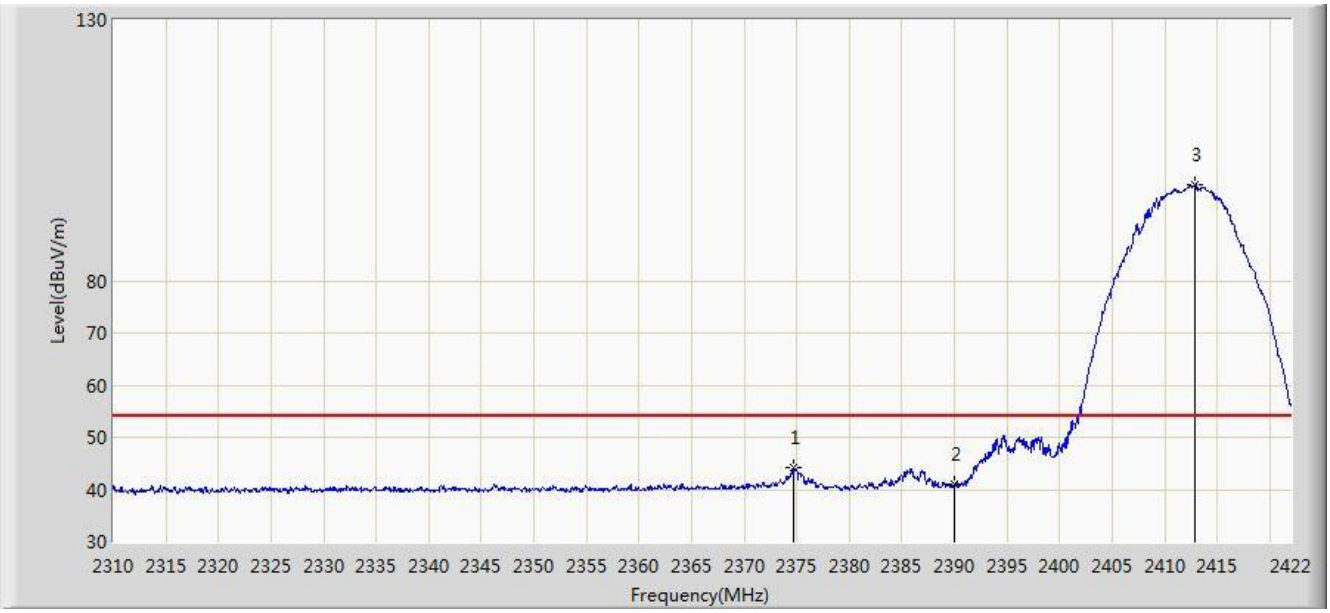


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.296	61.092	28.764	-12.908	74.000	32.328	PK
2			2390.000	57.206	24.879	-16.794	74.000	32.327	PK
3		*	2413.208	108.513	76.229	N/A	N/A	32.284	PK

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

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

Site: AC1	Time: 2019/01/14 - 16:02
Limit: FCC_Part15.209_RE(3m)	Engineer: Max Wang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Power: By POE
Test Mode: Transmit by 802.11b at Channel 2412MHz	

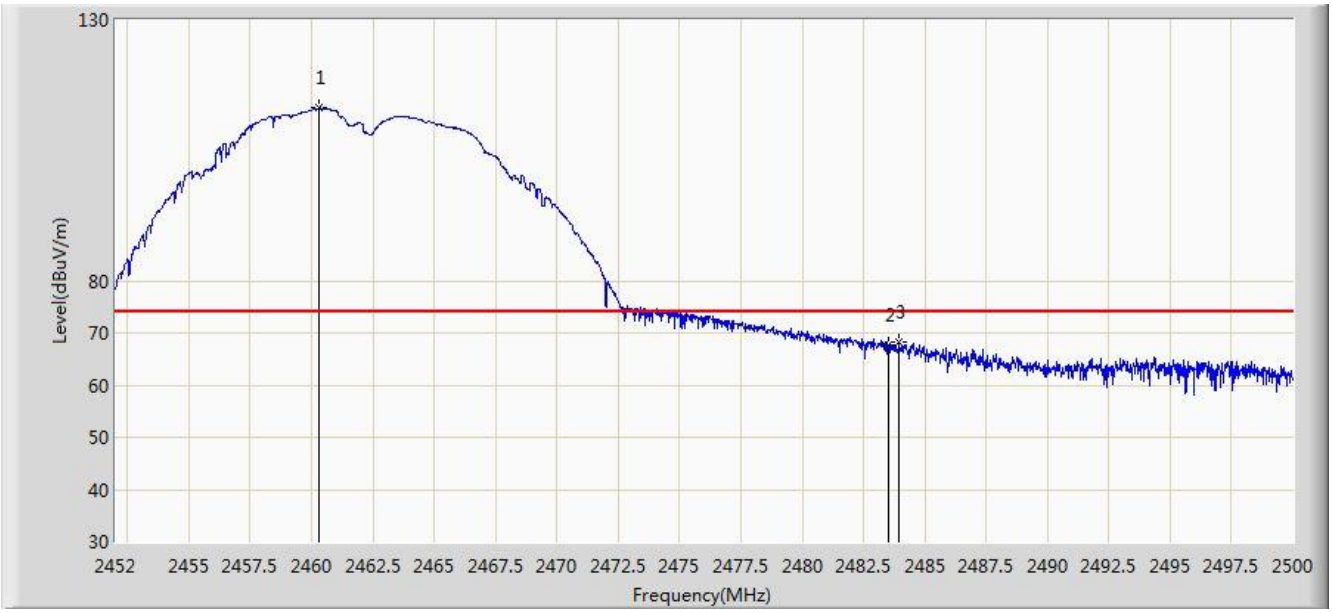


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2374.680	44.152	11.803	-9.848	54.000	32.349	AV
2			2390.000	40.888	8.561	-13.112	54.000	32.327	AV
3		*	2412.816	98.279	65.994	N/A	N/A	32.285	AV

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

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

Site: AC1	Time: 2019/01/14 - 16:03
Limit: FCC_Part15.209_RE(3m)	Engineer: Max Wang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Power: By POE
Test Mode: Transmit by 802.11b at Channel 2462MHz	

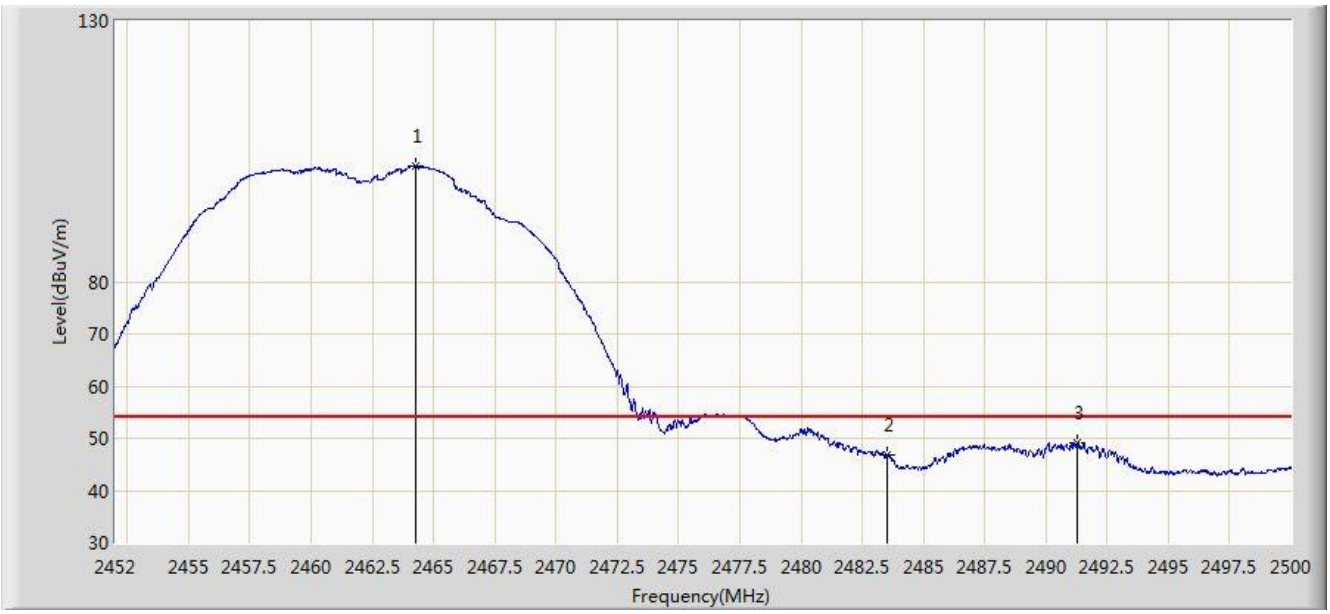


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2460.328	113.105	80.828	N/A	N/A	32.277	PK
2			2483.500	67.659	35.320	-6.341	74.000	32.340	PK
3			2483.968	68.176	35.835	-5.824	74.000	32.341	PK

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

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

Site: AC1	Time: 2019/01/14 - 16:12
Limit: FCC_Part15.209_RE(3m)	Engineer: Max Wang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Power: By POE
Test Mode: Transmit by 802.11b at Channel 2462MHz	

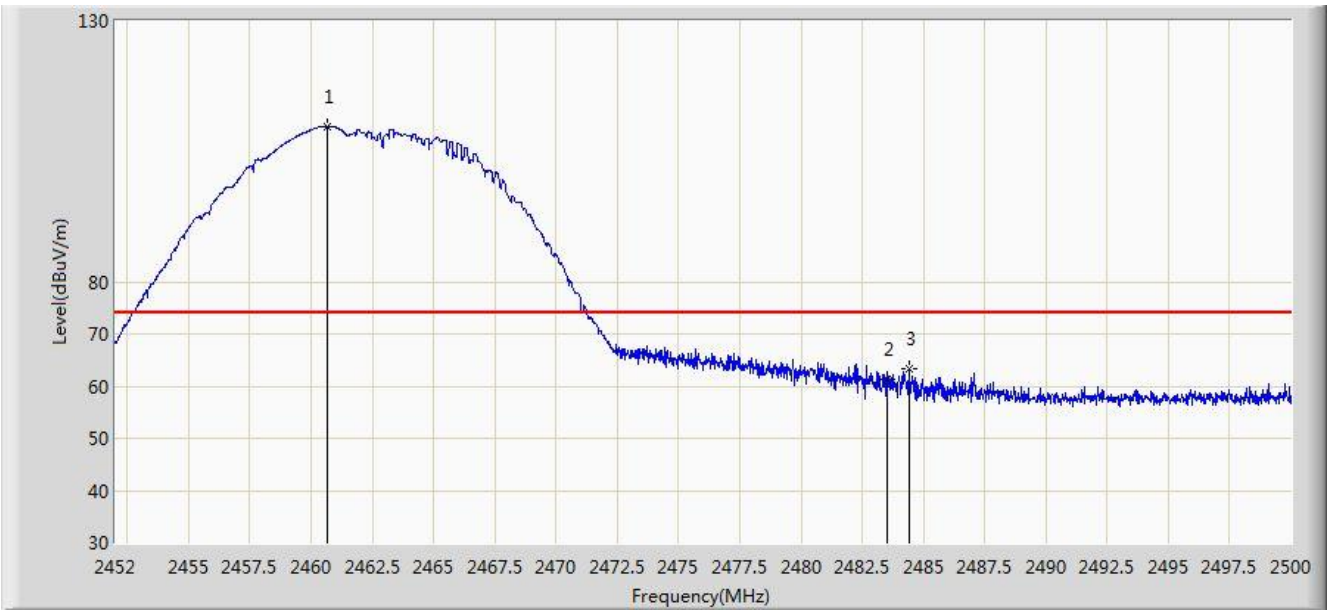


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2464.288	102.259	69.975	N/A	N/A	32.285	AV
2			2483.500	46.676	14.337	-7.324	54.000	32.340	AV
3			2491.288	48.999	16.629	-5.001	54.000	32.370	AV

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

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

Site: AC1	Time: 2019/01/14 - 16:14
Limit: FCC_Part15.209_RE(3m)	Engineer: Max Wang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Power: By POE
Test Mode: Transmit by 802.11b at Channel 2462MHz	

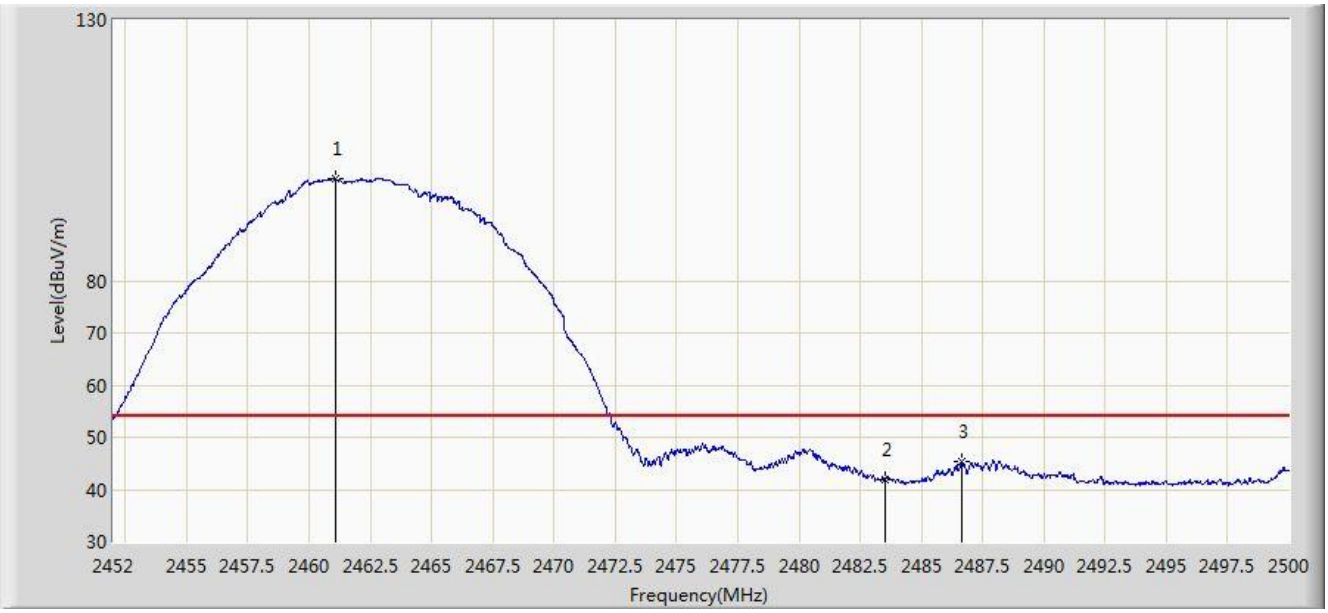


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2460.640	109.781	77.503	N/A	N/A	32.277	PK
2			2483.500	61.194	28.855	-12.806	74.000	32.340	PK
3			2484.448	63.300	30.957	-10.700	74.000	32.343	PK

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

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

Site: AC1	Time: 2019/01/14 - 16:16
Limit: FCC_Part15.209_RE(3m)	Engineer: Max Wang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Power: By POE
Test Mode: Transmit by 802.11b at Channel 2462MHz	

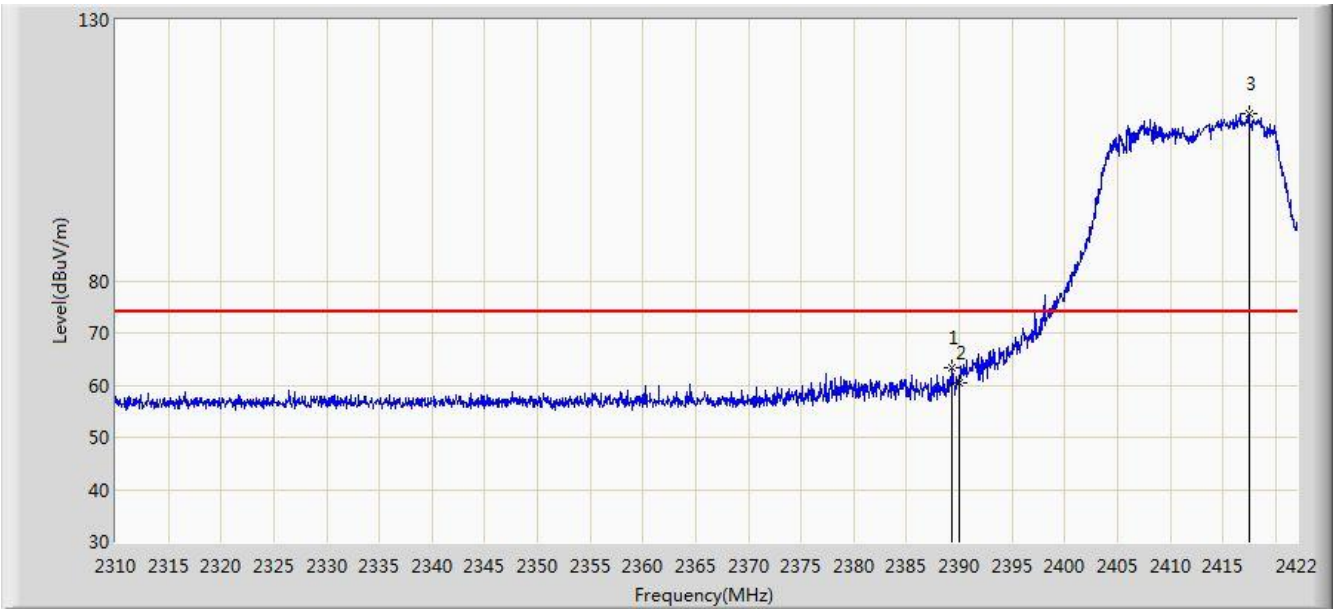


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2461.072	99.434	67.156	N/A	N/A	32.279	AV
2			2483.500	42.002	9.663	-11.998	54.000	32.340	AV
3			2486.632	45.436	13.085	-8.564	54.000	32.351	AV

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

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

Site: AC1	Time: 2019/01/16 - 10:39
Limit: FCC_Part15.209_RE(3m)	Engineer: Max Wang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Power: By POE
Test Mode: Transmit by 802.11g at Channel 2412MHz	

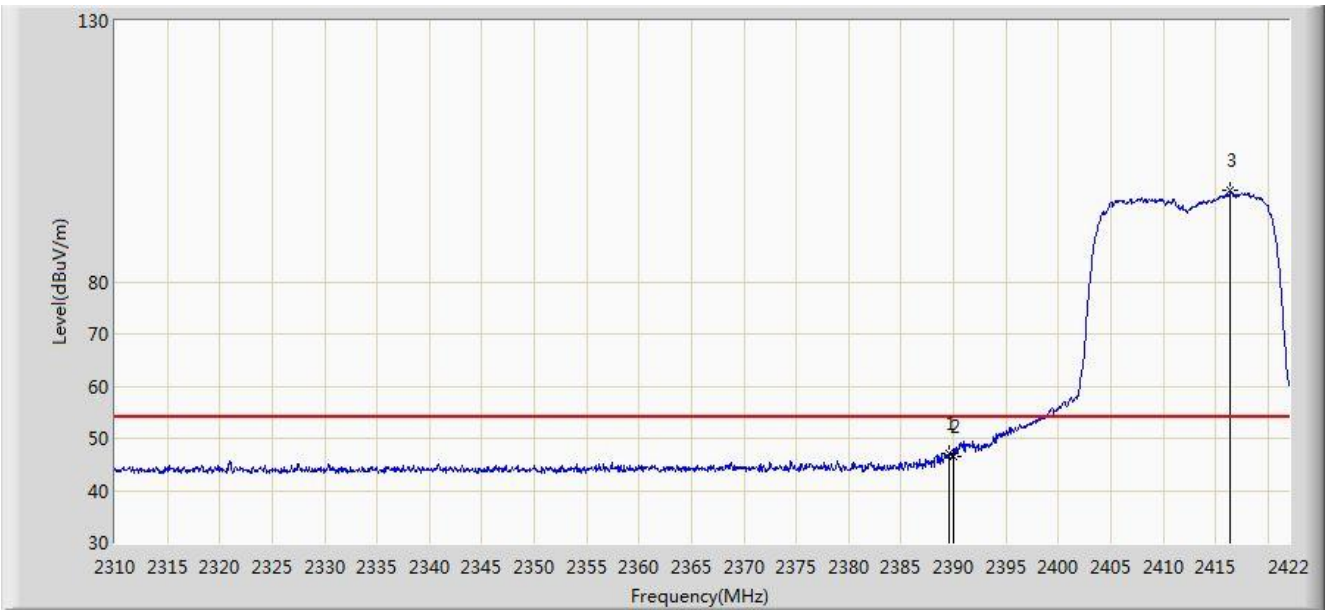


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.240	63.199	30.871	-10.801	74.000	32.328	PK
2			2390.000	60.412	28.085	-13.588	74.000	32.327	PK
3		*	2417.464	111.953	79.671	N/A	N/A	32.283	PK

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

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

Site: AC1	Time: 2019/01/16 - 10:42
Limit: FCC_Part15.209_RE(3m)	Engineer: Max Wang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Power: By POE
Test Mode: Transmit by 802.11g at Channel 2412MHz	

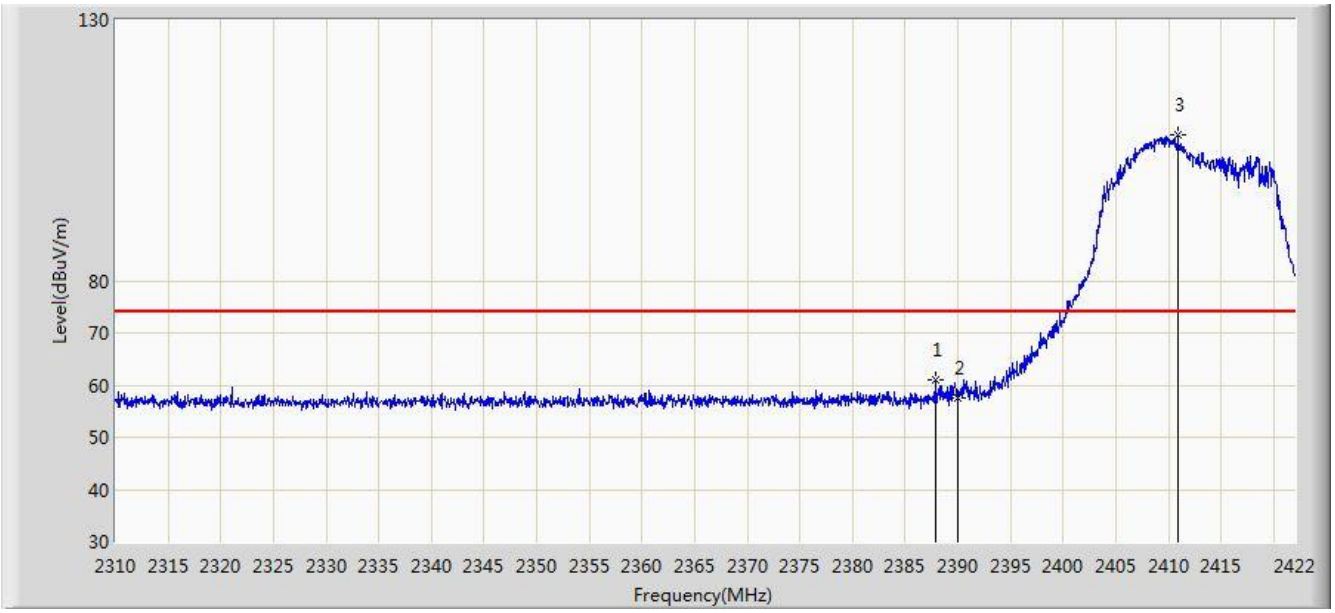


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.576	47.024	14.697	-6.976	54.000	32.328	AV
2			2390.000	46.502	14.175	-7.498	54.000	32.327	AV
3		*	2416.400	97.440	65.157	N/A	N/A	32.282	AV

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

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

Site: AC1	Time: 2019/01/16 - 10:47
Limit: FCC_Part15.209_RE(3m)	Engineer: Max Wang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Power: By POE
Test Mode: Transmit by 802.11g at Channel 2412MHz	

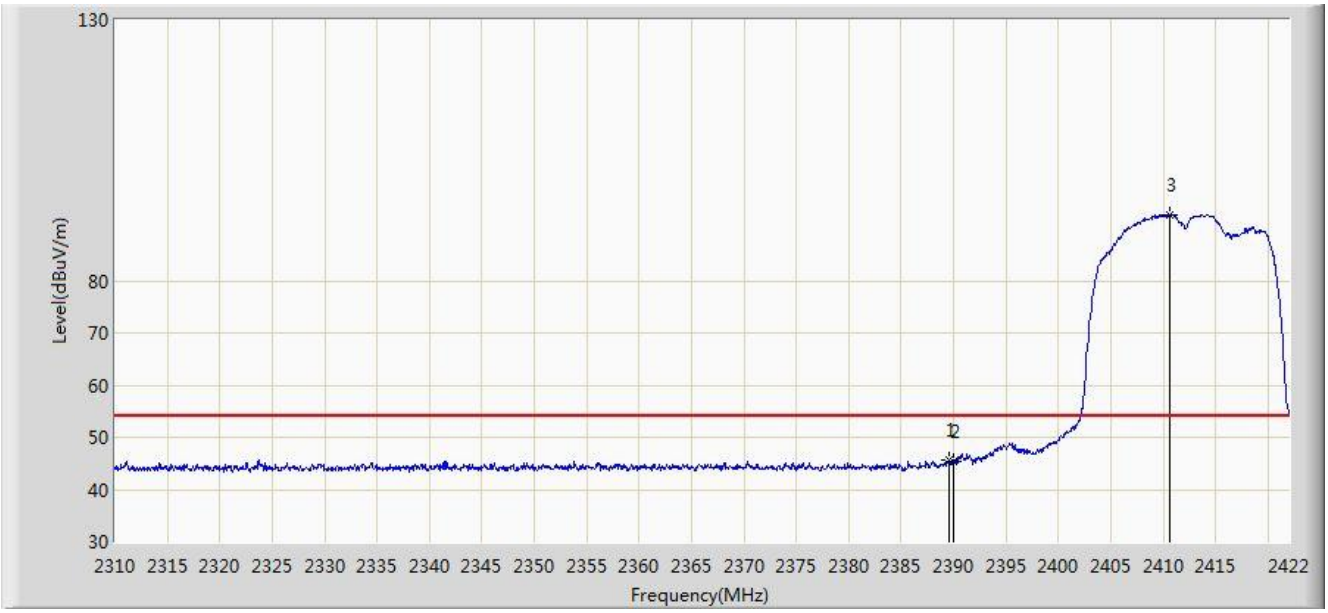


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2387.840	60.870	28.540	-13.130	74.000	32.329	PK
2			2390.000	57.584	25.257	-16.416	74.000	32.327	PK
3		*	2410.912	108.075	75.790	N/A	N/A	32.285	PK

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

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

Site: AC1	Time: 2019/01/16 - 10:49
Limit: FCC_Part15.209_RE(3m)	Engineer: Max Wang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Power: By POE
Test Mode: Transmit by 802.11g at Channel 2412MHz	

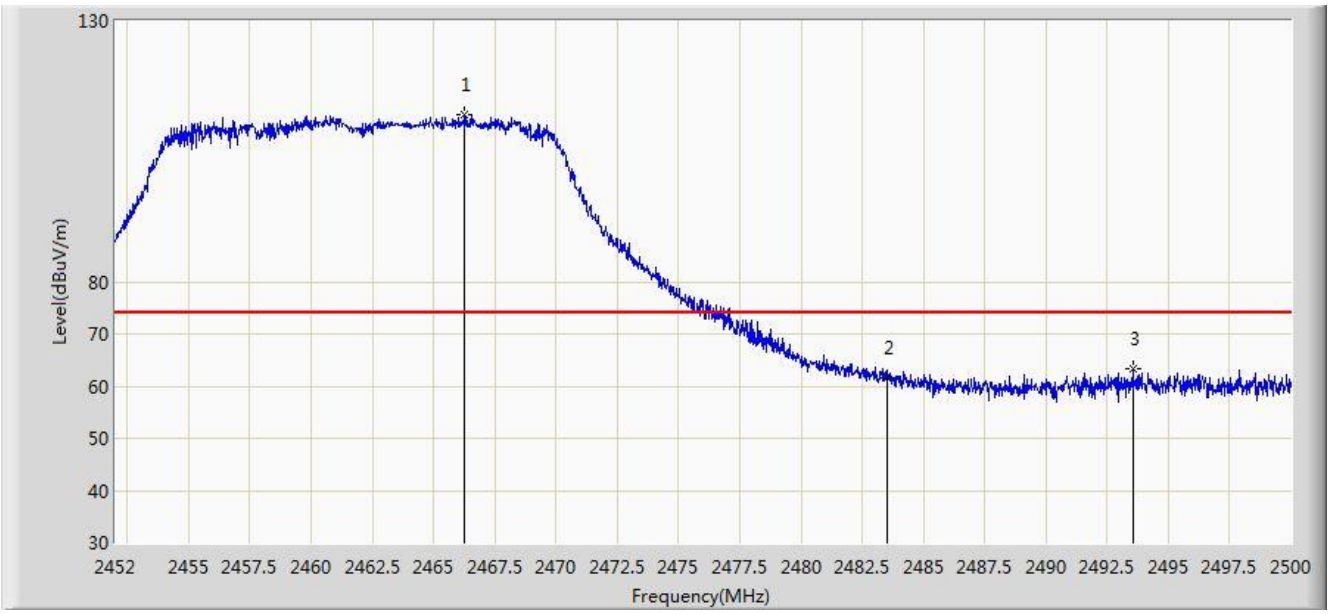


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.520	45.548	13.220	-8.452	54.000	32.327	AV
2			2390.000	45.351	13.024	-8.649	54.000	32.327	AV
3		*	2410.632	92.628	60.342	N/A	N/A	32.286	AV

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

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

Site: AC1	Time: 2019/01/16 - 10:57
Limit: FCC_Part15.209_RE(3m)	Engineer: Max Wang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Power: By POE
Test Mode: Transmit by 802.11g at Channel 2462MHz	

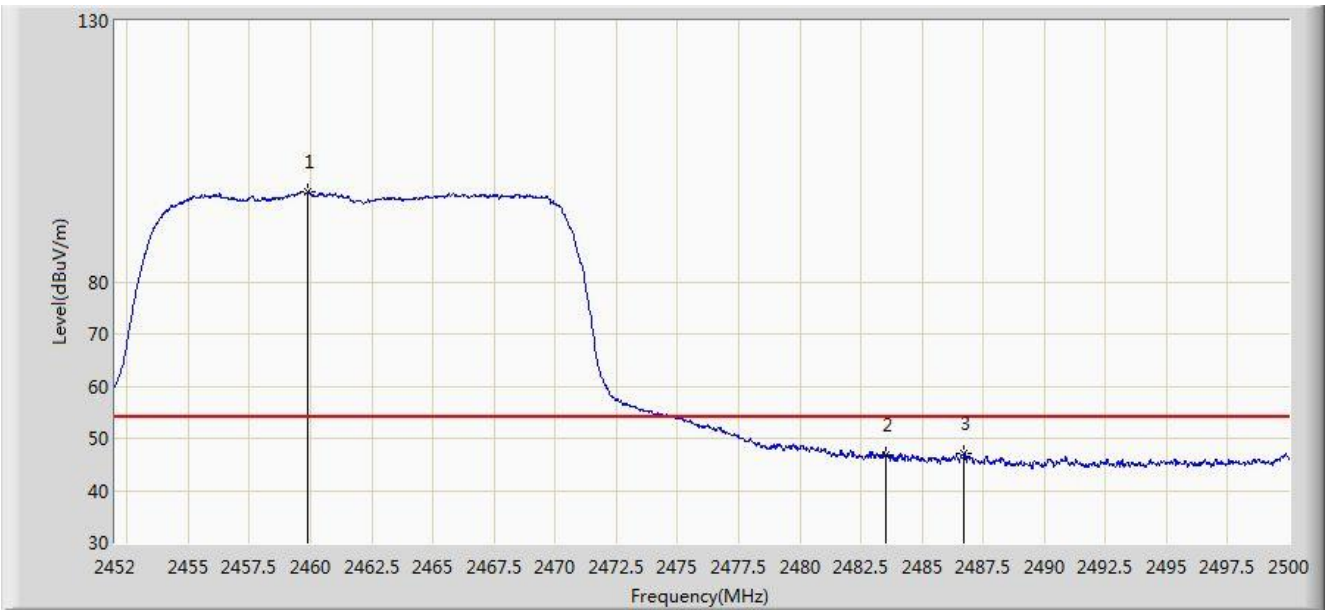


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2466.280	111.969	79.679	N/A	N/A	32.289	PK
2			2483.500	61.665	29.326	-12.335	74.000	32.340	PK
3			2493.544	63.440	31.061	-10.560	74.000	32.379	PK

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

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

Site: AC1	Time: 2019/01/16 - 11:03
Limit: FCC_Part15.209_RE(3m)	Engineer: Max Wang
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Power: By POE
Test Mode: Transmit by 802.11g at Channel 2462MHz	

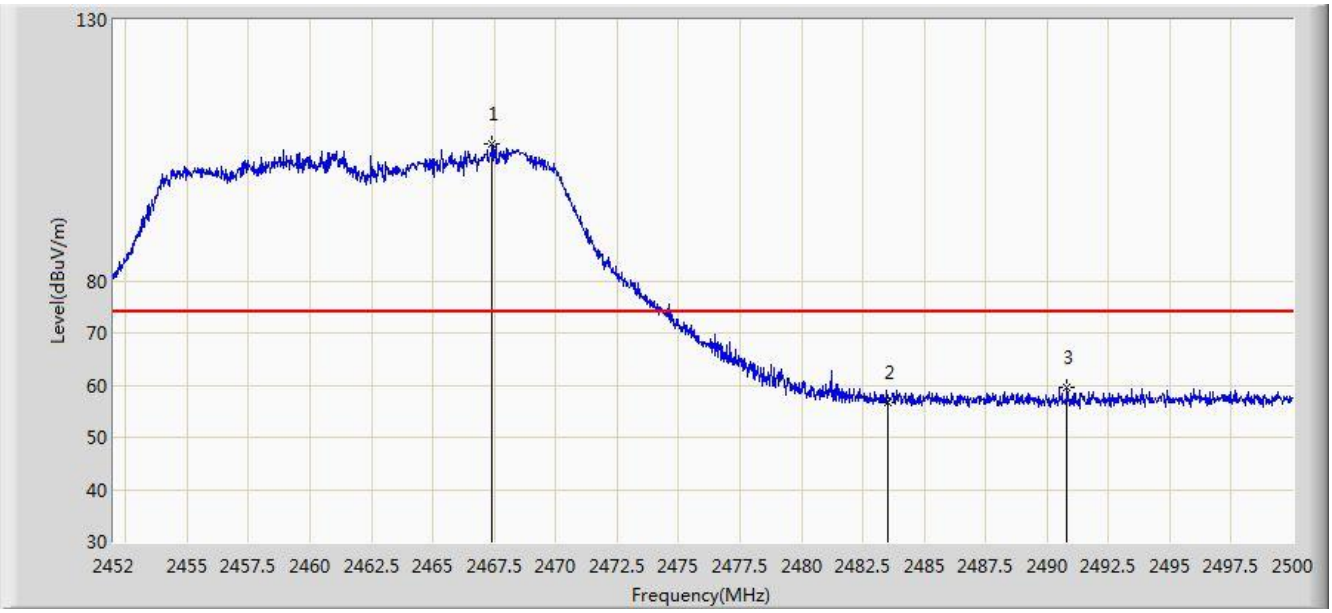


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2459.896	97.353	65.077	N/A	N/A	32.276	AV
2			2483.500	46.720	14.381	-7.280	54.000	32.340	AV
3			2486.728	47.181	14.829	-6.819	54.000	32.351	AV

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

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

Site: AC1	Time: 2019/01/16 - 11:04
Limit: FCC_Part15.209_RE(3m)	Engineer: Max Wang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Power: By POE
Test Mode: Transmit by 802.11g at Channel 2462MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2467.408	106.106	73.814	N/A	N/A	32.293	PK
2			2483.500	56.700	24.361	-17.300	74.000	32.340	PK
3			2490.808	59.664	27.296	-14.336	74.000	32.368	PK

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

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

Site: AC1	Time: 2019/01/16 - 11:07
Limit: FCC_Part15.209_RE(3m)	Engineer: Max Wang
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Power: By POE
Test Mode: Transmit by 802.11g at Channel 2462MHz	

No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2465.176	95.375	63.088	N/A	N/A	32.286	AV
2			2483.500	45.182	12.843	-8.818	54.000	32.340	AV
3			2483.608	45.762	13.422	-8.238	54.000	32.340	AV

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

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

7.8. AC Conducted Emissions Measurement

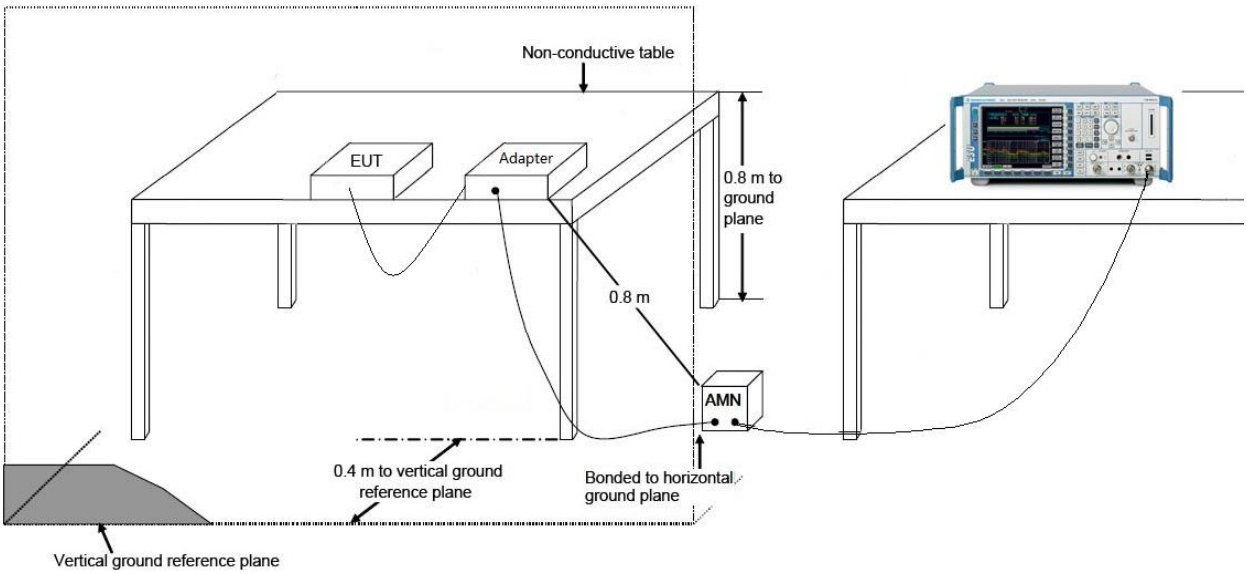
7.8.1.Test Limit

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

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

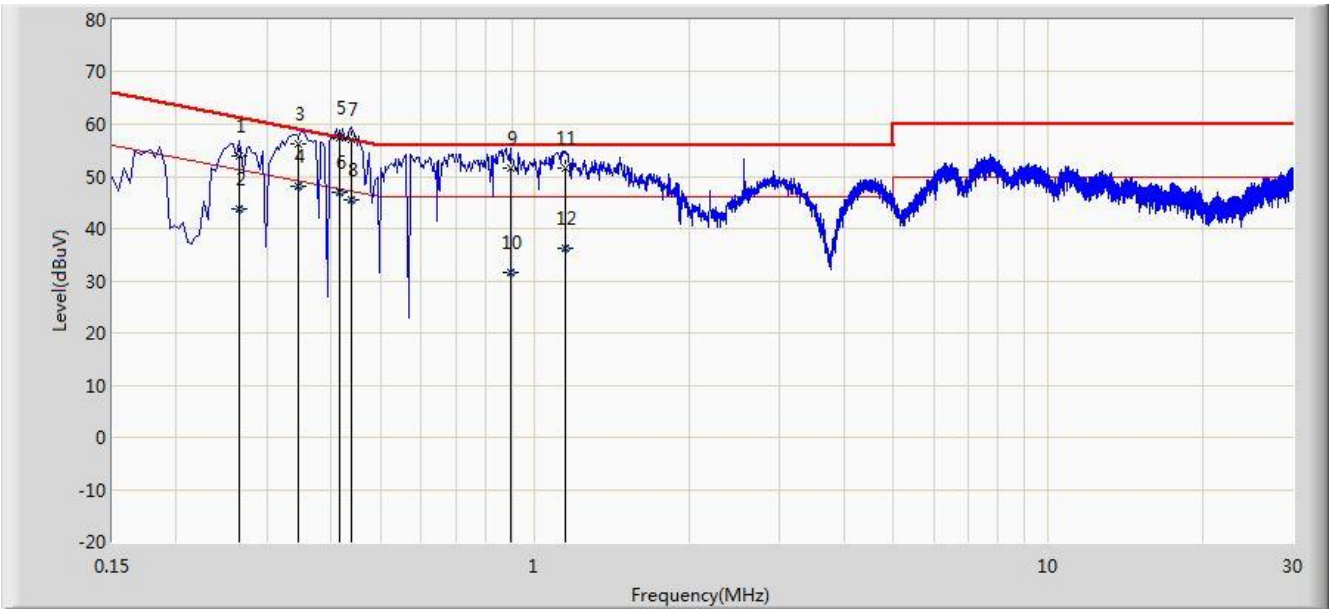
Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

7.8.2.Test Setup



7.8.3.Test Result

Site: SR2	Time: 2019/01/16 - 17:31
Limit: FCC_Part15.207_CE_AC Power	Engineer: Liz Yuan
Probe: ENV216_101683_Filter On	Polarity: Line
EUT: GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Power: AC 120V/60Hz
Test Mode 1	

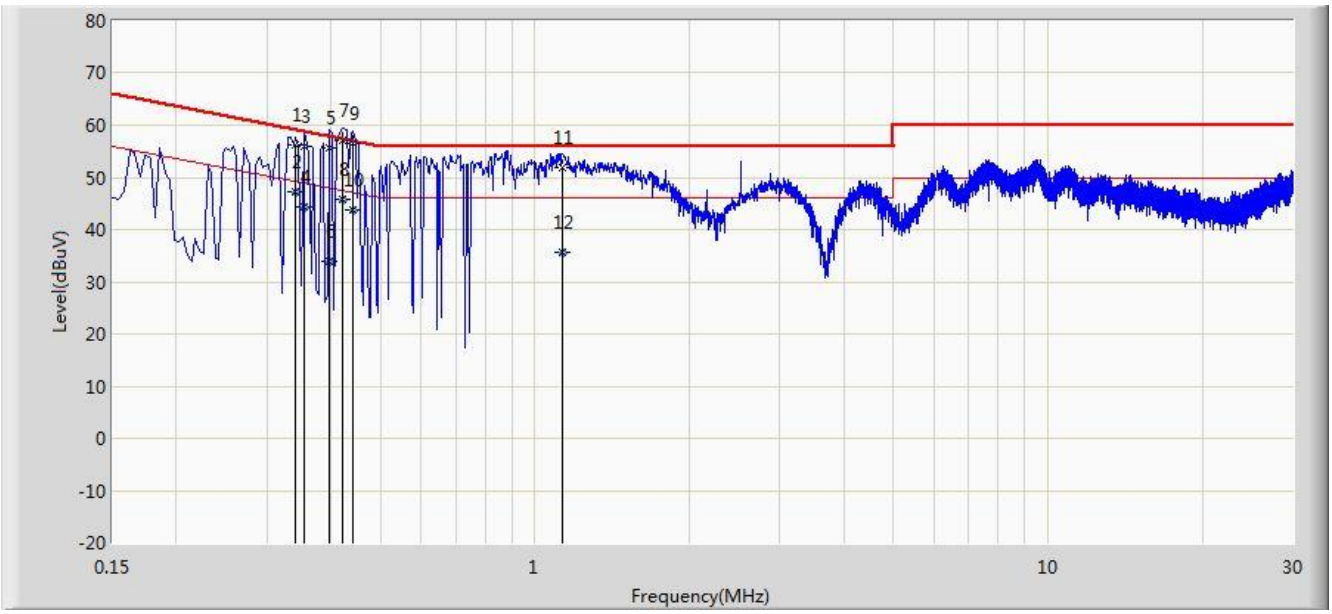


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.266	53.937	43.960	-7.305	61.242	9.977	QP
2			0.266	43.659	33.682	-7.583	51.242	9.977	AV
3			0.345	56.340	46.300	-2.742	59.082	10.040	QP
4			0.345	48.040	38.000	-1.042	49.082	10.040	AV
5			0.417	57.299	47.200	-0.208	57.508	10.100	QP
6			0.417	46.999	36.900	-0.508	47.508	10.100	AV
7		*	0.438	57.077	46.960	-0.023	57.100	10.117	QP
8			0.438	45.410	35.294	-1.689	47.100	10.117	AV
9			0.894	51.605	41.642	-4.395	56.000	9.963	QP
10			0.894	31.660	21.697	-14.340	46.000	9.963	AV
11			1.146	51.622	41.718	-4.378	56.000	9.904	QP
12			1.146	36.110	26.206	-9.890	46.000	9.904	AV

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

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

Site: SR2	Time: 2019/01/16 - 17:38
Limit: FCC_Part15.207_CE_AC Power	Engineer: Liz Yuan
Probe: ENV216_101683_Filter On	Polarity: Neutral
EUT: GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit	Power: AC 120V/60Hz
Test Mode 1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.342	56.138	46.070	-3.016	59.155	10.069	QP
2			0.342	47.201	37.132	-1.954	49.155	10.069	AV
3			0.354	55.973	45.895	-2.895	58.868	10.078	QP
4			0.354	44.388	34.310	-4.480	48.868	10.078	AV
5			0.398	55.659	45.548	-2.236	57.895	10.111	QP
6			0.398	33.798	23.687	-14.097	47.895	10.111	AV
7		*	0.422	57.133	47.004	-0.276	57.409	10.129	QP
8			0.422	45.744	35.615	-1.665	47.409	10.129	AV
9			0.441	56.643	46.500	-0.400	57.043	10.143	QP
10			0.441	43.643	33.500	-3.400	47.043	10.143	AV
11			1.130	51.844	41.940	-4.156	56.000	9.904	QP
12			1.130	35.578	25.674	-10.422	46.000	9.904	AV

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

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

8. CONCLUSION

The data collected relate only the item(s) tested and show that the **GEN3Z Camera and WiFi_Wave2_Zigbee Access Point Unit** is in compliance with Part 15C of the FCC Rules.

The End

Appendix A - Test Setup Photograph

Refer to “1901RSU031-UT” file.

Appendix B - EUT Photograph

Refer to “1901RSU031-UE” file.