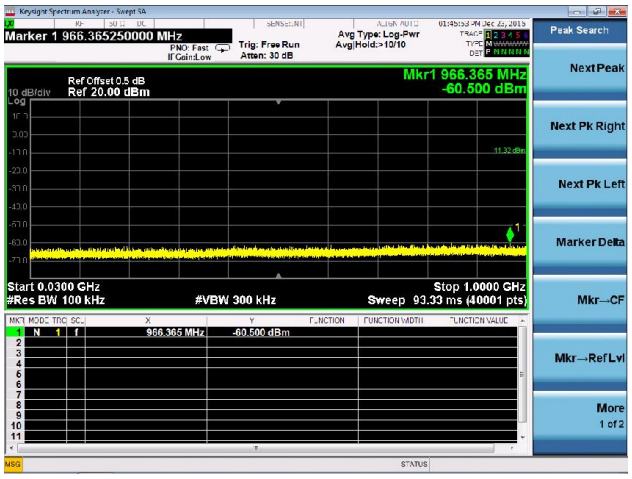
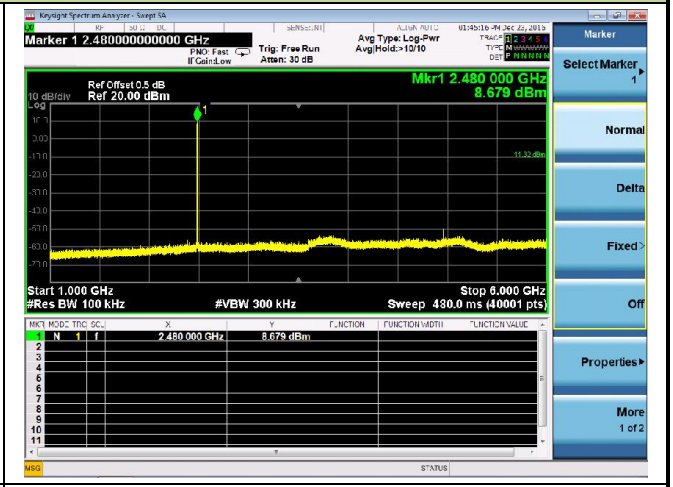
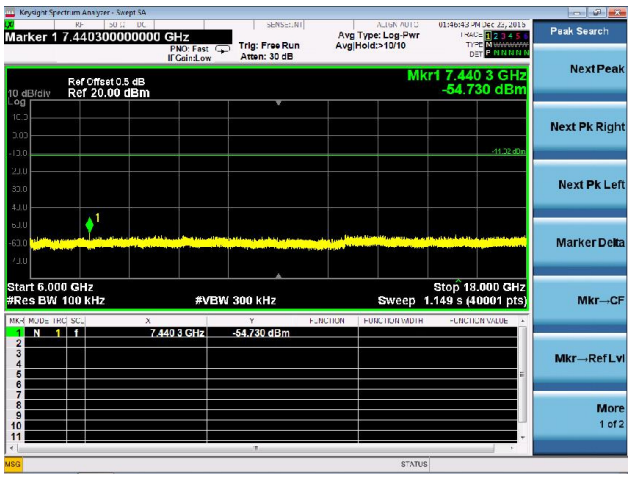
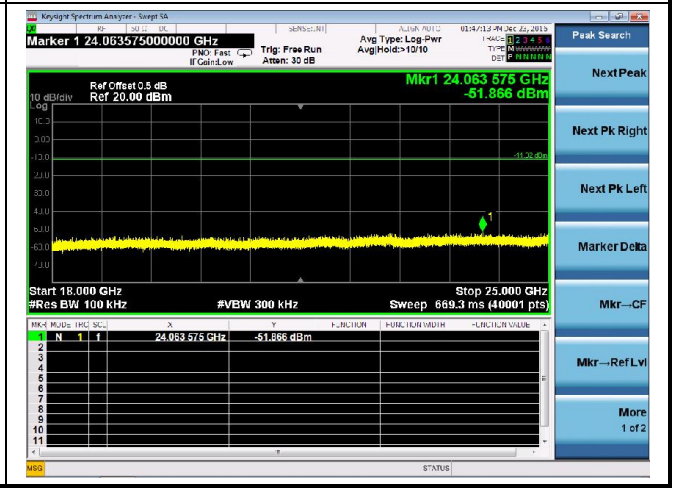
DH5 Conducted Spurious Emissions

Channel 79 (2480MHz)



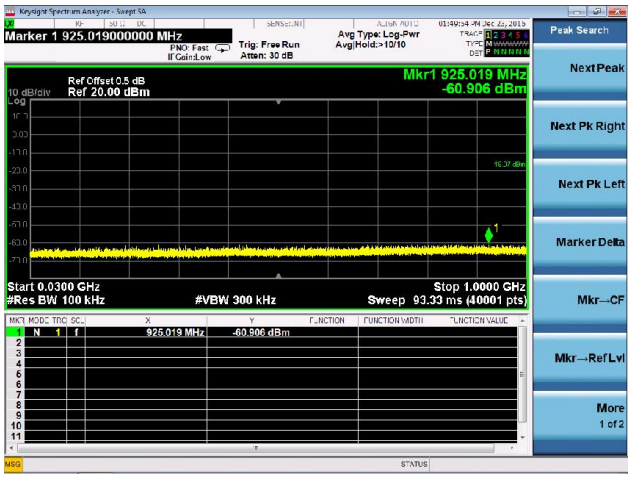


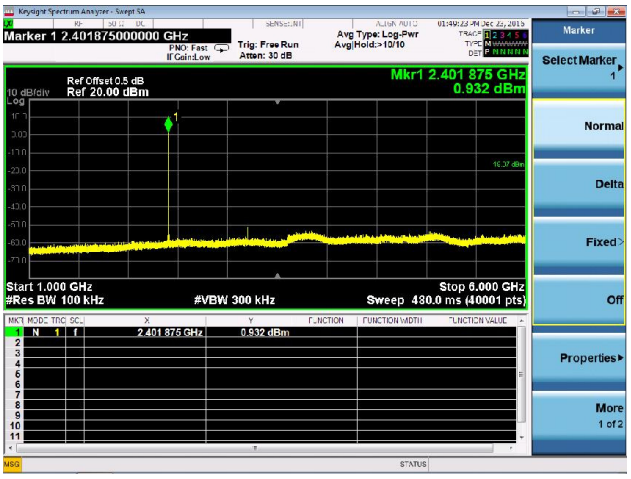


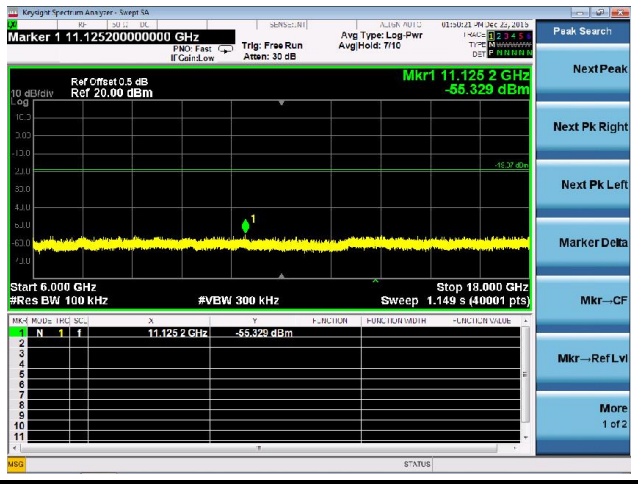


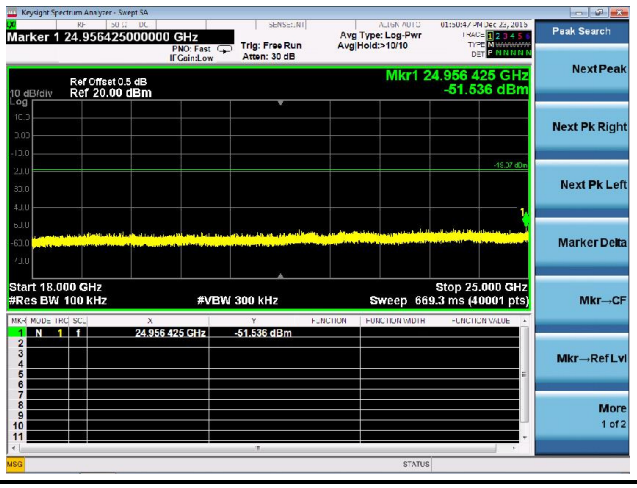
2DH5 Conducted Spurious Emissions

Channel 00 (2402MHz)



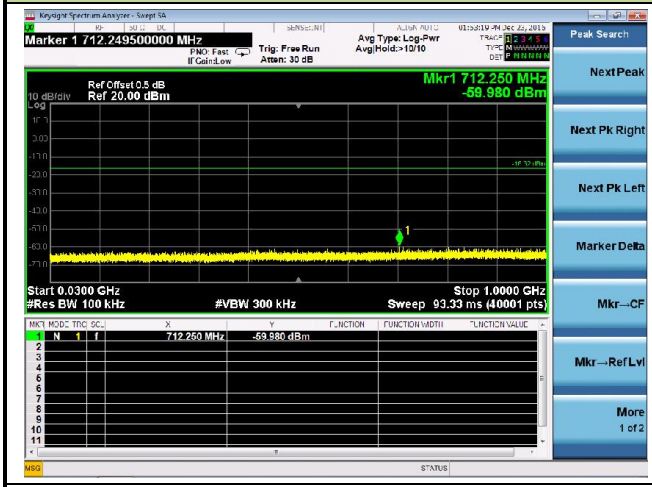


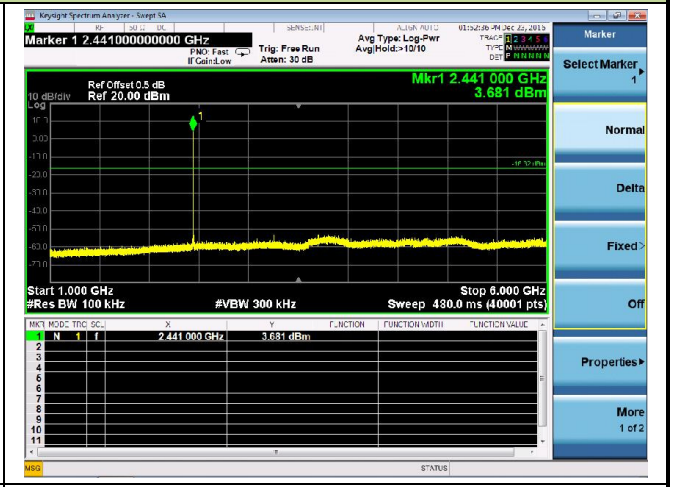


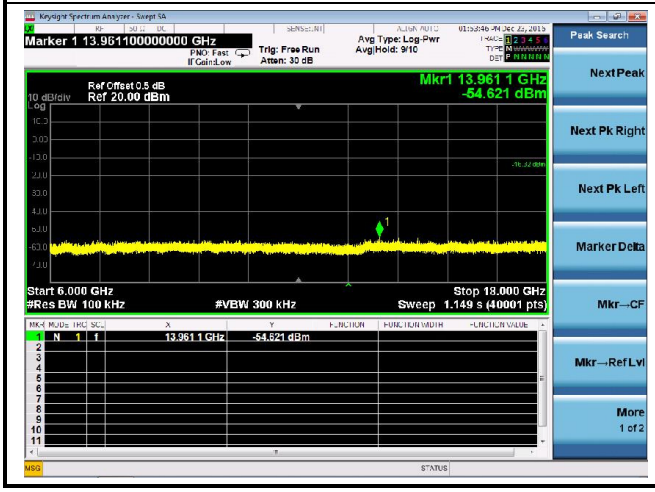


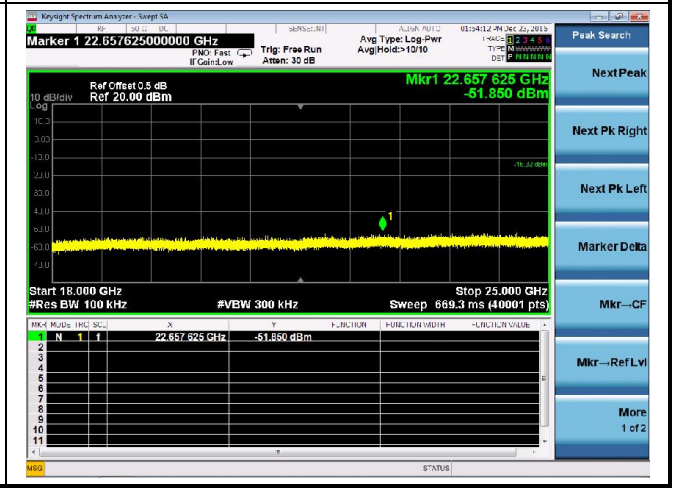
2DH5 Conducted Spurious Emissions

Channel 39 (2441MHz)



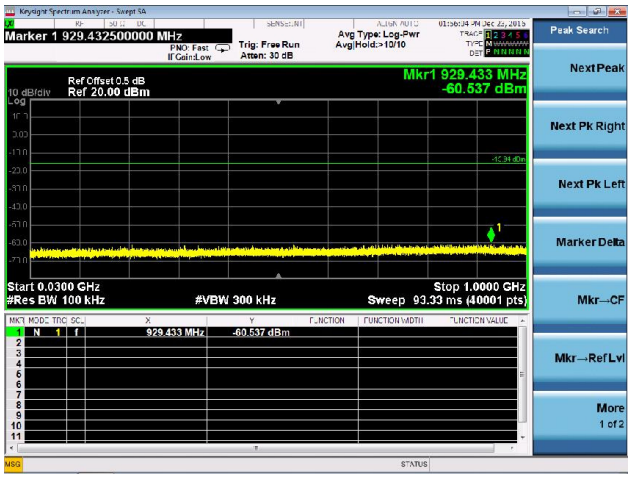


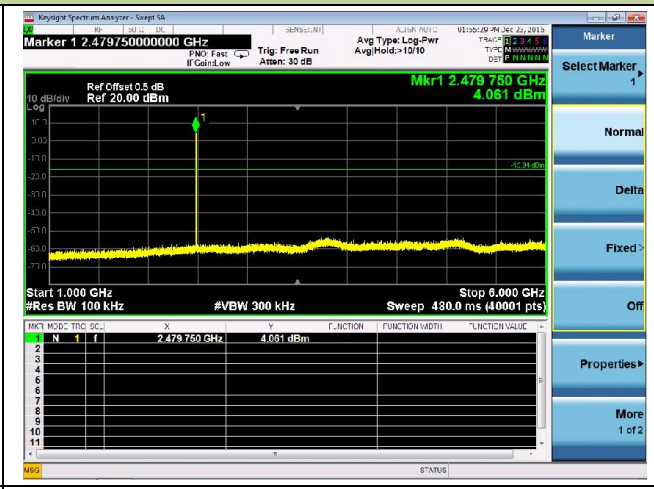


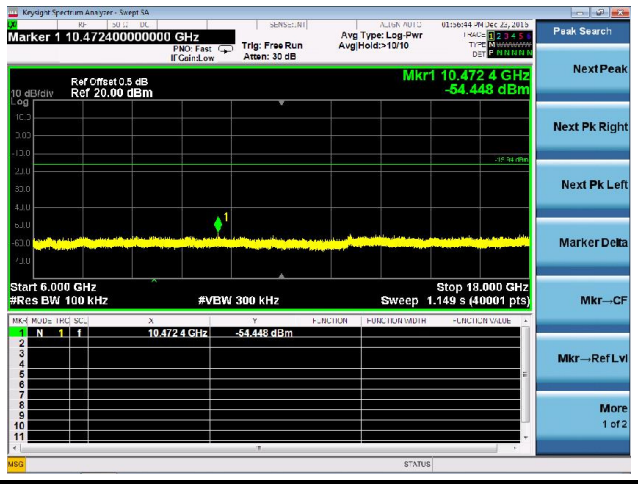


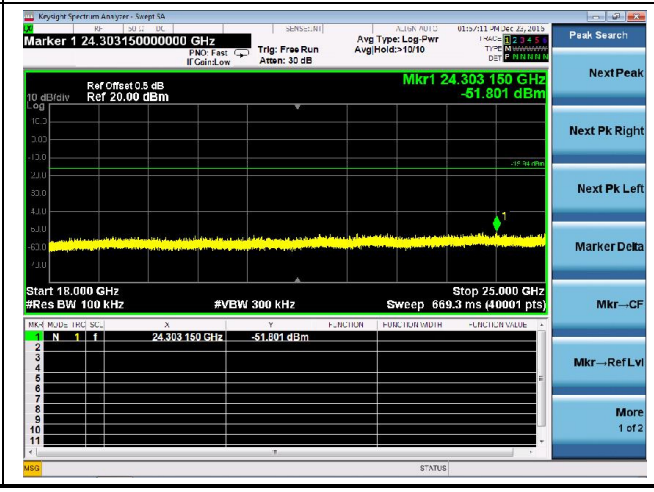
2DH5 Conducted Spurious Emissions

Channel 78 (2480MHz)



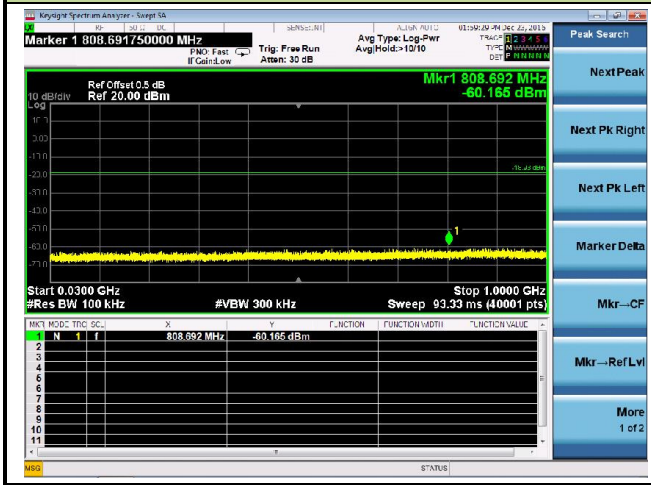


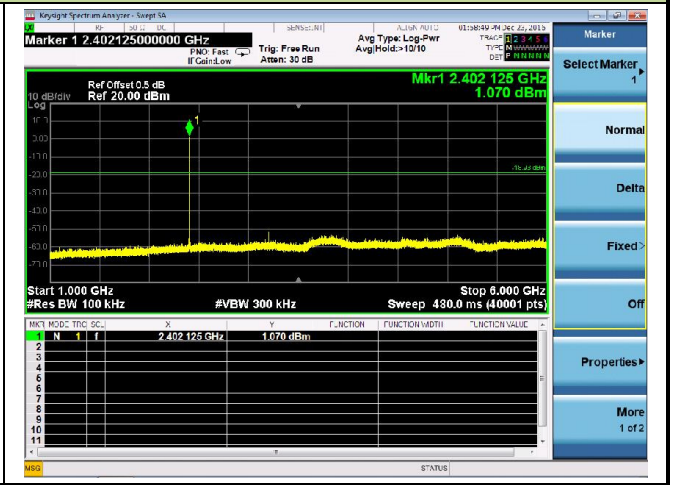


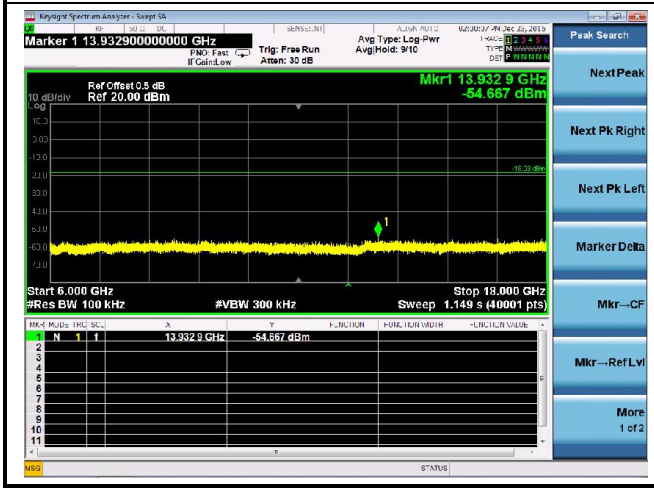


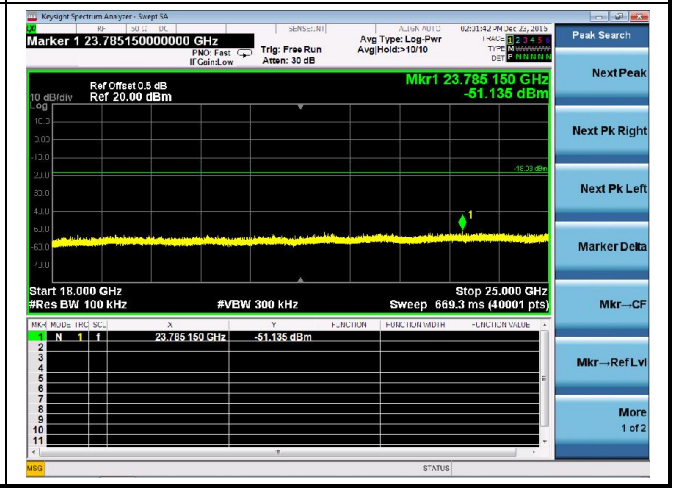
3DH5 Conducted Spurious Emissions

Channel 00 (2402MHz)



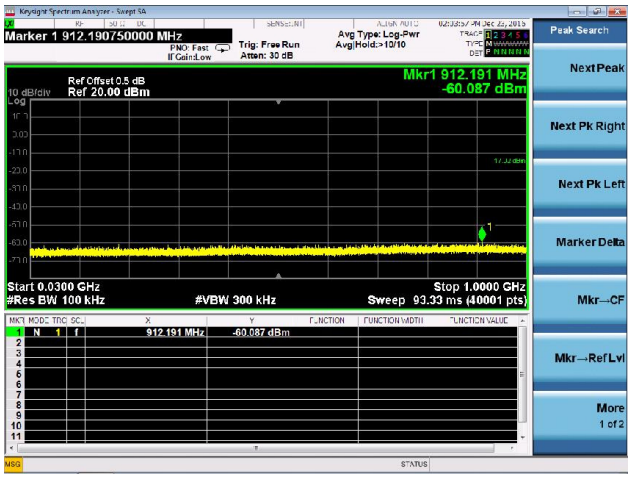


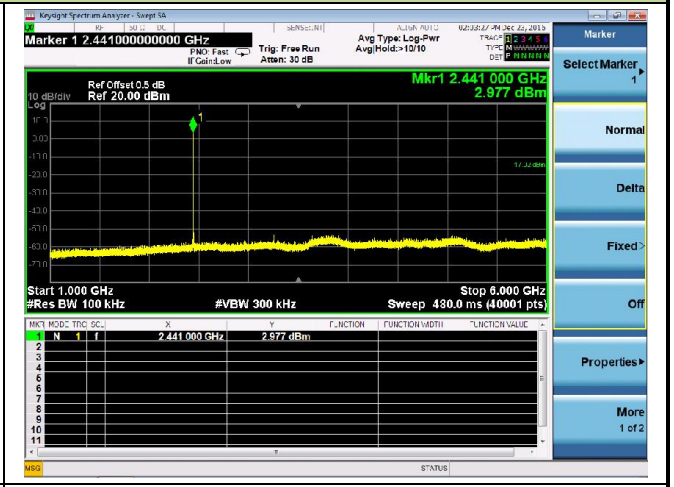


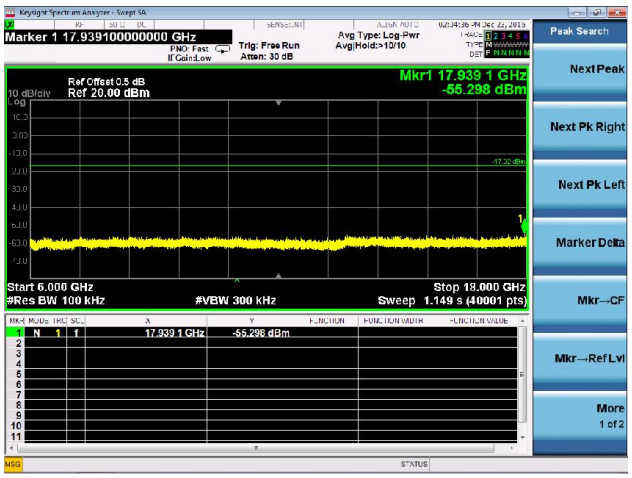


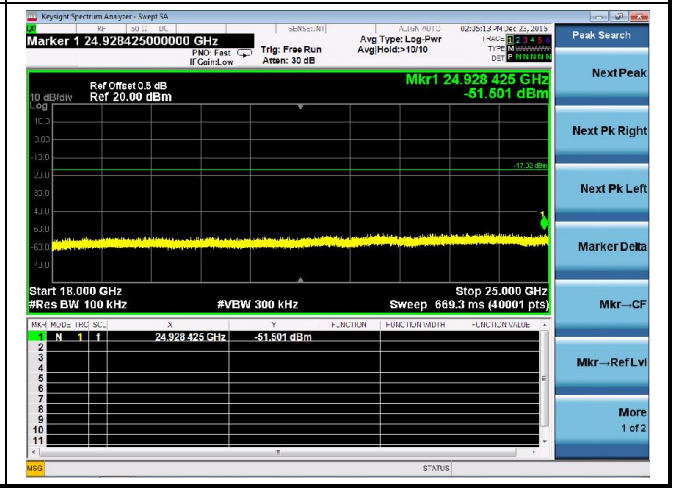
3DH5 Conducted Spurious Emissions

Channel 39 (2441MHz)



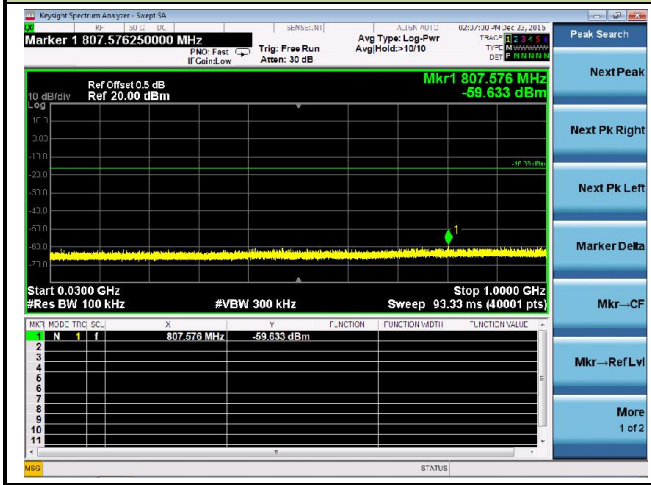


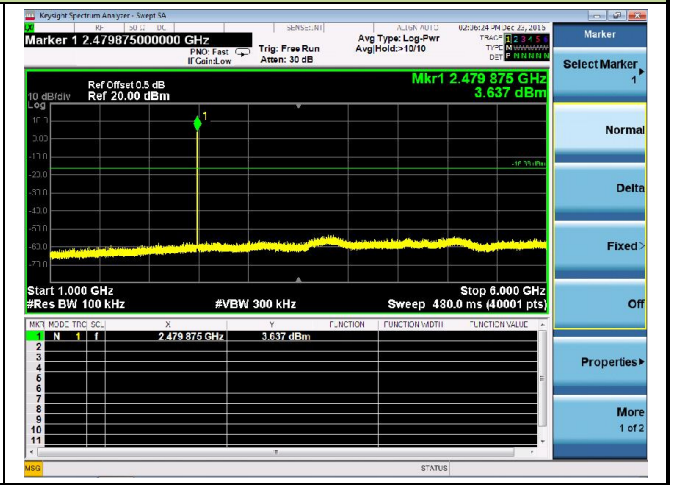


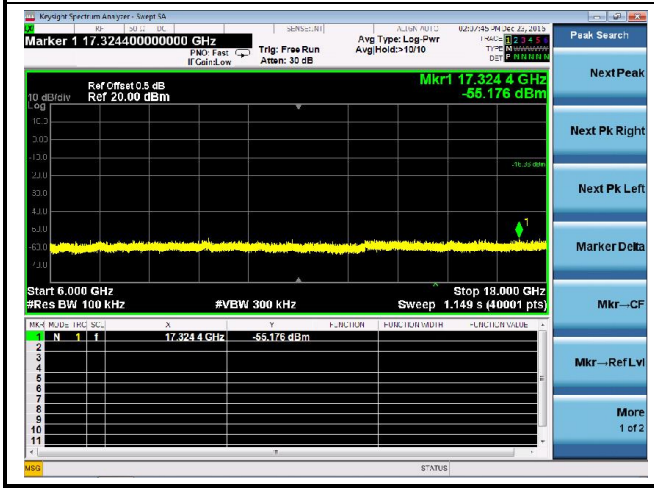


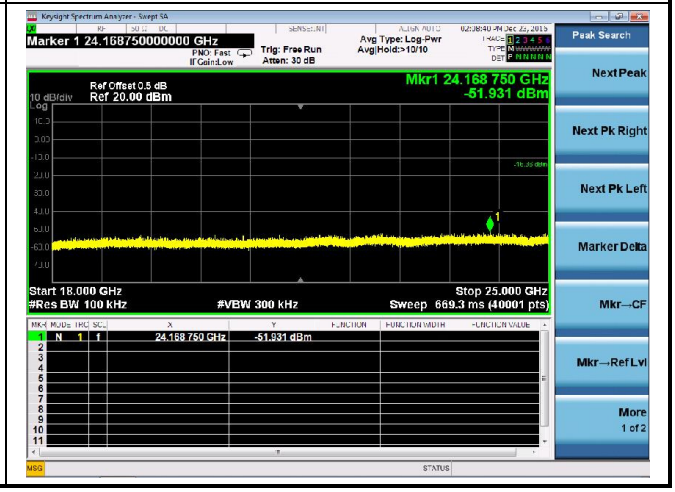
3DH5 Conducted Spurious Emissions

Channel 78 (2480MHz)









7.9. Radiated Spurious Emission Measurement

7.9.1. 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

7.9.2. Test Procedure Used

ANSI C63.10-2013 - Section 11.12.1

7.9.3. Test Setting

Peak Field Strength Measurements

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

Table 1 - RBW as a function of frequency

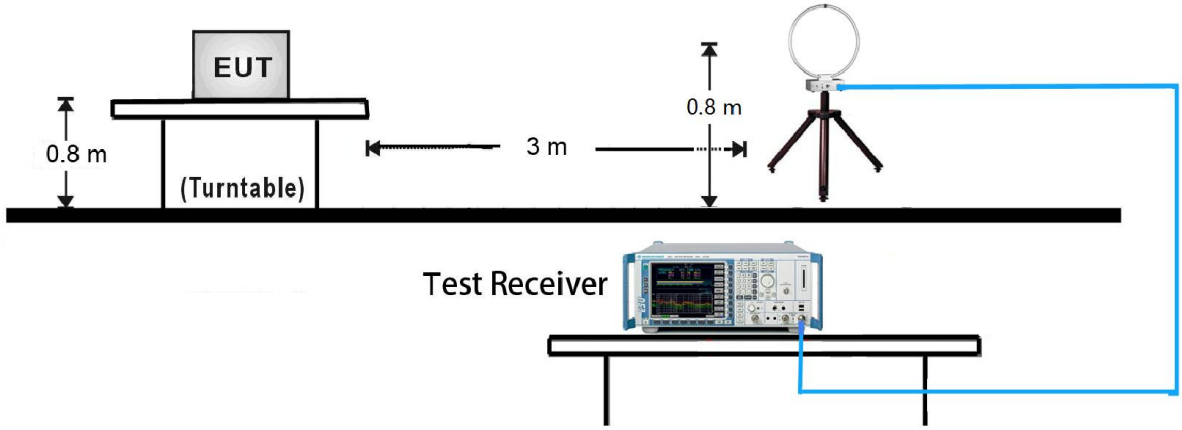
Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz
> 1000 MHz	1 MHz

Average Field Strength Measurements

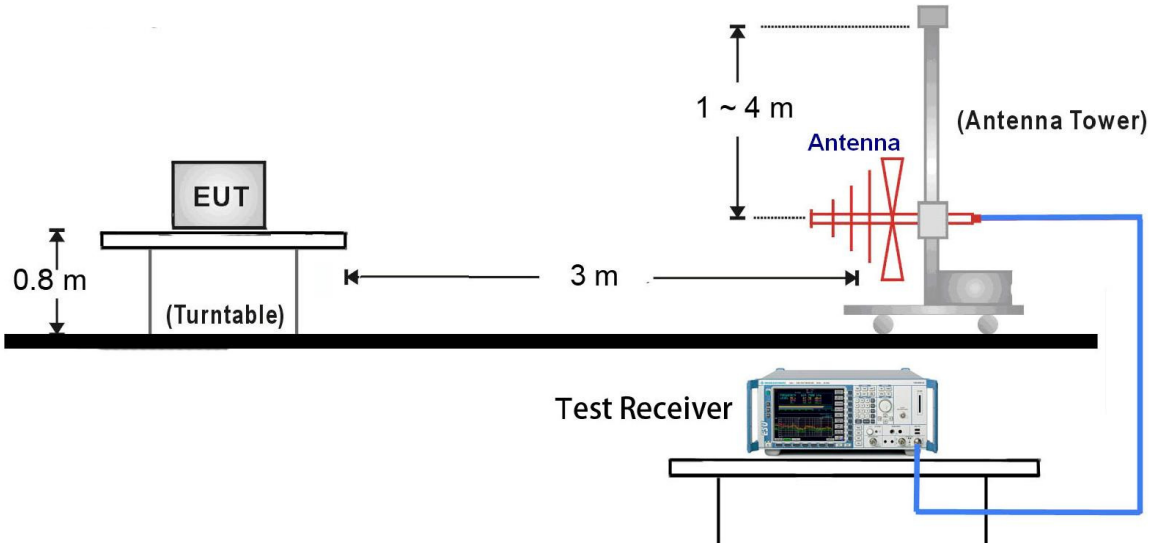
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW ≥ 1/T
4. De As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to “Voltage” regardless of the display mode
5. Detector = Peak
6. Sweep time = auto
7. Trace mode = max hold
8. Allow max hold to run for at least 50 times (1/duty cycle) traces

7.9.4. Test Setup

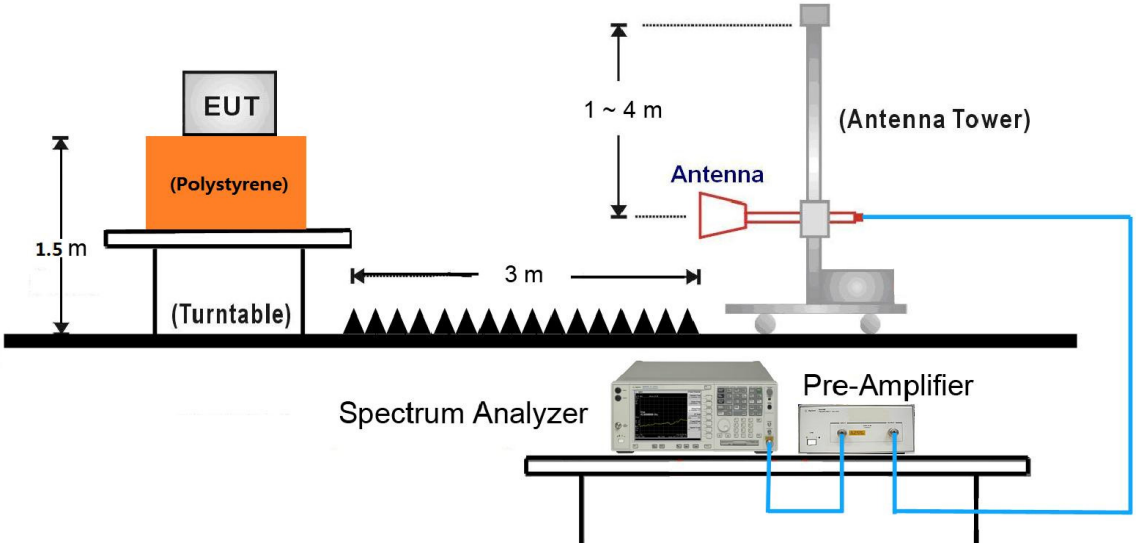
9kHz ~ 30MHz Test Setup:



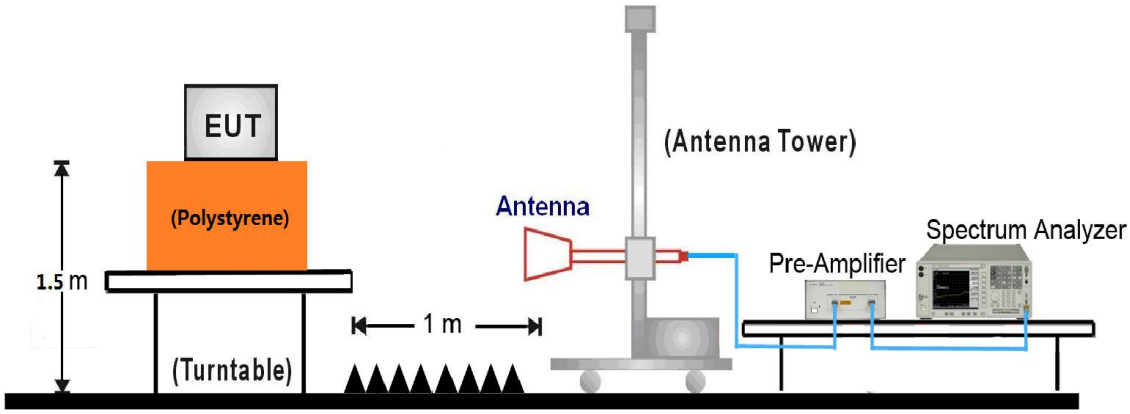
30MHz ~ 1GHz Test Setup:



1GHz ~ 18GHz Test Setup:



18GHz ~25GHz Test Setup:



7.9.5. Test Result

Remark: There are the ambient noise within frequency range 9 kHz ~ 30 MHz and 18GHz ~ 25GHz, the permissible value is not show in the report.

Test Mode:	DH5	Test Site:	AC2
Test Channel:	00	Test Engineer:	Bruce Wang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	3839.0	39.4	-0.6	38.8	74.0	-35.2	Peak	Horizontal
	4927.0	35.0	2.6	37.6	74.0	-36.4	Peak	Horizontal
*	6508.0	34.7	7.3	42.0	82.5	-40.5	Peak	Horizontal
*	9950.5	33.1	13.5	46.6	82.5	-35.9	Peak	Horizontal
	3907.0	36.1	-0.6	35.5	74.0	-38.5	Peak	Vertical
	4935.5	35.9	2.7	38.6	74.0	-35.4	Peak	Vertical
*	6508.0	33.8	7.3	41.1	82.5	-41.4	Peak	Vertical
*	9857.0	33.7	13.0	46.7	82.5	-35.8	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (102.5dBμV/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)

Test Mode:	DH5	Test Site:	AC2
Test channel:	39	Test Engineer:	Bruce Wang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	3839.0	38.1	-0.6	37.5	74.0	-36.5	Peak	Horizontal
	4884.5	40.1	2.7	42.8	74.0	-31.2	Peak	Horizontal
*	6797.0	34.5	7.9	42.4	85.4	-43.0	Peak	Horizontal
*	10129.0	33.3	13.6	46.9	85.4	-38.5	Peak	Horizontal
	3890.0	37.7	-0.6	37.1	74.0	-36.9	Peak	Vertical
	4884.5	37.1	2.7	39.8	74.0	-34.2	Peak	Vertical
*	6618.5	35.3	7.6	42.9	85.4	-42.5	Peak	Vertical
*	9882.5	33.3	13.3	46.6	85.4	-38.8	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (105.4BμV/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)

Test Mode:	DH5	Test Site:	AC2
Test channel:	78	Test Engineer:	Bruce Wang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	3839.0	38.8	-0.6	38.2	74.0	-35.8	Peak	Horizontal
	4961.0	43.9	2.7	46.6	74.0	-27.4	Peak	Horizontal
*	6678.0	33.6	7.7	41.3	84.6	-43.3	Peak	Horizontal
*	9882.5	32.6	13.3	45.9	84.6	-38.7	Peak	Horizontal
	3856.0	37.8	-0.6	37.2	74.0	-36.8	Peak	Vertical
	4961.0	40.6	2.7	43.3	74.0	-30.7	Peak	Vertical
*	6559.0	34.3	7.5	41.8	84.6	-42.8	Peak	Vertical
*	9942.0	33.4	13.3	46.7	84.6	-37.9	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (104.6dBμV/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)

Test Mode:	2DH5	Test Site:	AC2
Test channel:	00	Test Engineer:	Bruce Wang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	3924.0	38.0	-0.7	37.3	74.0	-36.7	Peak	Horizontal
	4808.0	36.5	2.7	39.2	74.0	-34.8	Peak	Horizontal
*	6491.0	33.8	7.3	41.1	82.1	-41.0	Peak	Horizontal
*	10120.5	33.7	13.5	47.2	82.1	-34.9	Peak	Horizontal
	3890.0	35.6	-0.6	35.0	74.0	-39.0	Peak	Vertical
	4876.0	34.3	2.6	36.9	74.0	-37.1	Peak	Vertical
*	6712.0	34.0	7.7	41.7	82.1	-40.4	Peak	Vertical
*	10001.5	30.3	13.5	43.8	82.1	-38.3	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (102.1dBμV/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)

Test Mode:	2DH5	Test Site:	AC2
Test channel:	39	Test Engineer:	Bruce Wang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	3839.0	38.3	-0.6	37.7	74.0	-36.3	Peak	Horizontal
	4884.5	37.6	2.7	40.3	74.0	-33.7	Peak	Horizontal
*	6678.0	35.2	7.7	42.9	86.7	-43.8	Peak	Horizontal
*	9916.5	33.3	13.4	46.7	86.7	-40.0	Peak	Horizontal
	3839.0	37.7	-0.6	37.1	74.0	-36.9	Peak	Vertical
	4884.5	35.7	2.7	38.4	74.0	-35.6	Peak	Vertical
*	6508.0	33.5	7.3	40.8	86.7	-45.9	Peak	Vertical
*	9763.5	33.2	12.8	46.0	86.7	-40.7	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (106.7dBμV/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)

Test Mode:	2DH5	Test Site:	AC2
Test channel:	78	Test Engineer:	Bruce Wang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	3839.0	38.6	-0.6	38.0	74.0	-36.0	Peak	Horizontal
	4961.0	39.6	2.7	42.3	74.0	-31.7	Peak	Horizontal
*	6576.0	34.0	7.5	41.5	85.1	-43.6	Peak	Horizontal
*	9848.5	33.4	13.3	46.7	85.1	-38.4	Peak	Horizontal
	3915.5	37.3	-0.6	36.7	74.0	-37.3	Peak	Vertical
	4961.0	37.5	2.7	40.2	74.0	-33.8	Peak	Vertical
*	6533.5	34.1	7.3	41.4	85.1	-43.7	Peak	Vertical
*	10061.0	33.6	13.7	47.3	85.1	-37.8	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (105.1dBμV/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)

Test Mode:	3DH5	Test Site:	AC2
Test channel:	00	Test Engineer:	Bruce Wang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	3839.0	38.9	-0.6	38.3	74.0	-35.7	Peak	Horizontal
	4799.5	37.0	2.8	39.8	74.0	-34.2	Peak	Horizontal
*	6746.0	35.8	7.5	43.3	81.6	-38.3	Peak	Horizontal
*	10188.5	33.6	14.1	47.7	81.6	-33.9	Peak	Horizontal
	3932.5	37.1	-0.7	36.4	74.0	-37.6	Peak	Vertical
	4893.0	35.1	2.7	37.8	74.0	-36.2	Peak	Vertical
*	6635.5	34.4	7.6	42.0	81.6	-39.6	Peak	Vertical
*	9848.5	33.5	13.3	46.8	81.6	-34.8	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)

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

Test Mode:	3DH5	Test Site:	AC2
Test channel:	39	Test Engineer:	Bruce Wang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	3924.0	37.9	-0.7	37.2	74.0	-36.8	Peak	Horizontal
	4884.5	37.1	2.7	39.8	74.0	-34.2	Peak	Horizontal
*	6474.0	34.8	7.1	41.9	84.8	-42.9	Peak	Horizontal
*	10027.0	33.8	13.1	46.9	84.8	-37.9	Peak	Horizontal
	3924.0	37.5	-0.7	36.8	74.0	-37.2	Peak	Vertical
	4884.5	35.4	2.7	38.1	74.0	-35.9	Peak	Vertical
*	6584.5	34.1	7.5	41.6	84.8	-43.2	Peak	Vertical
*	9891.0	33.5	13.2	46.7	84.8	-38.1	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (104.8dBμV/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)

Test Mode:	3DH5	Test Site:	AC2
Test channel:	78	Test Engineer:	Bruce Wang
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	3839.0	37.7	-0.6	37.1	74.0	-36.9	Peak	Horizontal
	4961.0	40.5	2.7	43.2	74.0	-30.8	Peak	Horizontal
*	6644.0	34.1	7.7	41.8	83.9	-42.1	Peak	Horizontal
*	9644.5	33.3	12.7	46.0	83.9	-37.9	Peak	Horizontal
	3881.5	36.8	-0.6	36.2	74.0	-37.8	Peak	Vertical
	4961.0	37.7	2.7	40.4	74.0	-33.6	Peak	Vertical
*	6516.5	34.7	7.4	42.1	83.9	-41.8	Peak	Vertical
*	10001.5	32.9	13.5	46.4	83.9	-37.5	Peak	Vertical

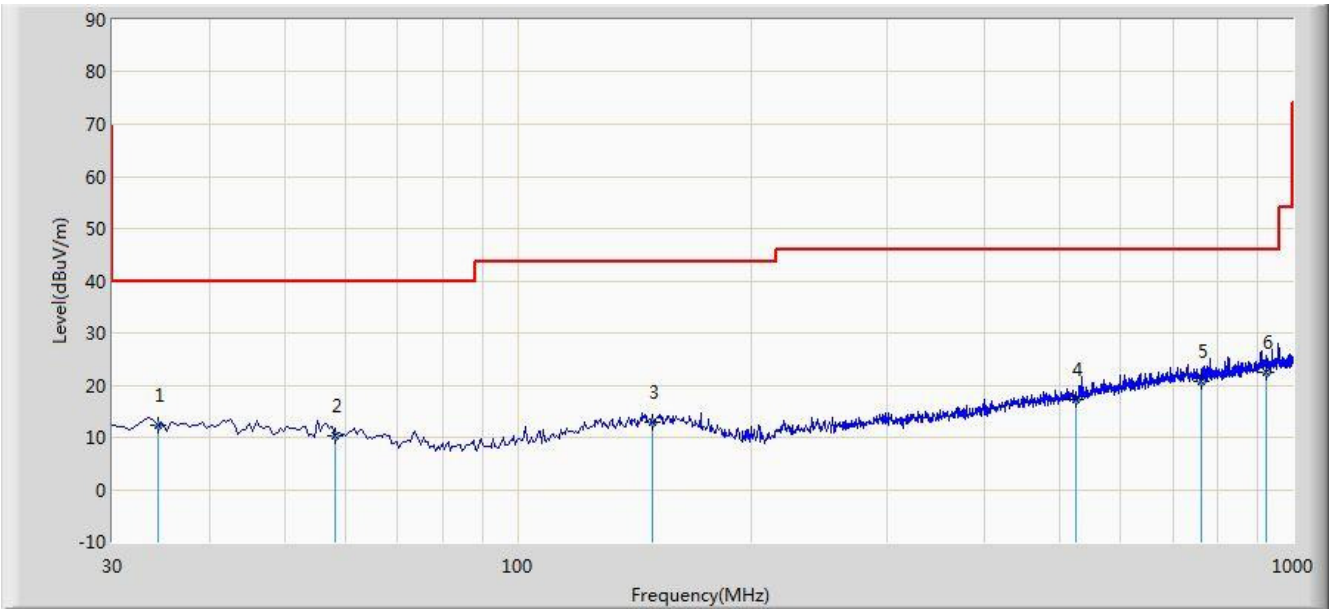
Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (103.9dBμV/m) or 15.209 which is higher.

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: AC2	Time: 2016/12/28 - 11:10
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang
Probe: VULB9162_0.03-8GHz	Polarity: Horizontal
EUT: MID	Power: By Battery
Worst Case Mode: Transmit at Channel 2402MHz by 2DH5	

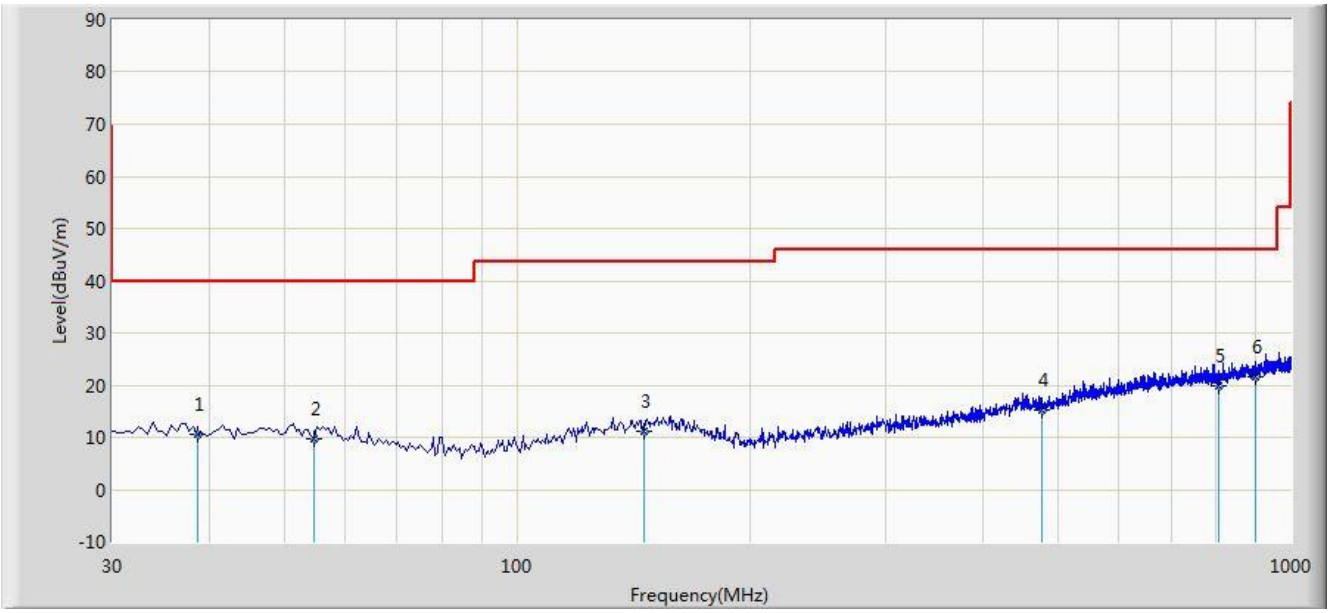


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		34.365	12.174	-1.633	-27.826	40.000	13.807	QP
2		58.130	10.393	-3.101	-29.607	40.000	13.494	QP
3		149.310	12.794	-2.316	-30.706	43.500	15.110	QP
4		525.185	17.327	-1.662	-28.673	46.000	18.989	QP
5		760.410	20.847	-2.010	-25.153	46.000	22.857	QP
6	*	925.795	22.416	-2.298	-23.584	46.000	24.714	QP

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

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

Site: AC2	Time: 2016/12/28 - 11:21
Limit: FCC_Part15.209_RE(3m)	Engineer: Bruce Wang
Probe: VULB9162_0.03-8GHz	Polarity: Vertical
EUT: MID	Power: By Battery
Worst Case Mode: Transmit at Channel 2402MHz by 2DH5	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		38.730	10.480	-3.890	-29.520	40.000	14.370	QP
2		54.735	9.776	-3.956	-30.224	40.000	13.732	QP
3		145.915	11.206	-3.699	-32.294	43.500	14.905	QP
4		477.655	15.128	-3.012	-30.872	46.000	18.140	QP
5		805.030	19.940	-3.330	-26.060	46.000	23.270	QP
6	*	900.575	21.521	-2.838	-24.479	46.000	24.358	QP

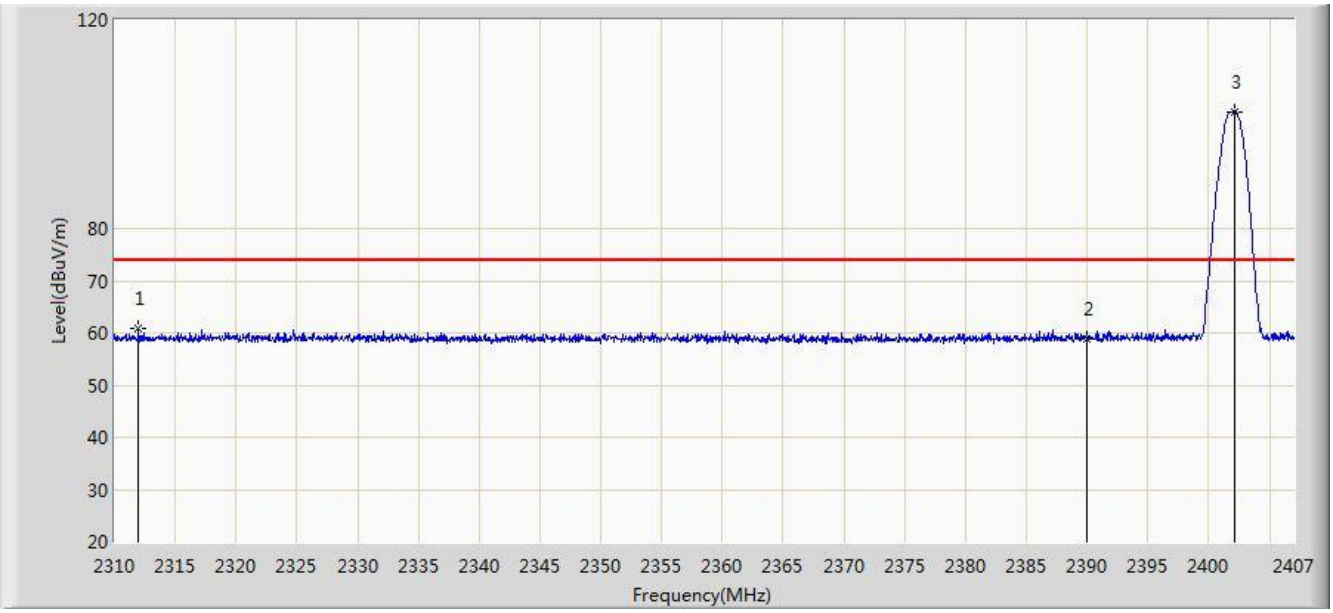
Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

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

7.10. Radiated Restricted Band Edge Measurement

7.10.1. Test Result

Site: AC2	Time: 2016/12/24 - 12:13
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by DH5 at Channel 2402MHz	

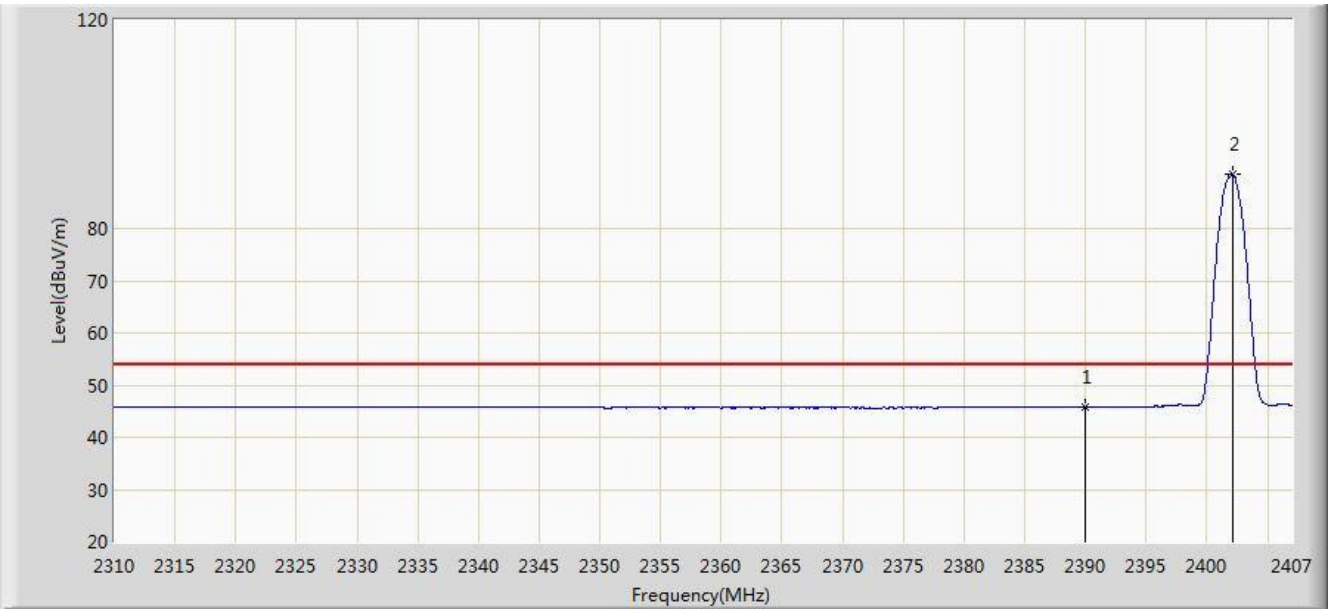


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2311.989	60.917	28.481	-13.083	74.000	32.436	PK
2			2390.000	58.772	26.494	-15.228	74.000	32.278	PK
3		*	2402.102	102.463	70.190	N/A	N/A	32.273	PK

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

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

Site: AC2	Time: 2016/12/24 - 12:16
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by DH5 at Channel 2402MHz	

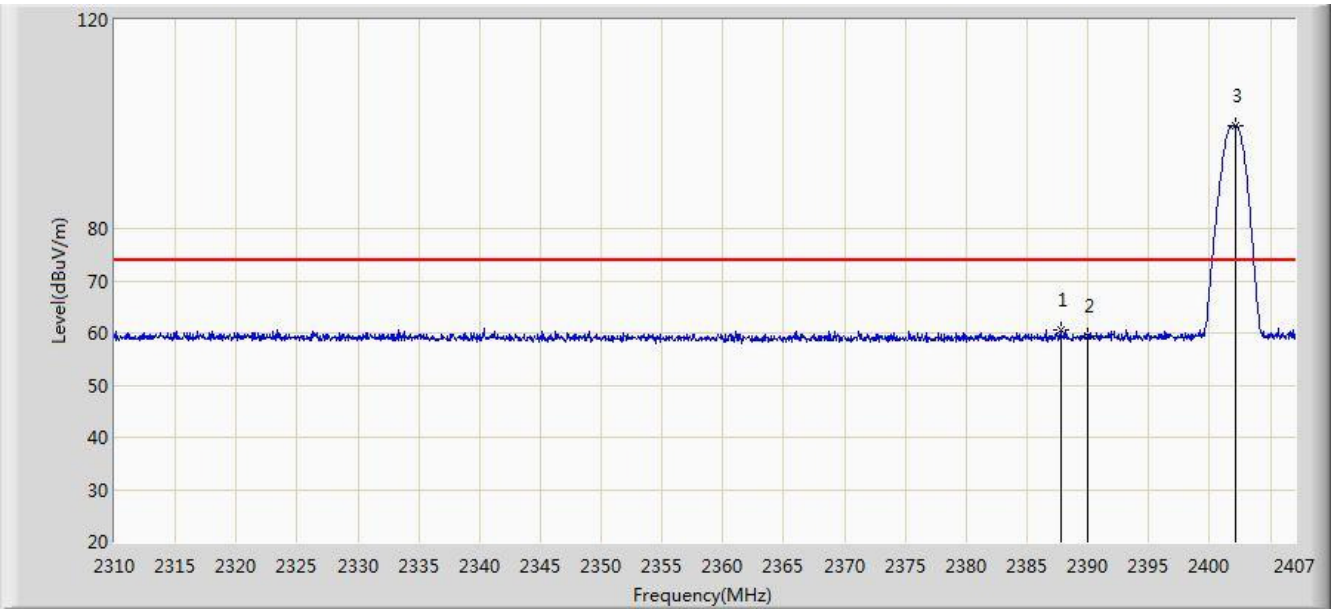


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	45.840	13.562	-8.160	54.000	32.278	AV
2		*	2402.102	90.438	58.165	N/A	N/A	32.273	AV

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

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

Site: AC2	Time: 2016/12/24 - 12:17
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by DH5 at Channel 2402MHz	

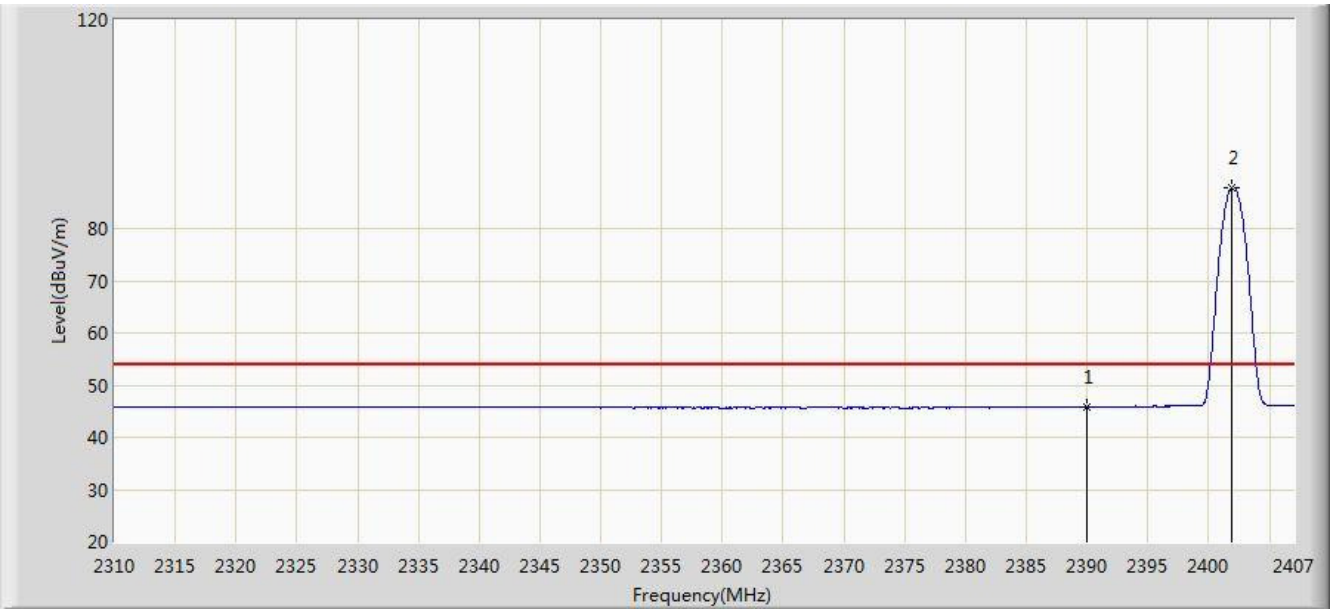


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2387.746	60.449	28.183	-13.551	74.000	32.266	PK
2			2390.000	59.435	27.157	-14.565	74.000	32.278	PK
3		*	2402.150	99.664	67.391	N/A	N/A	32.273	PK

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

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

Site: AC2	Time: 2016/12/24 - 12:18
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by DH5 at Channel 2402MHz	

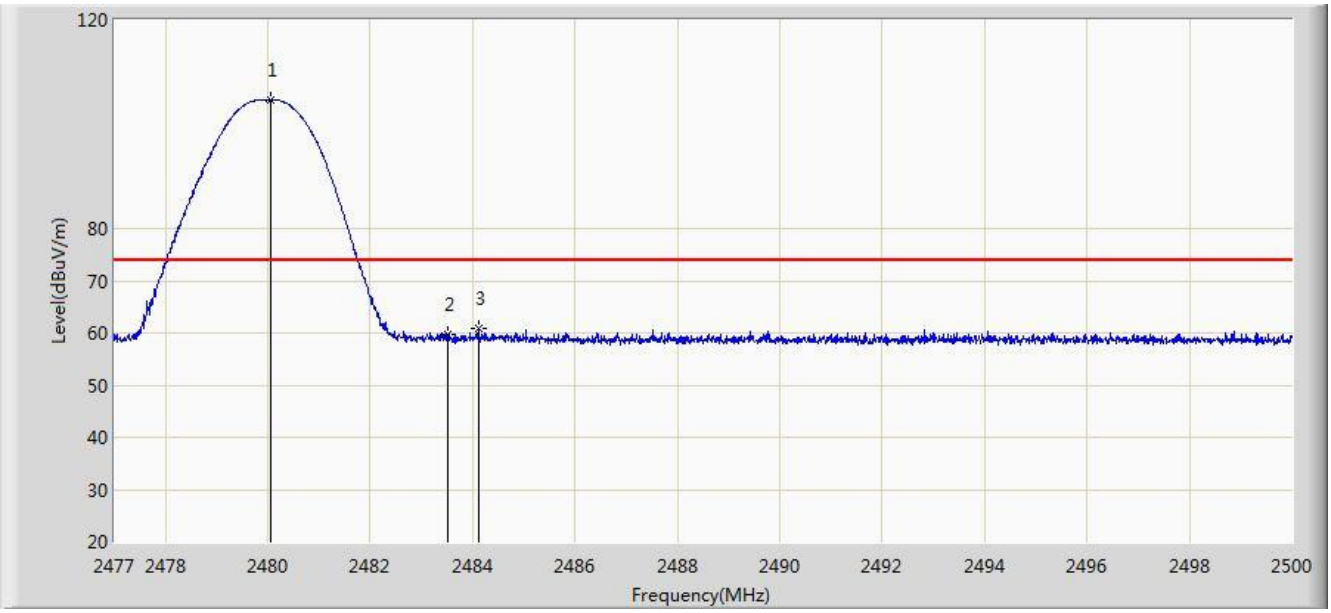


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	45.804	13.526	-8.196	54.000	32.278	AV
2		*	2401.907	87.929	55.655	N/A	N/A	32.274	AV

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

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

Site: AC2	Time: 2016/12/24 - 12:22
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by DH5 at Channel 2480MHz	

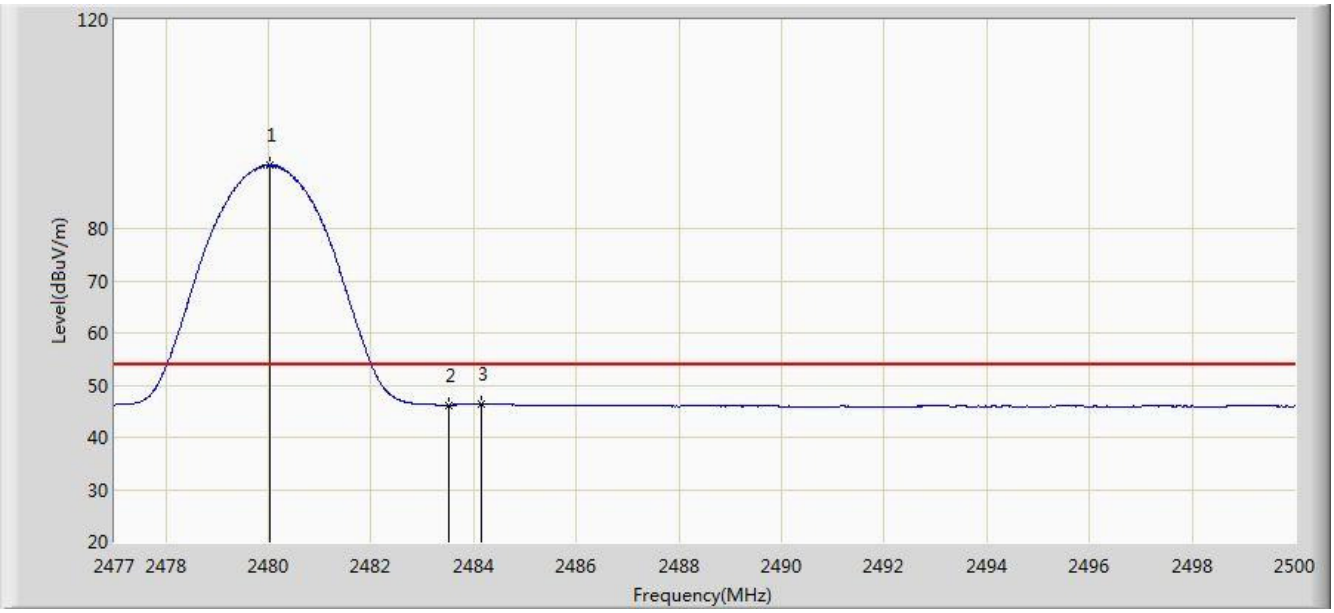


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2480.059	104.578	72.309	N/A	N/A	32.269	PK
2			2483.500	59.629	27.348	-14.371	74.000	32.282	PK
3			2484.118	60.728	28.445	-13.272	74.000	32.284	PK

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

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

Site: AC2	Time: 2016/12/24 - 12:26
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by DH5 at Channel 2480MHz	

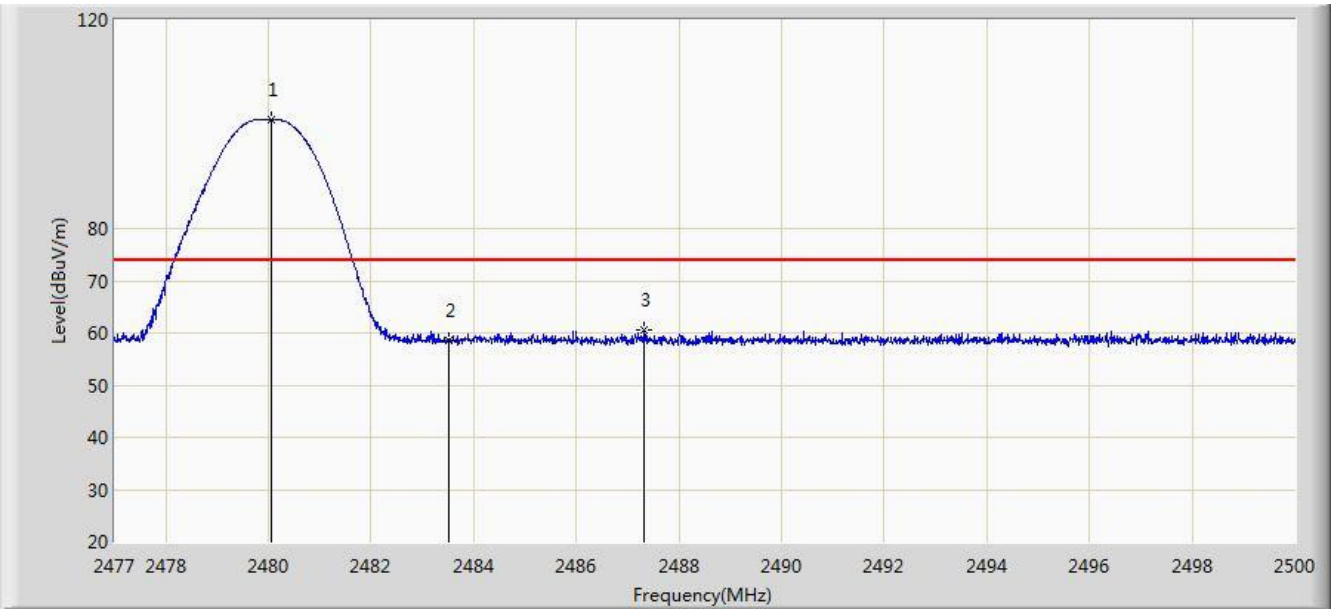


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2480.024	92.111	59.842	N/A	N/A	32.269	AV
2			2483.500	46.207	13.926	-7.793	54.000	32.282	AV
3			2484.142	46.396	14.113	-7.604	54.000	32.284	AV

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

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

Site: AC2	Time: 2016/12/24 - 12:27
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by DH5 at Channel 2480MHz	

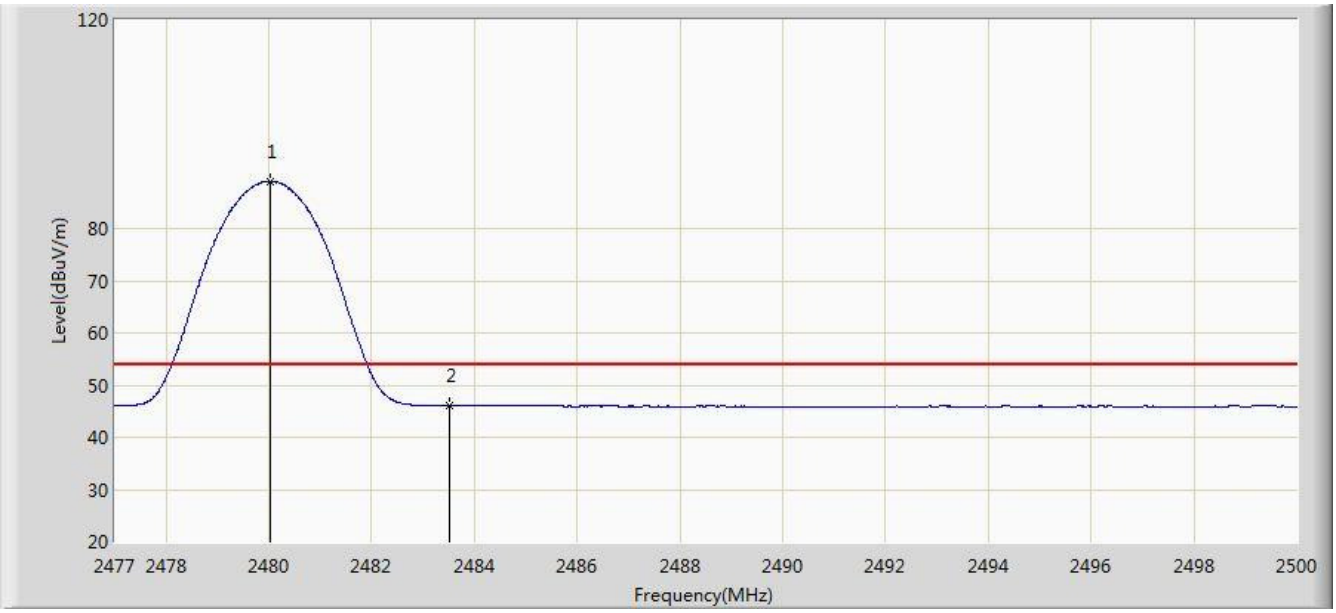


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2480.059	100.916	68.647	N/A	N/A	32.269	PK
2			2483.500	58.463	26.182	-15.537	74.000	32.282	PK
3			2487.327	60.554	28.260	-13.446	74.000	32.295	PK

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

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

Site: AC2	Time: 2016/12/24 - 12:28
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by DH5 at Channel 2480MHz	

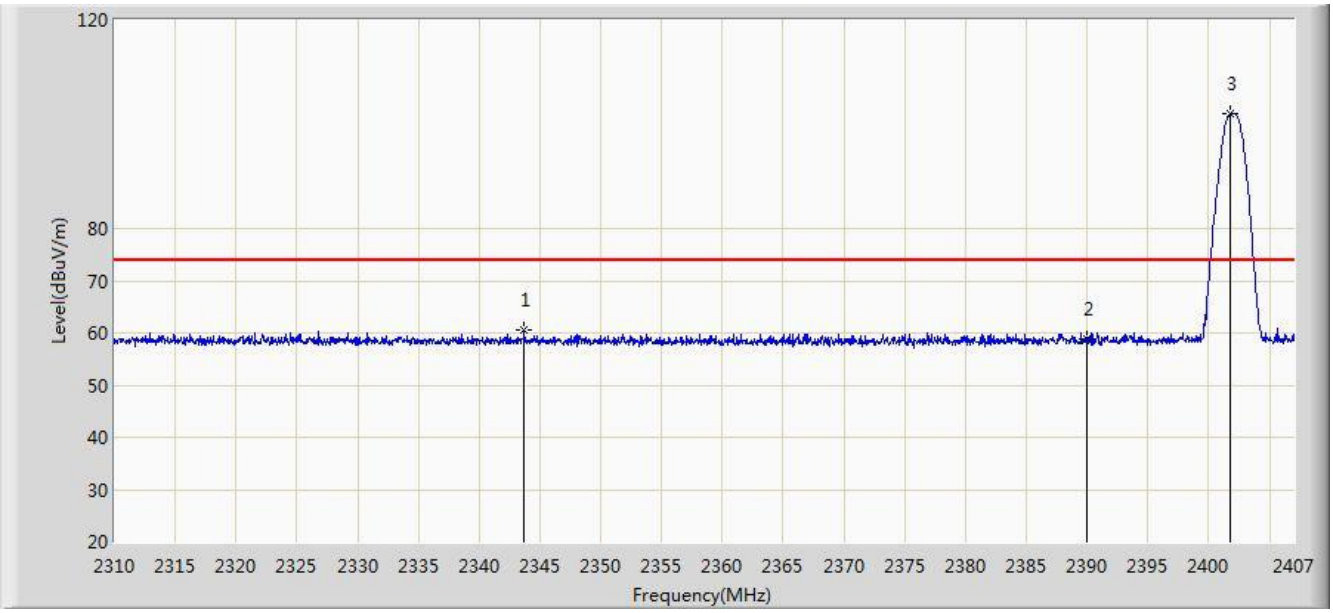


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2480.024	89.071	56.802	N/A	N/A	32.269	AV
2			2483.500	46.043	13.762	-7.957	54.000	32.282	AV

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

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

Site: AC2	Time: 2016/12/24 - 12:28
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 2DH5 at Channel 2402MHz	

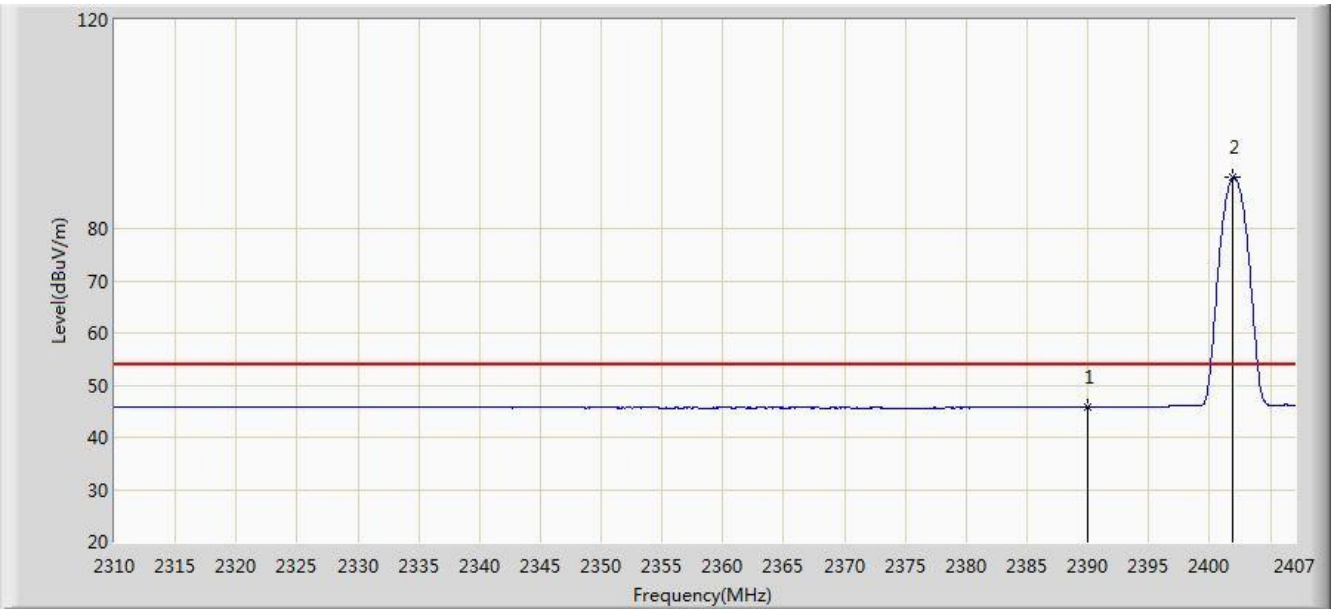


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2343.659	60.538	28.237	-13.462	74.000	32.300	PK
2			2390.000	58.726	26.448	-15.274	74.000	32.278	PK
3		*	2401.811	102.055	69.781	N/A	N/A	32.274	PK

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

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

Site: AC2	Time: 2016/12/24 - 14:18
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 2DH5 at Channel 2402MHz	

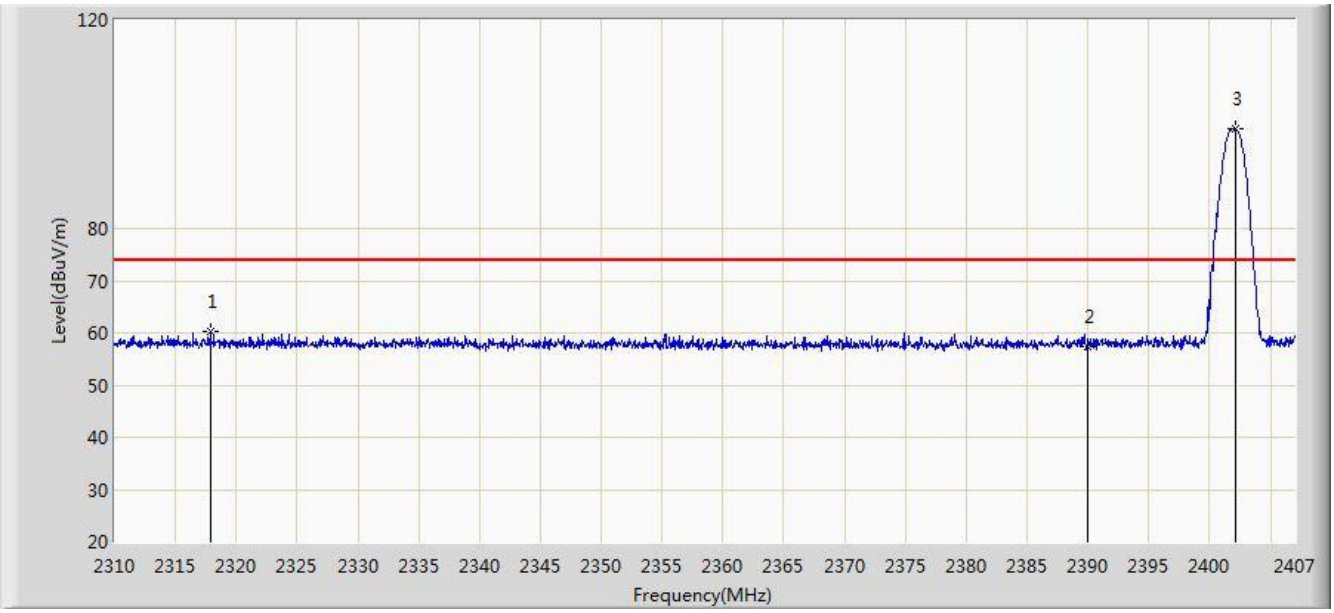


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	45.777	13.499	-8.223	54.000	32.278	AV
2		*	2401.907	89.781	57.507	N/A	N/A	32.274	AV

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

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

Site: AC2	Time: 2016/12/24 - 14:18
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 2DH5 at Channel 2402MHz	

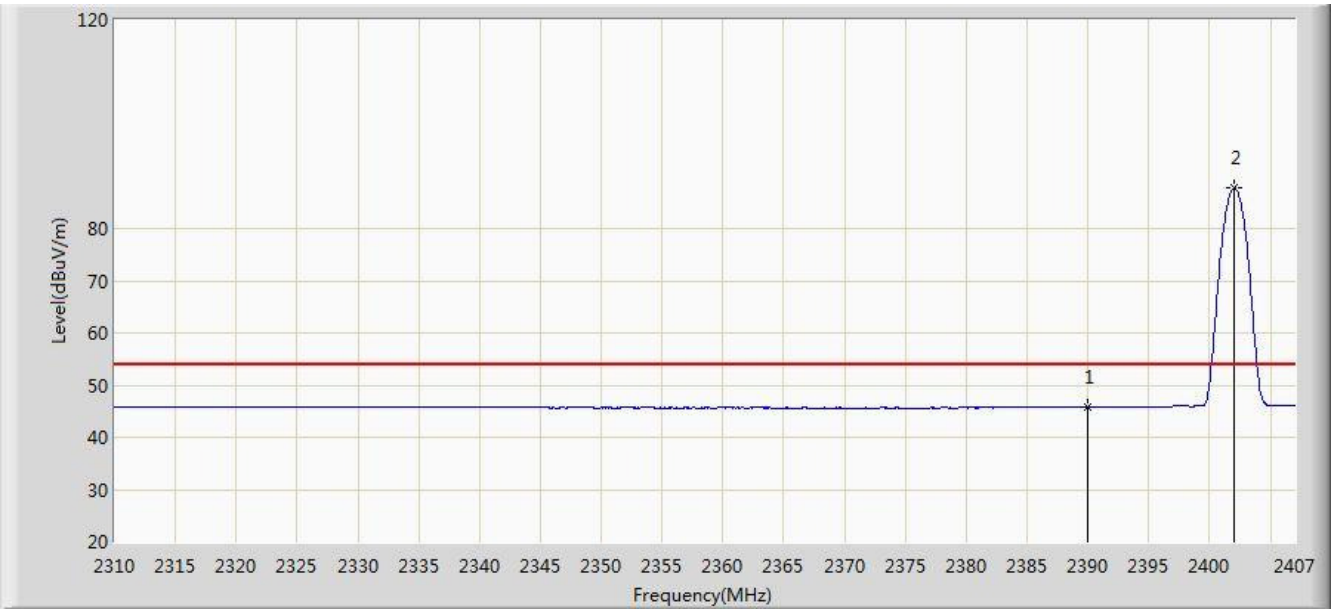


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2317.857	60.389	27.976	-13.611	74.000	32.413	PK
2			2390.000	57.329	25.051	-16.671	74.000	32.278	PK
3		*	2402.150	99.048	66.775	N/A	N/A	32.273	PK

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

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

Site: AC2	Time: 2016/12/24 - 14:19
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 2DH5 at Channel 2402MHz	

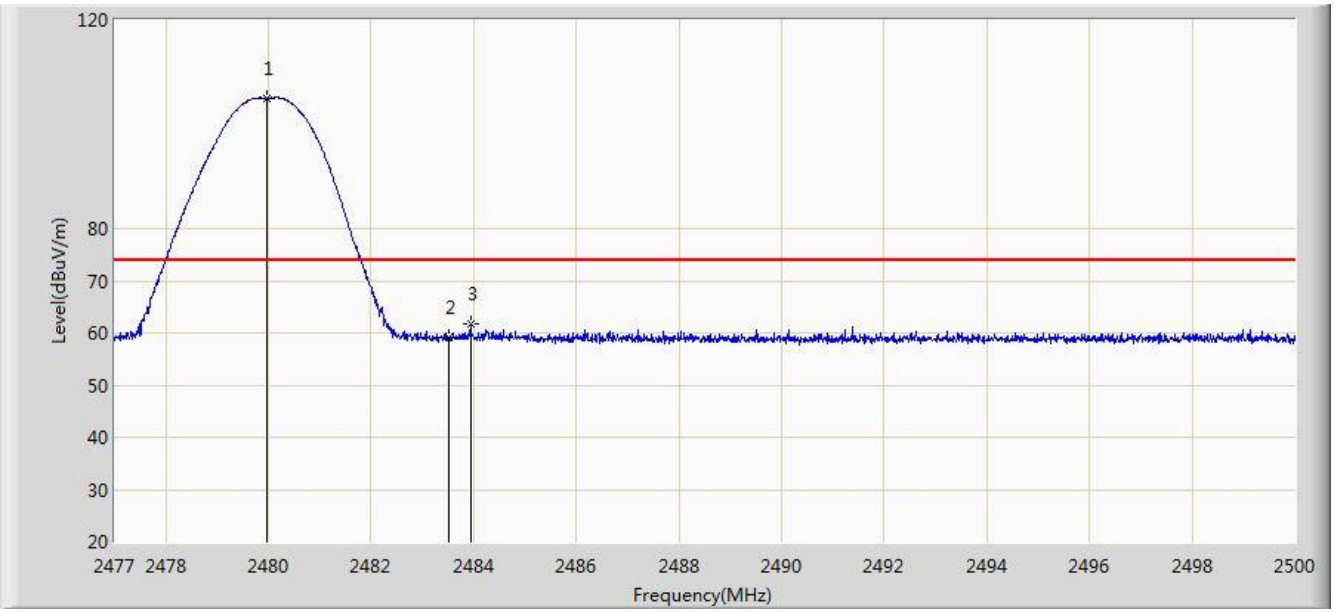


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	45.782	13.504	-8.218	54.000	32.278	AV
2		*	2401.956	87.738	55.464	N/A	N/A	32.274	AV

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

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

Site: AC2	Time: 2016/12/24 - 14:22
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 2DH5 at Channel 2480MHz	

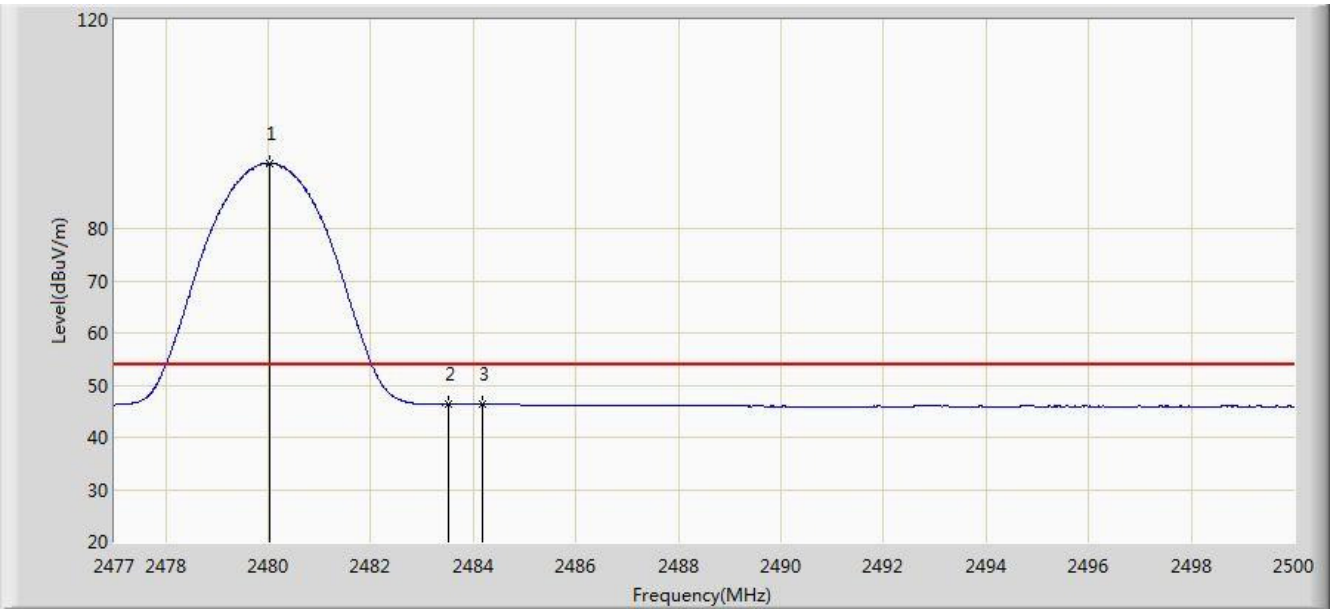


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2479.956	105.056	72.787	N/A	N/A	32.269	PK
2			2483.500	59.095	26.814	-14.905	74.000	32.282	PK
3			2483.935	61.782	29.499	-12.218	74.000	32.282	PK

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

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

Site: AC2	Time: 2016/12/24 - 14:25
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 2DH5 at Channel 2480MHz	

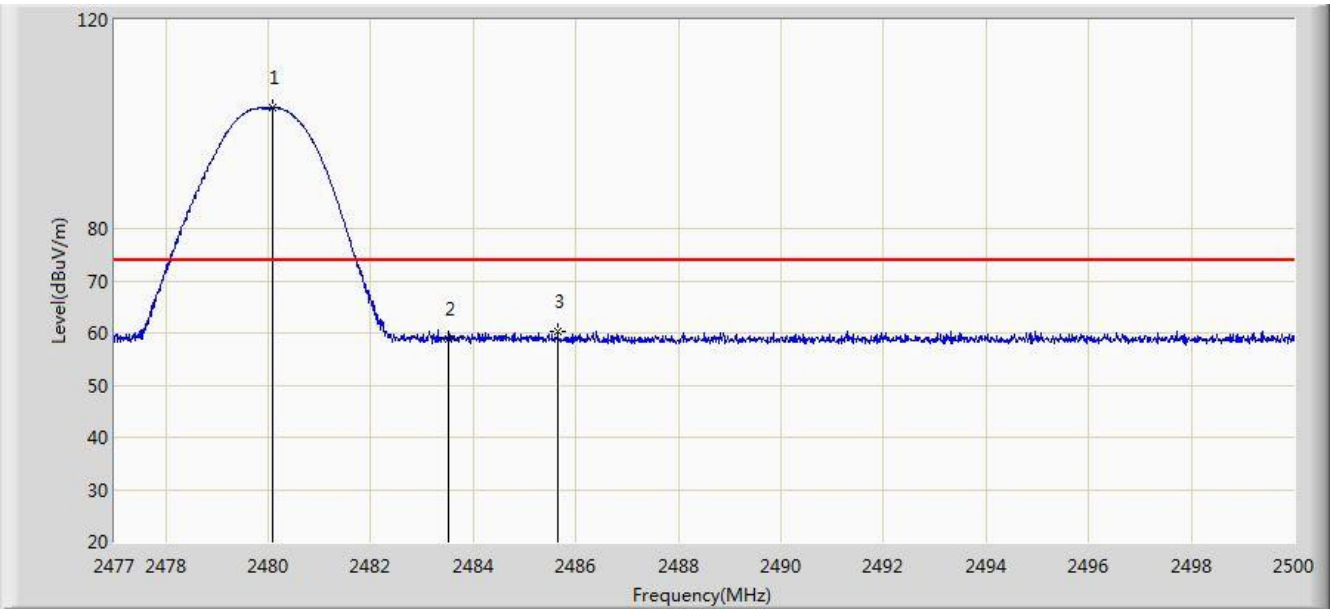


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2480.024	92.558	60.289	N/A	N/A	32.269	AV
2			2483.500	46.240	13.959	-7.760	54.000	32.282	AV
3			2484.176	46.465	14.181	-7.535	54.000	32.284	AV

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

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

Site: AC2	Time: 2016/12/24 - 14:25
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 2DH5 at Channel 2480MHz	

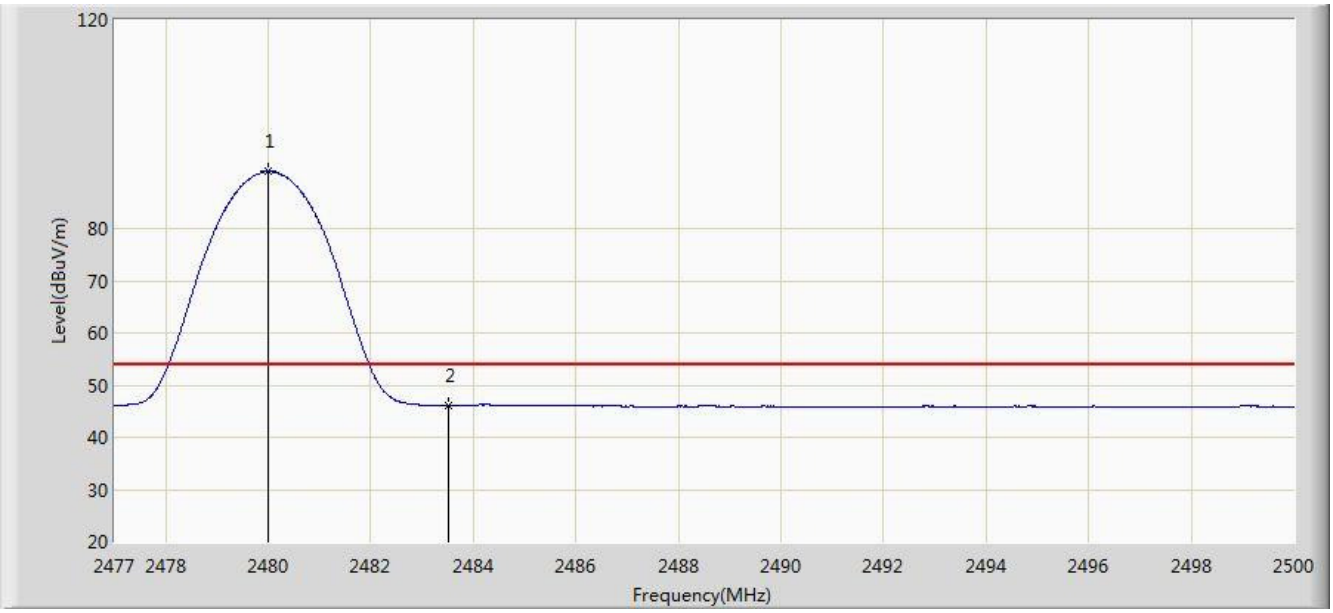


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2480.094	103.095	70.826	N/A	N/A	32.269	PK
2			2483.500	58.869	26.588	-15.131	74.000	32.282	PK
3			2485.648	60.171	27.882	-13.829	74.000	32.288	PK

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

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

Site: AC2	Time: 2016/12/24 - 14:27
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 2DH5 at Channel 2480MHz	

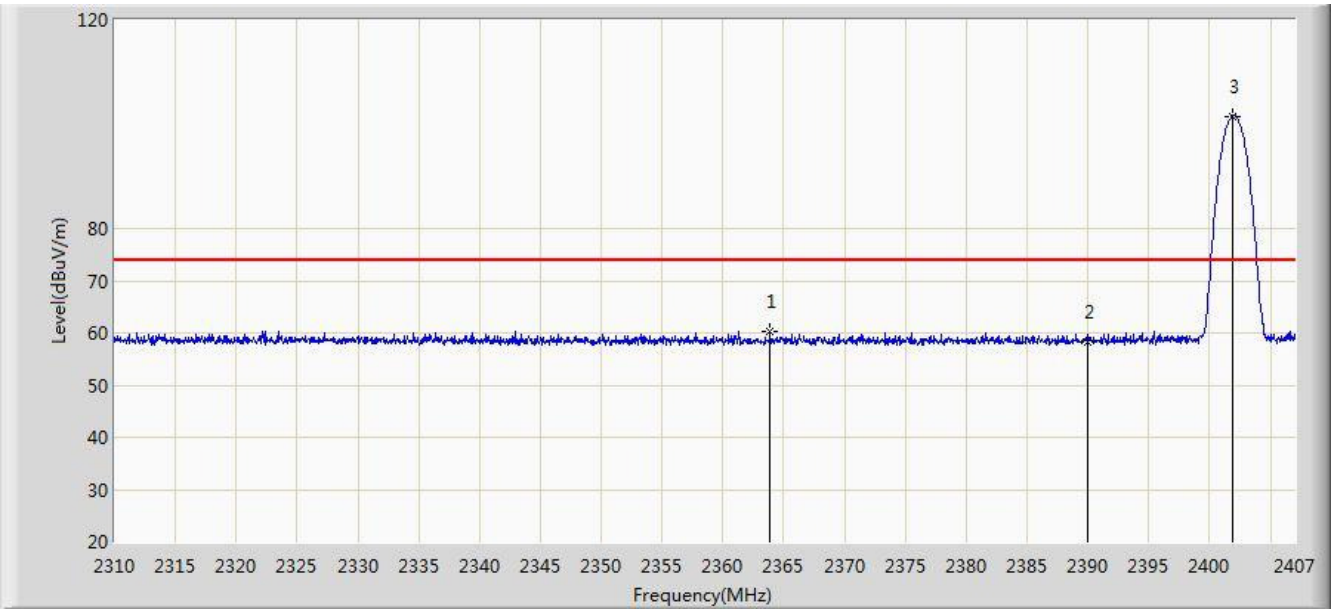


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2479.990	90.926	58.657	N/A	N/A	32.269	AV
2			2483.500	46.107	13.826	-7.893	54.000	32.282	AV

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

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

Site: AC2	Time: 2016/12/24 - 14:28
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 3DH5 at Channel 2402MHz	

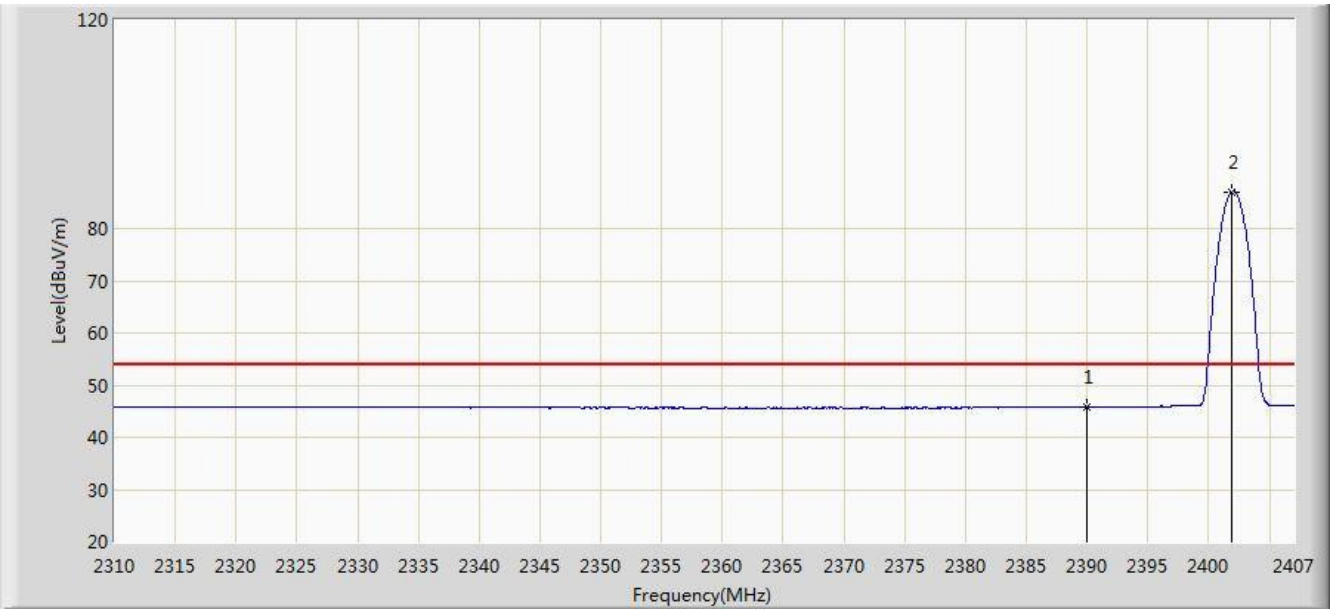


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2363.884	60.212	27.972	-13.788	74.000	32.240	PK
2			2390.000	58.373	26.095	-15.627	74.000	32.278	PK
3		*	2401.859	101.565	69.291	N/A	N/A	32.274	PK

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

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

Site: AC2	Time: 2016/12/24 - 14:31
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 3DH5 at Channel 2402MHz	

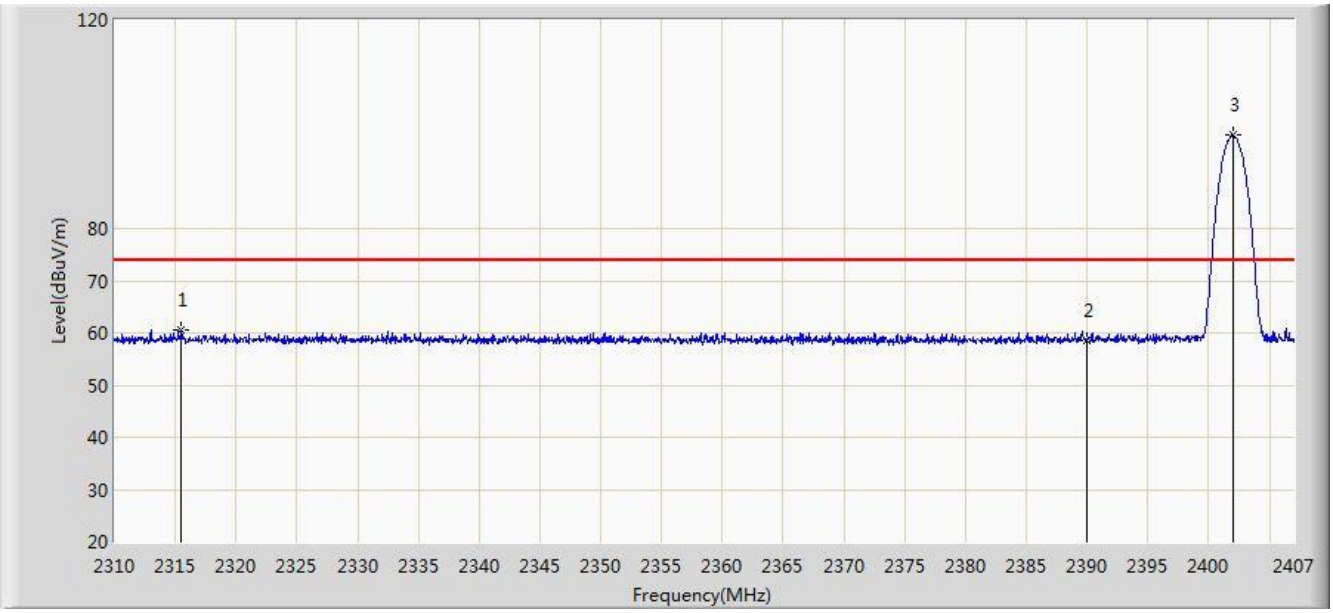


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	45.762	13.484	-8.238	54.000	32.278	AV
2		*	2401.859	87.009	54.735	N/A	N/A	32.274	AV

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

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

Site: AC2	Time: 2016/12/24 - 14:32
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 3DH5 at Channel 2402MHz	

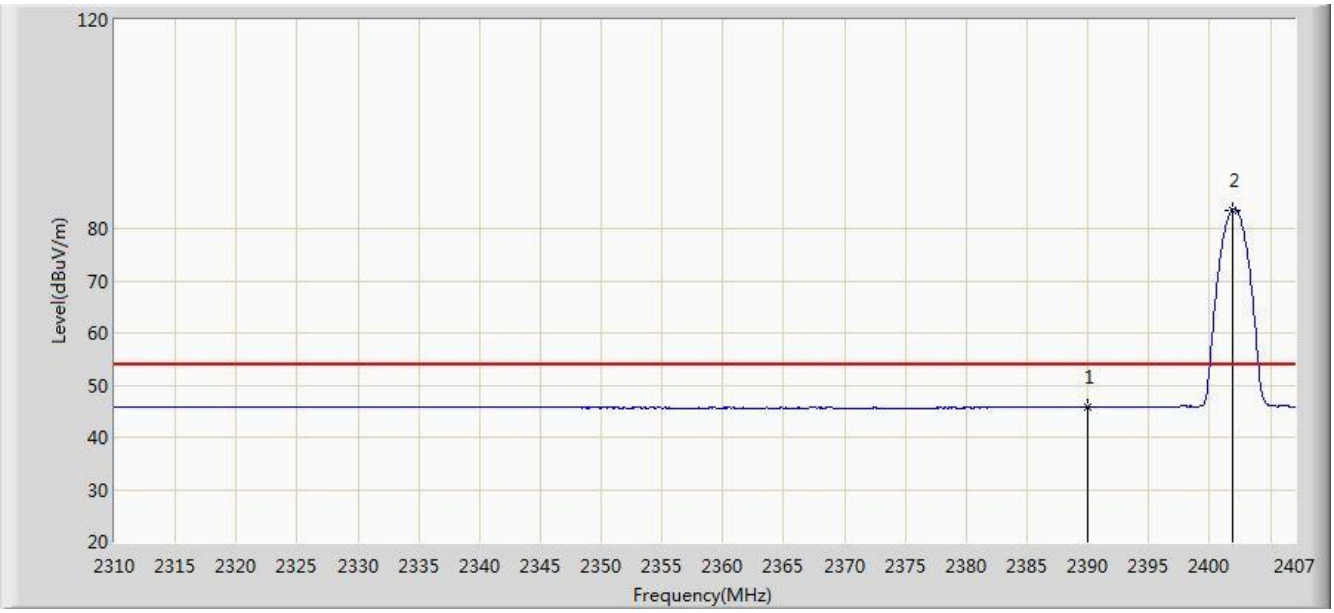


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2315.529	60.715	28.293	-13.285	74.000	32.422	PK
2			2390.000	58.553	26.275	-15.447	74.000	32.278	PK
3		*	2401.956	97.901	65.627	N/A	N/A	32.274	PK

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

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

Site: AC2	Time: 2016/12/24 - 14:34
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 3DH5 at Channel 2402MHz	

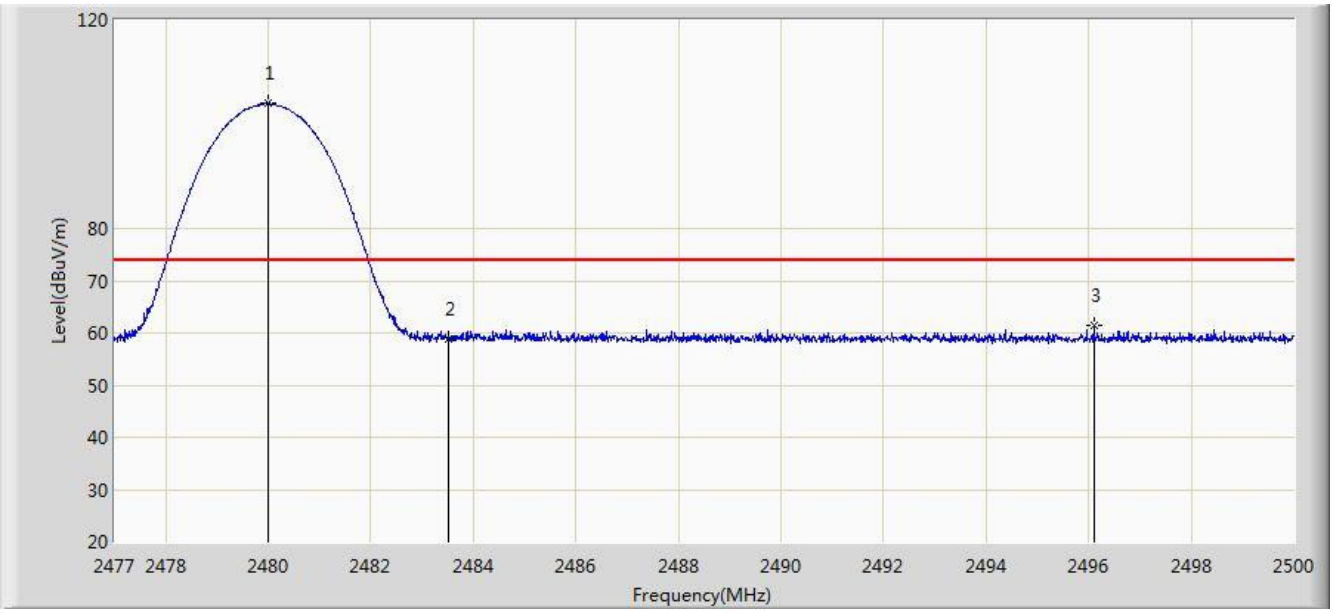


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	45.798	13.520	-8.202	54.000	32.278	AV
2		*	2401.859	83.607	51.333	N/A	N/A	32.274	AV

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

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

Site: AC2	Time: 2016/12/24 - 14:34
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 3DH5 at Channel 2480MHz	

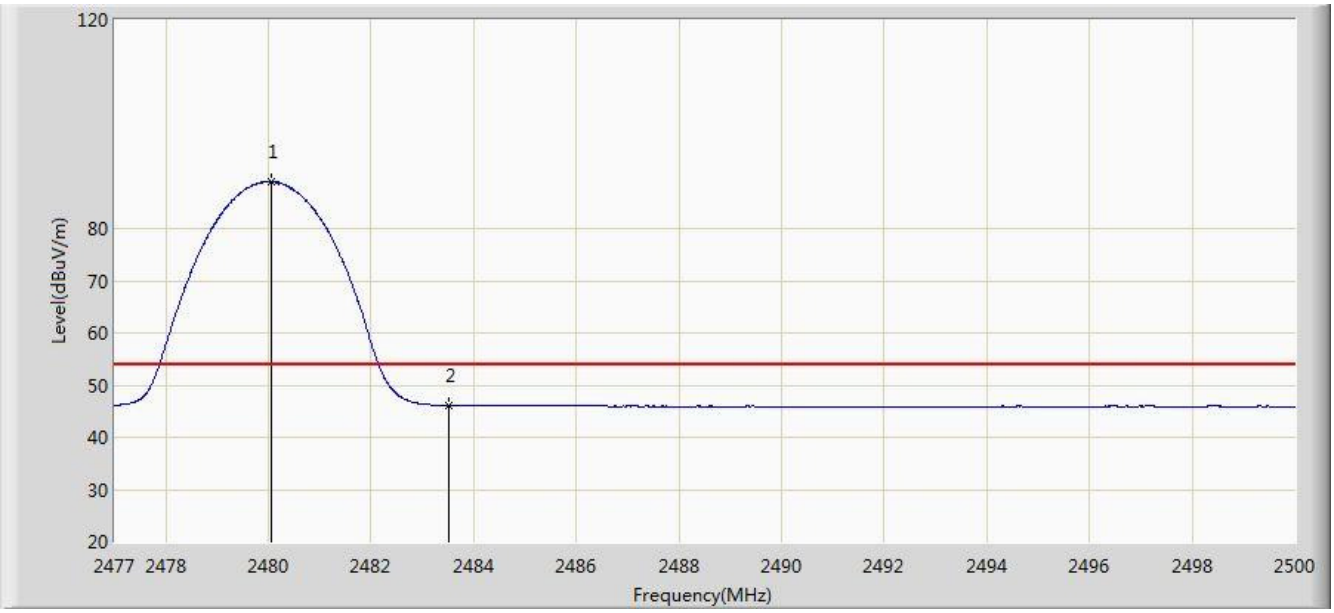


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2479.990	103.940	71.671	N/A	N/A	32.269	PK
2			2483.500	58.726	26.445	-15.274	74.000	32.282	PK
3			2496.102	61.516	29.192	-12.484	74.000	32.324	PK

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

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

Site: AC2	Time: 2016/12/24 - 14:38
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 3DH5 at Channel 2480MHz	

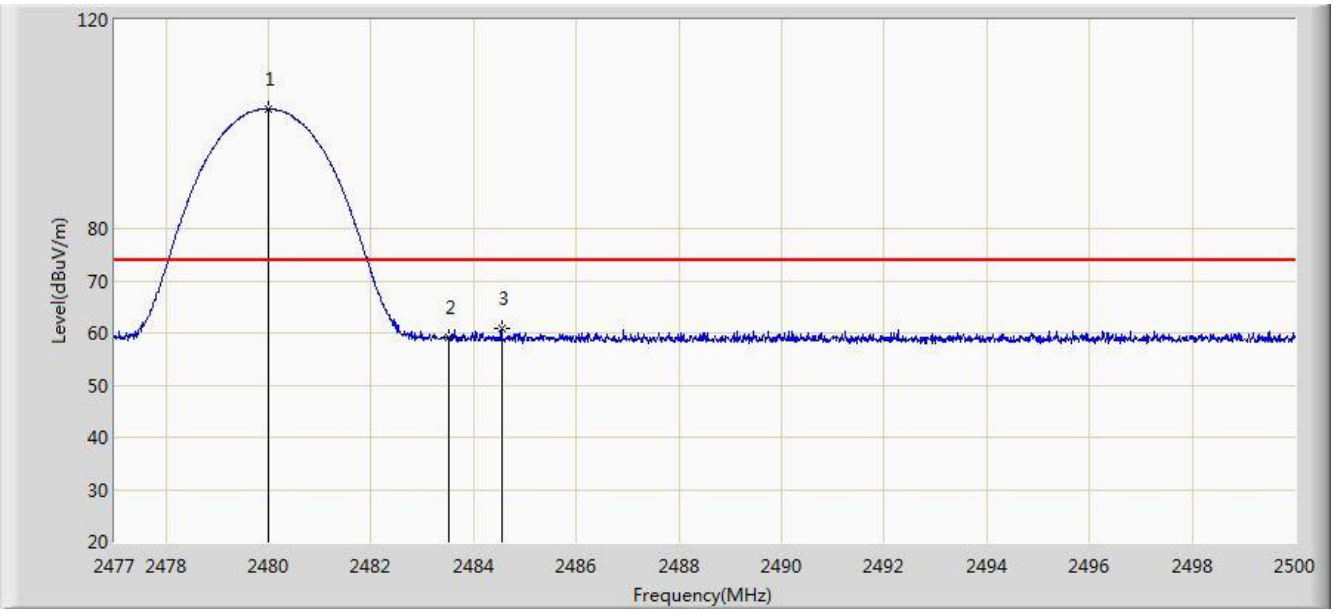


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2480.059	89.007	56.738	N/A	N/A	32.269	AV
2			2483.500	46.123	13.842	-7.877	54.000	32.282	AV

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

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

Site: AC2	Time: 2016/12/24 - 14:38
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 3DH5 at Channel 2480MHz	

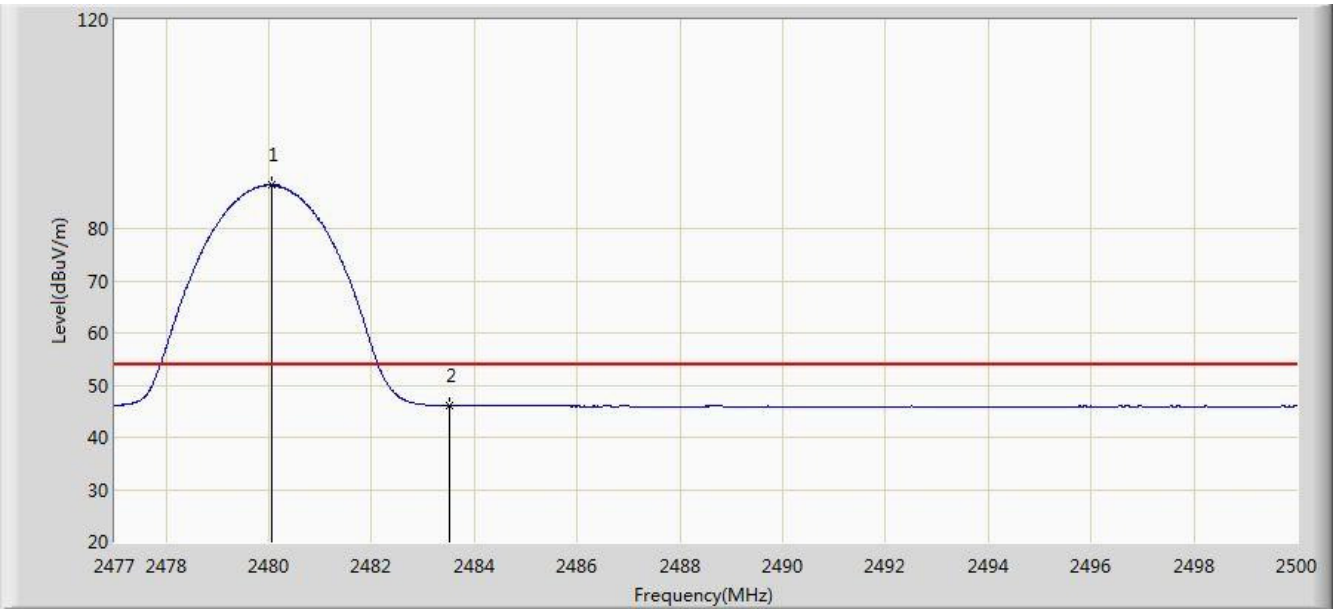


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2479.990	103.026	70.757	N/A	N/A	32.269	PK
2			2483.500	59.183	26.902	-14.817	74.000	32.282	PK
3			2484.544	60.967	28.682	-13.033	74.000	32.285	PK

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

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

Site: AC2	Time: 2016/12/24 - 14:40
Limit: FCC_Part15.209_RE(3m)	Engineer: Vince Yu
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: MID	Power: AC 120V/60Hz
Test Mode: Transmit by 3DH5 at Channel 2480MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2480.059	88.309	56.040	N/A	N/A	32.269	AV
2			2483.500	46.087	13.806	-7.913	54.000	32.282	AV

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

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

7.11. AC Conducted Emissions Measurement

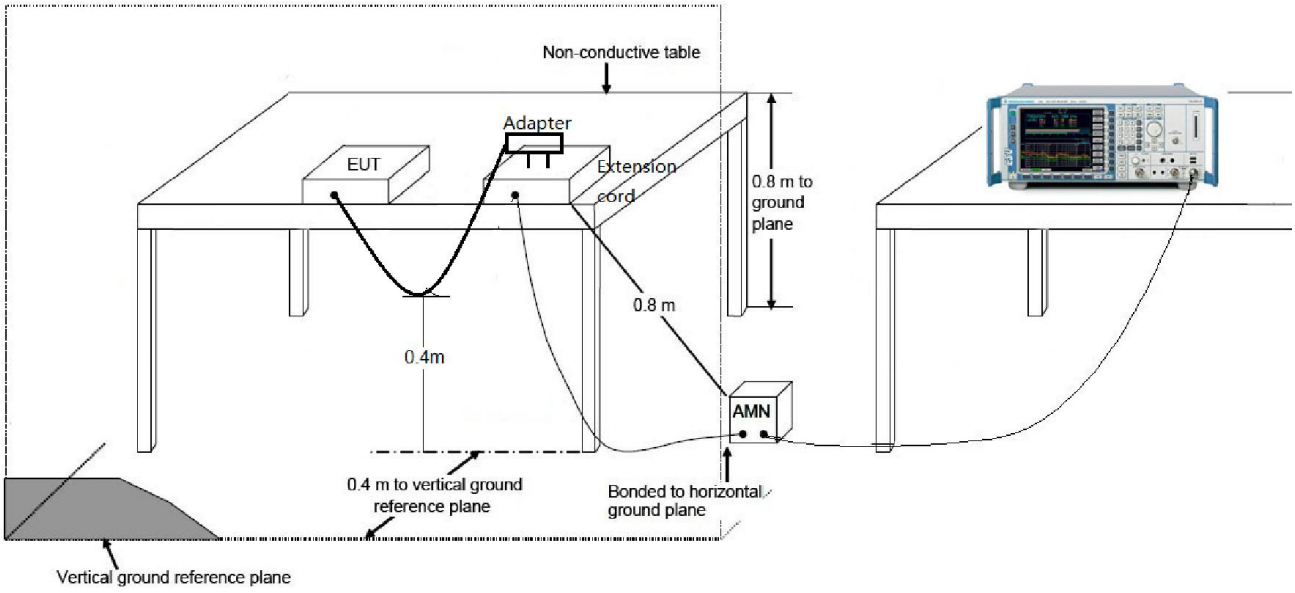
7.11.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.207 / RSS-Gen Limits		
Frequency (MHz)	QP (dBμV)	Average (dBμV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

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

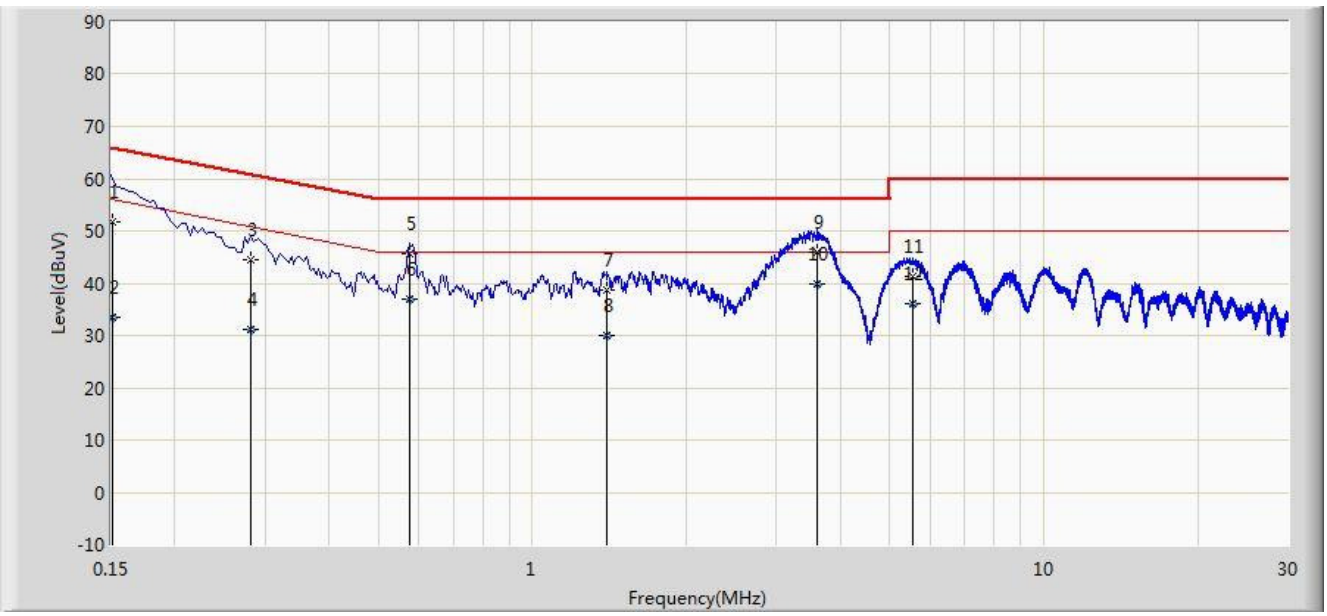
Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

7.11.2. Test Setup



7.11.3. Test Result

8. Site: SR2	Time: 2017/03/23 - 14:05
Limit: FCC_Part15.207_CE_AC Power	Engineer: Bruce Wang
Probe: ENV216_101683_Filter On	Polarity: Line
EUT: MID	Power: AC 120V/60Hz
Worst Case Mode: Transmit by 2DH5 at Channel 2402MHz	

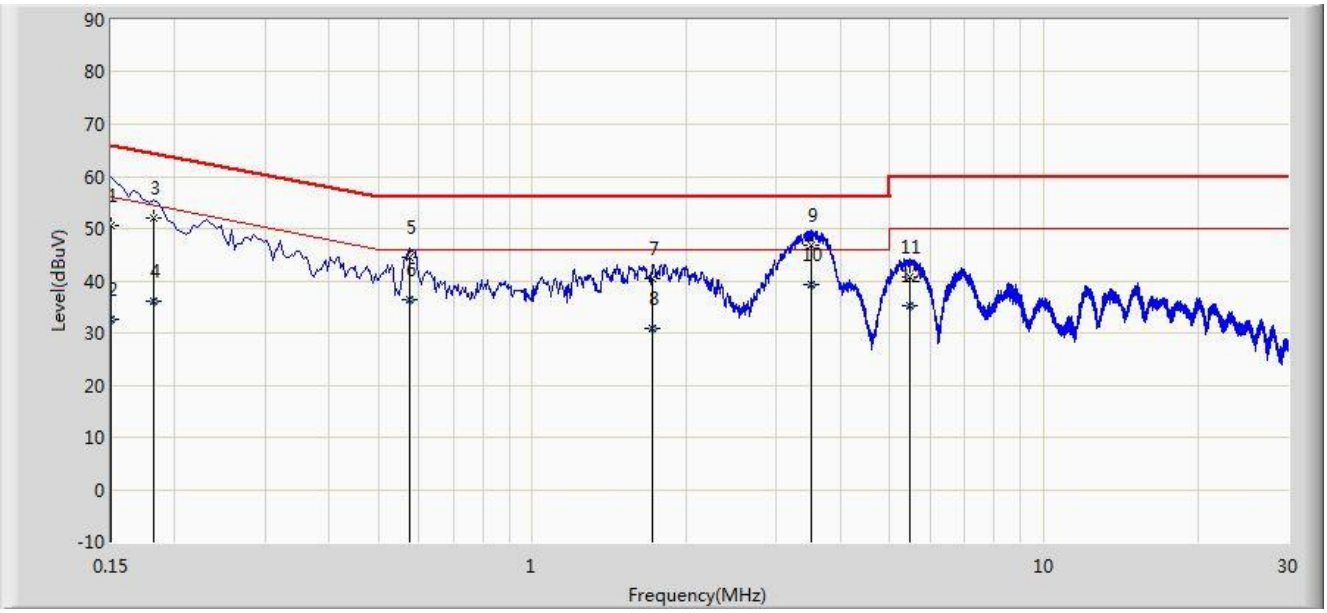


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.151	51.609	40.573	-14.323	65.932	11.036	QP
2			0.151	33.434	22.399	-22.498	55.932	11.036	AV
3			0.282	44.380	34.391	-16.376	60.757	9.990	QP
4			0.282	31.016	21.026	-19.741	50.757	9.990	AV
5			0.574	45.541	35.413	-10.459	56.000	10.128	QP
6			0.574	36.959	26.831	-9.041	46.000	10.128	AV
7			1.398	38.768	28.875	-17.232	56.000	9.893	QP
8			1.398	30.054	20.162	-15.946	46.000	9.893	AV
9			3.602	46.064	36.146	-9.936	56.000	9.917	QP
10		*	3.602	39.736	29.819	-6.264	46.000	9.917	AV
11			5.554	41.173	31.101	-18.827	60.000	10.072	QP
12			5.554	36.163	26.091	-13.837	50.000	10.072	AV

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

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

Site: SR2	Time: 2017/03/23 - 14:12
Limit: FCC_Part15.207_CE_AC Power	Engineer: Bruce Wang
Probe: ENV216_101683_Filter On	Polarity: Neutral
EUT: MID	Power: AC 120V/60Hz
Worst Case Mode: Transmit by 2DH5 at Channel 2402MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.150	50.491	39.349	-15.509	66.000	11.142	QP
2			0.150	32.568	21.426	-23.432	56.000	11.142	AV
3			0.182	52.148	42.106	-12.245	64.394	10.042	QP
4			0.182	36.000	25.958	-18.394	54.394	10.042	AV
5			0.574	44.497	34.351	-11.503	56.000	10.145	QP
6			0.574	36.405	26.259	-9.595	46.000	10.145	AV
7			1.718	40.505	30.623	-15.495	56.000	9.882	QP
8			1.718	30.776	20.894	-15.224	46.000	9.882	AV
9			3.502	46.783	36.868	-9.217	56.000	9.915	QP
10		*	3.502	39.139	29.225	-6.861	46.000	9.915	AV
11			5.458	40.586	30.503	-19.414	60.000	10.083	QP
12			5.458	35.182	25.099	-14.818	50.000	10.083	AV

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

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

9. CONCLUSION

The data collected relate only the item(s) tested and show that the **MID** is in compliance with Part 15C of the FCC Rules.

The End