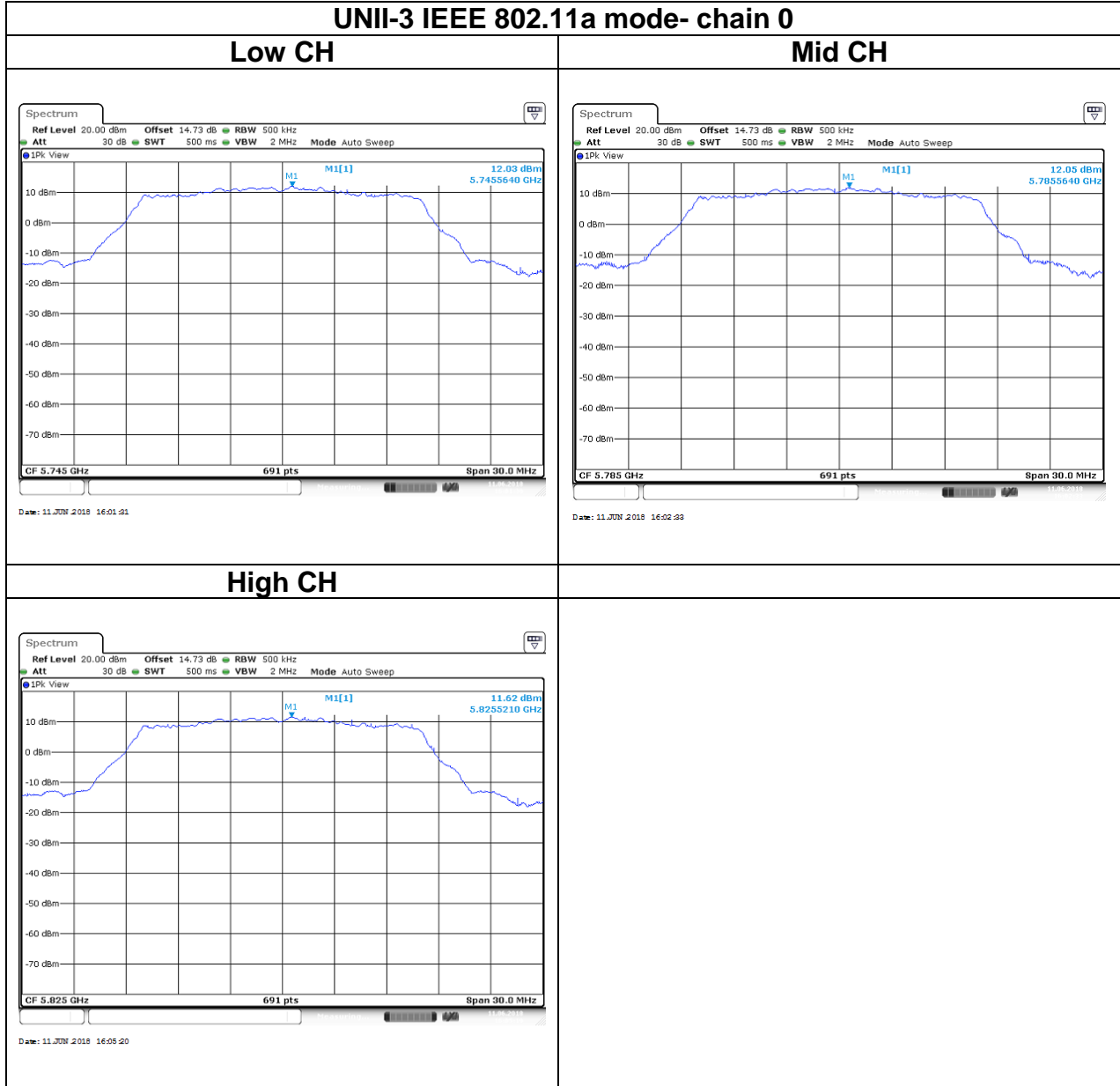
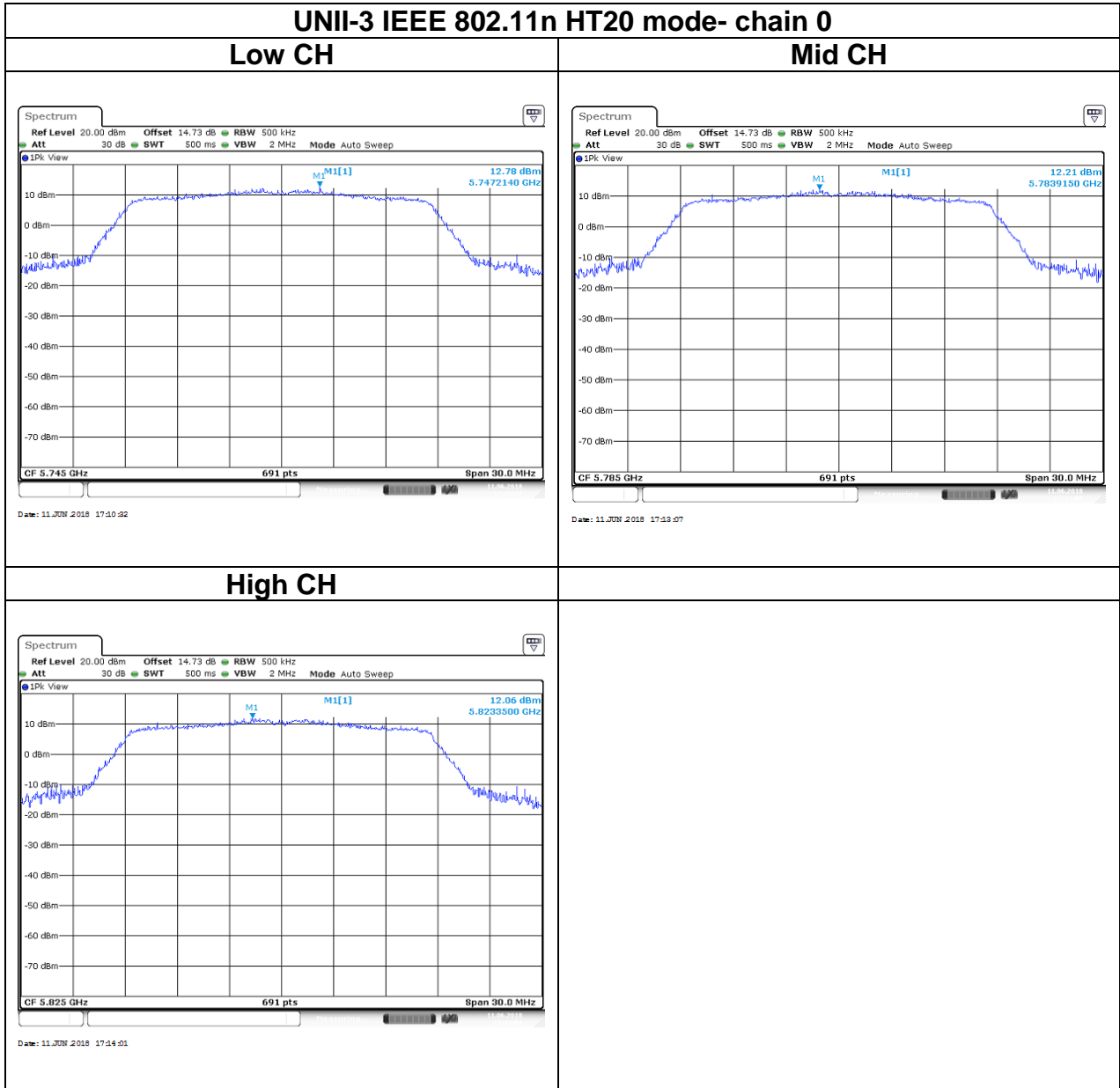


Report No.: T180522D10-RP4

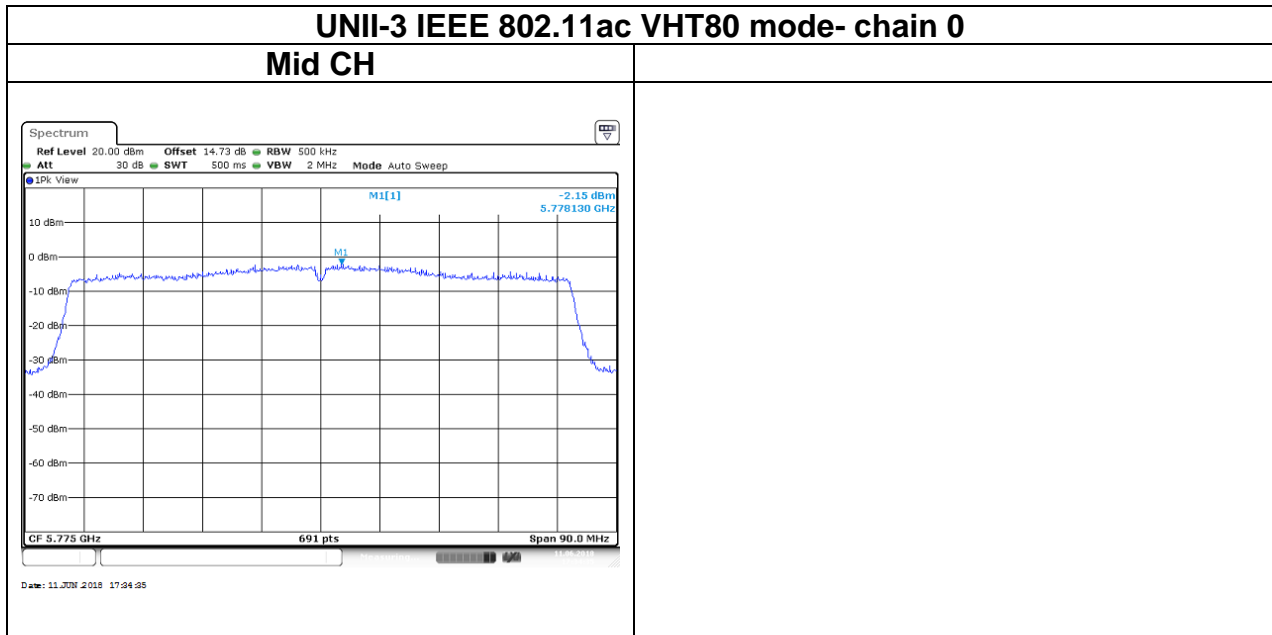
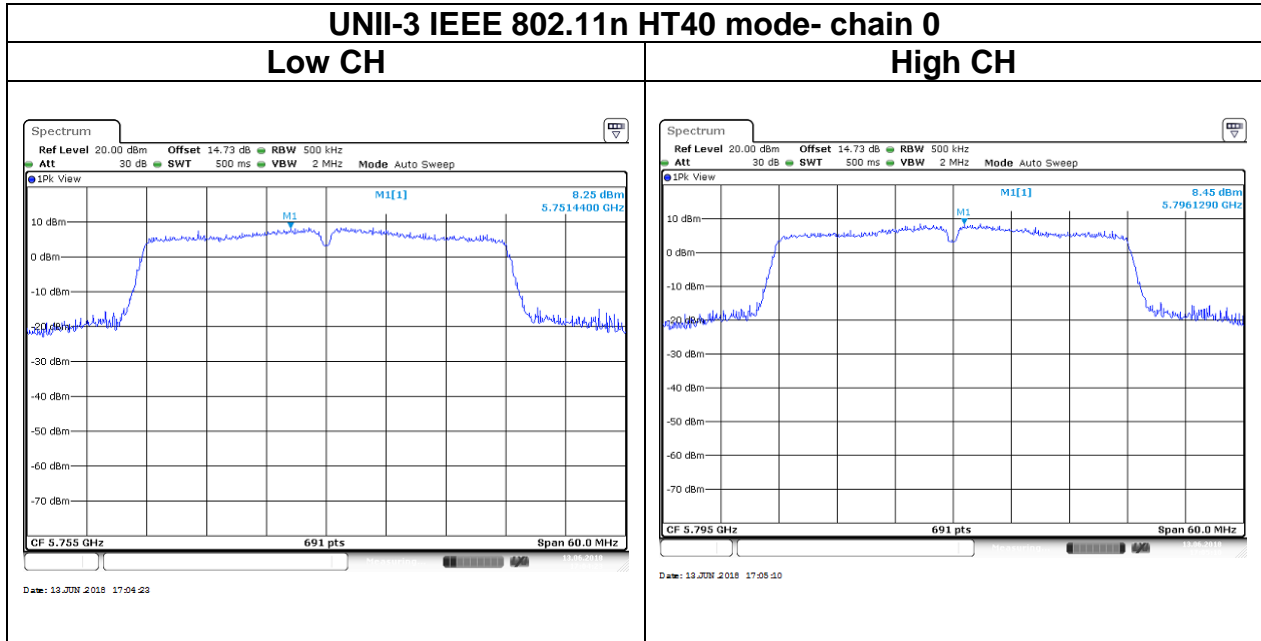
## Test Data



Report No.: T180522D10-RP4



Report No.: T180522D10-RP4



## 4.5 RADIATION BANDEDGE AND SPURIOUS EMISSION

### 4.5.1 Test Limit

FCC according to §15.407, §15.209 and §15.205,

IC according to RSS-247 section 6.2.1.2 and section 6.2.4.2

#### Below 30 MHz

Frequency	Field Strength (microvolts/m)	Magnetic H-Field (microamperes/m)	Measurement Distance (metres)
9-490 kHz	2,400/F (F in kHz)	2,400/F (F in kHz)	300
490-1,705 kHz	24,000/F (F in kHz)	24,000/F (F in kHz)	30
1.705-30 MHz	30	N/A	30

#### Above 30 MHz

Frequency (MHz)	Field Strength microvolts/m at 3 metres (watts, e.i.r.p.)	
	Transmitters	Receivers
30-88	100 (3 nW)	100 (3 nW)
88-216	150 (6.8 nW)	150 (6.8 nW)
216-960	200 (12 nW)	200 (12 nW)
Above 960	500 (75 nW)	500 (75 nW)

#### UNII-1 :

For transmitters operating in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. However, any unwanted emissions that fall into the band 5250-5350 MHz must be 26 dBc, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth, above 5.25 GHz. Otherwise, the transmission is considered as intentional and the devices shall implement dynamic frequency selection (DFS) and transmitter power control (TPC) as per the requirements for the band 5250-5350 MHz

#### UNII-2a and 2c :

For devices with operating frequencies in the band 5250-5350 MHz but having a channel bandwidth that overlaps the band 5150-5250 MHz, the devices' unwanted emission shall not exceed -27 dBm/MHz e.i.r.p. outside the band 5150-5350 MHz and its power shall comply with the spectral power density for operation within the band 5150-5250 MHz. The device shall be labelled "for indoor use only." Emissions outside the band 5470-5725 MHz shall not exceed -27 dBm/MHz e.i.r.p.



Report No.: T180522D10-RP4

Page: 75 / 228  
Rev.: 00

**UNII-3:**

All emissions shall be limited to a level of  $-27$  dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

### 4.5.2 Test Procedure

Test method Refer as KDB 789033 D02.

1. The EUT is placed on a turntable, Above 1 GHz is 1.5m and below 1 GHz is 0.8m above ground plane. The EUT Configured un accordance with ANSI C63.10, and the EUT set in a continuous mode.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level. And EUT is set 3m away from the receiving antenna, which is scanned from 1m to 4m above the ground plane to find out the highest emissions. Measurement are made polarized in both the vertical and the horizontal positions with antenna.
3. Span shall wide enough to full capture the emission measured. The SA from 9kHz to 40GHz set to the low, Mid and High channels with the EUT transmit.

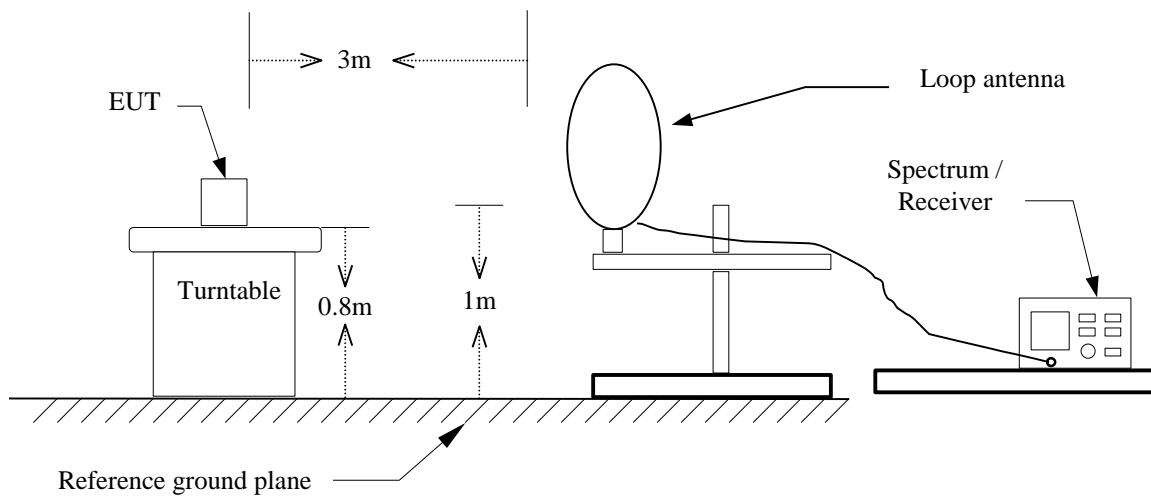
Remark:

1. Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open are test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.
2. No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).
4. The SA setting following :
  - (1) Below 1G : RBW = 100kHz, VBW  $\geq$  3\*RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.
  - (2) Above 1G :
    - (2.1) For Peak measurement : RBW = 1MHz, VBW  $\geq$  3 RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.
    - (2.2) For Average measurement : RBW = 1MHz, VBW
      - If Duty Cycle  $\geq$  98%, VBW=10Hz.
      - If Duty Cycle < 98%, VBW=1/T.

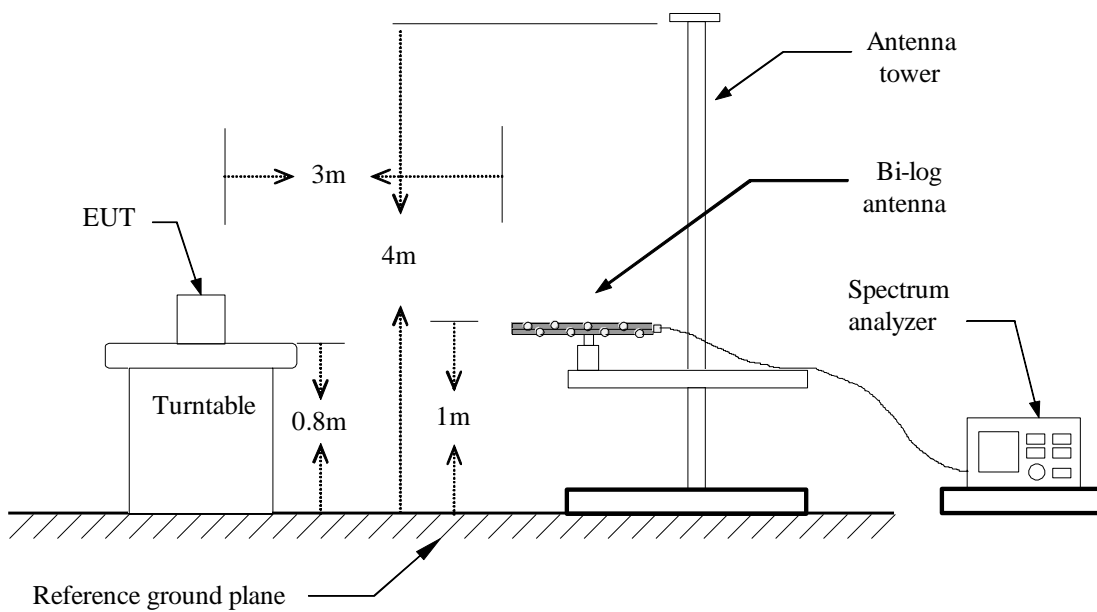
Configuration	Duty Cycle (%)	T(ms)	1/T (Hz)	VBW Setting
802.11a	95%	1.4348	0.697	750Hz
802.11n HT20	95%	1.3333	0.750	820Hz
802.11n HT40	90%	0.6812	1.468	1.5KHz
802.11ac VHT80	83%	0.3623	2.760	3KHz

## 4.5.3 Test Setup

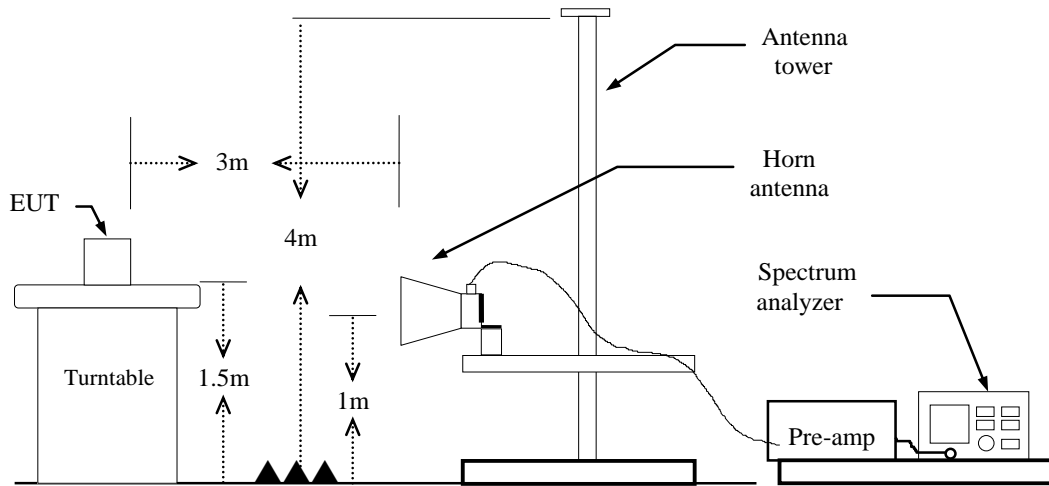
### 9kHz ~ 30MHz



### 30MHz ~ 1GHz



**Above 1 GHz**



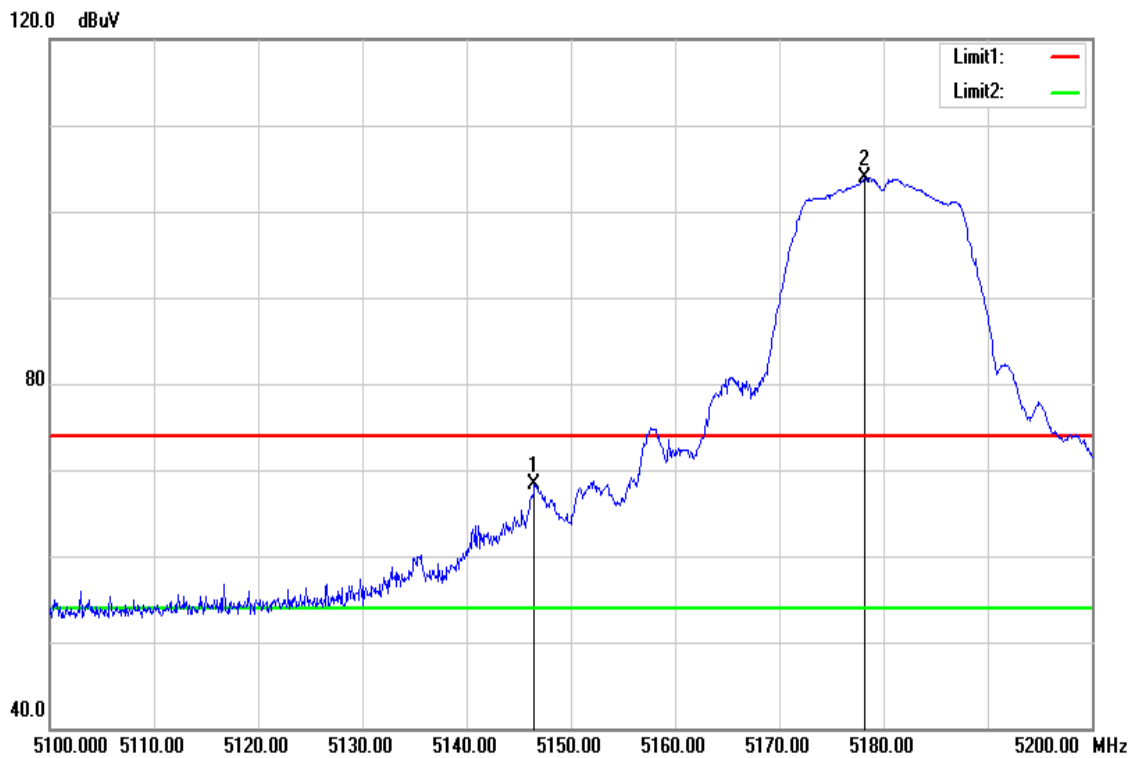


### 4.5.4 Test Result

#### Test Data

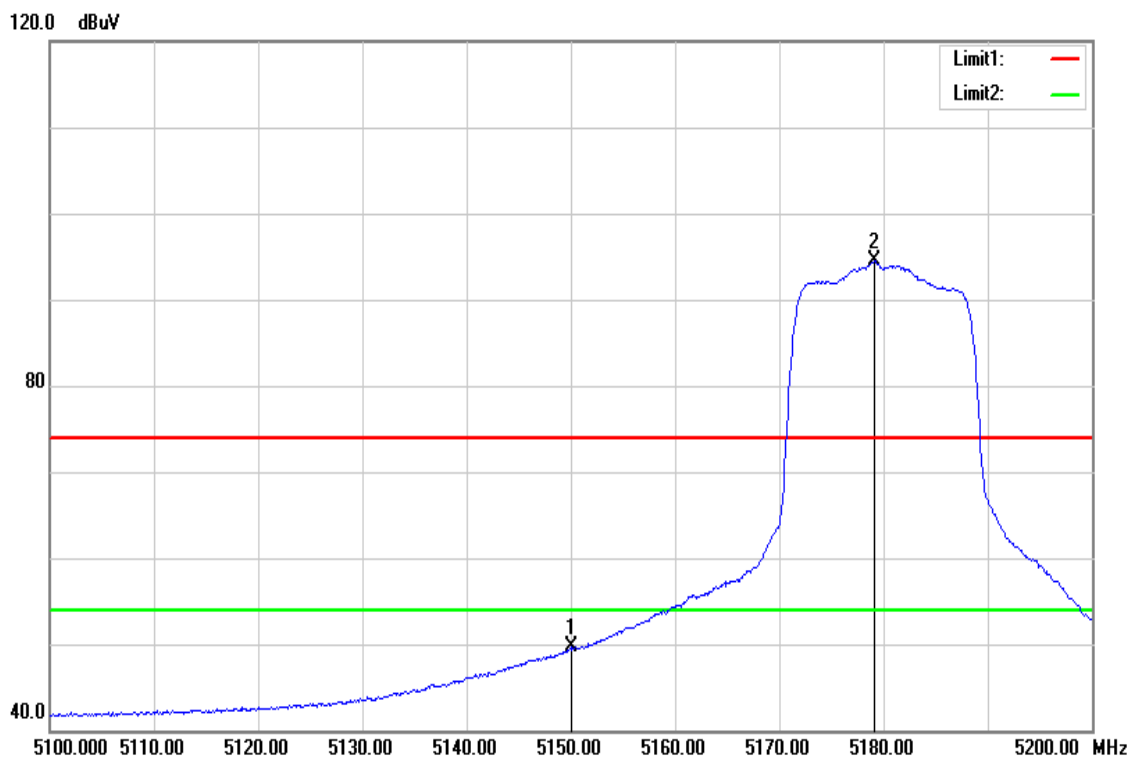
##### Band Edge Test Data for UNII-1

Test Mode	IEEE 802.11a / 5180MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



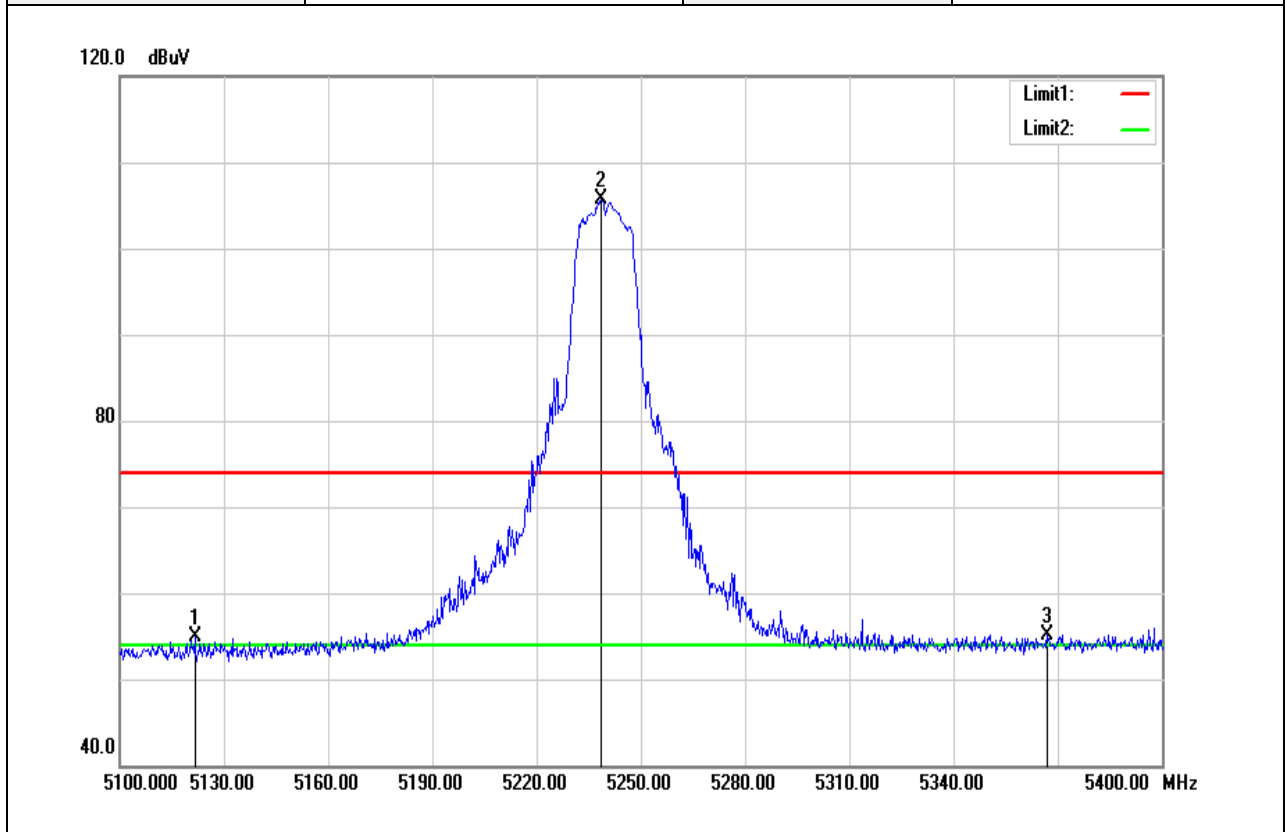
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5146.500	63.25	5.06	68.31	74.00	-5.69	peak
5178.200	98.68	5.14	103.82	-	-	peak

Test Mode	IEEE 802.11a / 5180MHZ	Temperature	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



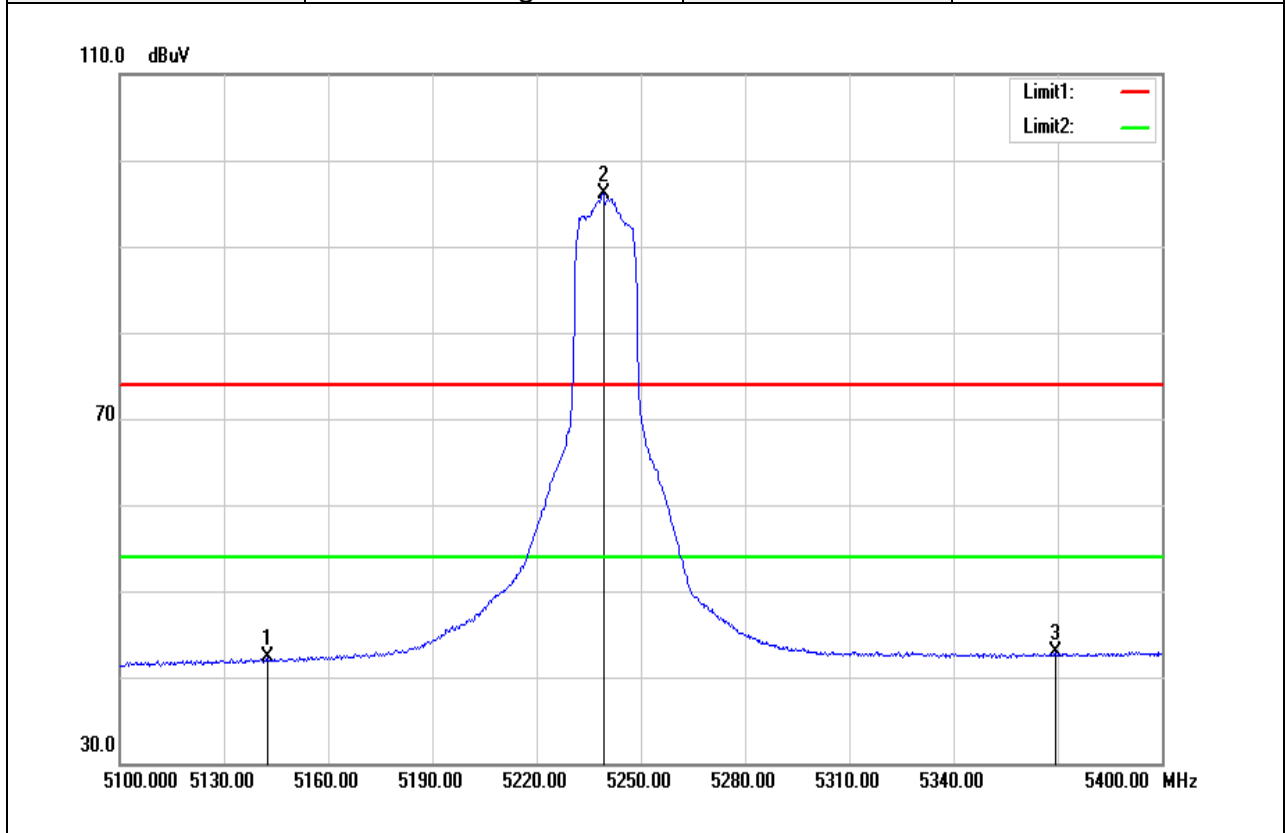
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5150.000	44.55	5.06	49.61	54.00	-4.39	AVG
5179.100	89.29	5.14	94.43	-	-	AVG

Test Mode	IEEE 802.11a / 5240MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



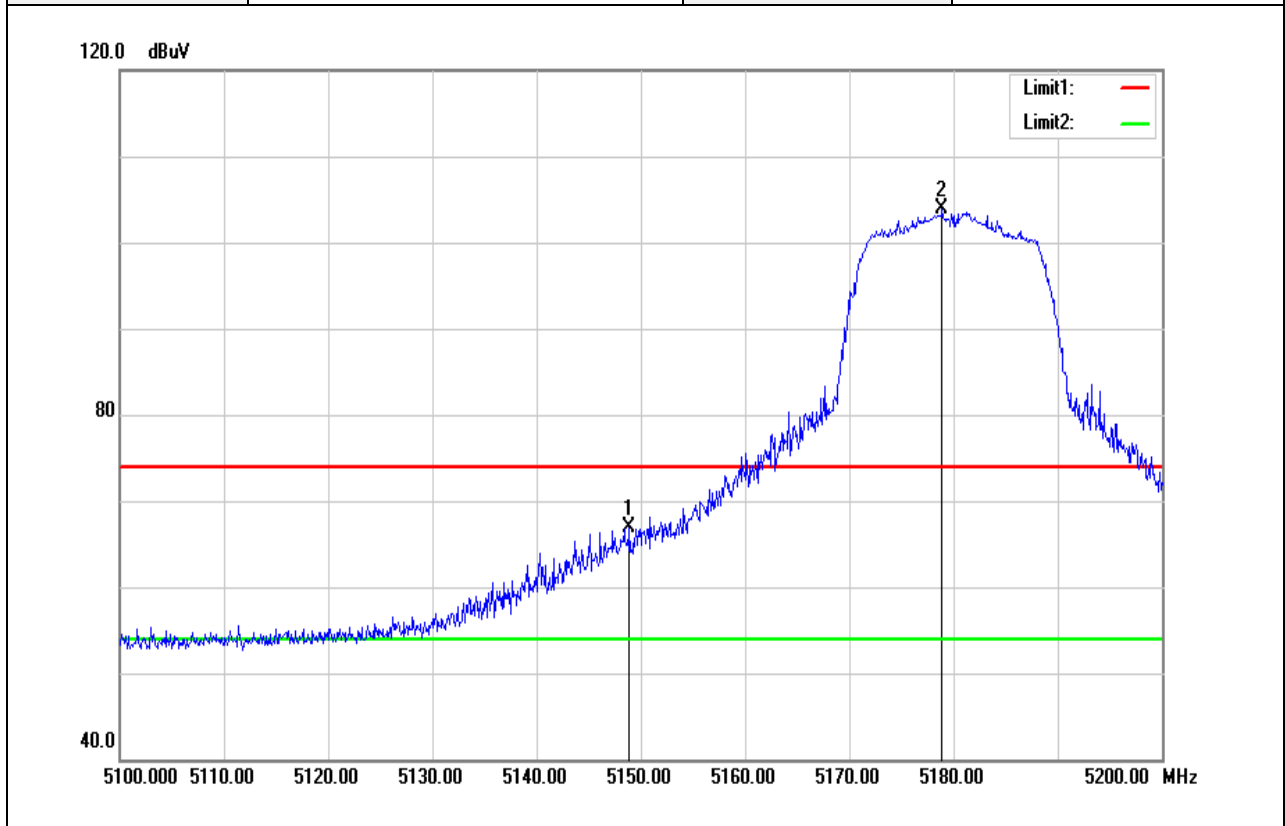
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5121.750	49.90	4.99	54.89	74.00	-19.11	peak
5238.600	100.34	5.28	105.62	-	-	peak
5367.000	49.43	5.60	55.03	74.00	-18.97	peak

Test Mode	IEEE 802.11a / 5240MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5142.600	37.16	5.05	42.21	54.00	-11.79	AVG
5239.200	90.79	5.28	96.07	-	-	AVG
5369.400	37.21	5.61	42.82	54.00	-11.18	AVG

Test Mode	IEEE 802.11n HT20 / 5180MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



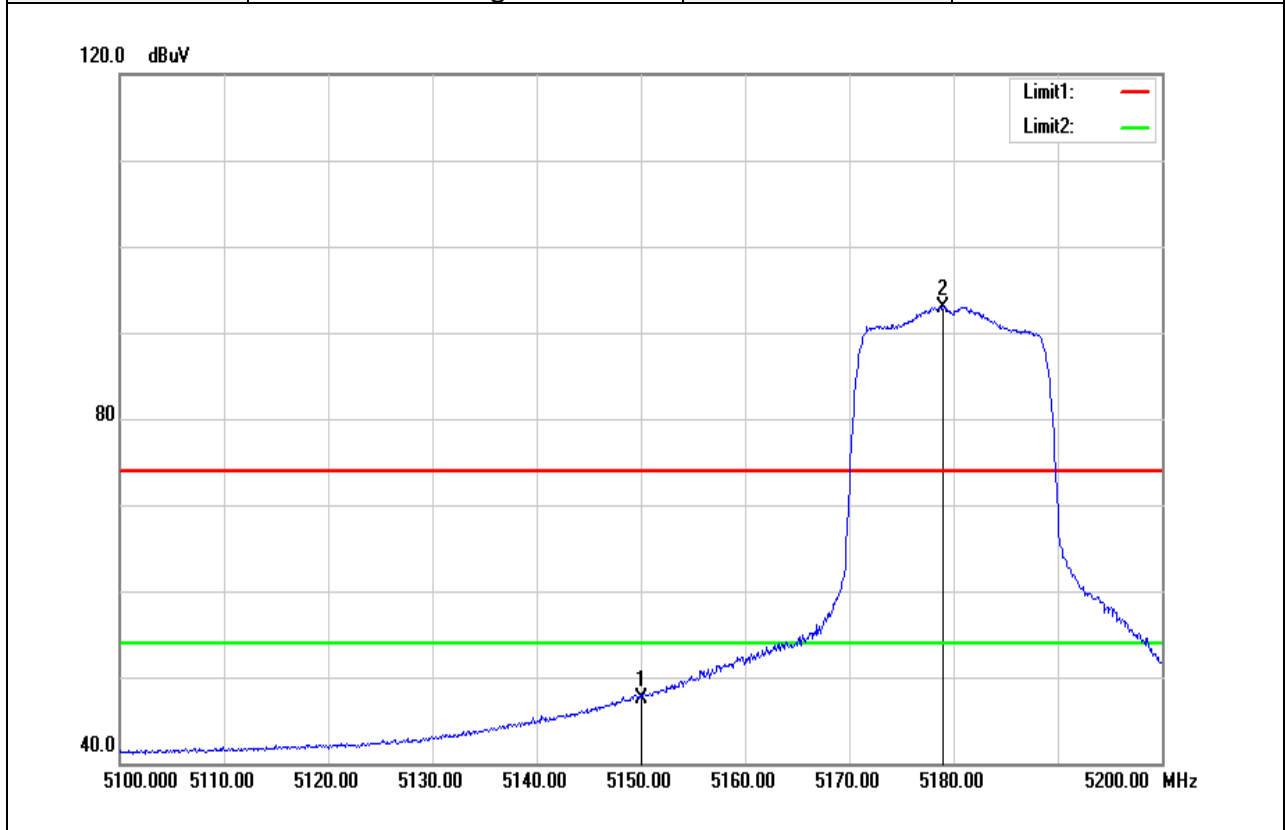
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5148.900	61.78	5.06	66.84	74.00	-7.16	peak
5178.900	98.77	5.14	103.91	-	-	peak



Report No.: T180522D10-RP4

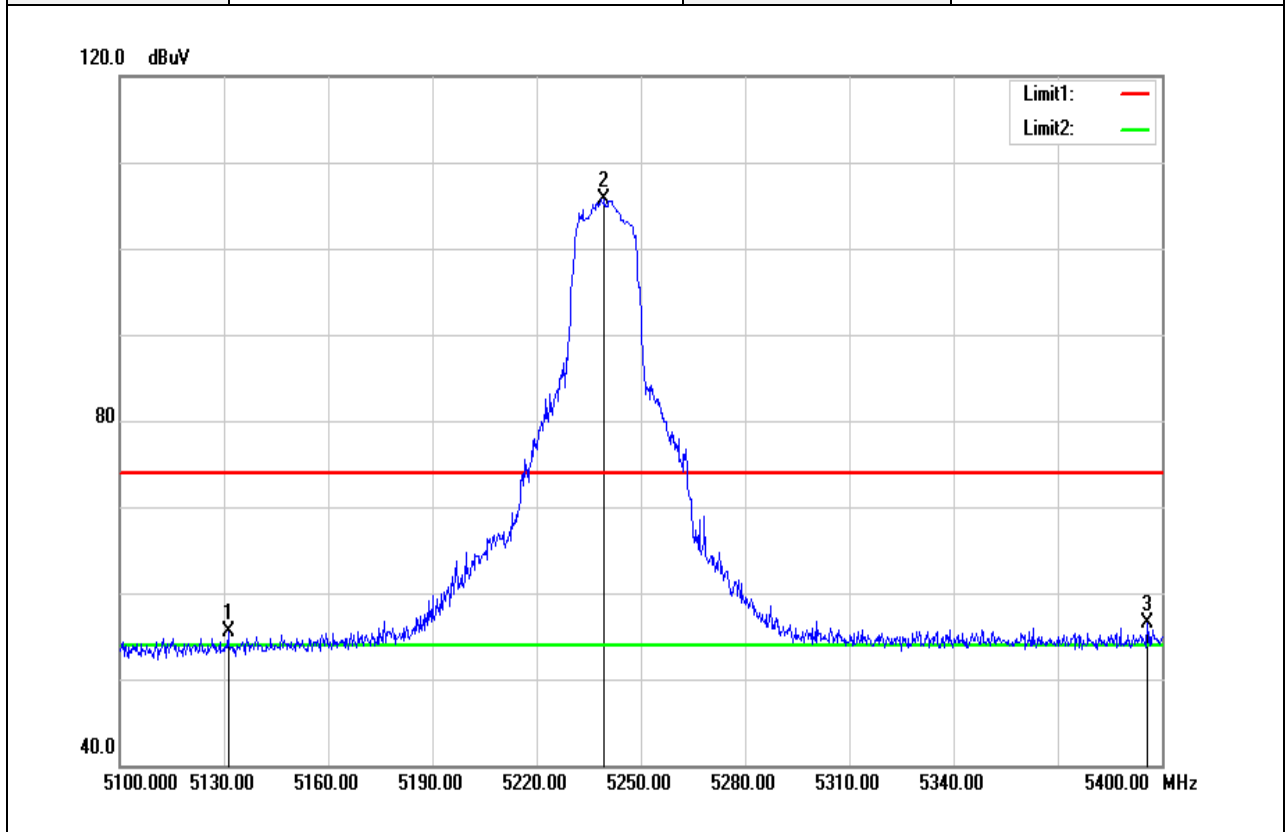
Page: 84 / 228  
Rev.: 00

Test Mode	IEEE 802.11n HT20 / 5180MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



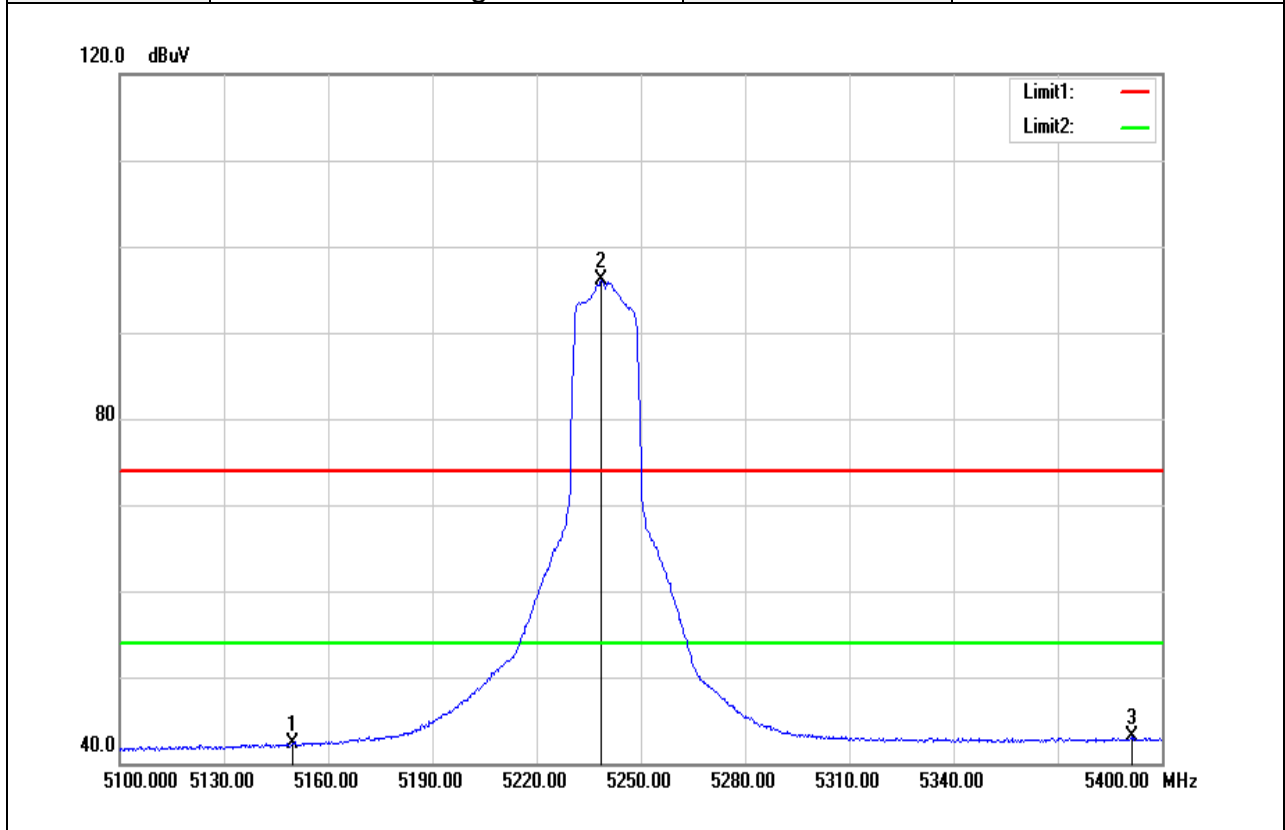
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5150.000	42.44	5.06	47.50	54.00	-6.50	AVG
5179.000	87.86	5.14	93.00	-	-	AVG

Test Mode	IEEE 802.11n HT20 / 5240MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 25, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5131.350	50.47	5.02	55.49	74.00	-18.51	peak
5239.500	100.46	5.28	105.74	-	-	peak
5395.800	50.85	5.68	56.53	74.00	-17.47	peak

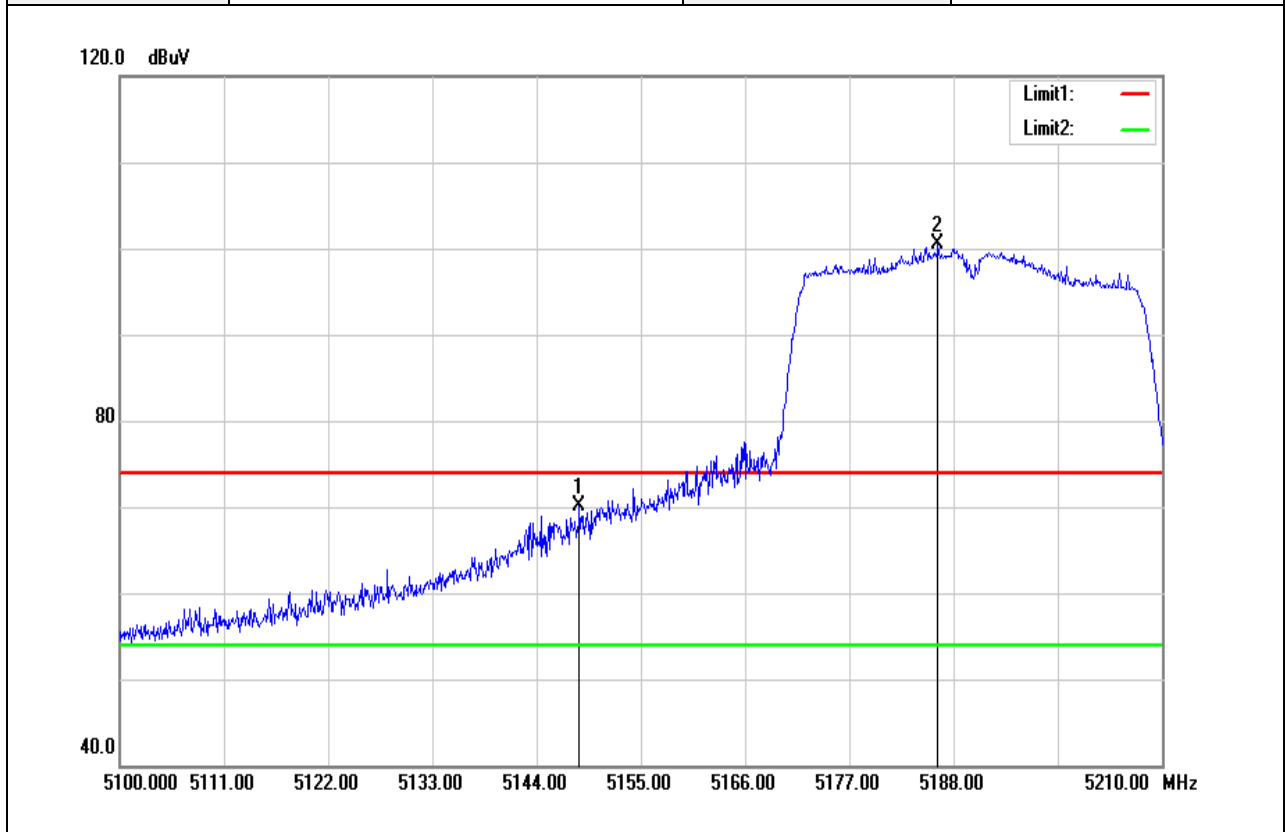
Test Mode	IEEE 802.11n HT20 / 5240MHZ	Temperature	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 25, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5149.800	37.26	5.06	42.32	54.00	-11.68	AVG
5238.600	90.76	5.28	96.04	-	-	AVG
5391.300	37.46	5.65	43.11	54.00	-10.89	AVG

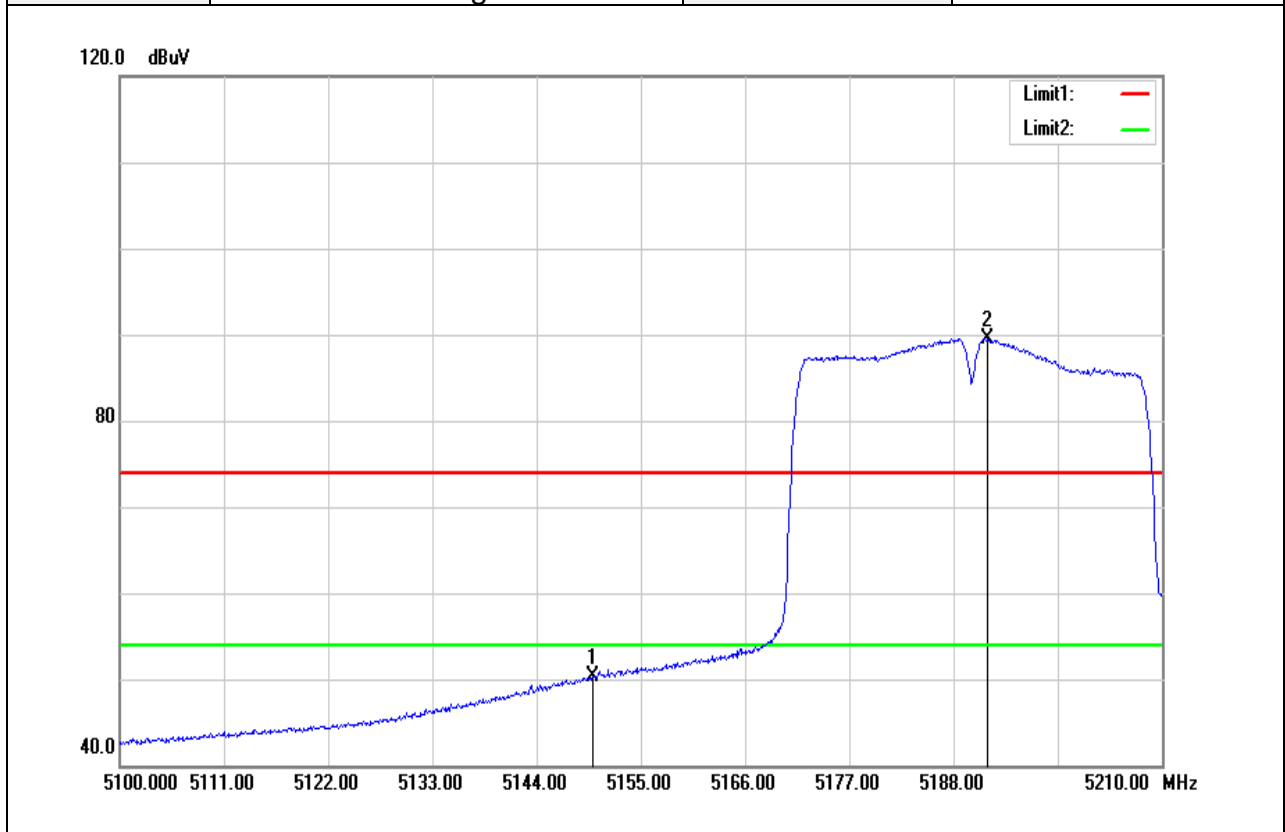


Test Mode	IEEE 802.11n HT40 / 5190MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



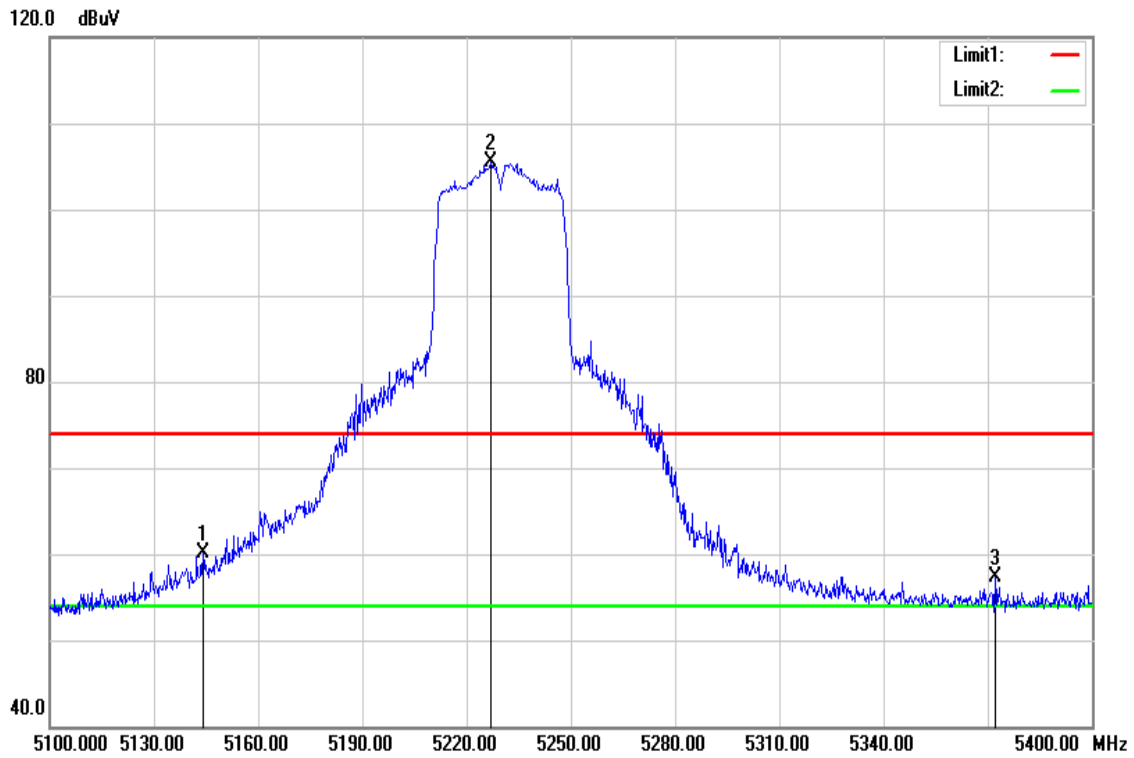
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5148.510	65.10	5.06	70.16	74.00	-3.84	peak
5186.350	95.26	5.15	100.41	-	-	peak

Test Mode	IEEE 802.11n HT40 / 5190MHZ	Temperature	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



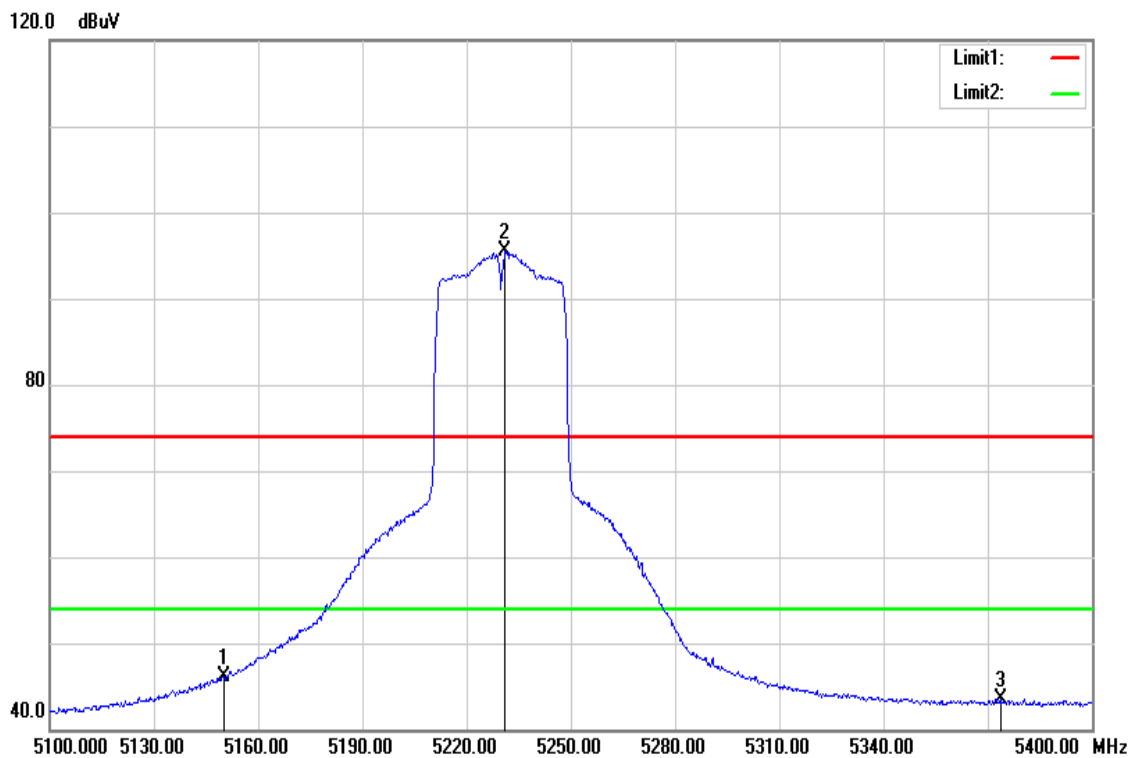
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5150.000	45.17	5.06	50.23	54.00	-3.77	AVG
5191.520	84.36	5.16	89.52	-	-	AVG

Test Mode	IEEE 802.11n HT40 / 5230MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 26, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



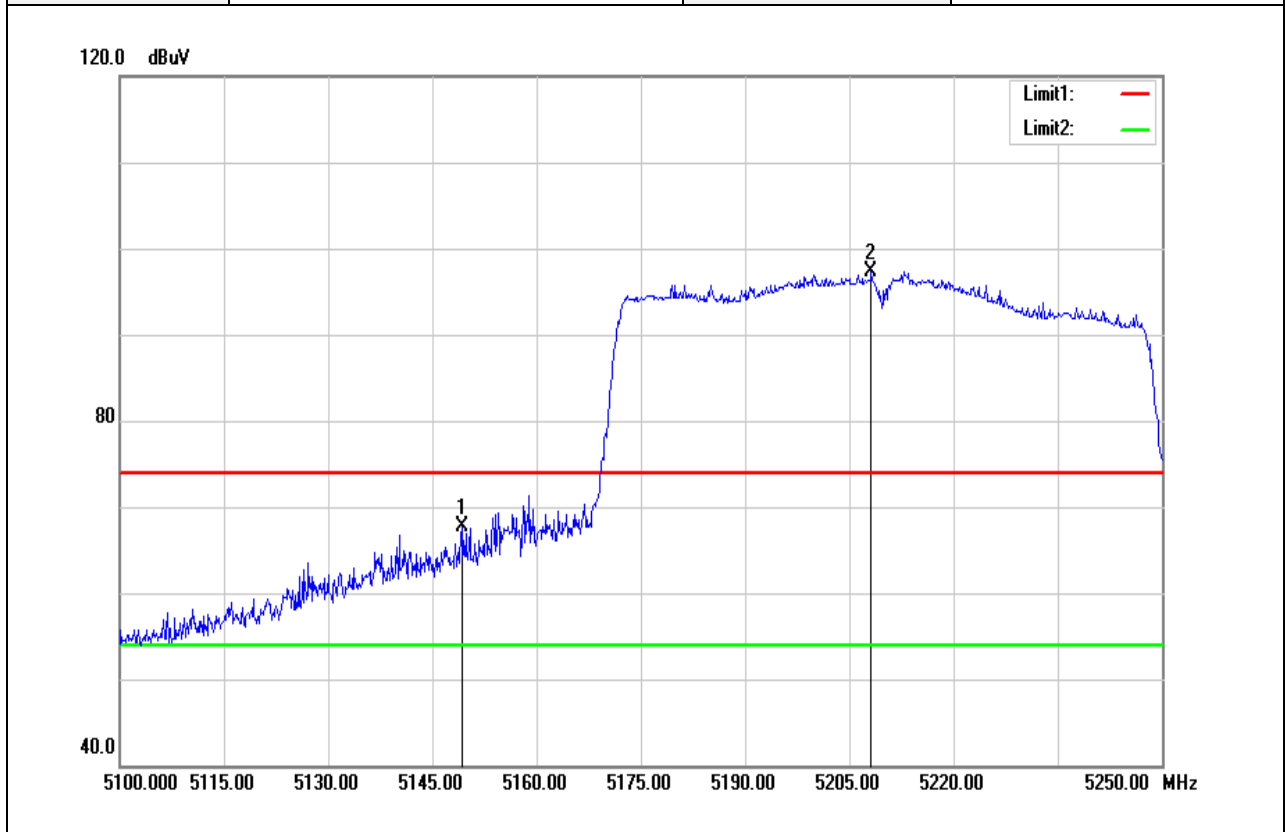
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5144.100	55.01	5.05	60.06	74.00	-13.94	peak
5226.900	100.22	5.26	105.48	-	-	peak
5372.100	51.59	5.61	57.20	74.00	-16.80	peak

Test Mode	IEEE 802.11n HT40 / 5230MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 26, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



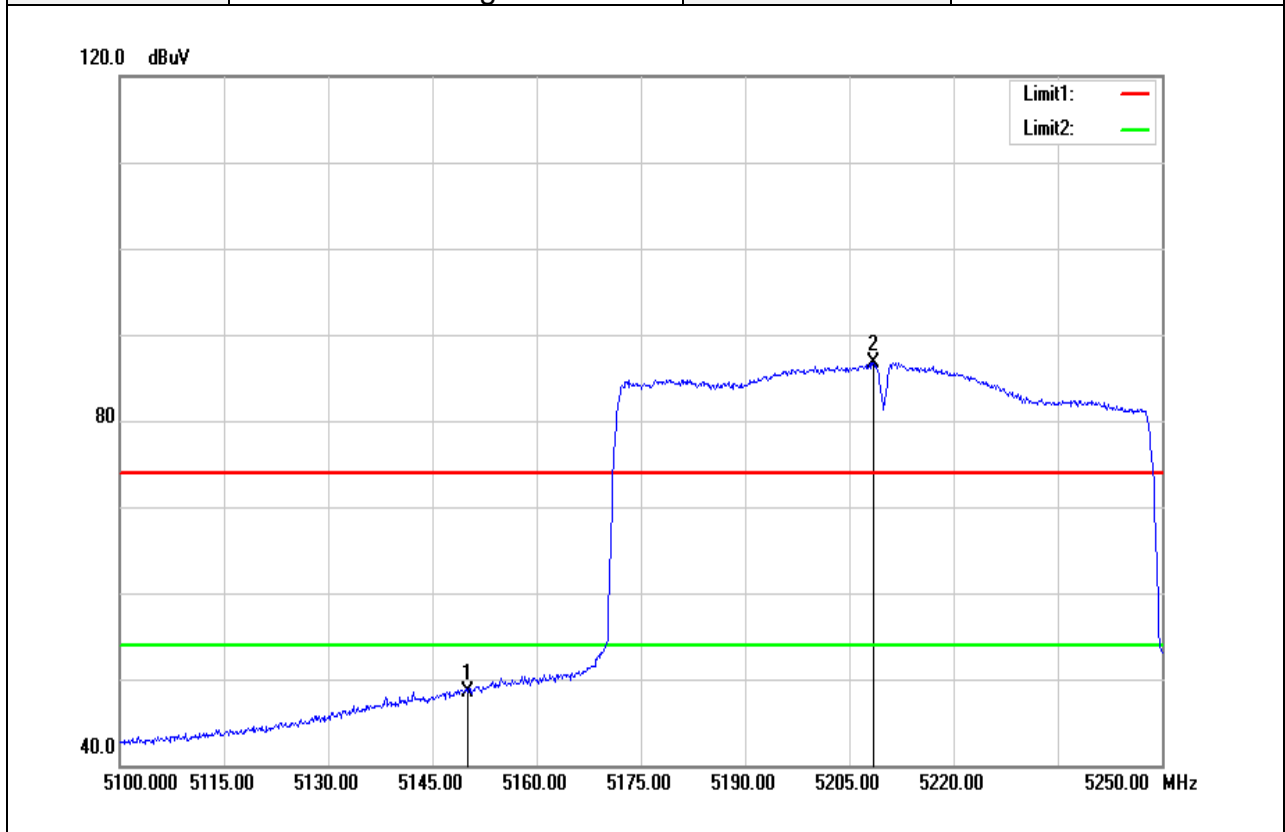
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5150.000	41.02	5.06	46.08	54.00	-7.92	AVG
5231.250	90.19	5.26	95.45	-	-	AVG
5373.600	37.98	5.61	43.59	54.00	-10.41	AVG

Test Mode	I EEE 802.11ac VHT80 / 5210MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5149.350	62.58	5.06	67.64	74.00	-6.36	peak
5208.150	92.05	5.20	97.25	-	-	peak

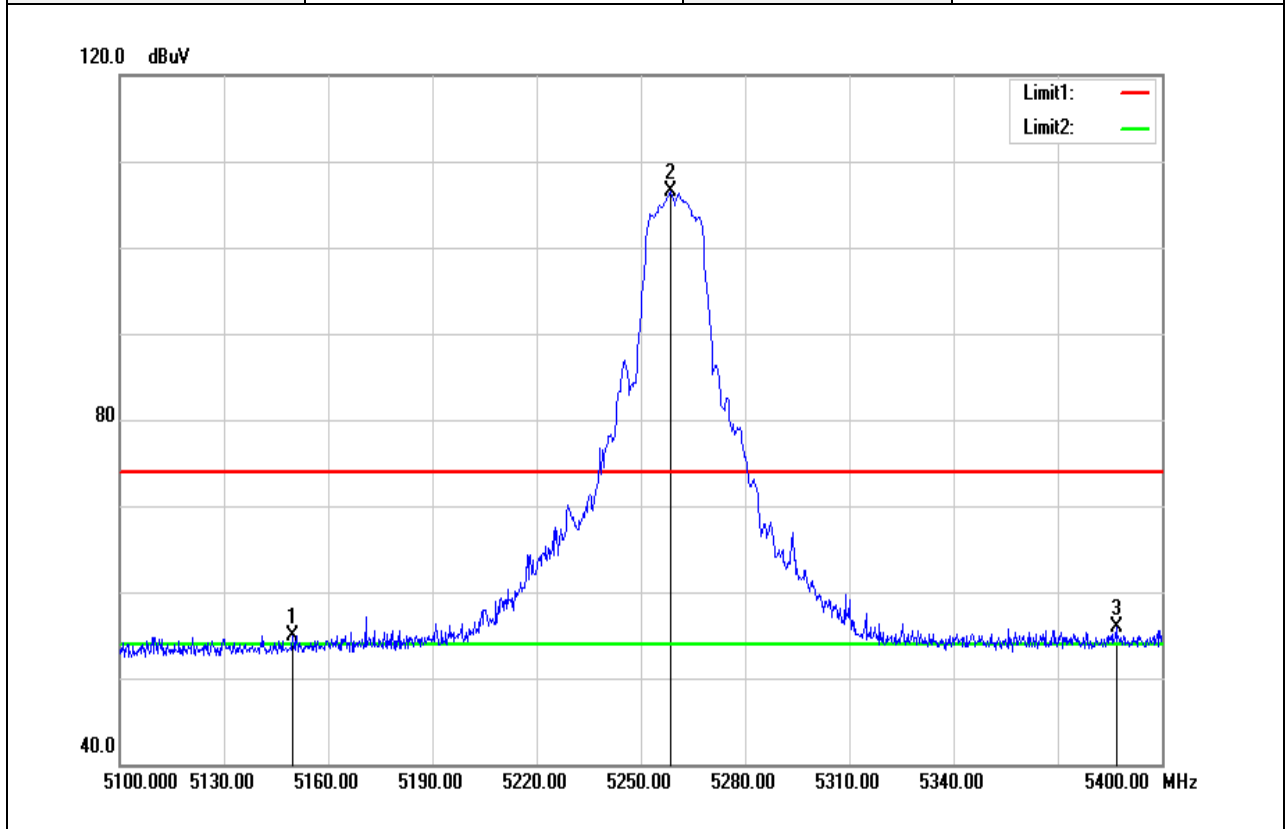
Test Mode	I EEE 802.11ac VHT80 / 5210MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5150.000	43.40	5.06	48.46	54.00	-5.54	AVG
5208.450	81.58	5.21	86.79	-	-	AVG

**Band Edge Test Data for UNII-2a**

Test Mode	IEEE 802.11a / 5260 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 25, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



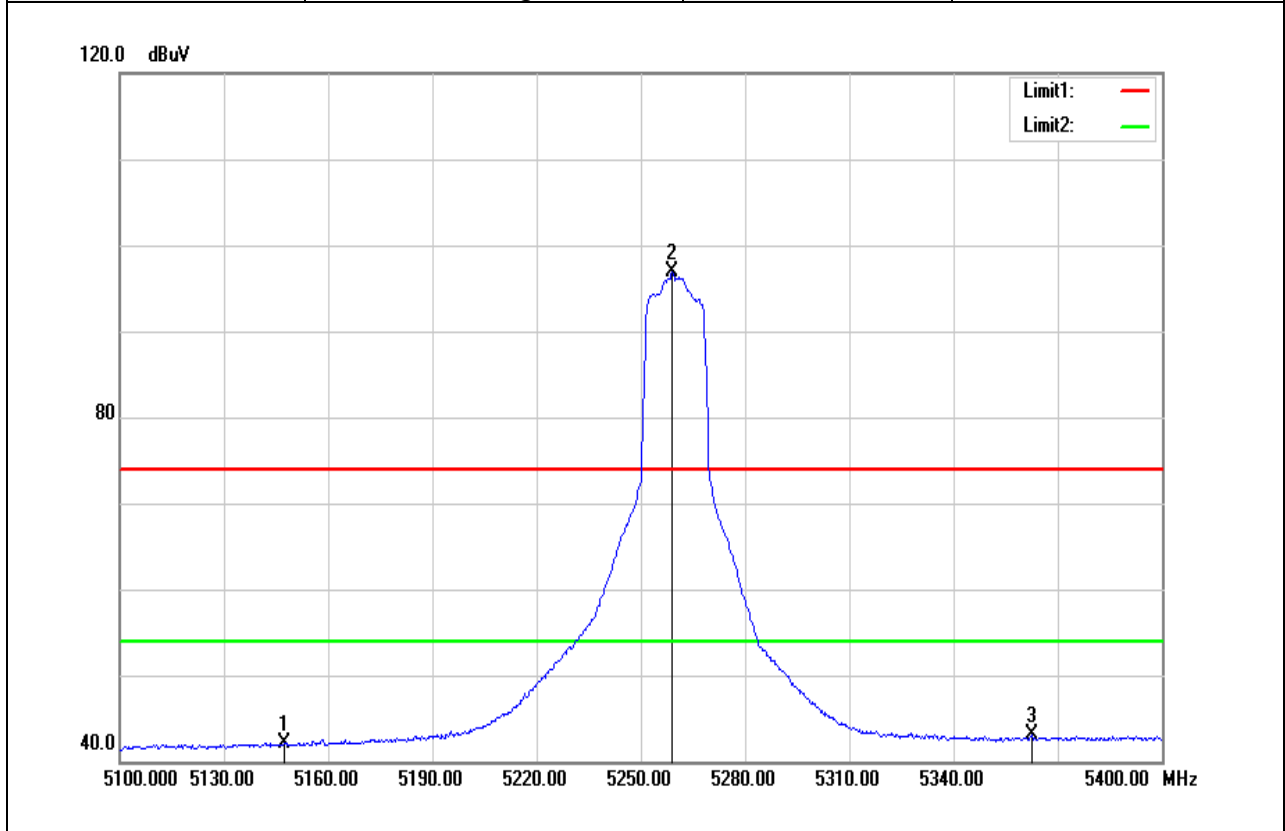
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5149.950	49.82	5.06	54.88	74.00	-19.12	peak
5258.550	101.08	5.34	106.42	-	-	peak
5386.800	50.19	5.65	55.84	74.00	-18.16	peak



Report No.: T180522D10-RP4

Page: 94 / 228  
Rev.: 00

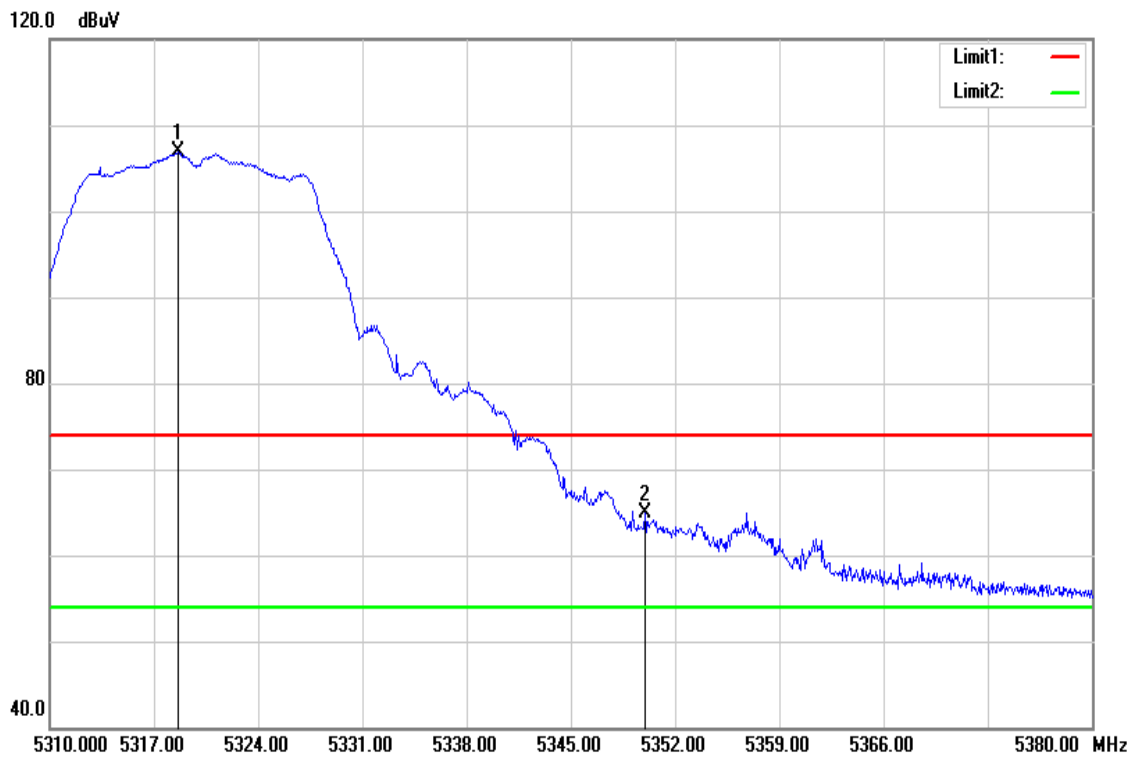
Test Mode	IEEE 802.11a / 5260MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 25, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5147.550	37.03	5.06	42.09	54.00	-11.91	AVG
5259.150	91.47	5.34	96.81	-	-	AVG
5362.500	37.42	5.59	43.01	54.00	-10.99	AVG

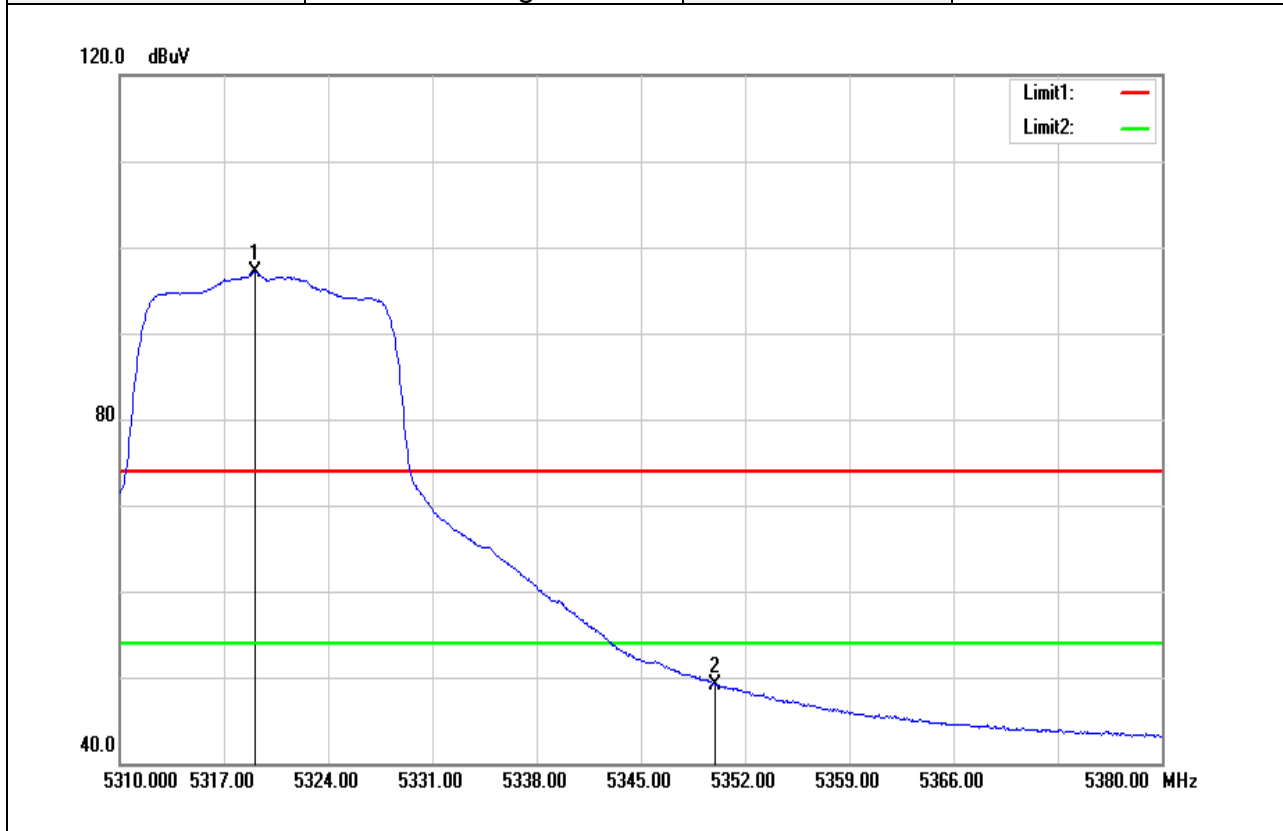


Test Mode	IEEE 802.11a / 5320MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 25, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



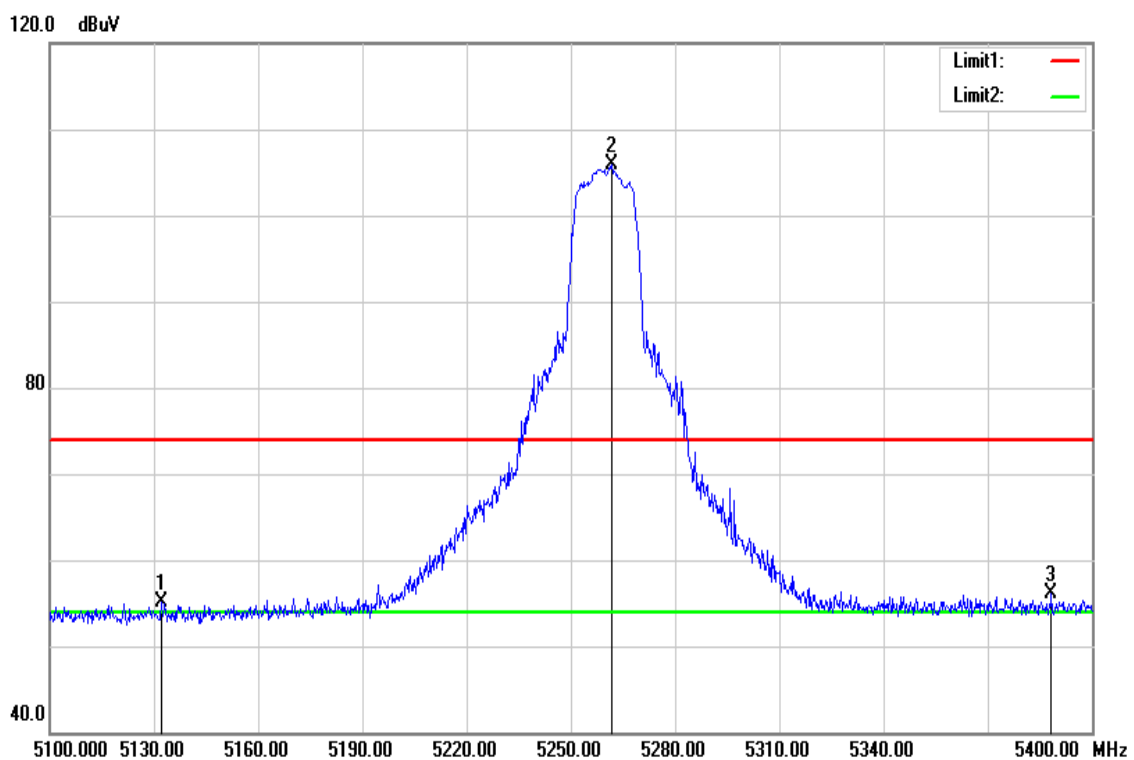
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5318.645	101.33	5.48	106.81	-	-	peak
5350.000	59.31	5.56	64.87	74.00	-9.13	peak

Test Mode	IEEE 802.11a / 5320MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 25, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



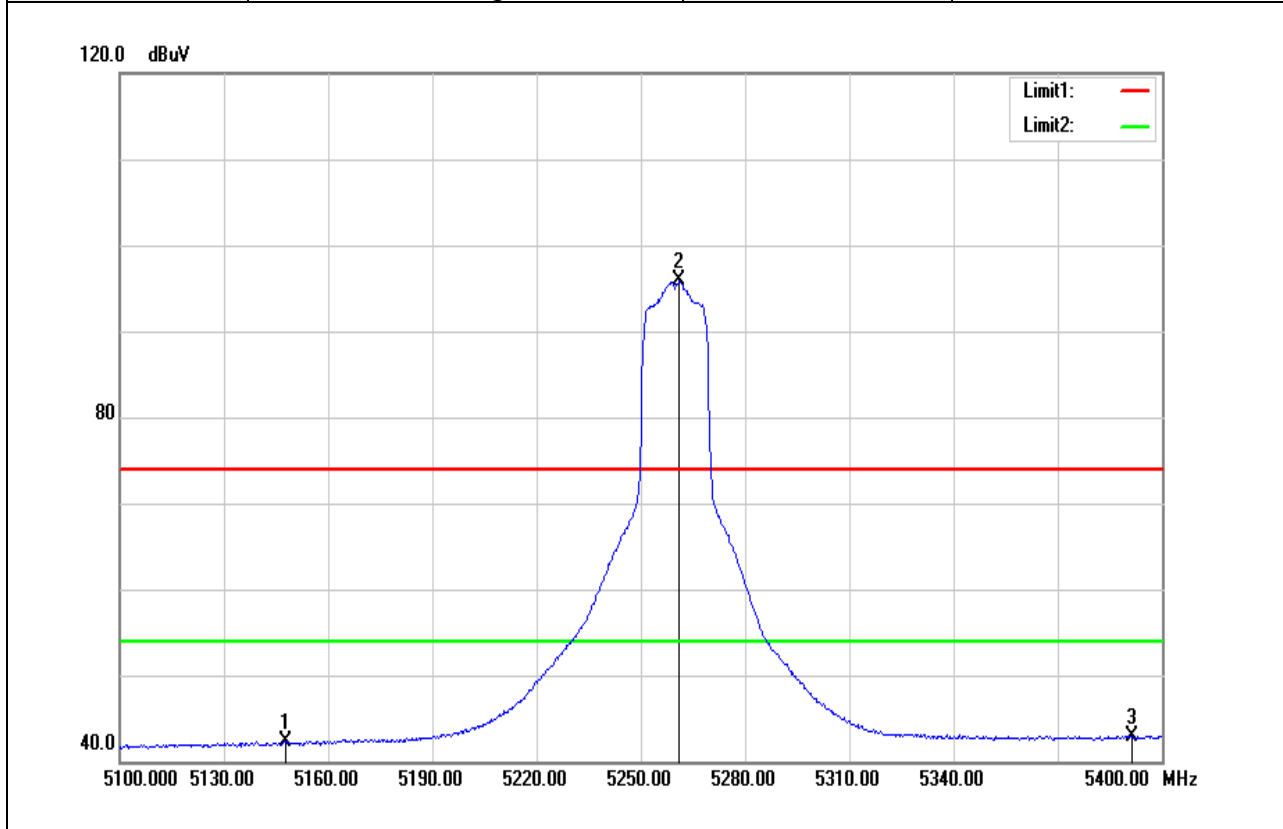
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5319.100	91.60	5.48	97.08	-	-	AVG
5350.000	43.59	5.56	49.15	54.00	-4.85	AVG

Test Mode	IEEE 802.11n HT20 / 5260MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 25, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



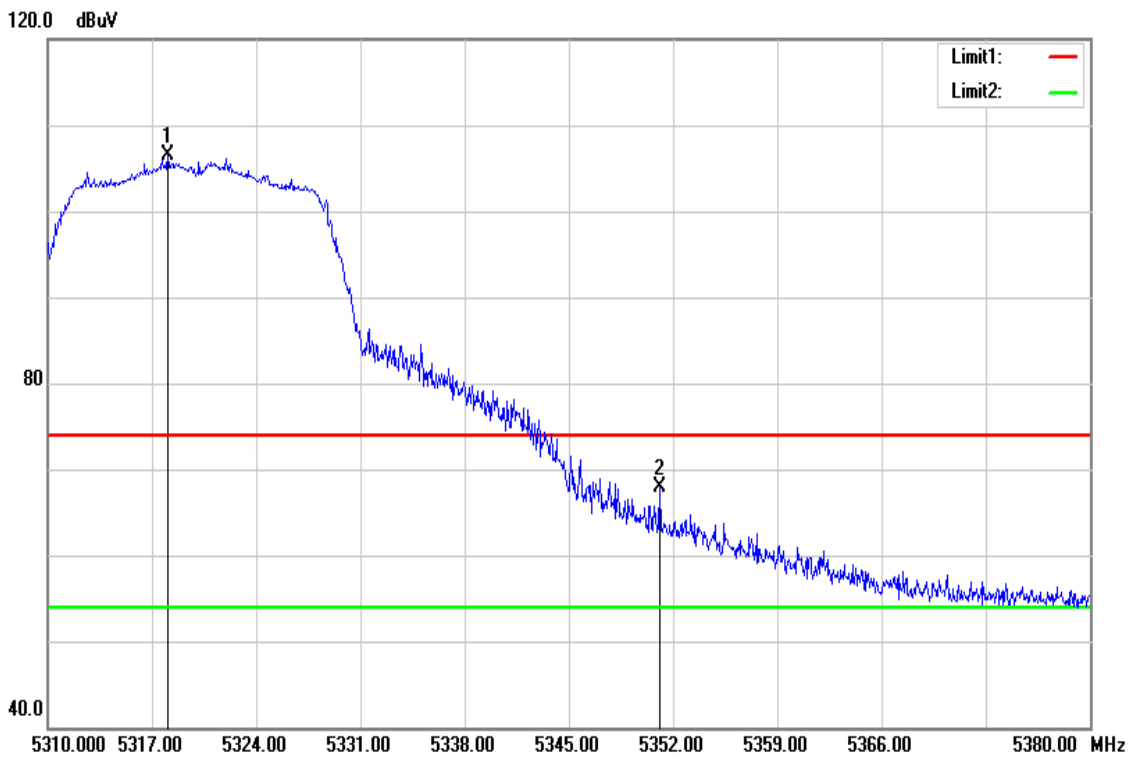
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5132.100	50.16	5.02	55.18	74.00	-18.82	peak
5261.700	100.63	5.34	105.97	-	-	peak
5388.450	50.36	5.65	56.01	74.00	-17.99	peak

Test Mode	IEEE 802.11n HT20 / 5260MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 25, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



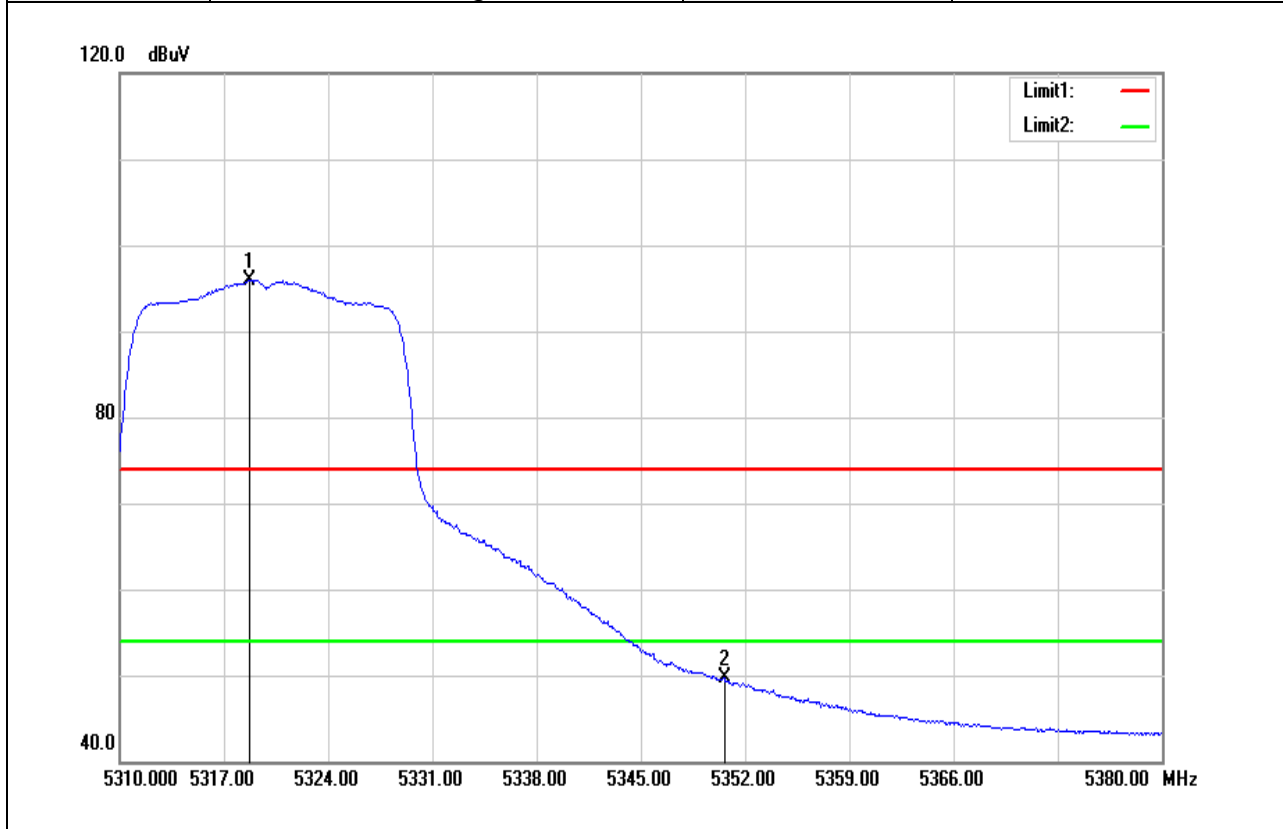
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5147.700	37.26	5.06	42.32	54.00	-11.68	AVG
5261.100	90.48	5.34	95.82	-	-	AVG
5391.450	37.32	5.65	42.97	54.00	-11.03	AVG

Test Mode	IEEE 802.11n HT20 / 5320MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 25, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



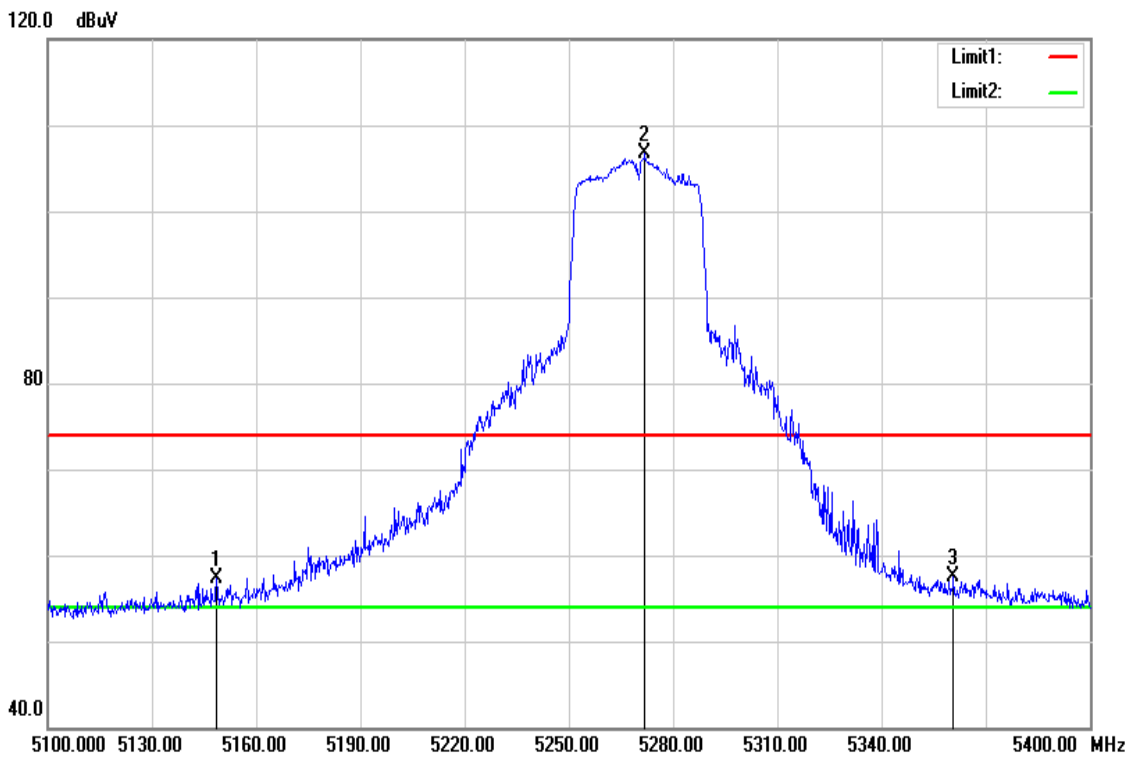
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5318.085	100.96	5.48	106.44	-	-	peak
5351.090	62.36	5.56	67.92	74.00	-6.08	peak

Test Mode	IEEE 802.11n HT20 / 5320MHz	Temperature	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 25, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



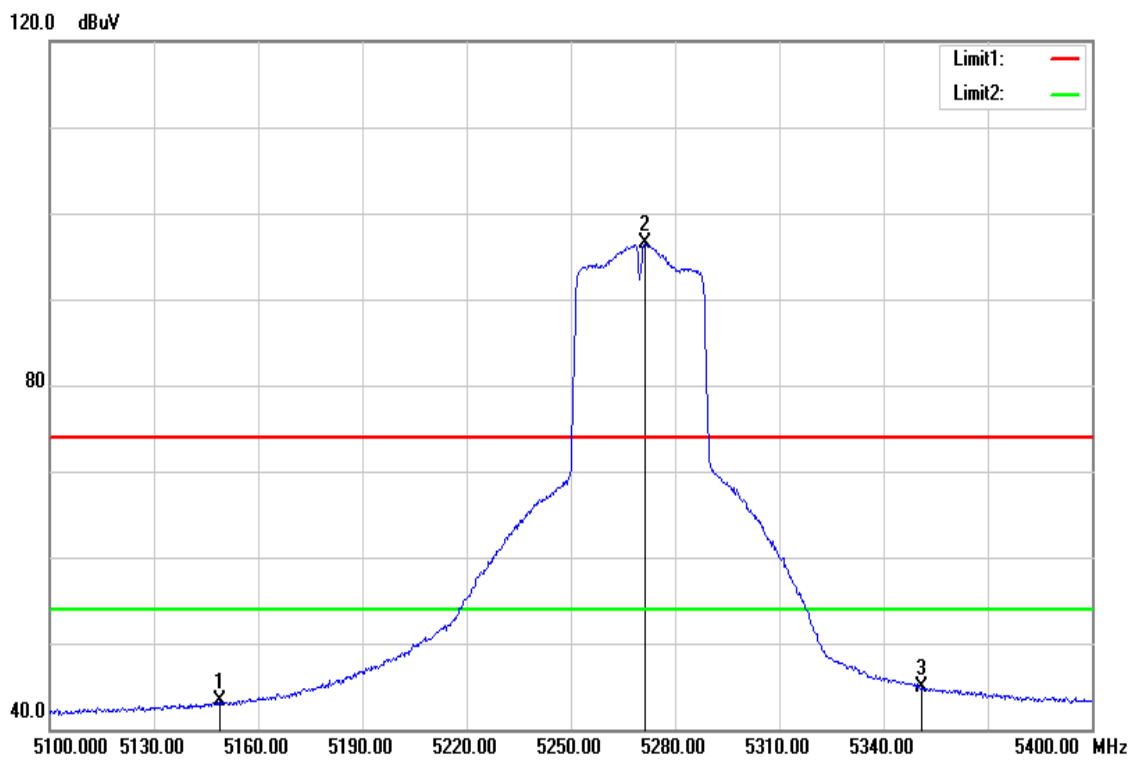
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5318.680	90.51	5.48	95.99	-	-	AVG
5350.600	44.15	5.56	49.71	54.00	-4.29	AVG

Test Mode	IEEE 802.11n HT40 / 5270MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 26, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5148.600	52.16	5.06	57.22	74.00	-16.78	peak
5271.900	101.31	5.36	106.67	-	-	peak
5360.700	51.97	5.59	57.56	74.00	-16.44	peak

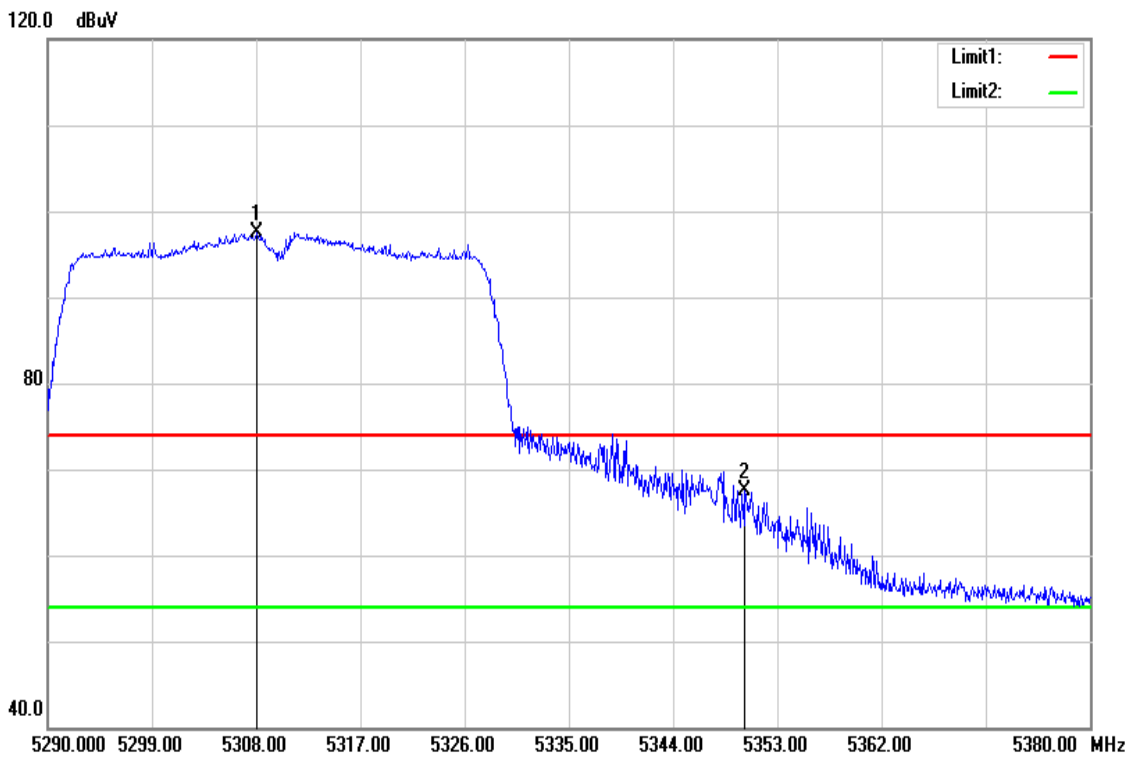
Test Mode	IEEE 802.11n HT40 / 5270MHz	Temperature	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 26, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5149.050	38.27	5.06	43.33	54.00	-10.67	AVG
5271.450	91.05	5.36	96.41	-	-	AVG
5350.800	39.44	5.56	45.00	54.00	-9.00	AVG

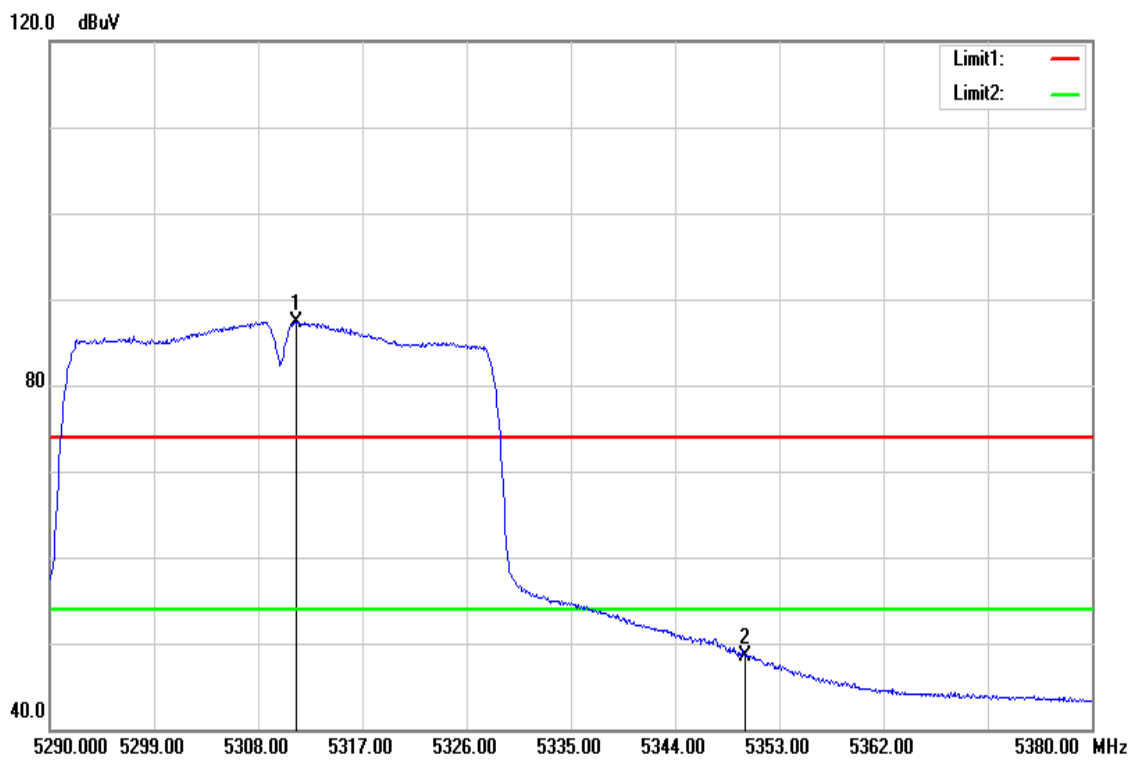


Test Mode	IEEE 802.11n HT40 / 5310MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



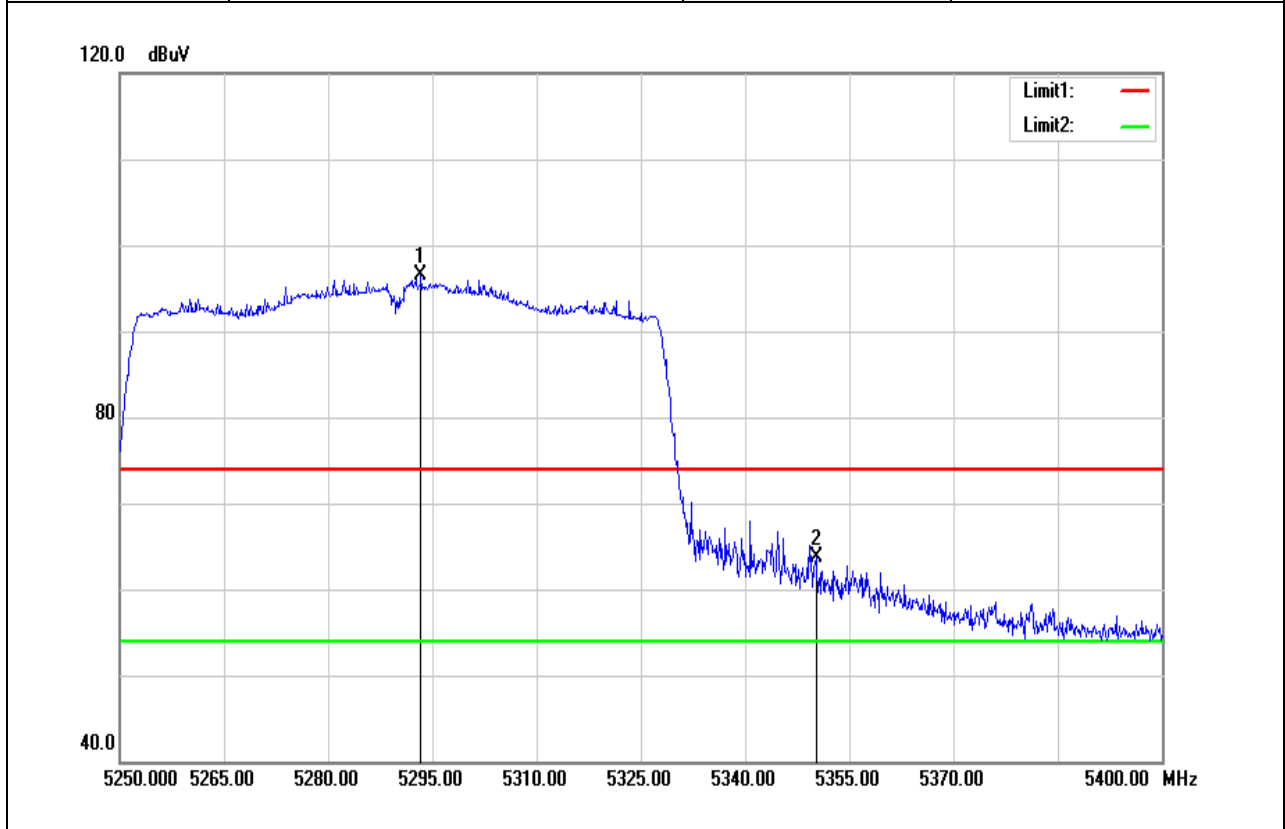
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5308.000	92.13	5.45	97.58	-	-	peak
5350.210	61.87	5.56	67.43	74.00	-6.57	peak

Test Mode	IEEE 802.11n HT40 / 5310MHz	Temperature	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



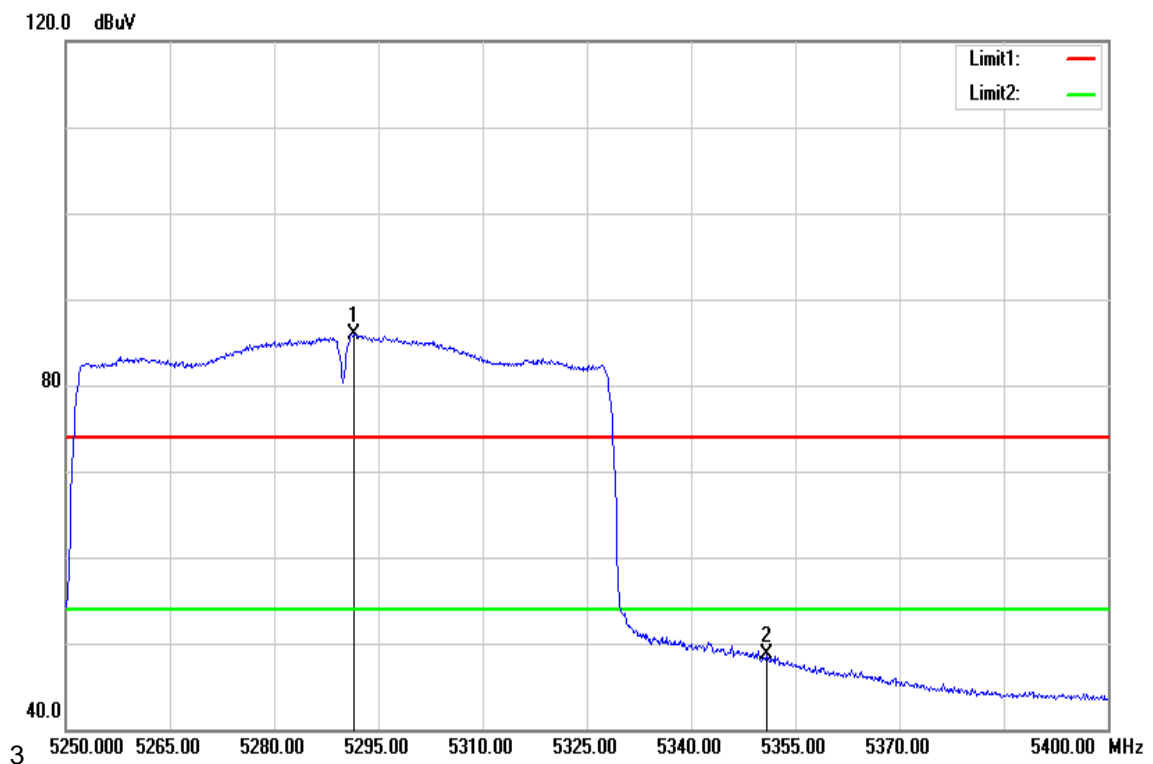
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5311.240	81.93	5.46	87.39	-	-	AVG
5350.000	42.97	5.56	48.53	54.00	-5.47	AVG

Test Mode	IEEE 802.11ac VHT80 / 5290MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5293.350	91.06	5.42	96.48	-	-	peak
5350.200	58.12	5.56	63.68	74.00	-10.32	peak

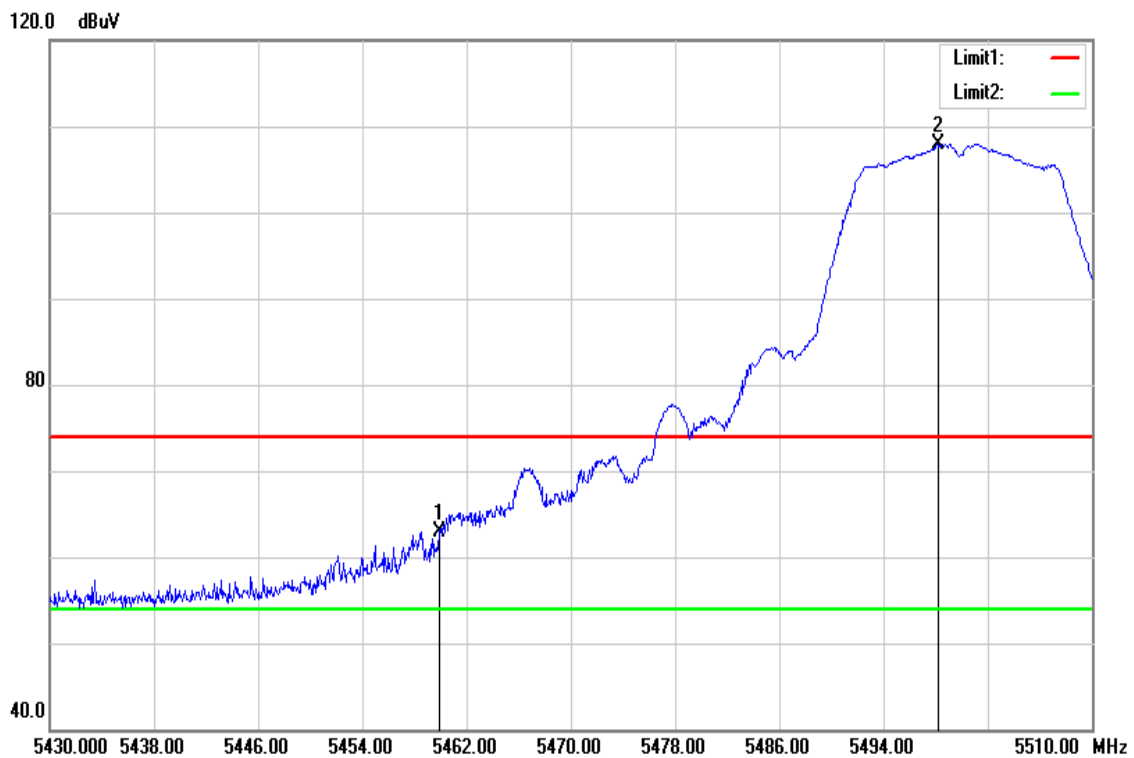
Test Mode	IEEE 802.11ac VHT80 / 5290MHz	Temperature	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5291.550	80.50	5.41	85.91	-	-	AVG
5350.800	43.05	5.56	48.61	54.00	-5.39	AVG

**Band Edge Test Data for UNII-2c**

Test Mode	IEEE 802.11a / 5500MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 25, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



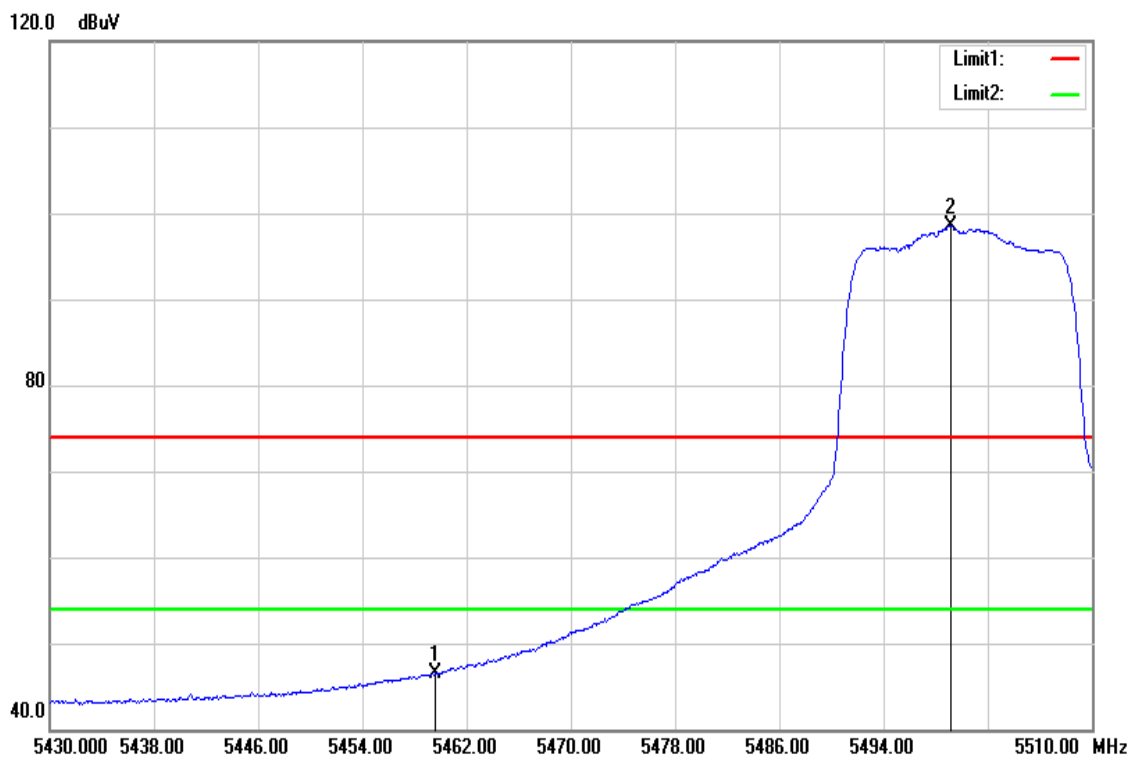
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5459.920	57.11	5.83	62.94	74.00	-11.06	peak
5498.200	101.96	5.93	107.89	-	-	peak



Report No.: T180522D10-RP4

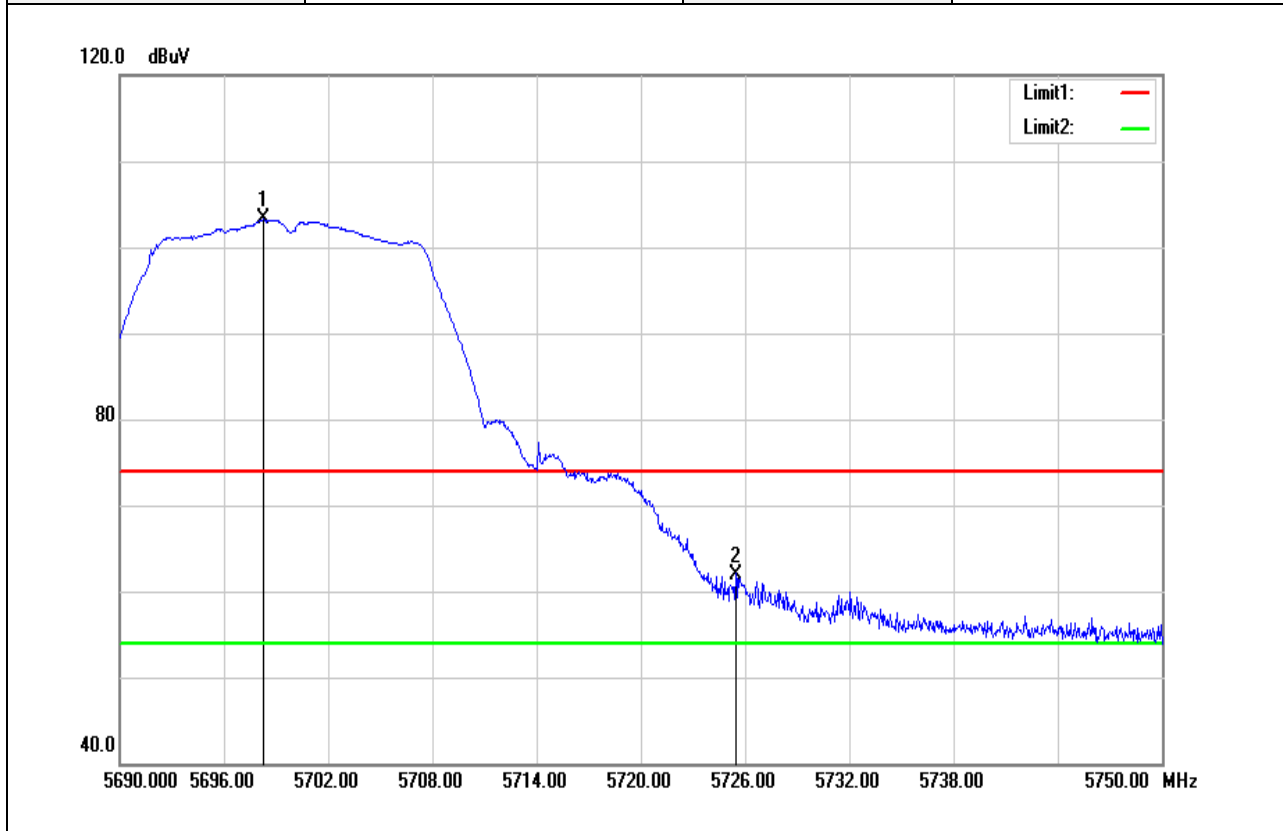
Page: 108 / 228  
Rev.: 00

Test Mode	IEEE 802.11a / 5500MHz	Temperature	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 25, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5459.640	40.68	5.83	46.51	54.00	-7.49	AVG
5499.160	92.64	5.93	98.57	-	-	AVG

Test Mode	IEEE 802.11a / 5700 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 25, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



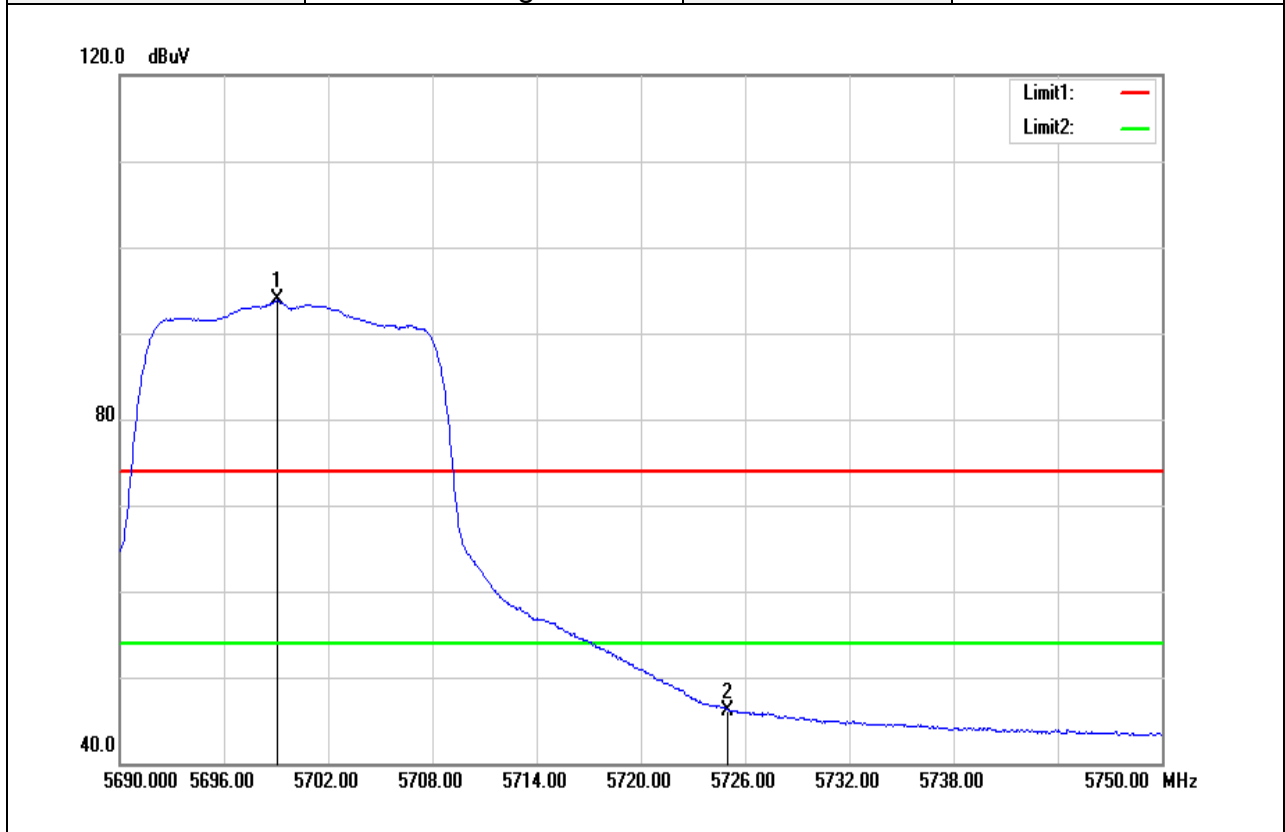
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5698.280	96.84	6.45	103.29	-	-	peak
5725.490	55.48	6.52	62.00	74.00	-12.00	peak



Report No.: T180522D10-RP4

Page: 110 / 228  
Rev.: 00

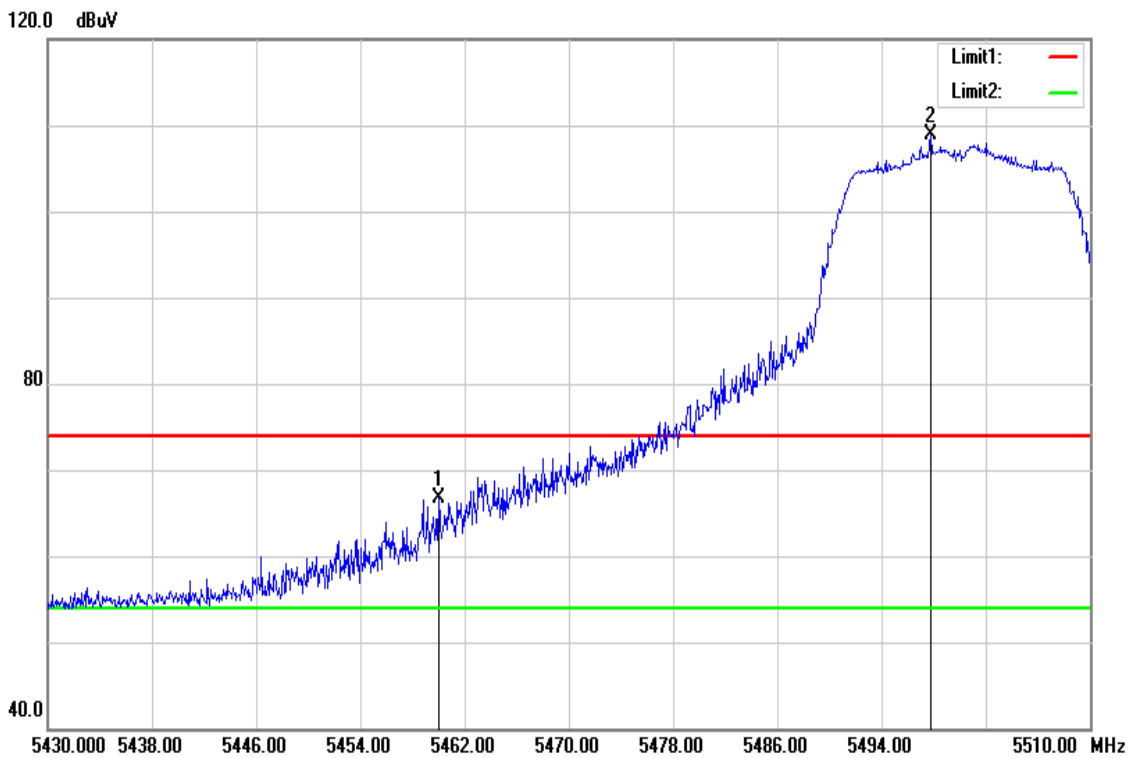
Test Mode	IEEE 802.11a / 5700 MHz	Temperature	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 25, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5699.090	87.36	6.45	93.81	-	-	AVG
5725.000	39.66	6.52	46.18	54.00	-7.82	AVG

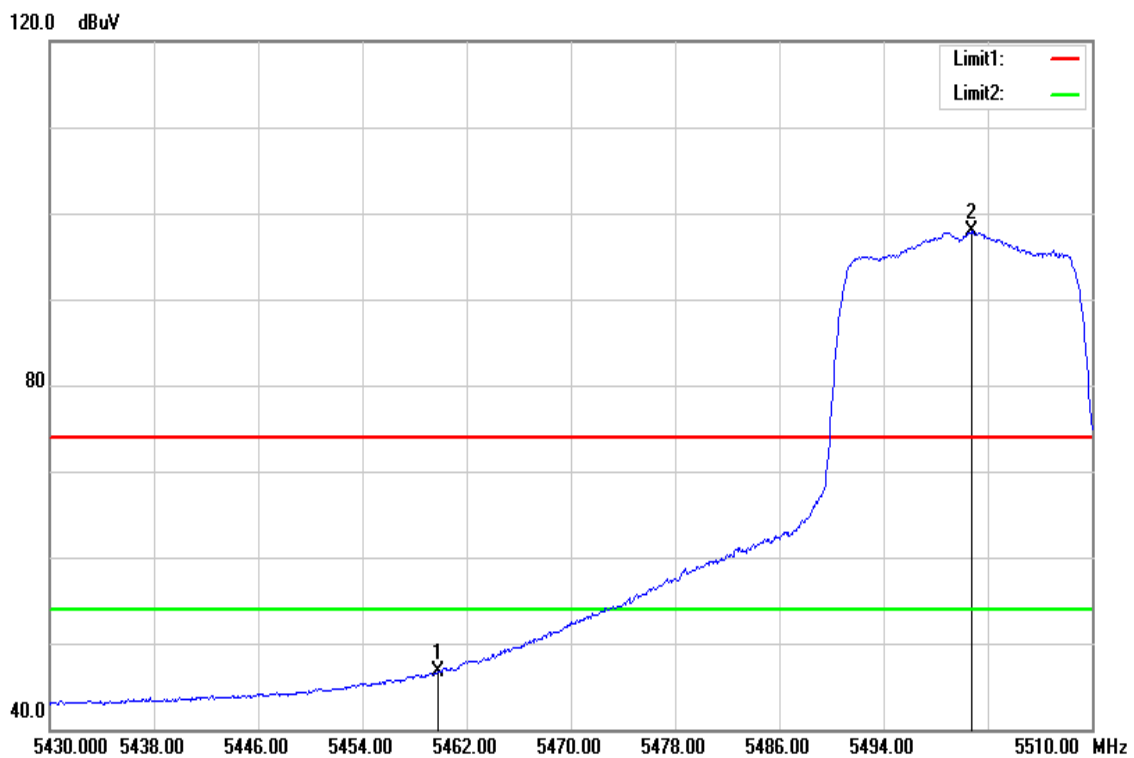


Test Mode	IEEE 802.11n HT20 / 5500MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 25, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



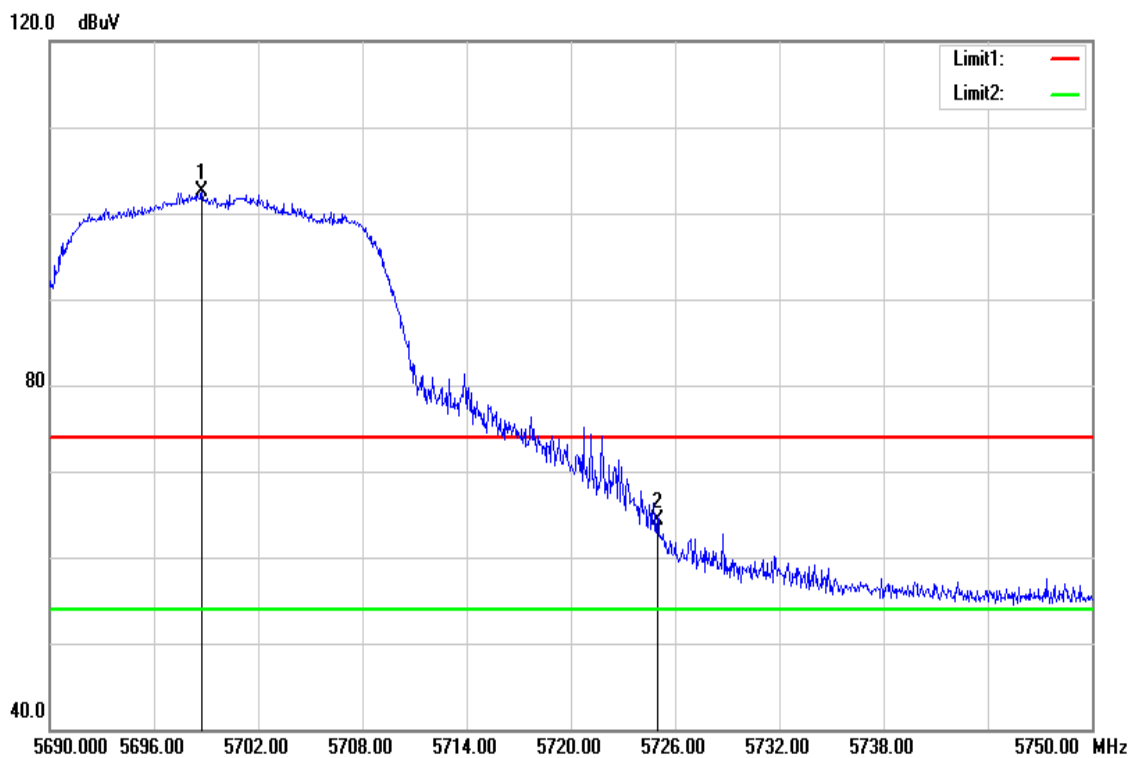
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5460.000	60.94	5.83	66.77	74.00	-7.23	peak
5497.800	103.03	5.93	108.96	-	-	peak

Test Mode	IEEE 802.11n HT20 / 5500MHz	Temperature	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 25, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



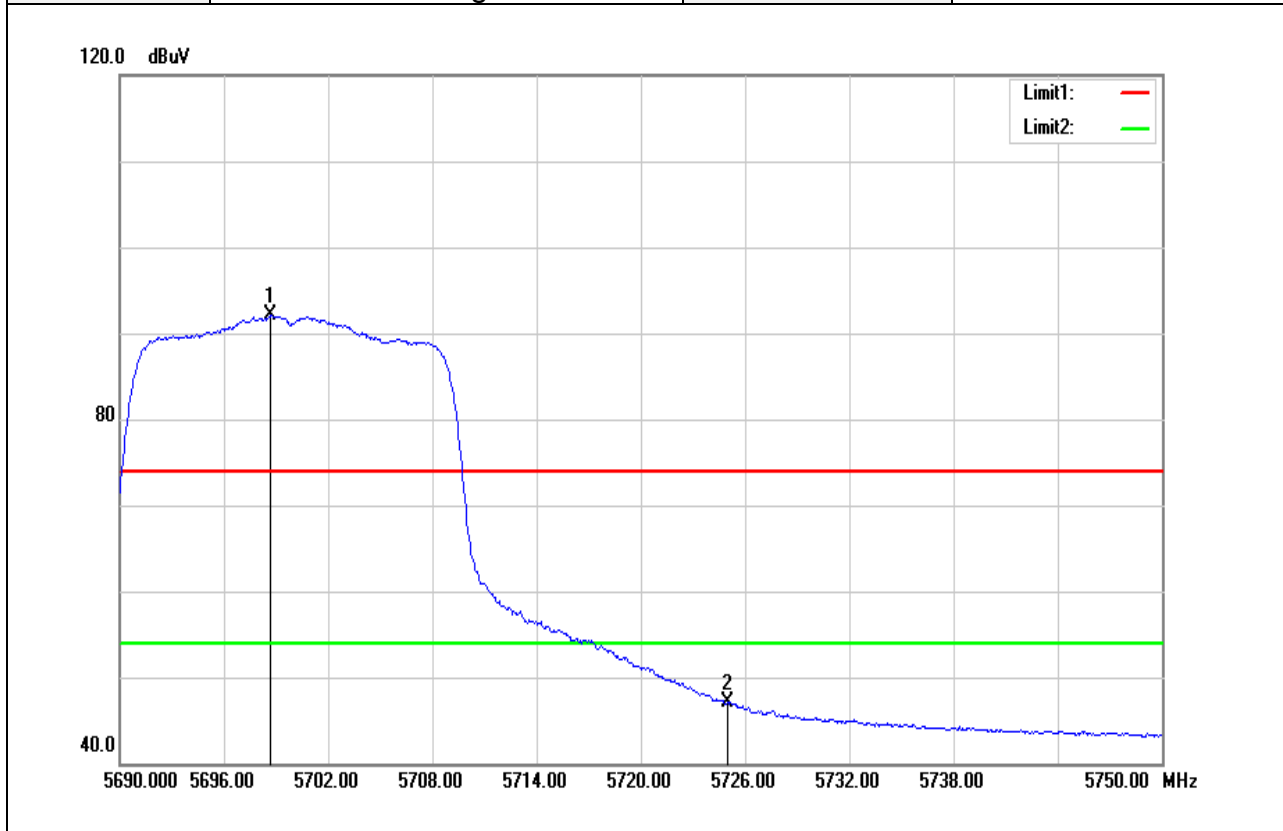
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5459.880	40.93	5.83	46.76	54.00	-7.24	AVG
5500.840	91.98	5.93	97.91	-	-	AVG

Test Mode	IEEE 802.11n HT20 / 5700 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 25, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



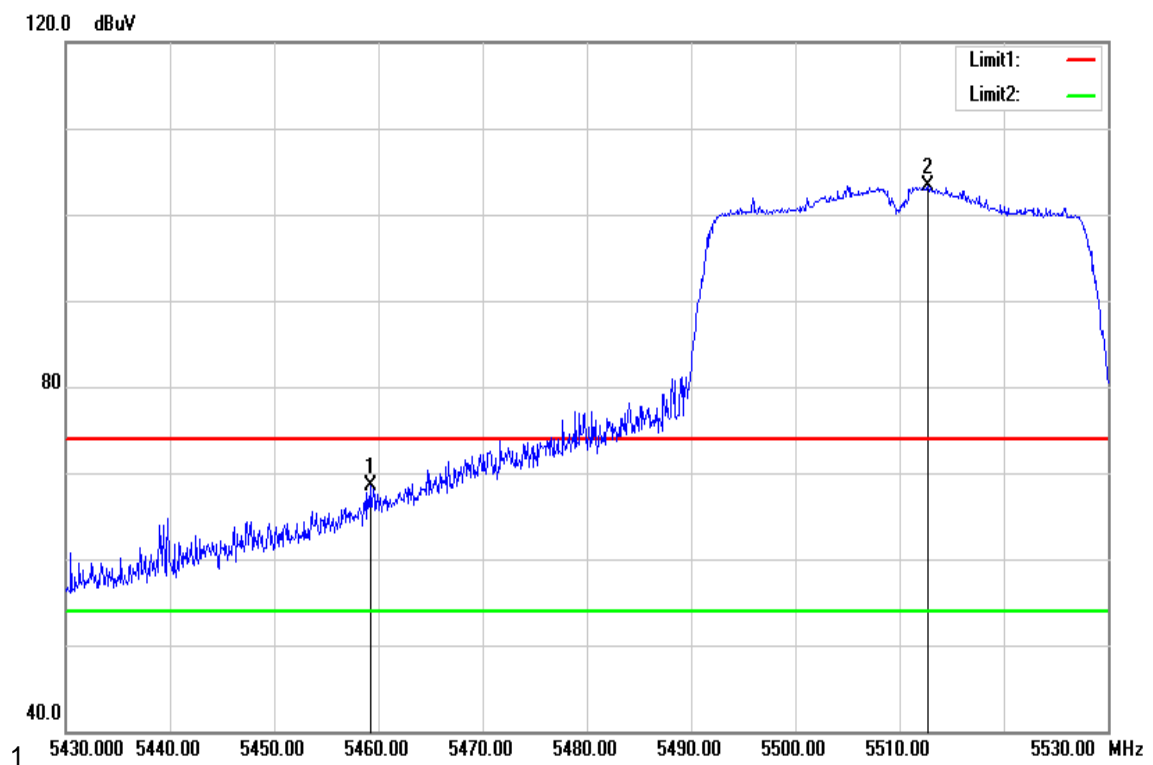
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5698.760	96.06	6.45	102.51	-	-	peak
5725.000	57.73	6.52	64.25	74.00	-9.75	peak

Test Mode	IEEE 802.11n HT20 / 5700 MHz	Temperature	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 25, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



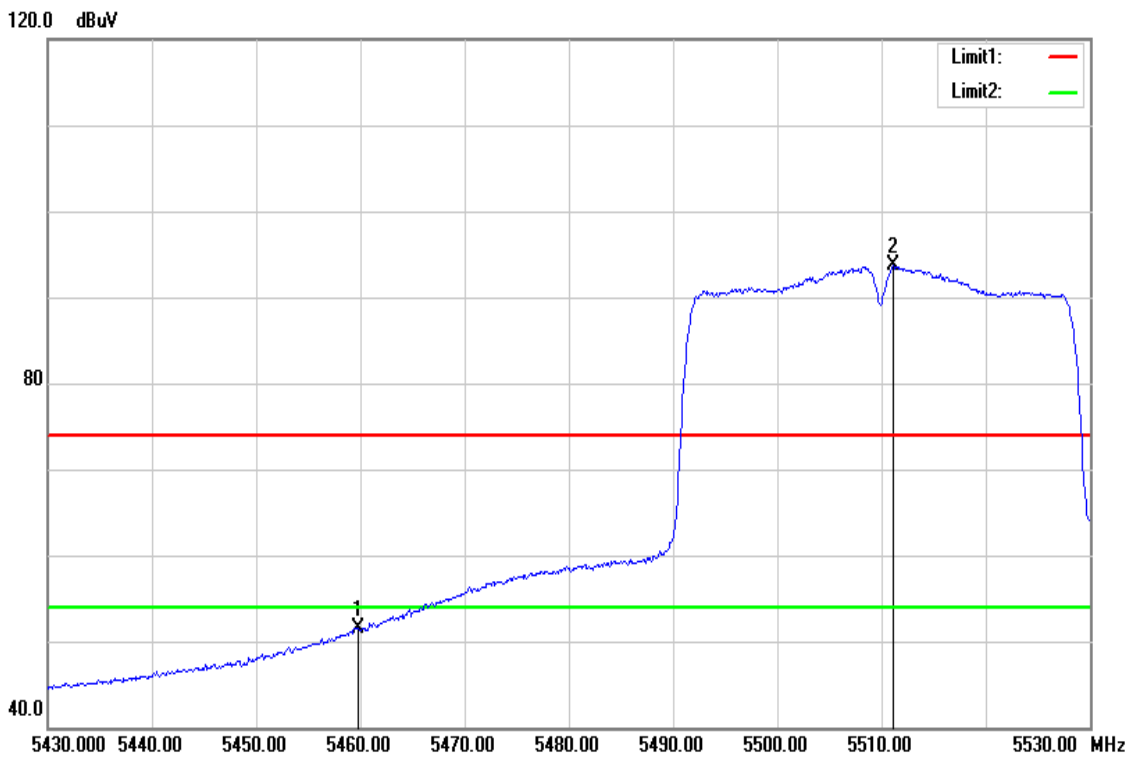
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5698.670	85.64	6.45	92.09	-	-	AVG
5725.000	40.60	6.52	47.12	54.00	-6.88	AVG

Test Mode	IEEE 802.11n HT40 / 5510 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 26, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



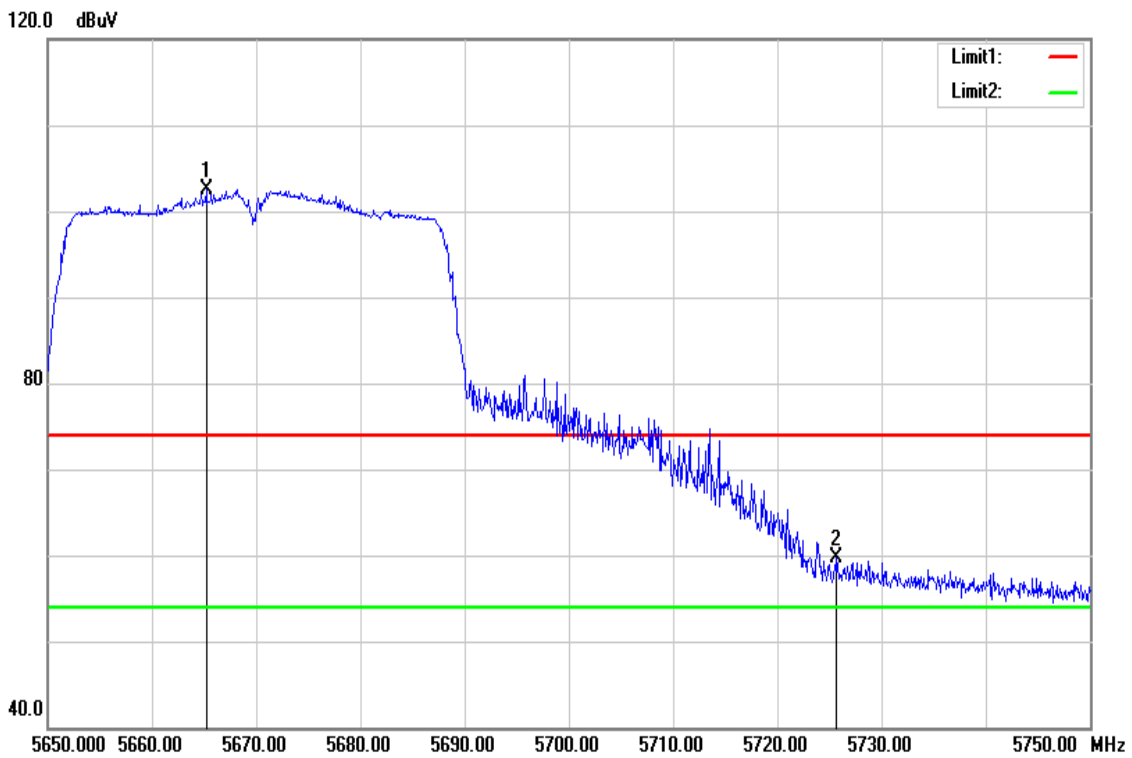
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5459.250	62.68	5.83	68.51	74.00	-5.49	peak
5512.700	97.30	5.97	103.27	-	-	peak

Test Mode	IEEE 802.11n HT40 / 5510 MHz	Temperature	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 26, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



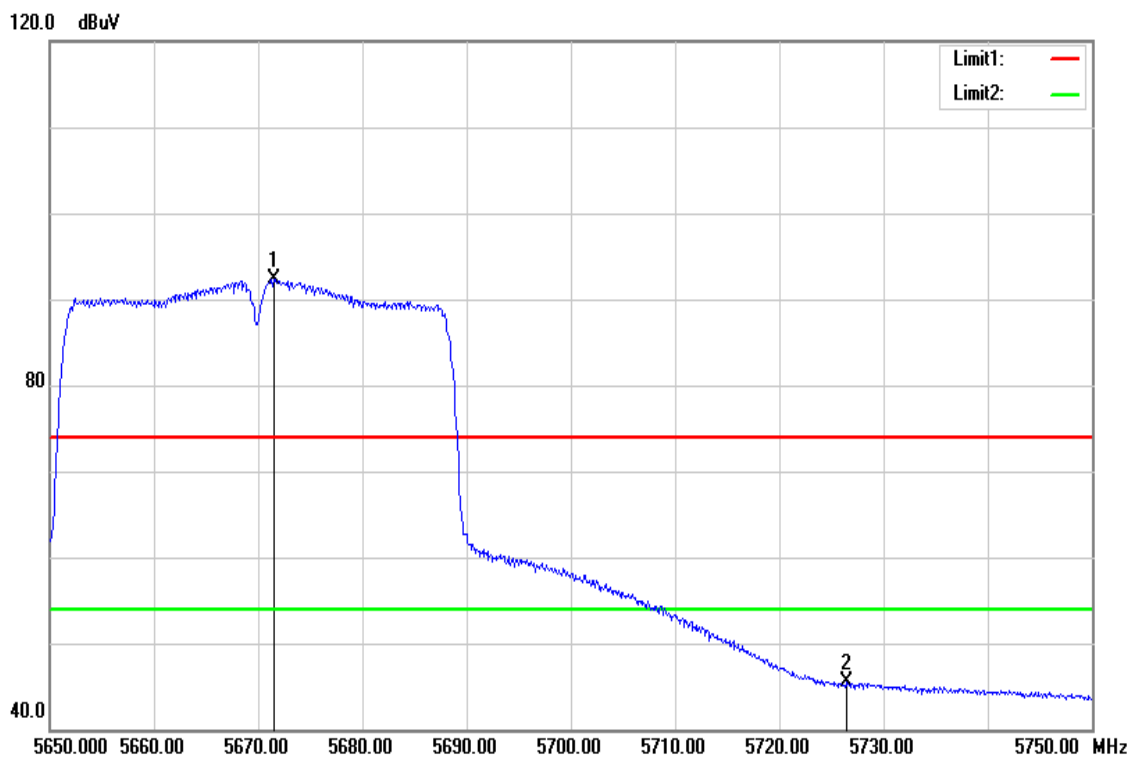
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5459.800	45.70	5.83	51.53	54.00	-2.47	AVG
5511.150	87.73	5.95	93.68	-	-	AVG

Test Mode	IEEE 802.11n HT40 / 5670 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 26, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5665.250	96.11	6.36	102.47	-	-	peak
5725.750	53.15	6.52	59.67	74.00	-14.33	peak

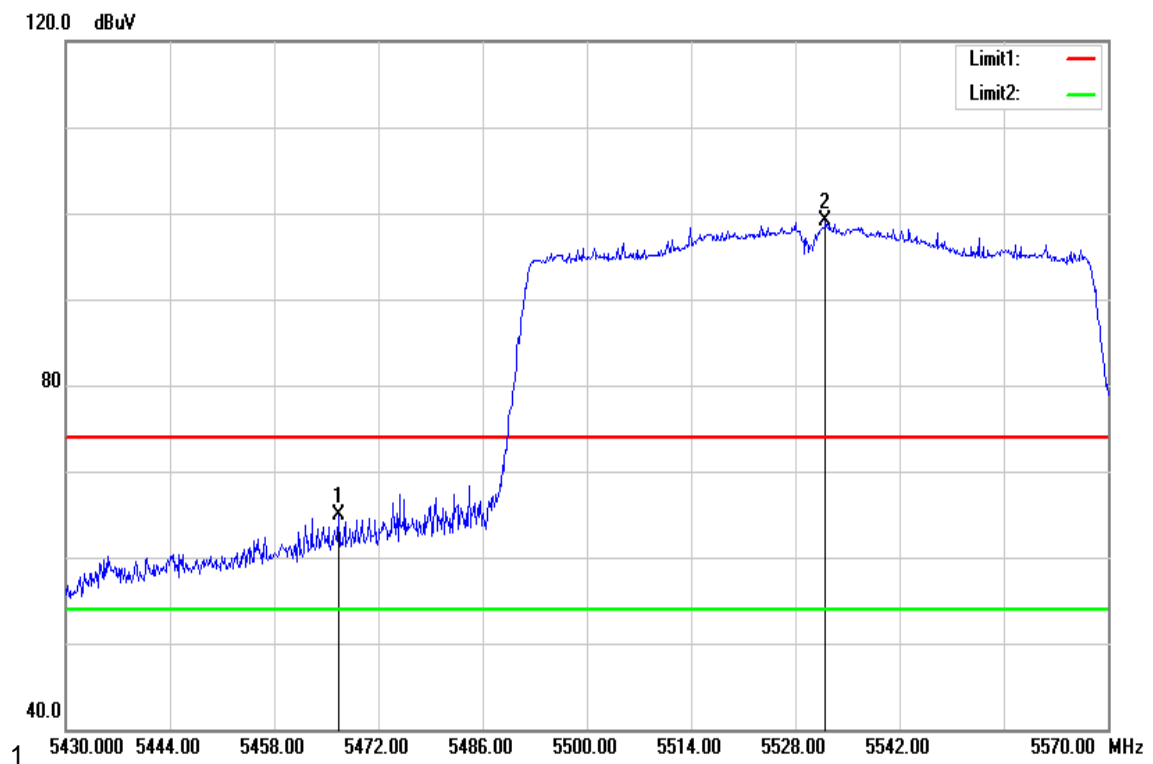
Test Mode	IEEE 802.11n HT40 / 5670 MHz	Temperature	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 26, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5671.550	85.93	6.38	92.31	-	-	AVG
5726.400	39.00	6.52	45.52	54.00	-8.48	AVG

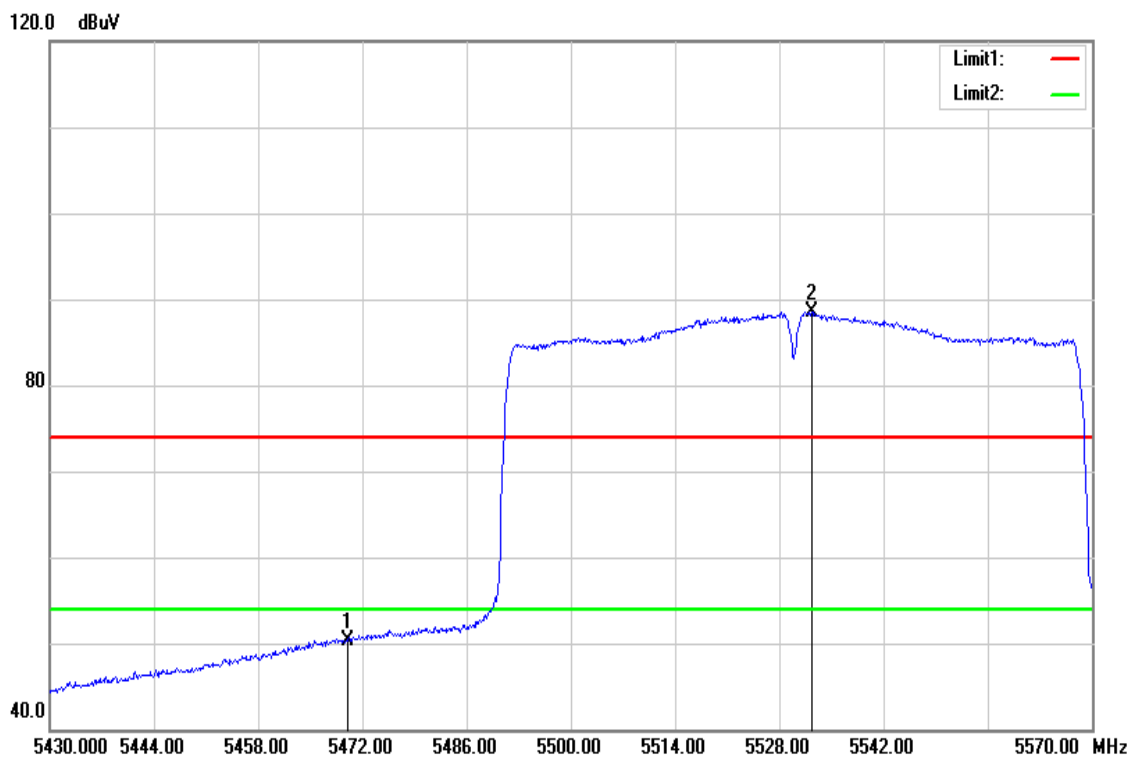


Test Mode	IEEE 802.11ac VHT80 / 5530 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5466.680	58.97	5.85	64.82	74.00	-9.18	peak
5532.060	93.12	6.01	99.13	-	-	peak

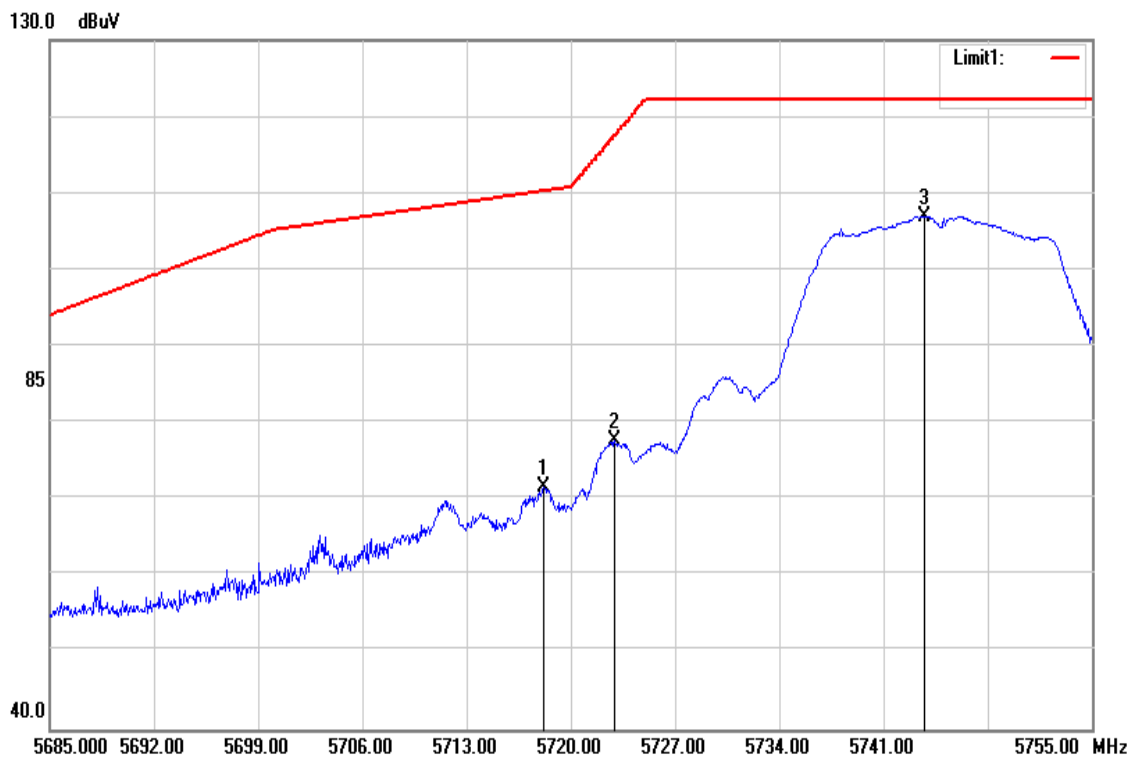
Test Mode	IEEE 802.11ac VHT80 / 5530 MHz	Temperature	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5470.000	44.50	5.85	50.35	54.00	-3.65	AVG
5532.340	82.55	6.01	88.56	-	-	AVG

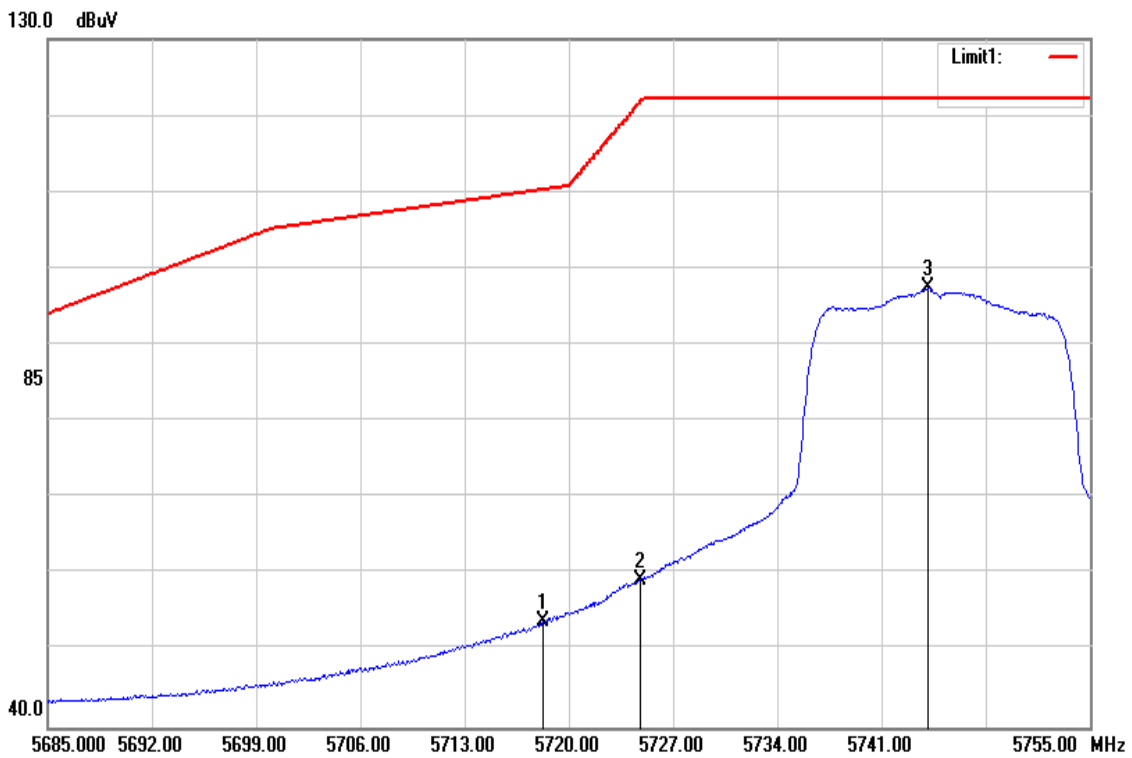
**Band Edge Test Data for UNII-3**

Test Mode	IEEE 802.11a / 5745 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 26, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



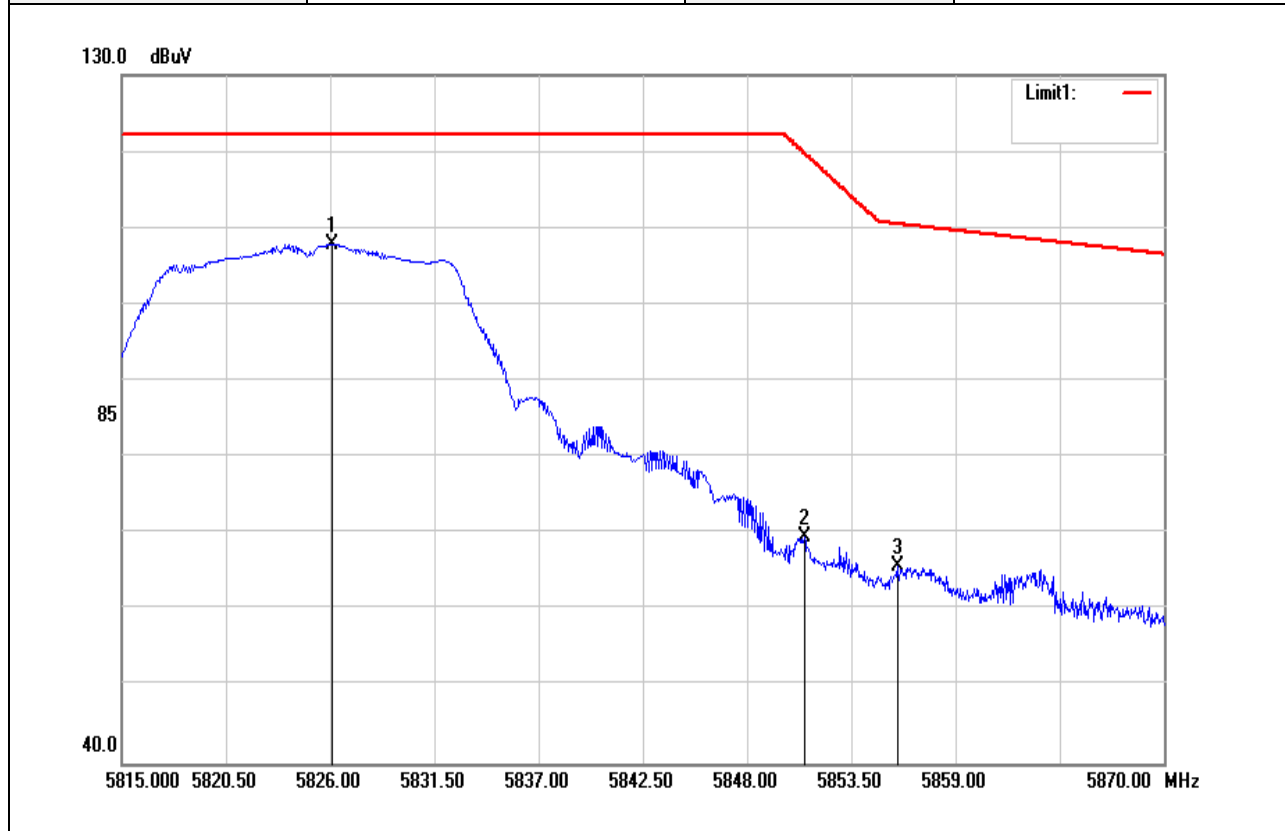
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5718.215	65.05	6.50	71.55	110.30	-38.75	peak
5722.940	71.09	6.52	77.61	117.50	-39.89	peak
5743.730	100.47	6.57	107.04	-	-	peak

Test Mode	IEEE 802.11a / 5745 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 26, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



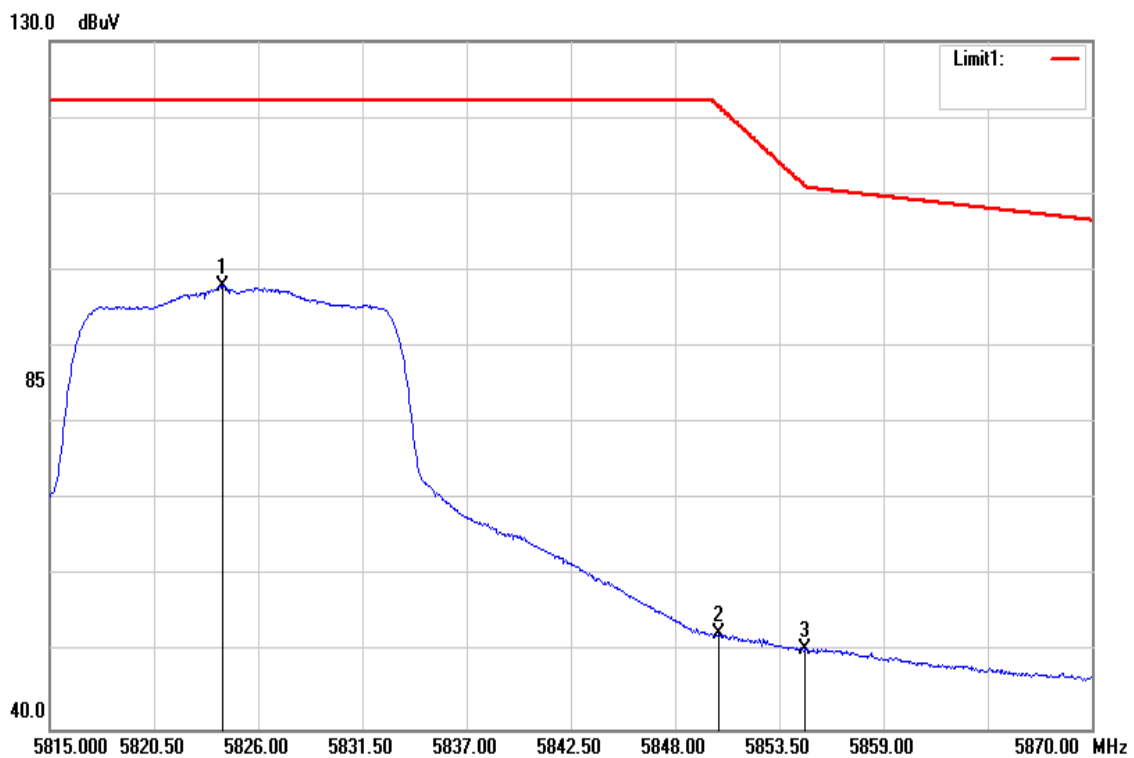
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5718.285	47.23	6.50	53.73	110.32	-56.59	AVG
5724.865	52.74	6.52	59.26	121.89	-62.63	AVG
5744.115	90.86	6.57	97.43	-	-	AVG

Test Mode	IEEE 802.11a / 5825 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 26, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



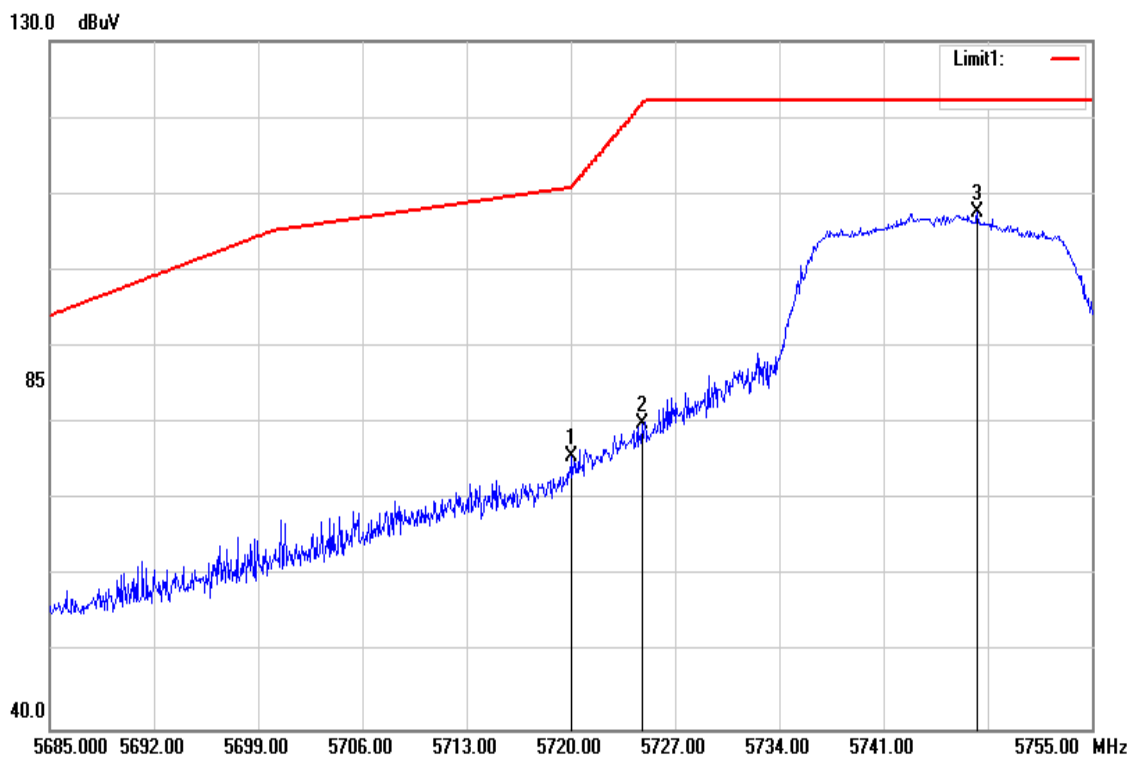
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5826.137	101.17	6.78	107.95	-	-	peak
5851.052	62.66	6.85	69.51	119.80	-50.29	peak
5855.948	58.87	6.86	65.73	110.53	-44.80	peak

Test Mode	IEEE 802.11a / 5825 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 26, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



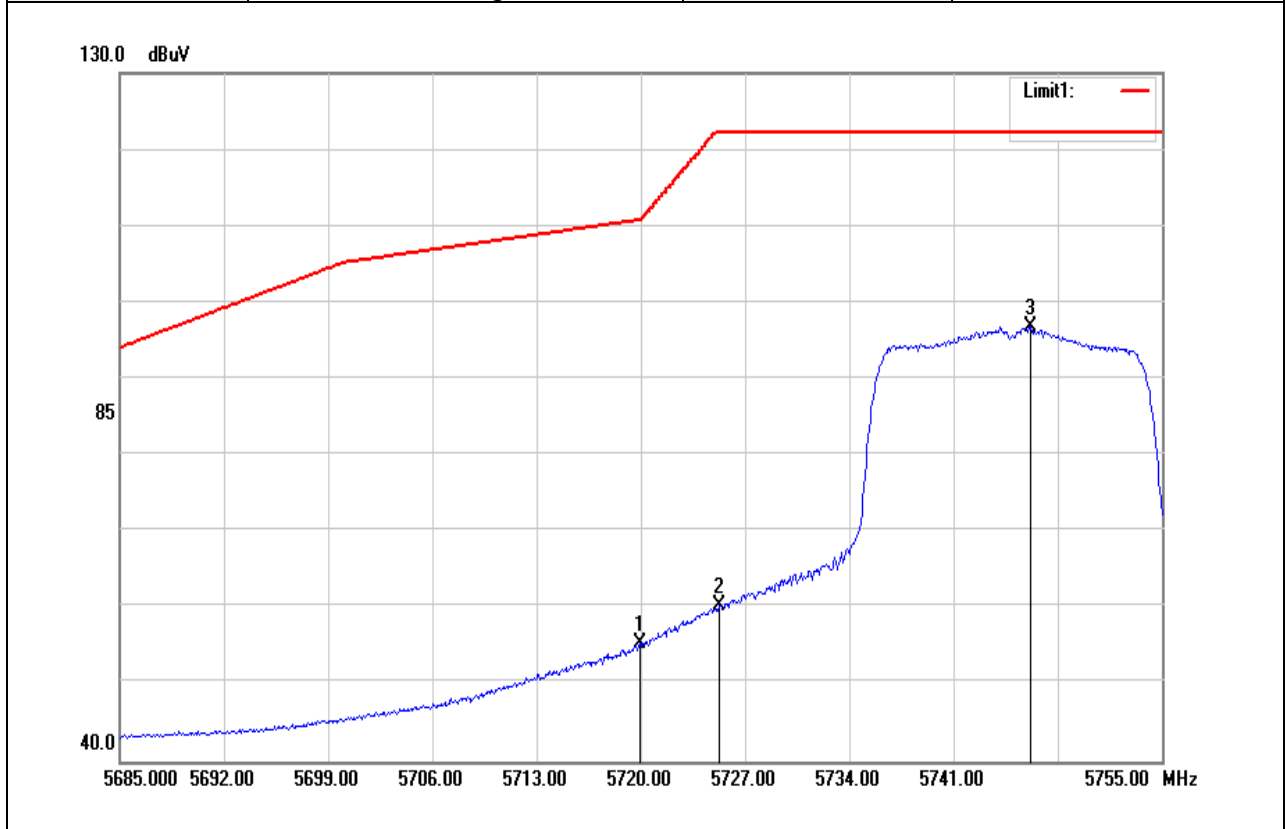
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5824.158	91.19	6.78	97.97	-	-	AVG
5850.310	45.66	6.85	52.51	121.49	-68.98	AVG
5854.875	43.64	6.86	50.50	111.08	-60.58	AVG

Test Mode	IEEE 802.11n HT20 / 5745 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 26, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5720.105	69.21	6.50	75.71	111.04	-35.33	peak
5724.830	73.36	6.52	79.88	121.81	-41.93	peak
5747.300	100.94	6.58	107.52	-	-	peak

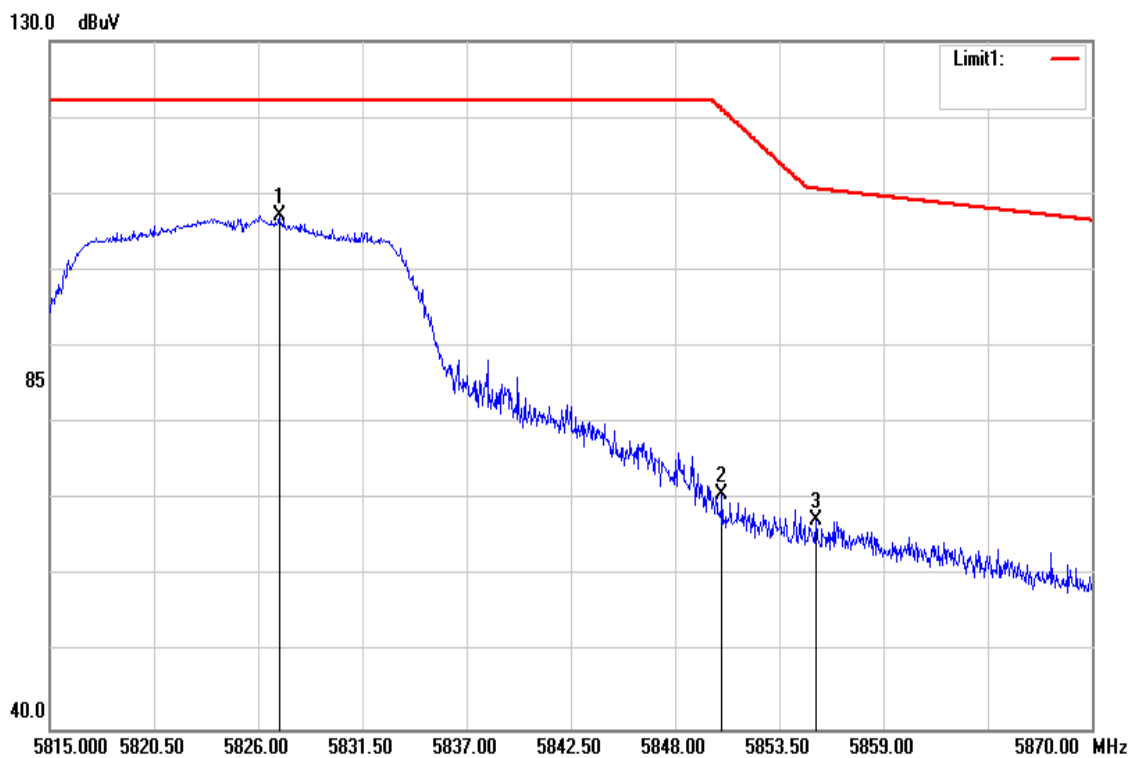
Test Mode	IEEE 802.11n HT20 / 5745 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 26, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5719.965	48.84	6.50	55.34	110.79	-55.45	AVG
5725.285	53.89	6.52	60.41	122.20	-61.79	AVG
5746.215	90.33	6.58	96.91	-	-	AVG

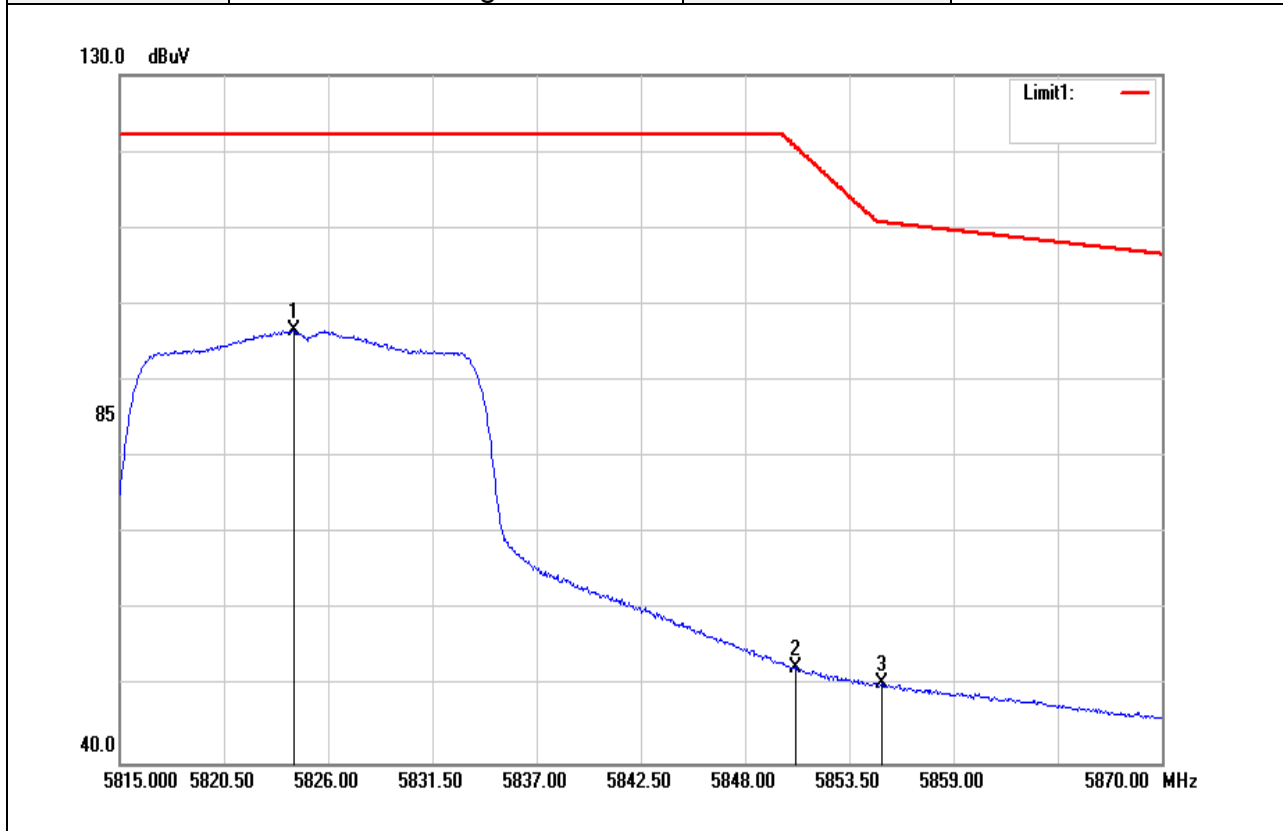


Test Mode	IEEE 802.11n HT20 / 5825 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 26, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



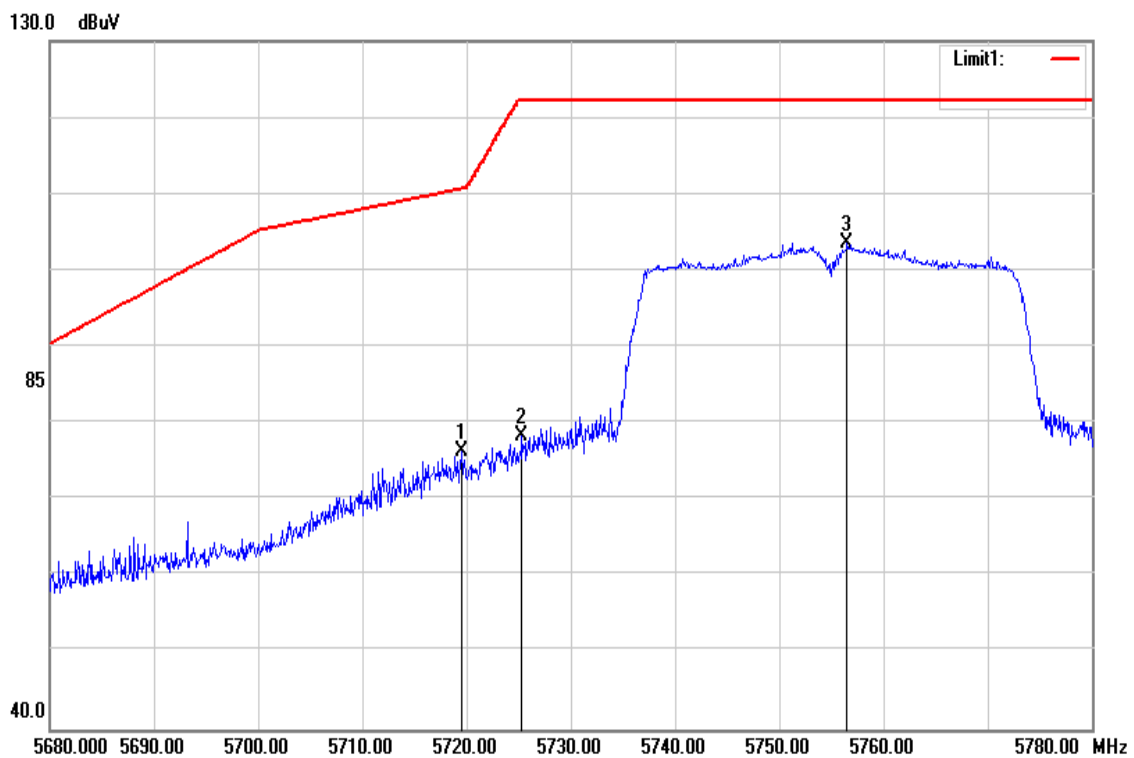
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5827.100	100.44	6.78	107.22	-	-	peak
5850.475	63.81	6.85	70.66	121.12	-50.46	peak
5855.453	60.38	6.86	67.24	110.67	-43.43	peak

Test Mode	IEEE 802.11n HT20 / 5825 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 26, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



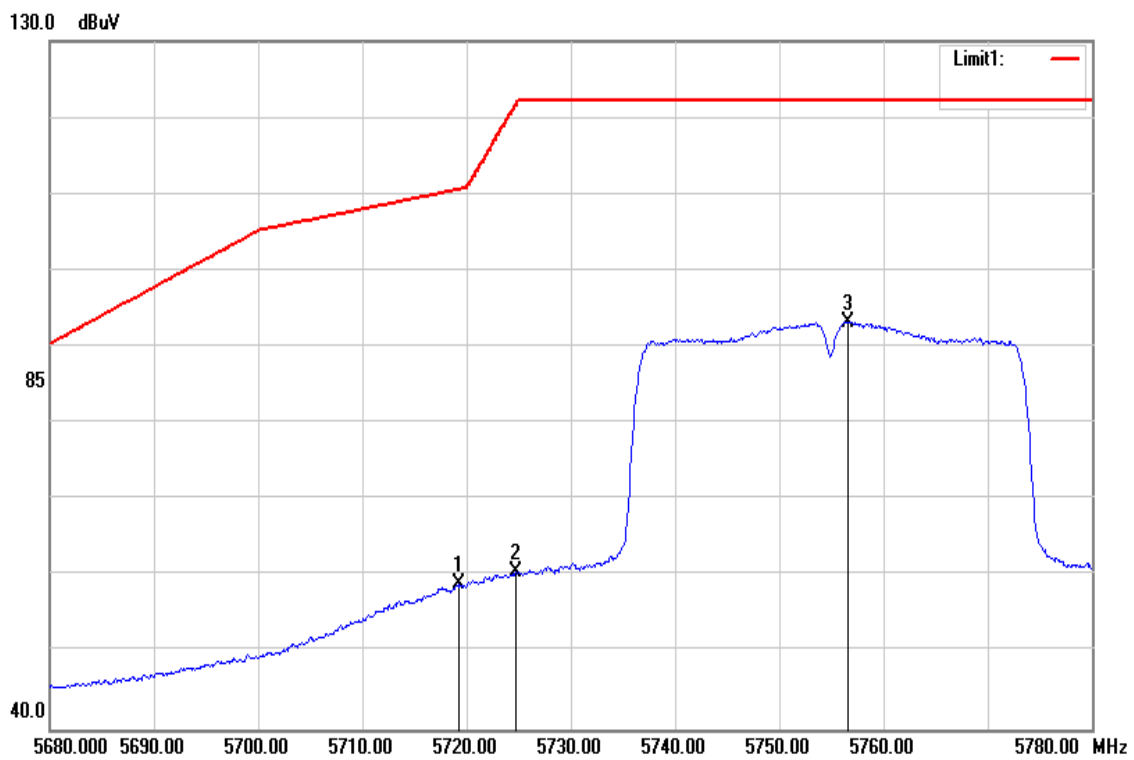
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5824.185	89.87	6.78	96.65	-	-	AVG
5850.695	45.74	6.85	52.59	120.62	-68.03	AVG
5855.205	43.61	6.86	50.47	110.74	-60.27	AVG

Test Mode	IEEE 802.11n HT40/ 5755 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 26, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



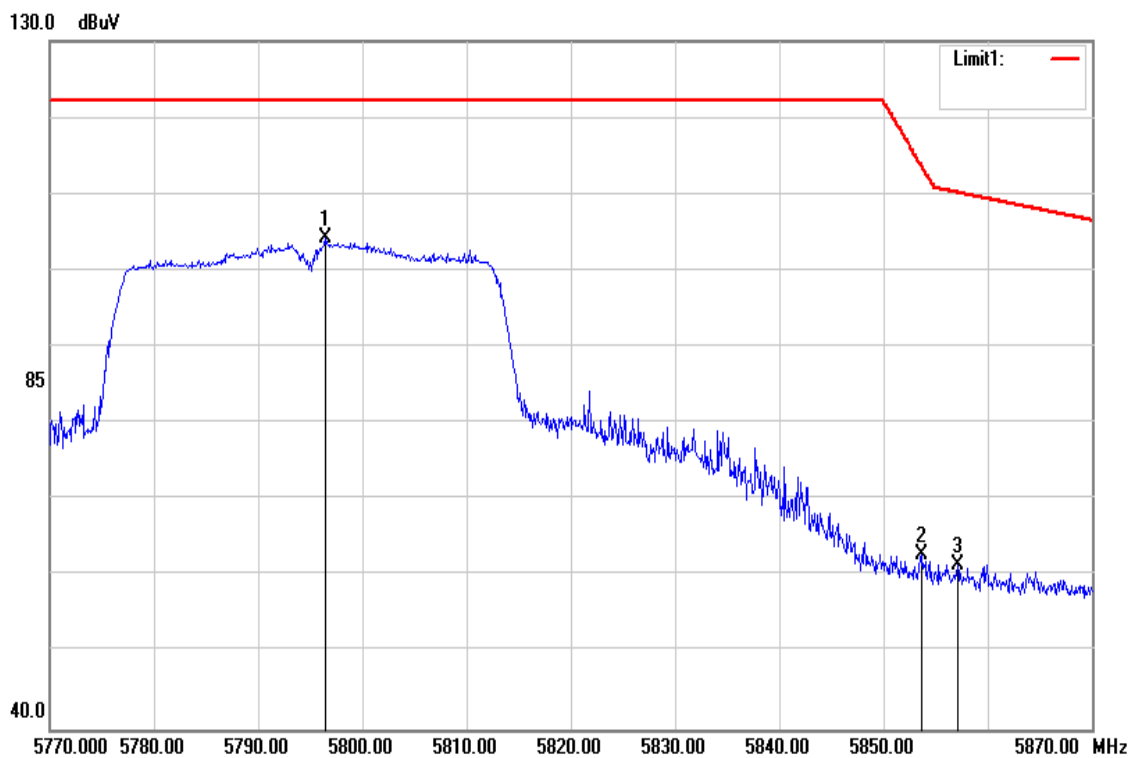
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5719.500	69.84	6.50	76.34	110.66	-34.32	peak
5725.300	71.87	6.52	78.39	122.20	-43.81	peak
5756.500	97.07	6.60	103.67	-	-	peak

Test Mode	IEEE 802.11n HT40/ 5755 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 26, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



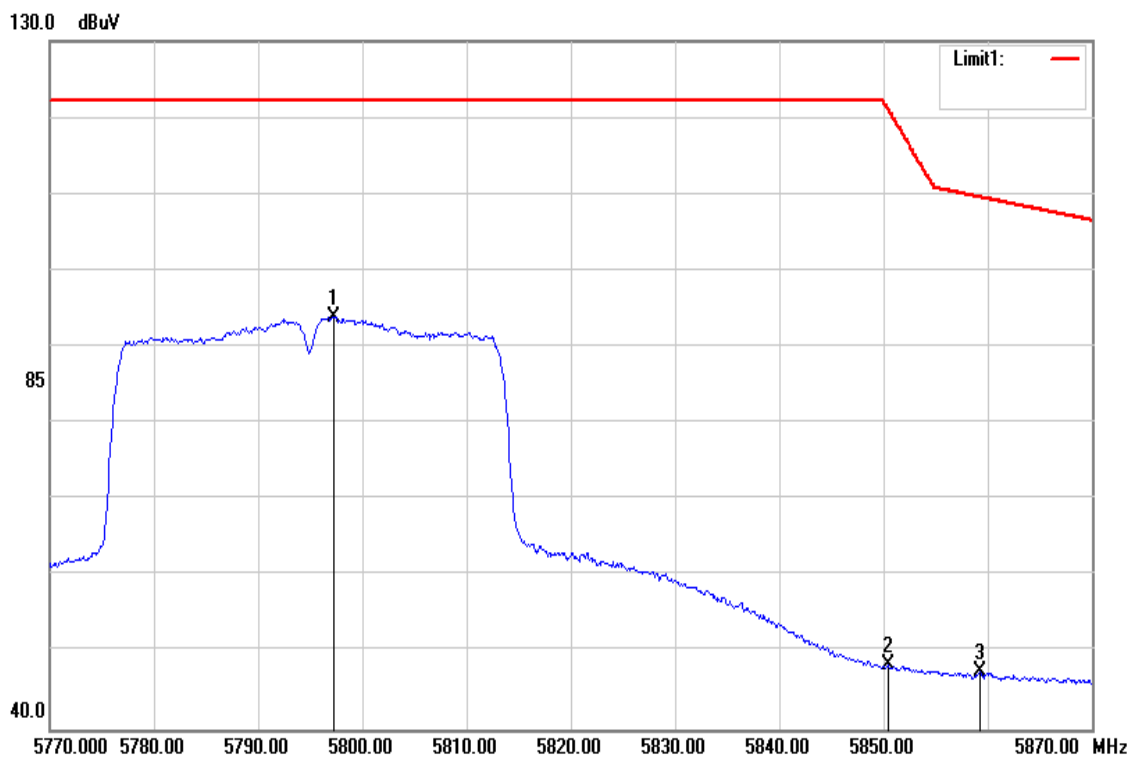
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5719.300	52.42	6.50	58.92	110.60	-51.68	AVG
5724.750	54.17	6.52	60.69	121.63	-60.94	AVG
5756.600	86.70	6.60	93.30	-	-	AVG

Test Mode	IEEE 802.11n HT40/ 5795 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 26, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



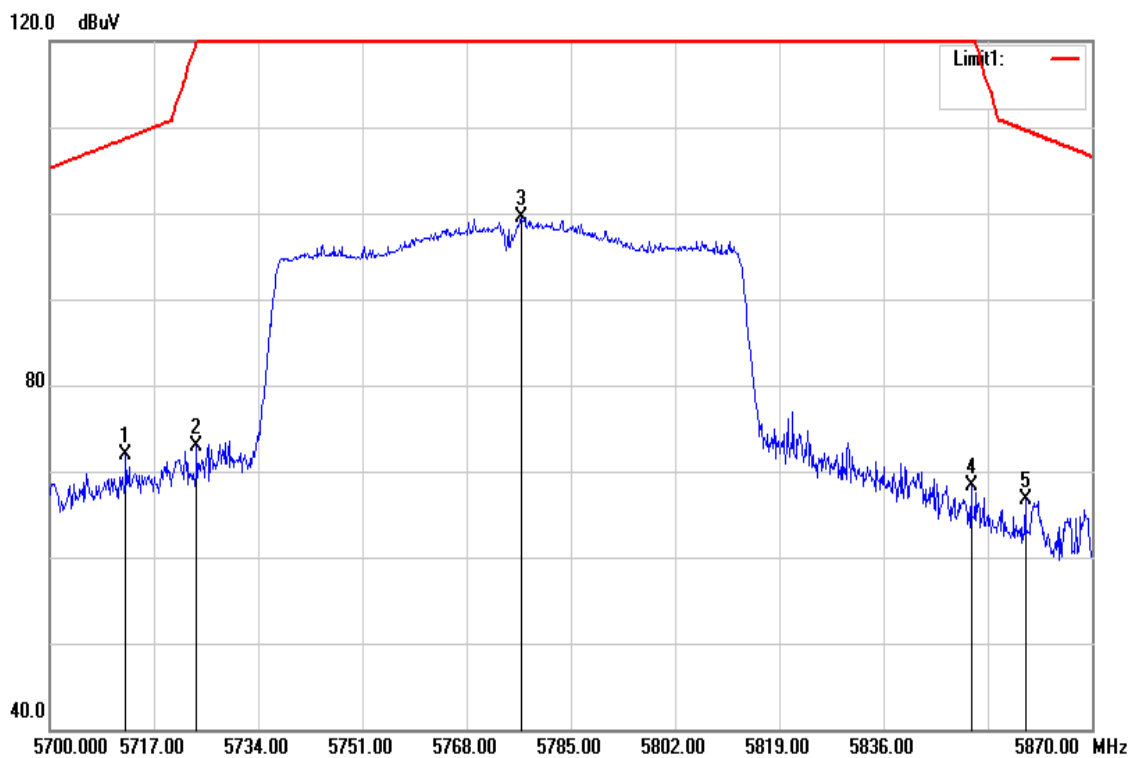
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5796.400	97.50	6.71	104.21	-	-	peak
5853.750	55.95	6.85	62.80	113.65	-50.85	peak
5857.100	54.73	6.86	61.59	110.21	-48.62	peak

Test Mode	IEEE 802.11n HT40/ 5795 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 26, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



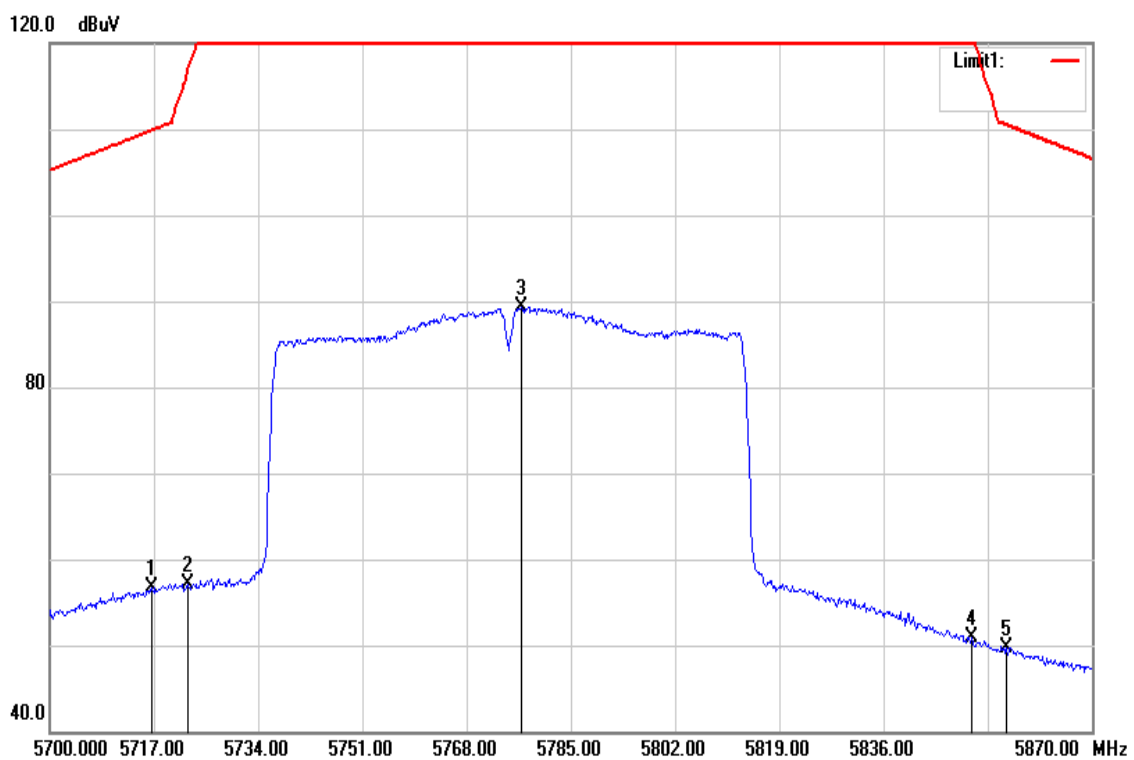
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5797.350	87.25	6.71	93.96	-	-	AVG
5850.500	41.49	6.85	48.34	121.06	-72.72	AVG
5859.300	40.73	6.87	47.60	109.60	-62.00	AVG

Test Mode	IEEE 802.11ac VHT80 / 5775 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 26, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5712.495	65.33	6.48	71.81	108.70	-36.89	peak
5723.970	66.32	6.52	72.84	119.85	-47.01	peak
5776.840	92.87	6.65	99.52	-	-	peak
5850.280	61.40	6.85	68.25	121.56	-53.31	peak
5859.205	59.91	6.87	66.78	109.62	-42.84	peak

Test Mode	IEEE 802.11ac VHT80 / 5775 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	June 26, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



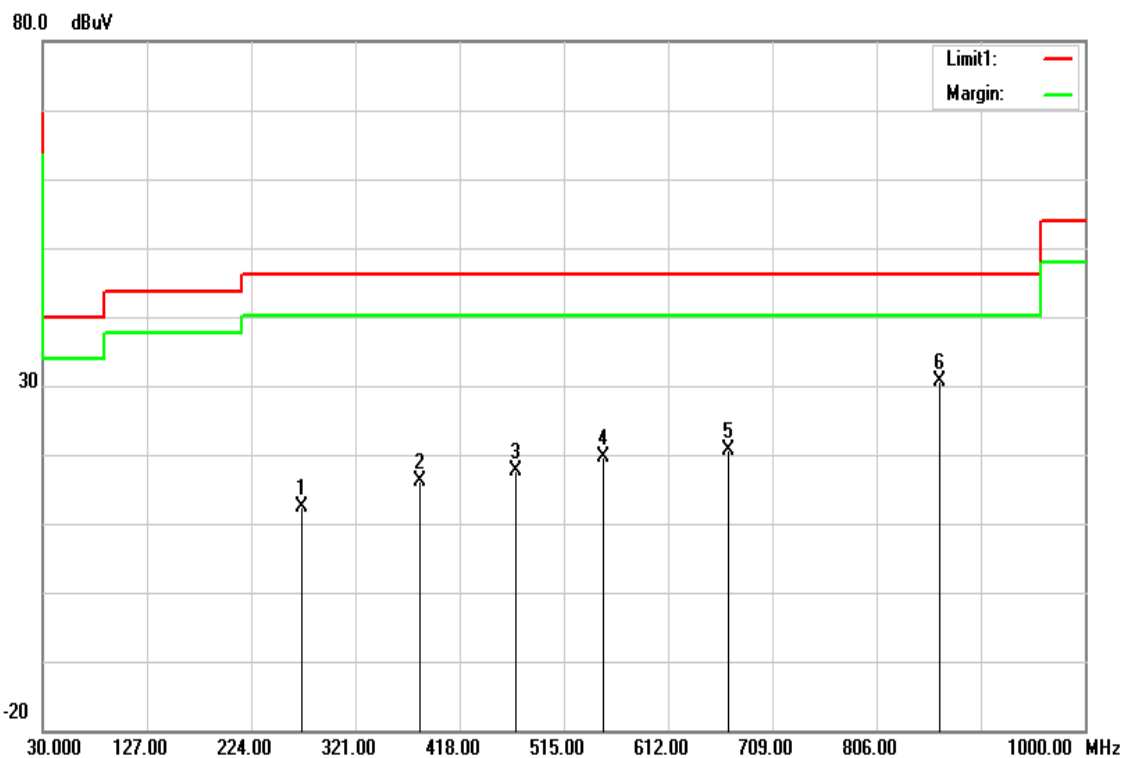
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5716.660	50.20	6.49	56.69	109.86	-53.17	AVG
5722.695	50.56	6.52	57.08	116.94	-59.86	AVG
5776.925	82.73	6.65	89.38	-	-	AVG
5850.450	43.96	6.85	50.81	121.17	-70.36	AVG
5856.060	42.88	6.86	49.74	110.50	-60.76	AVG



Report No.: T180522D10-RP4

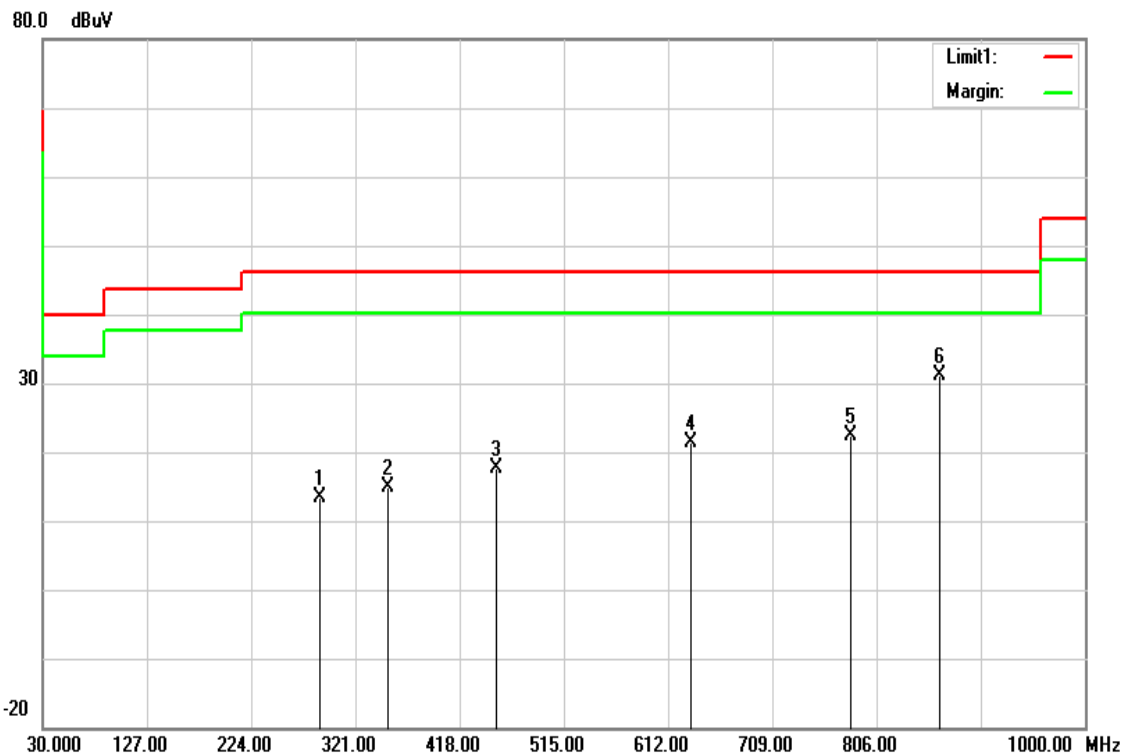
**Below 1G Test Data**

Test Mode	IEEE 802.11ac VHT80 / 5530MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	30MHz-1GHz	Test Date	June 25, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Quasi-peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
270.5600	27.24	-14.86	12.38	46.02	-33.64	peak
381.6250	28.23	-11.98	16.25	46.02	-29.77	peak
470.8650	26.84	-9.14	17.70	46.02	-28.32	peak
551.8600	27.15	-7.53	19.62	46.02	-26.40	peak
668.2600	25.90	-5.30	20.60	46.02	-25.42	peak
864.2000	33.14	-2.62	30.52	46.02	-15.50	peak

Test Mode	IEEE 802.11ac VHT80 / 5530MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	30MHz-1GHz	Test Date	June 25, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Quasi-peak		

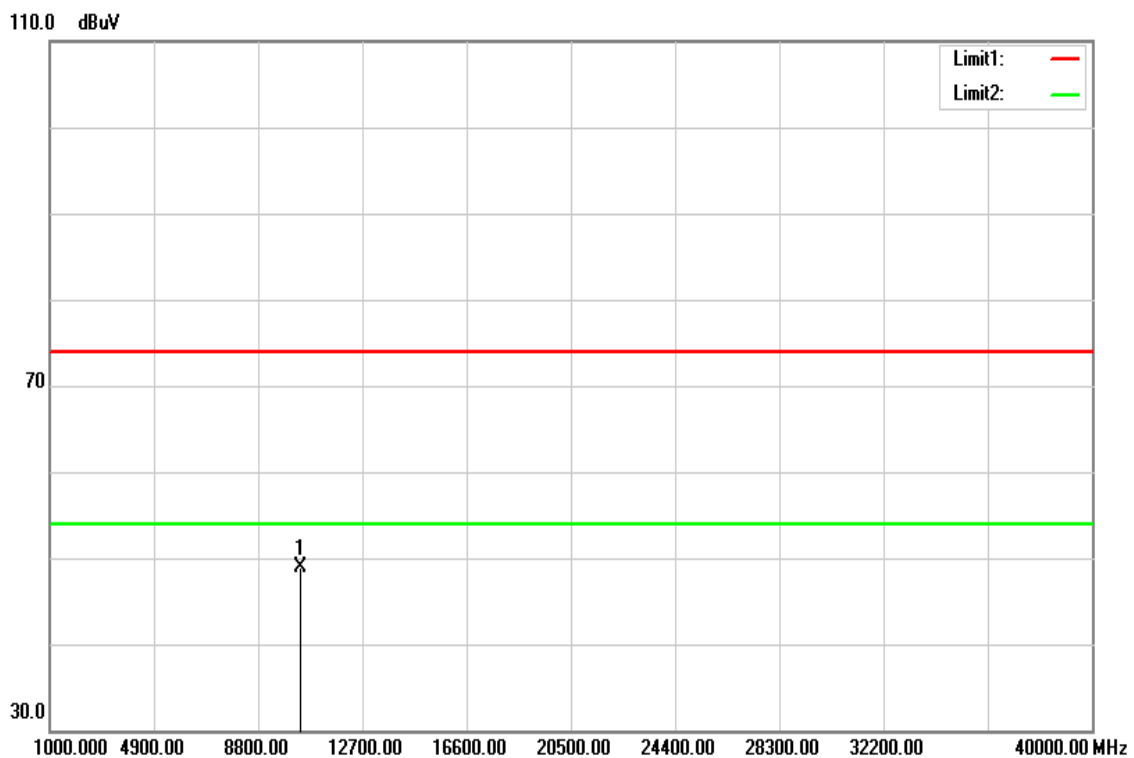


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
288.0200	27.61	-14.19	13.42	46.02	-32.60	peak
351.0700	27.90	-12.95	14.95	46.02	-31.07	peak
451.9500	27.24	-9.56	17.68	46.02	-28.34	peak
633.3400	27.33	-6.01	21.32	46.02	-24.70	peak
781.7500	26.17	-3.71	22.46	46.02	-23.56	peak
864.2000	33.67	-2.62	31.05	46.02	-14.97	peak

Report No.: T180522D10-RP4

**Above 1G Test Data for UNII-1**

Test Mode	IEEE 802.11a / 5180MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

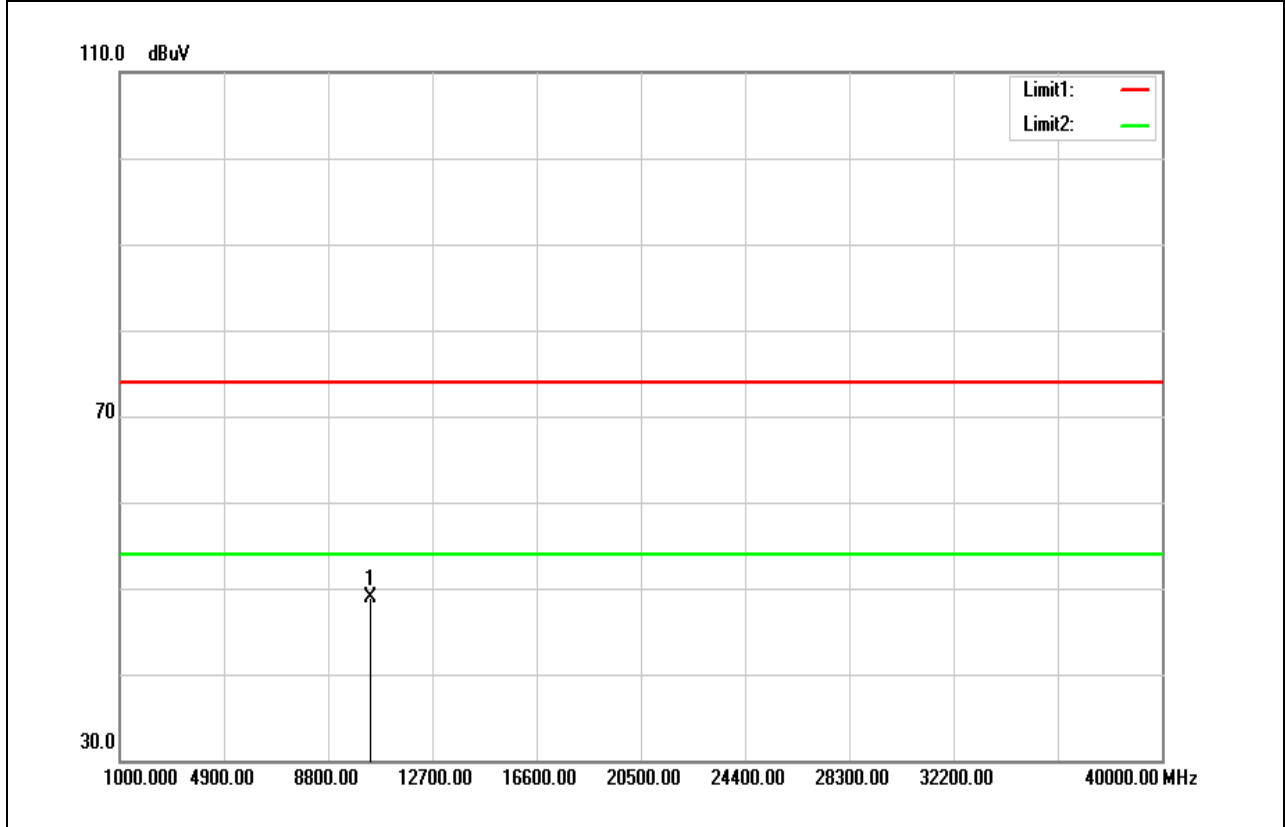


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10360.000	34.46	14.45	48.91	74.00	-25.09	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11a / 5180MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

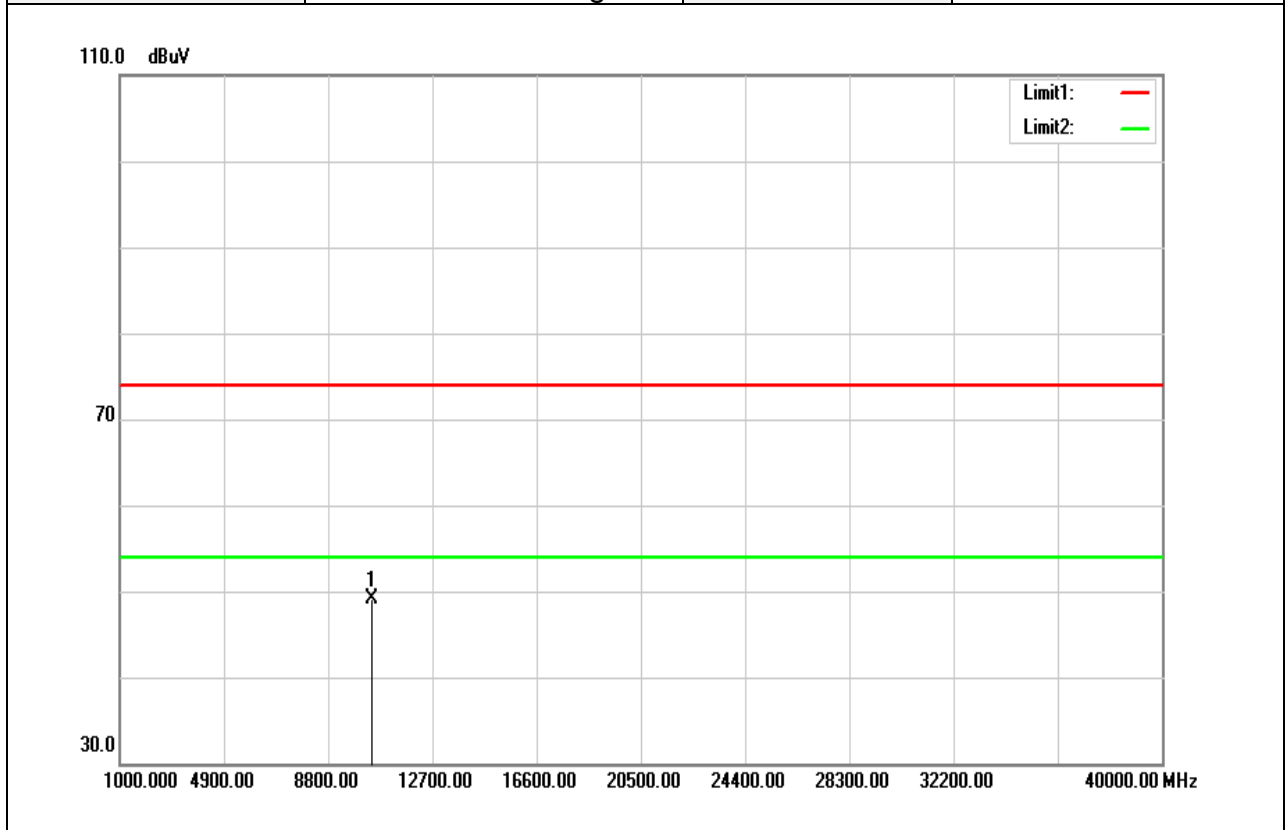


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10370.000	34.46	14.49	48.95	74.00	-25.05	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11a / 5220 MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Horizontal	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

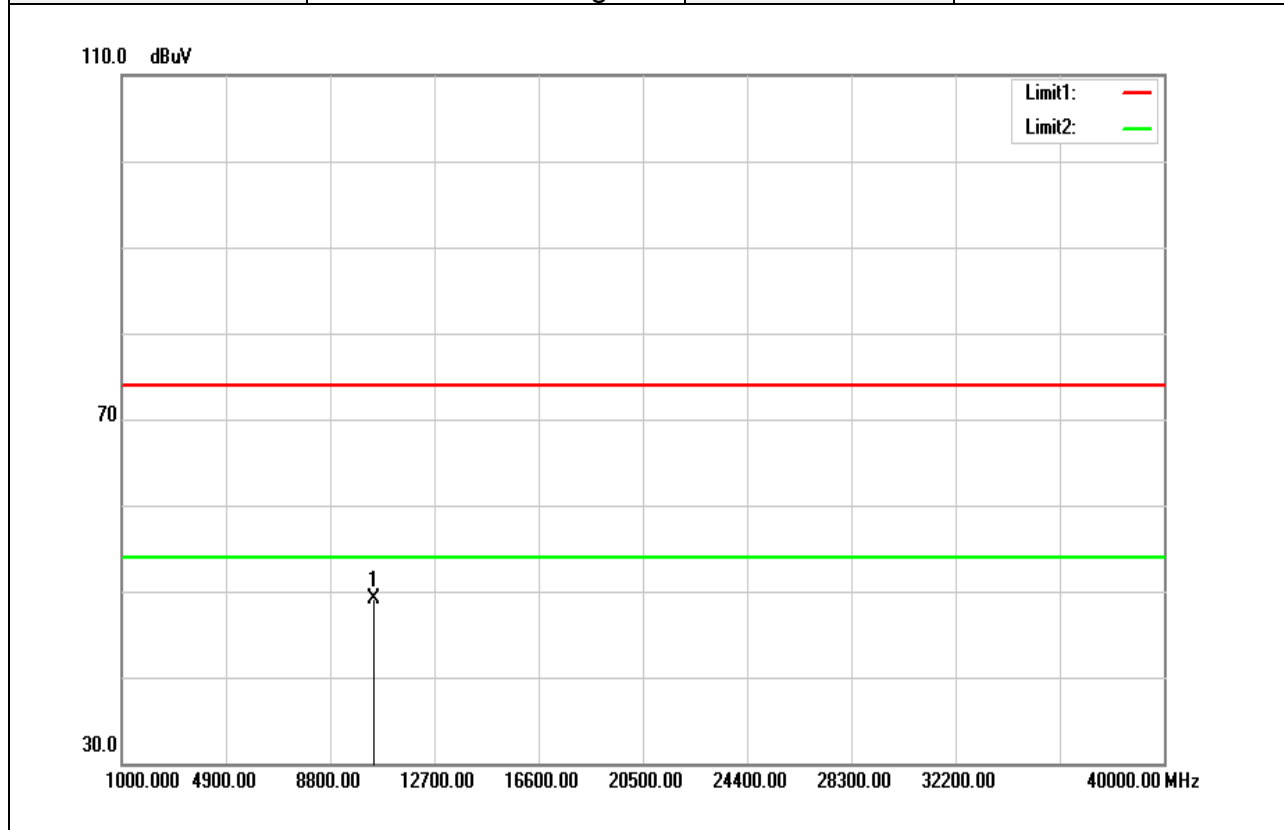


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10460.000	34.38	14.79	49.17	74.00	-24.83	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11a / 5220 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

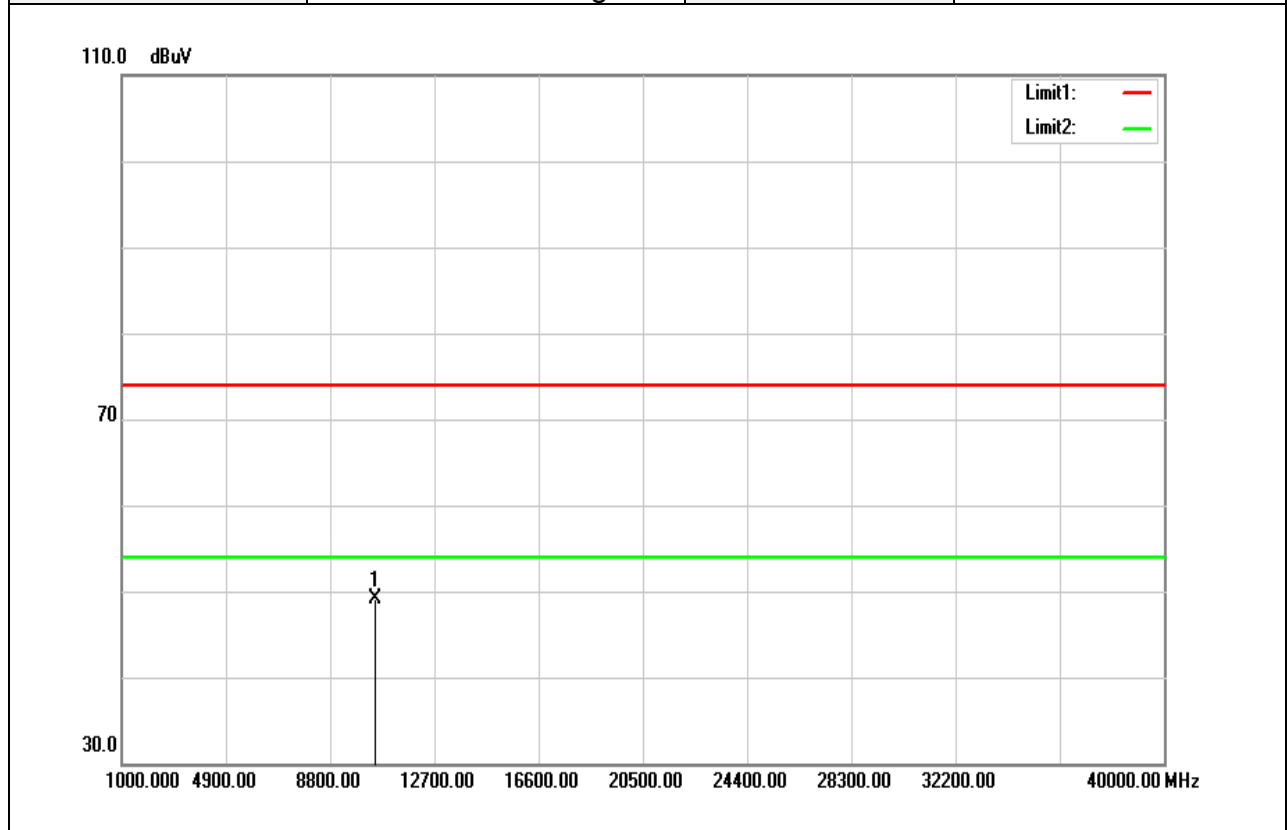


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10440.000	34.40	14.71	49.11	74.00	-24.89	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11a / 5240MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

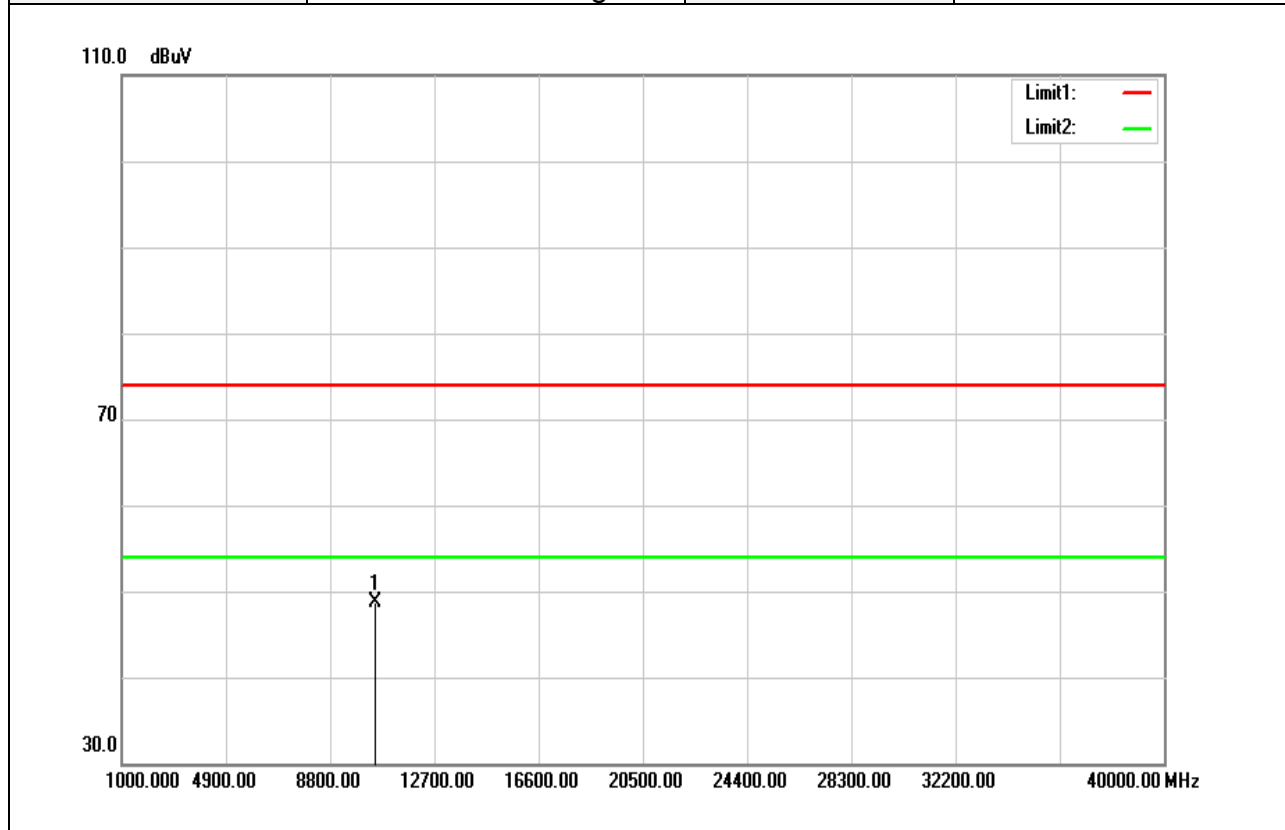


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10495.000	34.10	14.91	49.01	74.00	-24.99	peak
N/A						

**emark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11a / 5240MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		



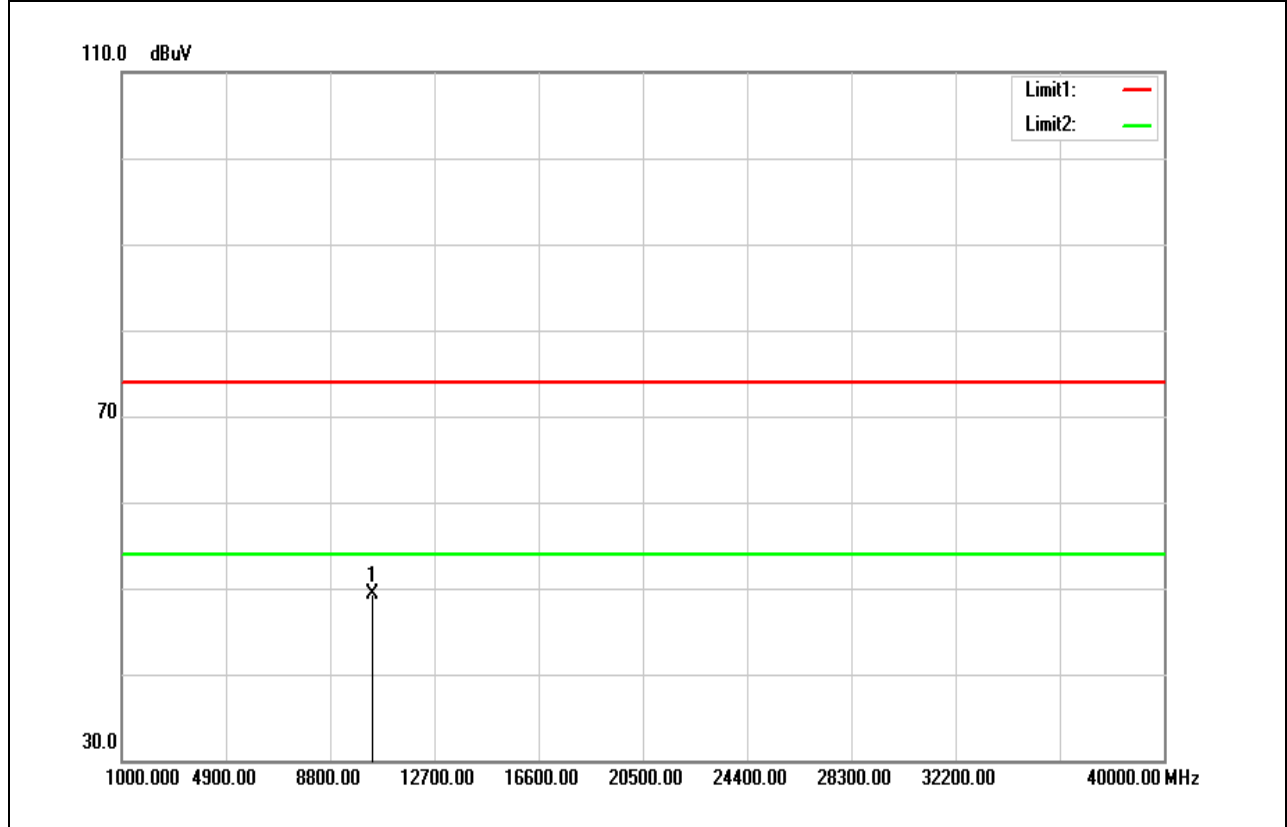
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10480.000	33.95	14.84	48.79	74.00	-25.21	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit



Test Mode	IEEE 802.11n HT20 / 5180MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

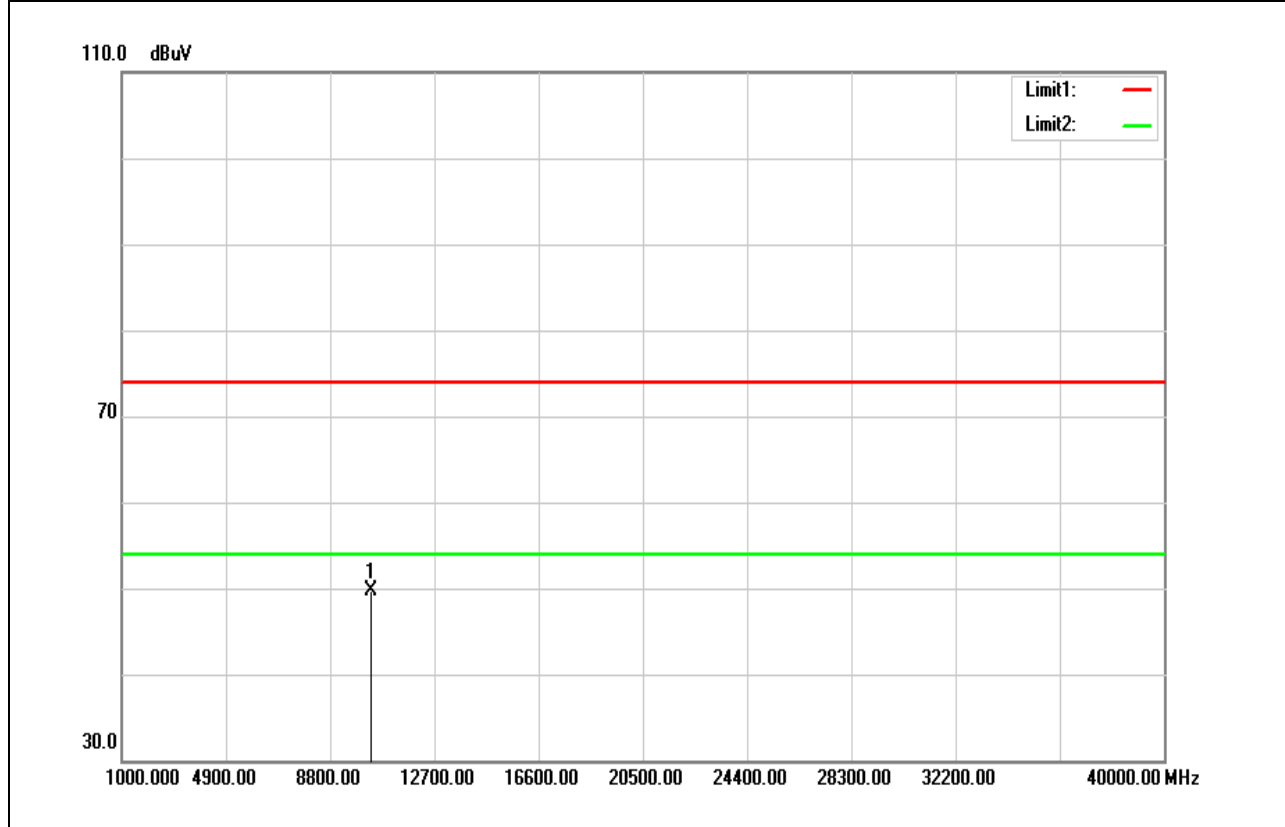


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10360.000	34.81	14.45	49.26	74.00	-24.74	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT20/ 5180MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

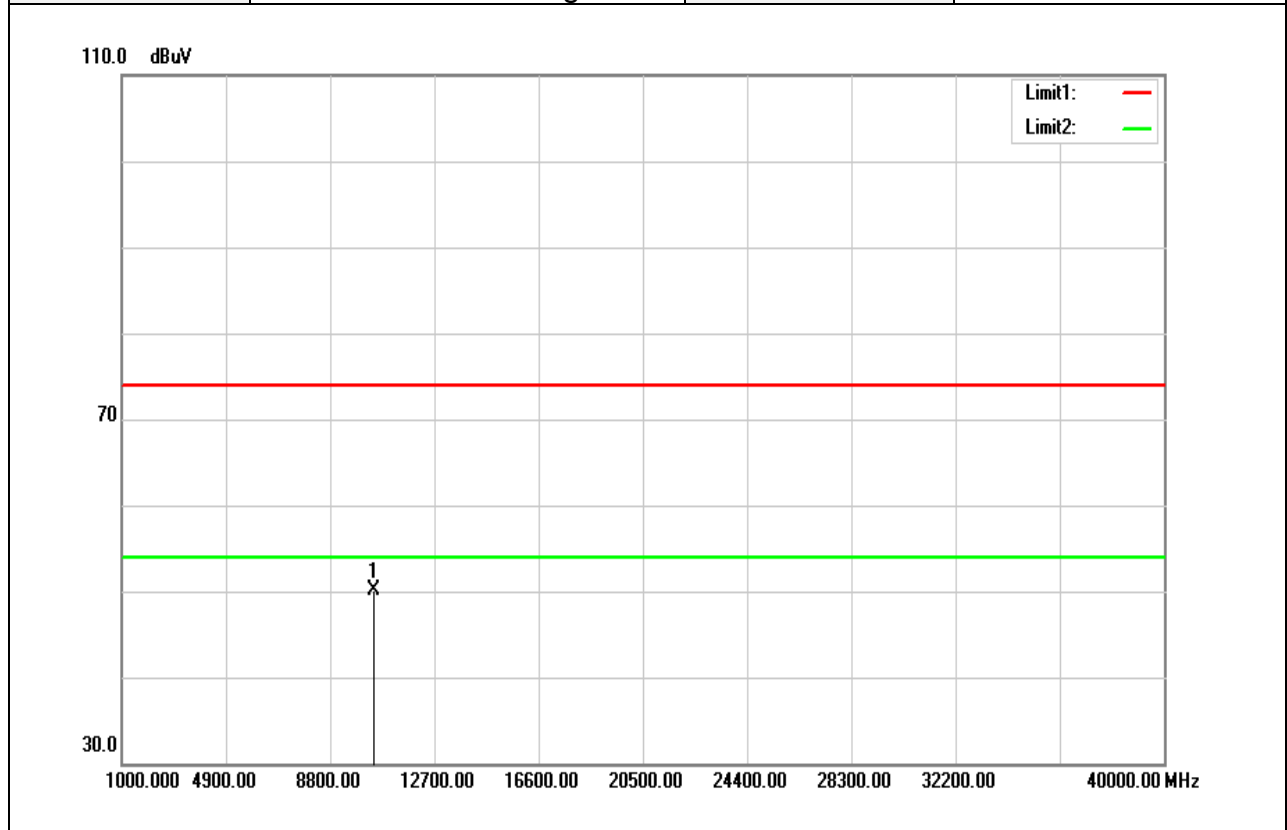


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10345.000	35.32	14.40	49.72	74.00	-24.28	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT20 / 5220MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

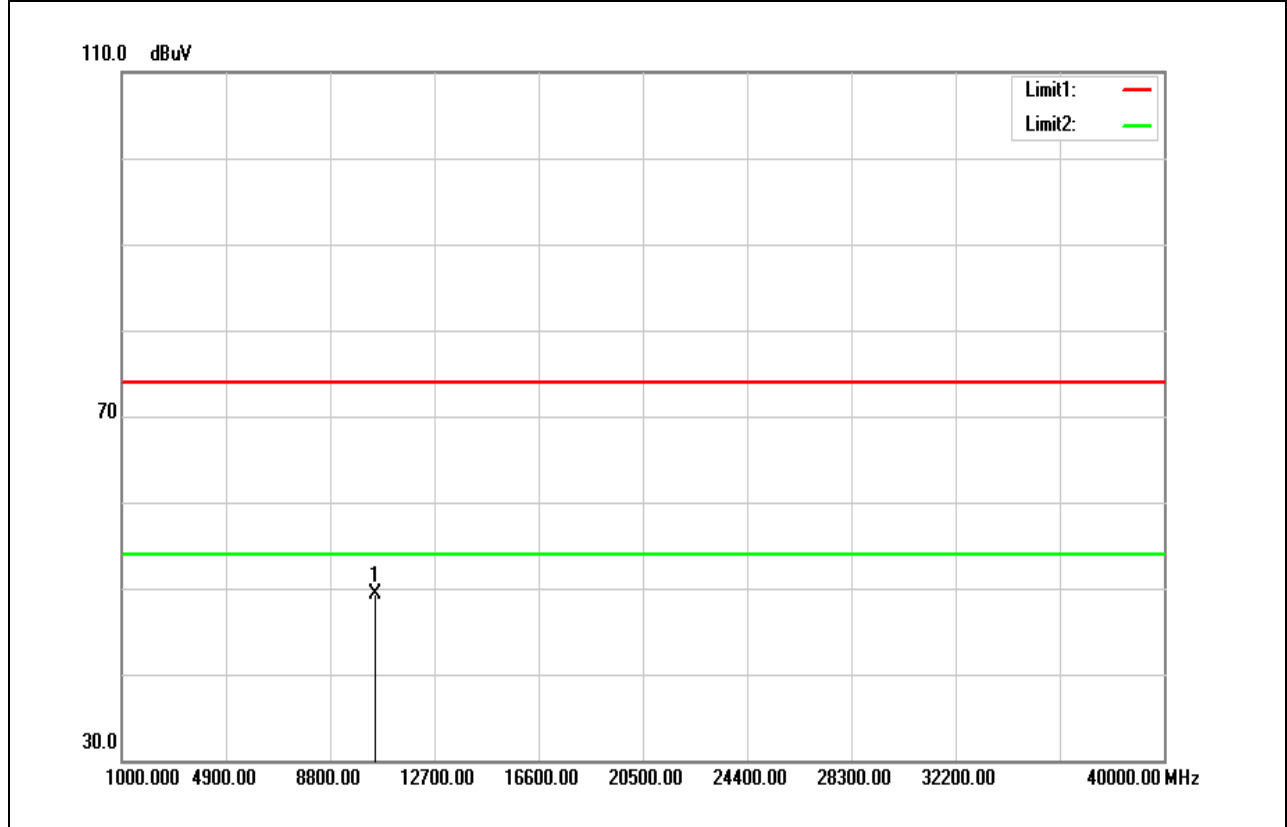


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10450.000	35.29	14.75	50.04	74.00	-23.96	peak
N/A						

**Remark:**

- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT20 / 5220MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

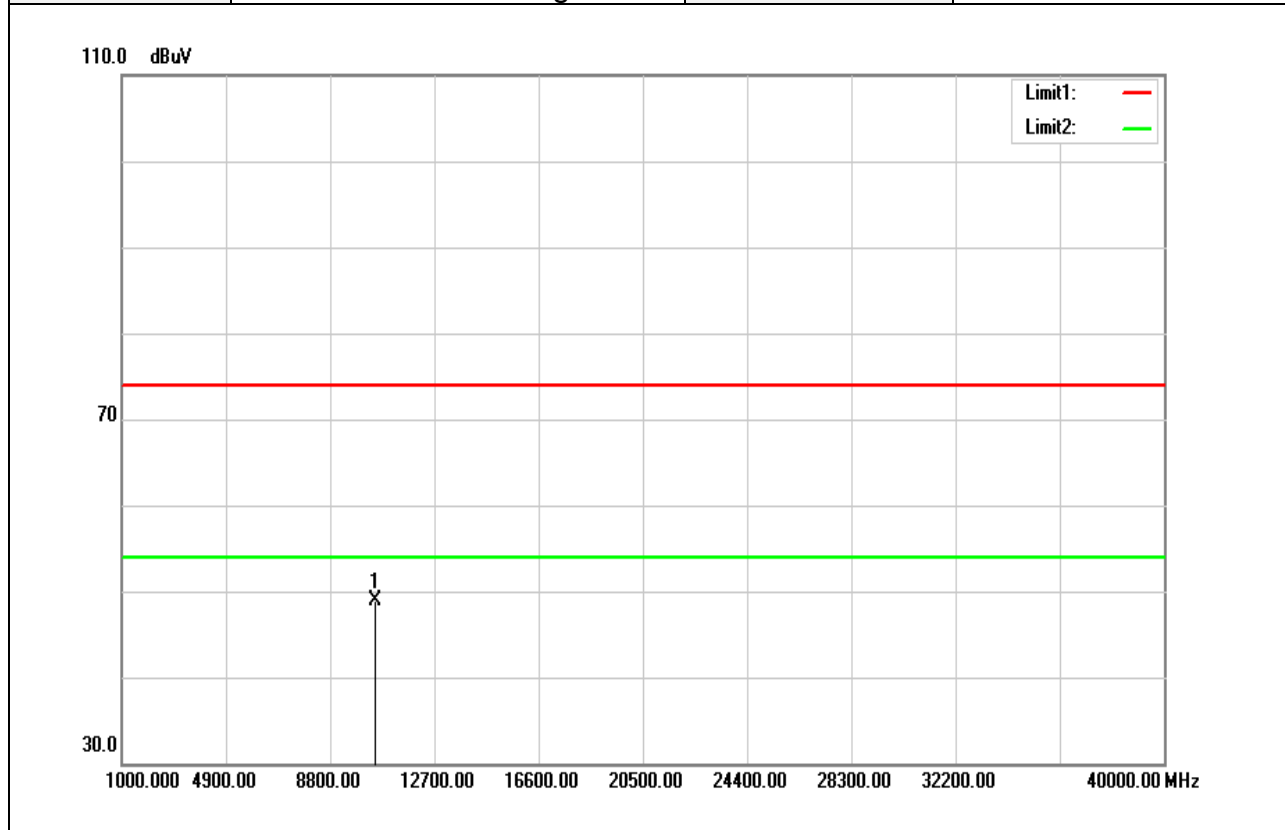


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10470.000	34.38	14.83	49.21	74.00	-24.79	peak
N/A						

**Remark:**

- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT20 / 5240MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

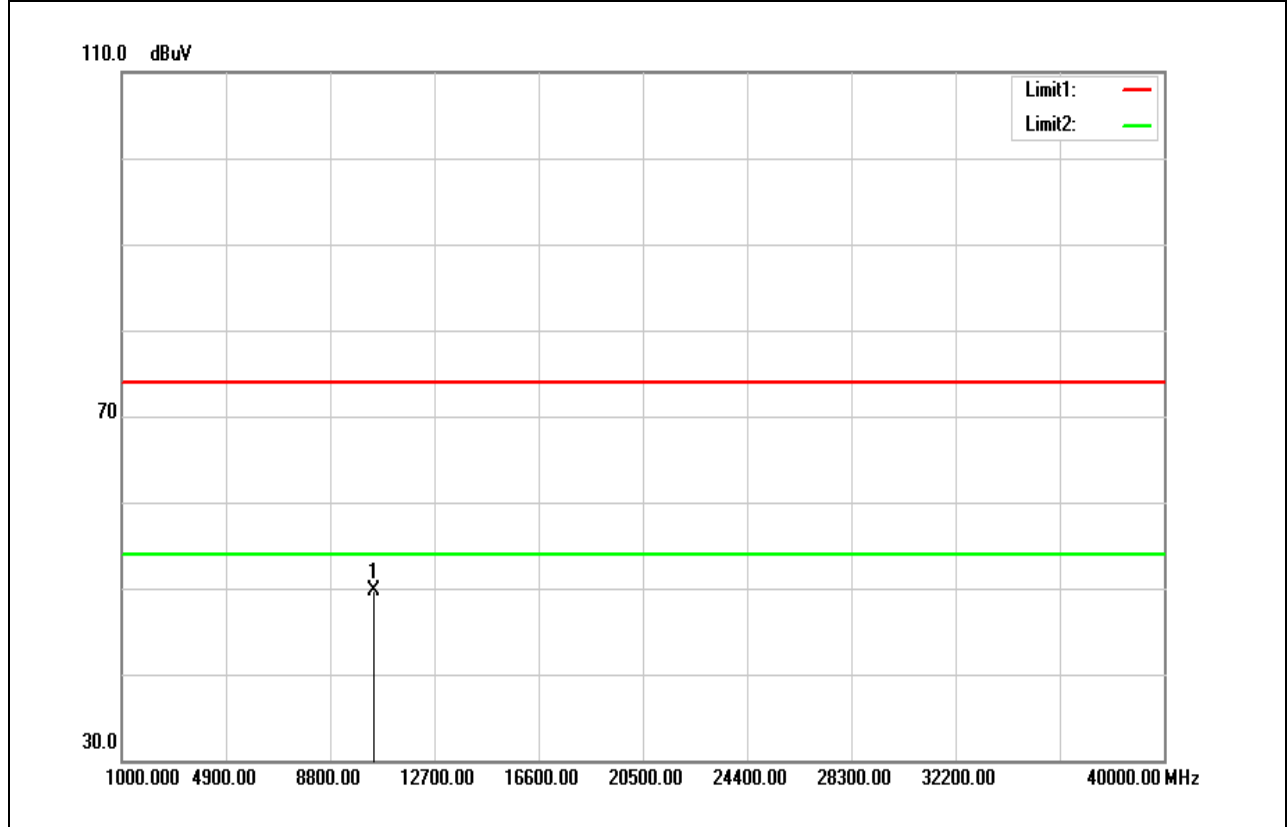


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10470.000	34.05	14.83	48.88	74.00	-25.12	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT20 / 5240MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

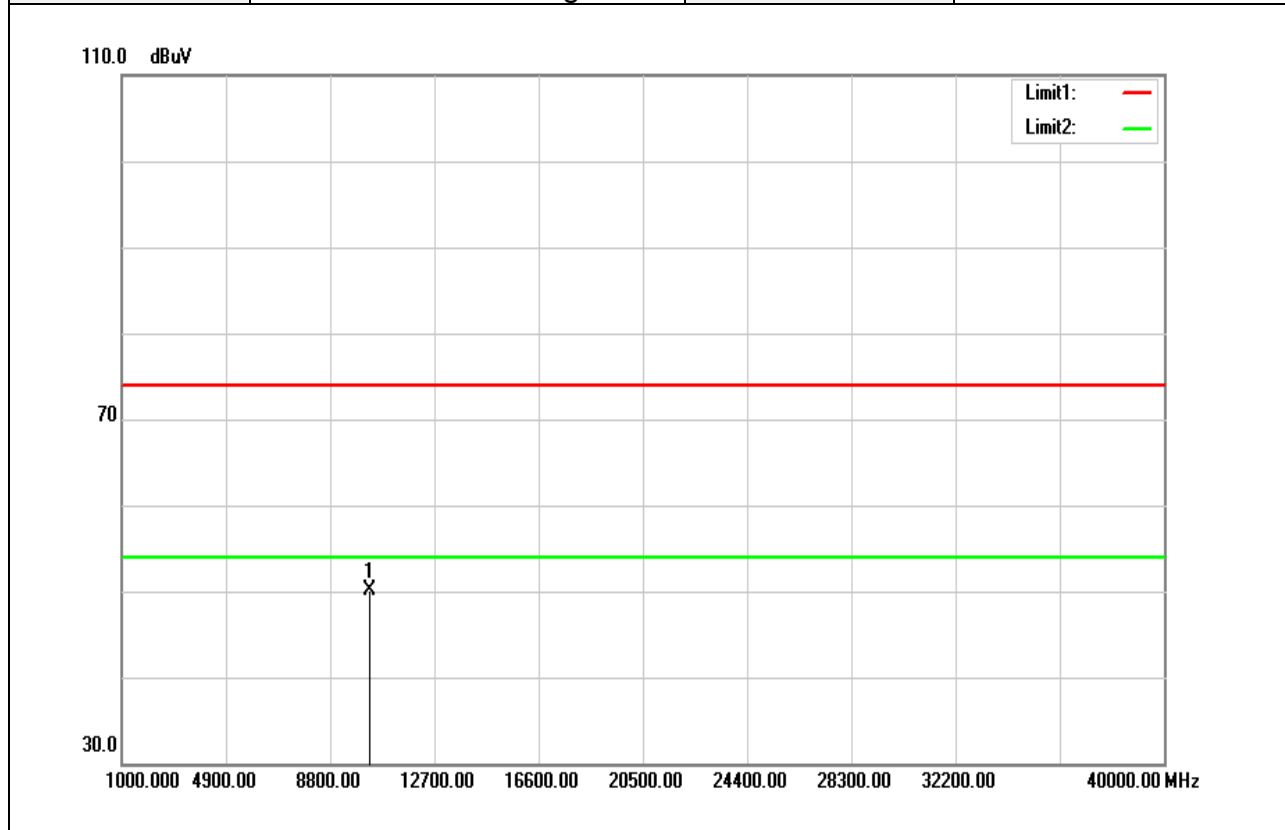


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10445.000	34.97	14.74	49.71	74.00	-24.29	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT40 / 5190MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

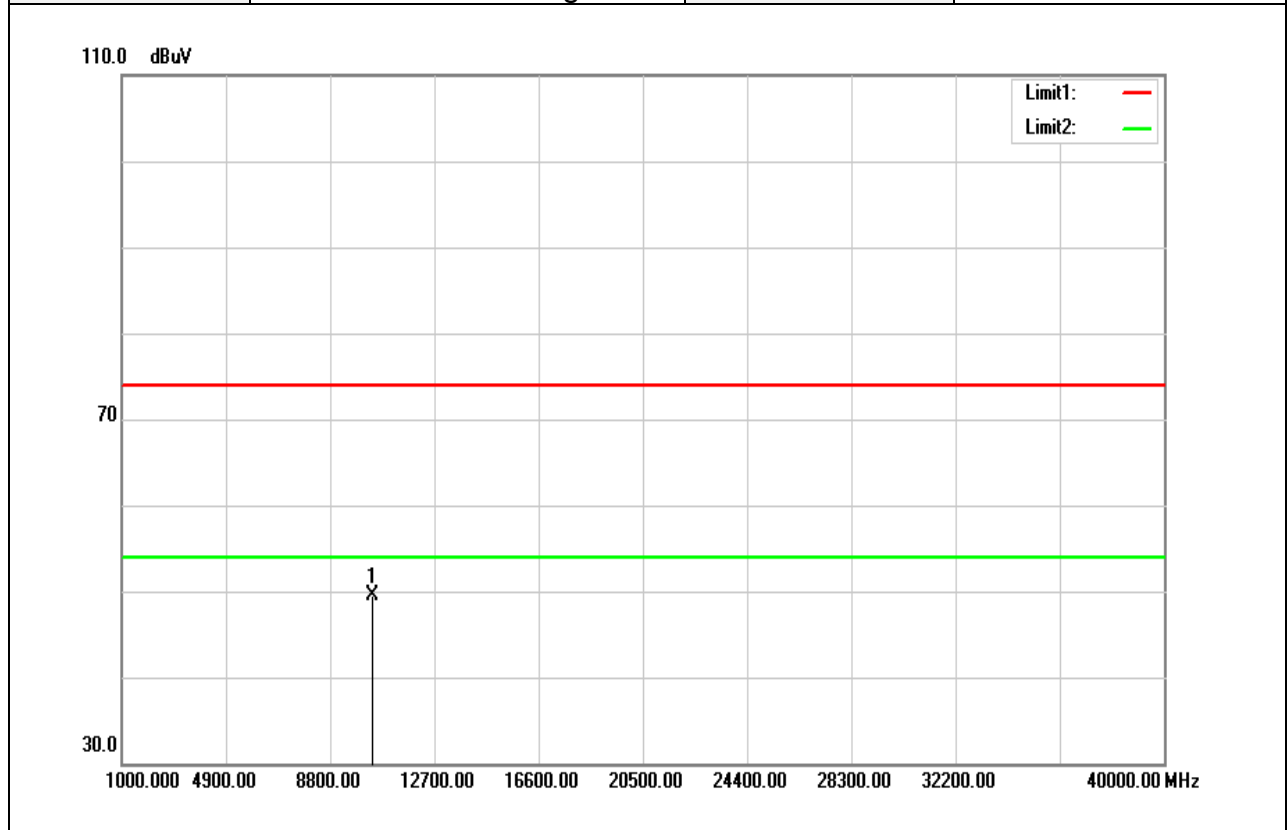


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10305.000	35.94	14.25	50.19	74.00	-23.81	peak
N/A						

**Remark:**

- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT40 / 5190MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		



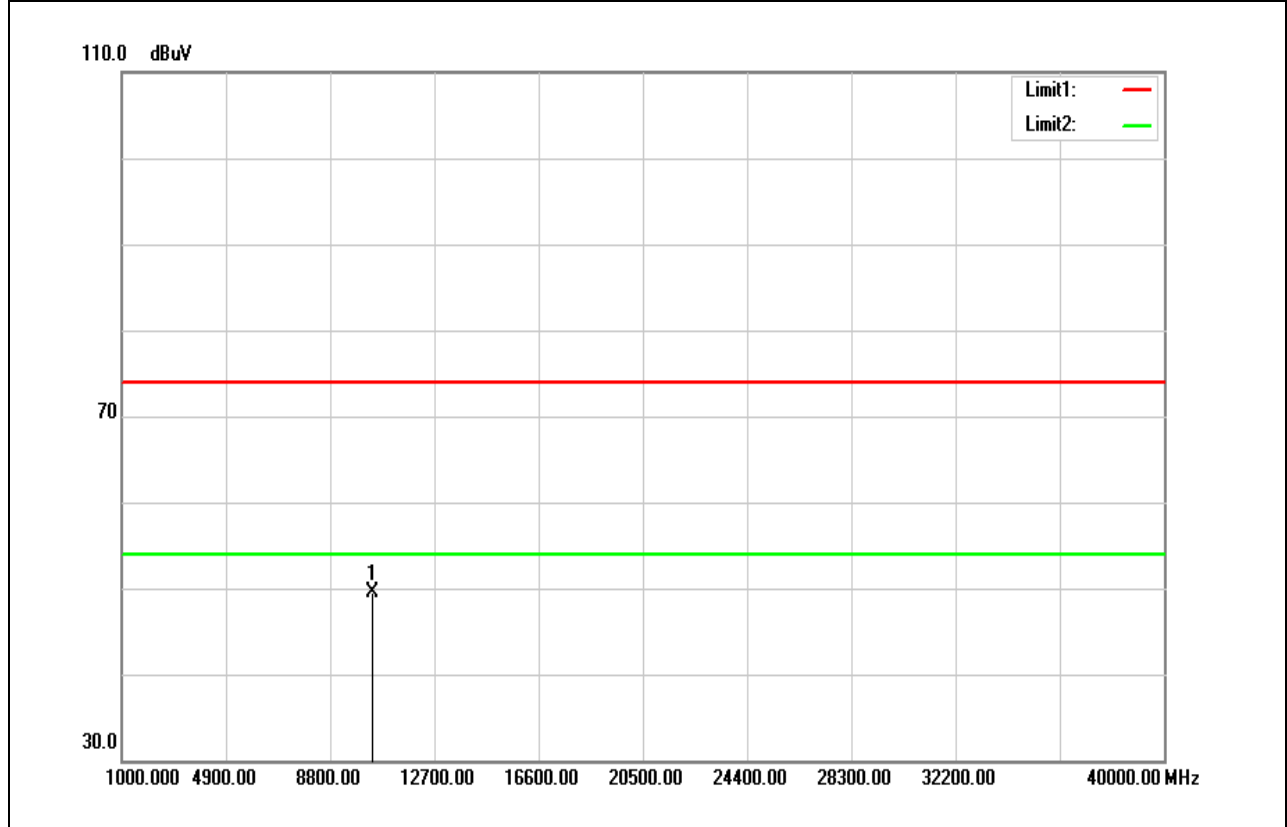
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10360.000	35.13	14.45	49.58	74.00	-24.42	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit



Test Mode	IEEE 802.11n HT40 / 5230MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

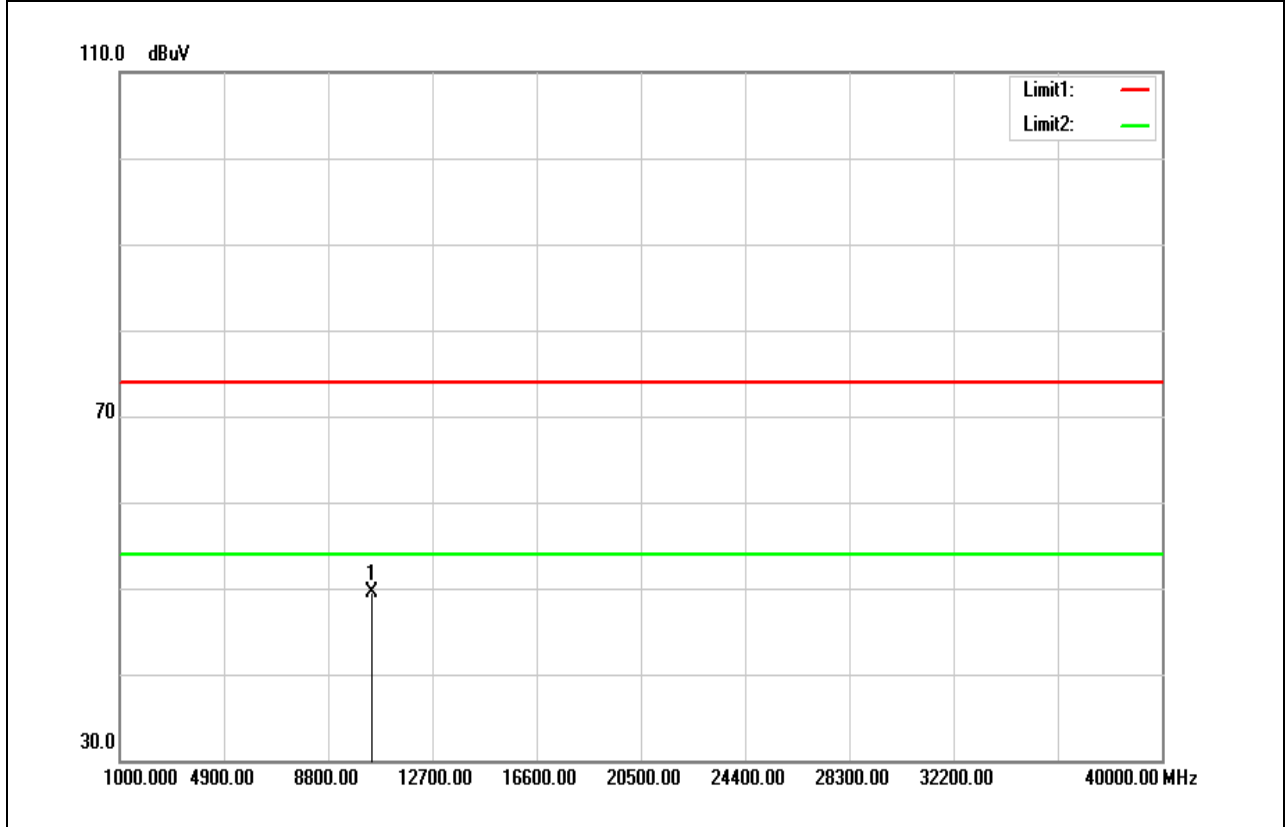


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10390.000	34.92	14.54	49.46	74.00	-24.54	peak
N/A						

**Remark:**

- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT40 / 5230MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

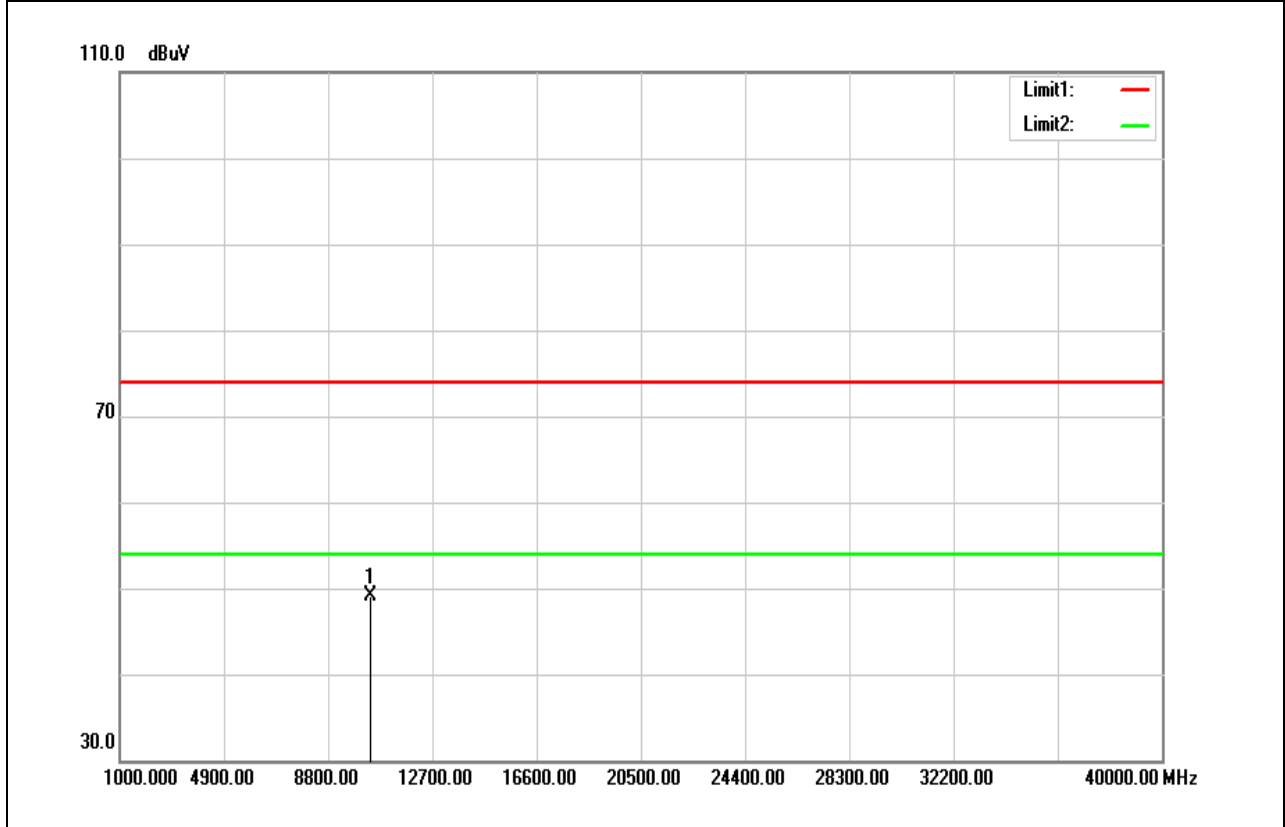


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10430.000	34.83	14.67	49.50	74.00	-24.50	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11ac VHT80 / 5210MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

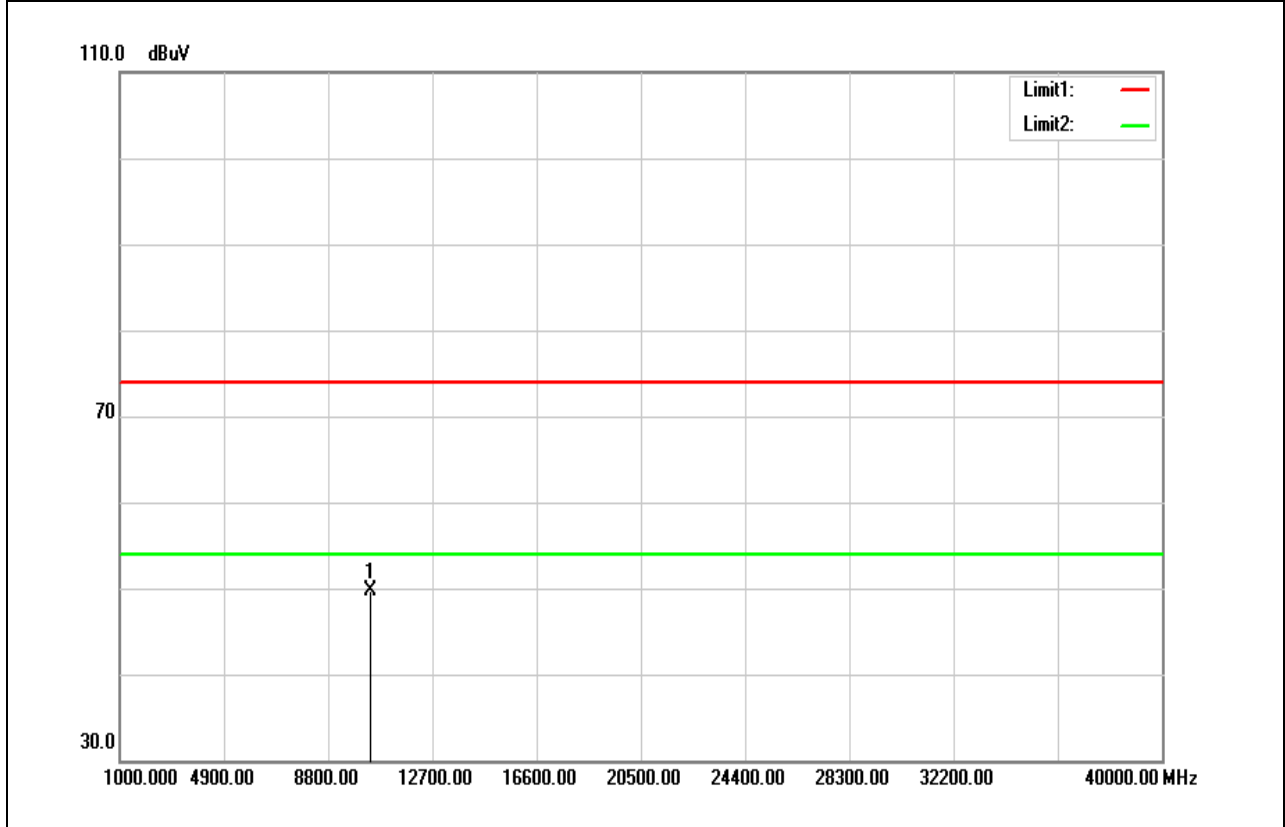


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10405.000	34.50	14.59	49.09	74.00	-24.91	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11ac VHT80 / 5210MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10370.000	35.29	14.49	49.78	74.00	-24.22	peak
N/A						

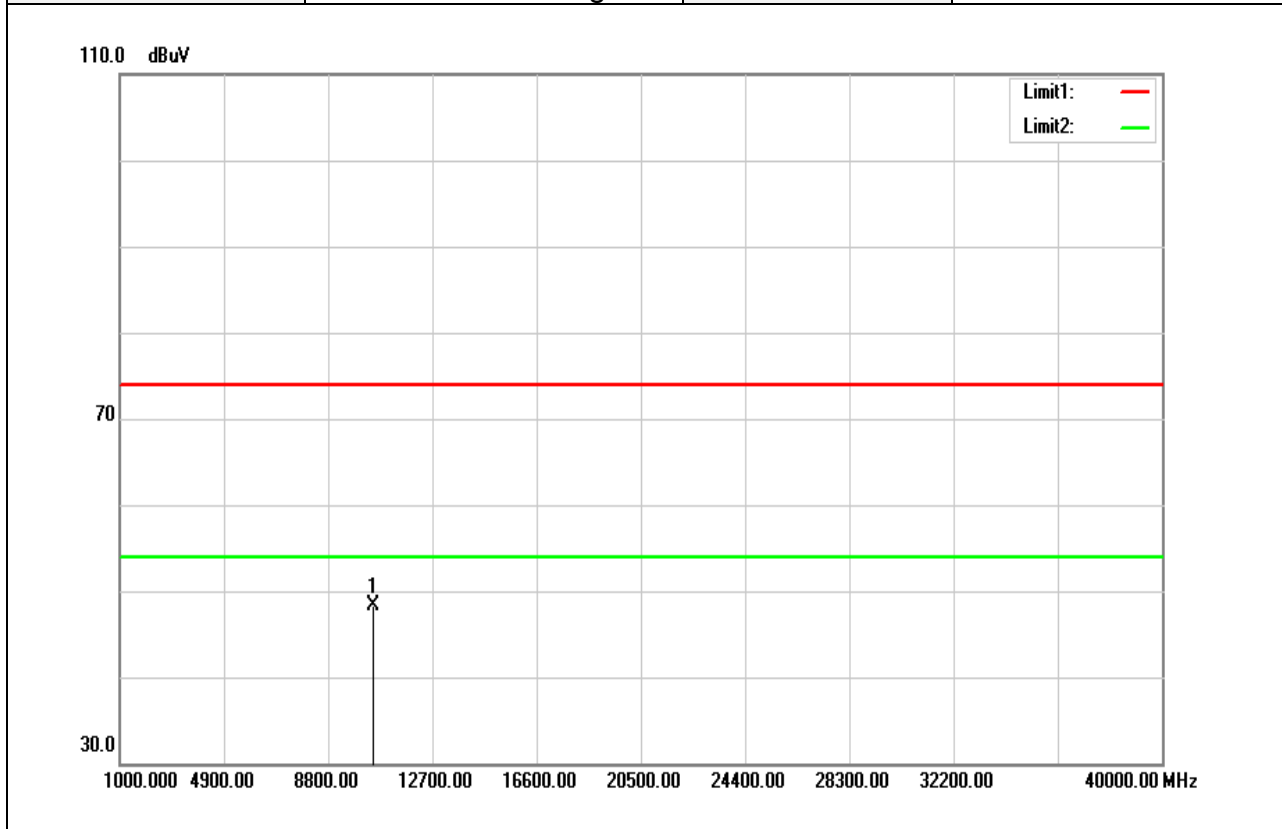
**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Report No.: T180522D10-RP4

**Above 1G Test Data for UNII-2a**

Test Mode	IEEE 802.11a / 5260 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

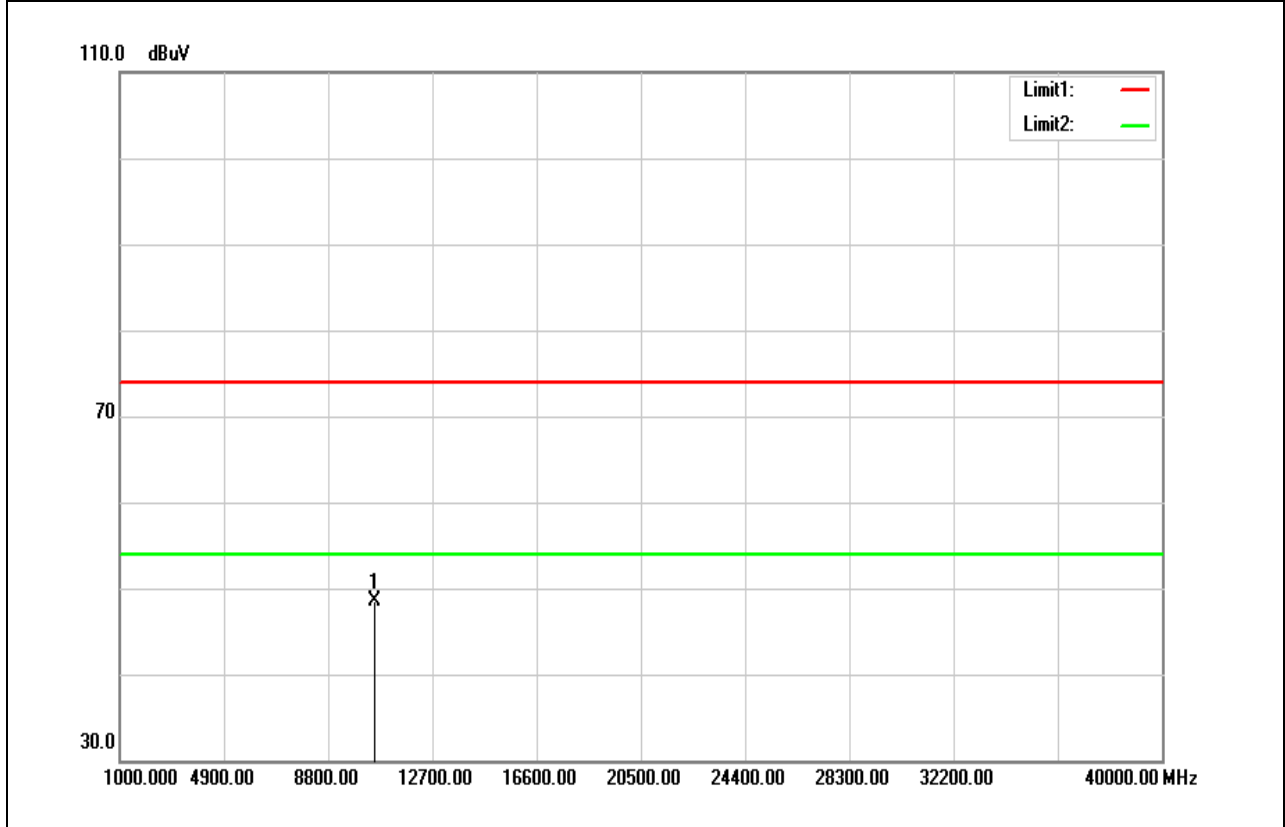


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10515.000	33.24	14.96	48.20	74.00	-25.80	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11a / 5260 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

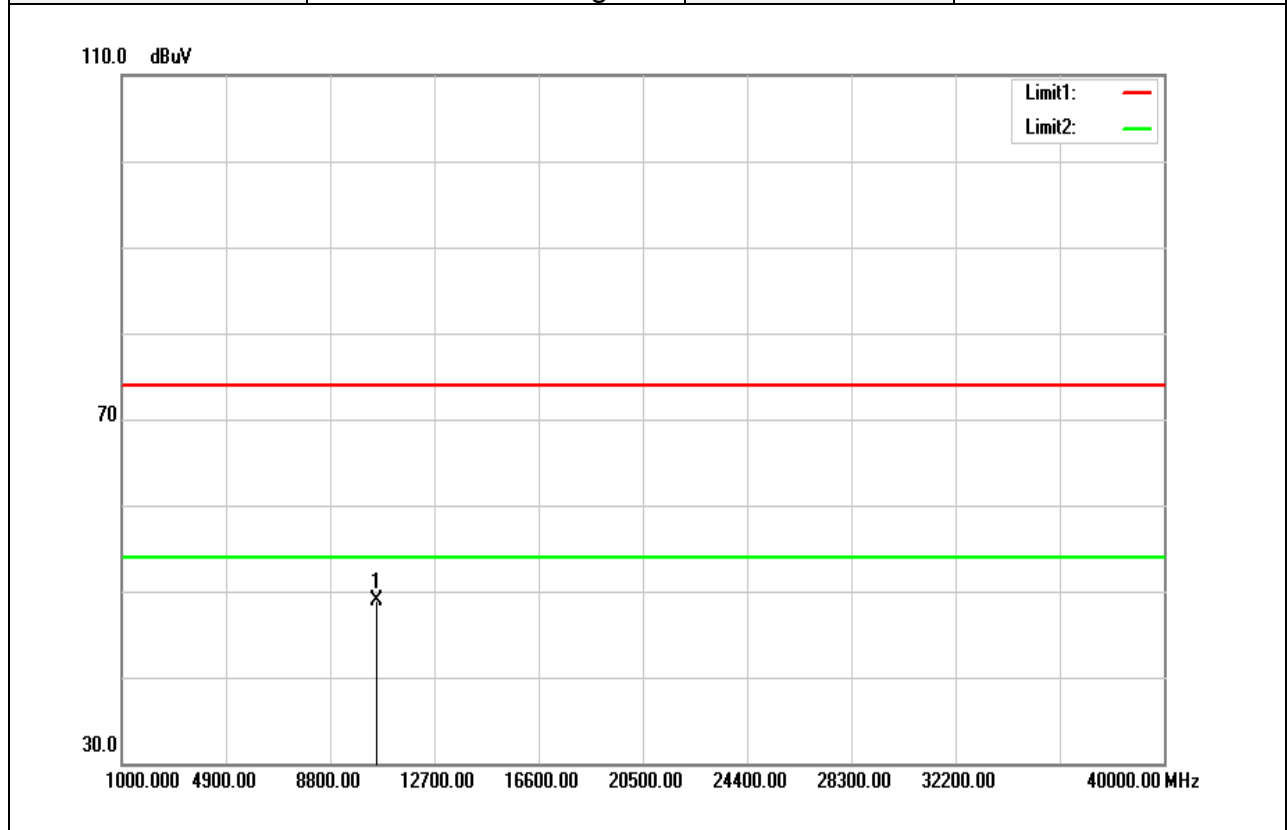


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10520.000	33.50	14.97	48.47	74.00	-25.53	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11a / 5280 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

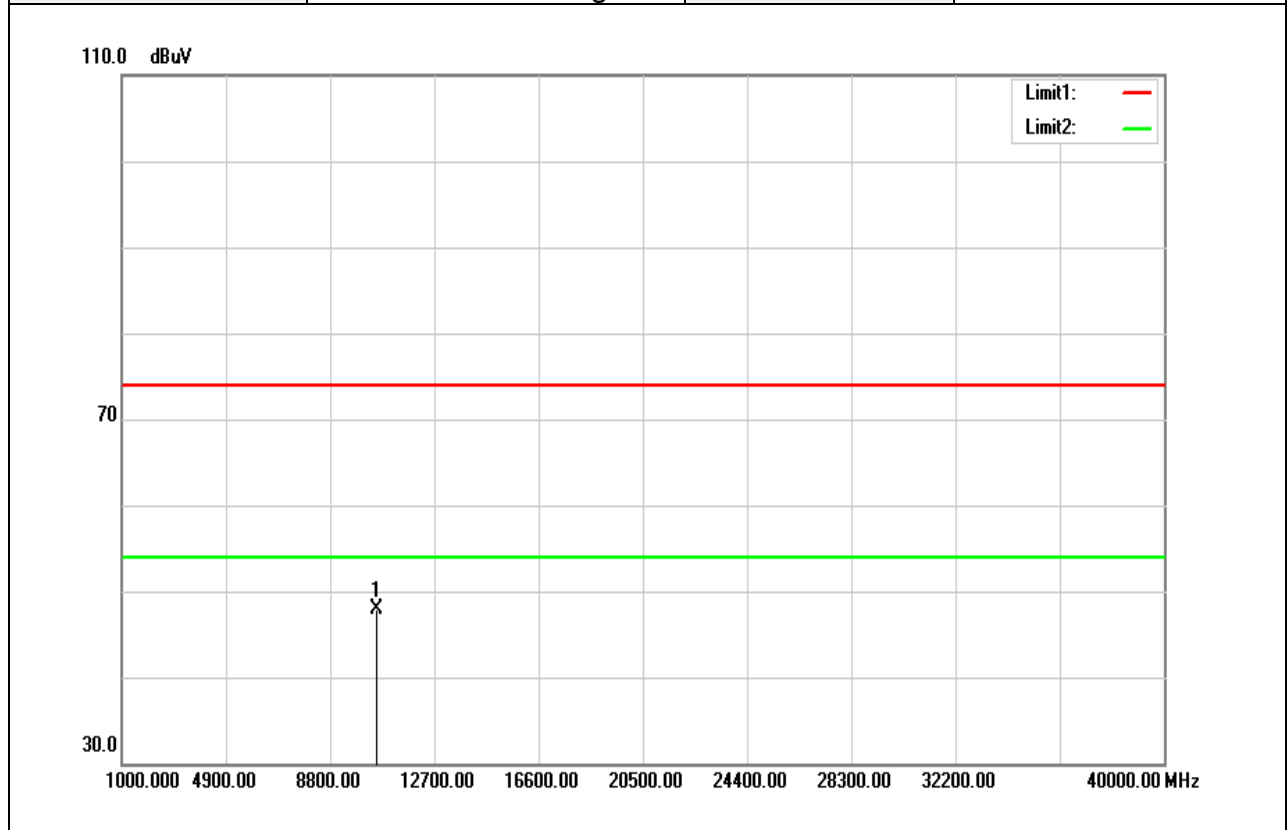


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10560.000	33.80	15.06	48.86	74.00	-25.14	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11a / 5280 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		



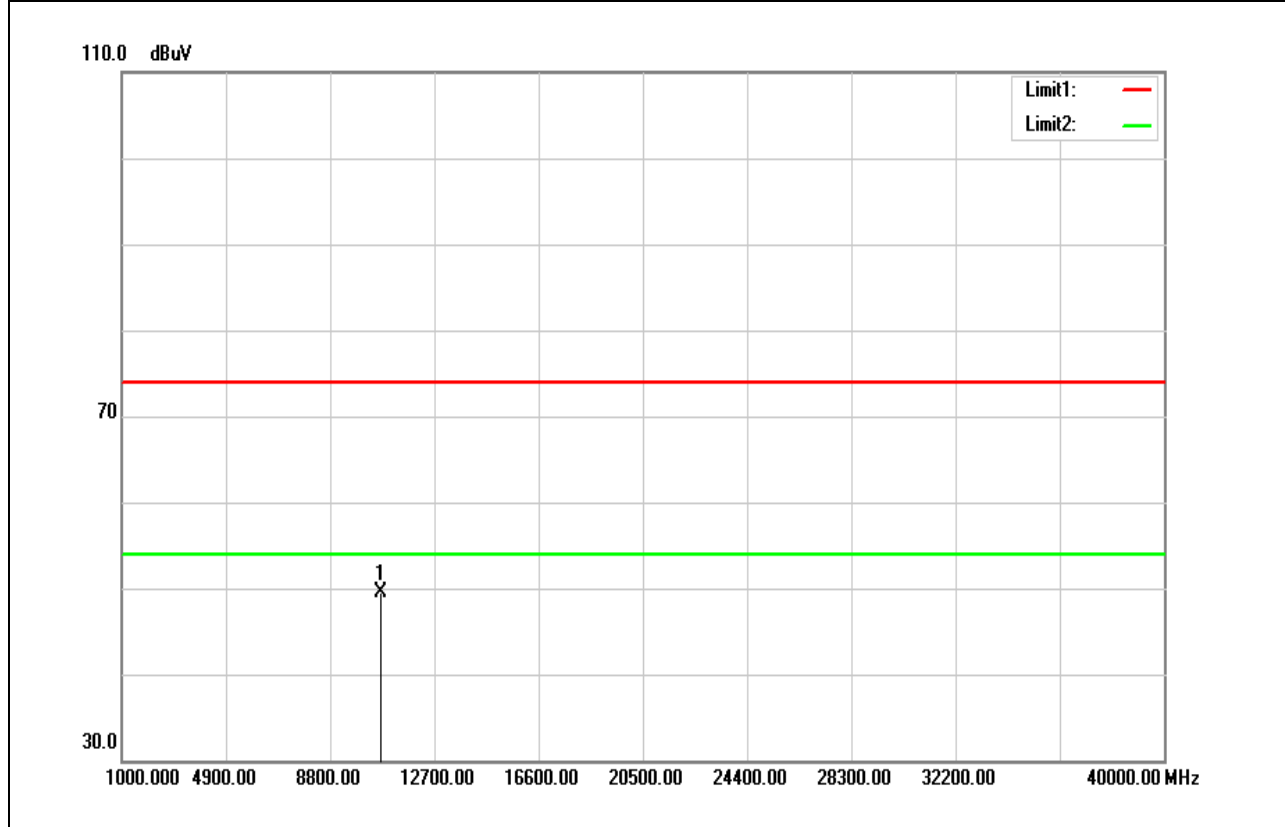
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10555.000	32.79	15.04	47.83	74.00	-26.17	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit



Test Mode	IEEE 802.11a / 5320 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

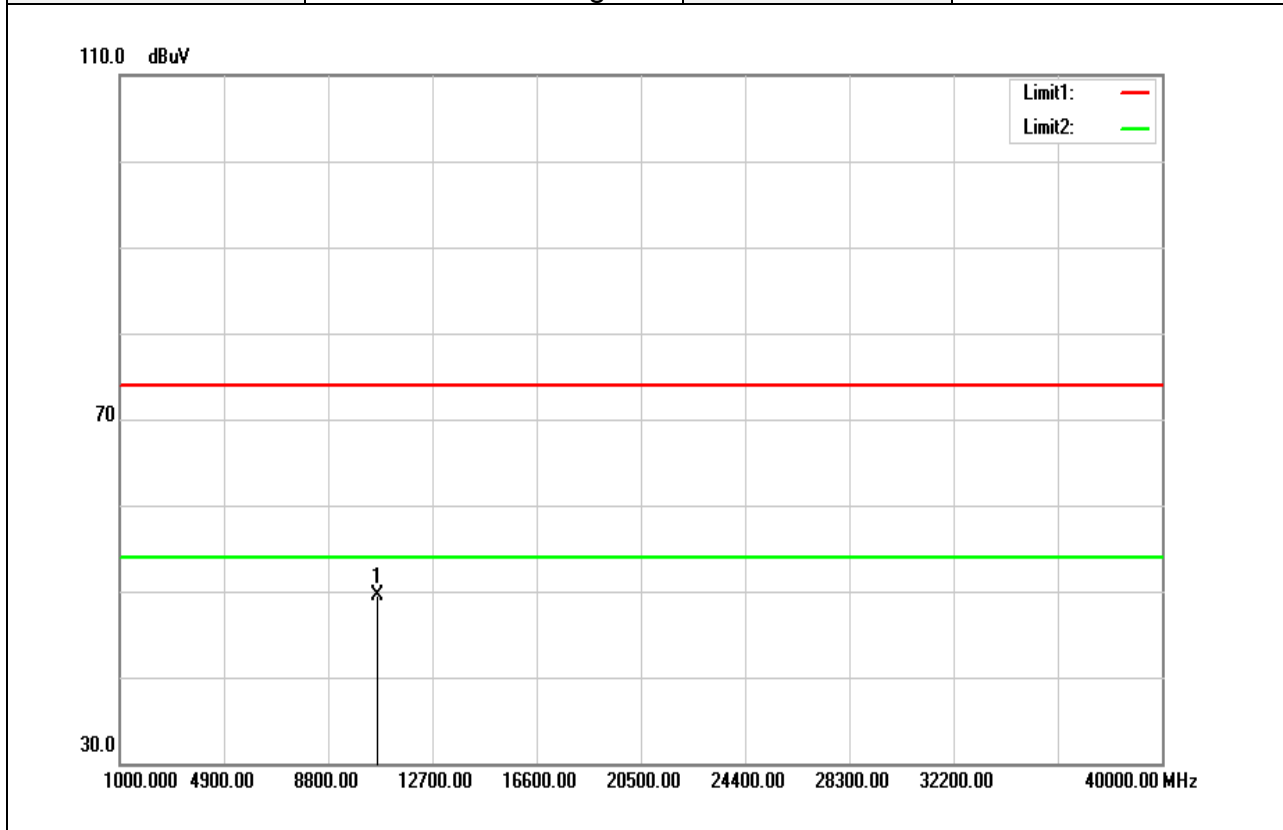


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10680.000	34.23	15.33	49.56	74.00	-24.44	peak
N/A						

**emark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11a / 5320 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

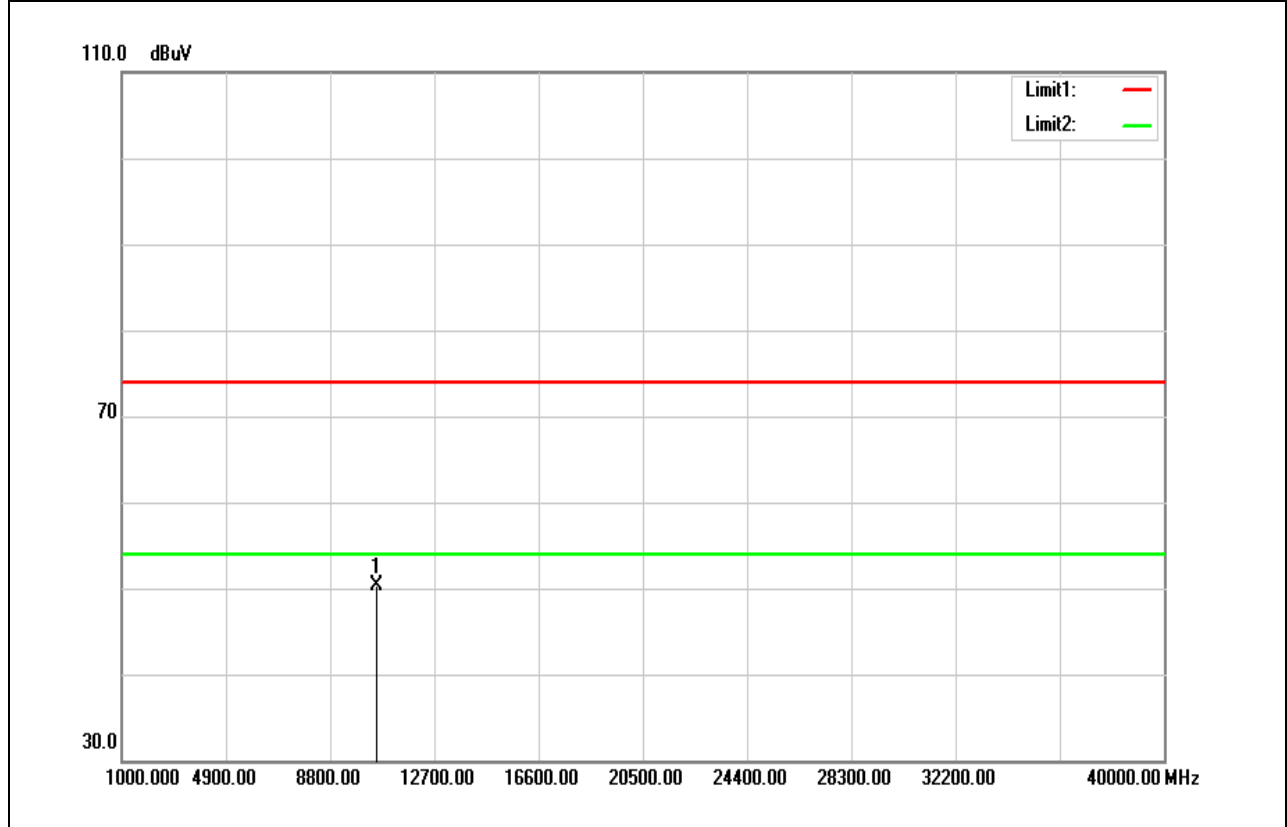


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10660.000	34.19	15.29	49.48	74.00	-24.52	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT20 / 5260 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

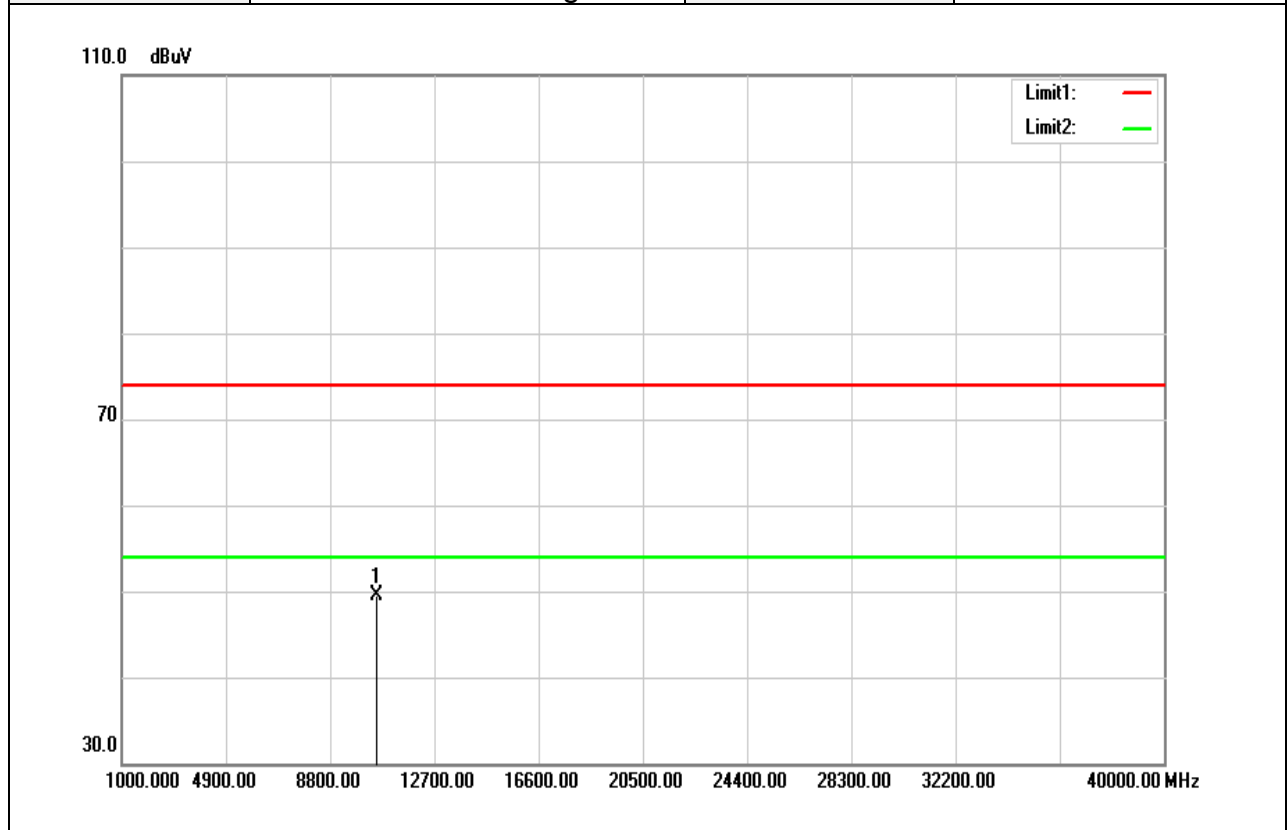


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10520.000	35.26	14.97	50.23	74.00	-23.77	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT20 / 5260 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

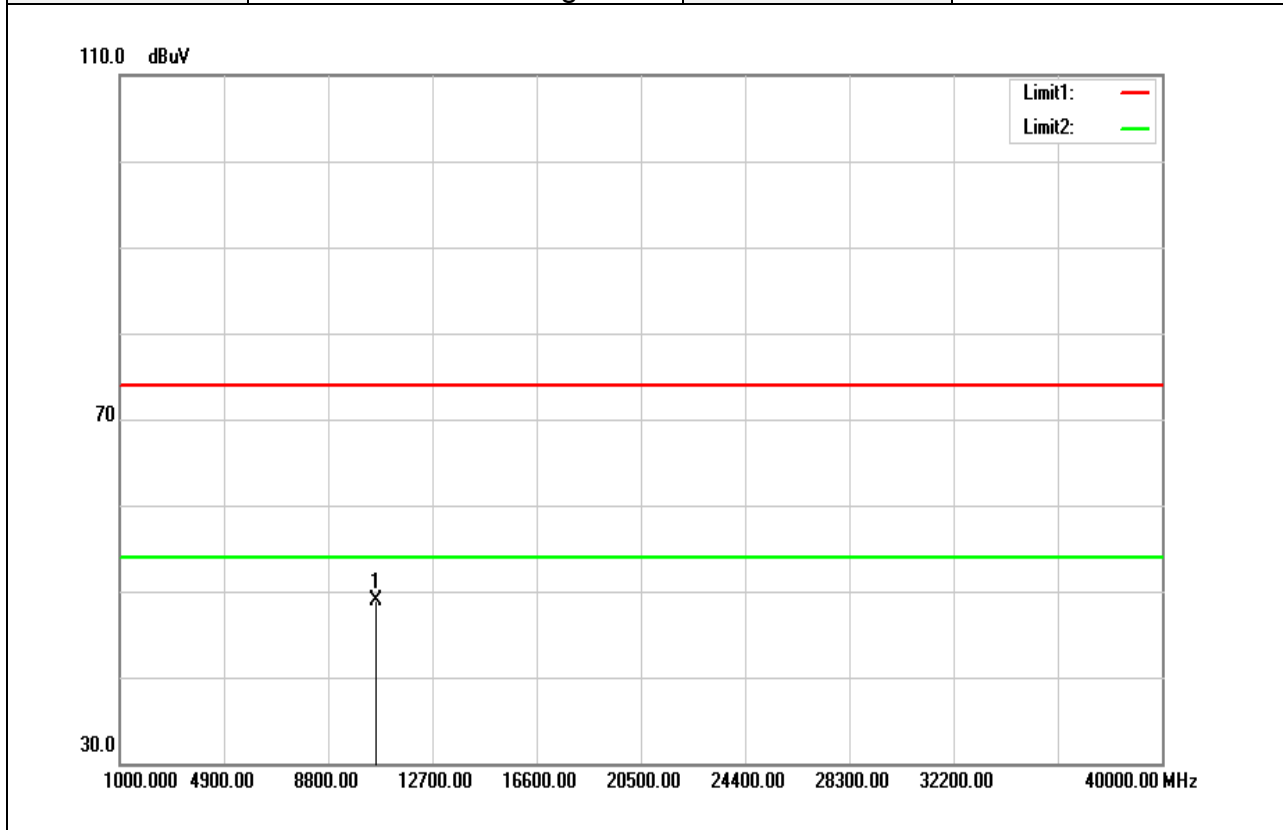


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10530.000	34.50	14.98	49.48	74.00	-24.52	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT20 / 5280 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

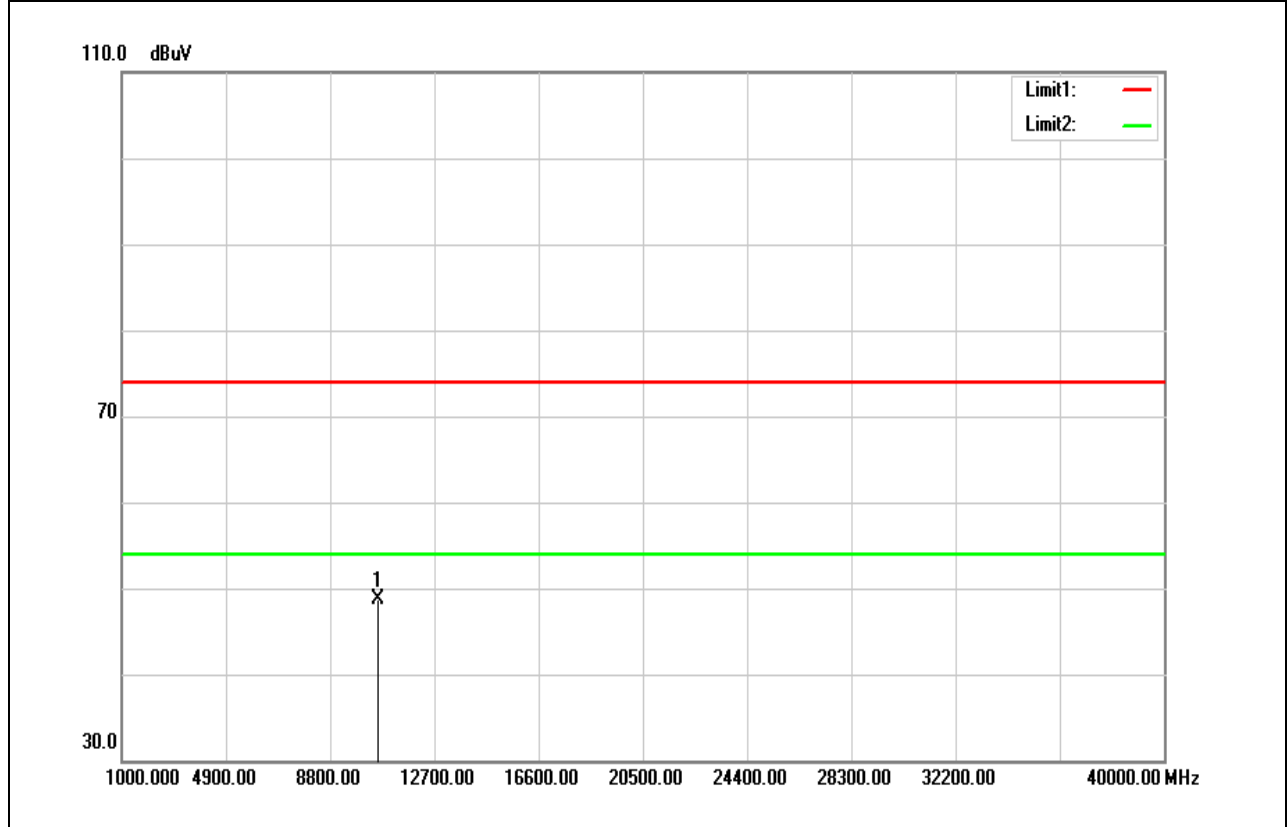


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10610.000	33.81	15.17	48.98	74.00	-25.02	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT20 / 5280 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

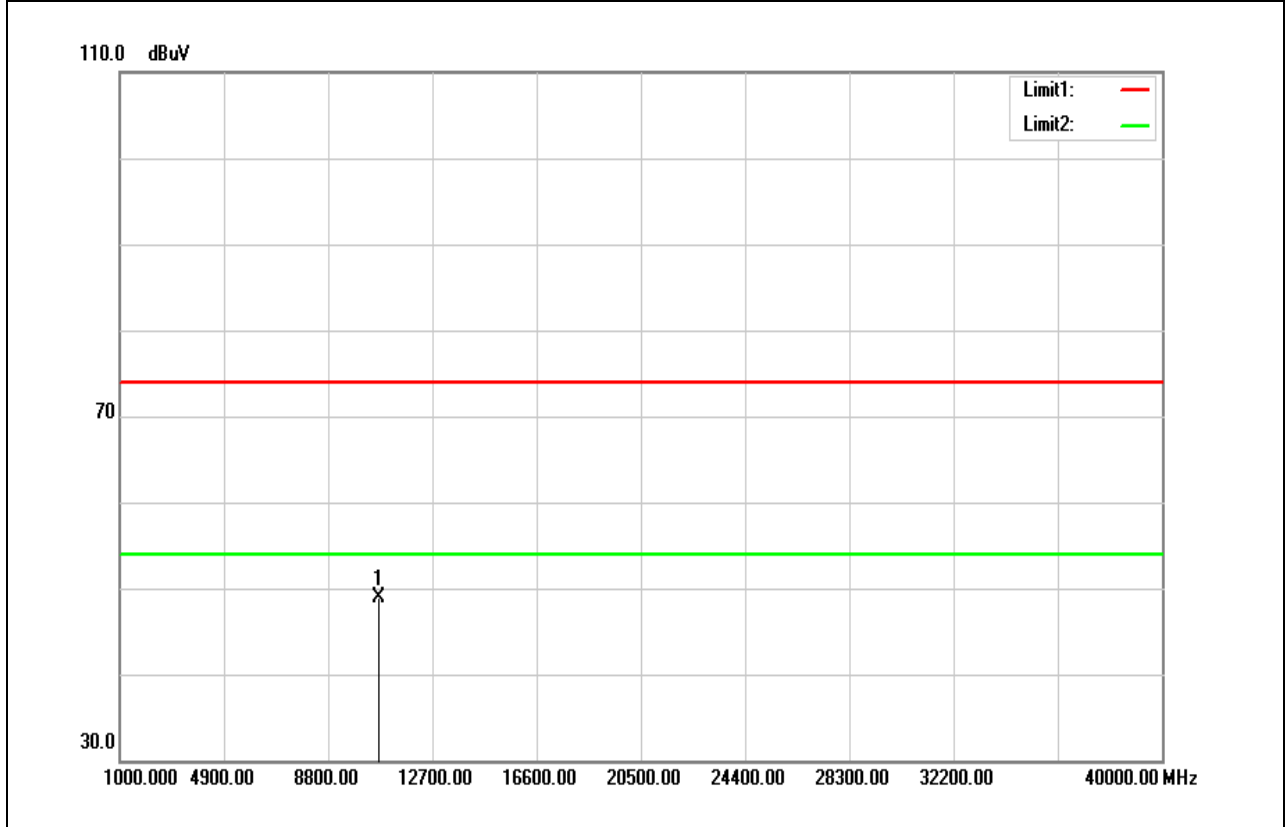


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10605.000	33.56	15.16	48.72	74.00	-25.28	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT20 / 5320 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

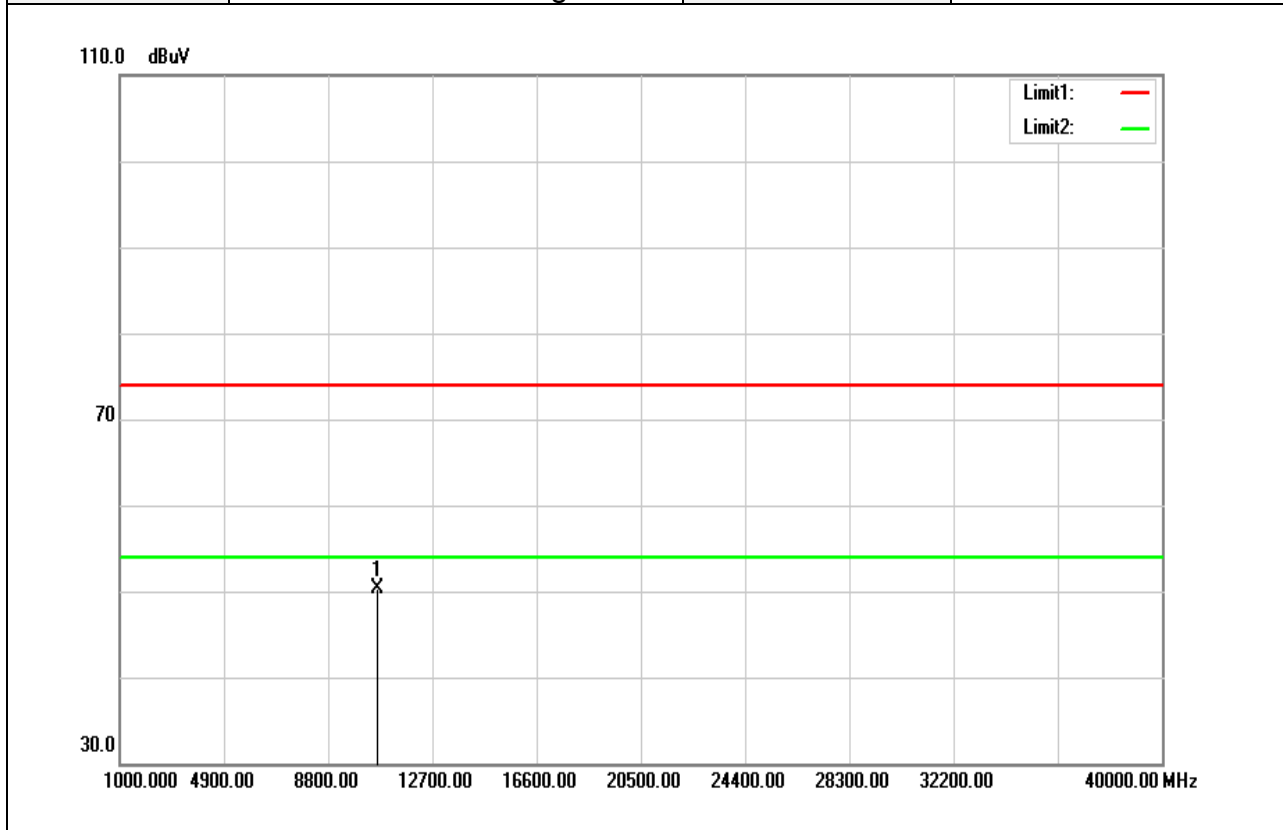


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10685.000	33.60	15.34	48.94	74.00	-25.06	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT20 / 5320 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		



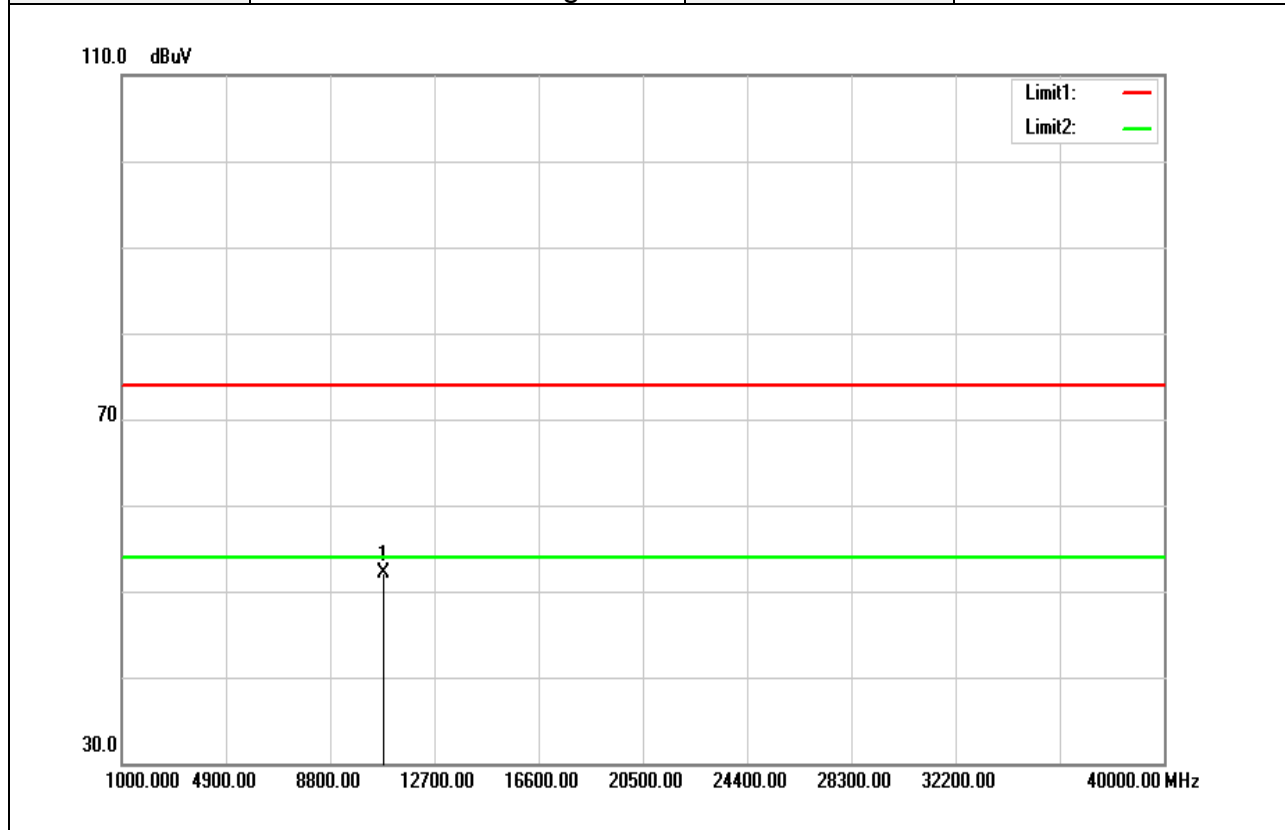
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10670.000	34.94	15.31	50.25	74.00	-23.75	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit



Test Mode	IEEE 802.11n HT40 / 5270 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

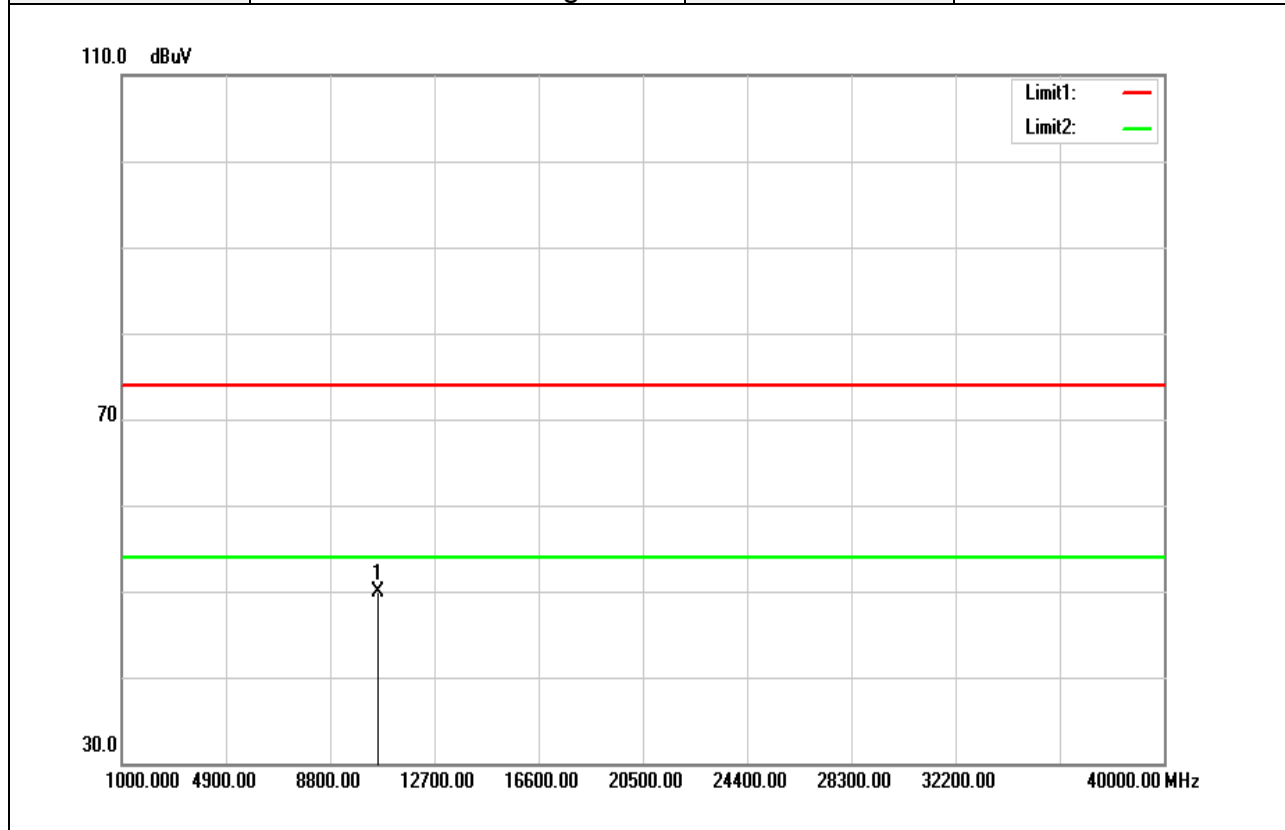


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10825.000	36.42	15.66	52.08	74.00	-21.92	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT40 / 5270 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

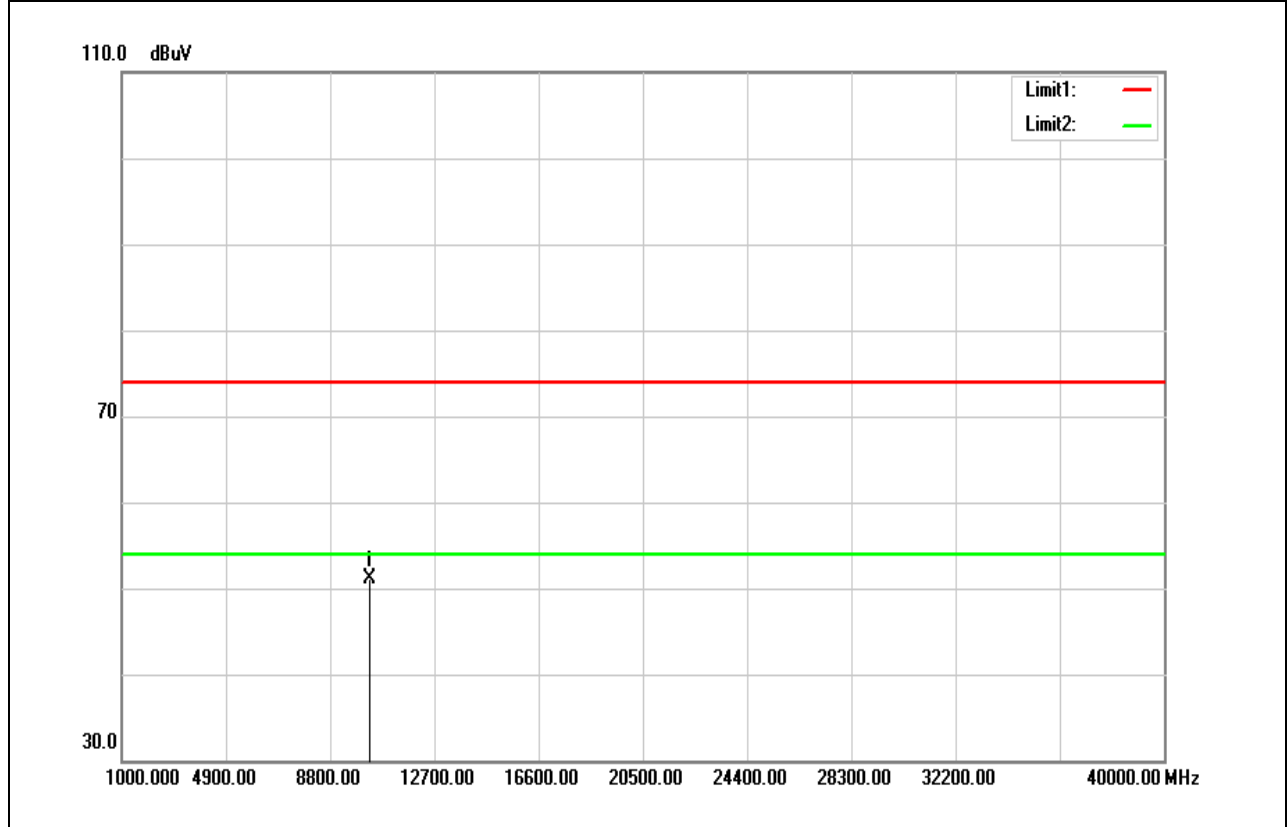


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10580.000	34.84	15.10	49.94	74.00	-24.06	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT40 / 5310 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

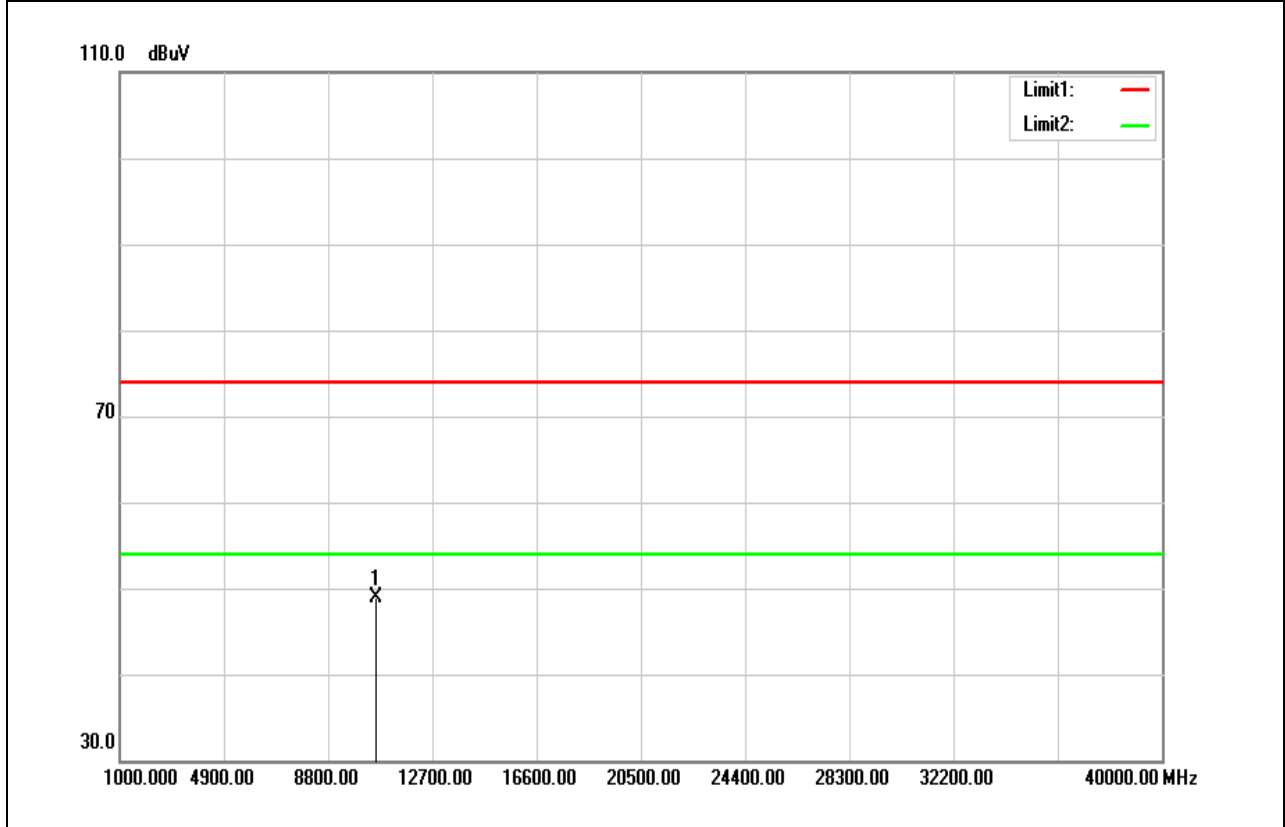


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10295.000	36.87	14.23	51.10	74.00	-22.90	peak
N/A						

**Remark:**

- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT40 / 5310 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

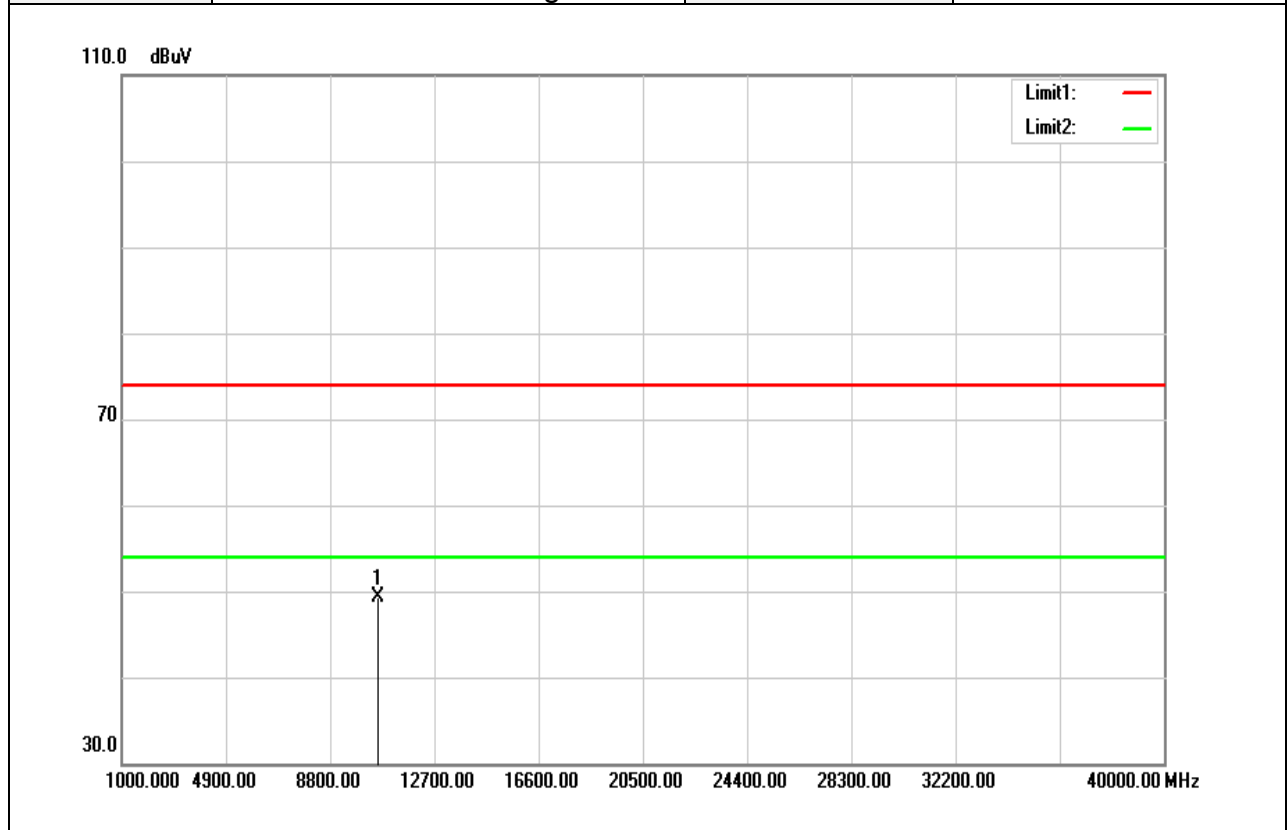


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10590.000	33.83	15.12	48.95	74.00	-25.05	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11ac VHT80 / 5290 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

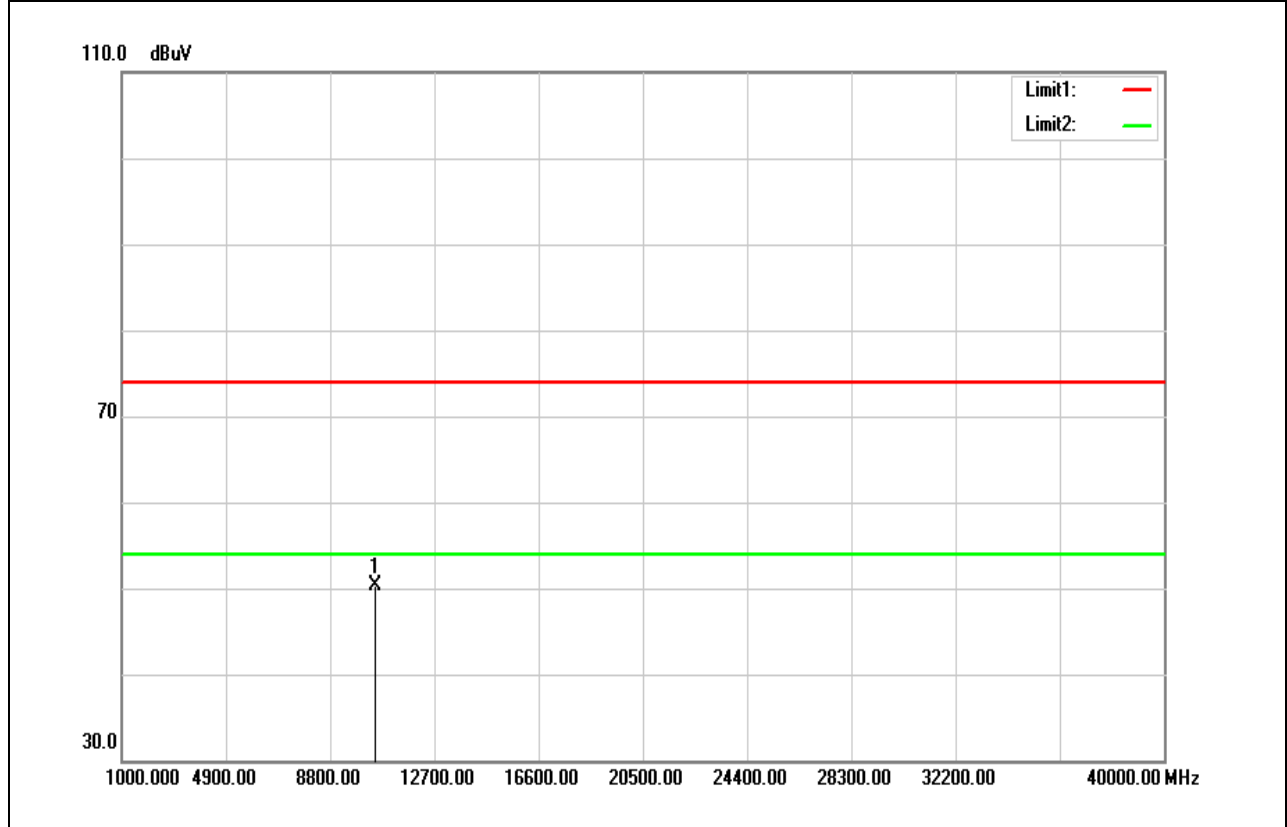


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10570.000	34.19	15.09	49.28	74.00	-24.72	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11ac VHT80 / 5290 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10495.000	35.41	14.91	50.32	74.00	-23.68	peak
N/A						

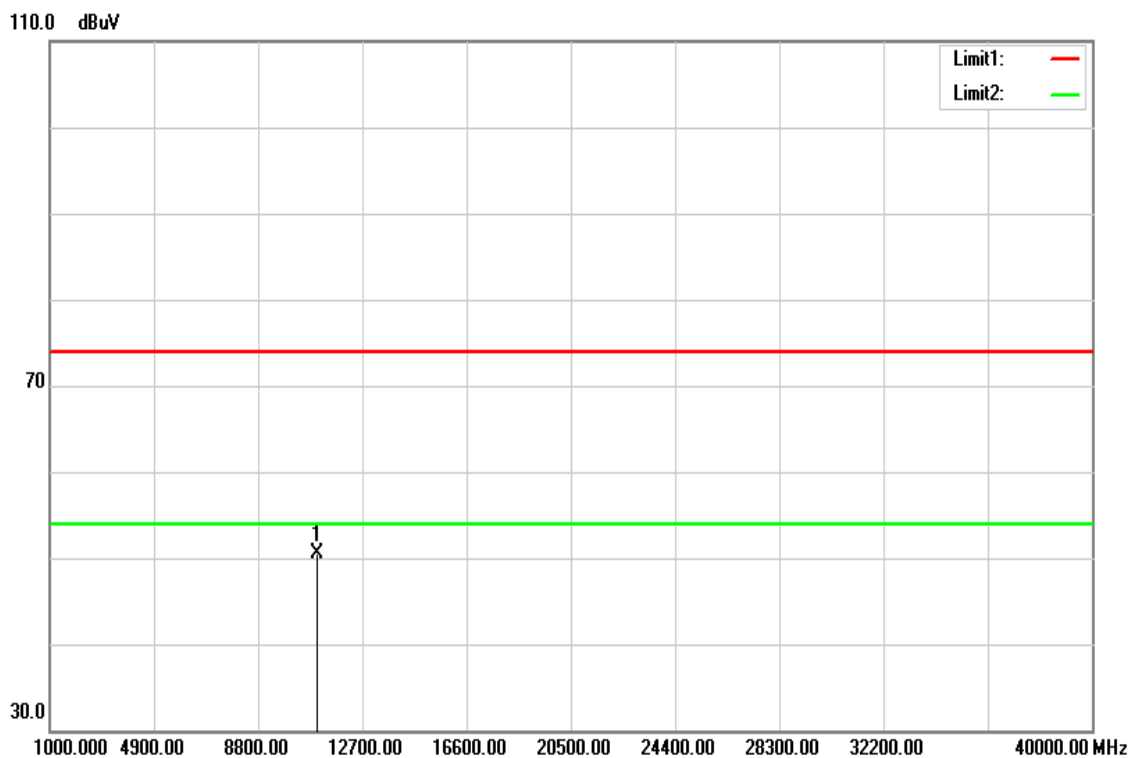
**Remark:**

- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Report No.: T180522D10-RP4

**Above 1G Test Data for UNII-2c**

Test Mode	IEEE 802.11a / 5500 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

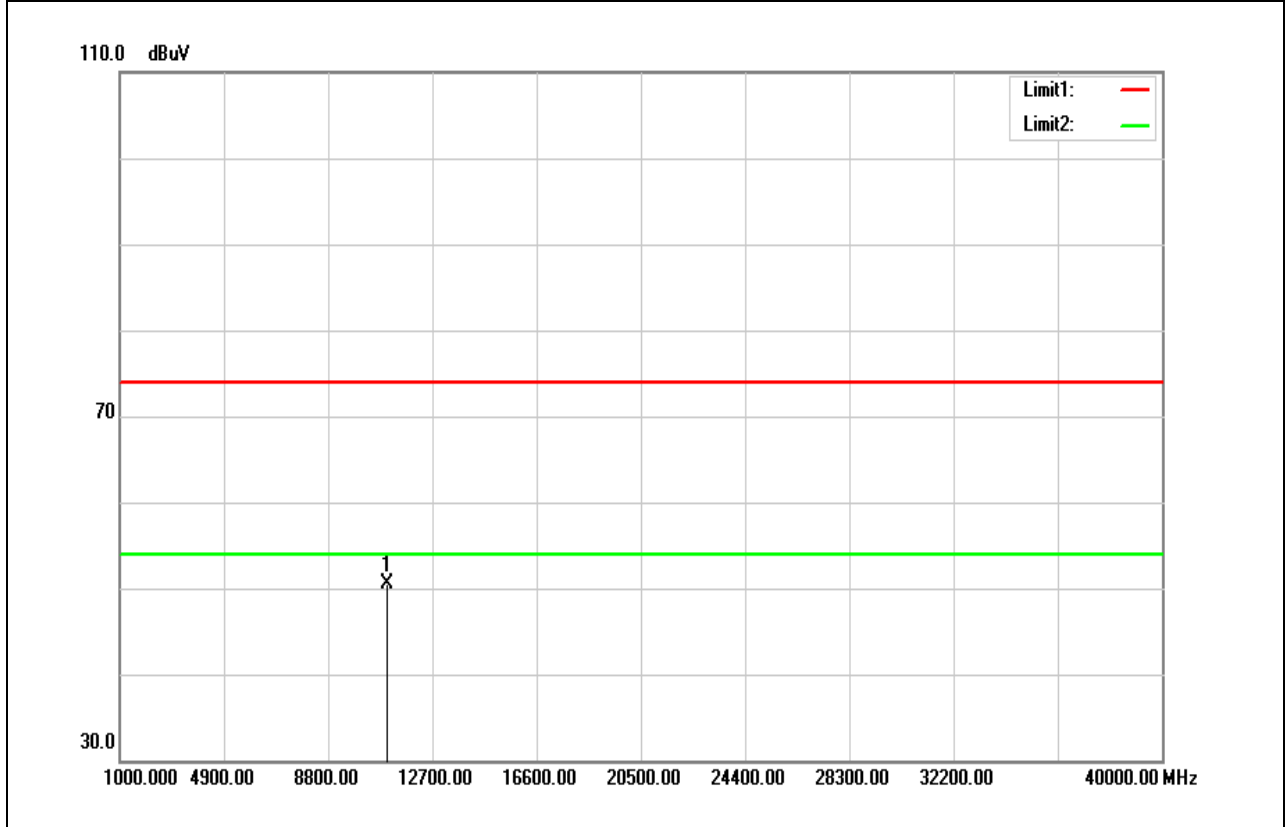


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11000.000	34.40	16.06	50.46	74.00	-23.54	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11a / 5500 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		



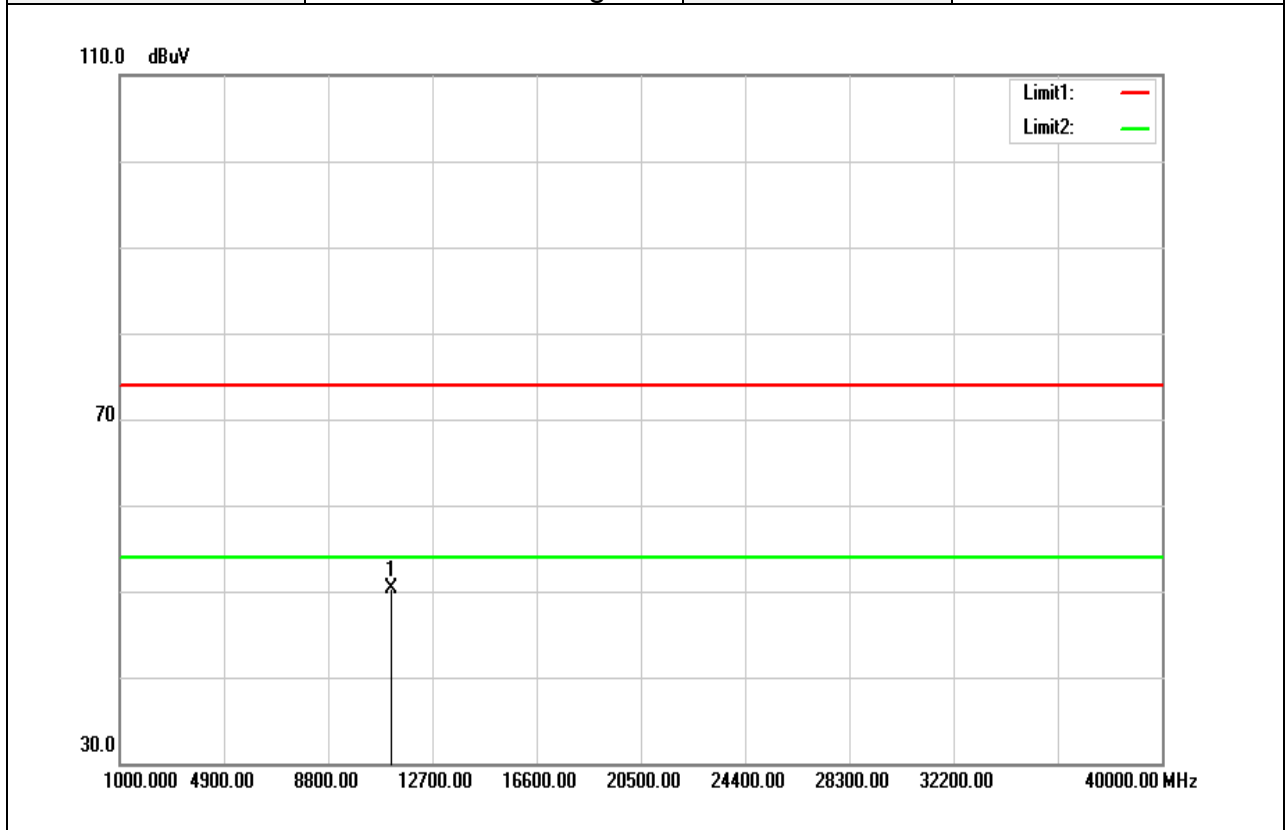
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11000.000	34.45	16.06	50.51	74.00	-23.49	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit



Test Mode	IEEE 802.11a / 5580 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

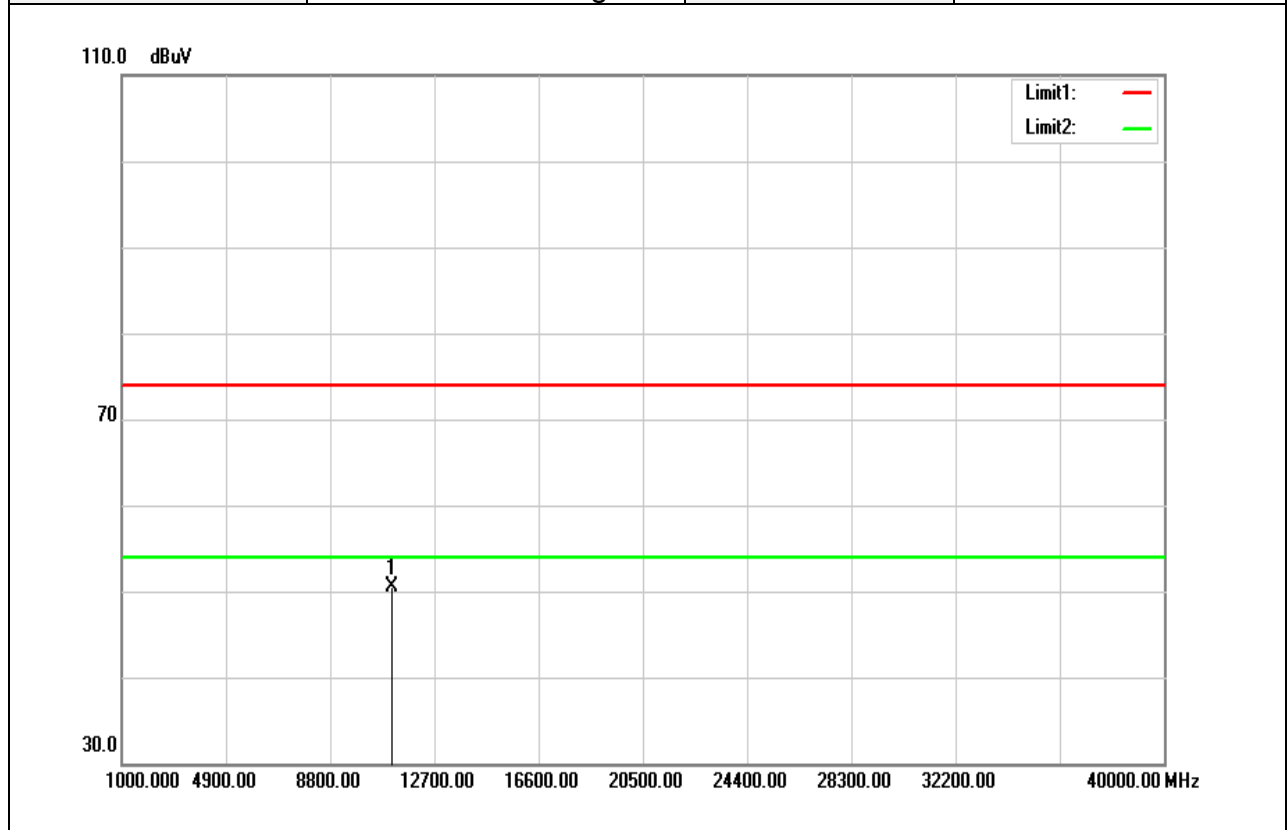


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11170.000	34.31	16.06	50.37	74.00	-23.63	peak
N/A						

**Remark:**

- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11a / 5580 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

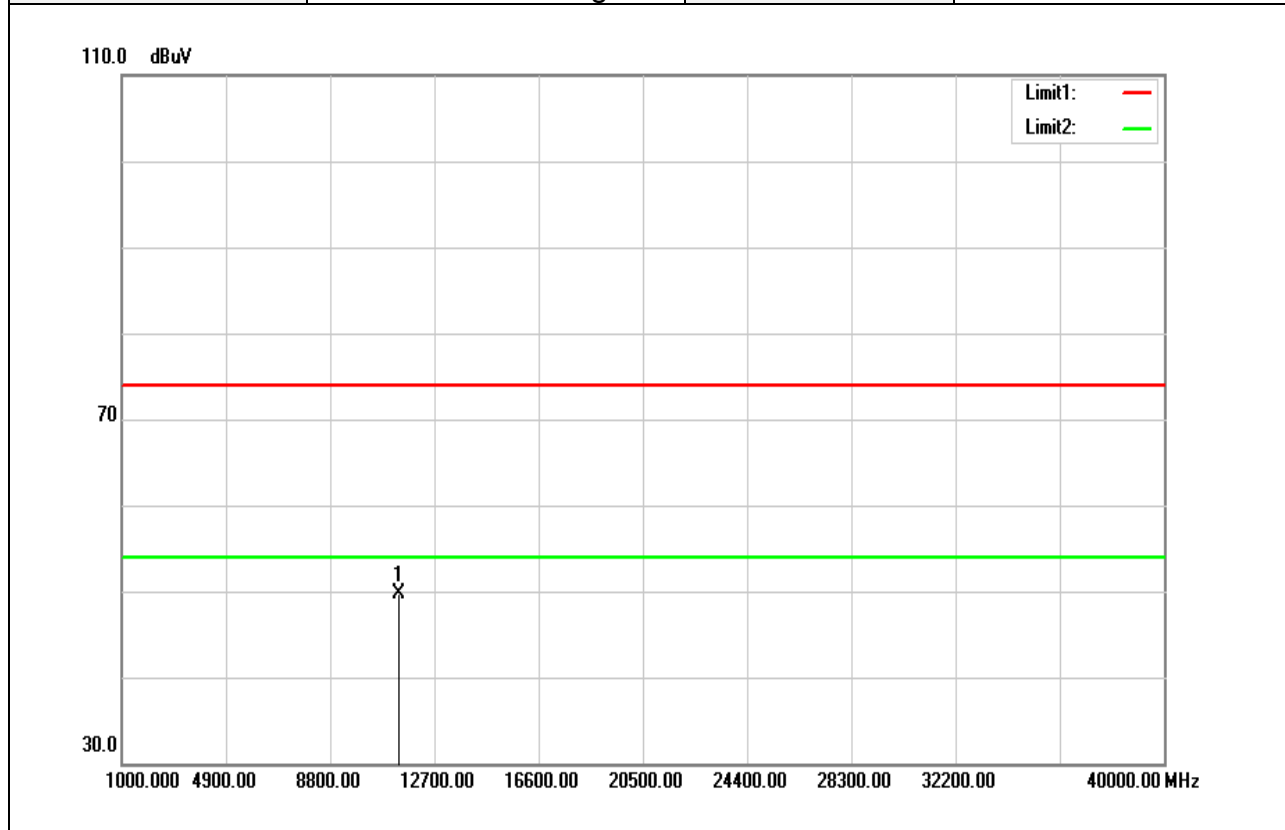


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11135.000	34.47	16.06	50.53	74.00	-23.47	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11a / 5700 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

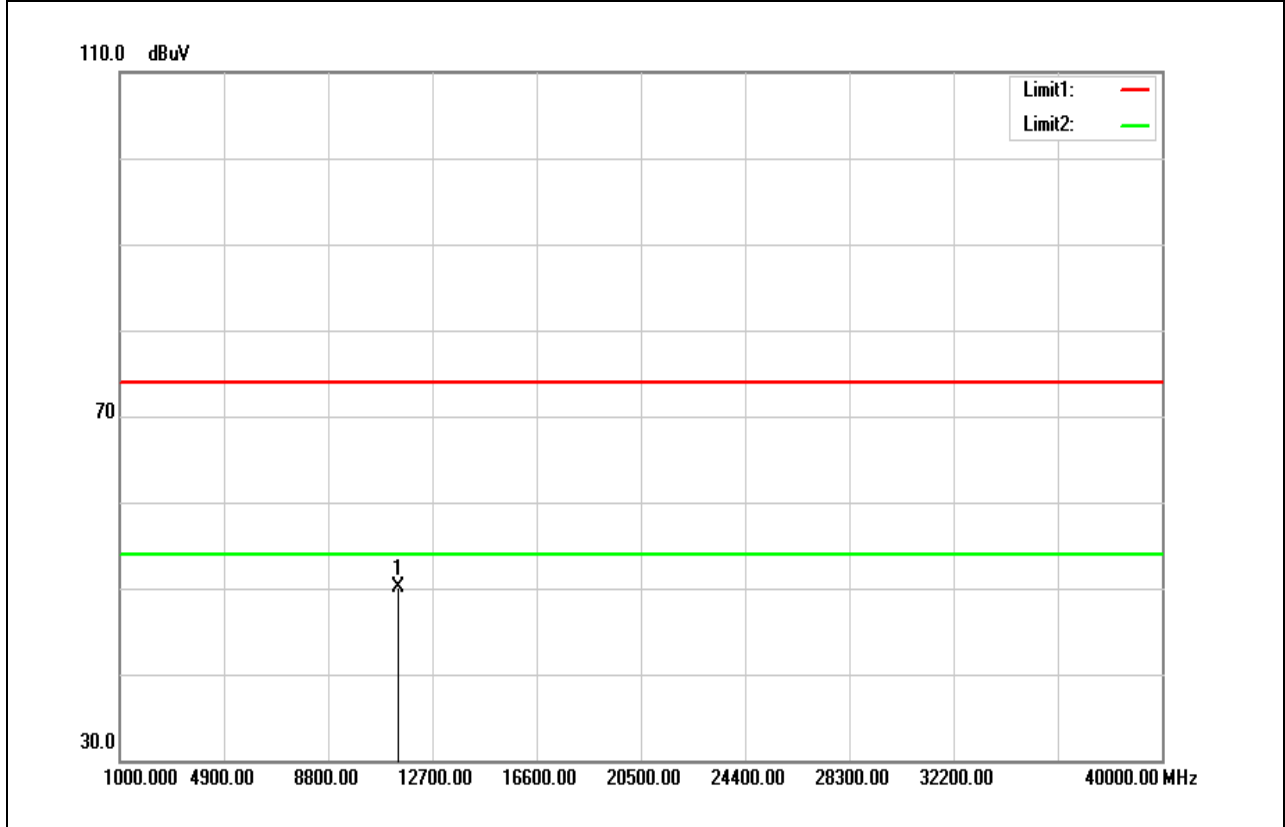


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11380.000	33.59	16.09	49.68	74.00	-24.32	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11a / 5700 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

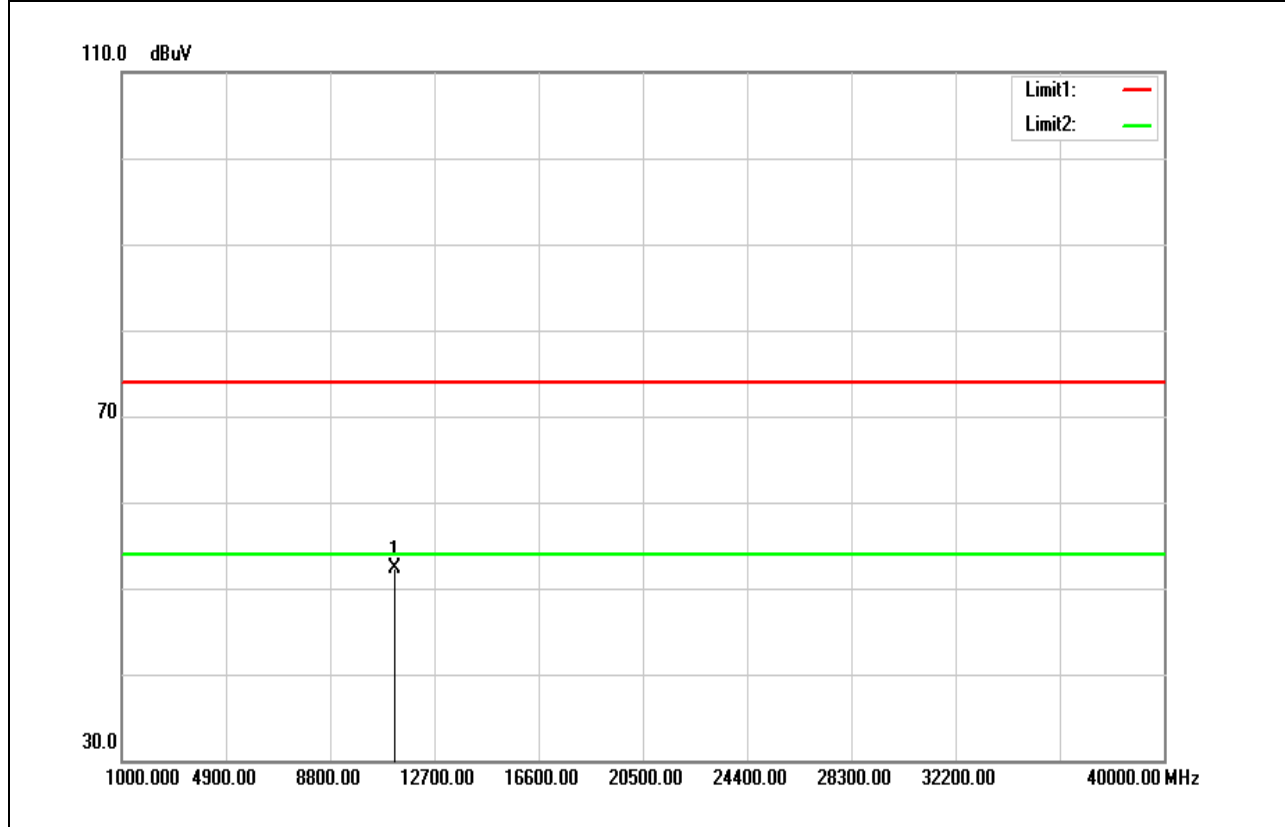


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11410.000	34.02	16.08	50.10	74.00	-23.90	peak
N/A						

**Remark:**

- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT20 / 5500 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

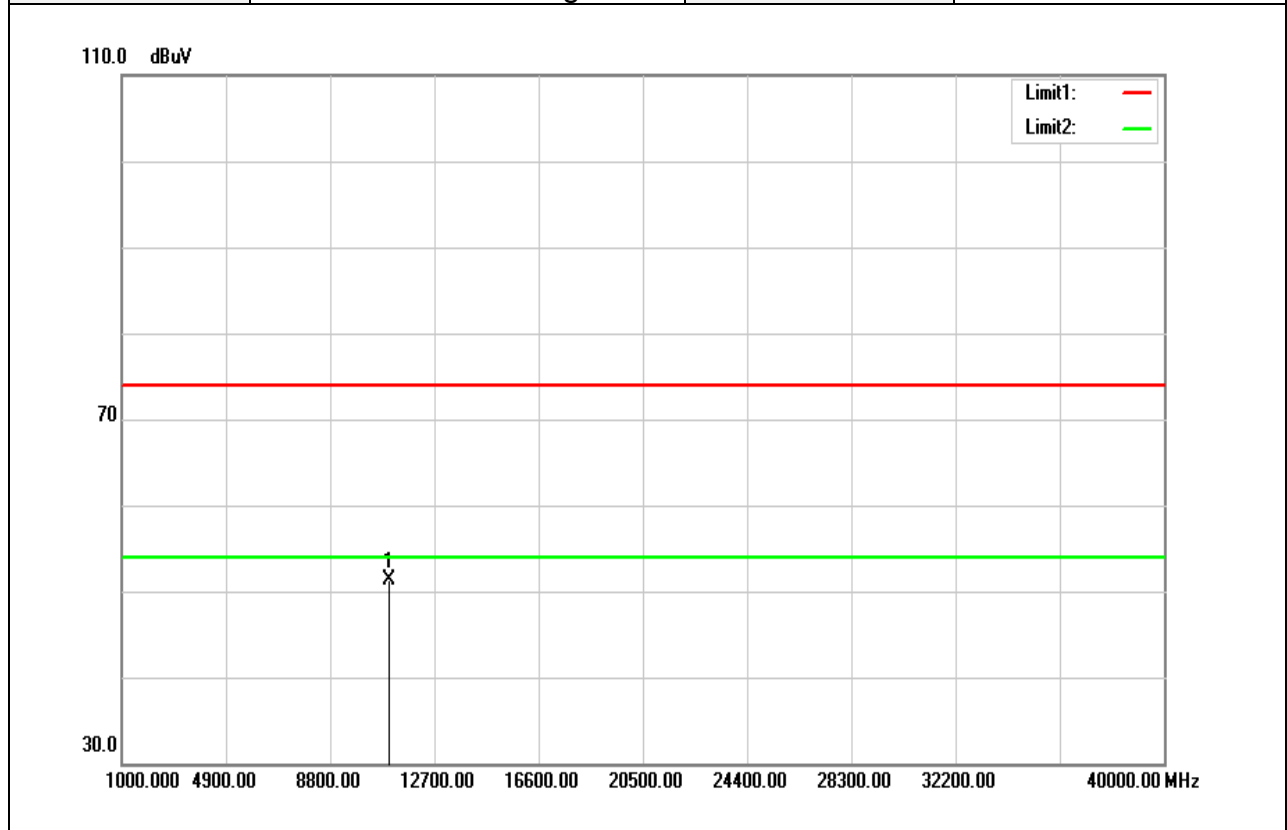


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11210.000	36.27	16.07	52.34	74.00	-21.66	peak
N/A						

**Remark:**

- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT20 / 5500 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

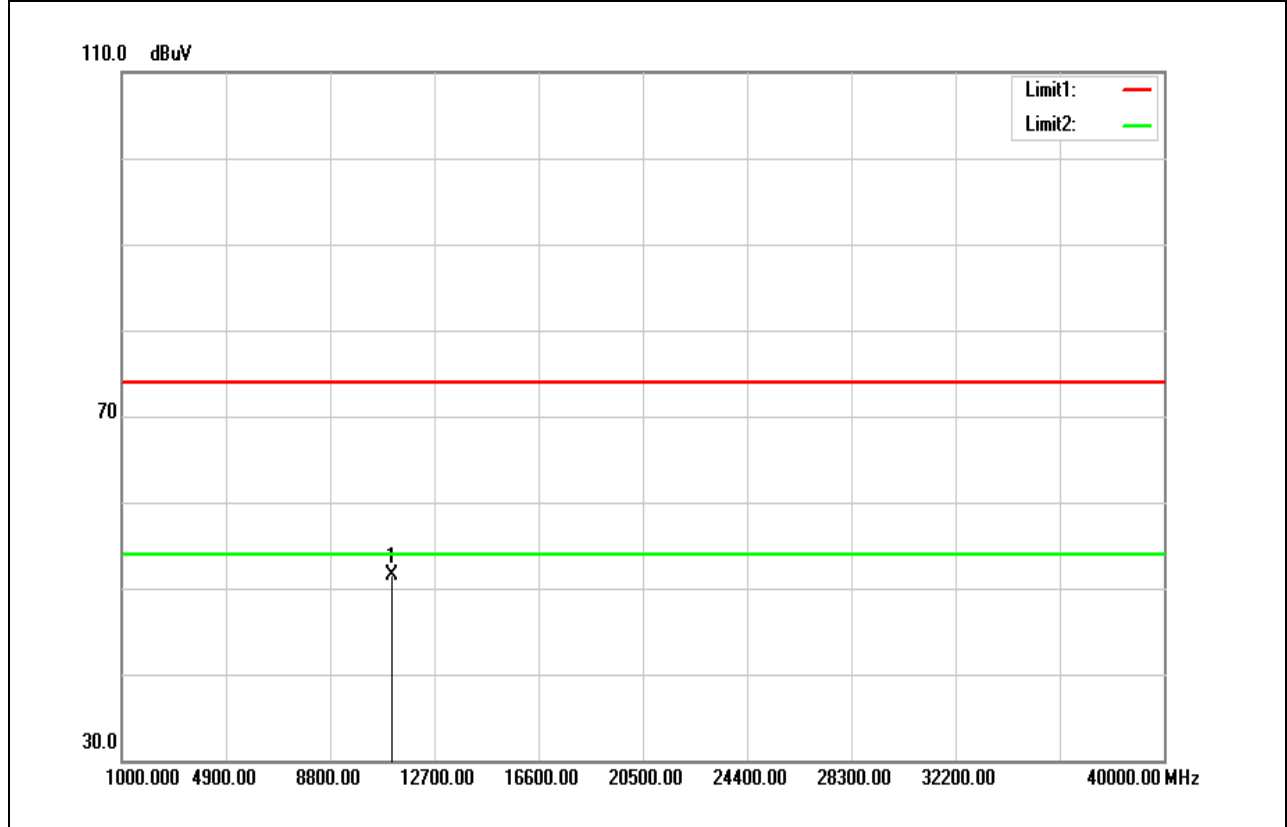


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11015.000	35.24	16.06	51.30	74.00	-22.70	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT20 / 5580 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

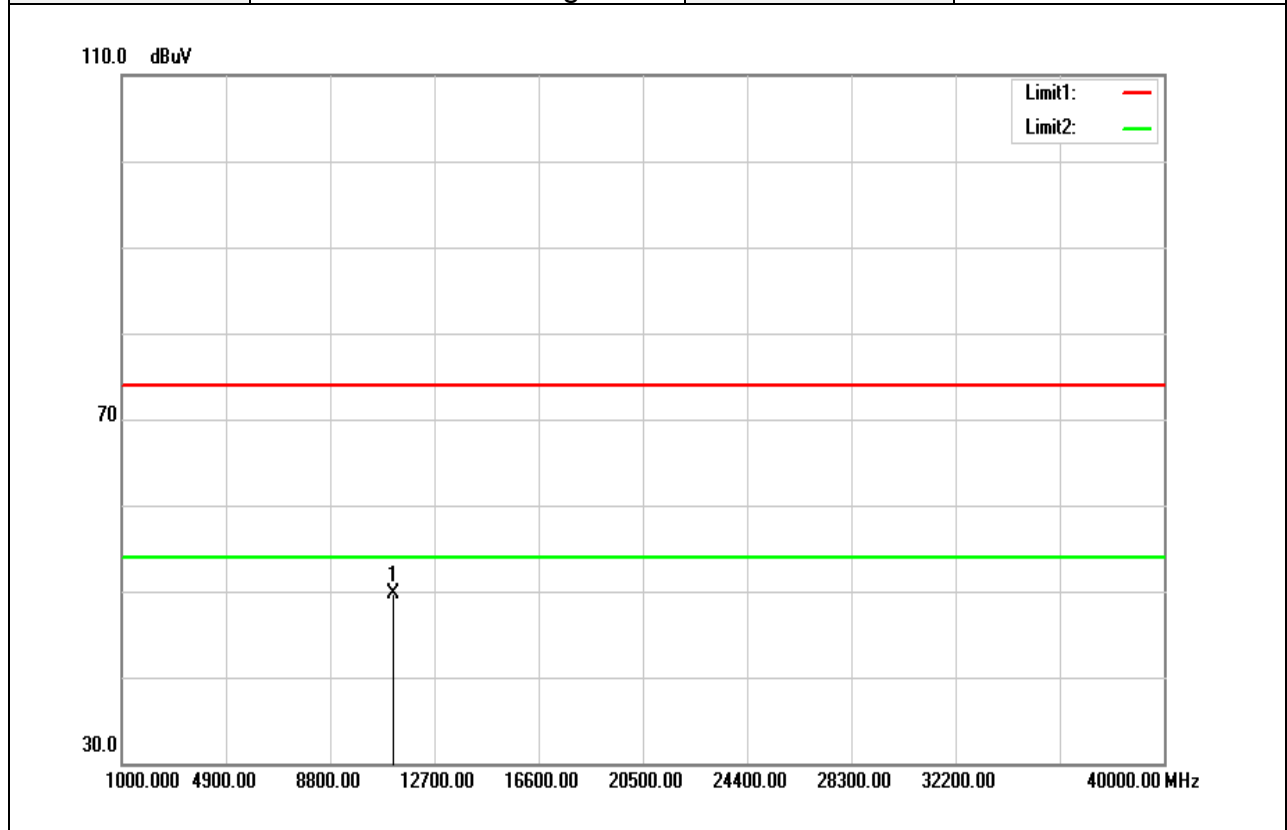


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11120.000	35.54	16.06	51.60	74.00	-22.40	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT20 / 5580 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		



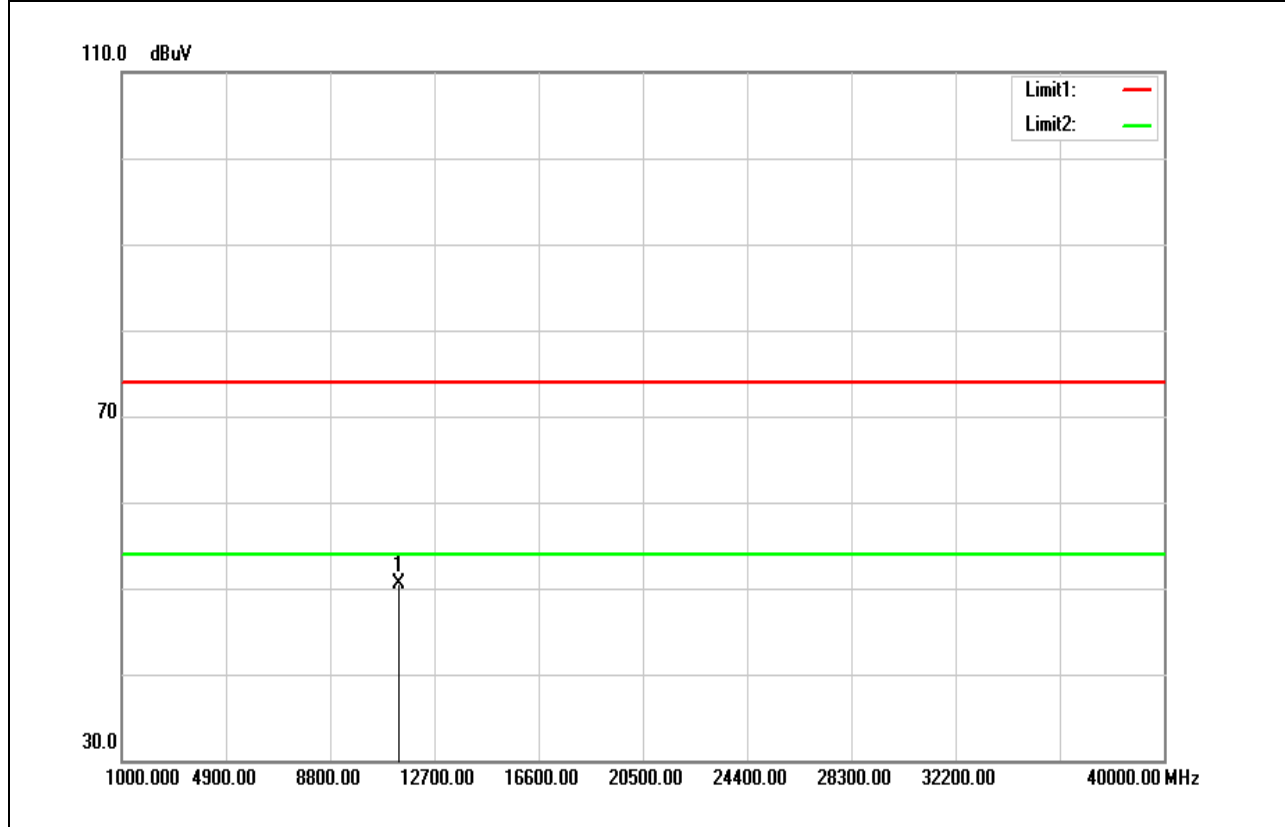
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11145.000	33.69	16.06	49.75	74.00	-24.25	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit



Test Mode	IEEE 802.11n HT20 / 5700 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

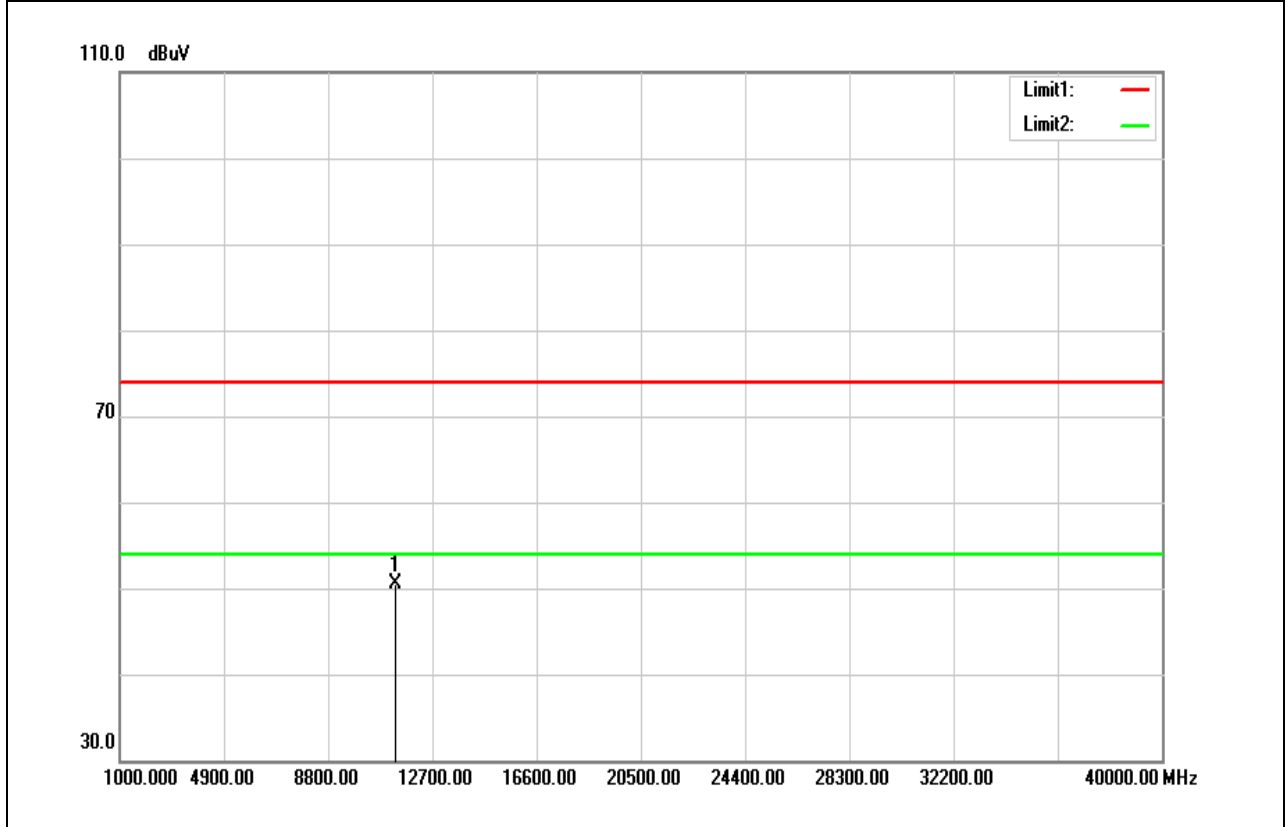


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11380.000	34.44	16.09	50.53	74.00	-23.47	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT20 / 5700 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

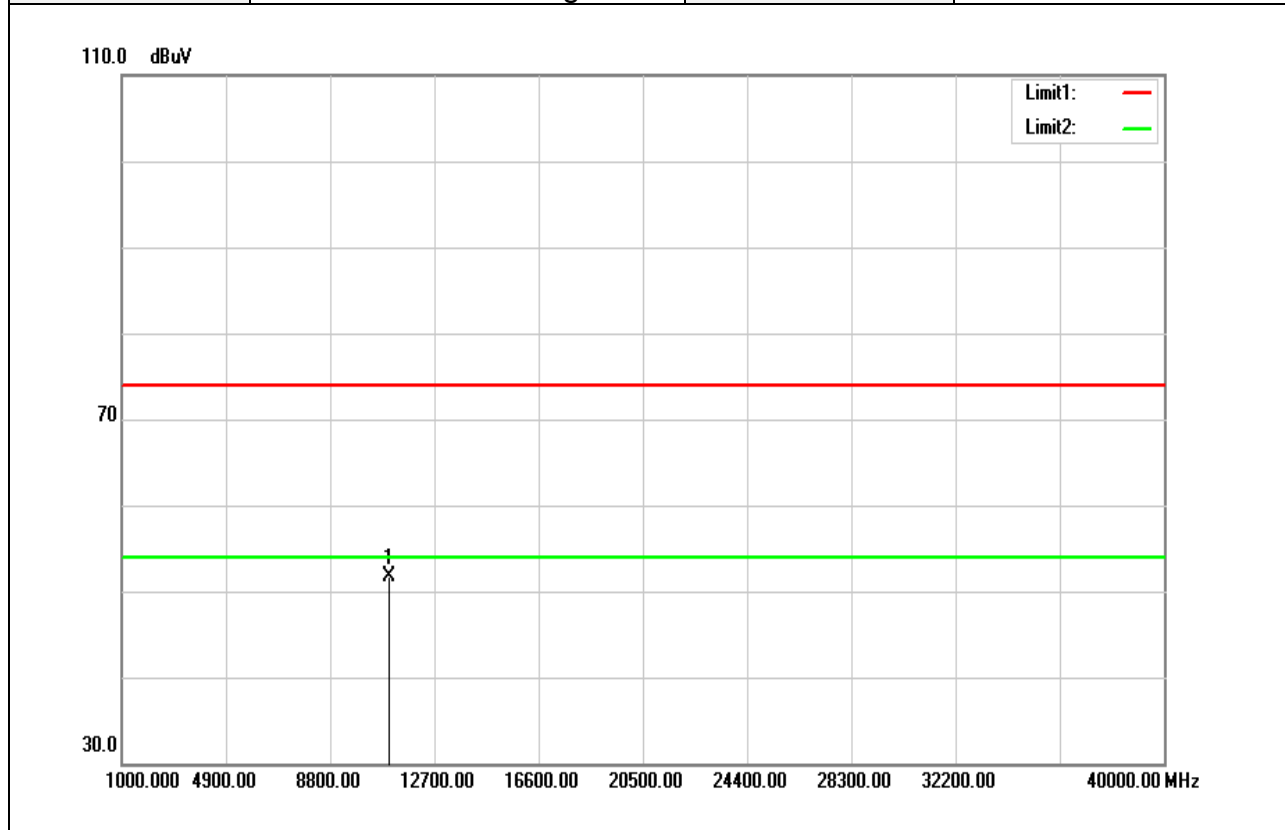


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11345.000	34.36	16.07	50.43	74.00	-23.57	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT40 / 5510 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

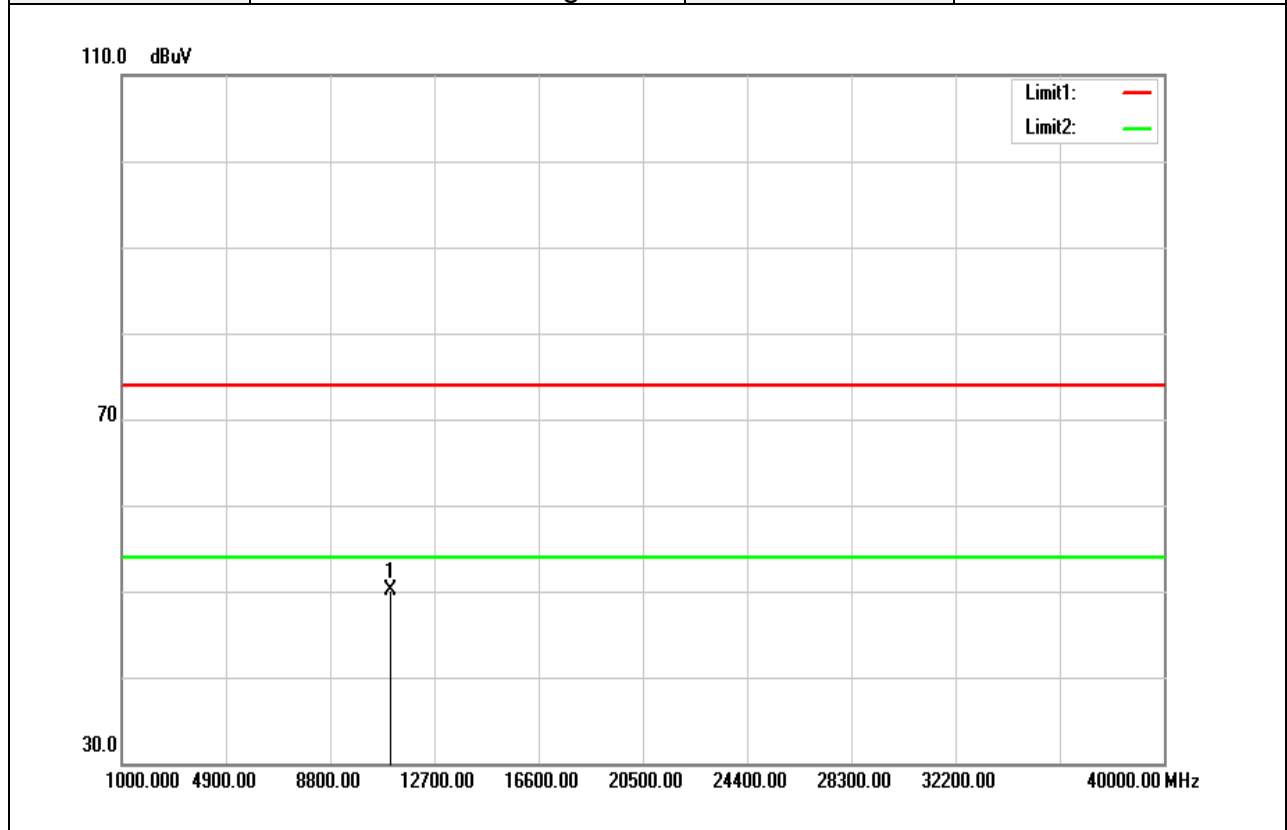


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11000.000	35.74	16.06	51.80	74.00	-22.20	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT40 / 5510 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

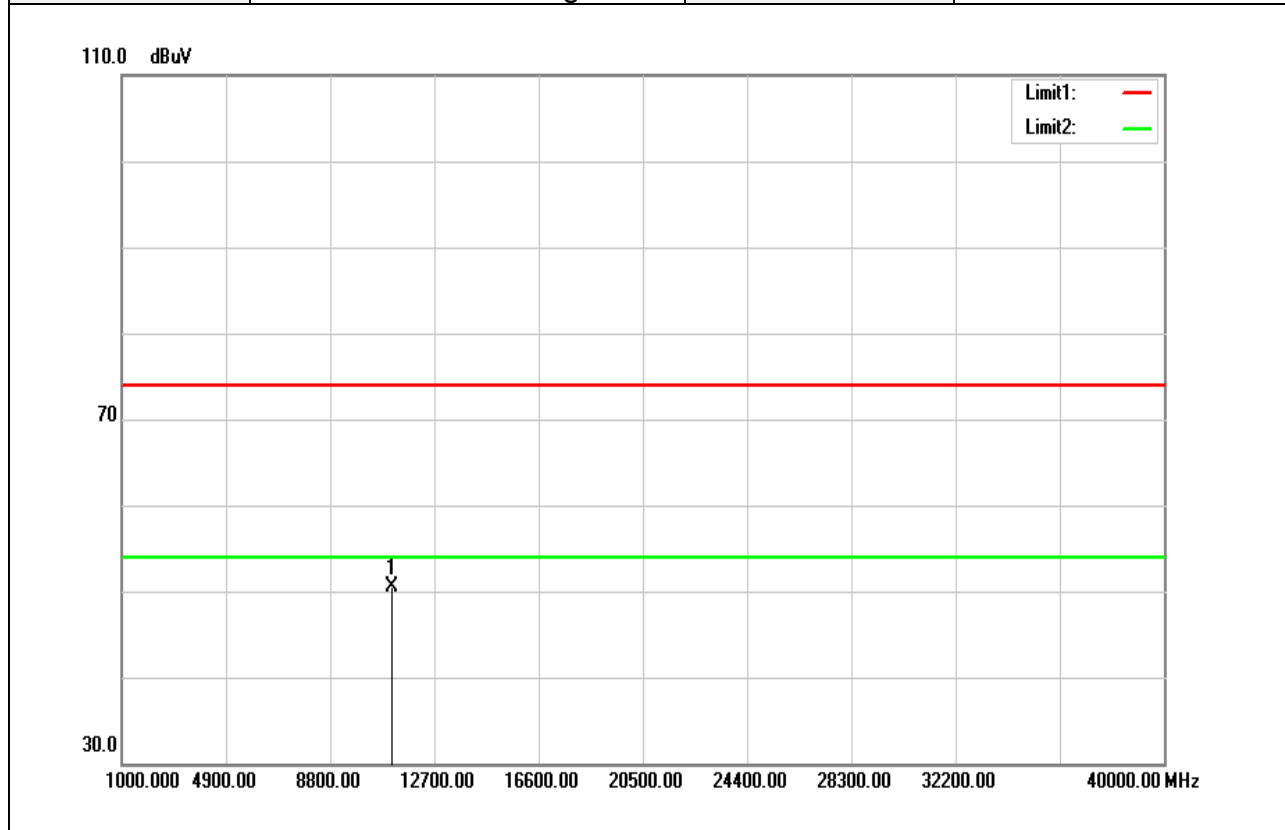


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11040.000	34.09	16.07	50.16	74.00	-23.84	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT40 / 5550 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

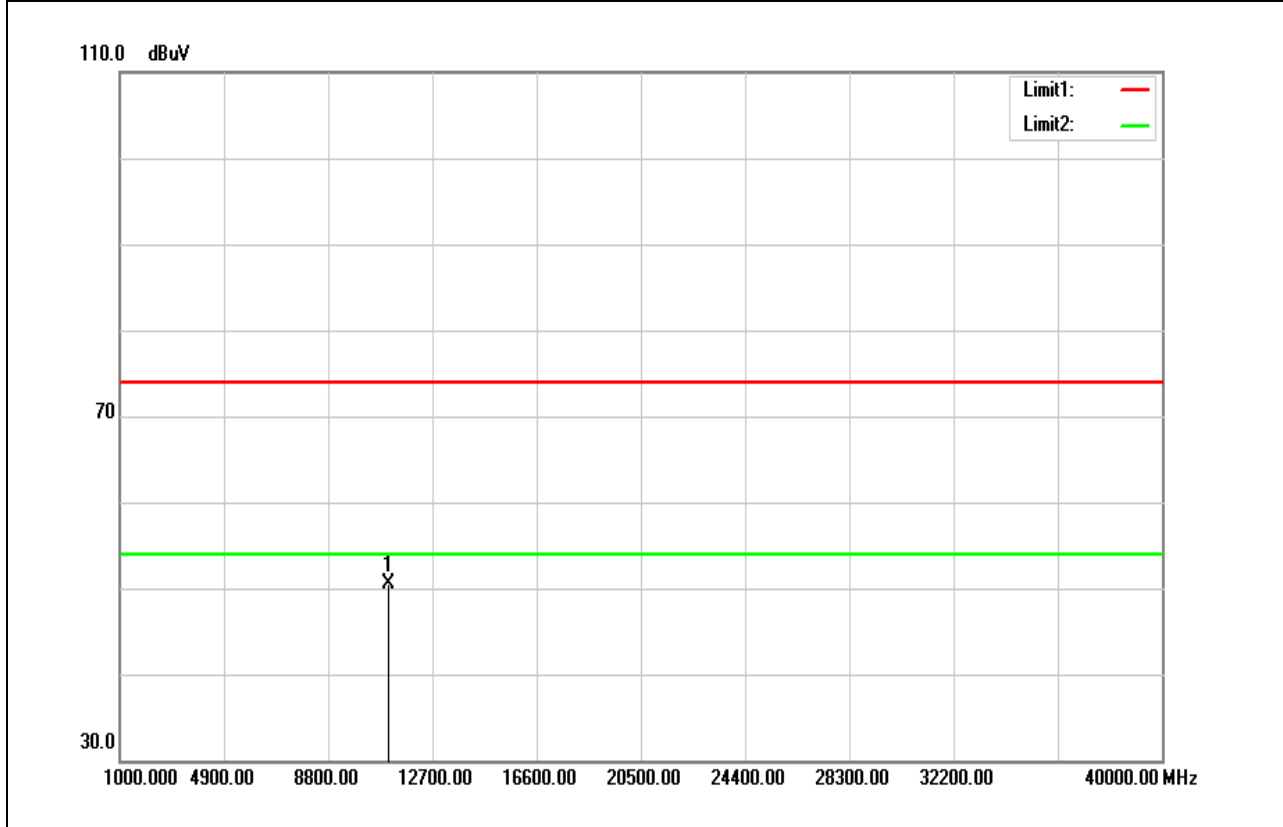


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11130.000	34.52	16.08	50.60	74.00	-23.40	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT40 / 5550 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

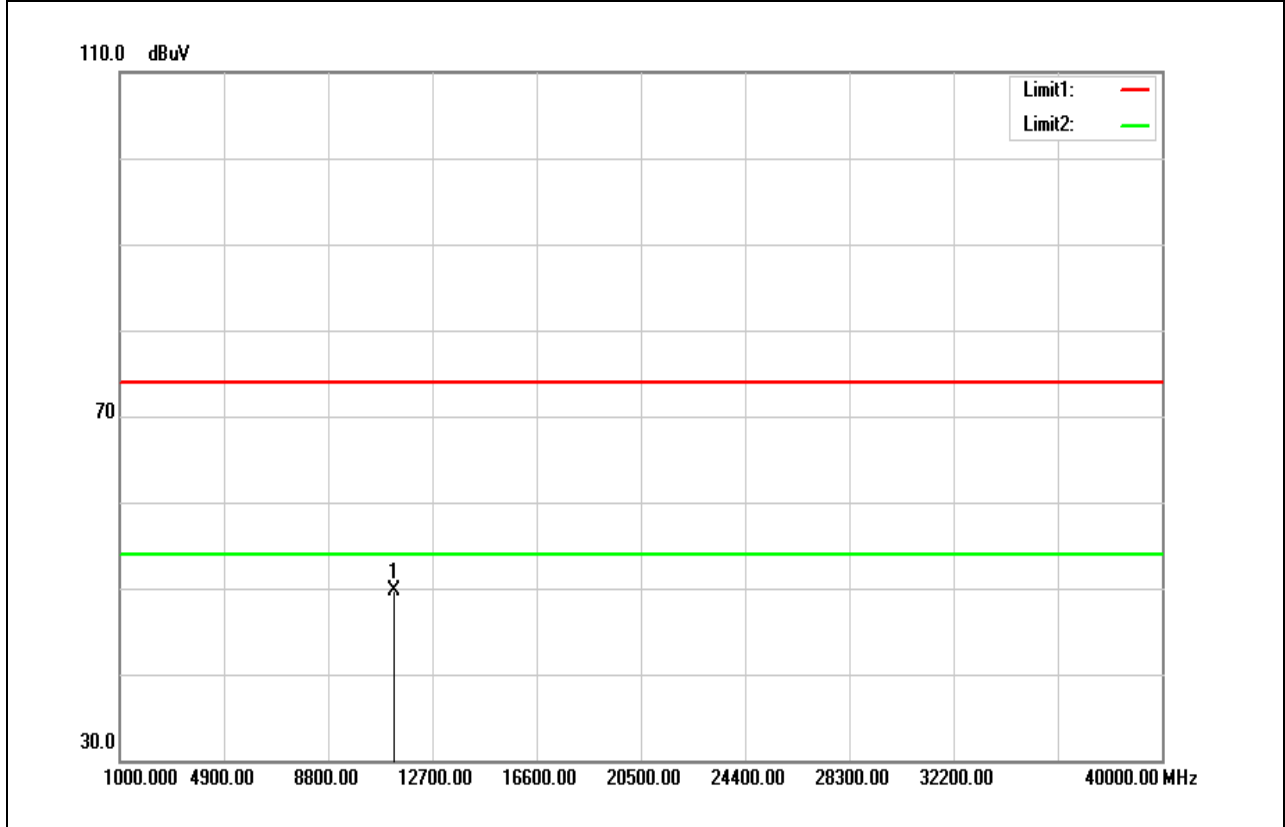


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11075.000	34.47	16.06	50.53	74.00	-23.47	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT40 / 5670 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

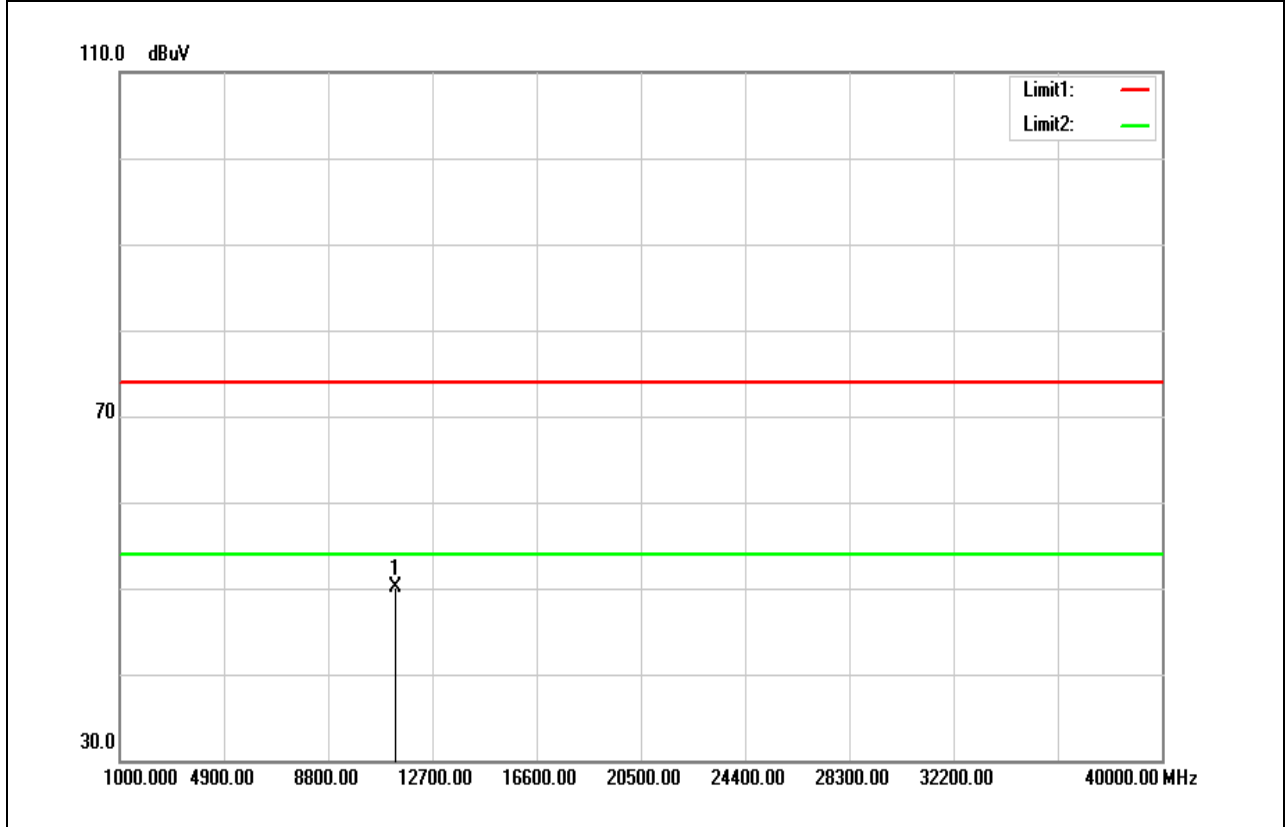


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11295.000	33.73	16.07	49.80	74.00	-24.20	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT40 / 5670 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		



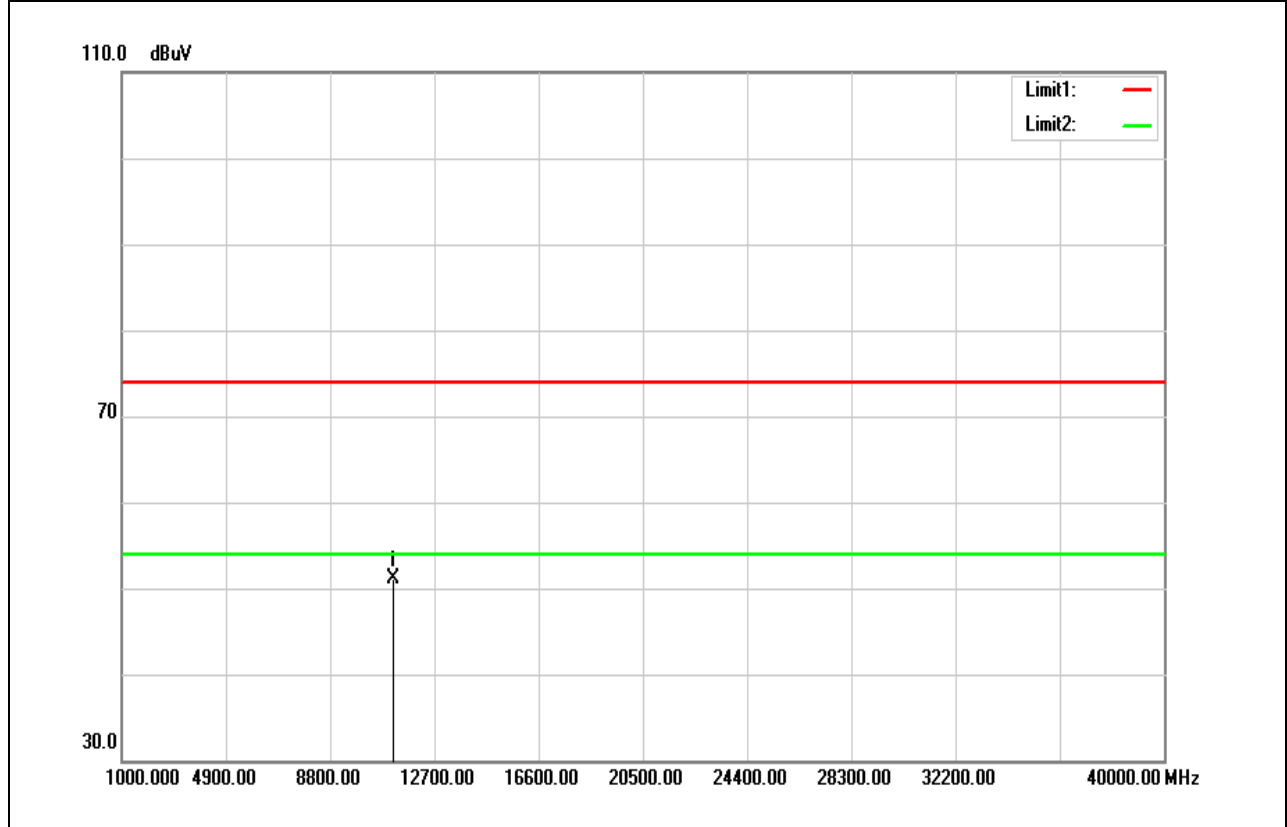
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11310.000	34.10	16.07	50.17	74.00	-23.83	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit



Test Mode	IEEE 802.11ac VHT80 / 5530 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

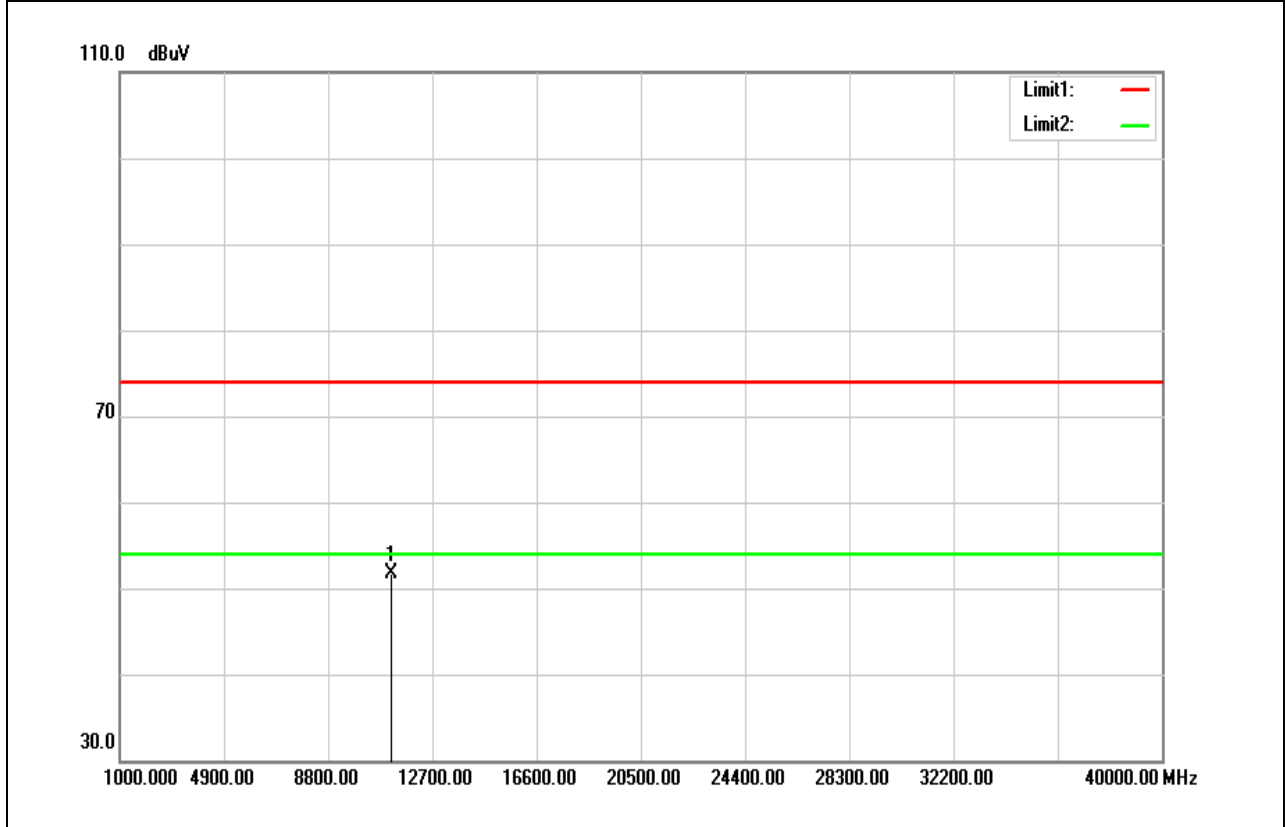


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11185.000	34.94	16.07	51.01	74.00	-22.99	peak
N/A						

**Remark:**

- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11ac VHT80 / 5530 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11140.000	35.55	16.07	51.62	74.00	-22.38	peak
N/A						

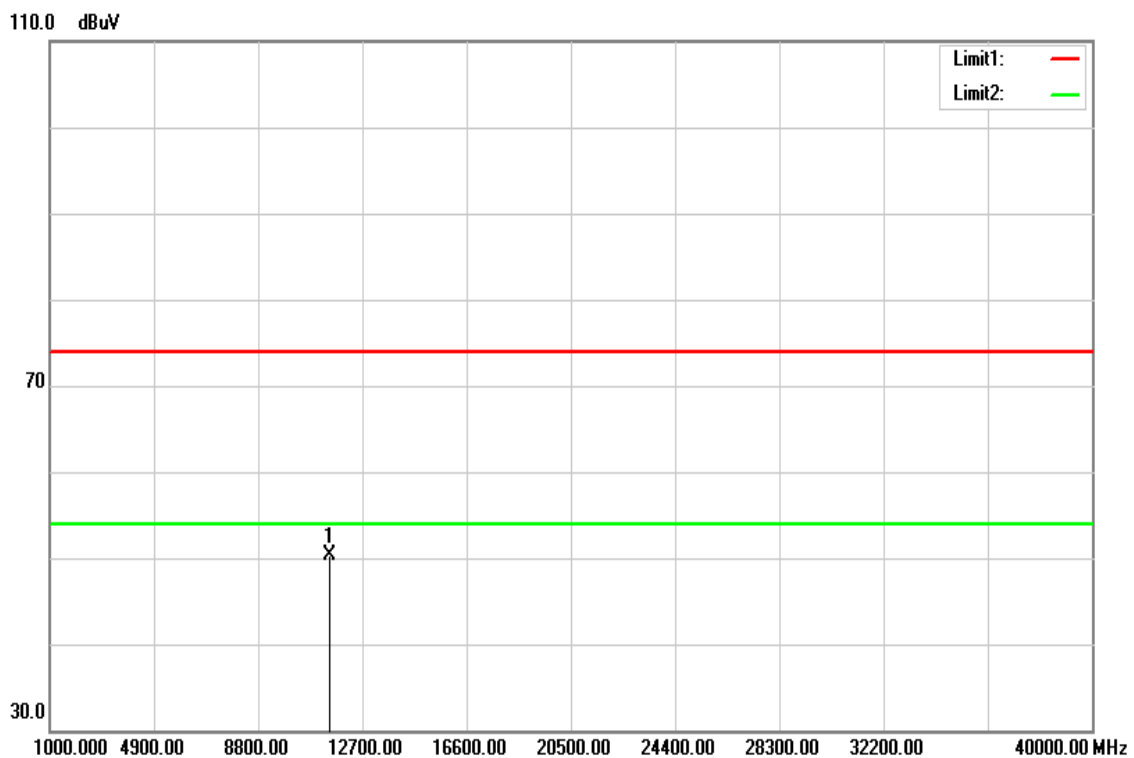
**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Report No.: T180522D10-RP4

**Above 1G Test Data for UNII-3**

Test Mode	IEEE 802.11a / 5745 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

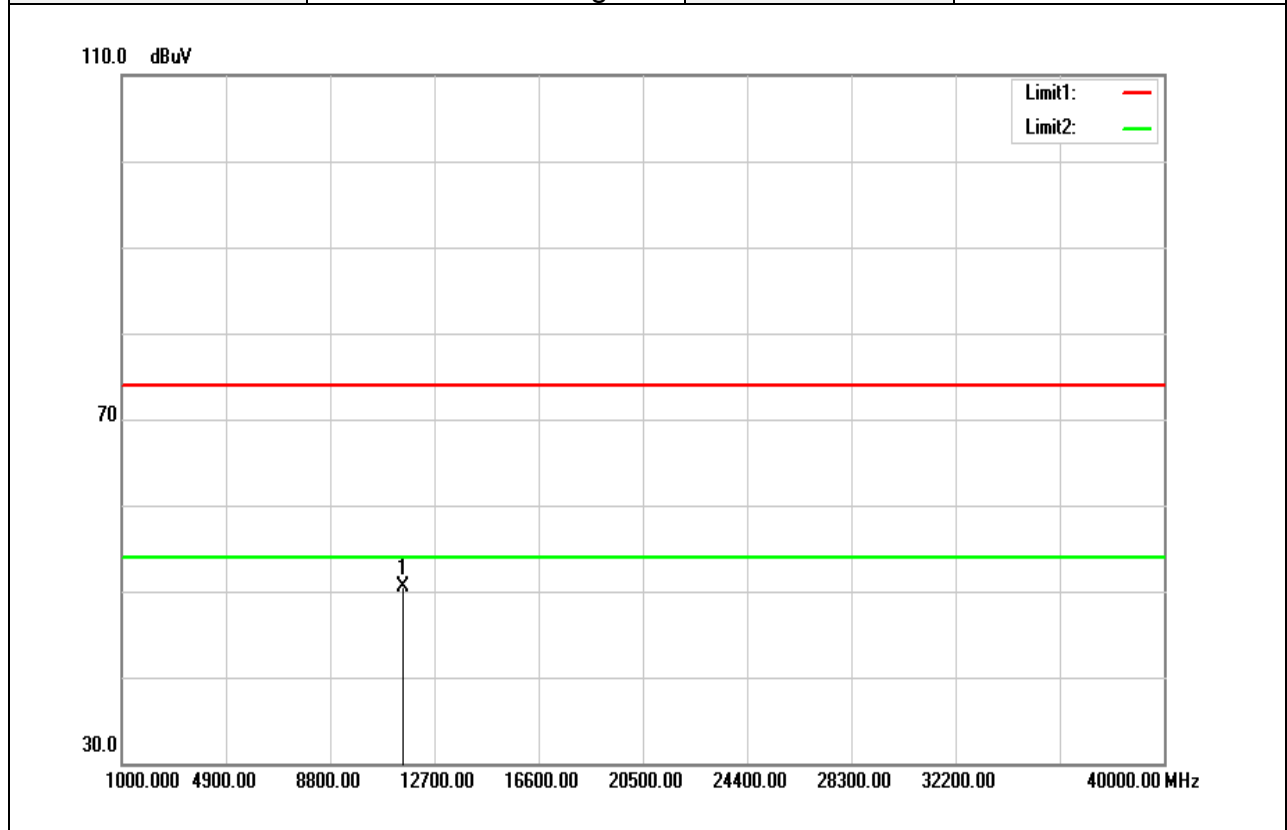


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11500.000	34.22	16.09	50.31	74.00	-23.69	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11a / 5745 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

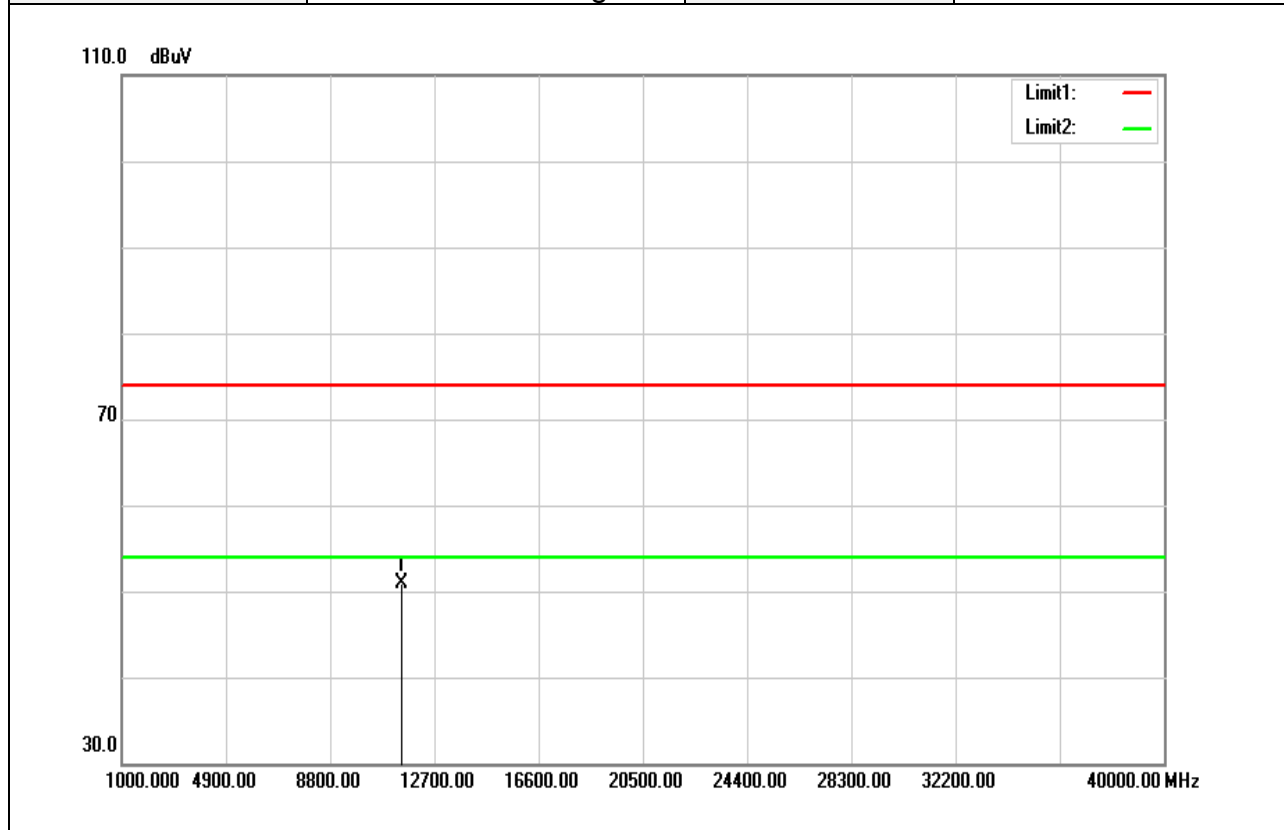


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11515.000	34.46	16.08	50.54	74.00	-23.46	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11a / 5785 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

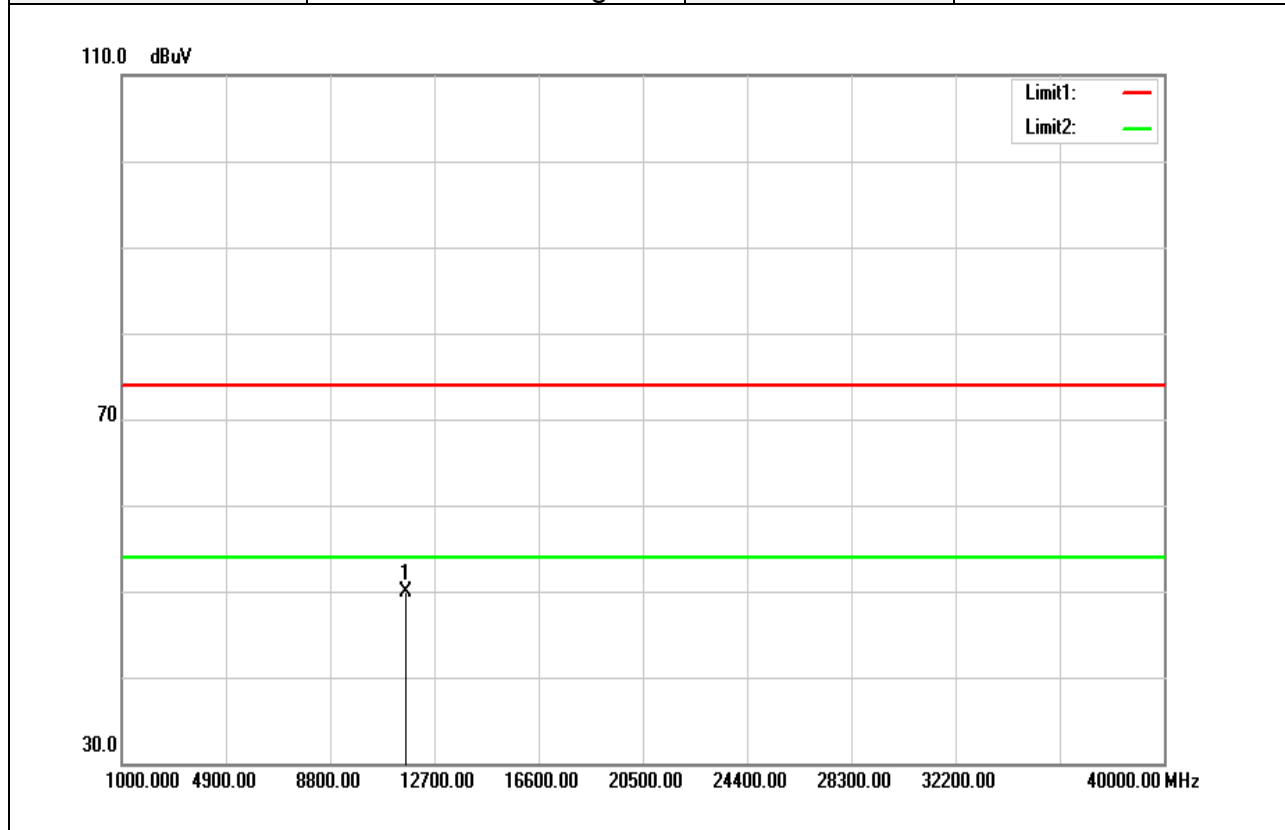


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11460.000	34.86	16.08	50.94	74.00	-23.06	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11a / 5785 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

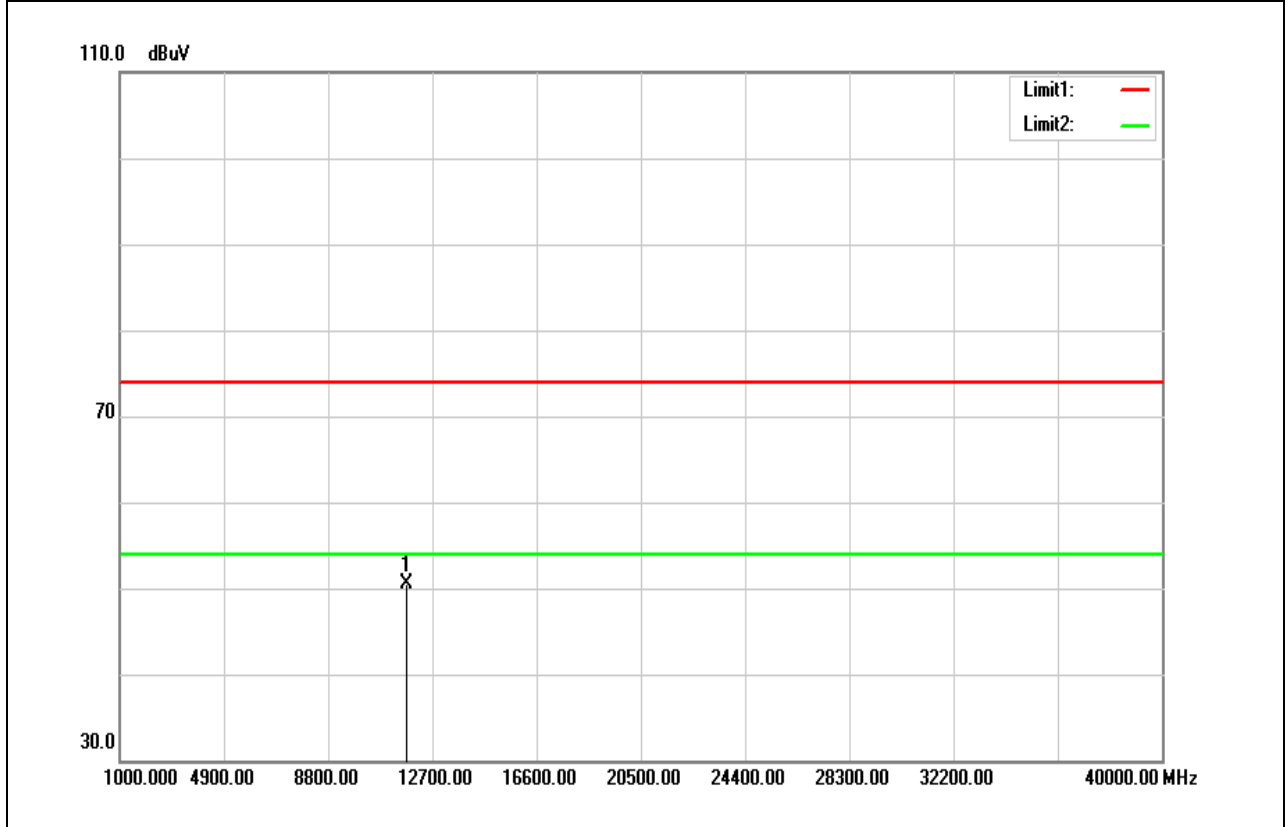


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11615.000	34.01	15.97	49.98	74.00	-24.02	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11a / 5825 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

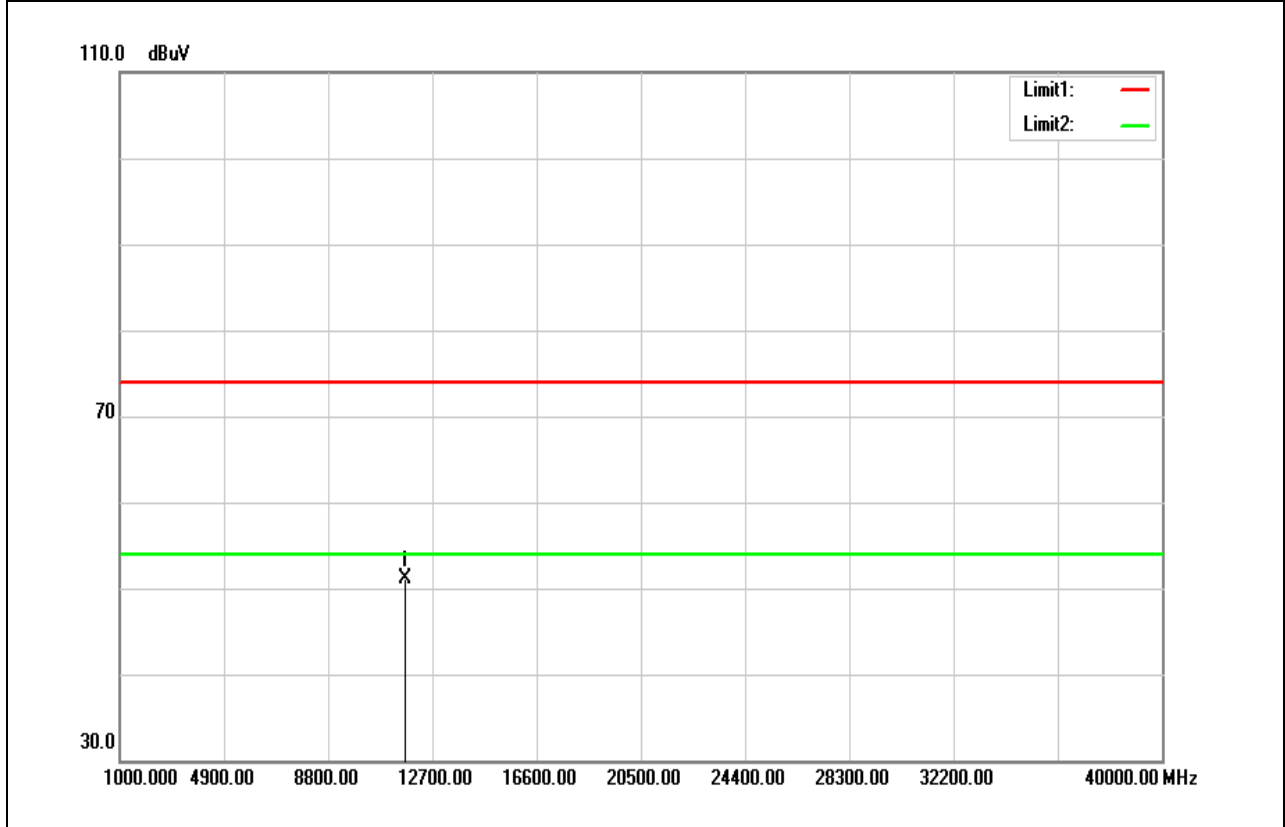


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11720.000	34.62	15.85	50.47	74.00	-23.53	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11a / 5825 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		



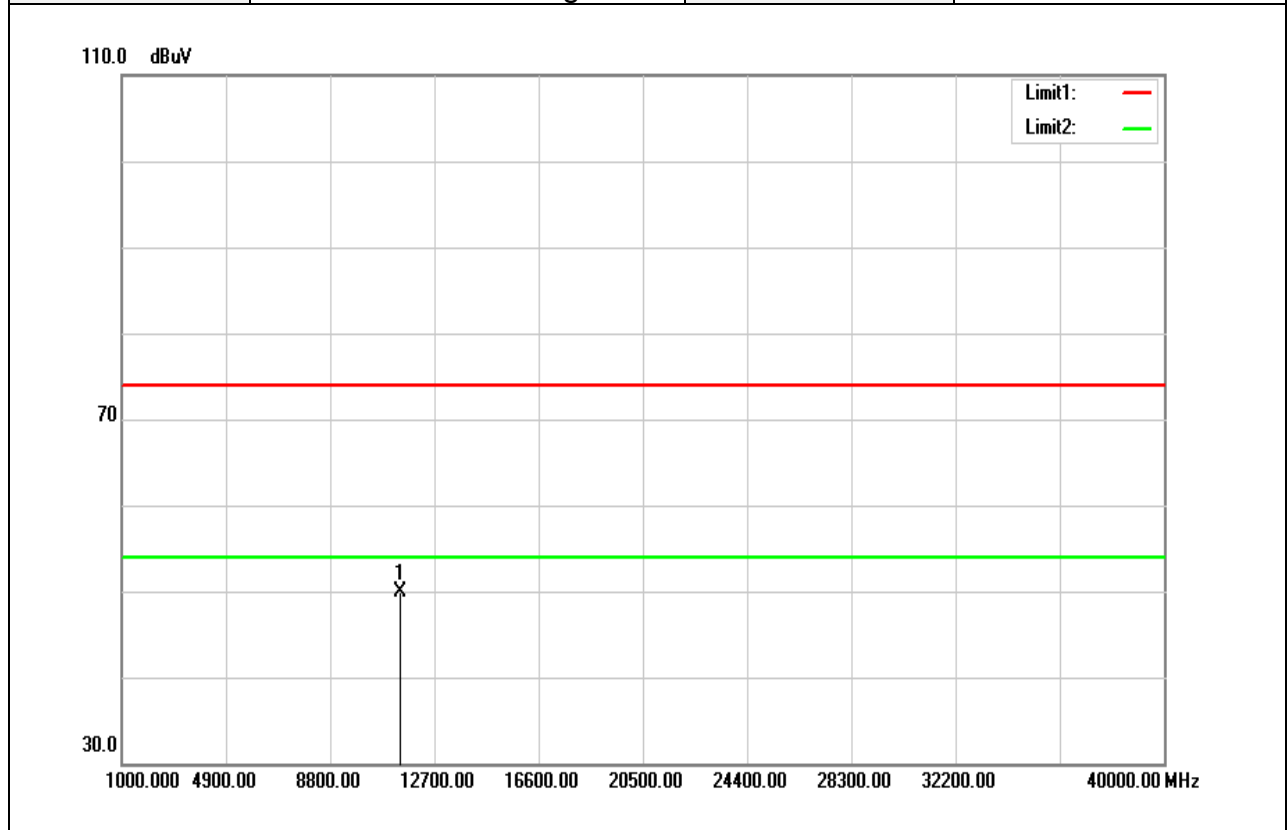
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11690.000	35.30	15.89	51.19	74.00	-22.81	peak
N/A						

**Remark:**

- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit



Test Mode	IEEE 802.11n HT20 / 5745 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

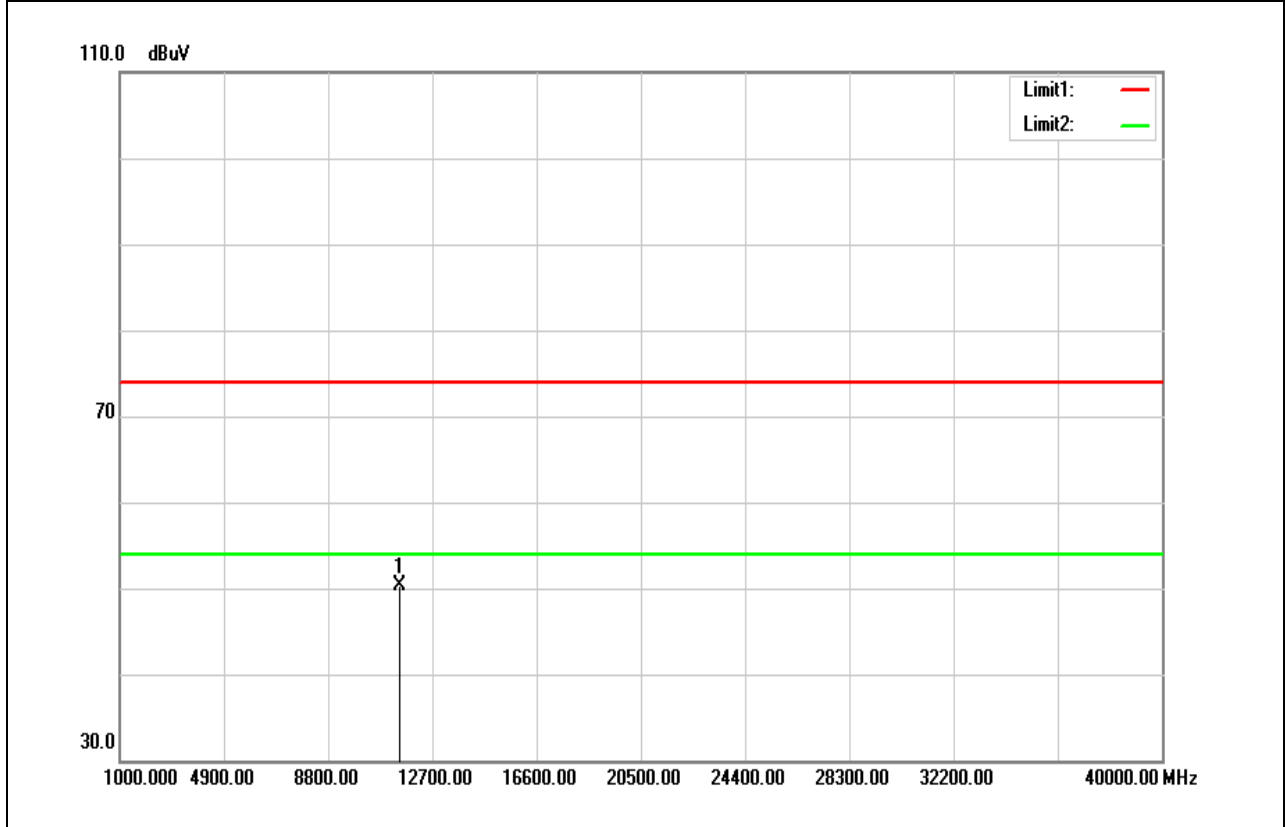


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11420.000	33.90	16.08	49.98	74.00	-24.02	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT20 / 5745 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

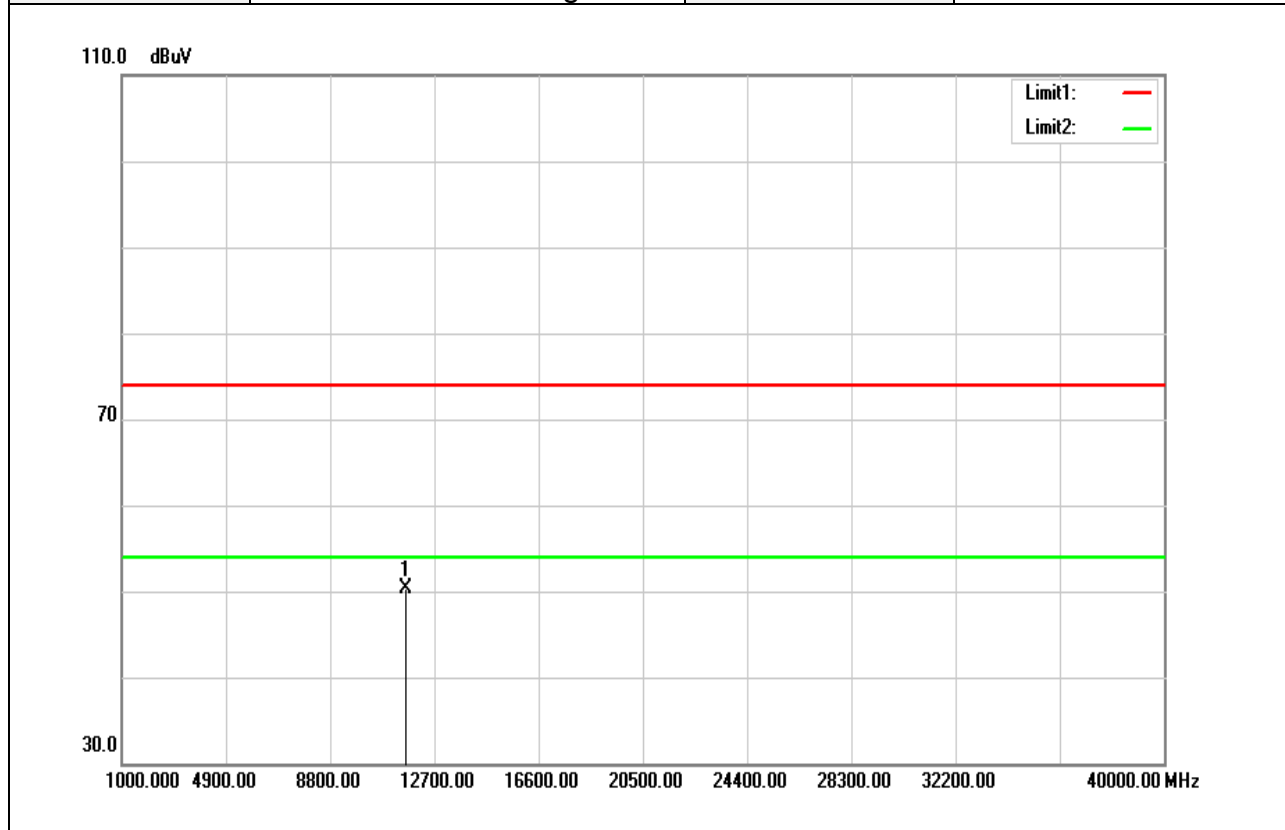


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11455.000	34.27	16.10	50.37	74.00	-23.63	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT20/ 5785 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

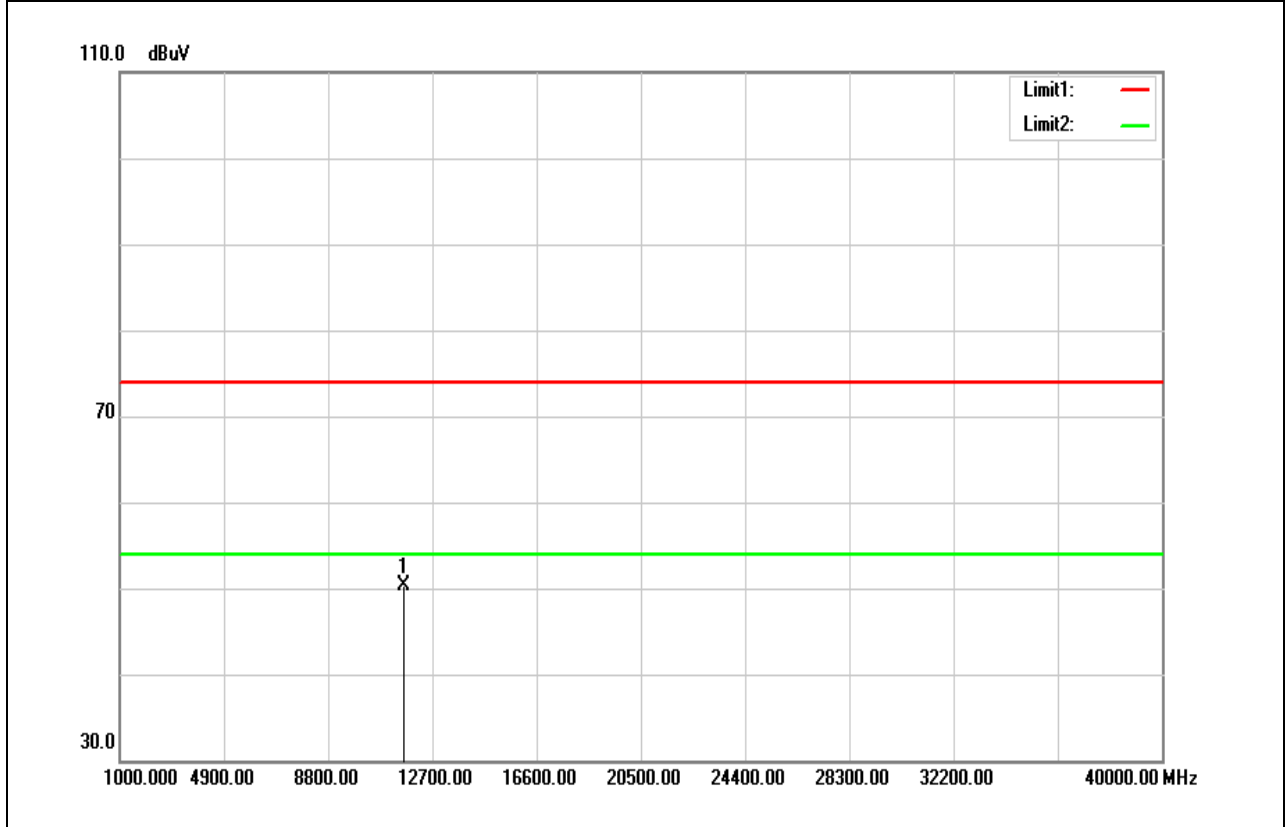


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11615.000	34.40	15.97	50.37	74.00	-23.63	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT20/ 5785 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

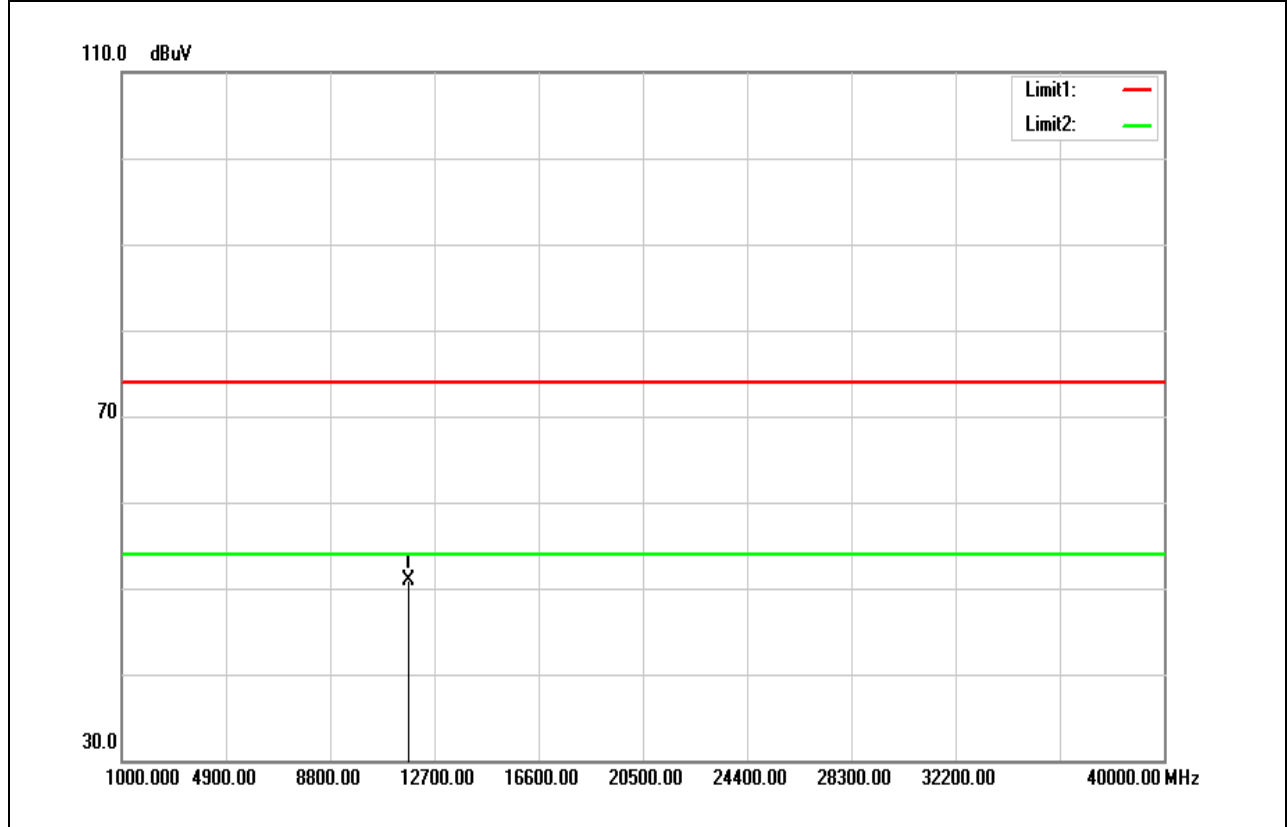


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11655.000	34.39	15.93	50.32	74.00	-23.68	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT20/ 5825 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

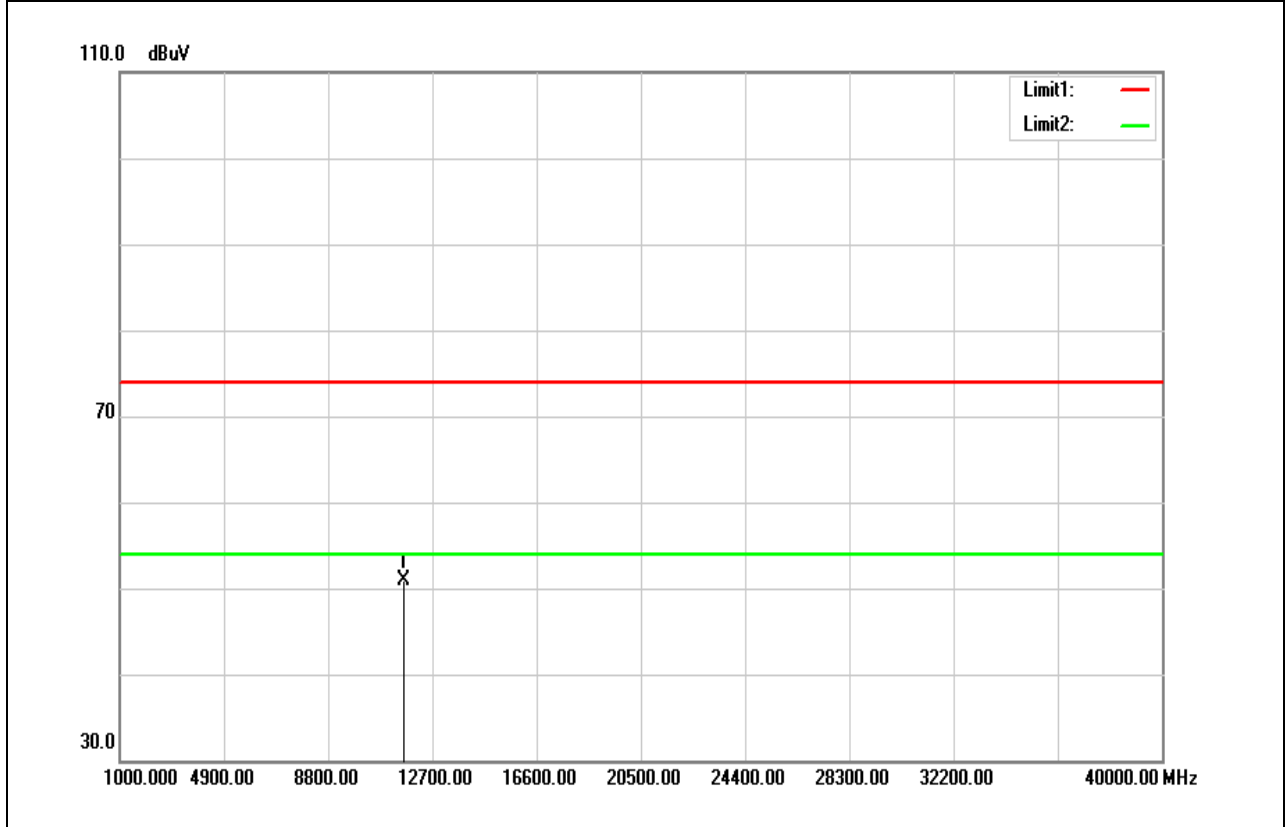


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11725.000	35.02	15.86	50.88	74.00	-23.12	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT20/ 5825 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

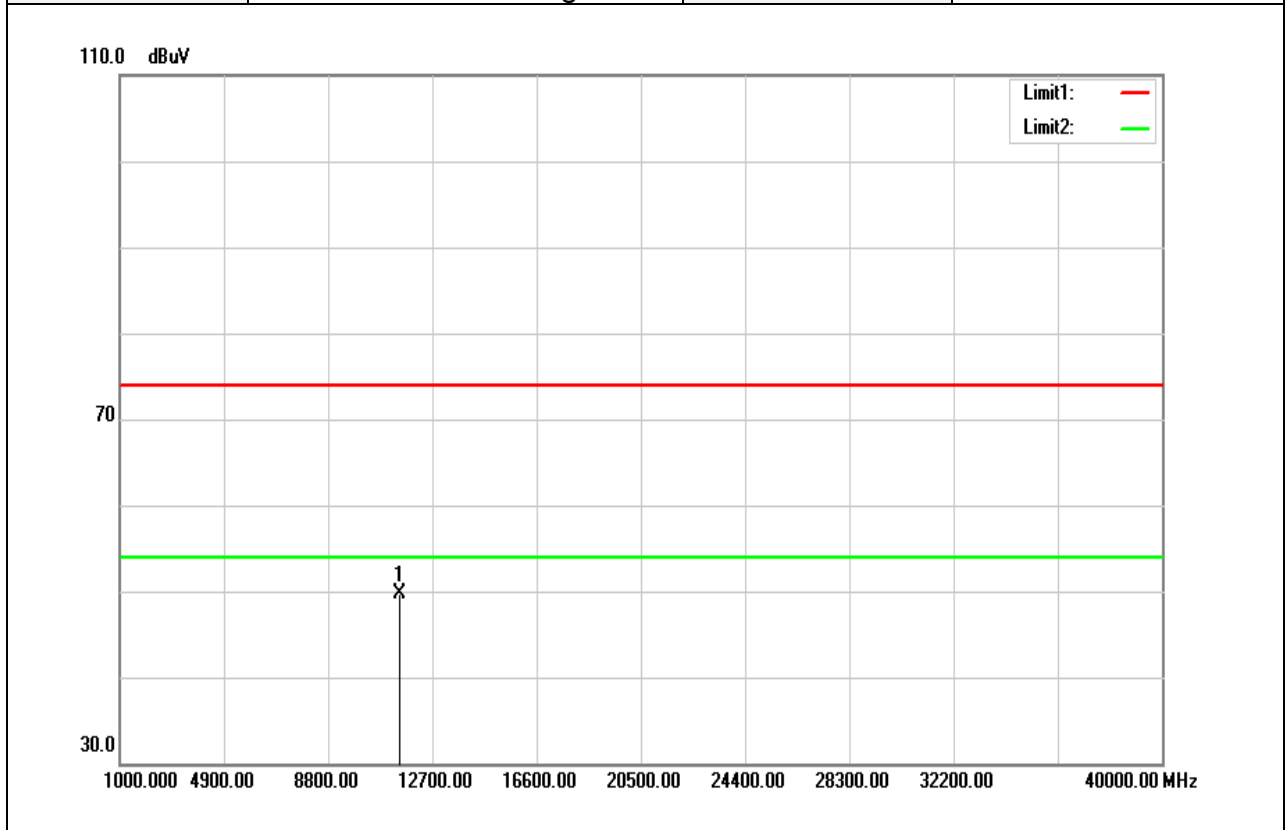


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11650.000	34.94	15.93	50.87	74.00	-23.13	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT40/ 5755 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

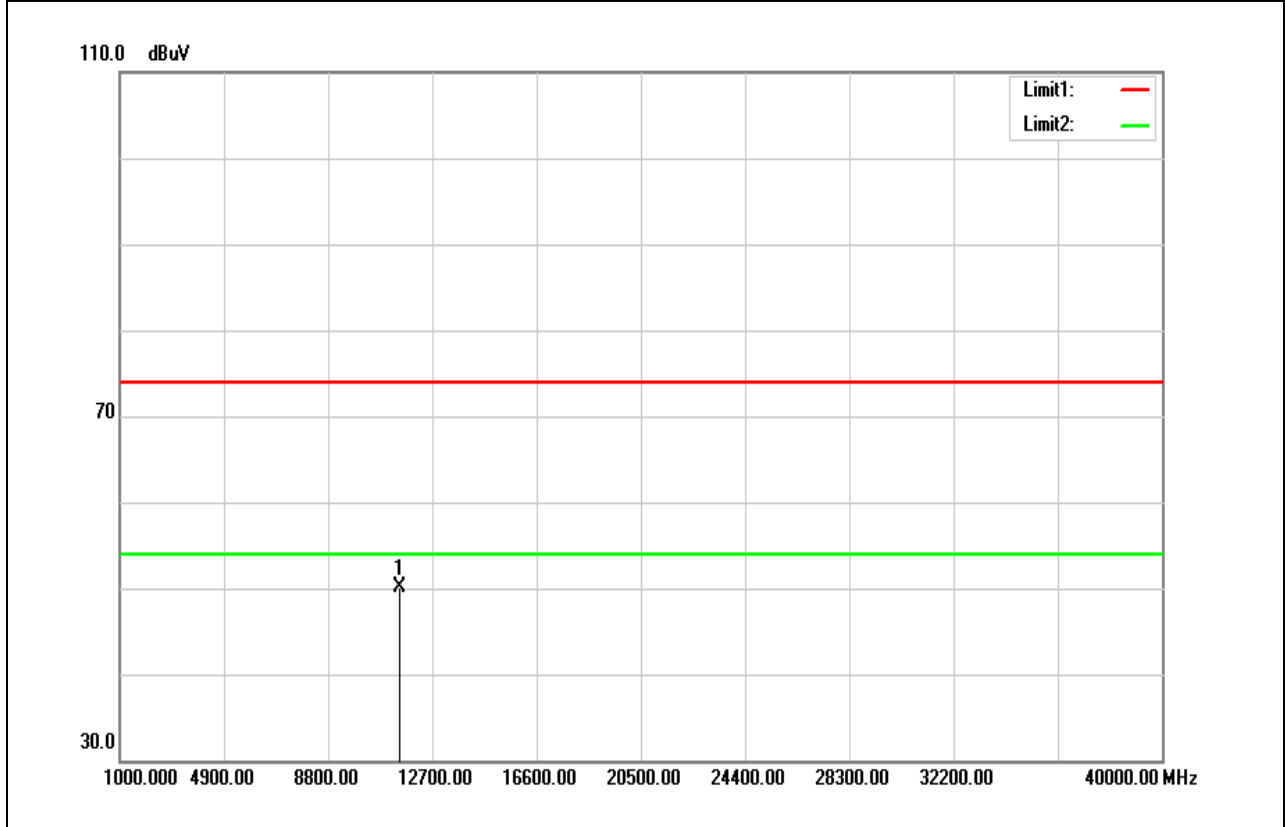


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11480.000	33.60	16.10	49.70	74.00	-24.30	peak
N/A						

**Remark:**

- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT40/ 5755 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		



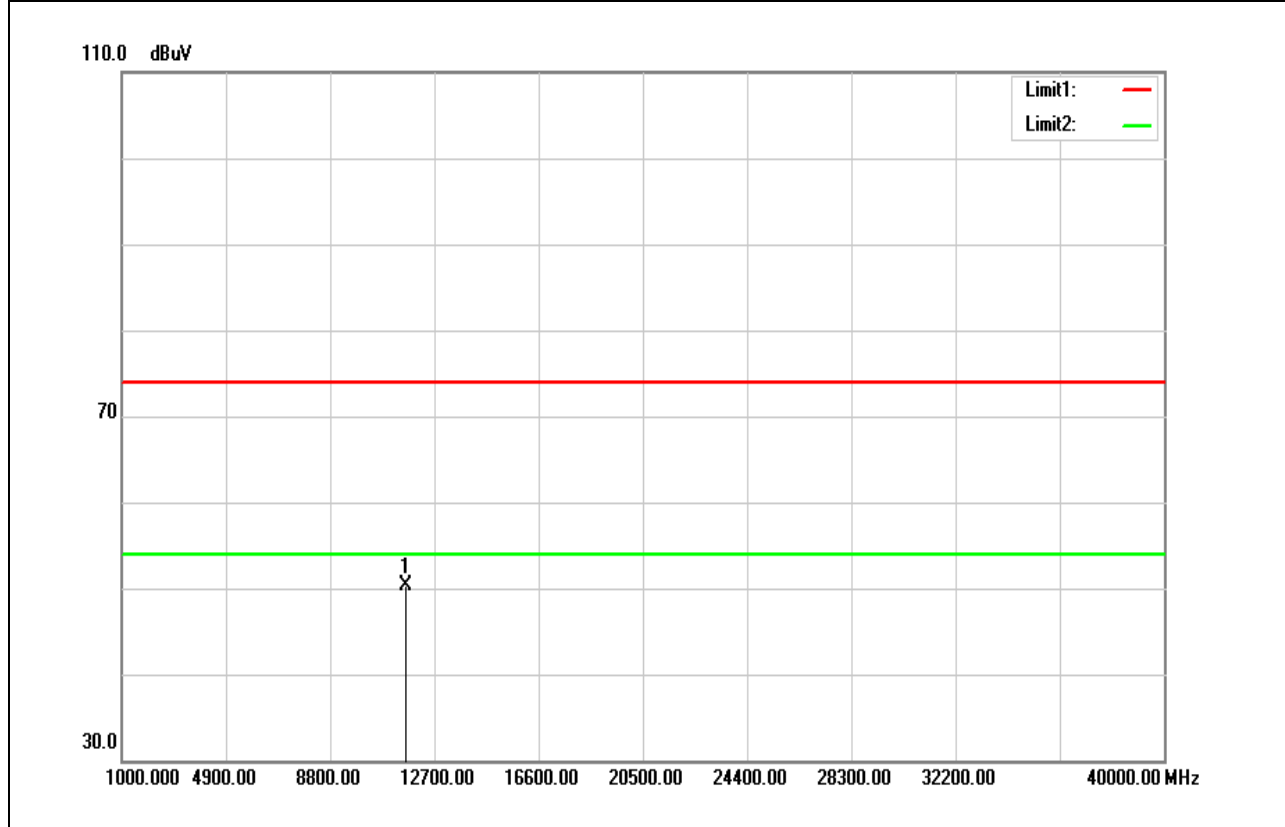
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11470.000	34.05	16.08	50.13	74.00	-23.87	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit



Test Mode	IEEE 802.11n HT40/ 5795 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

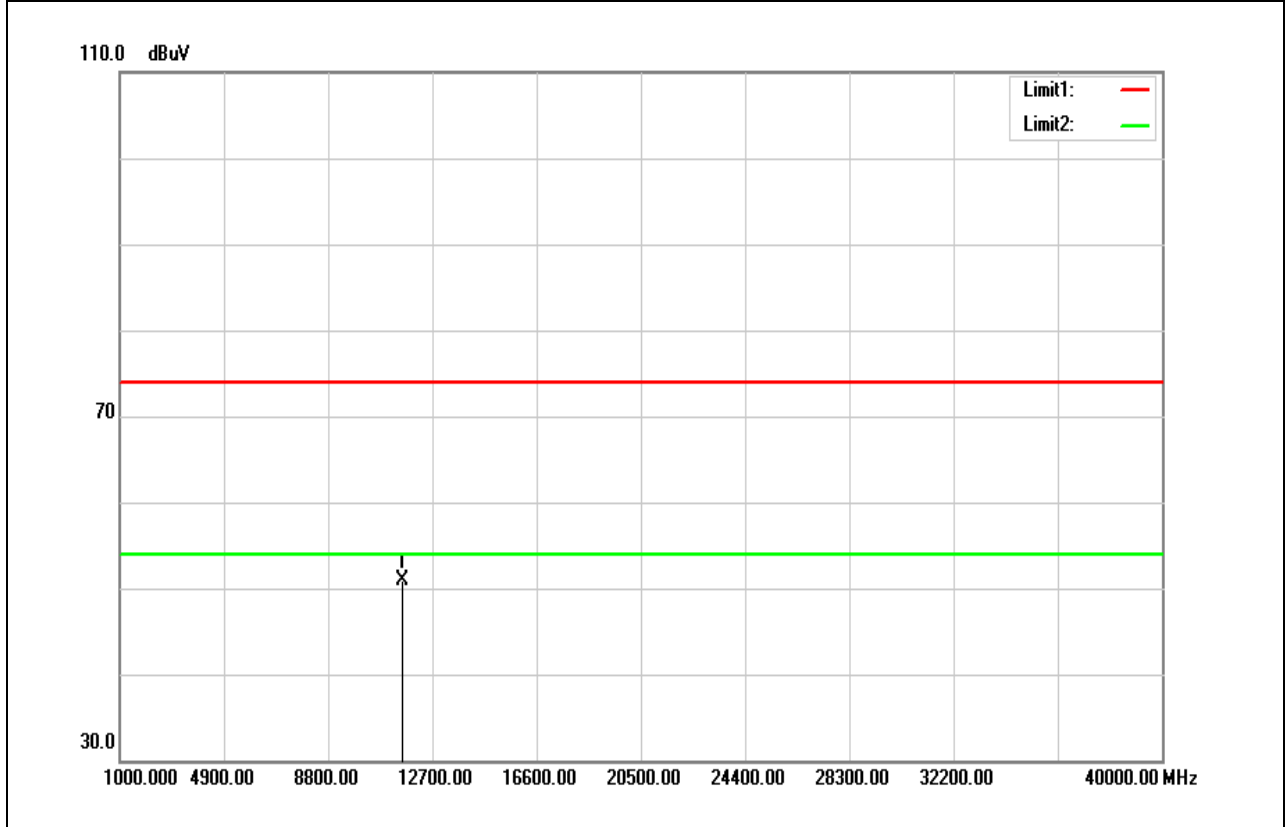


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11640.000	34.37	15.95	50.32	74.00	-23.68	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11n HT40/ 5795 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

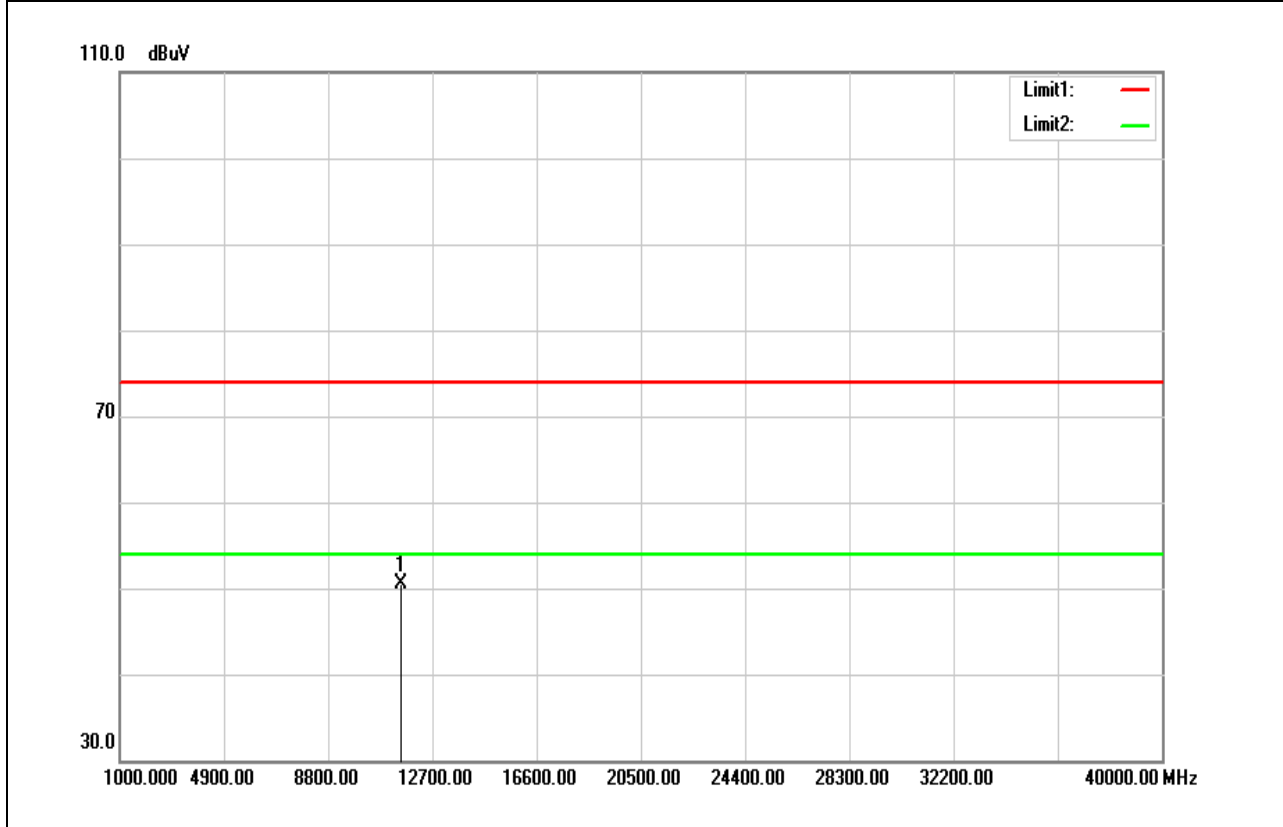


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11590.000	34.95	16.00	50.95	74.00	-23.05	peak
N/A						

**Remark:**

- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11ac VHT80/ 5775 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

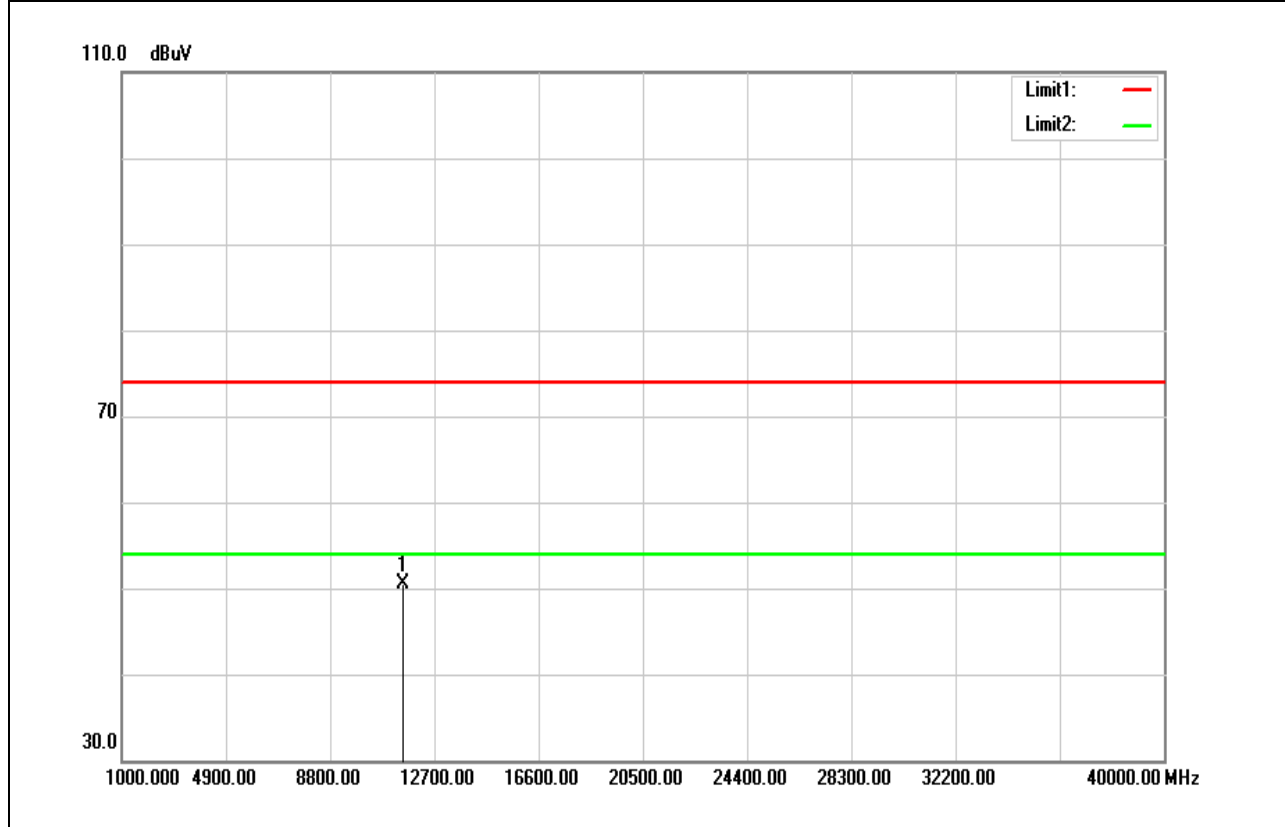


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11520.000	34.53	16.06	50.59	74.00	-23.41	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Test Mode	IEEE 802.11ac VHT80/ 5775 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	June 28, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11505.000	34.43	16.09	50.52	74.00	-23.48	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

## 4.6 FREQUENCY STABILITY

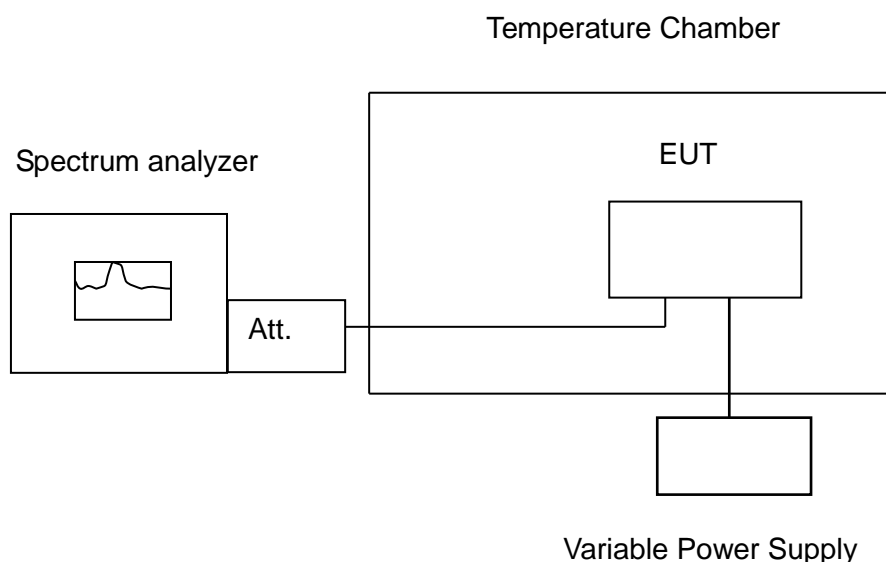
### 4.6.1 Test Limit

According to §15.407(g) and RSS-Gen (6.11) manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the operational description.

### 4.6.2 Test Procedure

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -20°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

### 4.6.3 Test Setup



### 4.6.4 Test Result

Temp. (°C)	Voltage (V)	Measured Frequency	5180				(MHz)				Result
			Time (min)								
Operating Frequency:		0 min	2 min	5 min	10 min	0 min	2 min	5 min	10 min		
65	110	5179.92710	5179.92890	5179.92950	5179.93040	-14.0734	-13.7259	-13.6100	-13.4363	Pass	
60	110	5179.92560	5179.92620	5179.92710	5179.92890	-14.3629	-14.2471	-14.0734	-13.7259	Pass	
50	110	5179.92940	5179.92880	5179.92790	5179.92670	-13.6293	-13.7452	-13.9189	-14.1506	Pass	
40	110	5179.93660	5179.93540	5179.93450	5179.93100	-12.2394	-12.4710	-12.6448	-13.3205	Pass	
30	110	5179.93490	5179.93400	5179.93370	5179.93370	-12.5676	-12.7413	-12.7992	-12.7992	Pass	
20	110	5179.95330	5179.95210	5179.94910	5179.94790	-9.0154	-9.2471	-9.8263	-10.0579	Pass	
10	110	5179.95700	5179.95640	5179.95520	5179.95400	-8.3012	-8.4170	-8.6486	-8.8803	Pass	
0	110	5179.96700	5179.96670	5179.96580	5179.96450	-6.3707	-6.4286	-6.6023	-6.8533	Pass	
-10	110	5179.96730	5179.96670	5179.96610	5179.96550	-6.3127	-6.4286	-6.5444	-6.6602	Pass	
-20	110	5179.96670	5179.96730	5179.96880	5179.96940	-6.4286	-6.3127	-6.0232	-5.9073	Pass	
-30	110	5179.97560	5179.97600	5179.97720	5179.97870	-4.7104	-4.6332	-4.4015	-4.1120	Pass	
Temp. (°C)	Voltage (V)	Measured Frequency	5180				(MHz)				Result
			Time (min)								
Operating Frequency:		0 min	2 min	5 min	10 min	0 min	2 min	5 min	10 min		
20	99	5179.95240	5179.95150	5179.94820	5179.94670	-9.1892	-9.3629	-10.0000	-10.2896	Pass	
20	110	5179.95330	5179.95210	5179.94910	5179.94790	-9.0154	-9.2471	-9.8263	-10.0579	Pass	
20	121	5179.953600	5179.95240	5179.94940	5179.94730	-8.9575	-9.1892	-9.7683	-10.1737	Pass	

Temp. (°C)	Voltage (V)	Measured Frequency	5260				(MHz)	Limit				Result
			Time (min)					20ppm				
Operating Frequency:		0 min	2 min	5 min	10 min	0 min	2 min	5 min	10 min			
65	110	5259.92350	5259.92440	5259.92440	5259.92590	-14.5437	-14.3726	-14.3726	-14.0875	Pass		
60	110	5259.92170	5259.92230	5259.92320	5259.92380	-14.8859	-14.7719	-14.6008	-14.4867	Pass		
50	110	5259.92280	5259.92280	5259.92220	5259.92180	-14.6768	-14.6768	-14.7909	-14.8669	Pass		
40	110	5259.92740	5259.92650	5259.92500	5259.92380	-13.8023	-13.9734	-14.2586	-14.4867	Pass		
30	110	5259.93280	5259.93280	5259.93310	5259.93340	-12.7757	-12.7757	-12.7186	-12.6616	Pass		
20	110	5259.95130	5259.94950	5259.94710	5259.94470	-9.2586	-9.6008	-10.0570	-10.5133	Pass		
10	110	5259.96280	5259.96070	5259.95830	5259.95580	-7.0722	-7.4715	-7.9278	-8.4030	Pass		
0	110	5259.96850	5259.96820	5259.96730	5259.96580	-5.9886	-6.0456	-6.2167	-6.5019	Pass		
-10	110	5259.97450	5259.97380	5259.97230	5259.97050	-4.8479	-4.9810	-5.2662	-5.6084	Pass		
-20	110	5259.97150	5259.97210	5259.97360	5259.97480	-5.4183	-5.3042	-5.0190	-4.7909	Pass		
-30	110	5259.97870	5259.97900	5259.97900	5259.98080	-4.0494	-3.9924	-3.9924	-3.6502	Pass		
Temp. (°C)	Voltage (V)	Measured Frequency	5260				(MHz)	Limit				Result
			Time (min)					20ppm				
Operating Frequency:		0 min	2 min	5 min	10 min	0 min	2 min	5 min	10 min			
20	99	5259.95070	5259.94890	5259.94890	5259.94590	-9.3726	-9.7148	-9.7148	-10.2852	Pass		
20	110	5259.95130	5259.94950	5259.94710	5259.94470	-9.2586	-9.6008	-10.0570	-10.5133	Pass		
20	121	5259.95190	5259.95190	5259.94650	5259.94410	-9.1445	-9.1445	-10.1711	-10.6274	Pass		

Report No.: T180522D10-RP4

Temp. (°C)	Voltage (V)	Measured Frequency	5500				Limit				Result
			Time (min)				20ppm				
Operating Frequency:		0 min	2 min	5 min	10 min	0 min	2 min	5 min	10 min		
65	110	5499.91630	5499.91520	5499.91550	5499.91490	-15.2182	-15.4182	-15.3636	-15.4727	Pass	
60	110	5499.91660	5499.91660	5499.91630	5499.91570	-15.1636	-15.1636	-15.2182	-15.3273	Pass	
50	110	5499.91830	5499.91770	5499.91770	5499.91710	-14.8545	-14.9636	-14.9636	-15.0727	Pass	
40	110	5499.92200	5499.92140	5499.92050	5499.92000	-14.1818	-14.2909	-14.4545	-14.5455	Pass	
30	110	5499.93070	5499.93040	5499.93040	5499.93040	-12.6000	-12.6545	-12.6545	-12.6545	Pass	
20	110	5499.95650	5499.95480	5499.95120	5499.94850	-7.9091	-8.2182	-8.8727	-9.3636	Pass	
10	110	5499.96490	5499.96490	5499.96280	5499.96040	-6.3818	-6.3818	-6.7636	-7.2000	Pass	
0	110	5499.96970	5499.96910	5499.96820	5499.96700	-5.5091	-5.6182	-5.7818	-6.0000	Pass	
-10	110	5499.97270	5499.97270	5499.97130	5499.97070	-4.9636	-4.9636	-5.2182	-5.3273	Pass	
-20	110	5499.97330	5499.97390	5499.97420	5499.97300	-4.8545	-4.7455	-4.6909	-4.9091	Pass	
-30	110	5499.97870	5499.97900	5499.97930	5499.98110	-3.8727	-3.8182	-3.7636	-3.4364	Pass	
Temp. (°C)	Voltage (V)	Measured Frequency	5500				Limit				Result
			Time (min)				20ppm				
Operating Frequency:		0 min	2 min	5 min	10 min	0 min	2 min	5 min	10 min		
20	99	5499.95650	5499.95390	5499.95090	5499.94760	-7.9091	-8.3818	-8.9273	-9.5273	Pass	
20	110	5499.95650	5499.95480	5499.95120	5499.94850	-7.9091	-8.2182	-8.8727	-9.3636	Pass	
20	121	5499.95590	5499.95420	5499.95180	5499.94880	-8.0182	-8.3273	-8.7636	-9.3091	Pass	



Temp. (°C)	Voltage (V)	Measured Frequency	5745				Limit				Result
			Time (min)				20ppm				
Operating Frequency:		0 min	2 min	5 min	10 min	0 min	2 min	5 min	10 min		
65	110	5744.91180	5744.91800	5744.91120	5744.91240	-15.3525	-14.2733	-15.4569	-15.2480	Pass	
60	110	5744.91120	5744.91090	5744.91180	5744.91120	-15.4569	-15.5091	-15.3525	-15.4569	Pass	
50	110	5744.91270	5744.91210	5744.91180	5744.91060	-15.1958	-15.3003	-15.3525	-15.5614	Pass	
40	110	5744.91630	5744.91600	5744.91510	5744.91420	-14.5692	-14.6214	-14.7781	-14.9347	Pass	
30	110	5744.92770	5744.92740	5744.92740	5744.92710	-12.5849	-12.6371	-12.6371	-12.6893	Pass	
20	110	5744.95830	5744.95530	5744.95290	5744.94980	-7.2585	-7.7807	-8.1984	-8.7380	Pass	
10	110	5744.96640	5744.96430	5744.96430	5744.96130	-5.8486	-6.2141	-6.2141	-6.7363	Pass	
0	110	5744.97150	5744.97030	5744.96940	5744.96790	-4.9608	-5.1697	-5.3264	-5.5875	Pass	
-10	110	5744.97450	5744.97300	5744.97300	5744.97240	-4.4386	-4.6997	-4.6997	-4.8042	Pass	
-20	110	5744.97360	5744.97410	5744.97450	5744.97540	-4.5953	-4.5083	-4.4386	-4.2820	Pass	
-30	110	5744.97870	5744.97900	5744.97960	5744.98140	-3.7076	-3.6554	-3.5509	-3.2376	Pass	
Temp. (°C)	Voltage (V)	Measured Frequency	5745				Limit				Result
			Time (min)				20ppm				
Operating Frequency:		0 min	2 min	5 min	10 min	0 min	2 min	5 min	10 min		
20	99	5744.95770	5744.95440	5744.95280	5744.94890	-7.3629	-7.9373	-8.2158	-8.8947	Pass	
20	110	5744.95830	5744.95530	5744.95290	5744.94980	-7.2585	-7.7807	-8.1984	-8.7380	Pass	
20	121	5744.95860	5744.95860	5744.95350	5744.95040	-7.2063	-7.2063	-8.0940	-8.6336	Pass	

## 4.7 DYNAMIC FREQUENCY SELECTION

### 4.7.1 Test Limit

FCC according to §15.407 (h), KDB 905462 D02 "compliance measurement procedures for unlicensed-national information infrastructure devices operating in the 5250-5350 MHz and 5470-5725 MHz bands incorporating dynamic frequency selection". and KDB 905462 D03 " U-NII client devices without radar detection capability.

IC according RSS-247 section 6.3, and it harmonized with FCC Part 15 DFS rules.

The EIRP refer section 4.3 output power measurement in this report.

**Table 1: Applicability of DFS requirements prior to use of a channel**

Requirement	Operational Mode		
	Master	Client (without radar detection)	Client(with radar detection)
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

**Table 2: Applicability of DFS requirements during normal operation**

Requirement	Operational Mode	
	Master Device or Client with Radar Detection	Client Without Radar Detection
DFS Detection Threshold	Yes	Not required
Channel Closing Transmission Time	Yes	Yes
Channel Move Time	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required

Report No.: T180522D10-RP4

Additional requirements for devices with multiple bandwidth mods	Master Device or Client with Radar Detection	Client Without Radar Detection
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required
<p>Note: Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.</p>		

**Table 3: Interference Threshold values, Master or Client incorporating In-Service**

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP $\geq$ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm

**Note 1:** This is the level at the input of the receiver assuming a 0 dBi receive antenna.

**Note 2:** Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.

**Note 3:** EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.

**Table 4: DFS Response requirement values**

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.

**Note 1:** Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.

**Note 2:** The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

**Note 3:** During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

**Table 5 – Short Pulse Radar Test Waveforms**

Radar Type	Pulse Width (µsec)	PRI (µsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a	$\text{Roundup} \left\{ \begin{array}{l} \left( \frac{1}{360} \right) \cdot \\ \left( \frac{19 \cdot 10^6}{\text{PRI}_{\mu\text{sec}}} \right) \end{array} \right\}$	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066 µsec, with a minimum increment of 1 µsec, excluding PRI values selected in Test A			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120
<b>Note 1:</b> Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.					

**Table 6 – Long Pulse Radar Test Signal**

Radar Type	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Number of Pulses per Burst	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Number of Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

**Table 7 – Frequency Hopping Radar Test Signal**

Radar Type	Pulse Width (µsec)	PRI (µsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Number of Trials
6	1	333	9	0.333	300	70%	30

## 4.7.2 Test Procedure

### Overview Of EUT With Respect To §15.407 (H) Requirements

The firmware installed in the EUT during testing was:

#### **Firmware Rev: 1.596.19.1**

The EUT operates over the 5250-5350 MHz range as a Client Device that does not have radar detection capability.

The EUT uses one transmitter connected to two 50-ohm coaxial antenna ports via a diversity switch. Only one antenna port is connected to the test system since the EUT has one antenna only.

The Slave device associated with the EUT during these tests does not have radar detection capability.

WLAN traffic is generated by streaming the video file TestFile.mp2 “6 ½ Magic Hours” from the Master to the Slave in full motion video mode using the media player with the V2.61 Codec package.

The EUT utilizes the 802.11a architecture, with a nominal channel bandwidth of 20 MHz.

The rated output power of the Master unit is  $< 23\text{dBm}$  (EIRP). Therefore the required interference threshold level is  $-62\text{ dBm}$ . After correction for antenna gain and procedural adjustments, the required conducted threshold at the antenna port is  $-62 + 5 = -57\text{dBm}$ .

The calibrated conducted DFS Detection Threshold level is set to  $-57\text{ dBm}$ . The tested level is lower than the required level hence it provides margin to the limit.

### Manufacturer’s Statement Regarding Uniform Channel Spreading

The end product implements an automatic channel selection feature at startup such that operation commences on channels distributed across the entire set of allowed 5GHz channels. This feature will ensure uniform spreading is achieved while avoiding non-allowed channels due to prior radar events.



Report No.: T180522D10-RP4

Page: 221 / 228  
Rev.: 00

## **TEST AND MEASUREMENT SYSTEM**

### **System Overview**

The measurement system is based on a conducted test method.

The short pulse and long pulse signal generating system utilizes the NTIA software. The Vector Signal Generator has been validated by the NTIA. The hopping signal generating system utilizes the CCS simulated hopping method and system, which has been validated by the DoD, FCC and NTIA. The software selects waveform parameters from within the bounds of the signal type on a random basis using uniform distribution.

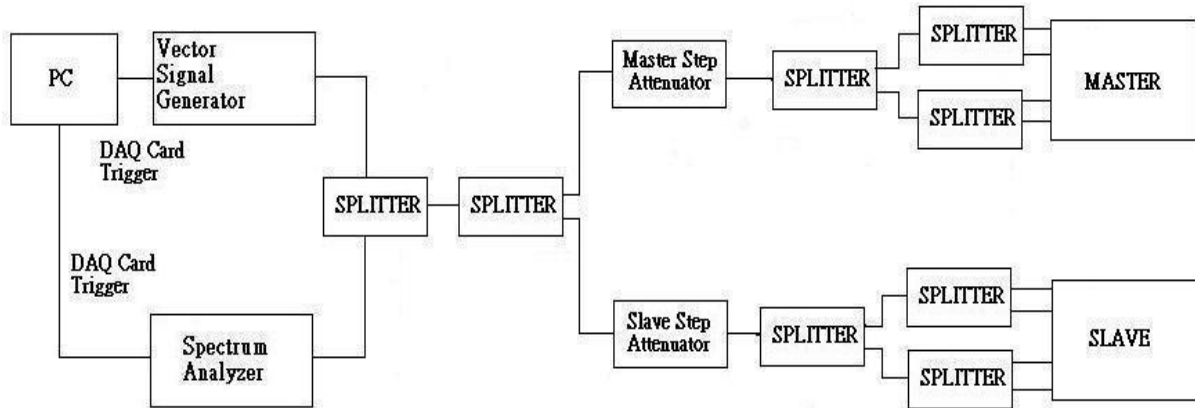
The short pulse types 2, 3 and 4, and the long pulse type 5 parameters are randomized at run-time.

The hopping type 6 pulse parameters are fixed while the hopping sequence is based on the August 2005 NTIA Hopping Frequency List. The initial starting point randomized at run-time and each subsequent starting point is incremented by 475. Each frequency in the 100-length segment is compared to the boundaries of the EUT Detection Bandwidth and the software creates a hopping burst pattern in accordance with Section 7.4.1.3 Method #2 Simulated Frequency Hopping Radar Waveform Generating Subsystem of FCC 06-96 APPENDIX. The frequency of the signal generator is incremented in 1 MHz steps from FL to FH for each successive trial. This incremental sequence is repeated as required to generate a minimum of 30 total trials and to maintain a uniform frequency distribution over the entire Detection Bandwidth.

The signal monitoring equipment consists of a spectrum analyzer set to display 8001 bins on the horizontal axis. The time-domain resolution is 2 msec / bin with a 16 second sweep time, meeting the 10 second short pulse reporting criteria. The aggregate ON time is calculated by multiplying the number of bins above a threshold during a particular observation period by the dwell time per bin, with the analyzer set to peak detection and max hold. The time-domain resolution is 3 msec / bin with a 24 second sweep time, meeting the 22 second long pulse reporting criteria and allowing a minimum of 10 seconds after the end of the long pulse waveform.

Should multiple RF ports be utilized for the Master and/or Slave devices (for example, for diversity or MIMO implementations), 50 ohm termination would be removed from the splitter so that connection can be established between splitter and the Master and/or Slave devices.

### Conducted Method System Block Diagram





### **System Calibration**

Connect the spectrum analyzer to the test system in place of the master device. Set the signal generator to CW mode. Adjust the amplitude of the signal generator to yield a measured level of  $-62$  dBm on the spectrum analyzer.

Without changing any of the instrument settings, reconnect the spectrum analyzer to the Common port of the Spectrum Analyzer Combiner/Divider and connect a 50 ohm load to the Master Device port of the test system.

Measure the amplitude and calculate the difference from  $-62$  dBm. Adjust the Reference Level Offset of the spectrum analyzer to this difference. Confirm that the signal is displayed at  $-62$  dBm. Readjust the RBW and VBW to 3 MHz, set the span to 10 MHz, and confirm that the signal is still displayed at  $-62$  dBm.

The spectrum analyzer displays the level of the signal generator as received at the antenna ports of the Master Device. The interference detection threshold may be varied from the calibrated value of  $-62$  dBm and the spectrum analyzer will still indicate the level as received by the Master Device.

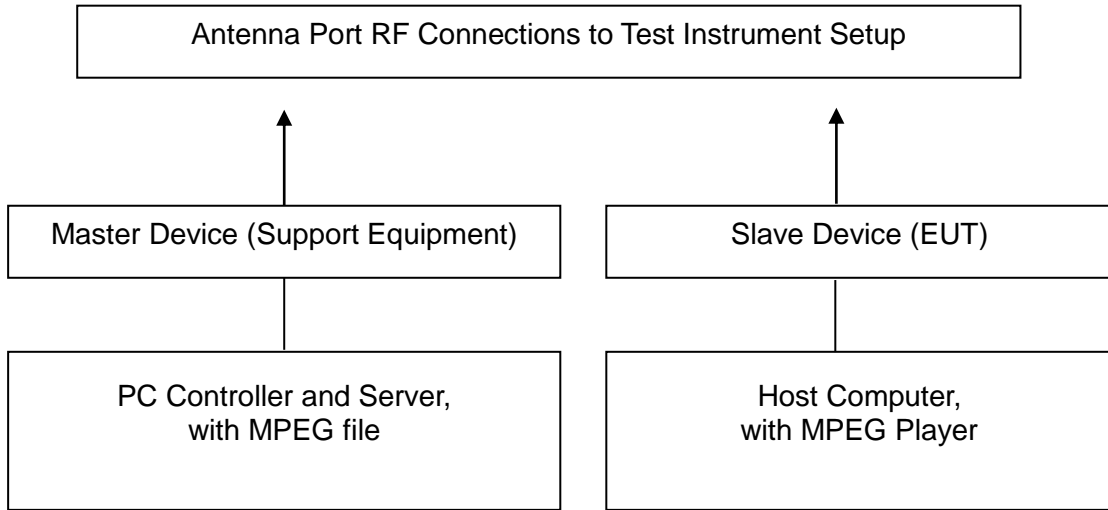
Set the signal generator to produce a radar waveform, trigger a burst manually and measure the level on the spectrum analyzer. Readjust the amplitude of the signal generator as required so that the peak level of the waveform is at a displayed level equal to the required or desired interference detection threshold. Separate signal generator amplitude settings are determined as required for each radar type.

### **Adjustment Of Displayed Traffic Level**

Establish a link between the Master and Slave, adjusting the Link Step Attenuator as needed to provide a suitable received level at the Master and Slave devices. Stream the video test file to generate WLAN traffic. Confirm that the WLAN traffic level, as displayed on the spectrum analyzer, is at lower amplitude than the radar detection threshold. Confirm that the displayed traffic is from the Master Device. For Master Device testing confirm that the displayed traffic does not include Slave Device traffic. For Slave Device testing confirm that the displayed traffic does not include Master Device traffic.

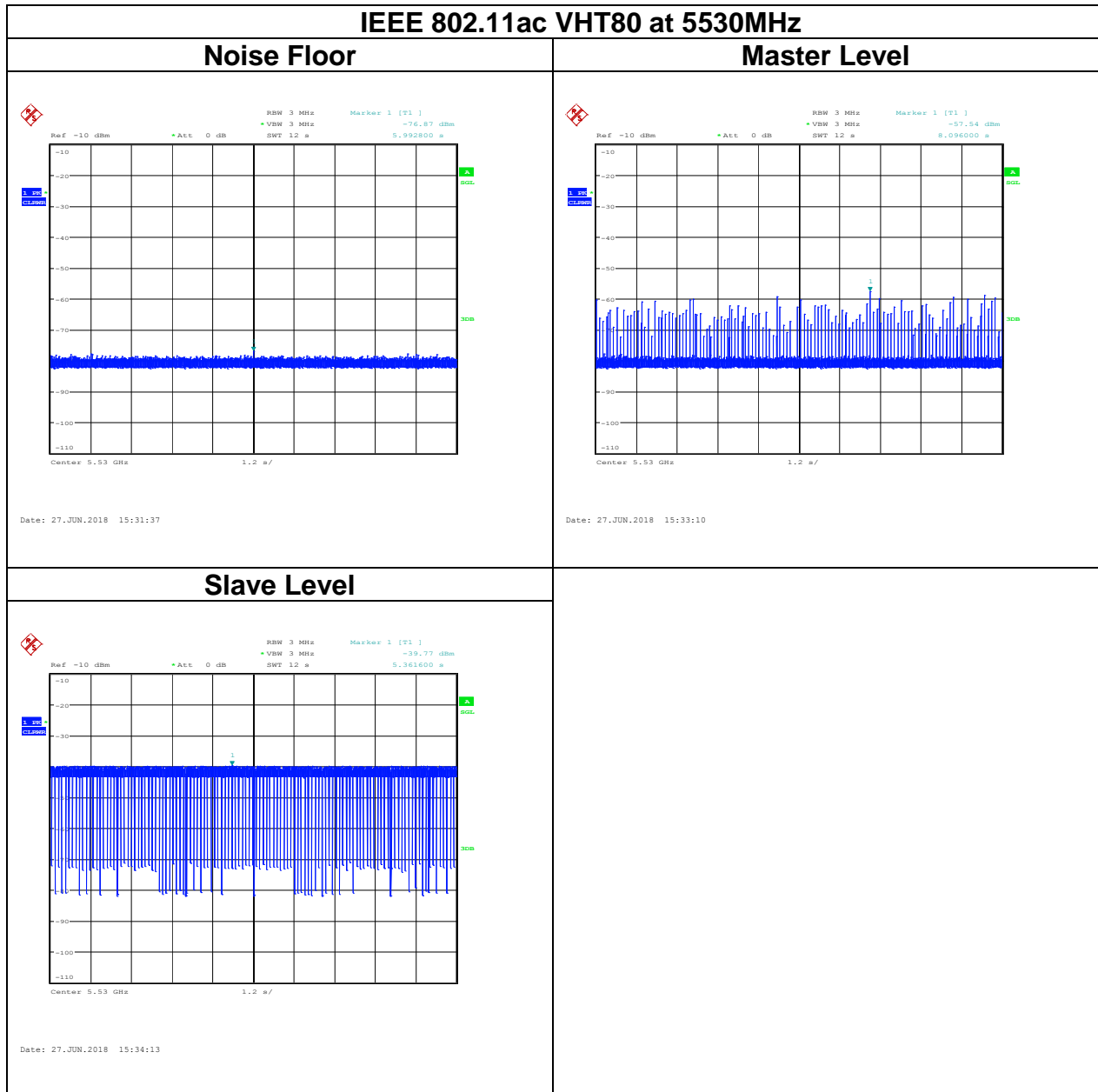
If a different setting of the Master Step Attenuator is required to meet the above conditions, perform a new System Calibration for the new Master Step Attenuator setting.

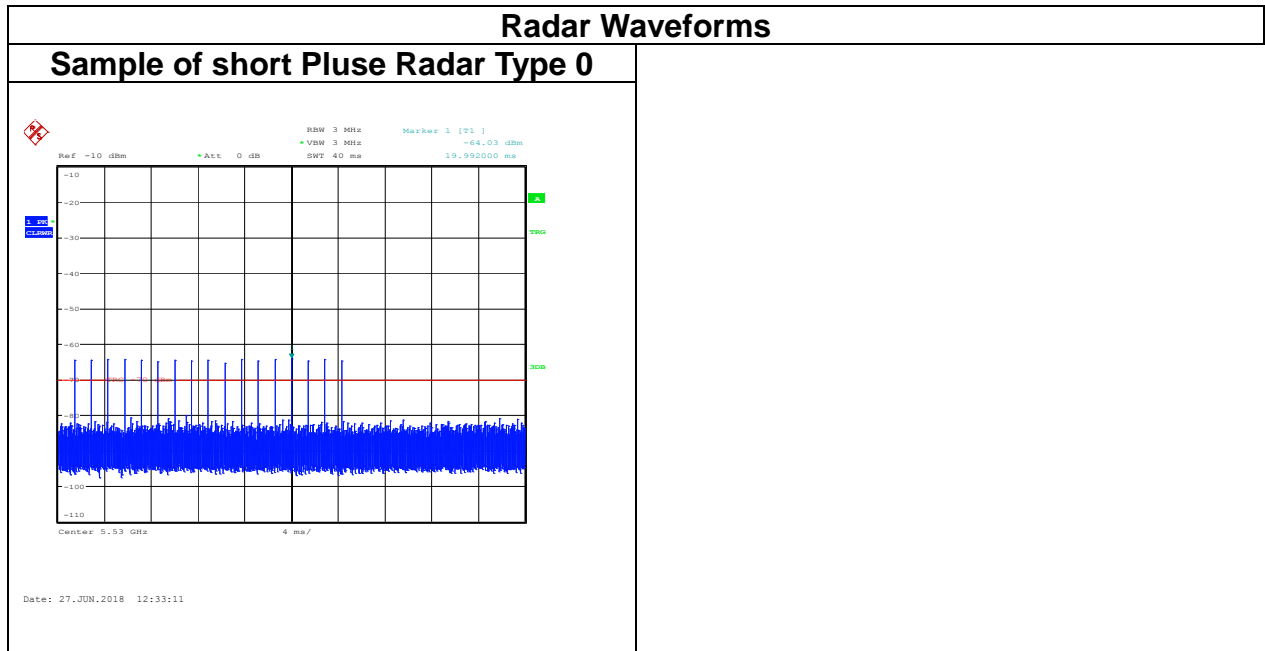
### 4.7.3 Test Setup



Report No.: T180522D10-RP4

### 4.7.4 Test Result







Report No.: T180522D10-RP4

Page: 227 / 228  
Rev.: 00

## **TEST CHANNEL AND METHOD**

All tests were performed at a channel center frequency of 5530 MHz utilizing a conducted test method.

## **CHANNEL MOVE TIME AND CHANNEL CLOSING TRANSMISSION TIME**

### **GENERAL REPORTING NOTES**

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

Aggregate Transmission Time =

(Number of analyzer bins showing transmission) \* (dwell time per bin)

The observation period over which the aggregate time is calculated

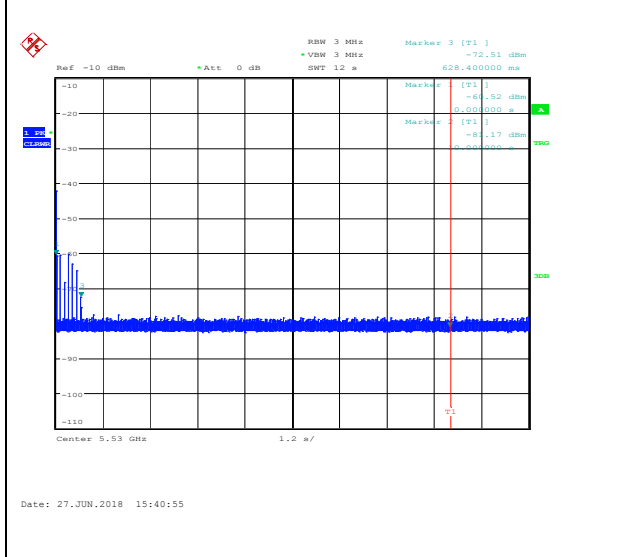
Begins at (Reference Marker + 200 msec) and

Ends no earlier than (Reference Marker + 10 sec).

Report No.: T180522D10-RP4

## IEEE 802.11ac VHT 80 at 5530

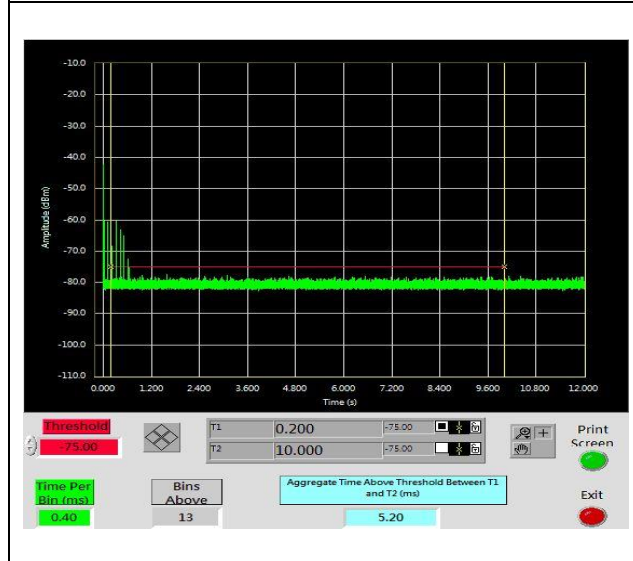
### Type 1\_Channel Move Time



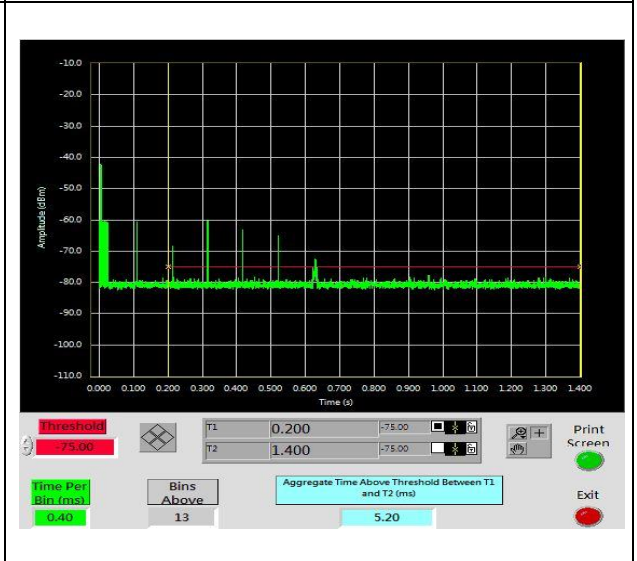
Channel Move Time (ms)	Limit (s)
628.4	10

## IEEE 802.11ac VHT 80 at 5530

### Type 1\_Channel closing transmission time



### Type 1\_Channel closing transmission time-caculate



Aggregate Transmission Time (ms)	Limit (ms)	Margin (ms)
5.20	60	-54.8

--End of Report--