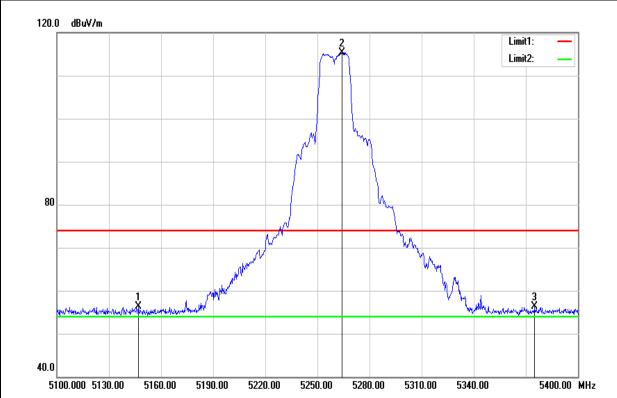
# **Band Edge Test Data for UNII-2a**

Test Mode	IEEE 802.11n 20 / 5260MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Band Edge	Test Date	January 16, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak	Test Voltage	



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5147.250	51.21	5.06	56.27	74.00	-17.73	peak
5264.250	110.00	5.34	115.34	-	-	peak
5375.100	50.68	5.63	56.31	74.00	-17.69	peak

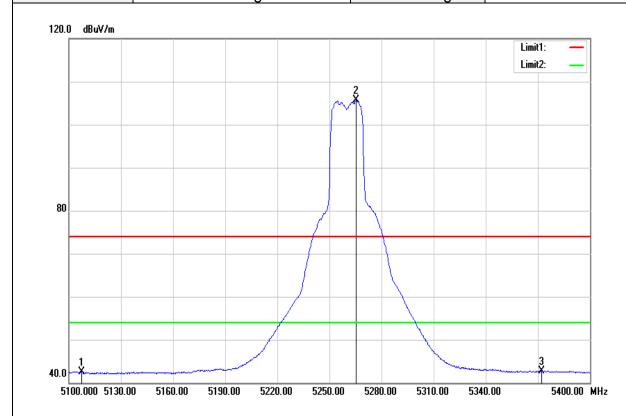


Test Mode IEEE 802.11n 20 / 5260MHz Temp/Hum 24(°C)/ 33%RH

Test Item Band Edge Test Date January 16, 2018

Polarize Horizontal Test Engineer Jerry Chuang

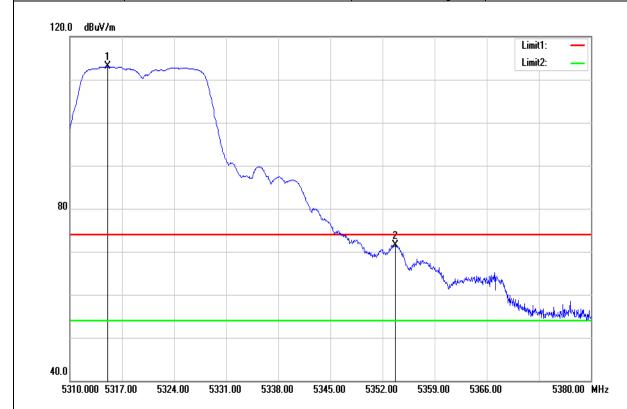
Detector Average Test Voltage ---



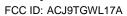
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5107.650	37.63	4.95	42.58	54.00	-11.42	AVG
5265.450	100.28	5.35	105.63		•	AVG
5372.100	37.16	5.61	42.77	54.00	-11.23	AVG



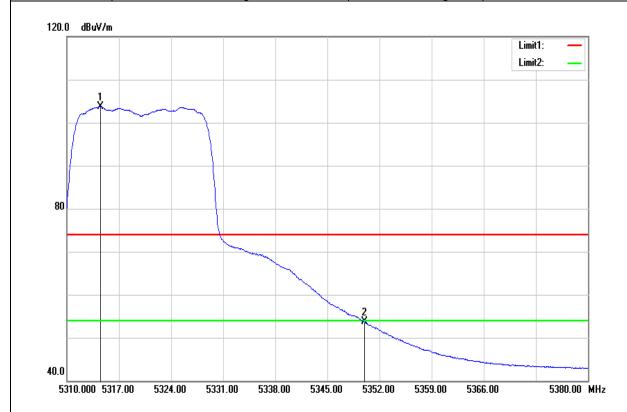
Test Mode	IEEE 802.11n 20 / 5320MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Band Edge	Test Date	January 16, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak	Test Voltage	



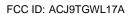
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5315.075	107.53	5.48	113.01	-	-	peak
5353.715	66.03	5.56	71.59	74.00	-2.41	peak



Test Mode	IEEE 802.11n 20 / 5320MHz	Temperature	24(°C)/ 33%RH
Test Item	Band Edge	Test Date	January 16, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average	Test Voltage	



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5314.480	98.27	5.47	103.74	-	-	AVG
5350.000	48.05	5.56	53.61	54.00	-0.39	AVG

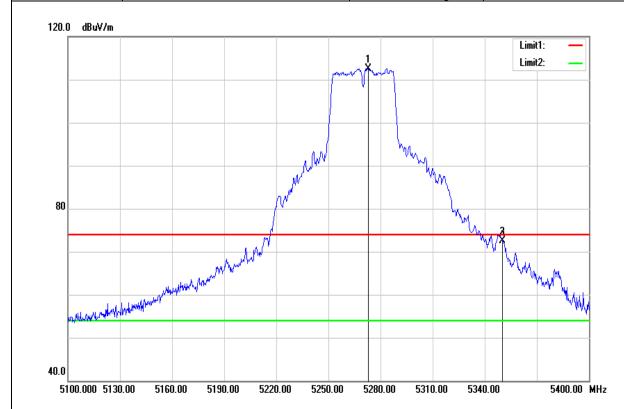


Test Mode IEEE 802.11n 40 / 5270MHz Temp/Hum 24(°C)/ 33%RH

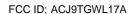
Test Item Band Edge Test Date January 16, 2018

Polarize Horizontal Test Engineer Jerry Chuang

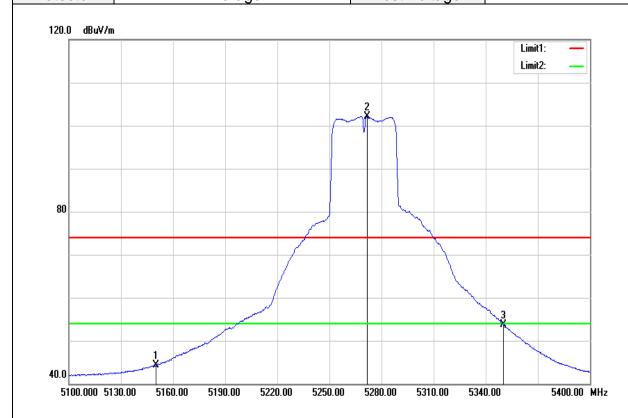
Detector Peak Test Voltage ---



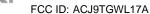
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5272.950	107.23	5.36	112.59	-	-	peak
5350.000	67.02	5.56	72.58	74.00	-1.42	peak
5350.200	67.02	5.56	72.58	74.00	-1.42	peak

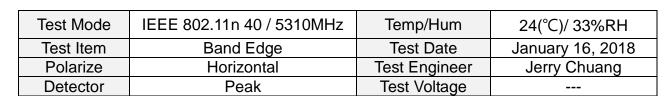


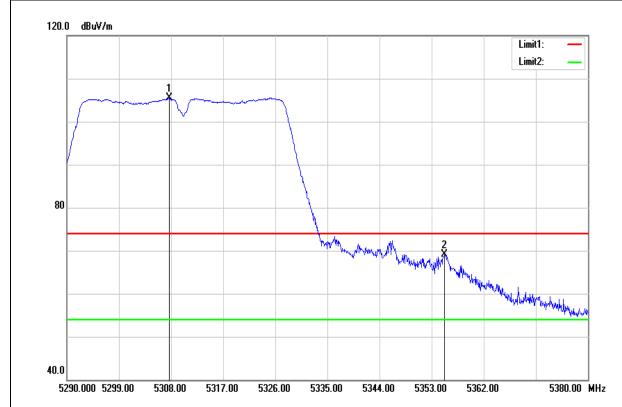
Test ModeIEEE 802.11n 40 / 5270MHzTemperature24(°C)/ 33%RHTest ItemBand EdgeTest DateJanuary 16, 2018PolarizeHorizontalTest EngineerJerry ChuangDetectorAverageTest Voltage---



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5150.000	39.21	5.06	44.27	54.00	-9.73	AVG
5271.600	96.74	5.36	102.10		-	AVG
5350.000	48.20	5.56	53.76	54.00	-0.24	AVG



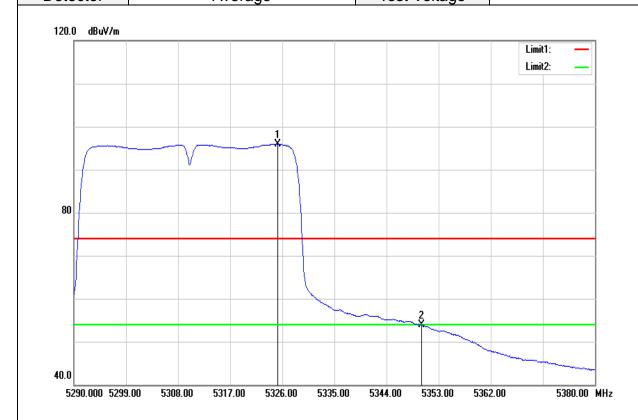




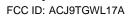
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5307.640	99.99	5.45	105.44	-	-	peak
5355.250	63.51	5.57	69.08	74.00	-4.92	peak



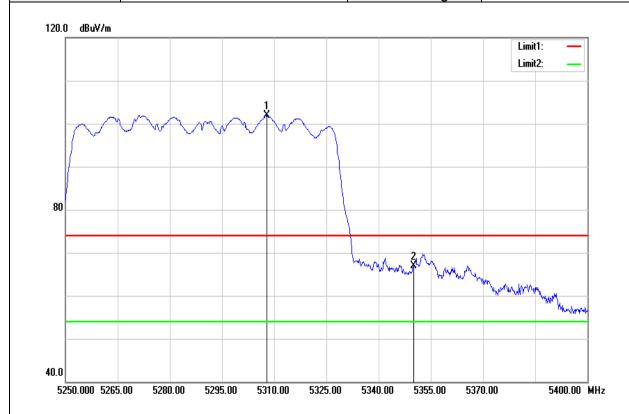
Test Mode	IEEE 802.11n 40 / 5310MHz	Temperature	24(°C)/ 33%RH
Test Item	Band Edge	Test Date	January 16, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average	Test Voltage	



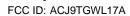
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5325.190	90.42	5.51	95.93	ı	•	AVG
5350.000	48.37	5.56	53.93	54.00	-0.07	AVG



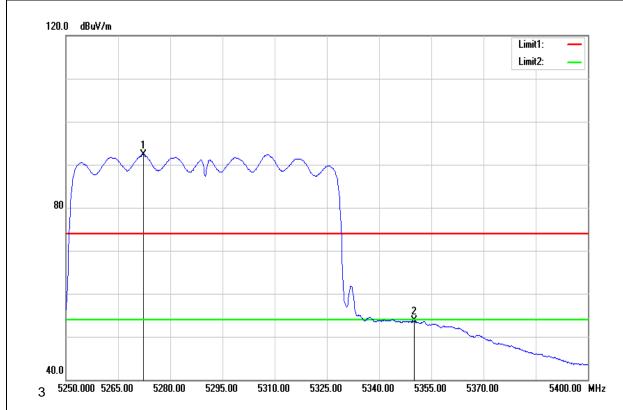
Test Mode	IEEE 802.11ac VHT80 / 5290MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Band Edge	Test Date	February 12, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak	Test Voltage	



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5307.900	96.54	5.45	101.99	-	-	peak
5350.000	61.39	5.56	66.95	74.00	-7.05	peak



Test Mode	IEEE 802.11ac VHT80 / 5290MHz	Temperature	24(°C)/ 33%RH
Test Item	Band Edge	Test Date	February 12, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average	Test Voltage	

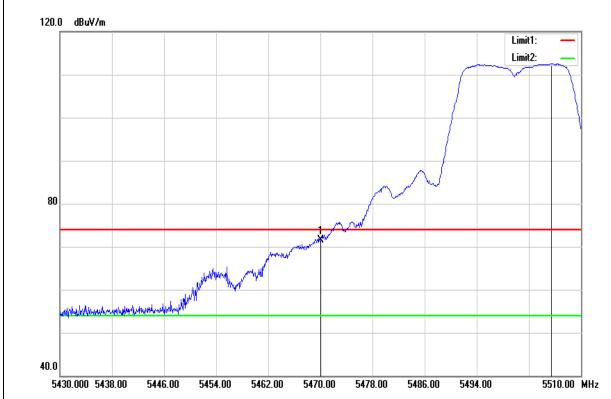


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5272.200	86.98	5.36	92.34	-	-	AVG
5350.000	48.05	5.56	53.61	54.00	-0.39	AVG

FCC ID: ACJ9TGWL17A

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

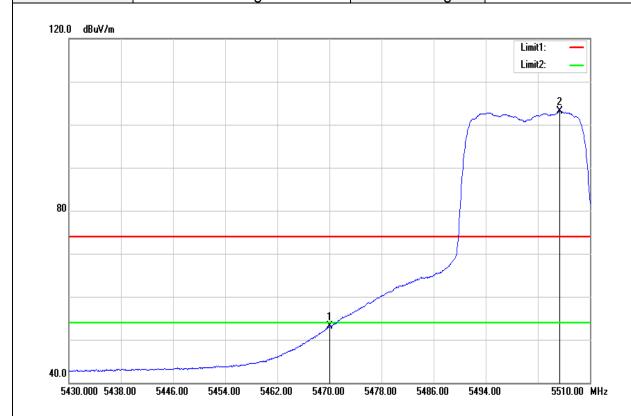
Test Mode	IEEE 802.11n 20 / 5500MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Band Edge	Test Date	January 16, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak	Test Voltage	



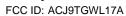
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5470.000	65.66	5.85	71.51	74.00	-2.49	peak
5505.480	106.58	5.95	112.53	-	-	peak



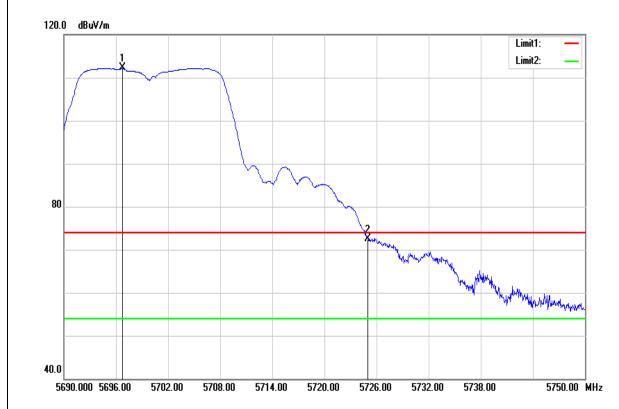
Test Mode	IEEE 802.11n 20 / 5500MHz	Temperature	24(°C)/ 33%RH
Test Item	Band Edge	Test Date	January 16, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector Average		Test Voltage	



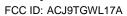
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5470.000	47.18	5.85	53.03	54.00	-0.97	AVG
5505.400	97.18	5.95	103.13	-		AVG



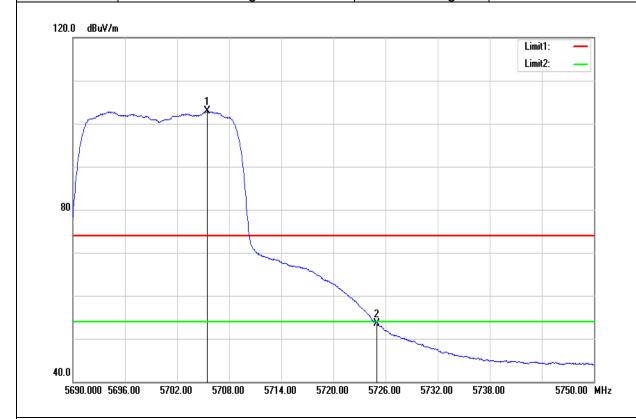
Test Mode	IEEE 802.11n 20 / 5700 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Band Edge	Test Date	January 16, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak	Test Voltage	



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5696.780	105.78	6.45	112.23	-		peak
5725.000	65.97	6.52	72.49	74.00	-1.51	peak



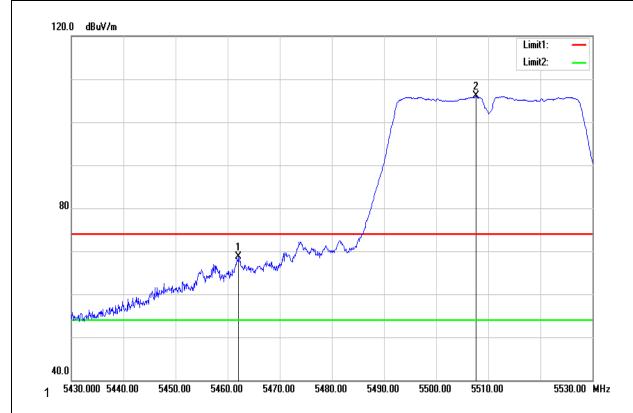
Test Mode	IEEE 802.11n 20 / 5700 MHz	Temperature	24(°C)/ 33%RH	
Test Item	Band Edge	Test Date	January 16, 2018	
Polarize	Horizontal	Test Engineer	Jerry Chuang	
Detector	Average	Test Voltage		



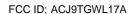
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5705.510	96.38	6.47	102.85	-	-	AVG
5725.000	47.01	6.52	53.53	54.00	-0.47	AVG



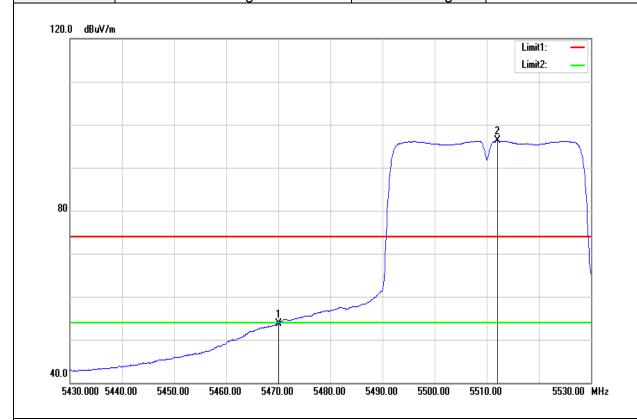
Test Mode	IEEE 802.11n 40 / 5510 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Band Edge	Test Date	January 16, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak	Test Voltage	



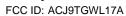
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5462.100	62.96	5.84	68.80	74.00	-5.20	peak
5507.600	100.12	5.96	106.08	-	-	peak



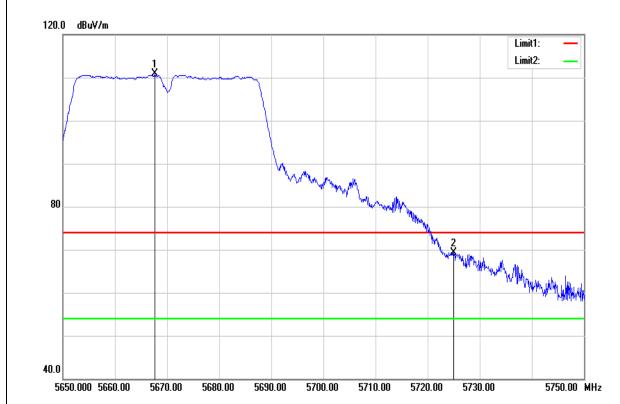
IEEE 802.11n 40 / Test Mode Temperature 24(°C)/ 33%RH 5510 MHz Band Edge January 16, 2018 Test Date Test Item Polarize Jerry Chuang Horizontal Test Engineer Test Voltage Detector Average



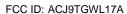
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5470.000	47.90	5.85	53.75	54.00	-0.25	AVG
5512.100	90.28	5.95	96.23	-	-	AVG



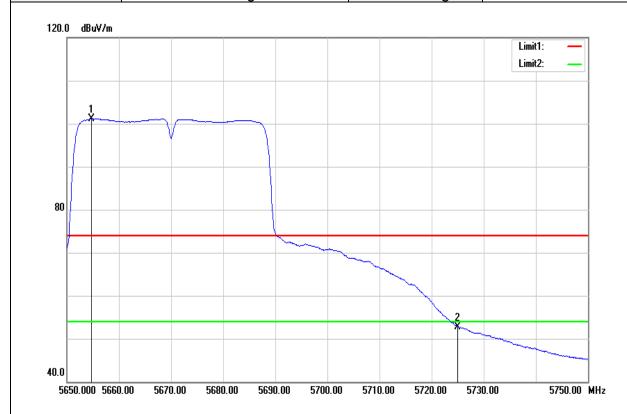
Test Mode	IEEE 802.11n 40 / 5670 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Band Edge	Test Date	January 16, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak	Test Voltage	



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5667.600	104.49	6.37	110.86	-		peak
5725.000	62.85	6.52	69.37	74.00	-4.63	peak



IEEE 802.11n 40 / Test Mode 24(°C)/ 33%RH Temperature 5670 MHz Test Item Band Edge January 16, 2018 Test Date Polarize Jerry Chuang Horizontal Test Engineer Test Voltage Detector Average

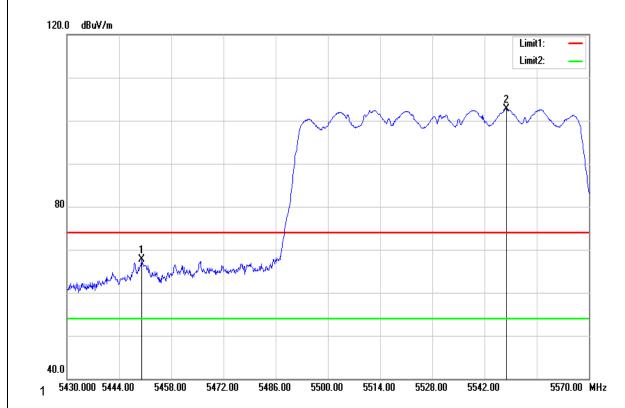


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5654.700	94.73	6.34	101.07	-	-	AVG
5725.000	46.26	6.52	52.78	54.00	-1.22	AVG

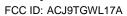


FCC ID: ACJ9TGWL17A

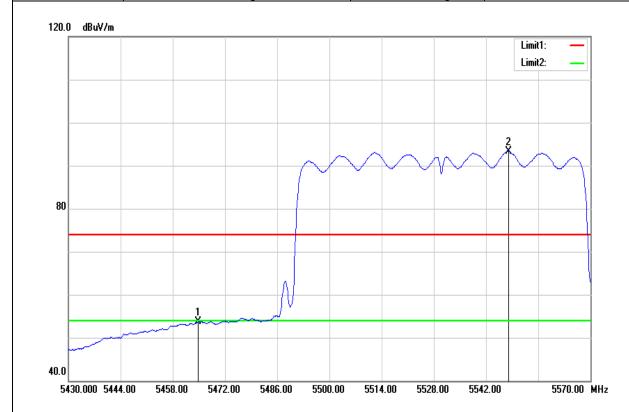
Test Mode	Test Mode IEEE 802.11ac VHT80 / 5530 MHz		24(°C)/ 33%RH
Test Item	Band Edge	Test Date	February 12, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak	Test Voltage	



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5450.020	61.93	5.81	67.74	74.00	-6.26	peak
5547.880	96.72	6.06	102.78	-	-	peak



Test Mode	IEEE 802.11ac VHT80 / 5530 MHz	Temperature	24(°C)/ 33%RH
Test Item	Band Edge	Test Date	February 12, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average	Test Voltage	

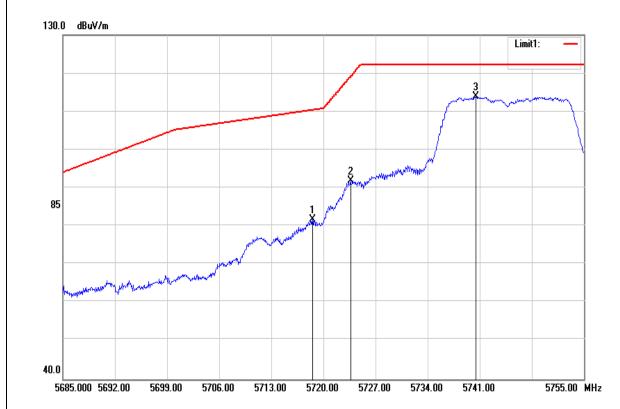


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5464.860	47.93	5.84	53.77	54.00	-0.23	AVG
5548.020	87.29	6.06	93.35	-	-	AVG

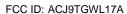
C ID: ACJ9TGWL17A Report No.: T180115W01-RP2

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

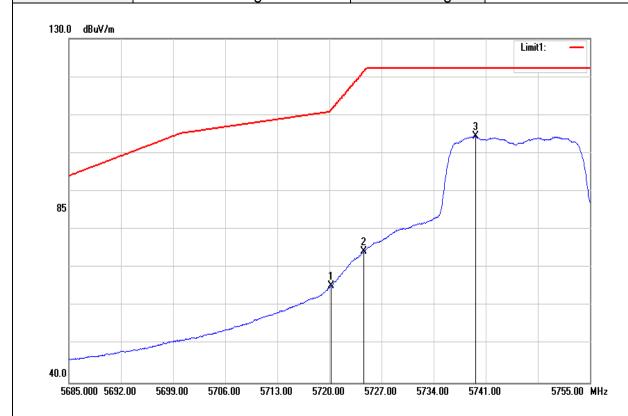
Test Mode	IEEE 802.11n 20 / 5745 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Band Edge	Test Date	January 16, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak	Test Voltage	



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5718.530	75.30	6.50	81.80	110.39	-28.59	peak
5723.675	85.45	6.52	91.97	119.18	-27.21	peak
5740.510	107.34	6.56	113.90	-	-	peak



IEEE 802.11n 20 / Test Mode Temp/Hum 24(°C)/ 33%RH 5745 MHz January 16, 2018 Band Edge Test Item **Test Date** Test Engineer Jerry Chuang **Polarize** Horizontal Test Voltage Detector Average

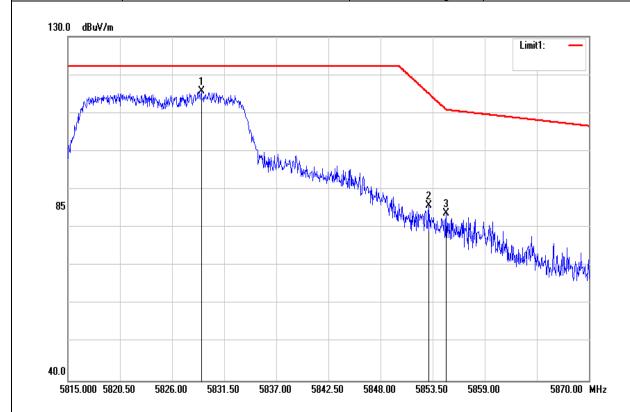


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5720.245	58.88	6.50	65.38	111.36	-45.98	AVG
5724.655	67.77	6.52	74.29	121.41	-47.12	AVG
5739.600	97.85	6.56	104.41	-	-	AVG

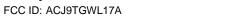


FCC ID: ACJ9TGWL17A

Test Mode	IEEE 802.11n 20 / 5825 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Band Edge	Test Date	January 16, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak	Test Voltage	



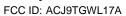
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5829.108	108.95	6.79	115.74	-	-	peak
5853.060	78.87	6.86	85.73	115.22	-29.49	peak
5854.930	76.90	6.86	83.76	110.96	-27.20	peak



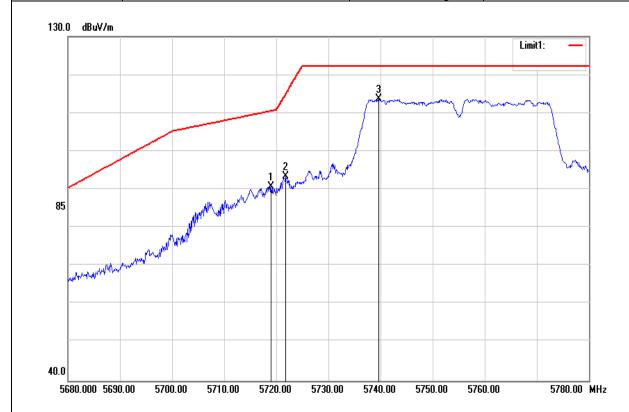
Test Mode	IEEE 802.11n 20 / 5825 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Band Edge	Test Date	January 16, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average	Test Voltage	



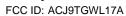
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5819.538	96.46	6.76	103.22	-		AVG
5850.035	60.04	6.85	66.89	122.12	-55.23	AVG
5854.655	55.49	6.86	62.35	111.59	-49.24	AVG



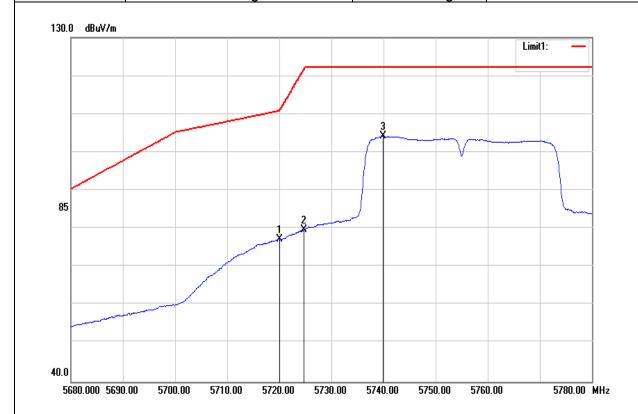
Test Mode	IEEE 802.11n 40/ 5755 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Band Edge	Test Date	January 16, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak	Test Voltage	



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5719.050	84.19	6.50	90.69	110.53	-19.84	peak
5721.800	86.93	6.51	93.44	114.90	-21.46	peak
5739.700	107.04	6.56	113.60	-	-	peak



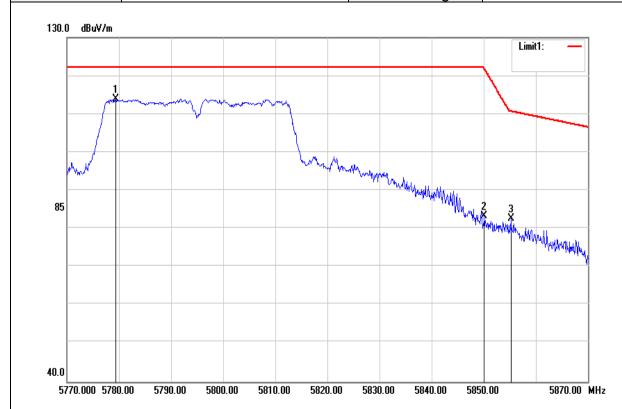
Test Mode	IEEE 802.11n 40/ 5755 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Band Edge	Test Date	January 16, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average	Test Voltage	



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5720.150	70.72	6.50	77.22	111.14	-33.92	AVG
5724.750	73.13	6.52	79.65	121.63	-41.98	AVG
5739.900	97.63	6.56	104.19	-	-	AVG



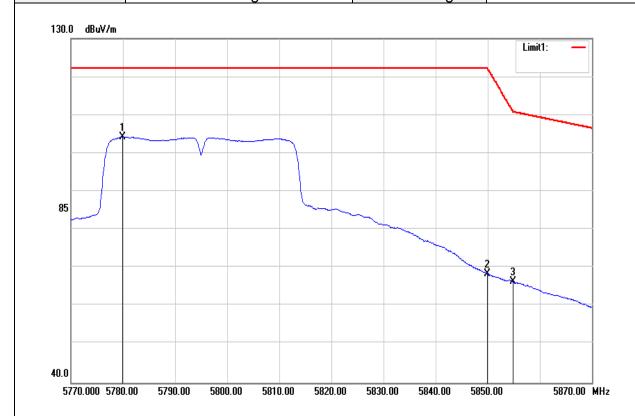
Test Mode	IEEE 802.11n 40/ 5795 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Band Edge	Test Date	January 16, 2018
Polarize Horizontal		Test Engineer	Jerry Chuang
Detector	Peak	Test Voltage	



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5779.400	107.21	6.67	113.88	-	1	peak
5850.100	76.36	6.85	83.21	121.97	-38.76	peak
5855.250	75.82	6.86	82.68	110.73	-28.05	peak

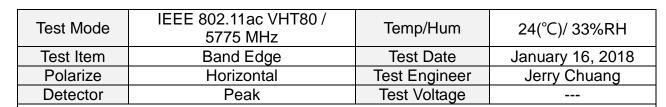


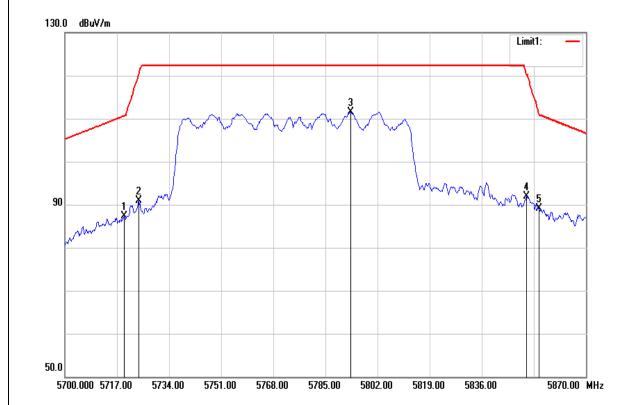
Test Mode	IEEE 802.11n 40/ 5795 MHz	Temp/Hum	24(°C)/ 33%RH	
Test Item	Band Edge	Test Date	January 16, 2018	
Polarize	Horizontal	Test Engineer	Jerry Chuang	
Detector	Average	Test Voltage		



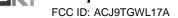
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5779.950	97.55	6.67	104.22	-		AVG
5849.900	61.62	6.85	68.47	122.20	-53.73	AVG
5854.900	59.48	6.86	66.34	111.03	-44.69	AVG



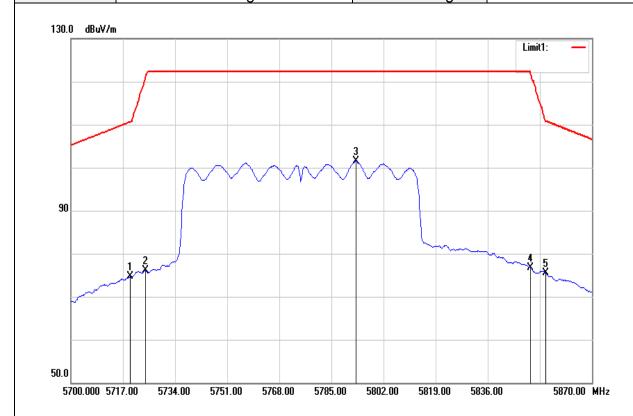




Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5719.380	80.88	6.50	87.38	110.63	-23.25	peak
5724.140	84.45	6.52	90.97	120.24	-29.27	peak
5793.160	104.72	6.70	111.42	-	-	peak
5850.620	85.06	6.85	91.91	120.79	-28.88	peak
5854.700	82.18	6.86	89.04	111.48	-22.44	peak



Test Mode	IEEE 802.11ac VHT80 / 5775 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Band Edge	Test Date	January 16, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average	Test Voltage	

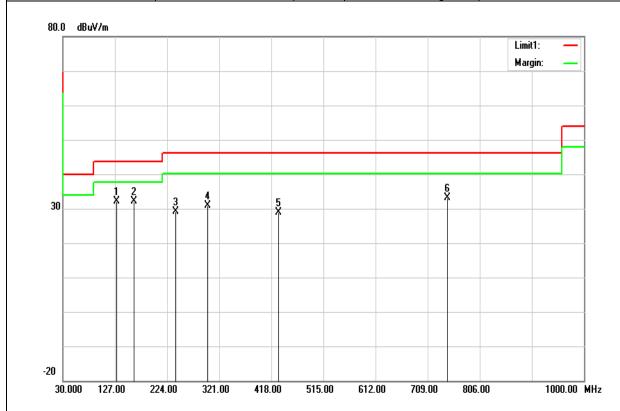


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
5719.380	68.13	6.50	74.63	110.63	-36.00	AVG
5724.310	69.67	6.52	76.19	120.63	-44.44	AVG
5792.990	94.82	6.70	101.52	-	-	AVG
5849.940	69.88	6.85	76.73	122.20	-45.47	AVG
5854.870	68.63	6.86	75.49	111.10	-35.61	AVG

FCC ID: ACJ9TGWL17A Report No.: T180115W01-RP2

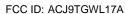
# **Below 1G Test Data**

Test Mode	IEEE 802.11ac VHT80 / 5210MHZ	Temp/Hum	24(°C)/ 33%RH
Test Item	30MHz-1GHz	Test Date	January 17, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Quasi-peak	Test Voltage	

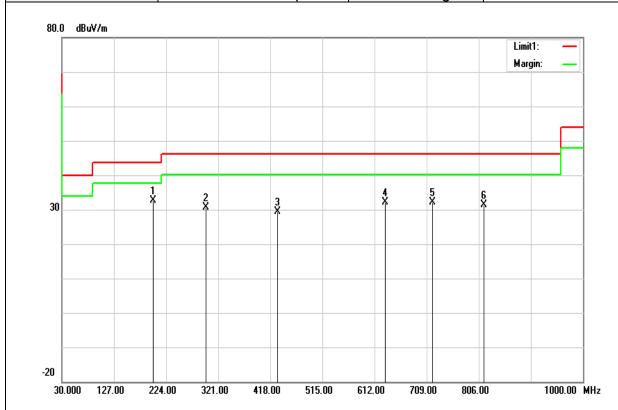


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
129.9100	47.37	-15.27	32.10	43.52	-11.42	peak
162.4050	48.29	-16.11	32.18	43.52	-11.34	peak
240.0050	45.27	-16.13	29.14	46.02	-16.88	peak
299.6600	45.06	-14.07	30.99	46.02	-15.03	peak
432.0650	39.16	-10.24	28.92	46.02	-17.10	peak
746.3450	37.43	-4.33	33.10	46.02	-12.92	peak

**Note**: No emission found between lowest internal used/generated frequency to 30MHz(9KHz~30MHz)



IEEE 802.11ac VHT80 / Test Mode Temp/Hum 24(°C)/33%RH 5210MHZ January 17, 2018 Test Date 30MHz-1GHz Test Item **Polarize** Test Engineer Horizontal Jerry Chuang Detector Test Voltage Peak and Quasi-peak



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
199.7500	47.83	-15.32	32.51	43.52	-11.01	peak
298.6900	44.78	-14.09	30.69	46.02	-15.33	peak
432.0650	39.67	-10.24	29.43	46.02	-16.59	peak
632.3700	38.27	-6.04	32.23	46.02	-13.79	peak
720.1550	36.72	-4.65	32.07	46.02	-13.95	peak
816.1850	34.62	-3.21	31.41	46.02	-14.61	peak

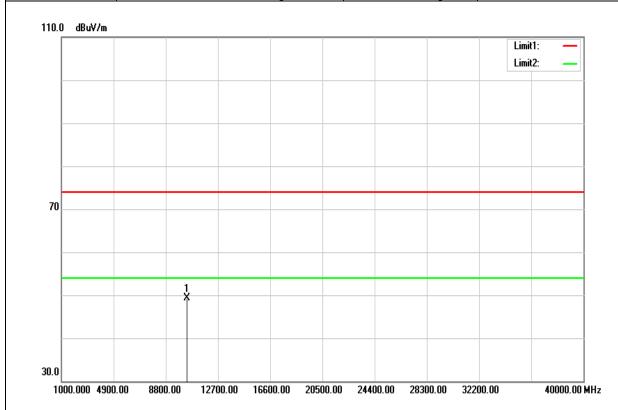
**Note**: No emission found between lowest internal used/generated frequency to 30MHz(9KHz~30MHz)



#### For 1TX:

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

Test Mode	IEEE 802.11a / 5180MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	



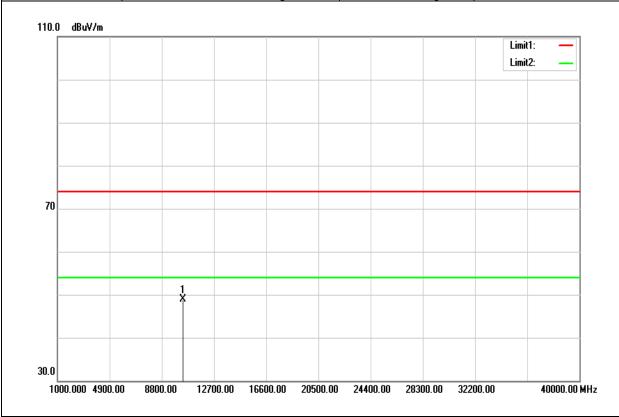
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10360.000	34.94	14.45	49.39	74.00	-24.61	peak
N/A						

### 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	February 9, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	



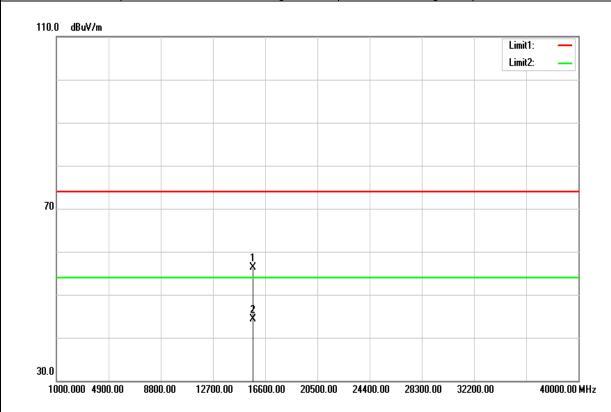
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10360.000	34.42	14.45	48.87	74.00	-25.13	peak
N/A						

#### 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 802.11a / 5220MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	



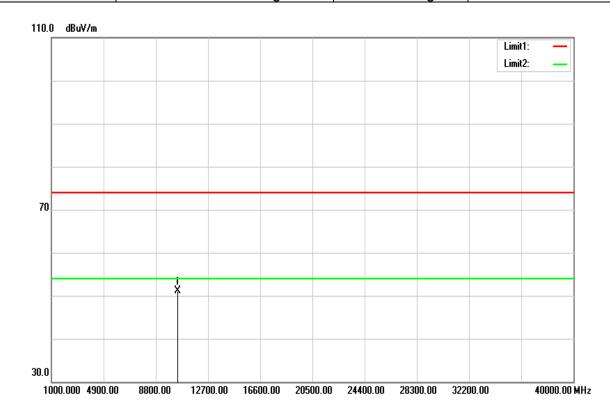
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
15670.000	37.34	19.06	56.40	74.00	-17.60	peak
15670.000	25.31	19.06	44.37	54.00	-9.63	AVG
N/A						

#### 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 / 5220MHZ	Temp/Hum	22(°C)/ 34%RH	
Test Item	Harmonic	Test Date	February 9, 2018	
Polarize	Horizontal	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		



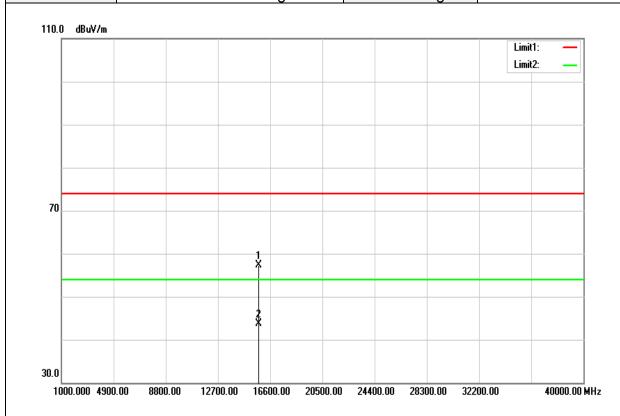
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10440.000	36.45	14.71	51.16	74.00	-22.84	peak
N/A						

#### 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 802.11a / 5240MHZ	Temp/Hum	22(°C)/ 34%RH	
Test Item	Harmonic	Test Date	February 9, 2018	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

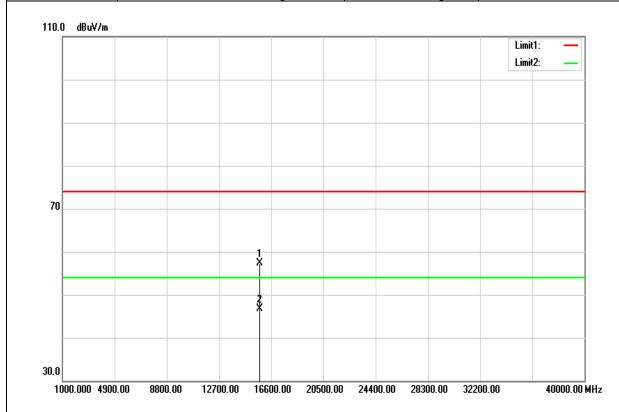


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
15720.000	38.10	19.20	57.30	74.00	-16.70	peak
15720.000	24.59	19.20	43.79	54.00	-10.21	AVG
N/A						

- 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	February 9, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

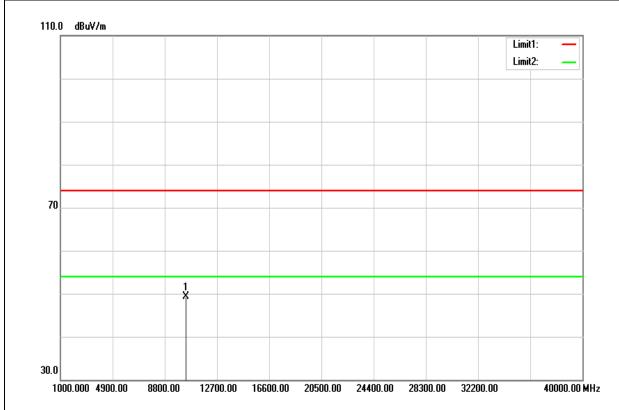


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
15720.000	38.05	19.20	57.25	74.00	-16.75	peak
15720.000	27.57	19.20	46.77	54.00	-7.23	AVG
N/A						

- 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 20 / 5180MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

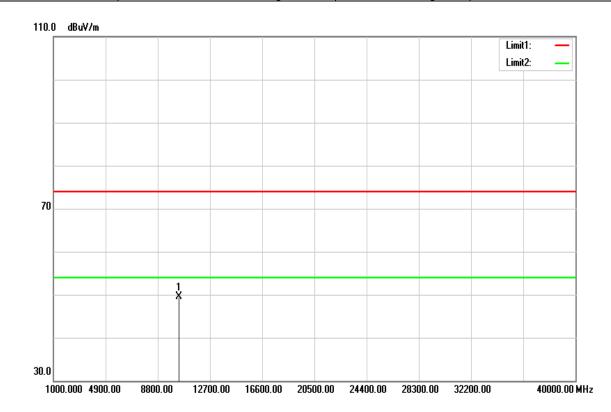


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10360.000	34.80	14.45	49.25	74.00	-24.75	peak
N/A						

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

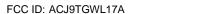


Test Mode	IEEE 802.11n 20/ 5180MHZ	Temp/Hum	22(°C)/ 34%RH	
Test Item	Harmonic	Test Date	February 9, 2018	
Polarize	Horizontal	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

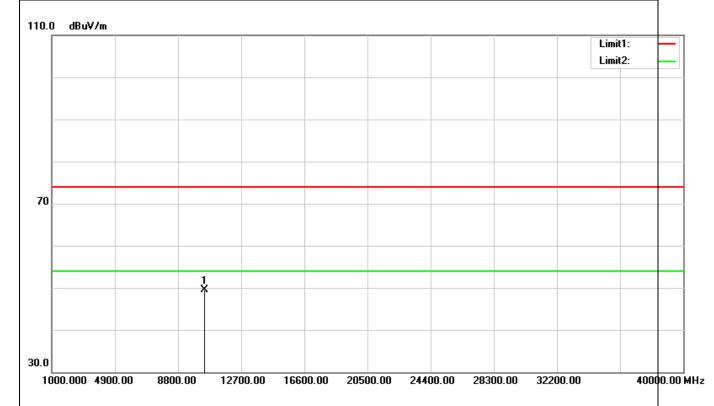


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10360.000	35.14	14.45	49.59	74.00	-24.41	peak
N/A						

- 3. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 4. 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 20 / 5220MHZ	Temp/Hum	22(°C)/ 34%RH	
Test Item	Harmonic	Test Date	February 9, 2018	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

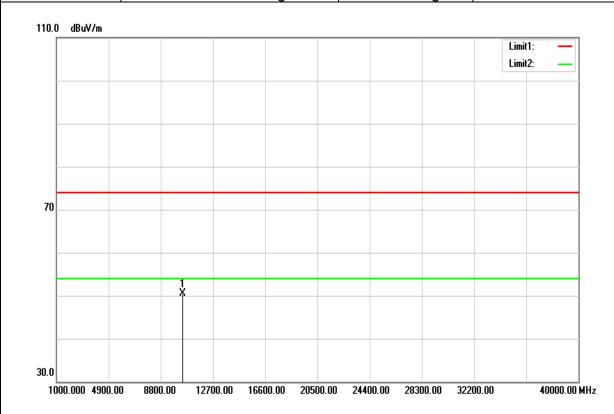


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10440.000	34.80	14.71	49.51	74.00	-24.49	peak
N/A						

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



Test Mode	IEEE 802.11 n 20 / 5220MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

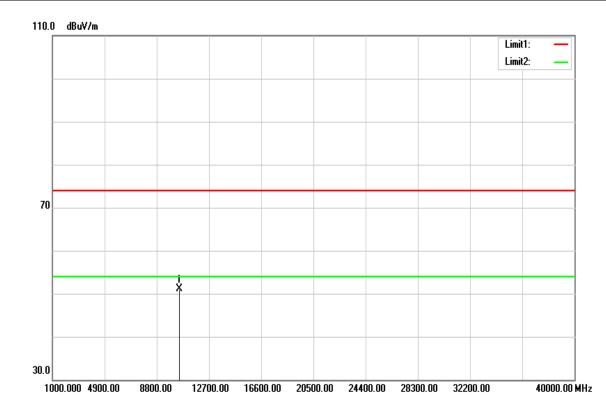


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10440.000	35.85	14.71	50.56	74.00	-23.44	peak
N/A						

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

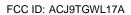


Test Mode	IEEE 802.11 n 20 / 5240MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

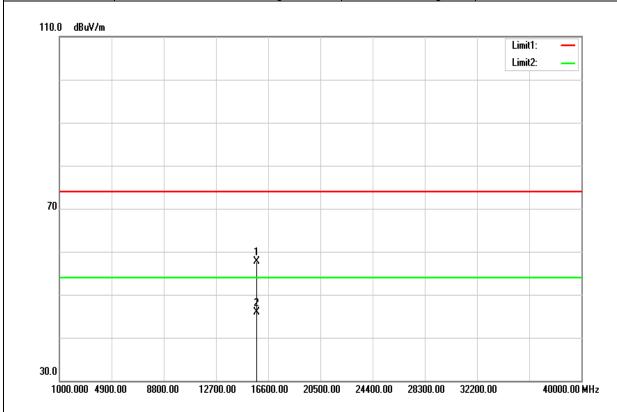


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10480.000	36.25	14.84	51.09	74.00	-22.91	peak
N/A						

- 3. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 4. 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 20 / 5240MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

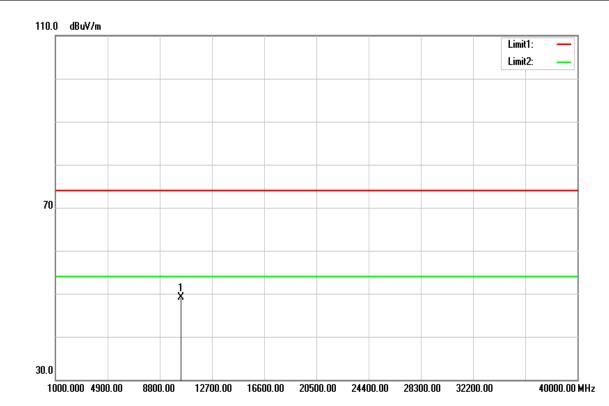


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
15720.000	38.48	19.20	57.68	74.00	-16.32	peak
15720.000	26.66	19.20	45.86	54.00	-8.14	AVG
N/A						

- 3. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 4. 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 40 / 5190MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

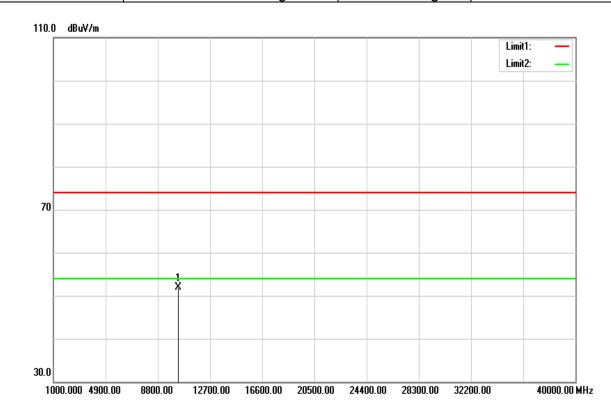


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10380.000	34.68	14.50	49.18	74.00	-24.82	peak
N/A						

- 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 40 / 5190MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

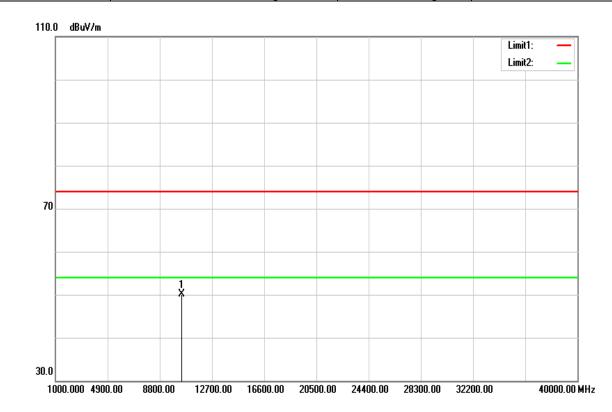


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10340.000	37.47	14.37	51.84	74.00	-22.16	peak
N/A						

- 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

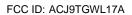


Test Mode	IEEE 802.11n 40 / 5230MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

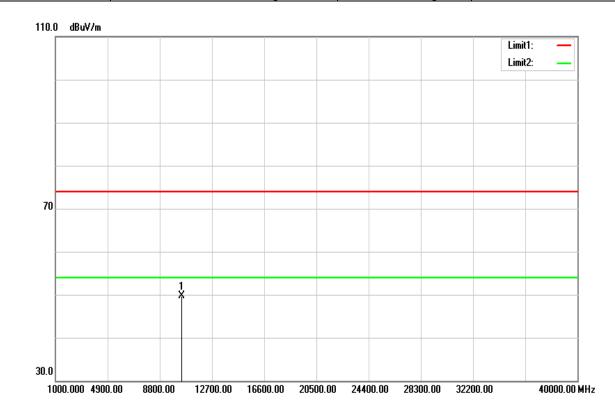


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10460.000	35.40	14.79	50.19	74.00	-23.81	peak
N/A						

- 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 40 / 5230MHZ	Temp/Hum	22(°C)/ 34%RH
	Test Item	Harmonic	Test Date	February 9, 2018
	Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector		Peak and Average	Test Voltage	

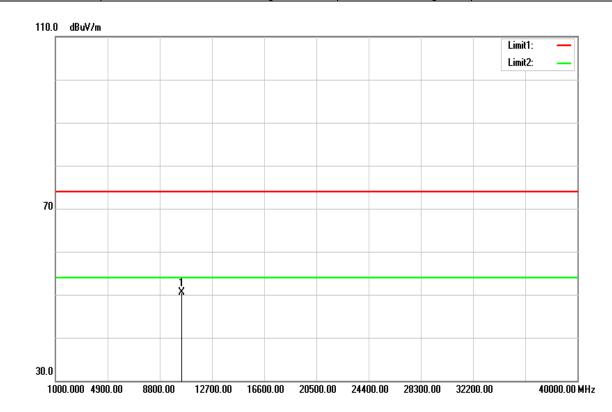


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10460.000	34.91	14.79	49.70	74.00	-24.30	peak
N/A						

- 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

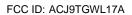


Test Mode	IEEE 802.11ac VHT80 / 5210MHZ	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

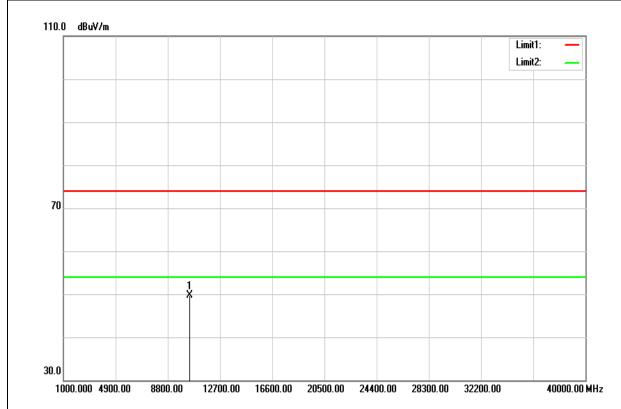


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10420.000	35.86	14.66	50.52	74.00	-23.48	peak
N/A						

- 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	February 9, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	



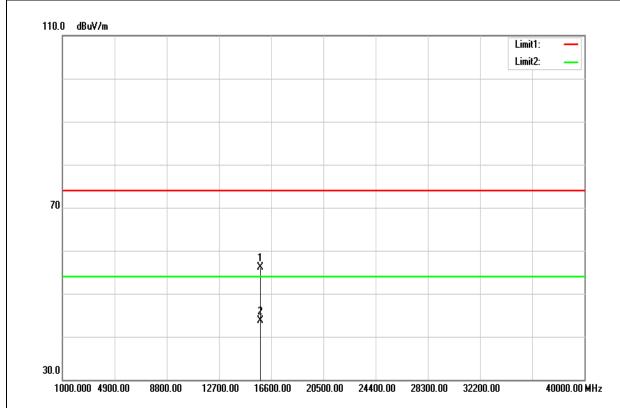
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10420.000	34.96	14.66	49.62	74.00	-24.38	peak
N/A						

- 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

FCC ID: ACJ9TGWL17A Report No.: T180115W01-RP2

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

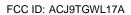
Test Mode	IEEE 802.11a / 5260 MHz	Temp/Hum	22(°C)/ 34%RH	
Test Item	Harmonic	Test Date	February 9, 2018	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		



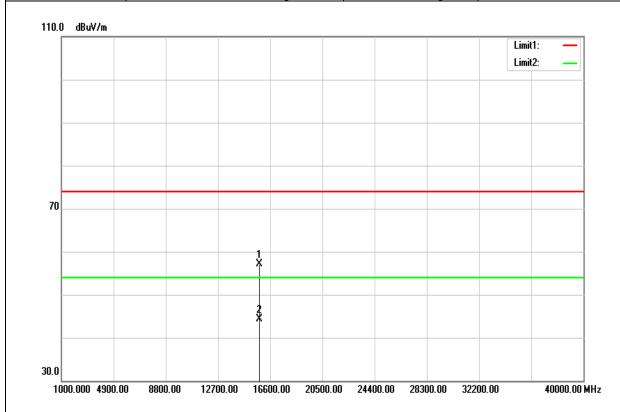
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
15780.000	36.75	19.38	56.13	74.00	-17.87	peak
15780.000	24.34	19.38	43.72	54.00	-10.28	AVG
N/A						

## 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

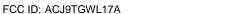


Test Mode	IEEE 802.11a / 5260 MHz	Temp/Hum	22(°C)/ 34%RH	
Test Item	Harmonic	Test Date	February 9, 2018	
Polarize	Horizontal	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

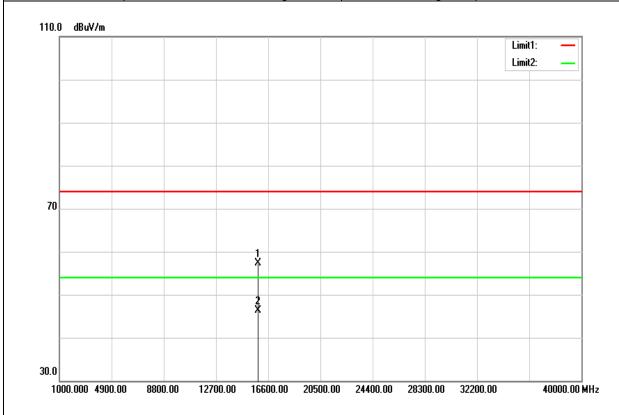


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
15790.000	37.79	19.41	57.20	74.00	-16.80	peak
15790.000	24.80	19.41	44.21	54.00	-9.79	AVG
N/A						

- 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

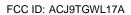


Test Mode	IEEE 802.11a / 5280 MHz	Temp/Hum	22(°C)/ 34%RH	
Test Item	Harmonic	Test Date	February 9, 2018	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

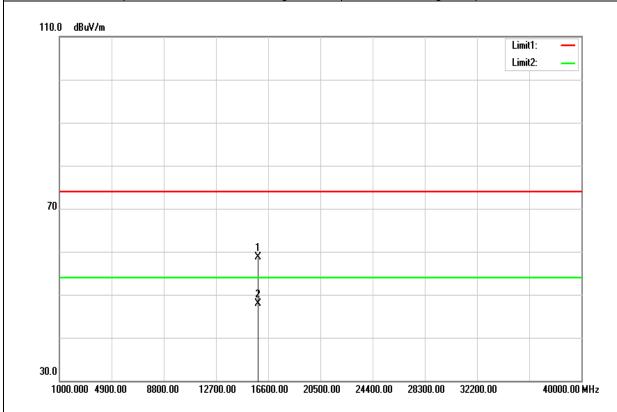


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
15840.000	37.81	19.55	57.36	74.00	-16.64	peak
15840.000	26.77	19.55	46.32	54.00	-7.68	AVG
N/A						

- 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	February 9, 2018	
Polarize	Horizontal	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

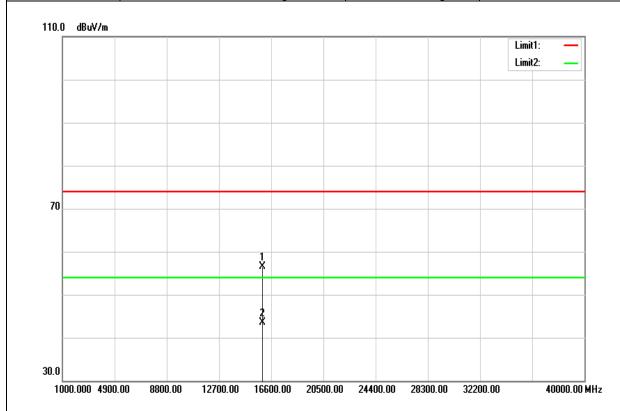


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
15840.000	39.06	19.55	58.61	74.00	-15.39	peak
15840.000	28.27	19.55	47.82	54.00	-6.18	AVG
N/A						

- 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	February 9, 2018	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

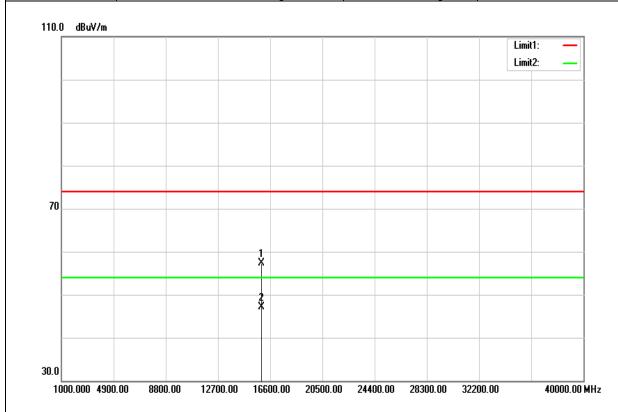


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
15960.000	36.67	19.90	56.57	74.00	-17.43	peak
15960.000	23.66	19.90	43.56	54.00	-10.44	AVG
N/A						

- 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

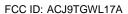


Test Mode	IEEE 802.11a / 5320 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

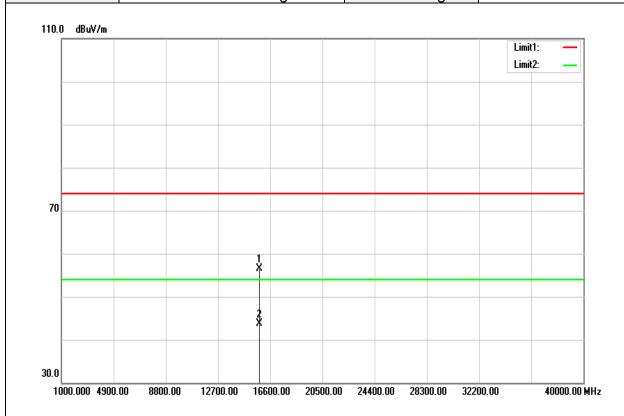


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
15950.000	37.44	19.88	57.32	74.00	-16.68	peak
15950.000	27.22	19.88	47.10	54.00	-6.90	AVG
N/A						

- 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 20 / 5260 MHz	Temp/Hum	22(°C)/ 34%RH	
Test Item	Harmonic	Test Date	February 9, 2018	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

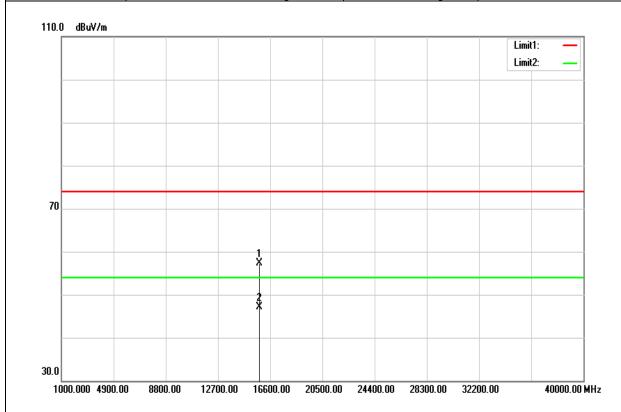


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
15780.000	37.13	19.38	56.51	74.00	-17.49	peak
15780.000	24.40	19.38	43.78	54.00	-10.22	AVG
N/A						

- 3. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 4. 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	February 9, 2018	
Polarize	Horizontal	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

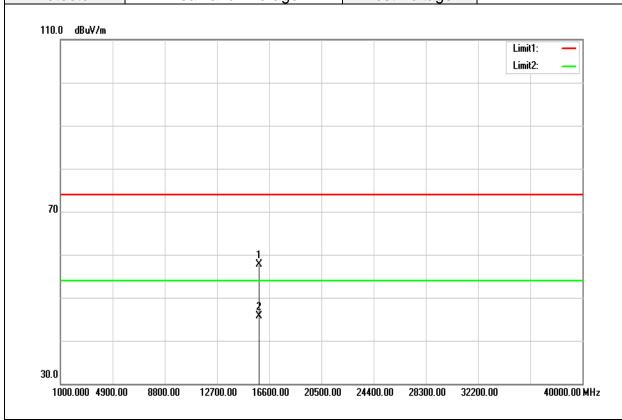


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
15780.000	38.00	19.38	57.38	74.00	-16.62	peak
15780.000	27.63	19.38	47.01	54.00	-6.99	AVG
N/A						

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

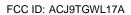


Test Mode	IEEE 802.11n 20 / 5280 MHz	Temp/Hum	22(°C)/ 34%RH	
Test Item	Harmonic	Test Date	February 9, 2018	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

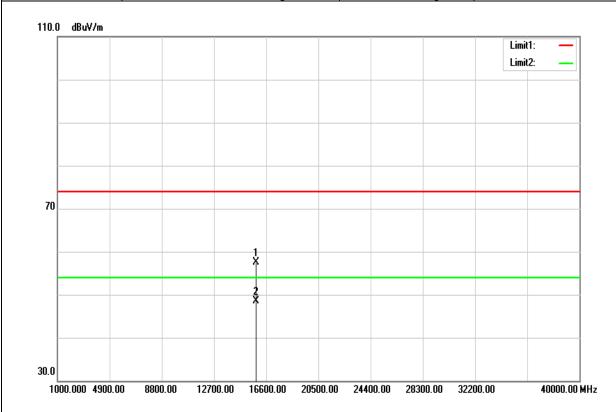


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
15850.000	38.08	19.59	57.67	74.00	-16.33	peak
15850.000	26.04	19.59	45.63	54.00	-8.37	AVG
N/A						

- 3. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 4. 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 20 / 5280 MHz	Temp/Hum	22(°C)/ 34%RH	
Test Item	Harmonic	Test Date	February 9, 2018	
Polarize	Horizontal	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

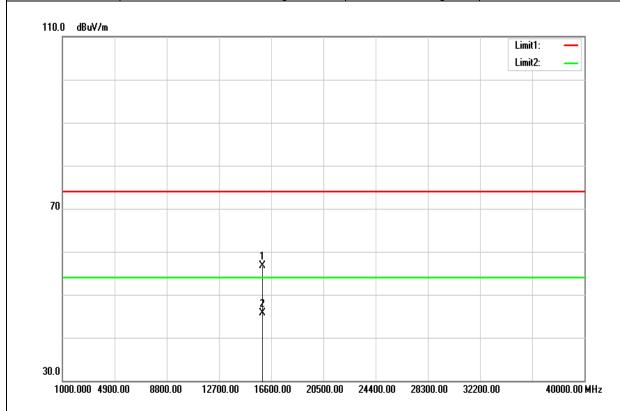


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
15840.000	38.02	19.55	57.57	74.00	-16.43	peak
15840.000	28.98	19.55	48.53	54.00	-5.47	AVG
N/A						

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

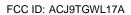


Test Mode	IEEE 802.11n 20 / 5320 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

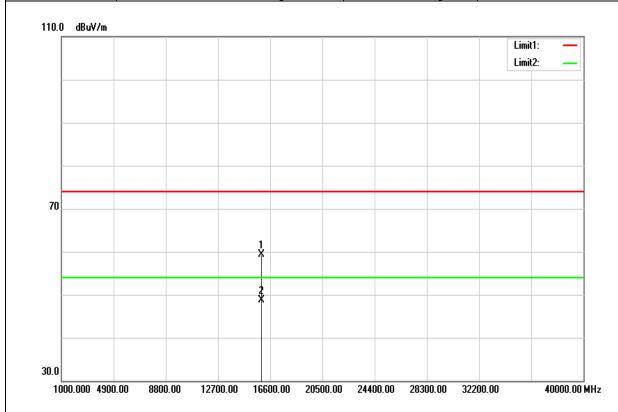


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
15970.000	36.78	19.94	56.72	74.00	-17.28	peak
15970.000	25.69	19.94	45.63	54.00	-8.37	AVG
N/A						

- 3. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 4. 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 20 / 5320 MHz	Temp/Hum	22(°C)/ 34%RH	
Test Item	Harmonic	Test Date	February 9, 2018	
Polarize	Horizontal	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

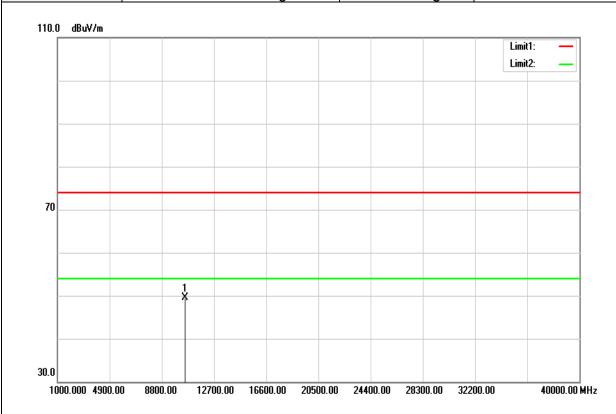


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
15960.000	39.34	19.90	59.24	74.00	-14.76	peak
15960.000	28.89	19.90	48.79	54.00	-5.21	AVG
N/A						

- 3. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 4. 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 40 / 5270 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

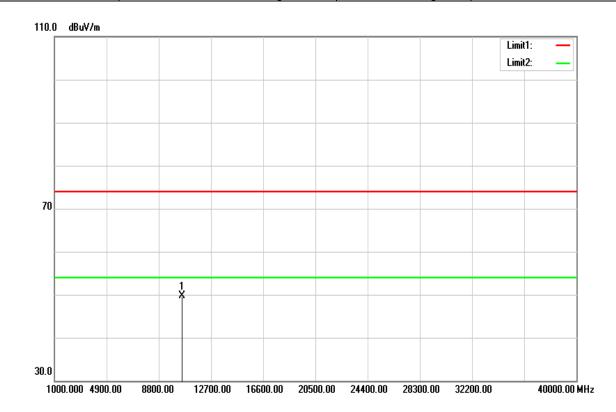


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10540.000	34.46	15.01	49.47	74.00	-24.53	peak
N/A						

- 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 40 / 5270 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

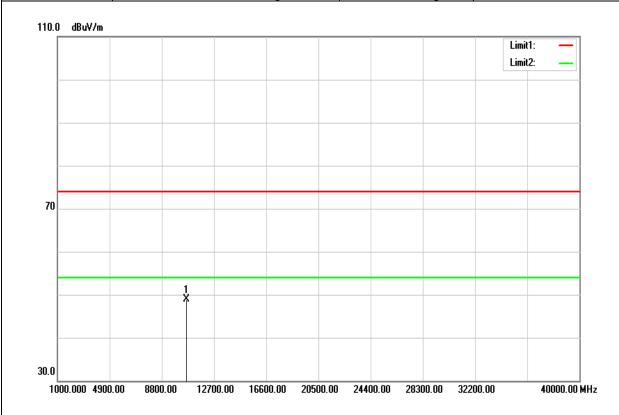


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10540.000	34.68	15.01	49.69	74.00	-24.31	peak
N/A						

- 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 40 / 5310 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

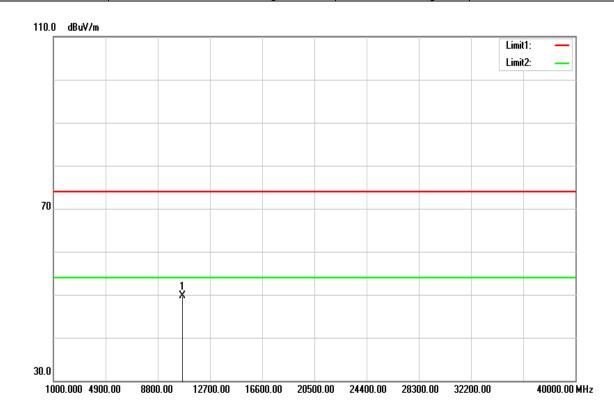


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10620.000	33.67	15.20	48.87	74.00	-25.13	peak
N/A						

- 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

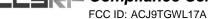


Test Mode	IEEE 802.11n 40 / 5310 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

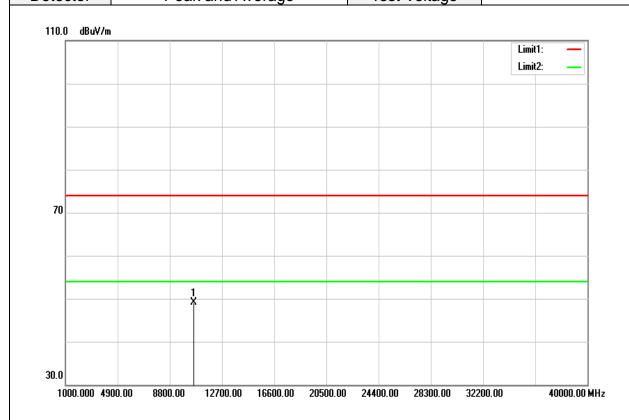


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10620.000	34.46	15.20	49.66	74.00	-24.34	peak
N/A						

- 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	February 9, 2018	
	Polarize	Vertical	Test Engineer	Jerry Chuang	
	Detector	Peak and Average	Test Voltage		

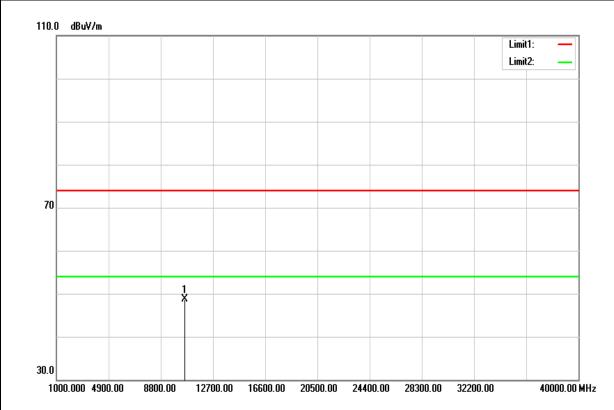


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10580.000	33.93	15.10	49.03	74.00	-24.97	peak
N/A						

- 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	Test Item Harmonic		February 9, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector Peak and Average		Test Voltage	



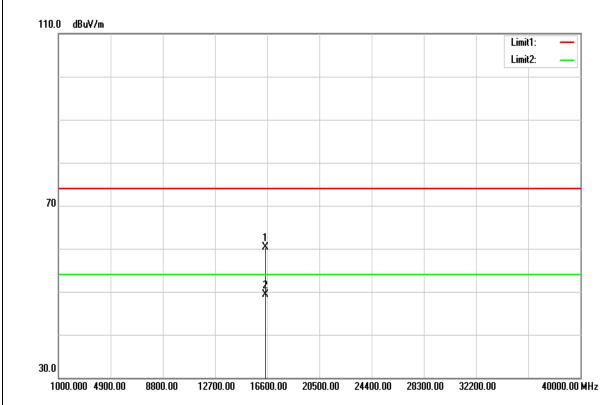
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10580.000	33.55	15.10	48.65	74.00	-25.35	peak
N/A						

- 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

FCC ID: ACJ9TGWL17A Report No.: T180115W01-RP2

# **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	February 9, 2018	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		



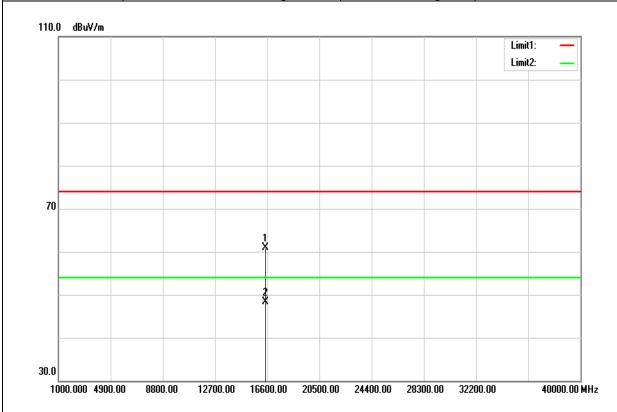
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
16490.000	37.37	22.95	60.32	74.00	-13.68	peak
16490.000	26.37	22.95	49.32	54.00	-4.68	AVG
N/A						

## 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

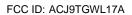


Test Mode	IEEE 802.11a / 5500 MHz	Temp/Hum	22(°C)/ 34%RH	
Test Item	Harmonic	Test Date	February 9, 2018	
Polarize	Horizontal	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

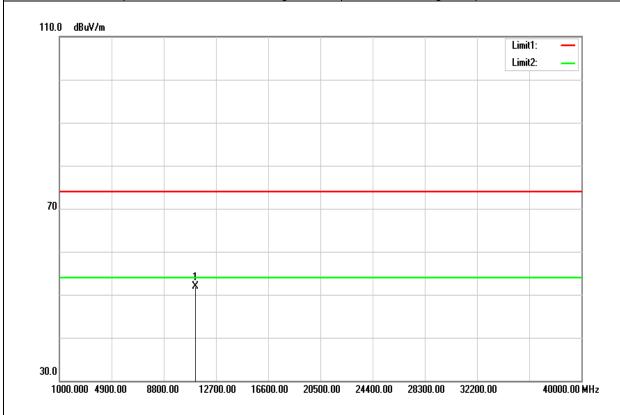


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
16490.000	37.91	22.95	60.86	74.00	-13.14	peak
16490.000	25.26	22.95	48.21	54.00	-5.79	AVG
N/A						

- 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

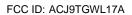


Test Mode	IEEE 802.11a / 5580 MHz	Temp/Hum	22(°C)/ 34%RH	
Test Item	Harmonic	Test Date	February 9, 2018	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

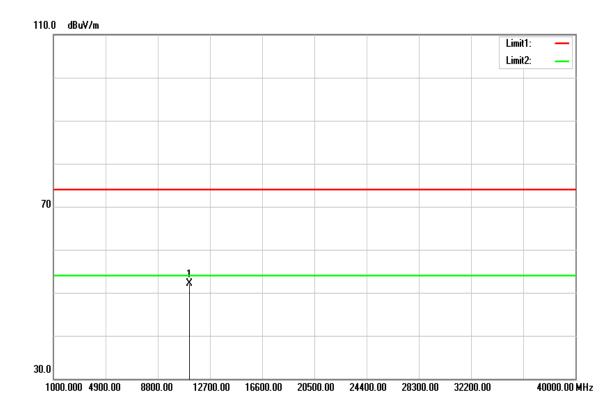


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11160.000	35.91	16.07	51.98	74.00	-22.02	peak
N/A						

- 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	February 9, 2018	
Polarize	Horizontal	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

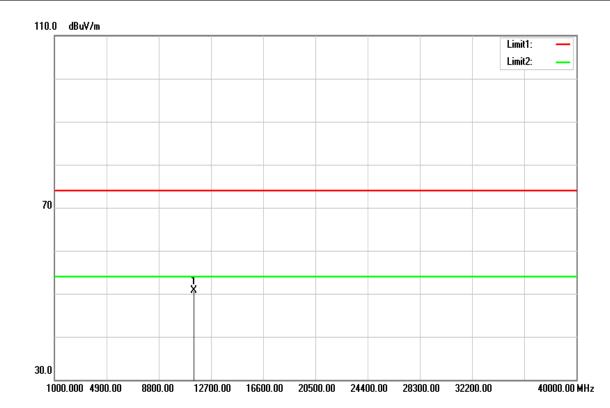


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11160.000	36.02	16.07	52.09	74.00	-21.91	peak
N/A						

- 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

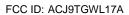


Test Mode	IEEE 802.11a / 5700 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Test Item Harmonic		February 9, 2018
Polarize	Polarize Vertical		Jerry Chuang
Detector	Peak and Average	Test Voltage	

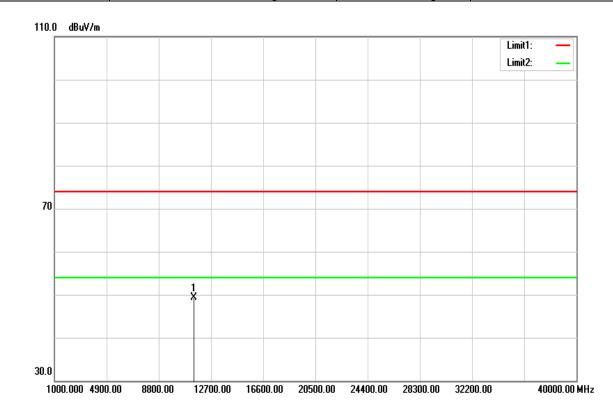


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11400.000	34.60	16.08	50.68	74.00	-23.32	peak
N/A						

- 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

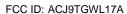


Test Mode	IEEE 802.11a / 5700 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

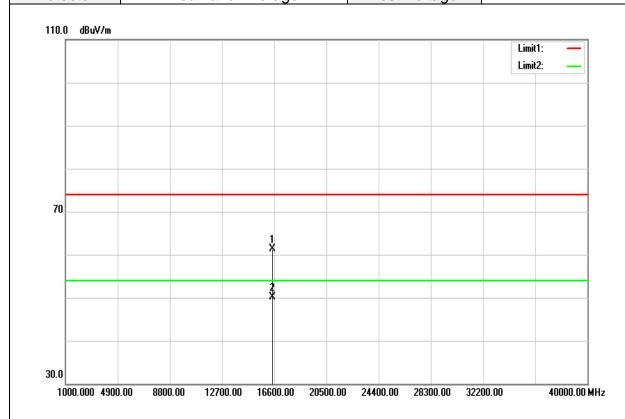


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11400.000	33.30	16.08	49.38	74.00	-24.62	peak
N/A						

- 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 20 / 5500 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

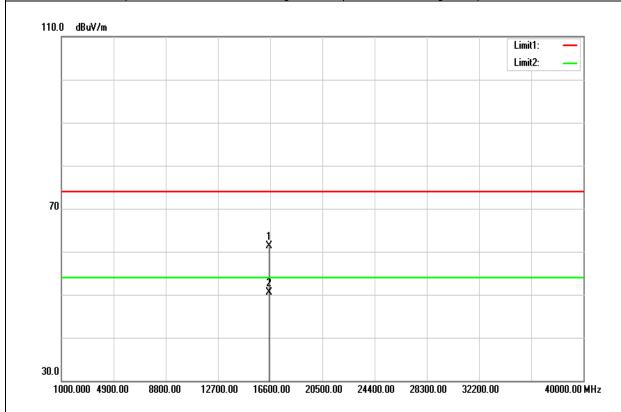


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
16490.000	38.45	22.95	61.40	74.00	-12.60	peak
16490.000	27.07	22.95	50.02	54.00	-3.98	AVG
N/A						

- 3. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 4. 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 20 / 5500 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

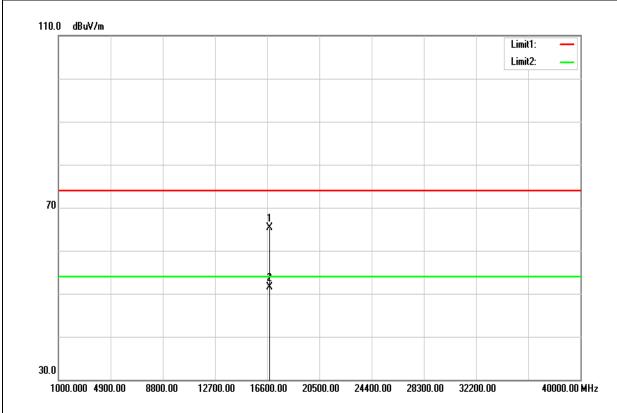


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
16510.000	38.16	23.11	61.27	74.00	-12.73	peak
16510.000	27.44	23.11	50.55	54.00	-3.45	AVG
N/A						

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

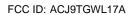


Test Mode	IEEE 802.11n 20 / 5580 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

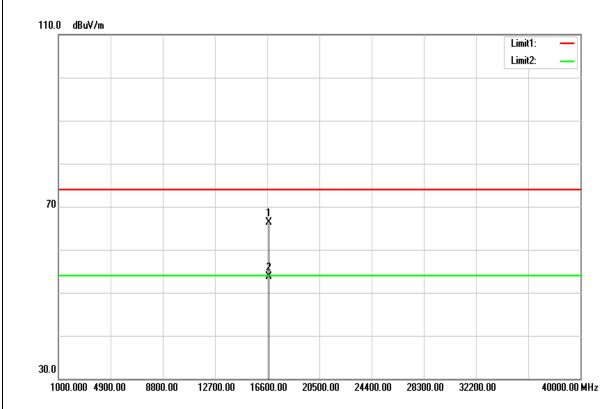


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
16760.000	39.84	25.52	65.36	74.00	-8.64	peak
16760.000	26.03	25.52	51.55	54.00	-2.45	AVG
N/A						

- 3. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 4. 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 20 / 5580 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

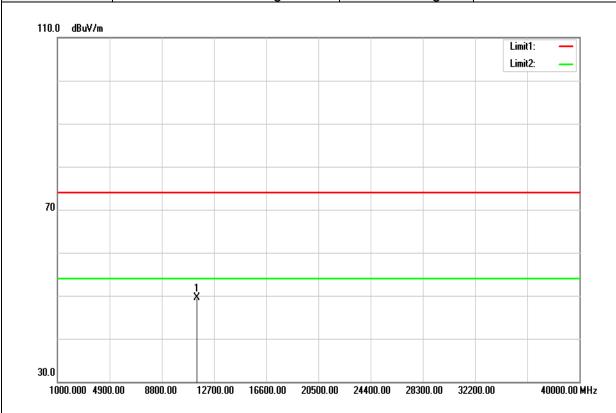


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
16730.000	41.14	25.23	66.37	74.00	-7.63	peak
16730.000	28.45	25.23	53.68	54.00	-0.32	AVG
N/A						

- 3. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 4. 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 20 / 5700 MHz	Temp/Hum	22(°C)/ 34%RH	
Test Item	Harmonic	Test Date	February 9, 2018	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

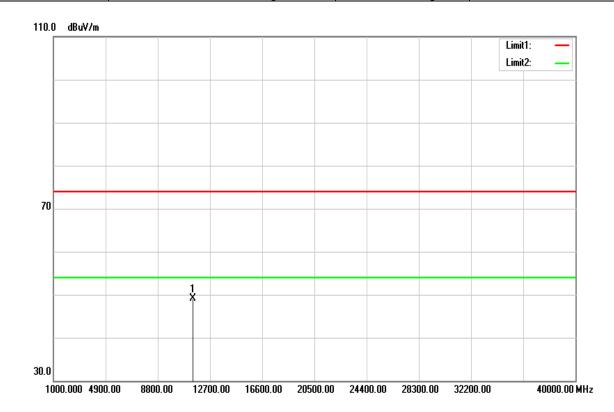


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11400.000	33.50	16.08	49.58	74.00	-24.42	peak
N/A						

- 3. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 4. 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 20 / 5700 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

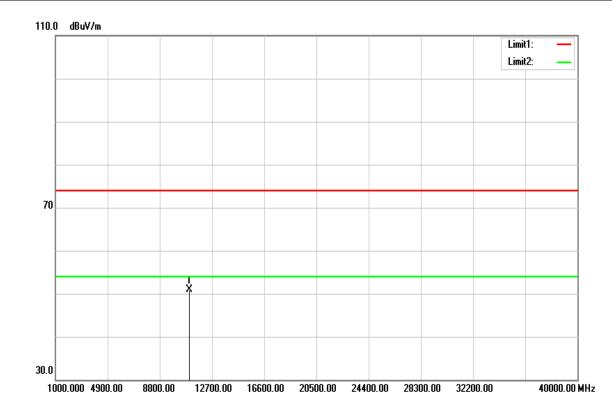


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11400.000	33.00	16.08	49.08	74.00	-24.92	peak
N/A						

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

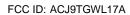


Test Mode	IEEE 802.11n 40 / 5510 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item Harmonic		Test Date	February 9, 2018
Polarize	Polarize Vertical		Jerry Chuang
Detector Peak and Average		Test Voltage	-

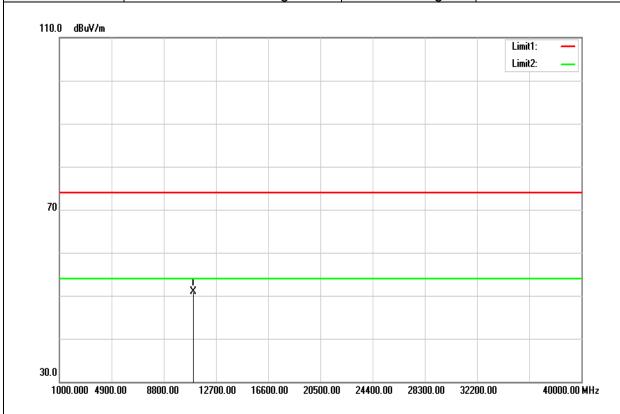


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11020.000	34.81	16.05	50.86	74.00	-23.14	peak
N/A						

- 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 40 / 5510 MHz	Temp/Hum	22(°C)/ 34%RH
	Test Item Harmonic		Test Date	February 9, 2018
Polarize Horizontal		Test Engineer	Jerry Chuang	
	Detector	Peak and Average	Test Voltage	

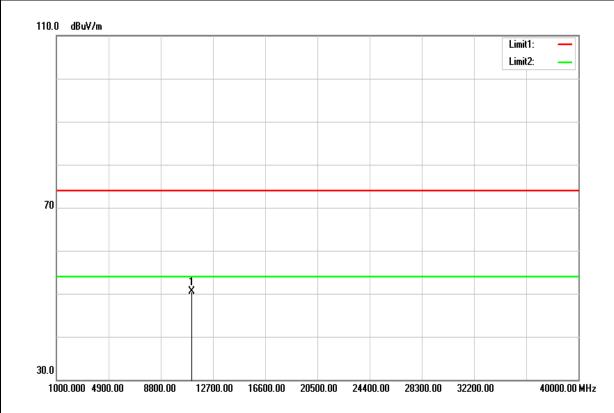


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11020.000	34.77	16.05	50.82	74.00	-23.18	peak
N/A						

- 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 40 / 5550 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item Harmonic		Test Date	February 9, 2018
Polarize	Polarize Vertical		Jerry Chuang
Detector Peak and Average		Test Voltage	-

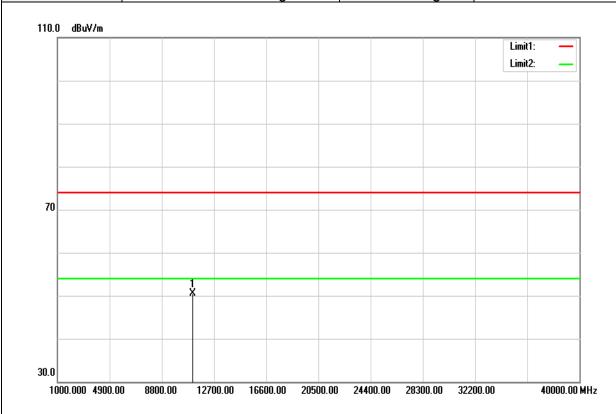


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11100.000	34.37	16.07	50.44	74.00	-23.56	peak
N/A						

- 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

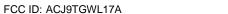


	Test Mode	IEEE 802.11n 40 / 5550 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item Harmonic		Harmonic	Test Date	February 9, 2018
Polarize Horizontal		Horizontal	Test Engineer	Jerry Chuang
	Detector	Peak and Average	Test Voltage	

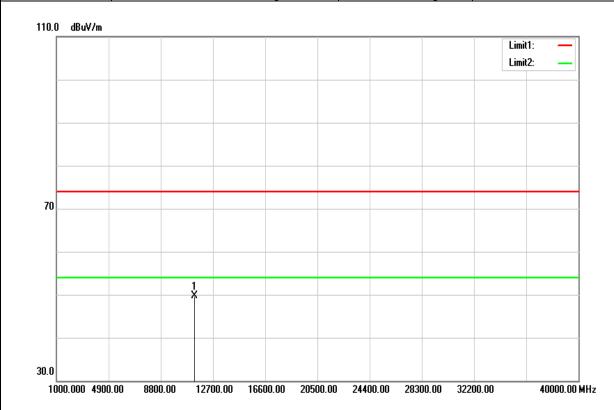


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11100.000	34.39	16.07	50.46	74.00	-23.54	peak
N/A						

- 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 40 / 5670 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

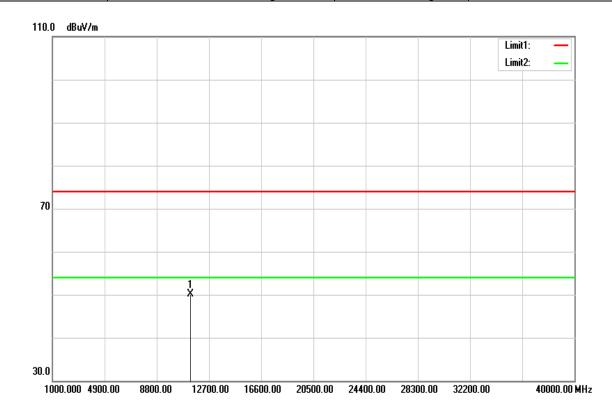


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11340.000	33.68	16.08	49.76	74.00	-24.24	peak
N/A						

- 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

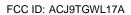


Test Mode	IEEE 802.11n 40 / 5670 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

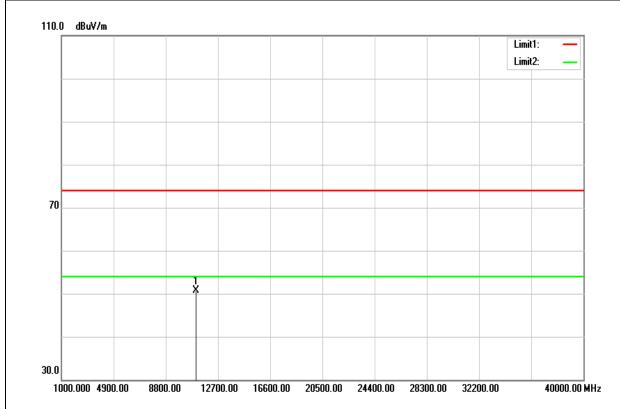


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11340.000	33.96	16.08	50.04	74.00	-23.96	peak
N/A						
						_

- 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	February 9, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

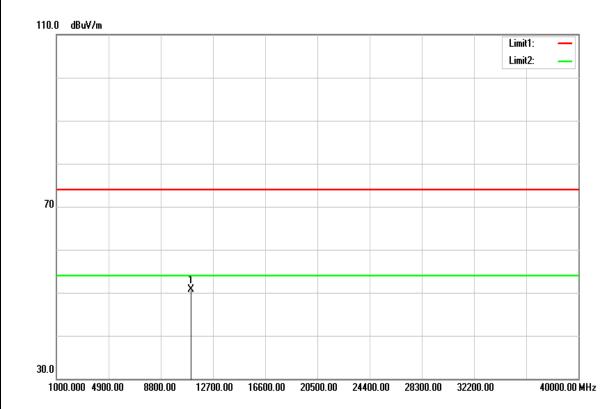


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11060.000	34.72	16.06	50.78	74.00	-23.22	peak
N/A						

- 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	February 9, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	



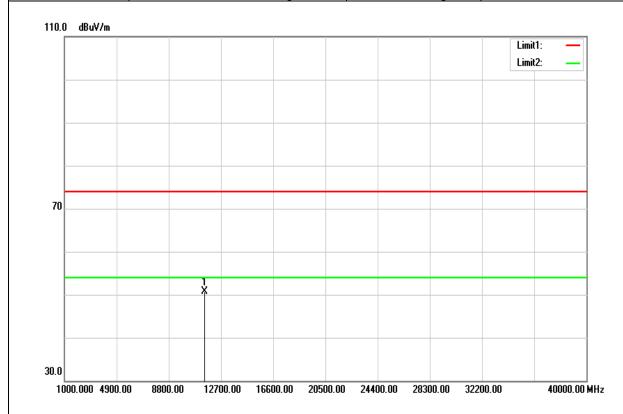
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11060.000	34.60	16.06	50.66	74.00	-23.34	peak
N/A						

- 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

FCC ID: ACJ9TGWL17A Report No.: T180115W01-RP2

# **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	February 9, 2018	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

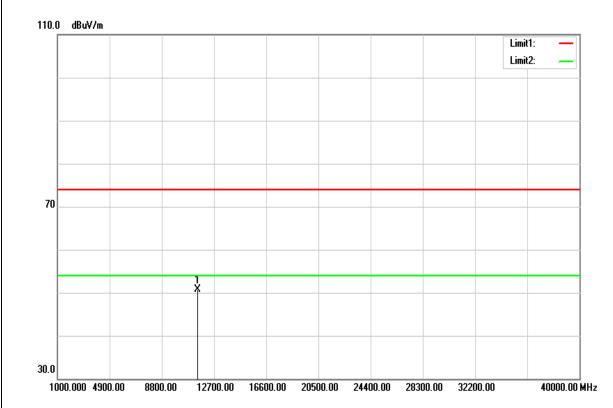


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11490.000	34.58	16.09	50.67	74.00	-23.33	peak
N/A						

- 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	Test Mode IEEE 802.11a / 5745 MHz		22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	-

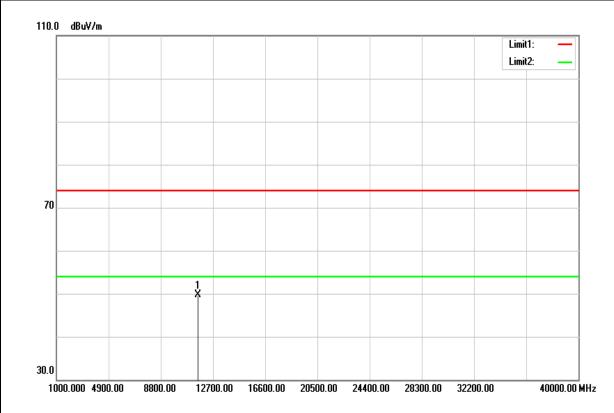


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11490.000	34.71	16.09	50.80	74.00	-23.20	peak
N/A						

- 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 20/ 5785 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Test Item Harmonic		February 9, 2018
Polarize	Polarize Vertical		Jerry Chuang
Detector	Peak and Average	Test Voltage	-

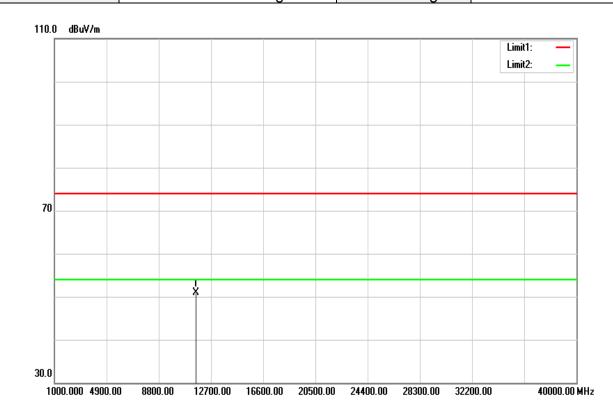


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11570.000	33.71	16.01	49.72	74.00	-24.28	peak
N/A						

- 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	Test Item Harmonic		February 9, 2018
Polarize Horizontal		Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

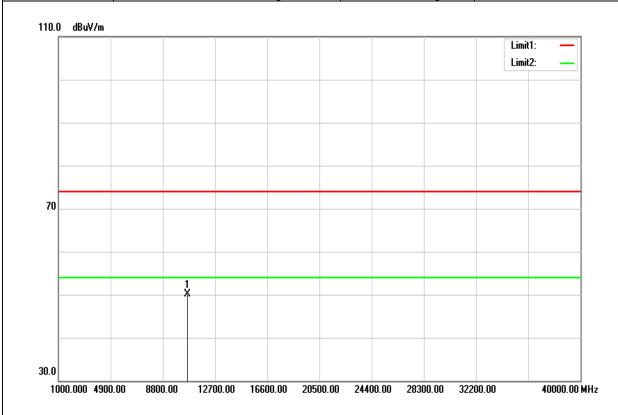


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11570.000	34.85	16.01	50.86	74.00	-23.14	peak
N/A						

- 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	February 9, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

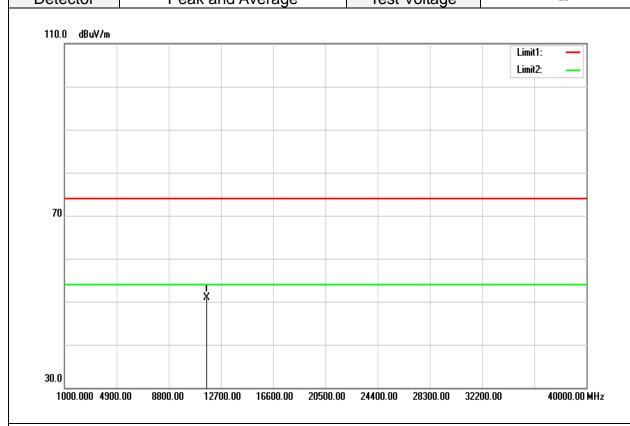


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11650.000	34.87	15.26	50.13	74.00	-23.87	peak
N/A						

- 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



IEEE 802.11n 20/ 22(°C)/ 34%RH Test Mode Temp/Hum 5825 MHz February 9, 2018 Test Item Harmonic **Test Date** Polarize Horizontal Test Engineer Jerry Chuang Detector Test Voltage Peak and Average



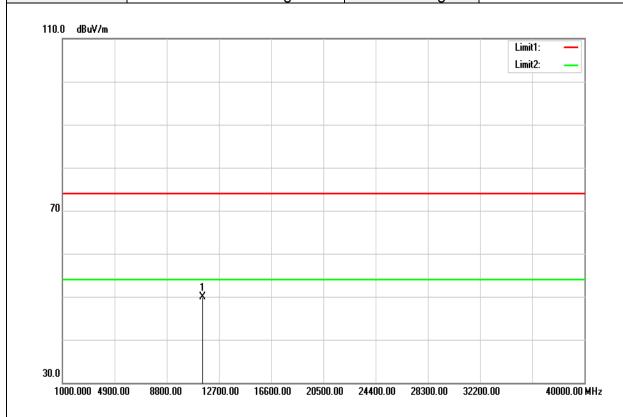
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11650.000	34.91	15.93	50.84	74.00	-23.16	peak
N/A						

#### 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

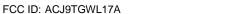


Test Mode	IEEE 802.11n 20 / 5745 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

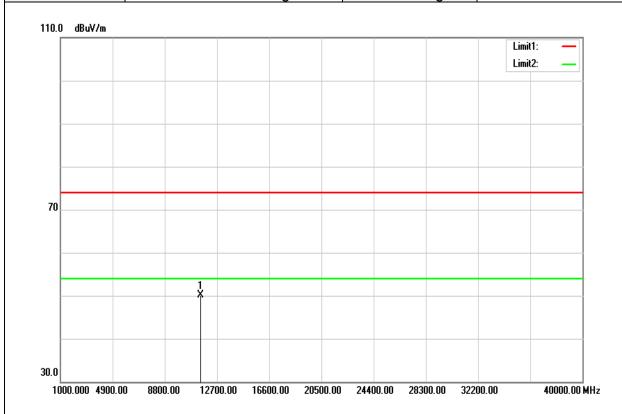


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11490.000	33.84	16.09	49.93	74.00	-24.07	peak
N/A						

- 3. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 4. 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 20 / 5745 MHz	Temp/Hum	22(°C)/ 34%RH	
Test Item	Harmonic	Test Date	February 9, 2018	
Polarize	Horizontal	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

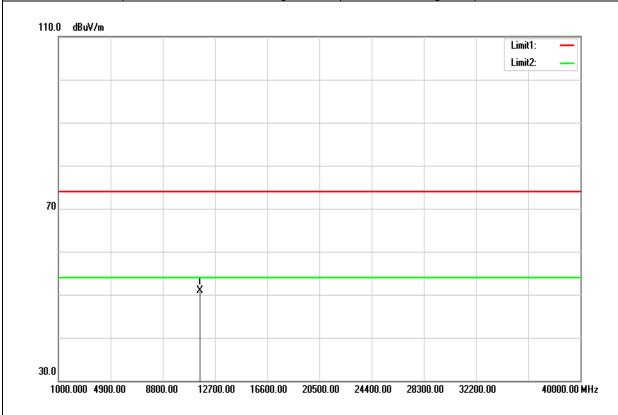


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11490.000	34.10	16.09	50.19	74.00	-23.81	peak
N/A						

- 3. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 4. 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 20/ 5785 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Detector Peak and Average		

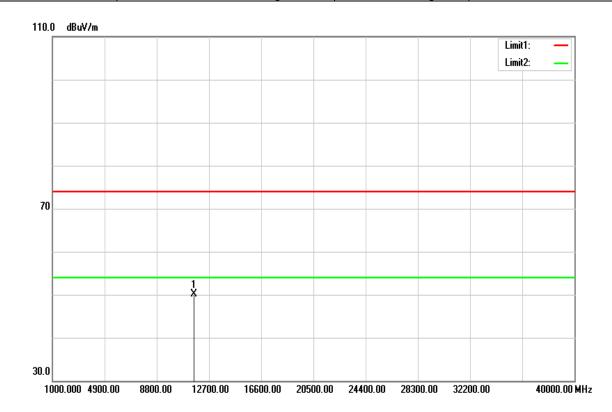


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11570.000	34.81	16.01	50.82	74.00	-23.18	peak
N/A						

- 3. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 4. 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 20/ 5785 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

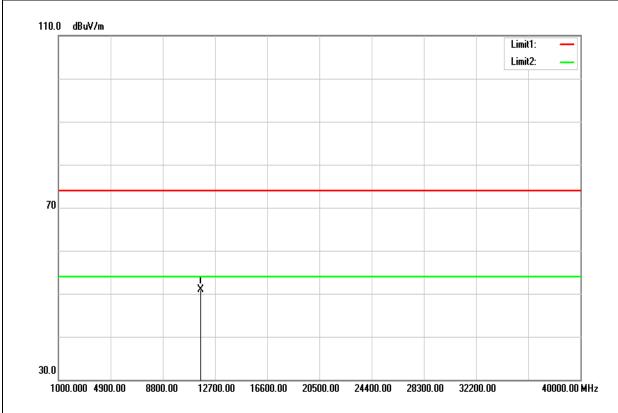


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11570.000	34.18	16.01	50.19	74.00	-23.81	peak
N/A						

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

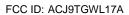


Test Mode	IEEE 802.11n 20/ 5825 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

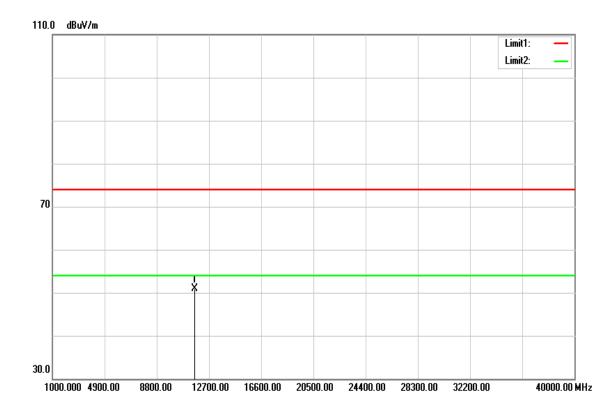


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11650.000	34.92	15.93	50.85	74.00	-23.15	peak
N/A						

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

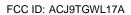


Test Mode	IEEE 802.11n 20/ 5825 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

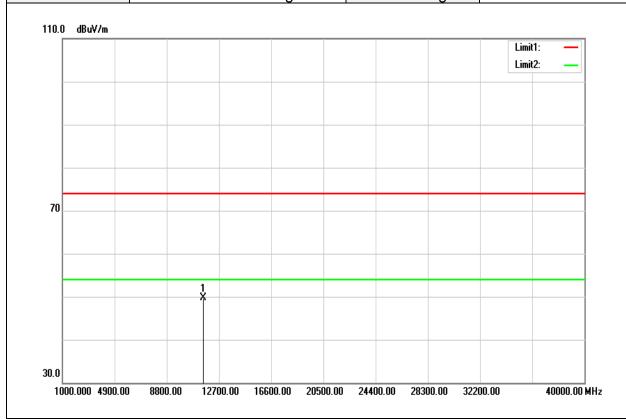


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11650.000	35.02	15.93	50.95	74.00	-23.05	peak
N/A						

- 3. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 4. 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 40/ 5755 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

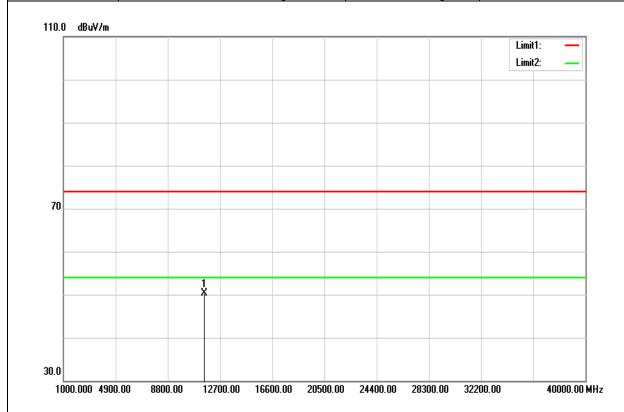


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11510.000	33.72	16.08	49.80	74.00	-24.20	peak
N/A						

- 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 40/ 5755 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

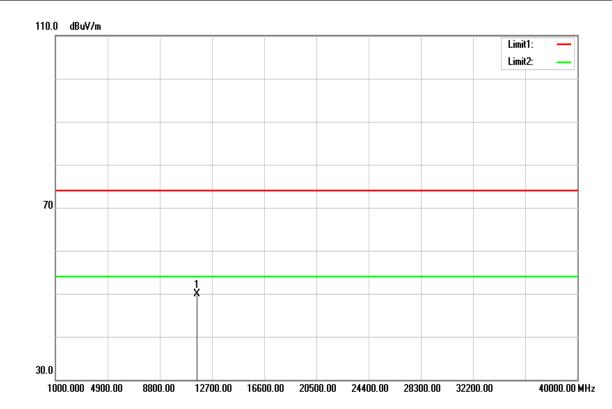


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11510.000	34.16	16.08	50.24	74.00	-23.76	peak
N/A						

- 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

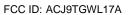


Test Mode	IEEE 802.11n 40/ 5795 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

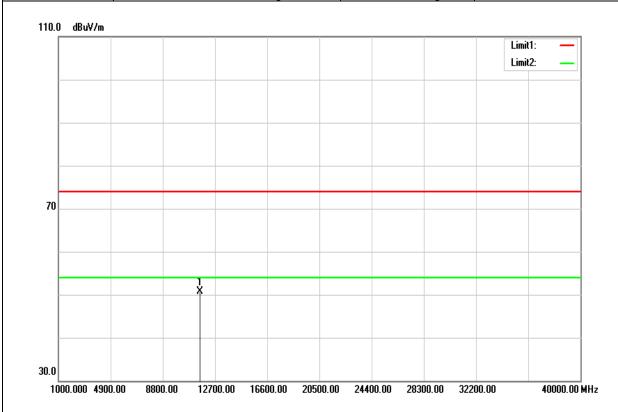


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11590.000	33.88	16.00	49.88	74.00	-24.12	peak
N/A						

- 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 40/ 5795 MHz	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	February 9, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

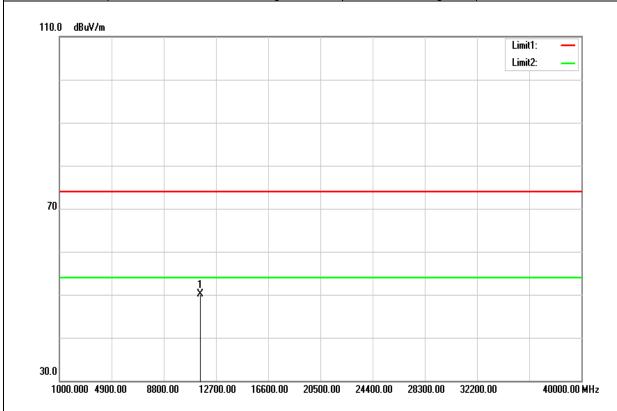


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11590.000	34.63	16.00	50.63	74.00	-23.37	peak
N/A						

- 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	February 9, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

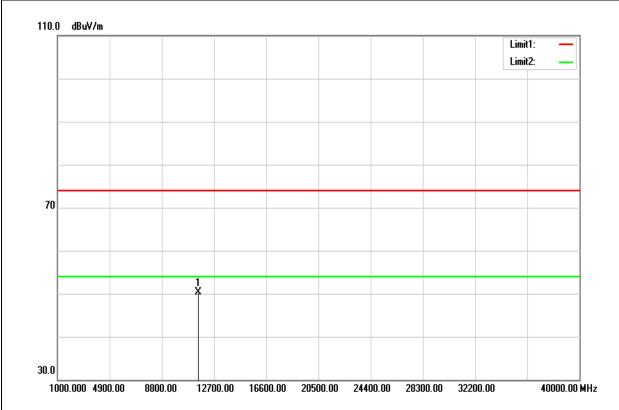


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11550.000	34.09	16.04	50.13	74.00	-23.87	peak
N/A						

- 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	February 9, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11550.000	34.16	16.04	50.20	74.00	-23.80	peak
N/A						

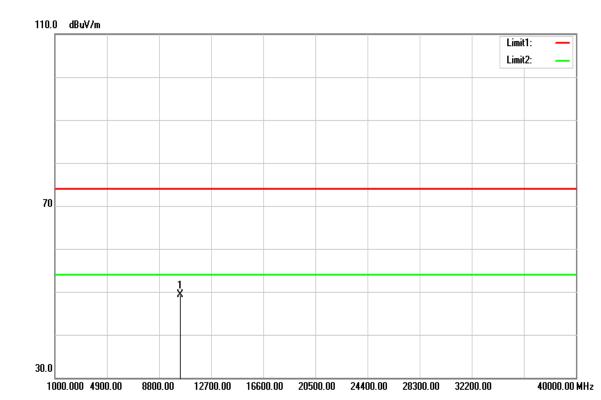
- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit



#### For 2TX:

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

Test Mode	IEEE 802.11n 20 / 5180MHZ	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 18, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

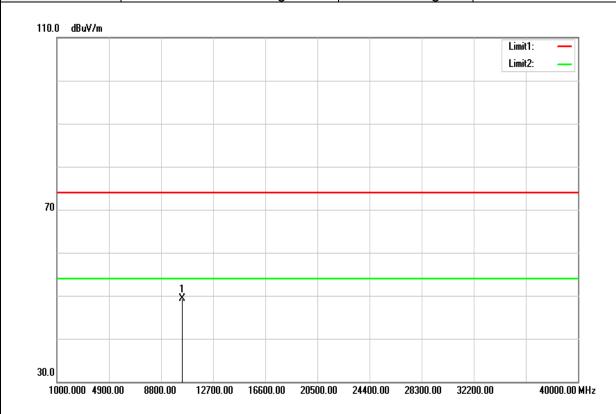


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10360.000	34.89	14.45	49.34	74.00	-24.66	peak
N/A						

- 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

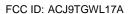


Test Mode	IEEE 802.11n 20/ 5180MHZ	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 18, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

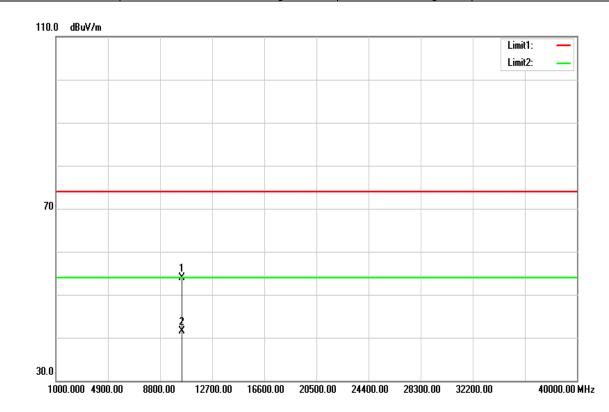


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10360.000	34.87	14.45	49.32	74.00	-24.68	peak
N/A						

- 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 20 / 5220MHZ	Temp/Hum	24(°C)/ 33%RH	
Test Item	Harmonic	Test Date	January 16, 2018	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

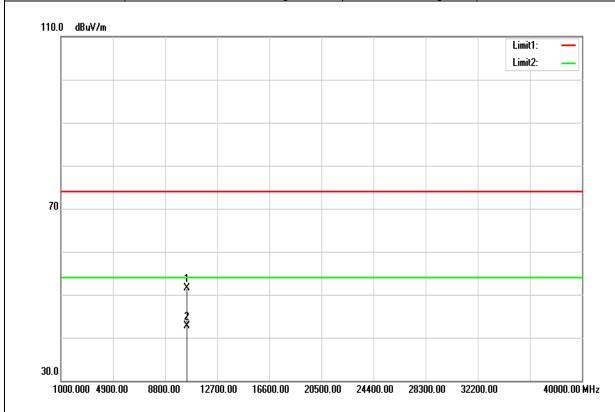


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10440.000	39.15	14.71	53.86	74.00	-20.14	peak
10440.000	26.82	14.71	41.53	54.00	-12.47	AVG
N/A						

- 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 20 / 5220MHZ	Temp/Hum	24(°C)/ 33%RH	
Test Item	Harmonic	Test Date	January 16, 2018	
Polarize	Horizontal	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

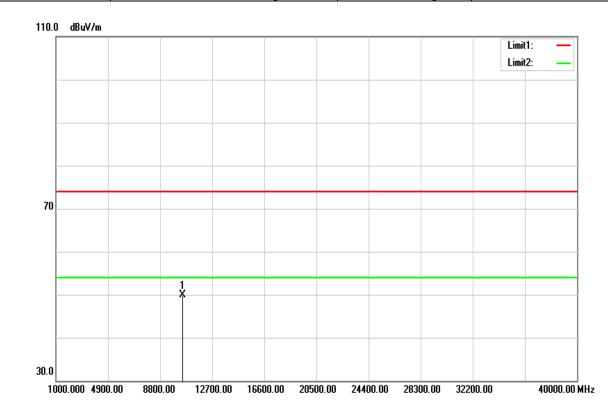


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10450.000	36.81	14.75	51.56	74.00	-22.44	peak
10450.000	27.96	14.75	42.71	54.00	-11.29	AVG
N/A						

- 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 20 / 5240MHZ	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 18, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

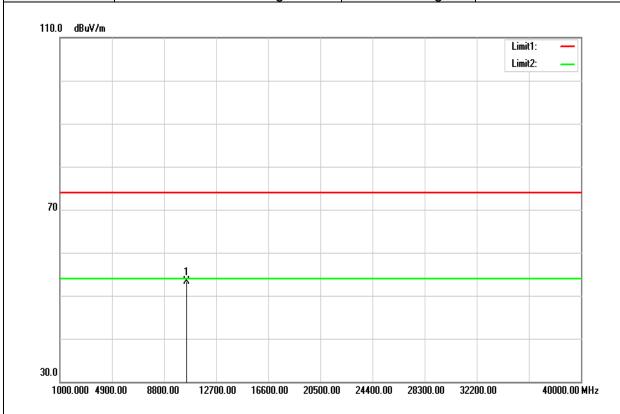


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10480.000	35.05	14.84	49.89	74.00	-24.11	peak
N/A						

- 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 20 / 5240MHZ	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 18, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

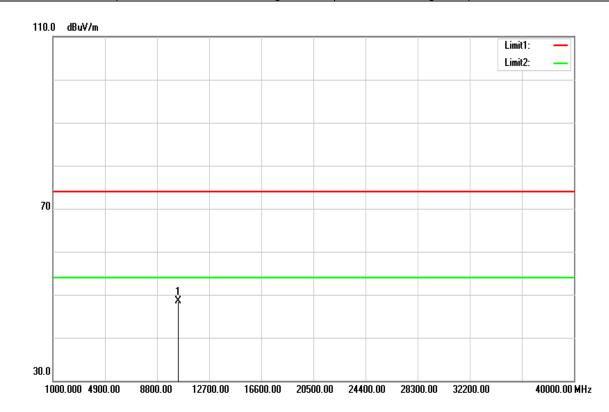


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10480.000	38.51	14.84	53.35	74.00	-20.65	peak
N/A						

- 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

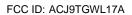


Test Mode	IEEE 802.11n 40 / 5190MHZ	Temp/Hum	24(°C)/ 33%RH	
Test Item	Harmonic	Test Date	January 18, 2018	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

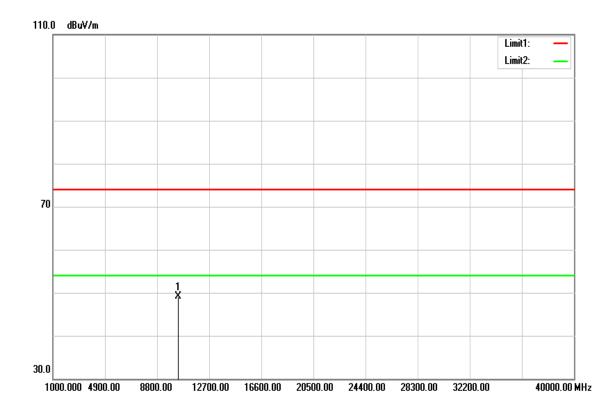


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10380.000	34.08	14.50	48.58	74.00	-25.42	peak
N/A						

- 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

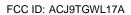


Test Mode	IEEE 802.11n 40 / 5190MHZ	Mode   Lemp/Hilm	
Test Item	Harmonic	Test Date	January 18, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

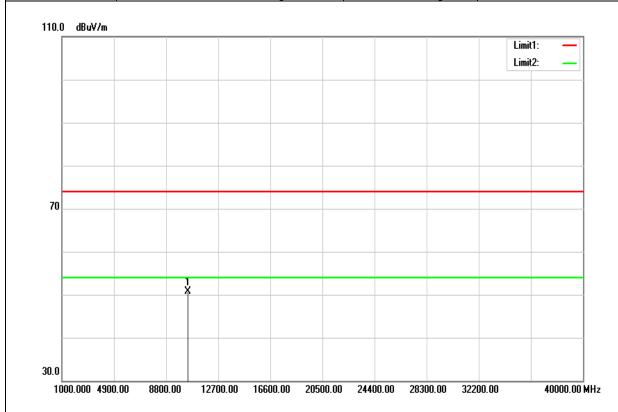


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10380.000	34.66	14.50	49.16	74.00	-24.84	peak
N/A						

- 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 40 / 5230MHZ	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 18, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

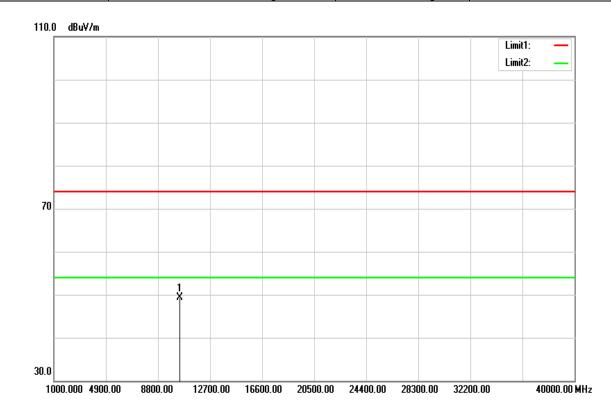


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10460.000	35.84	14.79	50.63	74.00	-23.37	peak
N/A						

- 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 40 / 5230MHZ	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 18, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

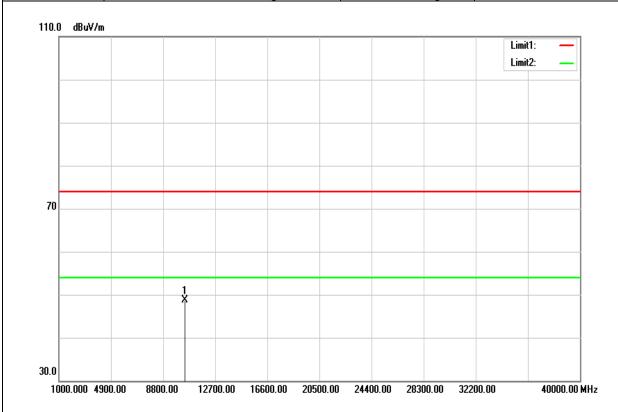


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10460.000	34.61	14.79	49.40	74.00	-24.60	peak
N/A						

- 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

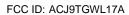


Test Mode	IEEE 802.11ac VHT80 / 5210MHZ	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 16, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

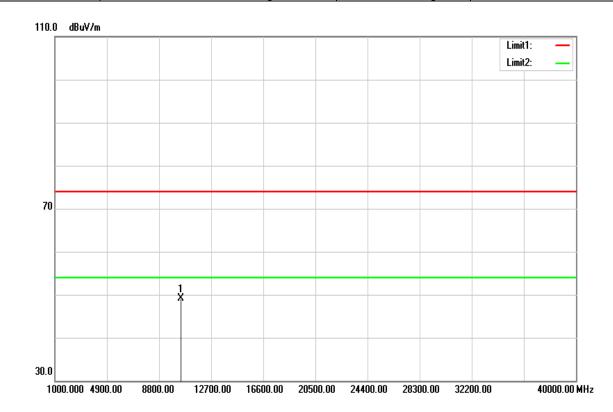


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10420.000	34.08	14.66	48.74	74.00	-25.26	peak
N/A						

- 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	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 16, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	



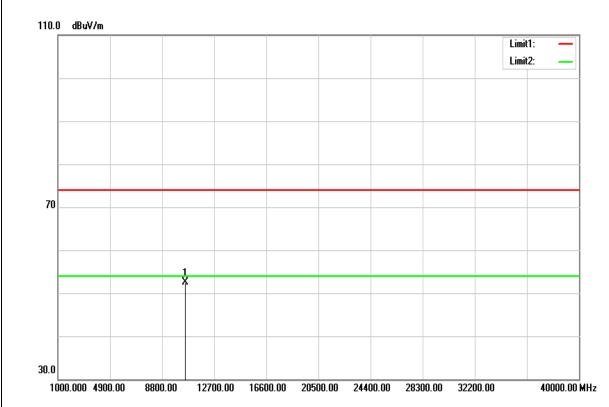
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10420.000	34.43	14.66	49.09	74.00	-24.91	peak
N/A						

- 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

FCC ID: ACJ9TGWL17A Report No.: T180115W01-RP2

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

Test Mode	IEEE 802.11n 20 / 5260 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 18, 2018
Polarize	Polarize Vertical		Jerry Chuang
Detector	Peak and Average	Test Voltage	



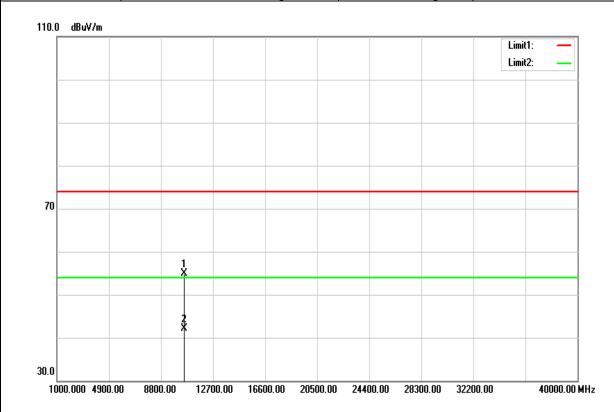
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10530.000	37.57	14.98	52.55	74.00	-21.45	peak
N/A						

## 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 20 / 5260 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 18, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

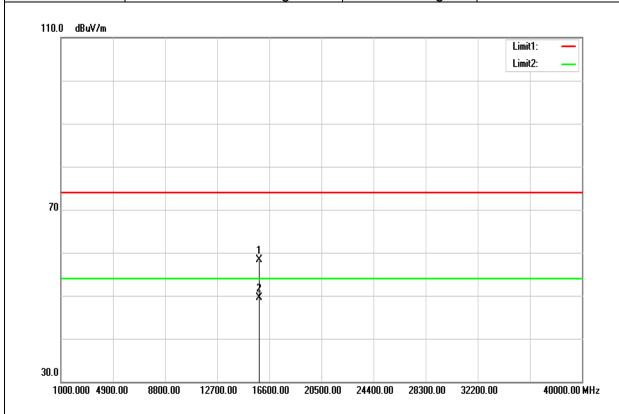


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10520.000	39.95	14.97	54.92	74.00	-19.08	peak
10520.000	27.20	14.97	42.17	54.00	-11.83	AVG
N/A						

- 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

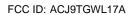


Test Mode	IEEE 802.11n 20 / 5280 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 16, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

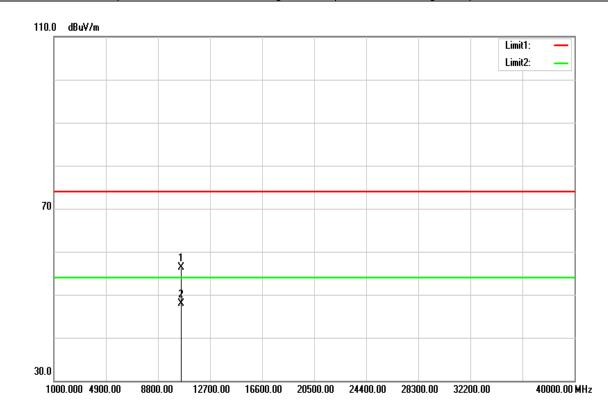


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
15840.000	38.85	19.55	58.40	74.00	-15.60	peak
15840.000	30.02	19.55	49.57	54.00	-4.43	AVG
N/A						

- 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 20 / 5280 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 16, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

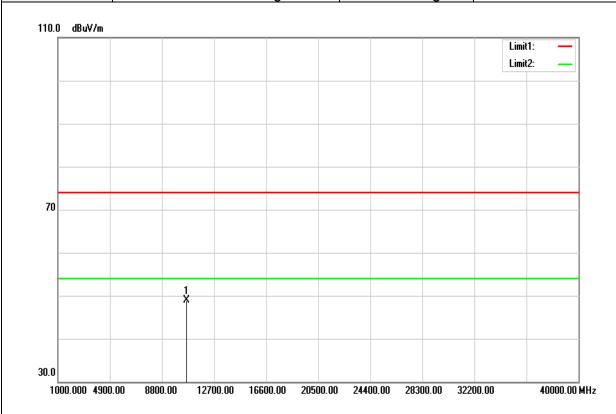


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10560.000	41.30	15.06	56.36	74.00	-17.64	peak
10560.000	32.75	15.06	47.81	54.00	-6.19	AVG
N/A						

- 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 20 / 5320 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 18, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

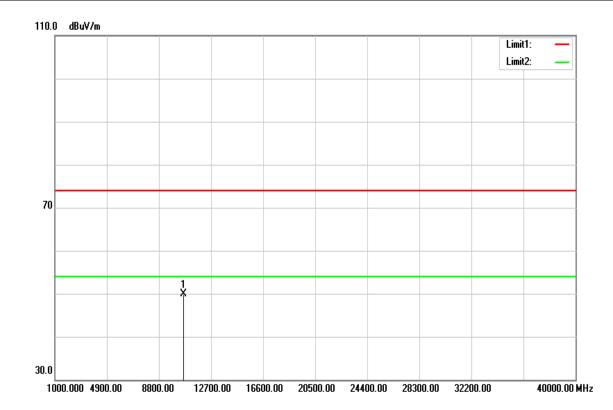


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10640.000	33.65	15.23	48.88	74.00	-25.12	peak
N/A						

- 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 20 / 5320 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 18, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

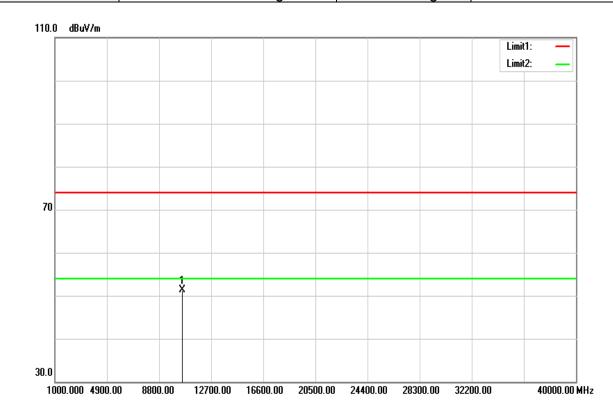


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10640.000	34.72	15.23	49.95	74.00	-24.05	peak
N/A						

- 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 40 / 5270 MHz	Temp/Hum	24(°C)/ 33%RH	
Test Item	Harmonic	Test Date	January 18, 2018	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

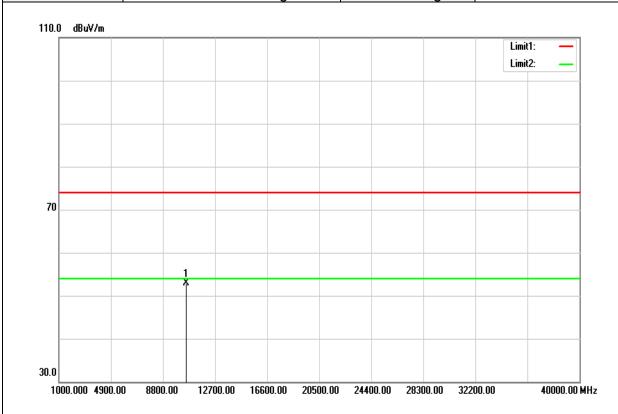


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10540.000	36.36	15.01	51.37	74.00	-22.63	peak
N/A						

- 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

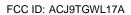


Test Mode	IEEE 802.11n 40 / 5270 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 16, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

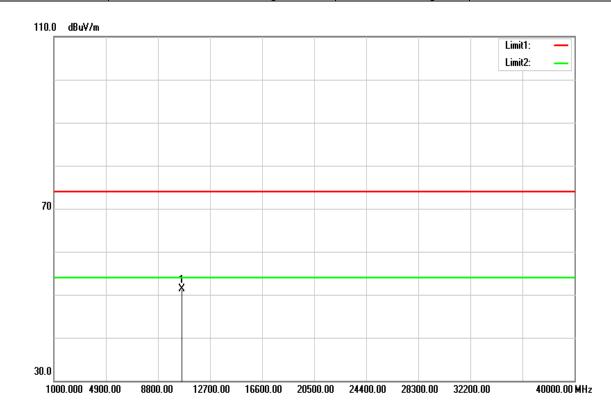


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10545.000	37.91	15.03	52.94	74.00	-21.06	peak
N/A						

- 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

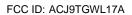


Test Mode	IEEE 802.11n 40 / 5310 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 18, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

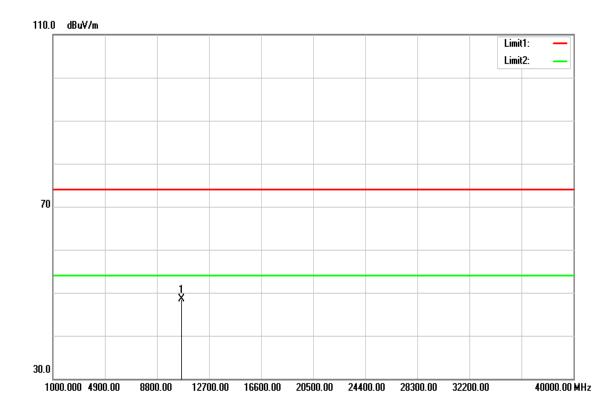


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10600.000	36.06	15.15	51.21	74.00	-22.79	peak
N/A						

- 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 40 / 5310 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 18, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

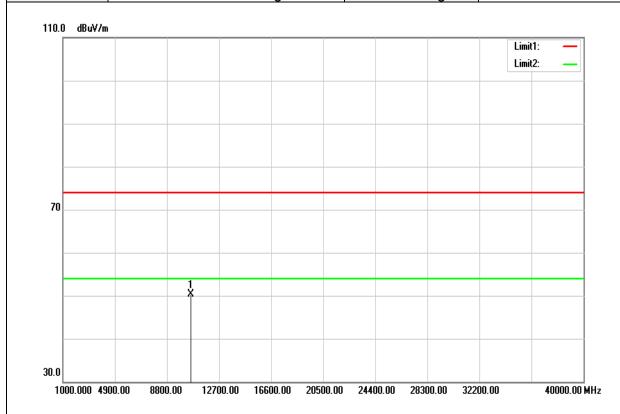


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10620.000	33.35	15.20	48.55	74.00	-25.45	peak
N/A						

- 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	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 16, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

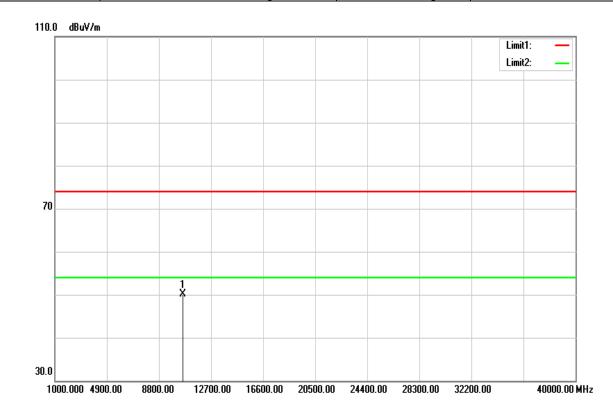


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10580.000	35.20	15.10	50.30	74.00	-23.70	peak
N/A						

- 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	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 16, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	



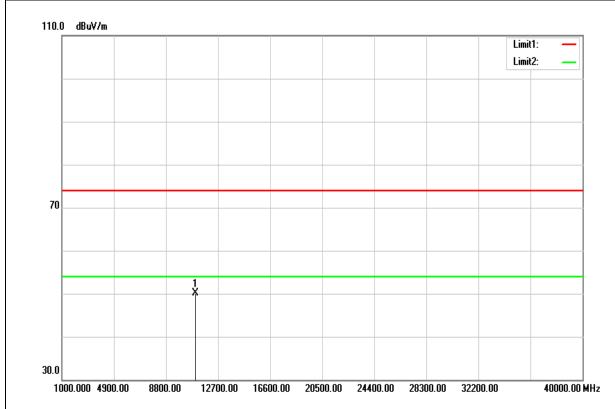
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
10580.000	35.05	15.10	50.15	74.00	-23.85	peak
N/A						

- 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

FCC ID: ACJ9TGWL17A Report No.: T180115W01-RP2

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

Test Mode	IEEE 802.11n 20 / 5500 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 18, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	



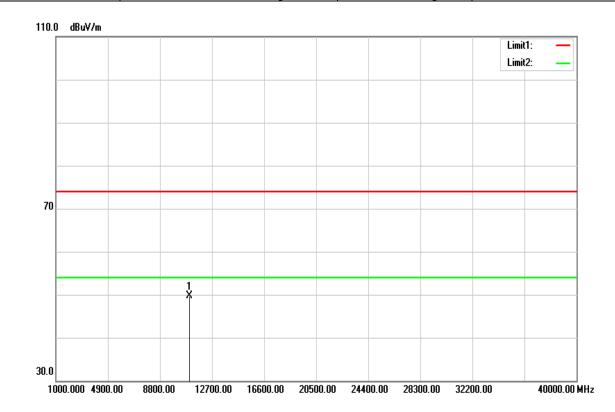
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11000.000	34.10	16.06	50.16	74.00	-23.84	peak
N/A						

### 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

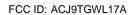


Test Mode	IEEE 802.11n 20 / 5500 MHz	Temp/Hum	24(°C)/ 33%RH	
Test Item	Harmonic	Test Date	January 18, 2018	
Polarize	Horizontal	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

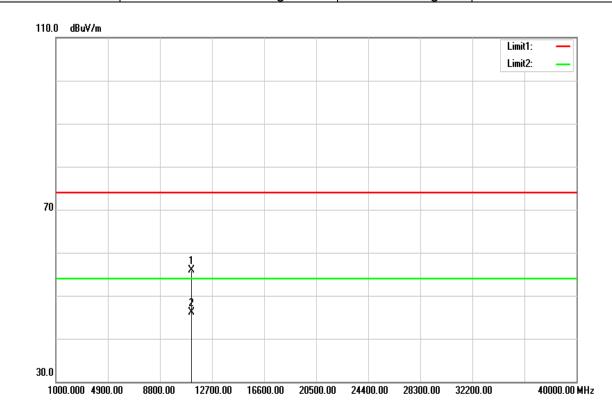


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11000.000	33.71	16.06	49.77	74.00	-24.23	peak
N/A						

- 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 20 / 5580 MHz	Temp/Hum	24(°C)/ 33%RH	
Test Item	Harmonic	Test Date	January 16, 2018	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

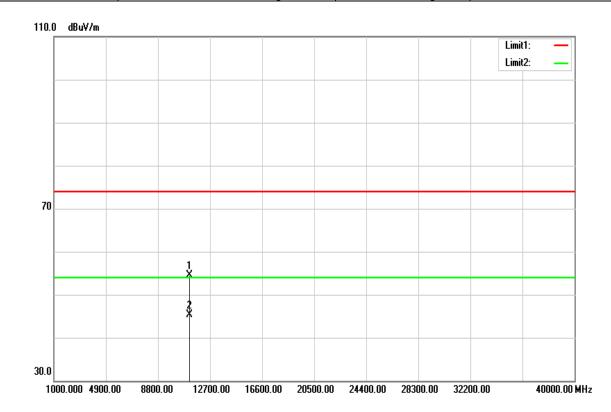


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11160.000	39.91	16.07	55.98	74.00	-18.02	peak
11160.000	30.10	16.07	46.17	54.00	-7.83	AVG
N/A						

- 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

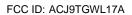


Test Mode	IEEE 802.11n 20 / 5580 MHz	Temp/Hum	24(°C)/ 33%RH	
Test Item	Harmonic	Test Date	January 16, 2018	
Polarize	Horizontal	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

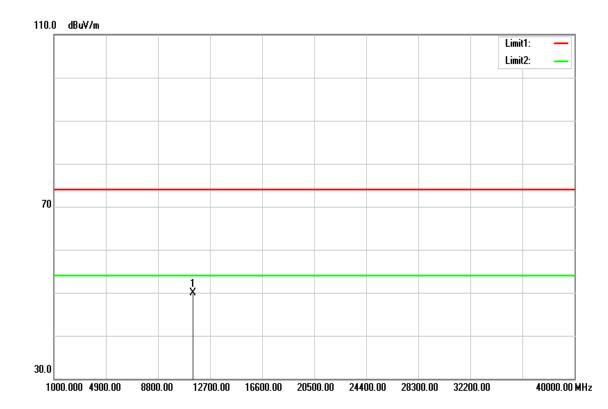


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11165.000	38.49	16.07	54.56	74.00	-19.44	peak
11165.000	29.30	16.07	45.37	54.00	-8.63	AVG
N/A						

- 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 20 / 5700 MHz	Temp/Hum	24(°C)/ 33%RH	
Test Item	Harmonic	Test Date	January 18, 2018	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

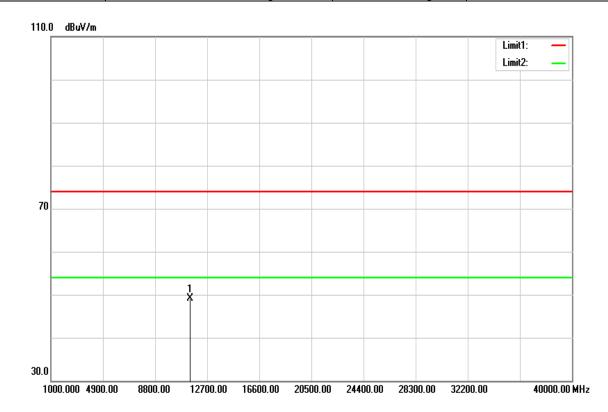


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11400.000	33.79	16.08	49.87	74.00	-24.13	peak
N/A						

- 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 20 / 5700 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 18, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

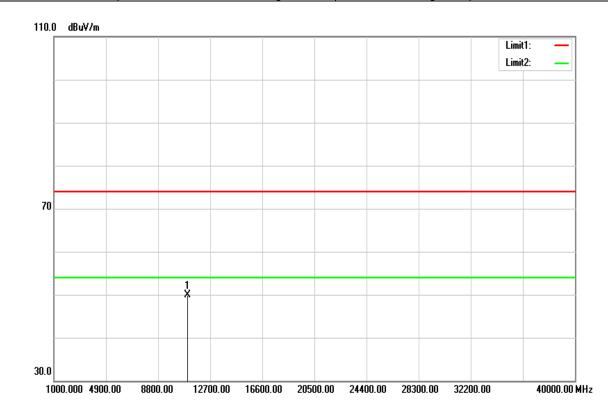


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11400.000	32.96	16.08	49.04	74.00	-24.96	peak
N/A						

- 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

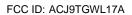


Test Mode	IEEE 802.11n 40 / 5510 MHz	Temp/Hum	24(°C)/ 33%RH	
Test Item	Harmonic	Test Date	January 18, 2018	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

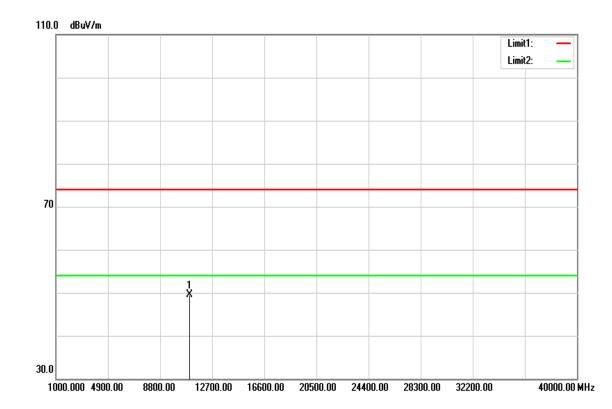


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11020.000	33.78	16.05	49.83	74.00	-24.17	peak
N/A						

- 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

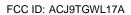


Test Mode	IEEE 802.11n 40 / 5510 MHz	Temp/Hum	24(°C)/ 33%RH	
Test Item	Harmonic	Test Date	January 18, 2018	
Polarize	Horizontal	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

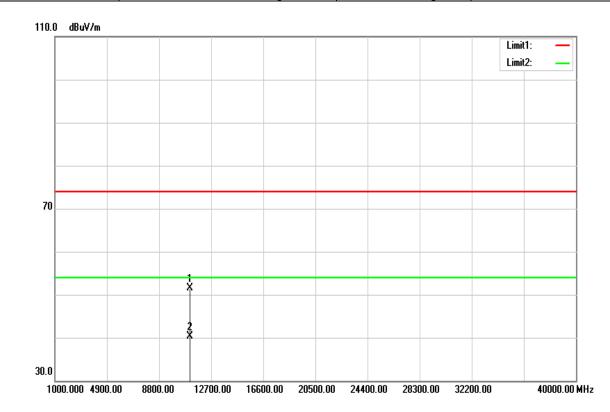


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11020.000	33.48	16.05	49.53	74.00	-24.47	peak
N/A						

- 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 40 / 5550 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 16, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector Peak and Average		Test Voltage	

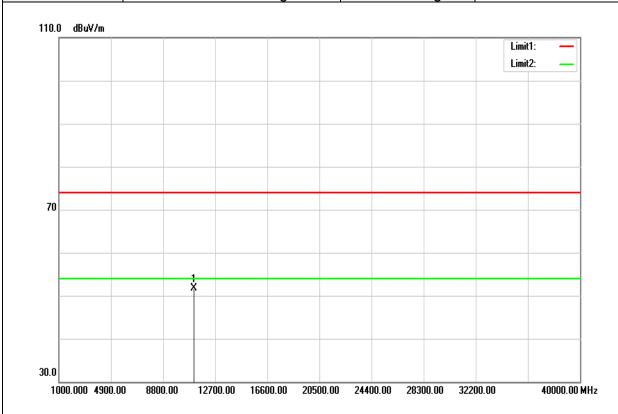


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11100.000	35.35	16.07	51.42	74.00	-22.58	peak
11100.000	24.32	16.07	40.39	54.00	-13.61	AVG
N/A						

- 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 40 / 5550 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 16, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

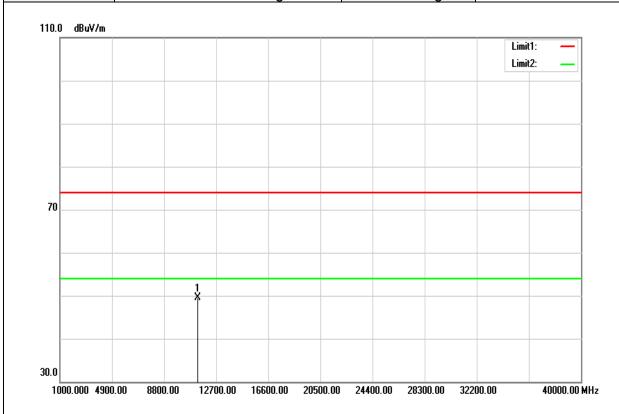


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11100.000	35.63	16.07	51.70	74.00	-22.30	peak
N/A						

- 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 40 / 5670 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 18, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

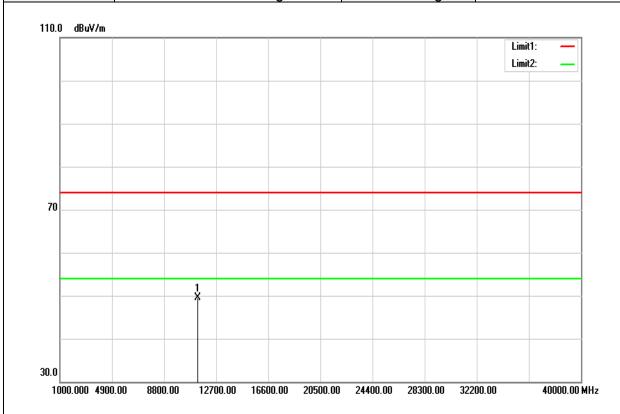


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11340.000	33.47	16.08	49.55	74.00	-24.45	peak
N/A						

- 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 40 / 5670 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 18, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

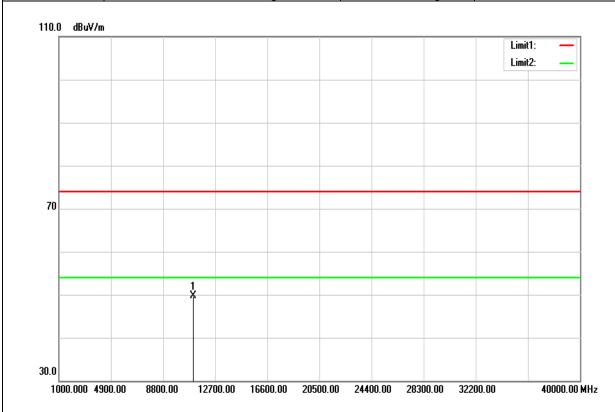


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11340.000	33.49	16.08	49.57	74.00	-24.43	peak
N/A						

- 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

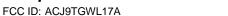


Test Mode	IEEE 802.11ac VHT80 / 5530 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 18, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

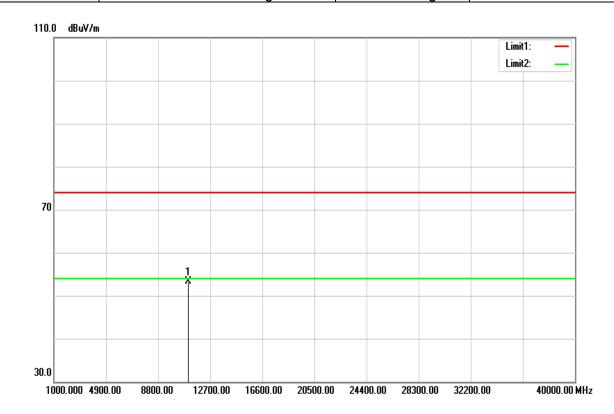


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11060.000	33.74	16.06	49.80	74.00	-24.20	peak
N/A						

- 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	24(°C)/ 33%RH
Test Item Harmonic		Test Date	January 18, 2018
Polarize Horizontal		Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

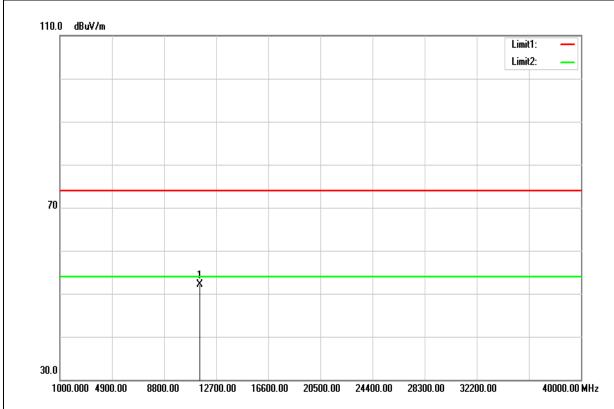


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11060.000	37.25	16.06	53.31	74.00	-20.69	peak
N/A						

- 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

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

Test Mode	IEEE 802.11n 20 / 5745 MHz	Temp/Hum	24(°C)/ 33%RH	
Test Item	Harmonic	Test Date	January 18, 2018	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		



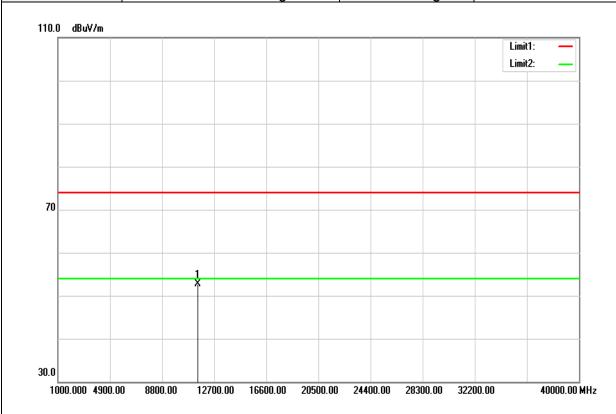
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11490.000	35.94	16.09	52.03	74.00	-21.97	peak
N/A						

#### 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

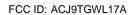


Test Mode	IEEE 802.11n 20 / 5745 MHz	Temp/Hum	24(°C)/ 33%RH	
Test Item	Harmonic	Test Date	January 18, 2018	
Polarize	Horizontal	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

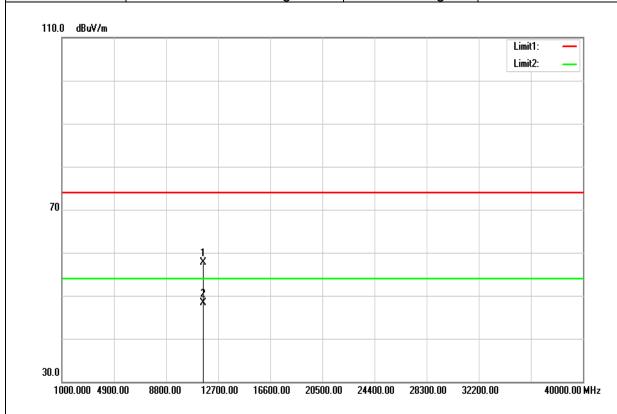


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11495.000	36.64	16.08	52.72	74.00	-21.28	peak
N/A						

- 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 20/ 5785 MHz	Temp/Hum	24(°C)/ 33%RH	
Test Item	Harmonic	Test Date	January 16, 2018	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

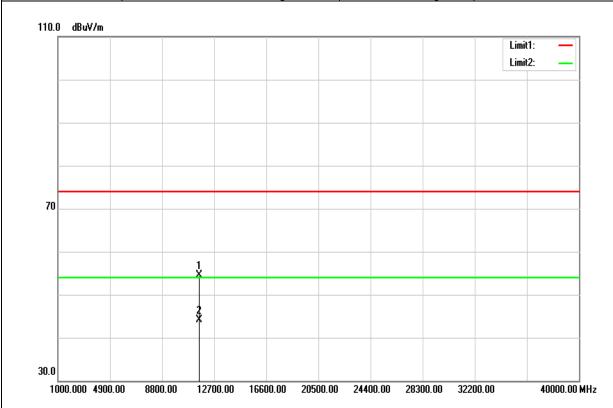


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11560.000	41.73	16.02	57.75	74.00	-16.25	peak
11560.000	32.24	16.02	48.26	54.00	-5.74	AVG
N/A						

- 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 20/ 5785 MHz	Temp/Hum	24(°C)/ 33%RH	
Test Item	Harmonic	Test Date	January 16, 2018	
Polarize	Horizontal	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

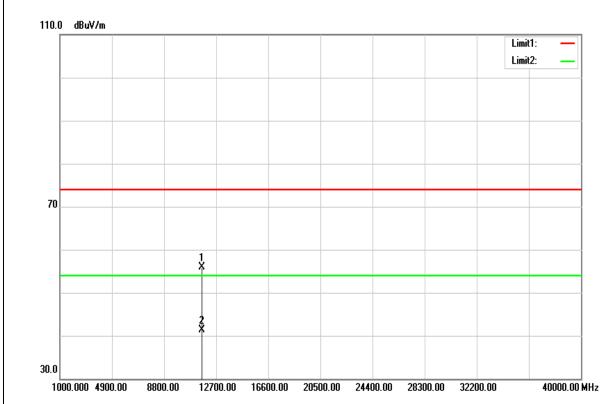


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11575.000	38.49	16.01	54.50	74.00	-19.50	peak
11575.000	28.17	16.01	44.18	54.00	-9.82	AVG
N/A						

- 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

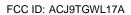


Test Mode	IEEE 802.11n 20/ 5825 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 18, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

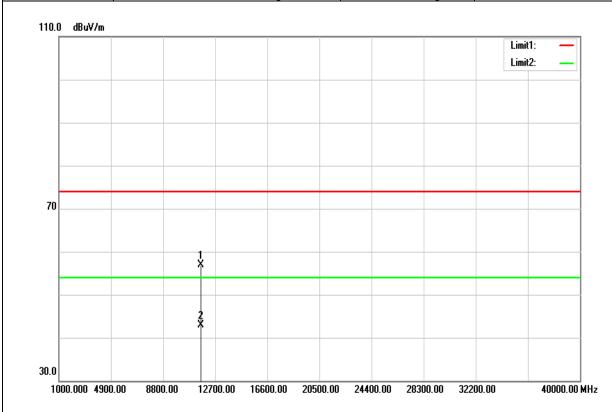


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11650.000	39.94	15.93	55.87	74.00	-18.13	peak
11650.000	25.41	15.93	41.34	54.00	-12.66	AVG
N/A						

- 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 20/ 5825 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 18, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

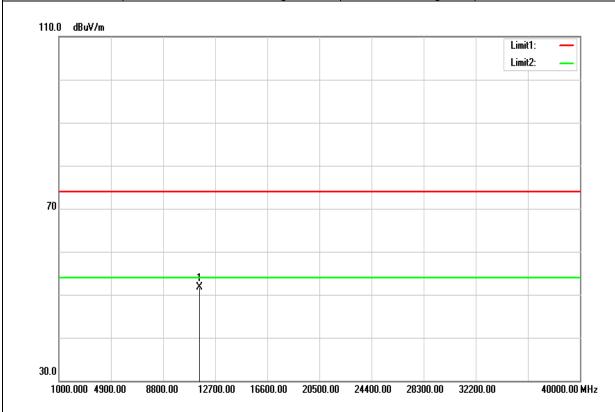


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11655.000	40.93	15.93	56.86	74.00	-17.14	peak
11655.000	26.90	15.93	42.83	54.00	-11.17	AVG
N/A						

- 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

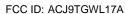


Test Mode	IEEE 802.11n 40/ 5755 MHz	Temp/Hum	24(°C)/ 33%RH	
Test Item	Harmonic	Test Date	January 16, 2018	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

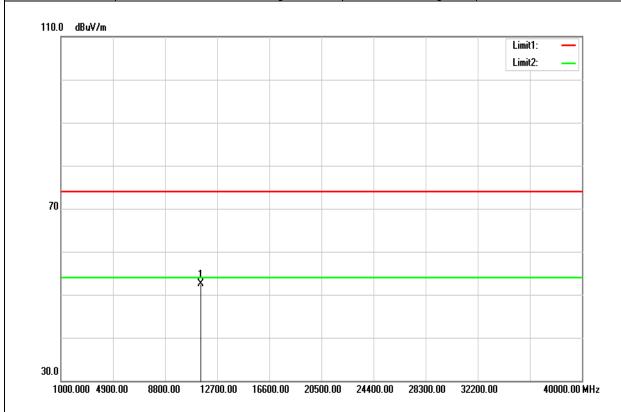


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11505.000	35.62	16.09	51.71	74.00	-22.29	peak
N/A						

- 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 40/ 5755 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 16, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

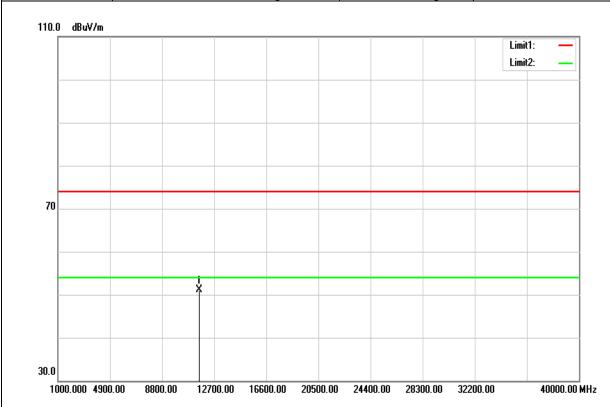


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11500.000	36.34	16.09	52.43	74.00	-21.57	peak
N/A						

- 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

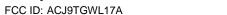


Test Mode	IEEE 802.11n 40/ 5795 MHz	Temp/Hum	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 18, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	

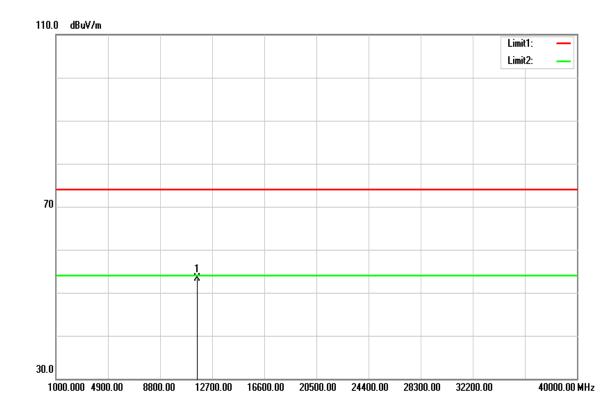


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11590.000	35.12	16.00	51.12	74.00	-22.88	peak
N/A						

- 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 40/ 5795 MHz	Temp/Hum	24(°C)/ 33%RH	
Test Item	Harmonic	Test Date	January 18, 2018	
Polarize	Horizontal	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

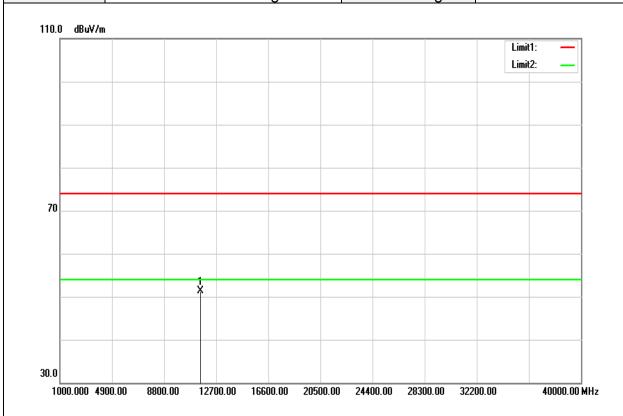


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11590.000	37.31	16.00	53.31	74.00	-20.69	peak
N/A						

- 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	24(°C)/ 33%RH	
Test Item	Harmonic	Test Date	January 16, 2018	
Polarize	Vertical	Test Engineer	Jerry Chuang	
Detector	Peak and Average	Test Voltage		

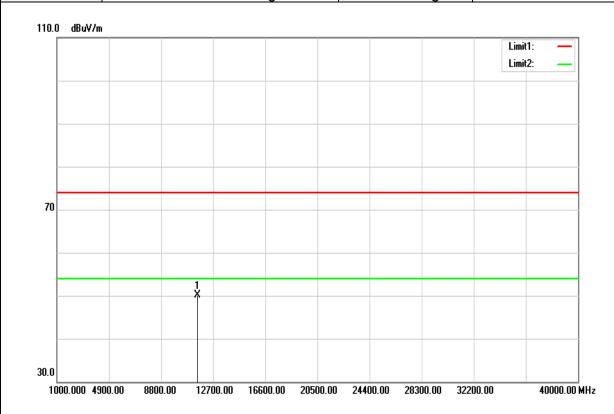


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11550.000	35.22	16.04	51.26	74.00	-22.74	peak
N/A						

- 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	24(°C)/ 33%RH
Test Item	Harmonic	Test Date	January 16, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
11550.000	34.13	16.04	50.17	74.00	-23.83	peak
N/A						

- 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.: T180115W01-RP2

#### 4.6 FREQUENCY STABILITY

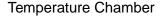
#### 4.6.1 Test Limit

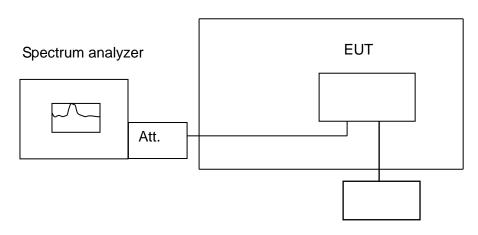
According to §15.407(g) manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the operational description.

#### 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

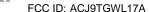




Variable Power Supply

### 4.6.4 Test Result

Tames (0C)		Measured Frequency	51	80	(MHz)		Liı	mit		
remp. (*C)	Voltage (V)	Time (min)				20ppm				Result
Operating	Frequency:	0 min	2 min	5 min	10 min	0 min	2 min	5 min	10 min	
85	5	5180.08944	5180.08944	5180.08952	5180.08965	17.2664	17.2664	17.2819	17.3069	Pass
70	5	5180.04652	5180.04652	5180.04652	5180.04682	8.9807	8.9807	8.9807	9.0386	Pass
60	5	5180.02431	5180.02468	5180.02568	5180.02548	4.6931	4.7645	4.9575	4.9189	Pass
50	5	5179.99609	5179.99602	5179.99623	5179.99662	-0.7548	-0.7683	-0.7278	-0.6525	Pass
40	5	5179.98263	5179.98256	5179.98263	5179.98361	-3.3533	-3.3668	-3.3533	-3.1641	Pass
30	5	5179.97699	5179.97856	5179.97952	5179.97952	-4.4421	-4.1390	-3.9537	-3.9537	Pass
20	5	5179.98003	5179.98003	5179.98003	5179.98003	-3.8552	-3.8552	-3.8552	-3.8552	Pass
10	5	5179.99566	5179.99582	5180.00000	5180.00000	-0.8378	-0.8069	0.0000	0.0000	Pass
0	5	5179.99887	5179.99887	5179.99824	5179.99824	-0.2181	-0.2181	-0.3398	-0.3398	Pass
-10	5	5180.00608	5180.00523	5180.00608	5180.00608	1.1737	1.0097	1.1737	1.1737	Pass
-20	5	5180.01085	5180.01085	5180.01068	5180.01045	2.0946	2.0946	2.0618	2.0174	Pass
Tomp (%C)	Voltage (V)	Measured Frequency	51	80	(MHz)		Liı	mit		
remp. (*C)	voitage (v)		Time (min	1)	•		20p	pm		Result
Operating	Frequency:	0 min	2 min	5 min	10 min	0 min	2 min	5 min	10 min	
20	4.5	5179.98003	5179.98003	5179.98003	5179.98003	-3.8552	-3.8552	-3.8552	-3.8552	Pass
20	5	5179.98003	5179.98003	5179.98003	5179.98003	-3.8552	-3.8552	-3.8552	-3.8552	Pass
20	5.5	5179.98003	5179.98003	5179.98003	5179.98003	-3.8552	-3.8552	-3.8552	-3.8552	Pass



T (00)	V L 00	Measured Frequency	52	60	(MHz)		Liı	mit		
Temp. (°C)	Voltage (V)		Time (min)			20ppm				Result
Operating	Frequency:	0 min	2 min	5 min	10 min	0 min	2 min	5 min	10 min	
85	5	5260.09161	5260.09161	5260.09161	5260.09161	17.4163	17.4163	17.4163	17.4163	Pass
70	5	5260.04528	5260.04563	5260.04652	5260.04803	8.6084	8.6749	8.8441	9.1312	Pass
60	5	5260.02546	5260.02418	5260.02418	5260.02418	4.8403	4.5970	4.5970	4.5970	Pass
50	5	5260.00525	5260.00598	5260.00582	5260.00518	0.9981	1.1369	1.1065	0.9848	Pass
40	5	5259.99525	5259.99525	5259.99348	5259.99348	-0.9030	-0.9030	-1.2395	-1.2395	Pass
30	5	5259.98648	5259.98607	5259.98618	5259.98618	-2.5703	-2.6483	-2.6274	-2.6274	Pass
20	5	5259.97752	5259.97958	5259.97981	5259.97897	-4.2738	-3.8821	-3.8384	-3.9981	Pass
10	5	5259.99215	5259.99179	5259.99215	5259.99215	-1.4924	-1.5608	-1.4924	-1.4924	Pass
0	5	5259.99908	5259.99908	5259.99917	5259.99937	-0.1749	-0.1749	-0.1578	-0.1198	Pass
-10	5	5260.00512	5260.00178	5260.00750	5260.00750	0.9734	0.3384	1.4259	1.4259	Pass
-20	5	5260.01526	5260.01632	5260.01632	5260.01526	2.9011	3.1027	3.1027	2.9011	Pass
Taman (0C)		Measured Frequency	52	60	(MHz)		Liı	nit		
remp. (°C)	Voltage (V)		Time (mir	)			<b>20</b> p	pm		Result
Operating	Frequency:	0 min	2 min	5 min	10 min	0 min	2 min	5 min	10 min	
20	4.5	5259.97958	5259.97981	5259.97897	5259.97897	-3.8821	-3.8384	-3.9981	-3.9981	Pass
20	5	5259.97752	5259.97958	5259.97981	5259.97897	-4.2738	-3.8821	-3.8384	-3.9981	Pass
20	5.5	5259.97981	5259.97897	5259.97981	5259.97897	-3.8384	-3.9981	-3.8384	-3.9981	Pass



_ (0.0)		Measured Frequency	55	00	(MHz)		Lir	nit		
Temp. (°C)	Voltage (V)	Time (min)					20ppm			
Operating	Frequency:	0 min	2 min	5 min	10 min	0 min	2 min	5 min	10 min	
85	5	5500.09421	5500.09421	5500.09421	5500.09421	17.1291	17.1291	17.1291	17.1291	Pass
70	5	5500.03824	5500.04084	5500.04657	5500.05091	6.9527	7.4255	8.4673	9.2564	Pass
60	5	5500.02401	5500.02836	5500.03184	5500.03702	4.3655	5.1564	5.7891	6.7309	Pass
50	5	5500.01582	5500.01267	5500.01345	5500.01397	2.8764	2.3036	2.4455	2.5400	Pass
40	5	5499.98181	5499.98257	5499.98246	5499.98246	-3.3073	-3.1691	-3.1891	-3.1891	Pass
30	5	5499.96817	5499.96817	5499.96817	5499.96977	-5.7873	-5.7873	-5.7873	-5.4964	Pass
20	5	5499.99052	5499.99179	5499.99052	5499.99052	-1.7236	-1.4927	-1.7236	-1.7236	Pass
10	5	5499.99571	5499.99758	5499.99682	5499.99682	-0.7800	-0.4400	-0.5782	-0.5782	Pass
0	5	5500.00454	5500.00611	5500.00745	5500.00917	0.8255	1.1109	1.3545	1.6673	Pass
-10	5	5500.01279	5500.01279	5500.01371	5500.01371	2.3255	2.3255	2.4927	2.4927	Pass
-20	5	5500.03271	5500.03182	5500.03251	5500.03178	5.9473	5.7855	5.9109	5.7782	Pass
Tomp (%C)	Voltage (V)	Measured Frequency	55	00	(MHz)		Lir	nit		
remp. (*C)	voitage (v)		Time (min	)		20ppm				Result
Operating	Frequency:	0 min	2 min	5 min	10 min	0 min	2 min	5 min	10 min	
20	4.5	5499.99052	5499.99052	5499.99052	5499.99052	-1.7236	-1.7236	-1.7236	-1.7236	Pass
20	5	5499.99052	5499.99179	5499.99052	5499.99052	-1.7236	-1.4927	-1.7236	-1.7236	Pass
20	5.5	5499.99052	5499.99052	5499.99052	5499.99052	-1.7236	-1.7236	-1.7236	-1.7236	Pass



<b>T</b> (00)	W K 00	Measured Frequency	57	45	(MHz)		Lir	nit		
Temp. (°C)	Voltage (V)	Time (min)				20ppm				Result
Operating	Frequency:	0 min	2 min	5 min	10 min	0 min	2 min	5 min	10 min	
85 5		5745.10072	5745.10072	5745.10072	5745.10072	17.5318	17.5318	17.5318	17.5318	Pass
70	5	5745.04230	5745.05014	5745.05568	5745.05714	7.3629	8.7276	9.6919	9.9460	Pass
60	5	5745.02317	5745.03128	5745.03496	5745.04018	4.0331	5.4447	6.0853	6.9939	Pass
50	5	5745.00406	5745.00491	5745.00569	5745.00682	0.7067	0.8547	0.9904	1.1871	Pass
40	5	5744.99821	5744.99715	5744.99715	5744.99715	-0.3116	-0.4961	-0.4961	-0.4961	Pass
30	5	5744.97615	5744.97128	5744.97625	5744.97108	-4.1514	-4.9991	-4.1340	-5.0339	Pass
20	5	5744.99284	5744.99382	5744.99382	5744.99382	-1.2463	-1.0757	-1.0757	-1.0757	Pass
10	5	5745.00381	5745.00328	5745.00328	5745.00328	0.6632	0.5709	0.5709	0.5709	Pass
0	5	5745.01285	5745.01658	5745.01658	5745.01628	2.2367	2.8860	2.8860	2.8338	Pass
-10	5	5745.03041	5745.03525	5745.03525	5745.03525	5.2933	6.1358	6.1358	6.1358	Pass
-20	5	5745.03521	5745.03521	5745.03521	5745.03631	6.1288	6.1288	6.1288	6.3206	Pass
Tames (0C)	Valtana (()	Measured Frequency	57	45	(MHz)		Lin	mit		
remp. (°C)	Voltage (V)		Time (min	)	•	20ppm				Result
Operating	Frequency:	0 min	2 min	5 min	10 min	0 min	2 min	5 min	10 min	
20	4.5	5744.99382	5744.99382	5744.99382	5744.99382	-1.0757	-1.0757	-1.0757	-1.0757	Pass
20	5	5744.99284	5744.99382	5744.99382	5744.99382	-1.2463	-1.0757	-1.0757	-1.0757	Pass
20	5.5	5744.99382	5744.99382	5744.99382	5744.99382	-1.0757	-1.0757	-1.0757	-1.0757	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.

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

Barriage 1		Operational Mode					
Requirement	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

Bt	Operational Mode				
Requirement	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			

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	available	available for the link
All other tests	Any single BW mode	Not required

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.

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

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP ≥ 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.

Note3: 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 Not	e 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a  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	Roundup $ \left\{ \left( \frac{1}{360} \right). \\ \left( \frac{19 \cdot 10^6}{\text{PRI}_{\mu \text{sec}}} \right) \right\} $	60%	30
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	s 1-4)		80%	120

**Note 1:** 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: 1030.13.704.2016

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 < 23dBm (EIRP). Therefore the required interference threshold level is -62 dBm. After correction for antenna gain and procedural adjustments, the required conducted threshold at the antenna port is -62 + 5 = -57dBm.

The calibrated conducted DFS Detection Threshold level is set to -57 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.

#### **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.

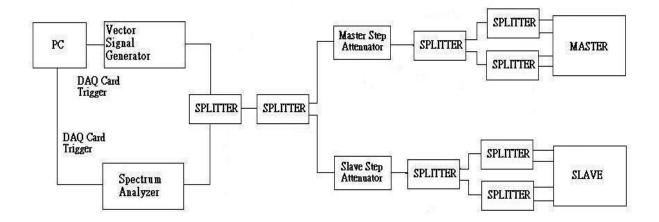
The short pulse types 2, 3 and 4, and the long pulse type 5 parameters are randomized at run-time.

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.

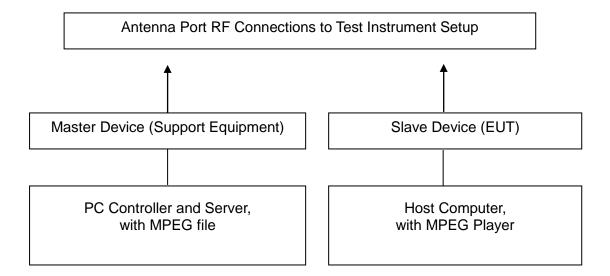
Set the signal generator to produce a radar waveform, trigger a burst manually and measure the level on the spectrum analyzer. Readjust the amplitude of the signal generator as required so that the peak level of the waveform is at a displayed level equal to the required or desired interference detection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

#### Adjustment Of Displayed Traffic Level

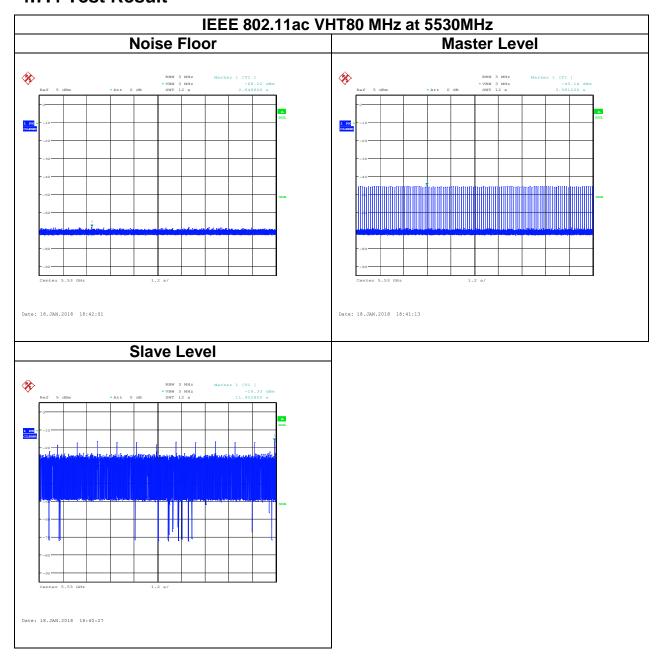
Establish a link between the Master and Slave, adjusting the Link Step Attenuator as needed to provide a suitable received level at the Master and Slave devices. Stream the video test file to generate WLAN traffic. Confirm that the WLAN traffic level, as displayed on the spectrum analyzer, is at lower 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



#### 4.7.4 Test Result



# 

**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 =

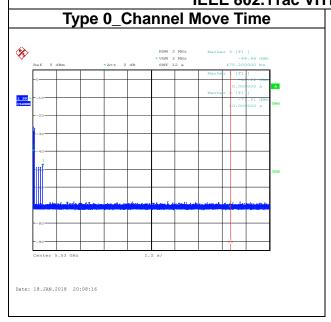
(Number of analyzer bins showing transmission) \* (dwell time per bin)

The observation period over which the aggregate time is calculated

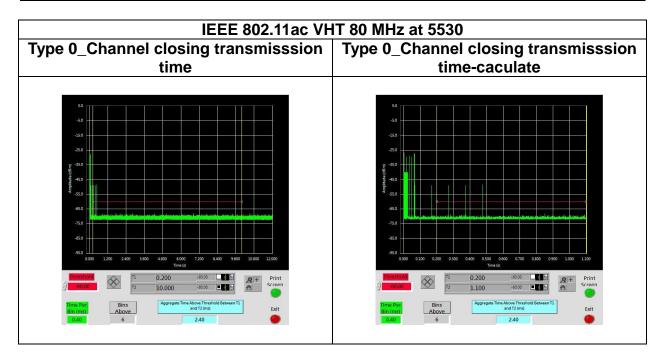
Begins at (Reference Marker + 200 msec) and

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

## IEEE 802.11ac VHT 80 MHz at 5530



Channel Move Time (s)	Limit (s)
0.4752	10



Aggregate Transmission Time (ms)	Limit (ms)	Margin (ms)
2.4	60	-57.6