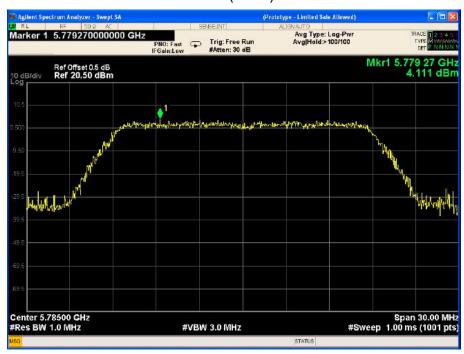


## U-NII-3 802.11n(HT20) Middle CH



# U-NII-3 802.11n(HT20) High CH

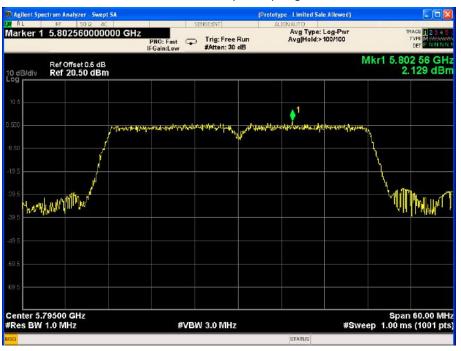




## U-NII-3 802.11n(HT40) Low CH

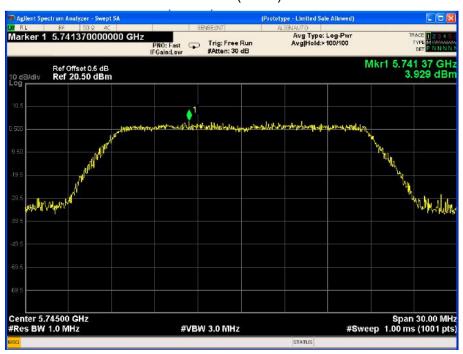


# U-NII-3 802.11n(HT40) High CH





## U-NII-3 802.11ac(HT20) Low CH



## U-NII-3 802.11ac(HT20) Middle CH





## U-NII-3 802.11ac(HT20) High CH



## U-NII-3 802.11ac(HT40) Low CH





## U-NII-3 802.11ac(HT40) High CH



## U-NII-3 802.11ac(H840) Low CH



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## 6. FREQUENCY STABILITY MEASUREMENT

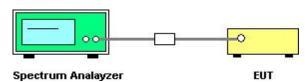
#### 6.1 LIMIT

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 user's manual

#### 6.2 TEST PROCEDURE

- (1) To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
- (2) The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.
- (3) The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

#### 6.3 TEST SETUP





## 6.4 TEST RESULTS

U-NII-1 Test Frequency:5180MHz									
Temperature (°C)	Power Supply ( DC )	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)					
50		1	1	1					
45		1807	2.1599	20					
30		1800	2.1516	20					
20	12V	2V 1806 2.1587		20					
10		1800	2.1516	20					
0		1803	2.1552	20					
-10		1800	2.1516	20					
-15		1809	2.1623	20					
-30		1	7	1					
20	10.8V	1810	2.1635	20					
20	13.2V	1798	2.1492	20					

U-NII-3 Test Frequency:5785MHz									
Temperature (°C)	Power Supply Frequency Erro		Frequency Error (ppm)	Limit (ppm)					
50		1	1	1					
45		1919	2.2938	20					
30		1911	2.2842	20					
20	12V	1915	2.2890	20					
10		1923	2.2986	20					
0		1907	2.2795	20					
-10		1908	2.2807	20					
-15		1914	2.2878	20					
-30		1	I	/					
20	10.8V	1918	2.2926	20					
20	13.2V	1906	2.2783	20					



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## 7. Band edge

#### 7.1 LIMIT

For transmitters operating in the 5.15-5.25 GHz and 5.725-5.85G band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.

-27 dBm/MHz Limit=95.2+EIRP[dBm]=95.2-27=68.2 dBµV/m

#### 7.2 TEST PROCEDURE

- (1) EUT height should be 0.8m for below 1GHz at a semi anechoic chamber while EUT height should be 1.5m for above 1GHz at full chamber or semi anechoic chamber ground with absorbers
- (2) Test antenna was located 3m from the EUT on an adjustable mast, and the antenna used as below table.

Test frequency range	Test antenna used	Test distance	
9kHz-30MHz	Active Loop antenna	3m	
30MHz-1GHz	Trilog Broadband Antenna	3m	
1GHz-18GHz	Double Ridged Hom Antenna(1GHz-18GHz)	3m	
18GHz-40GHz	Horn Antenna(18GHz-40GHz)	1m	

According ANSI C63.10:2013 clause 6.4.4.2 and 6,5.3, for measurements below 30 MHz, the loop antenna was positioned with its plane vertical from the EUT and rotated about its vertical axis for maximum response at each azimuth position around the EUT. And the loop antenna also be positioned with its plane horizontal at the specified distance from the EUT. The center of the loop is 1 m above the ground. for measurement above 30MHz, the Trilog Broadband Antenna or Horn Antenna was located 3m from EUT, Measurements were made with the antenna positioned in both the horizontal and vertical planes of Polarization, and the measurement antenna was varied from 1 m to 4 m. in height above the reference ground plane to obtain the maximum signal strength.

- (4) Below pre-scan procedure was first performed in order to find prominent frequency spectrum radiated emissions from 9kHz to 40GHz:
- (a) Scanning the peak frequency spectrum with the antenna specified in step (3), and the EUT was rotated 360 degree, the antenna height was varied from 1m to 4m (Except loop antenna, it's fixed 1m above ground.)



- (b) Change work frequency or channel of device if practicable.
- (c) Change modulation type of device if practicable.
- (d) Change power supply range from 85% to 115% of the rated supply voltage
- (e) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions.

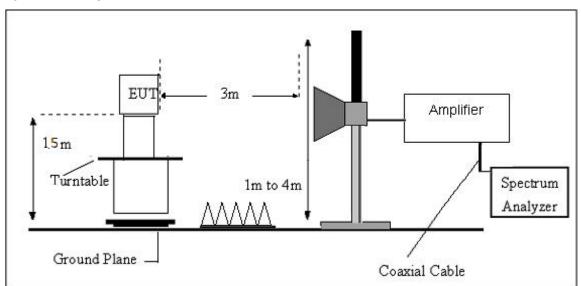
Spectrum frequency from 9kHz to 40GHz (tenth harmonic of fundamental frequency) was investigated, and no any obvious emission were detected from 9kHz to 30MHz and 18GHz to 40GHz, so below final test was performed with frequency range from 30MHz to 18GHz.

- (6) The emissions from 9kHz to 1GHz were measured based on CISPR QP detector except for the frequency bands 9-90kHz, 110-490kHz, for emissions from 9kHz-90kHz,110kHz-490kHz and above 1GHz were measured based on average detector, for emissions above 1GHz, peak emissions also be measured and need comply with Peak limit
- (7) The emissions from 9kHz to 1GHz, QP or average values were measured with EMI receiver with below RBW

Frequency band	RBW		
9kHz-150kHz	200Hz		
150kHz-30MHz	9kHz		
30MHz-1GHz	120kHz		

(8) For emissions above 1GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1MHz, VBW is set at 3MHz, Peak detector for Peak measure, RMS detector for AV value

#### 7.3 TEST SETUP



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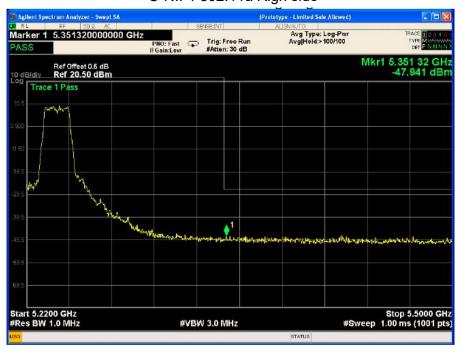
### 7.5 TEST RESULTS

## 7.5 Original test data

### U-NII-1 802.11a left side

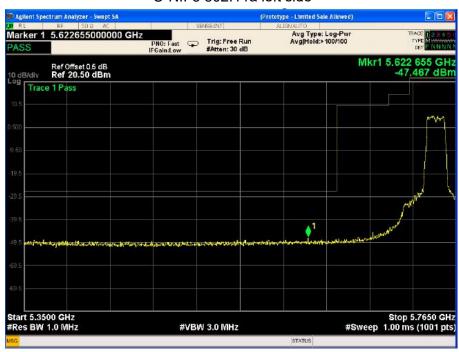


## U-NII-1 802.11a Righ side





#### U-NII-3 802.11a left side



## U-NII-3 802.11a right side

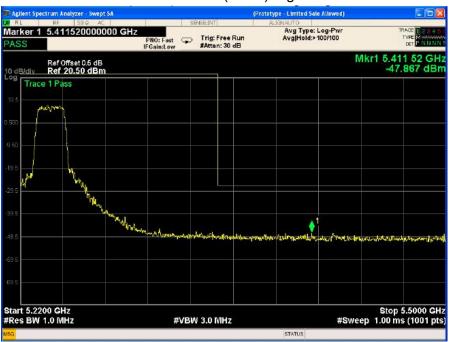




# U-NII-1 802.11n(HT20) left side



# U-NII-1 802.11n(HT20) Right side





## U-NII-3 802.11n(HT20) left side



## U-NII-3 802.11n(HT20) Right side





## U-NII-1 802.11n(HT40) left side



### U-NII-1 802.11n(HT40) Right side





## U-NII-3 802.11n(HT40) left side



## U-NII-3 802.11n(HT40) Right side

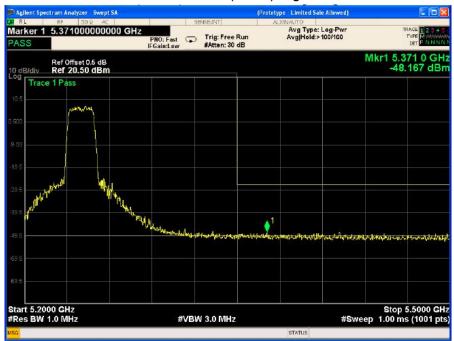




# U-NII-1 802.11ac(HT20) left side

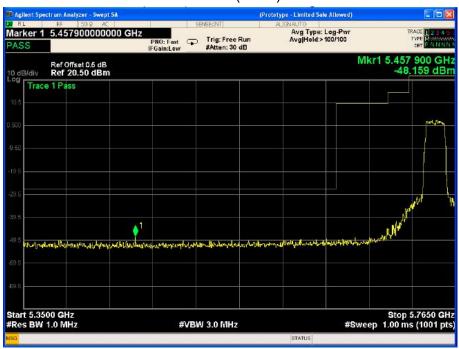


## U-NII-1 802.11ac(HT20) Right side

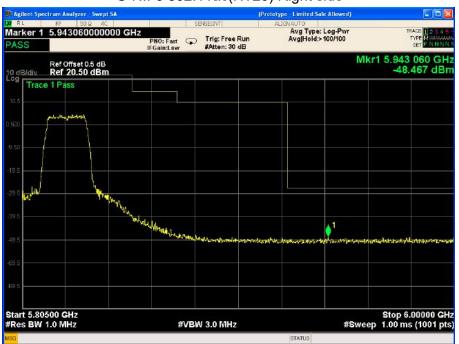




# U-NII-3 802.11ac(HT20) left side

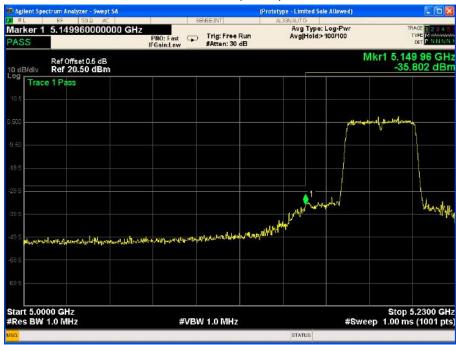


## U-NII-3 802.11ac(HT20) Right side





## U-NII-1 802.11ac(HT40) left side



## U-NII-1 802.11ac(HT40) Right side

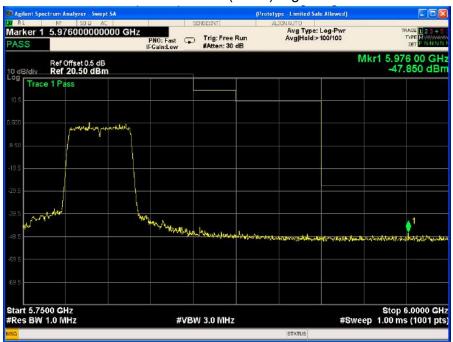




# U-NII-3 802.11ac(HT40) left side

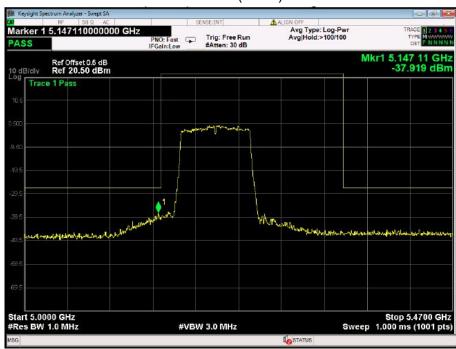


## U-NII-3 802.11ac(HT40) Right side

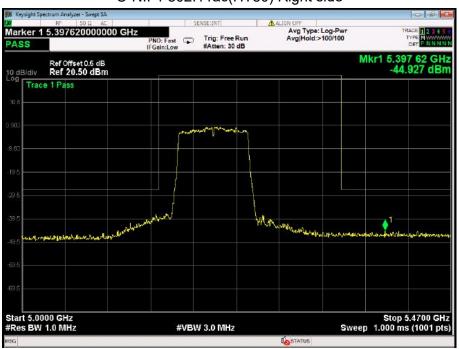




# U-NII-1 802.11ac(HT80) left side



# U-NII-1 802.11ac(HT80) Right side





## U-NII-3 802.11ac(HT80) left side



## U-NII-3 802.11ac(HT80) Right side





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# 8. Duty Cycle

## **8.1 TEST REQUIREMENT**

47 CFR Part 15C 15.407 and 789033 D02 General UNII Test

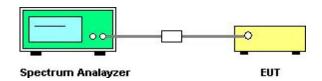
Procedures New Rules v02r01(December 14, 2017), Section (B)

ANSI C63.10: 2013

### 8.2 TEST PROCEDURE

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

#### 7.3 TEST SETUP





## 8.4 TEST RESULTS

	802.11	a mode	
channel	On time(ms)	Period(ms)	Duty Cycle(%)
36	100	100	100
52	100	100	100
149	100	100	100
	802.11n(H	T20) mode	
channel	On time(ms)	Period(ms)	Duty Cycle(%)
36	100	100	100
52	100	100	100
149	100	100	100
	802.11n(H	T40) mode	40
channel	On time(ms)	Period(ms)	Duty Cycle(%)
38	100	100	100
54	100	100	100
151	100	100	100
	802.11ac(H	T20) mode	
channel	On time(ms)	Period(ms)	Duty Cycle(%)
36	100	100	100
52	100	100	100
149	100	100	100
	802.11ac(H	T40) mode	*
channel	On time(ms)	Period(ms)	Duty Cycle(%)
38	100	100	100
54	100	100	100
151	100	100	100
	802.11ac(H	T80) mode	
channel	On time(ms)	Period(ms)	Duty Cycle(%)
42	100	100	100
58	100	100	100
155	100	100	100



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### 9 RADIATED EMISSION MEASUREMENT

#### 9.1 RADIATED EMISSION LIMITS

In any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the Restricted band specified on Part15.205(a)&209(a) limit in the table and according to ANSI C63.10-2013 below has to be followed

LIMITS OF RADIATED EMISSION MEASUREMENT (0.009MHz - 1000MHz)

Frequencies	Field Strength	Measurement Distance
(MHz)	(micorvolts/meter)	(meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

### For Radiated Emission

Spectrum Parameter	Setting		
Attenuation	Auto		
Detector	Peak/AV		
Start Frequency	1000 MHz(Peak/AV)		
Stop Frequency	10th carrier hamonic(Peak/AV)		
RB / VB (emission in restricted			
band)	PK=1MHz / 1MHz, AV=1 MHz /10 Hz		

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#### 9.2 TEST PROCEDURE

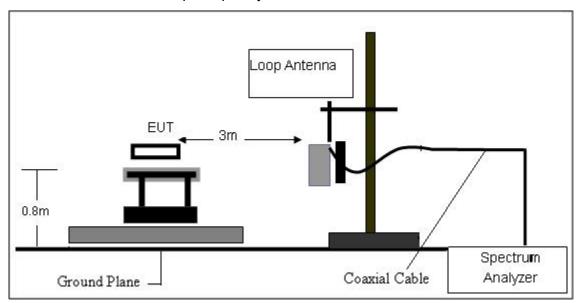
- a. The measuring distance of at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz, and above 1GHz.
- b. The EUT was placed on the top of a rotating table 0.8 meters (above 1GHz is 1.5 m) above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment shall be 0.8 m(above 1GHz is 1.5 m); the height of the test antenna shall vary between 1 m to 4 m. horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then QuasiPeak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

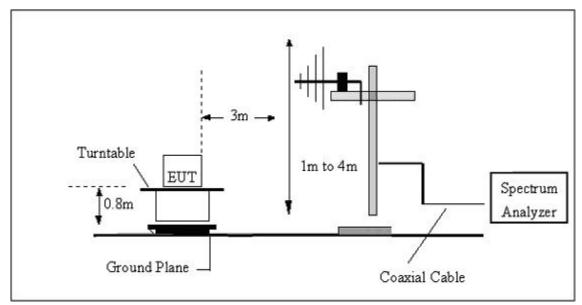


### 9.3 TESTSETUP

## (A) Radiated Emission Test-Up Frequency Below 30MHz

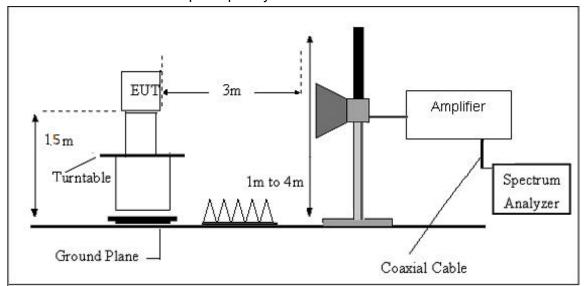


# (B) Radiated Emission Test-Up Frequency 30MHz~1GHz





# (C) Radiated Emission Test-Up Frequency Above 1GHz







# 9.4. TEST RESULTS

# (9KHz-30MHz)

Temperature:	<b>22.7</b> ℃	Relative Humidity:	61%
Test Voltage:	AC 120V 60Hz	Test Mode:	1

Frequency	Measurement results dBµV @3m	Detector PK/QP	Correct factor dB/m	Extrapolatio n factor dB	Measurement results (calculated) dBµV/m @30m	Limits dBµV/m @30m	Margin dB
(MHz)	Measurement results	Detector	Correct factor	Extrapolatio n factor	Measurement results (calculated)	Limits	Margin
		U	-NII-1:802.1	1a 5180MHz			
6.021	25.34	QP	21.84	40.00	7.18	29.54	-22.36
15.730	25.36	QP	21.35	40.00	6.71	29.54	-22.83
25.680	25.18	QP	20.67	40.00	5.85	29.54	-23.69
		U-f	VII-1:802.11	n20 5180MHz			
6.021	25.30	QP	21.84	40.00	7.14	29.54	-22.40
15.730	25.12	QP	21.35	40.00	6.47	29.54	-23.07
25.680	25.34	QP	20.67	40.00	6.01	29.54	-23.53
		U-N	II-1:802.11a	c 20 5180MHz			
6.021	25.52	QP	21.84	40.00	7.36	29.54	-22.18
15.730	24.85	QP	21.35	40.00	6.20	29.54	-23.34
25,680	25.16	QP	20.67	40.00	5.83	29.54	-23.71
	7.0076.000	U-I	NII-1:802.11	n40 5190MHz	300000		
6.021	25.63	QP	21.84	40.00	7.47	29.54	-22.07
15.730	24.87	QP	21.35	40.00	6.22	29.54	-23.32
25.680	24.96	QP	20.67	40.00	5.63	29.54	-23.91
	×	U-N	III-1:802.11a	ac40 5190MHz		\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	·
6.021	25.61	QP	21.84	40.00	7.45	29.54	-22.09
15.730	25.20	QP	21.35	40.00	6.55	29.54	-22.99
25.680	24.97	QP	20.67	40.00	5.64	29.54	-23,90
		U-N	III-1:802.11a	ac80 5210MHz	× .	X27 1	
6.021	25.10	QP	21.84	40.00	6.94	29.54	-22.60
15.730	24.52	QP	21.35	40.00	5.87	29.54	-23.67
25.680	24.65	QP	20.67	40.00	5.32	29.54	-24.22



Frequency	Measurement results dBµV @3m	Detector PK/QP	Correct factor dB/m	Extrapolatio n factor dB	Measurement results (calculated) dBµV/m @30m	Limits dBµV/m @30m	Margin dB
(MHz)	Measurement results	Detector	Correct factor	Extrapolatio n factor	Measurement results (calculated)	Limits	Margin
		U	-NII-3 802.1	1a 5745MHz	X		
6.021	24.57	QP	21.84	40.00	6.41	29.54	-23.13
15.730	25.15	QP	21.35	40.00	6.50	29.54	-23.04
25.680	25.69	QP	20.67	40.00	6.36	29.54	-23.18
		U-I	NII-3 802.11	n20 5745MHz			
6.021	24.58	QP	21.84	40.00	6.42	29.54	-23.12
15.730	25.43	QP	21.35	40.00	6.78	29.54	-22.76
25.680	24.25	QP	20.67	40.00	4.92	29.54	-24.62
		U-	NII-3 802.11	lac 5745MHz			
6.021	24.17	QP	21.84	40.00	6.01	29.54	-23.53
15.730	25.34	QP	21.35	40.00	6.69	29.54	-22.85
25.680	24.38	QP	20.67	40.00	5.05	29.54	-24.49
		U-1	NII-3 802.11	n40 5755MHz			
6.021	24.50	QP	21.84	40.00	6.34	29.54	-23.20
15.730	24.64	QP	21.35	40.00	5.99	29.54	-23.55
25.680	24.36	QP	20.67	40.00	5.03	29.54	-24.51
	~ ~	U-N	III-3 802.11a	c40 5755MHz			y
6.021	25.28	QP	21.84	40.00	7.12	29.54	-22.42
15.730	24.37	QP	21.35	40.00	5.72	29.54	-23.82
25.680	24.19	QP	20.67	40.00	4.86	29.54	-24.68
	8	U-N	III-3 802.11a	c80 5775MHz		85 30	
6.021	25.13	QP	21.84	40.00	6.97	29.54	-22.57
15.730	24.57	QP	21.35	40.00	5.92	29.54	-23.62
25.680	25.16	QP	20.67	40.00	5.83	29.54	-23.71

### Note:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



## (30MHz~40GHz) Restricted band and Spurious emission Requirements

F	Receiver	Datastas	Turn	RX An	tenna	Corrected	C	FCC I 15.407/2			
Frequency	Reading	Detector	table Angle	Height	Polar	Factor	Corrected Amplitude	Limit	Margin		
(MHz)	(dBµV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBµV/m)	(dBµV/m)	(dB)		
	802.11a U-NII-1 Low Channel 5180MHz										
223.45	39.99	QP	242	1.2	Н	-11.62	28.37	46.00	-17.63		
223.45	35.21	QP	57	1.3	V	-11.62	23.59	46.00	-22.41		
4500.37	49.00	PK	109	1.8	Н	-2.03	46.97	74.00	-27.03		
4500.37	45.66	Ave	109	1.8	Н	-2.03	43.63	54.00	-10.37		
10360.00	41.87	PK	359	1.3	Н	5.33	47.20	74.00	-26.80		
10360.00	36.00	Ave	359	1.3	Н	5.33	41.33	54.00	-12.67		
		802.	11a U-NII	-1 Middle	channe	1 5200MHz					
223.45	40.79	QP	286	1.2	Н	-11.62	29.17	46.00	-16.83		
223.45	34.59	QP	164	1.2	٧	-11.62	22.97	46.00	-23.03		
4531.52	50.05	PK	246	1.8	Н	-1.94	48.11	74.00	-25.89		
4531.52	44.98	Ave	246	1.8	Н	-1.94	43.04	54.00	-10.96		
10400.00	42.05	PK	110	1.6	Н	5.21	47.26	74.00	-26.74		
10400.00	36.17	Ave	110	1.6	Н	5.21	41.38	54.00	-12.62		
	·	802	.11a U-NI	l-1 High	channel	5240MHz		: 33			
223.45	39.33	QP	308	1.5	Н	-11.62	27.71	46.00	-18.29		
223.45	35.16	QP	48	1.8	٧	-11.62	23.54	46.00	-22.46		
4502.74	49.98	PK	298	1.7	Н	-2.24	47.74	74.00	-26.26		
4502.74	43.84	Ave	298	1.7	Н	-2.24	41.60	54.00	-12.40		
10480.00	42.03	PK	118	1.4	Н	5.14	47.17	74.00	-26.83		
10480.00	35.42	Ave	118	1.4	Н	5.14	40.56	54.00	-13.44		



Francisco	Receiver	Detector	Turn table	RX An	tenna	Corrected	Corrected	FCC F 15.407/2		
Frequency	Reading	Detector	Angle	Height	Polar	Factor	Corrected Amplitude	Limit	Margin	
(MHz)	(dBµV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
	802.11a U-NII-3 Low Channel 5745MHz									
223.45	39.11	QP	339	1.4	Н	-11.62	27.49	46.00	-18.51	
223.45	33.84	QP	97	2.0	٧	-11.62	22.22	46.00	-23.78	
4504.10	49.22	PK	114	1.3	Н	-2.06	47.16	74.00	-26.84	
4504.10	44.02	Ave	114	1.3	Н	-2.06	41.96	54.00	-12.04	
11490.00	43.05	PK	327	1.5	Н	5.93	48.98	74.00	-25.02	
11490.00	37.22	Ave	327	1.5	Н	5.93	43.15	54.00	-10.85	
		802.	11a U-NII	-3 Middle	channe	1 5785MHz				
223.45	37.86	QP	197	1.2	Н	-11.62	26.24	46.00	-19.76	
223.45	33.33	QP	359	1.1	٧	-11.62	21.71	46.00	-24.29	
4505.68	49.64	PK	301	1.1	Н	-2.03	47.61	74.00	-26.39	
4505.68	44.19	Ave	301	1.1	Н	-2.03	42.16	54.00	-11.84	
11570.00	42.39	PK	67	1.2	Н	5.81	48.20	74.00	-25.80	
11570.00	37.03	Ave	67	1.2	Н	5.81	42.84	54.00	-11.16	
	ę.	802	.11a U-NI	I-3 High	channel	5825MHz	5:		(c)	
223.45	36.43	QP	134	1.3	Н	-11.62	24.81	46.00	-21.19	
223.45	33.58	QP	238	1.1	٧	-11.62	21.96	46.00	-24.04	
4506.47	49.90	PK	27	1.2	Н	-1.84	48.06	74.00	-25.94	
4506.47	45.26	Ave	27	1.2	Н	-1.84	43.42	54.00	-10.58	
11650.00	40.65	PK	188	1.5	Н	5.84	46.49	74.00	-27.51	
11650.00	36.39	Ave	188	1.5	Н	5.84	42.23	54.00	-11.77	

# Note:

All model are tested. Only show worst data on report.



### 10 CONDUCTED EMISSION TEST

### 10.1.1 POWER LINE CONDUCTED EMISSION LIMITS

Operating frequency band. In case the emission fall within the restricted band specified on Part 207(a) limit in the table below has to be followed.

EDECLIENCY (MH-)	Conducted Emissionlimit (dBuV)			
FREQUENCY (MHz)	Quasi-peak	Average		
0.15 -0.5	66 - 56 *	56 - 46 *		
0.50 -5.0	56.00	46.00		
5.0 -30.0	60.00	50.00		

#### Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

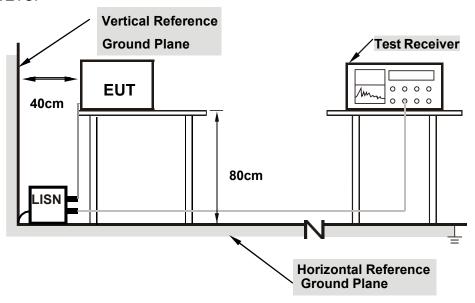
Receiver Parameters	Setting		
Attenuation	10 dB		
Start Frequency	0.15 MHz		
Stop Frequency	30 MHz		
IF Bandwidth	9 kHz		



#### 10.2 TEST PROCEDURE

- a. The EUT was 0.8 meters from the horizontal ground plane and 0.4 meters from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

#### 10.3 TEST SETUP



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80

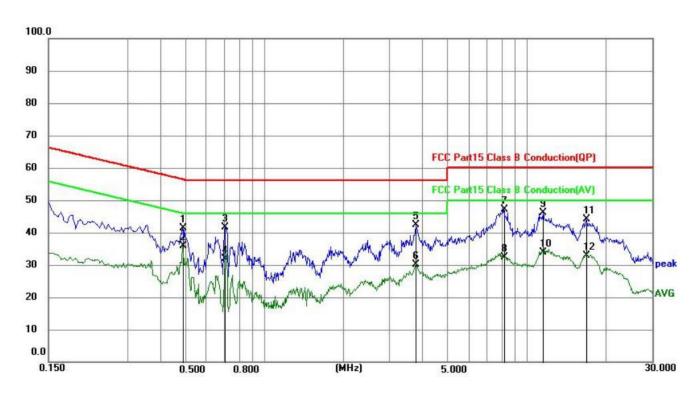
from other units and other metal planes



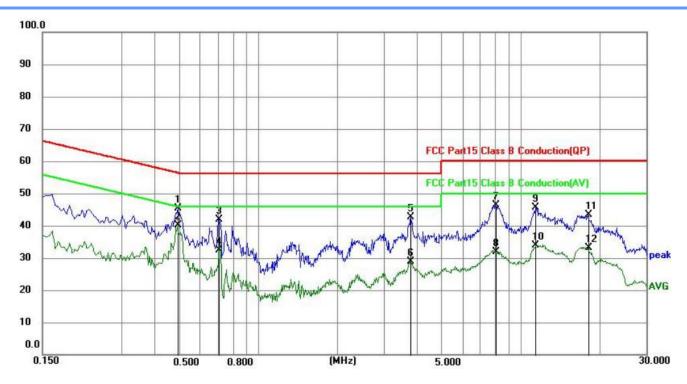
## 10 .4 TEST RESULT

Temperature:	<b>22.1</b> ℃	Relative Humidity:	56%
Test Voltage:	120V/60HZ	Phase:	L/N
Test Mode:	ON		

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.4875	31.49	9.87	41.36	56.21	14.85	QP
2	0.4875	25.90	9.87	35.77	46.21	10.44	AVG
3	0.7080	31.66	9.89	41.55	56.00	14.45	QP
4	0.7080	22.04	9.89	31.93	46.00	14.07	AVG
5	3.7725	24.43	17.90	42.33	56.00	13.67	QP
6	3.7725	12.17	17.90	30.07	46.00	15.93	AVG
7	8.1555	27.25	20.00	47.25	60.00	12.75	QP
8	8.1555	12.33	20.00	32.33	50.00	17.67	AVG
9	11.5034	26.08	20.04	46.12	60.00	13.88	QP
10	11.5034	13.93	20.04	33.97	50.00	16.03	AVG
11	16.7685	23.90	20.13	44.03	60.00	15.97	QP
12	16.7685	12.82	20.13	32.95	50.00	17.05	AVG







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.4920	35.46	9.87	45.33	56.13	10.80	QP
2	0.4920	30.33	9.87	40.20	46.13	5.93	AVG
3	0.7080	32.01	9.89	41.90	56.00	14.10	QP
4	0.7080	22.38	9.89	32.27	46.00	13.73	AVG
5	3.8130	24.69	18.00	42.69	56.00	13.31	QP
6	3.8130	10.88	18.00	28.88	46.00	17.12	AVG
7	8.0070	26.35	20.14	46.49	60.00	13.51	QP
8	8.0070	11.80	20.14	31.94	50.00	18.06	AVG
9	11.3549	25.56	20.19	45.75	60.00	14.25	QP
10	11.3549	13.72	20.19	33.91	50.00	16.09	AVG
11	17.9790	23.14	20.24	43.38	60.00	16.62	QP
12	17.9790	12.79	20.24	33.03	50.00	16.97	AVG



### 11. ANTENNA REQUIREMENT

### 11.1 STANDARD REQUIREMENT

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

#### 11.2 RESULT

The antennas used for this product are integral antenna and other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is1.0.dBi.

\*\*\*\*END OF THE REPORT\*\*\*