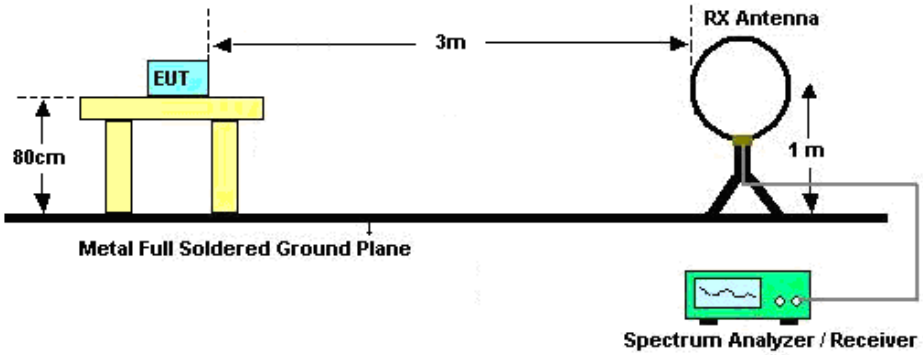
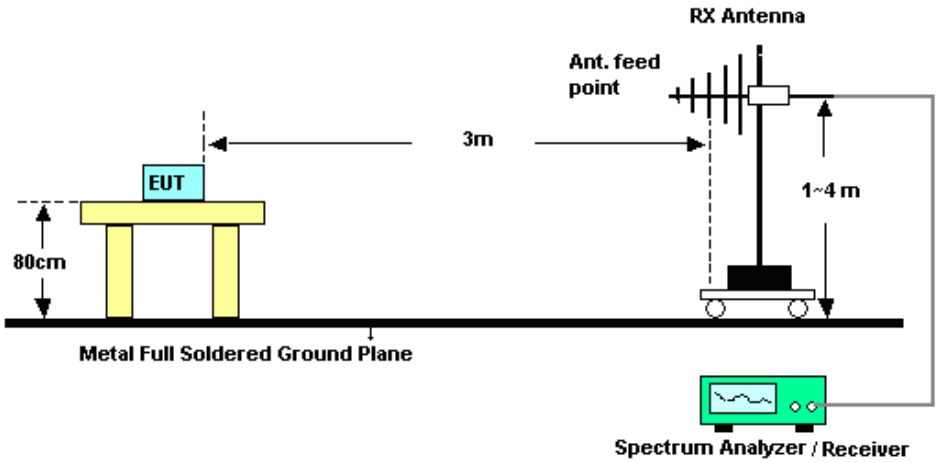
A.4 Test Setup

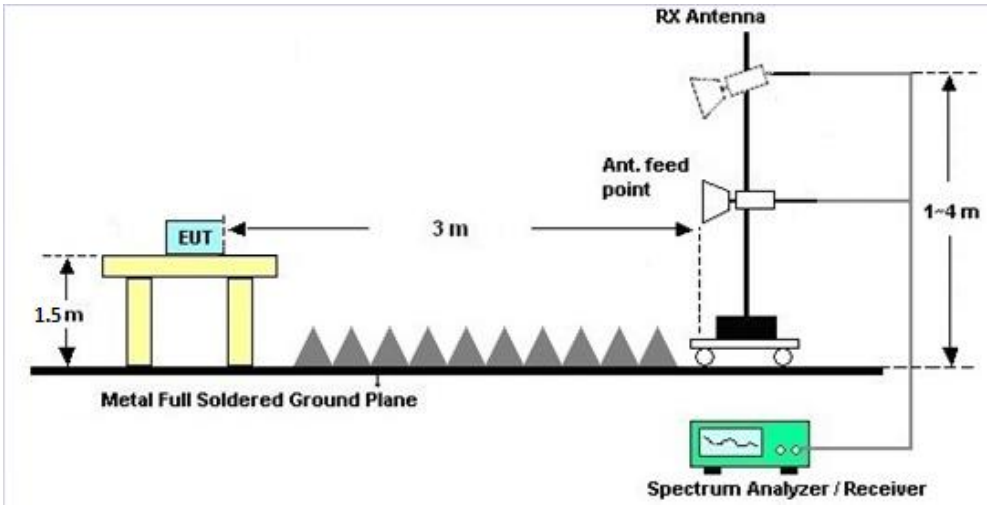
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz

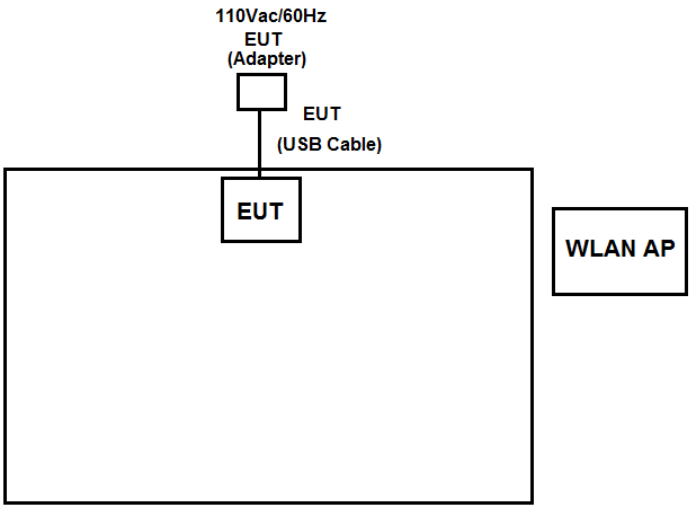


A.5 Test Result of Receiver Radiated Spurious Emissions (9kHz ~ 30MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per NCC LP0002 section 5.13 was not reported.

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

A.6 Connection Diagram of Test System



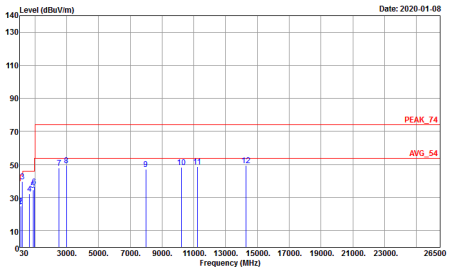
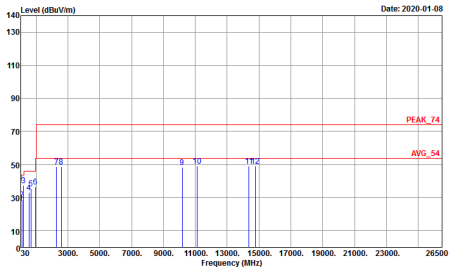
A.7 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m

Remark: Applicant has ensured accessory would not be attached with the product on the market, accessory is provided by lab for testing.

A.8 Test Result of Receiver Radiated Spurious Emission (30MHz ~ 5th Harmonic)

Test Engineer :	Lance Chiang and Chuan Chu	**Temperature :**	20~24°C
		Relative Humidity :	60~68%
Frequency	207.510 MHz	**Margin**	Under 3.83 dB
Test Mode	Bluetooth Idle + WLAN (5GHz) Idle		

	Idle Mode	
	Horizontal	**Vertical**
Peak **Avg.**	 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_1328 HORIZONTAL Detector : Peak Project : 832801-06 1 30.97 24.65 -15.35 40.00 29.99 24.01 0.82 30.20 --- --- Peak 2 97.90 24.93 -18.57 43.50 38.24 15.65 1.39 30.43 --- --- Peak 3 207.51 39.67 -3.83 43.50 52.96 15.02 1.87 30.31 100 0 Peak 4 644.01 32.55 -13.45 46.00 32.08 26.39 3.40 29.58 --- --- Peak 5 876.81 34.79 -11.21 46.00 30.54 28.98 4.04 29.17 --- --- Peak 6 953.44 36.72 -9.28 46.00 30.31 30.73 4.21 28.99 --- --- Peak 7 2514.00 48.04 -25.96 74.00 47.33 27.30 6.71 33.30 --- --- Peak 8 2980.00 49.56 -24.44 74.00 47.65 28.44 7.04 33.57 100 0 Peak 9 7980.00 47.20 -26.80 74.00 60.69 36.98 12.56 63.70 --- --- Peak 10 10215.00 48.53 -25.47 74.00 58.37 39.50 14.26 64.04 --- --- Peak 11 11235.00 48.80 -25.20 74.00 57.21 39.70 14.88 63.45 --- --- Peak 12 14265.00 49.54 -24.46 74.00 52.93 41.63 16.65 62.30 --- --- Peak	 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_1328 VERTICAL Detector : Peak Project : 832801-06 1 33.88 27.05 -12.95 40.00 33.77 22.63 0.85 30.24 --- --- Peak 2 97.90 28.78 -14.72 43.50 42.09 15.65 1.39 30.43 --- --- Peak 3 207.51 37.30 -6.20 43.50 50.59 15.02 1.87 30.31 100 0 Peak 4 556.71 32.98 -13.02 46.00 33.17 26.02 3.25 29.69 --- --- Peak 5 675.05 35.43 -10.57 46.00 34.83 26.37 3.51 29.55 --- --- Peak 6 947.62 36.64 -9.36 46.00 30.50 30.49 4.19 29.00 --- --- Peak 7 2276.00 48.60 -25.40 74.00 47.26 27.90 6.46 33.02 --- --- Peak 8 2574.00 48.81 -25.19 74.00 48.03 27.35 6.76 33.33 --- --- Peak 9 10170.00 48.34 -25.66 74.00 58.38 39.38 14.24 64.10 --- --- Peak 10 11115.00 49.03 -24.97 74.00 57.25 39.96 14.78 63.42 --- --- Peak 11 14370.00 49.10 -24.90 74.00 52.24 41.77 16.76 62.30 100 0 Peak 12 14775.00 49.06 -24.94 74.00 51.50 41.90 17.22 62.19 --- --- Peak

Appendix D- Annex. B Maximum Power Density

B.1 RF Exposure Limit Introduction

According to NCC LP0002, the criteria listed in Table shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §5.20.2.1 and §5.20.2.2.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f2)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:
S = Power Density
P = Output Power at Antenna Terminals
G = Gain of Transmit Antenna (linear gain)
R = Distance from Transmitting Antenna

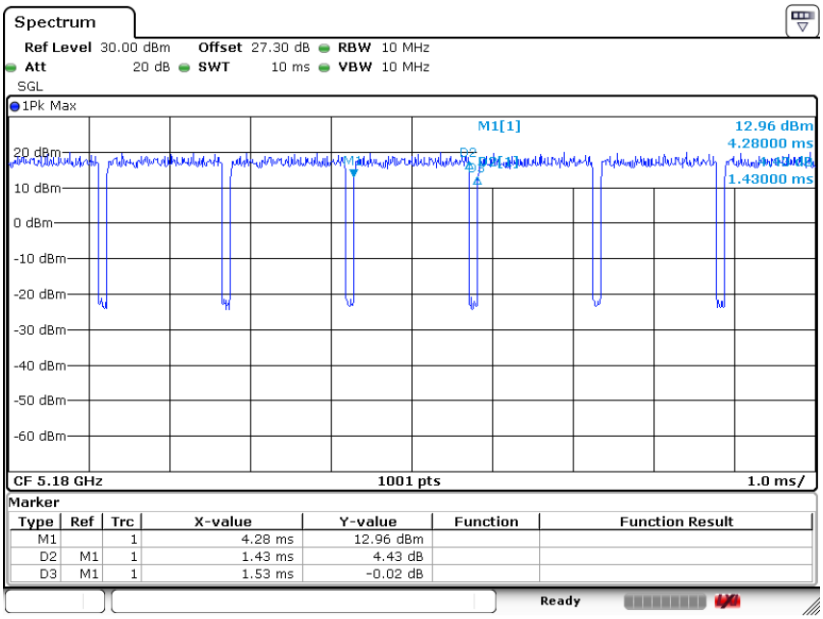
B.2 Standalone Power Density Calculation

Please refer to Appendix A.

Appendix E. Duty Cycle Plots

Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor(dB)
802.11a	93.46	1430	0.70	1kHz	0.29
5GHz 802.11n HT20	93.01	1330	0.75	1kHz	0.31
5GHz 802.11n HT40	90.61	965	1.04	3kHz	0.43
5GHz 802.11ac VHT40	97.10	670	1.49	3kHz	0.13
5GHz 802.11ac VHT80	93.79	332	3.01	10kHz	0.28

802.11a



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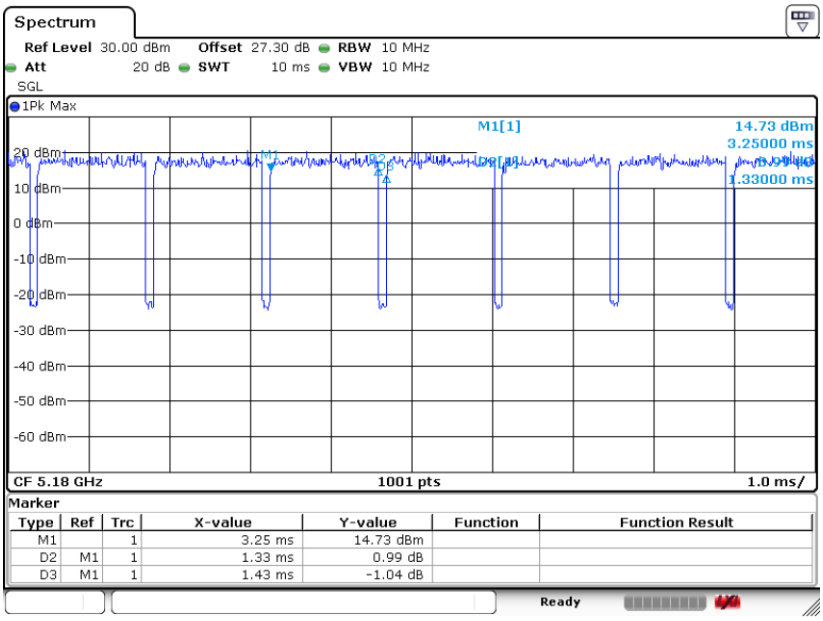
802.11n HT20



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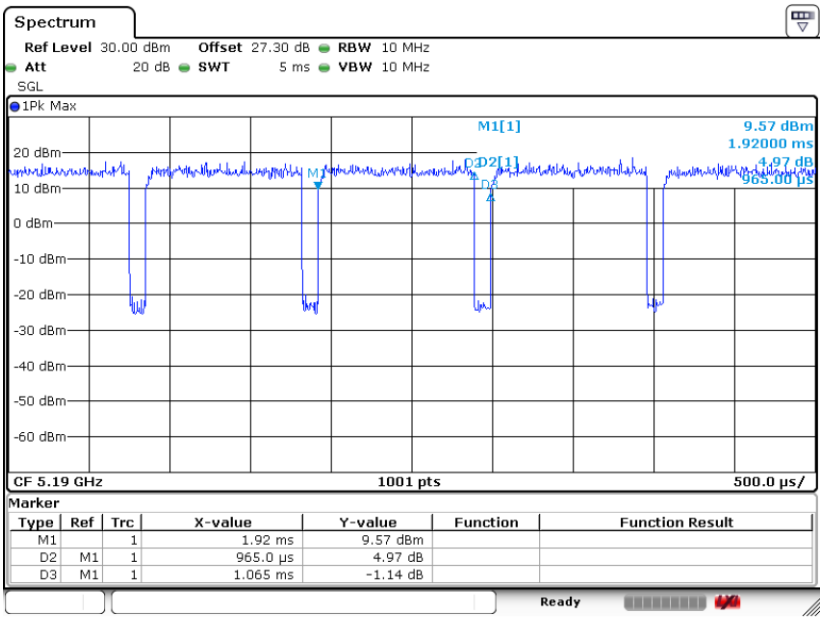
802.11n HT40



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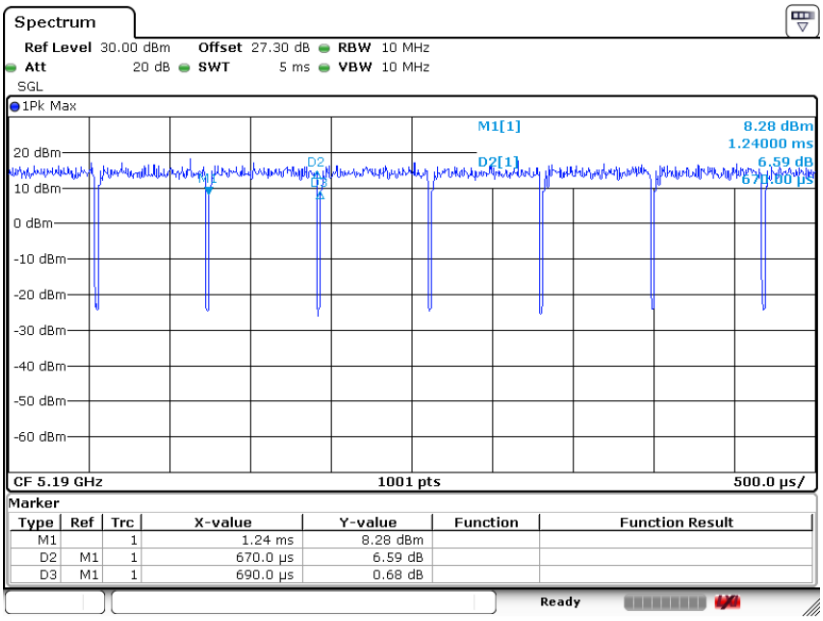
802.11ac VHT40



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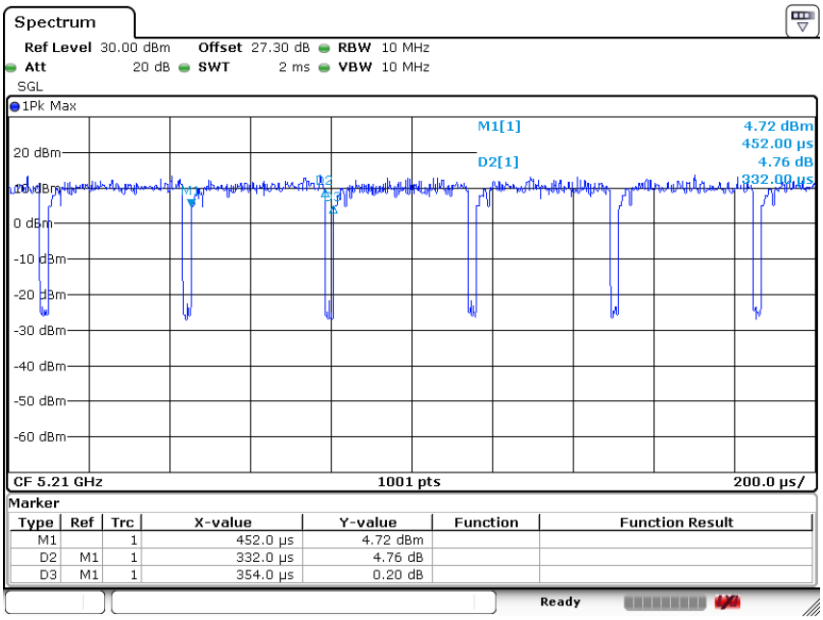

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