Fig. 36 Radiated Spurious Emission (802.11a, ch36, 3 GHz-6 GHz)

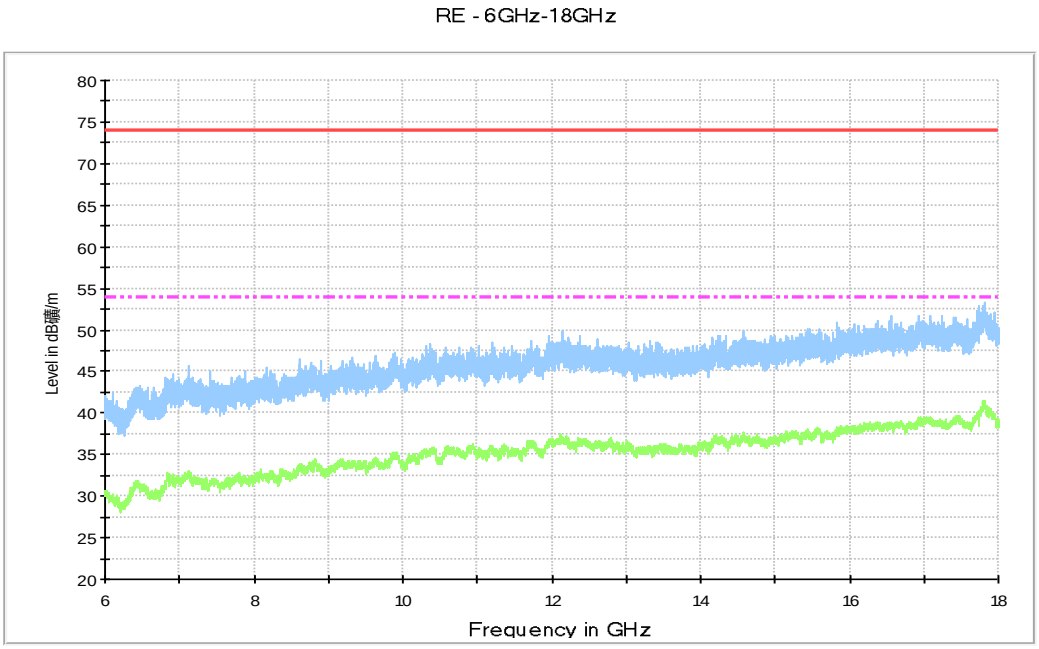


Fig. 37 Radiated Spurious Emission (802.11a, ch36, 6 GHz-18 GHz)

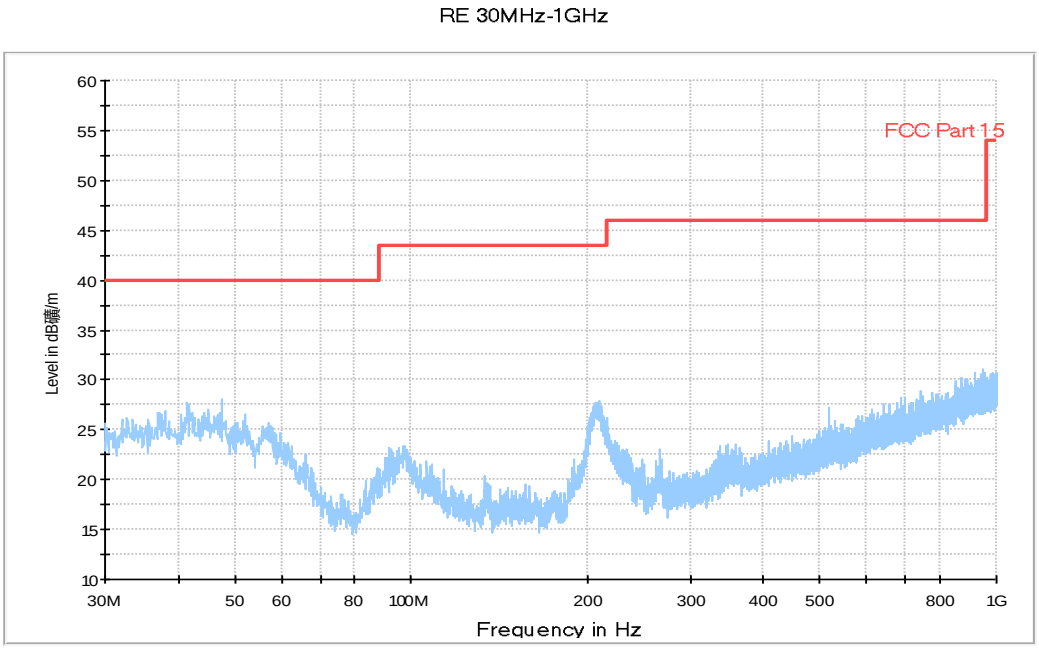


Fig. 38 Radiated Spurious Emission (802.11a, ch40, 30 MHz-1 GHz)

©Copyright. All rights reserved by CTTL.

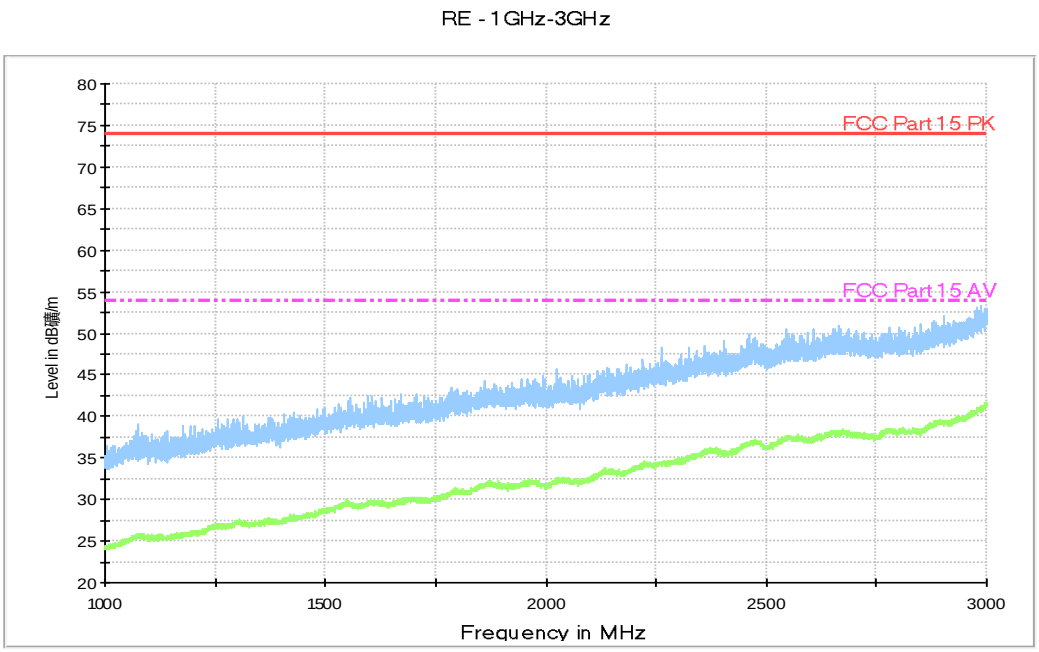


Fig. 39 Radiated Spurious Emission (802.11a, ch40, 1 GHz-3 GHz)

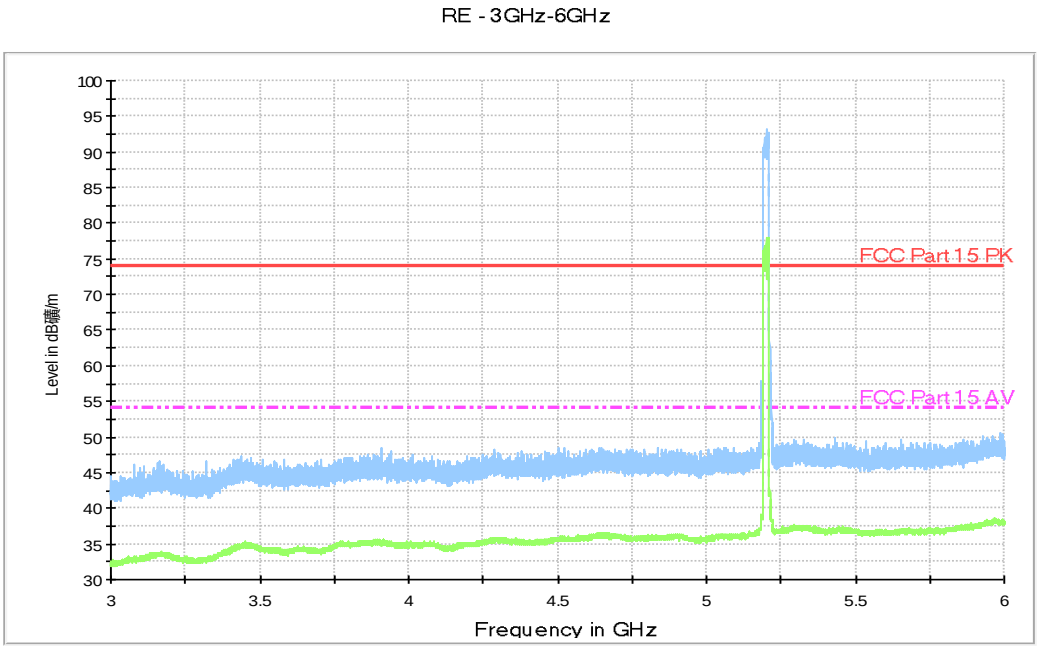


Fig. 40 Radiated Spurious Emission (802.11a, ch40, 3 GHz-6 GHz)

©Copyright. All rights reserved by CTTL.

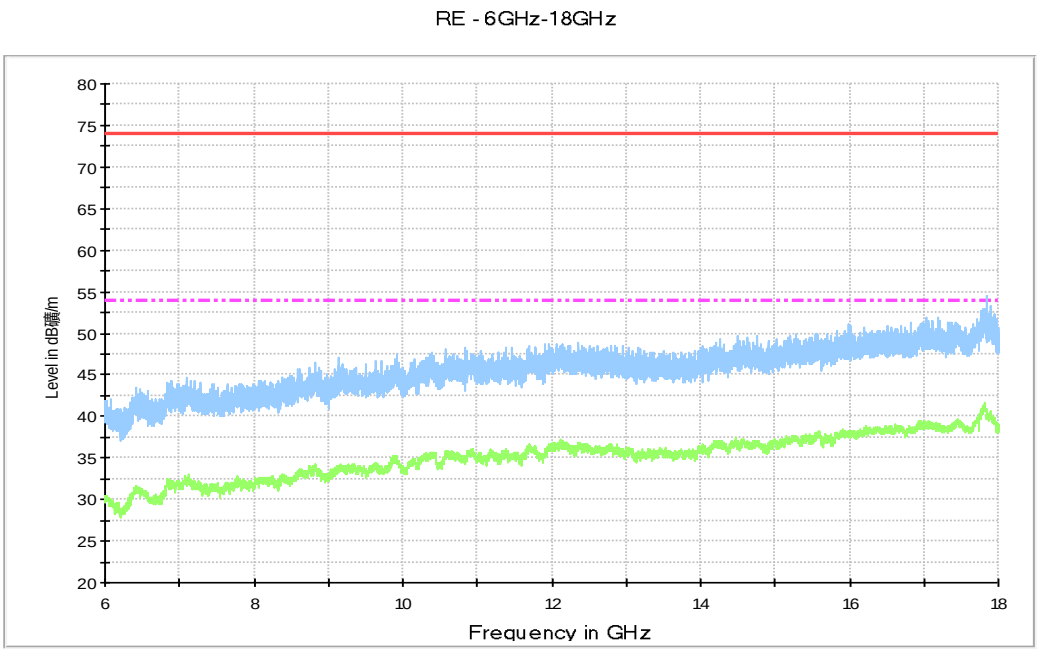


Fig. 41 Radiated Spurious Emission (802.11a, ch40, 6 GHz-18 GHz)

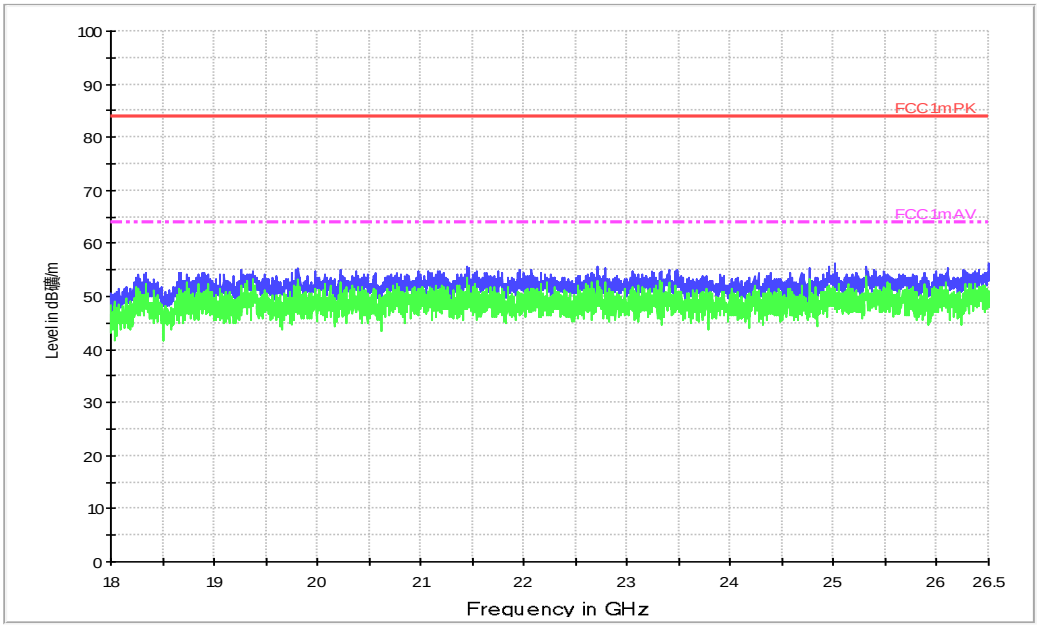


Fig. 42 Radiated Spurious Emission (802.11a, ch40, 18 GHz-26.5 GHz)

©Copyright. All rights reserved by CTTL.

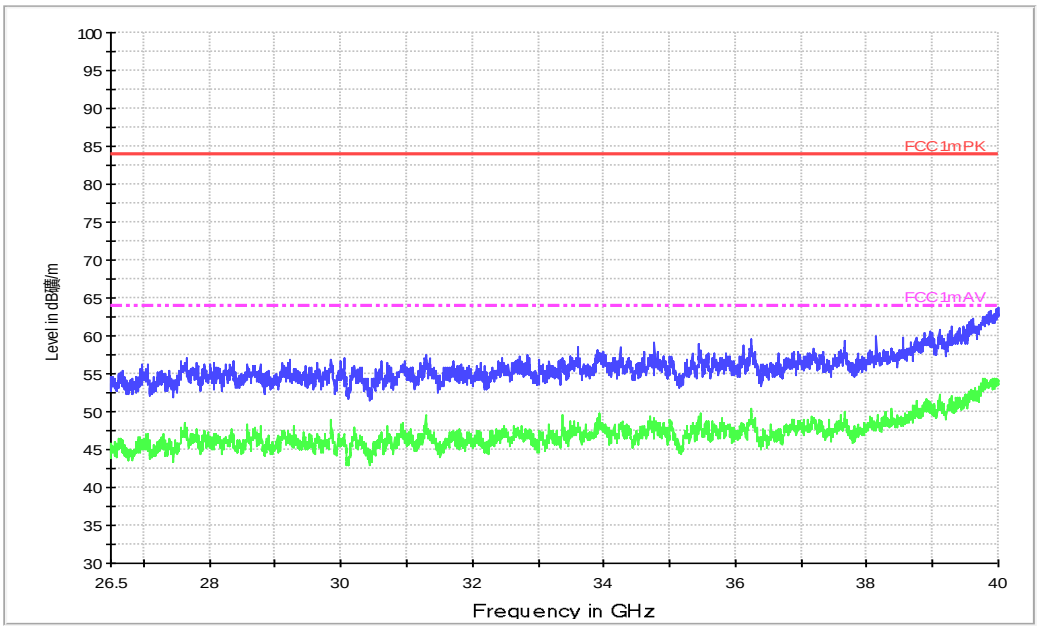
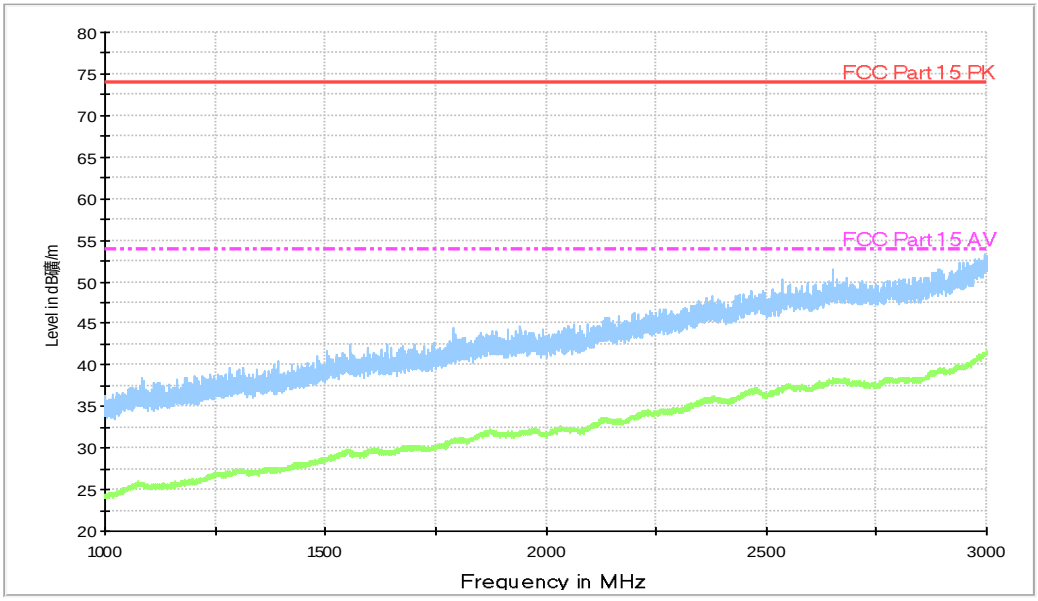


Fig. 43 Radiated Spurious Emission (802.11a, ch40, 26.5 GHz-40 GHz)

RE - 1GHz-3GHz



©Copyright. All rights reserved by CTTL.

Fig. 44 Radiated Spurious Emission (802.11a, ch48, 1 GHz-3 GHz)

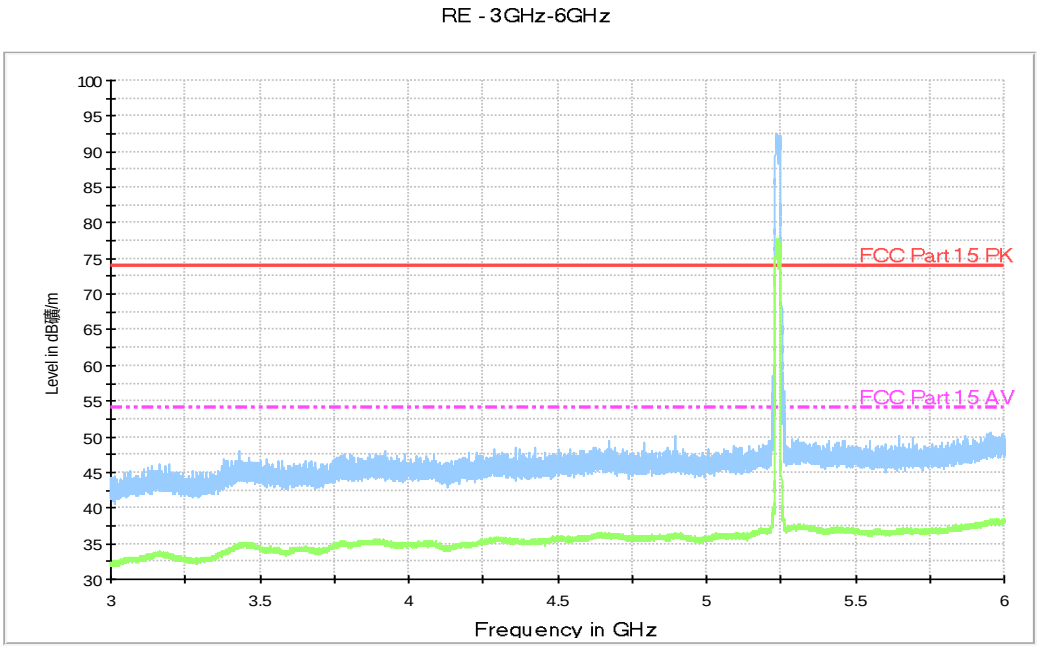


Fig. 45 Radiated Spurious Emission (802.11a, ch48, 3 GHz-6 GHz)

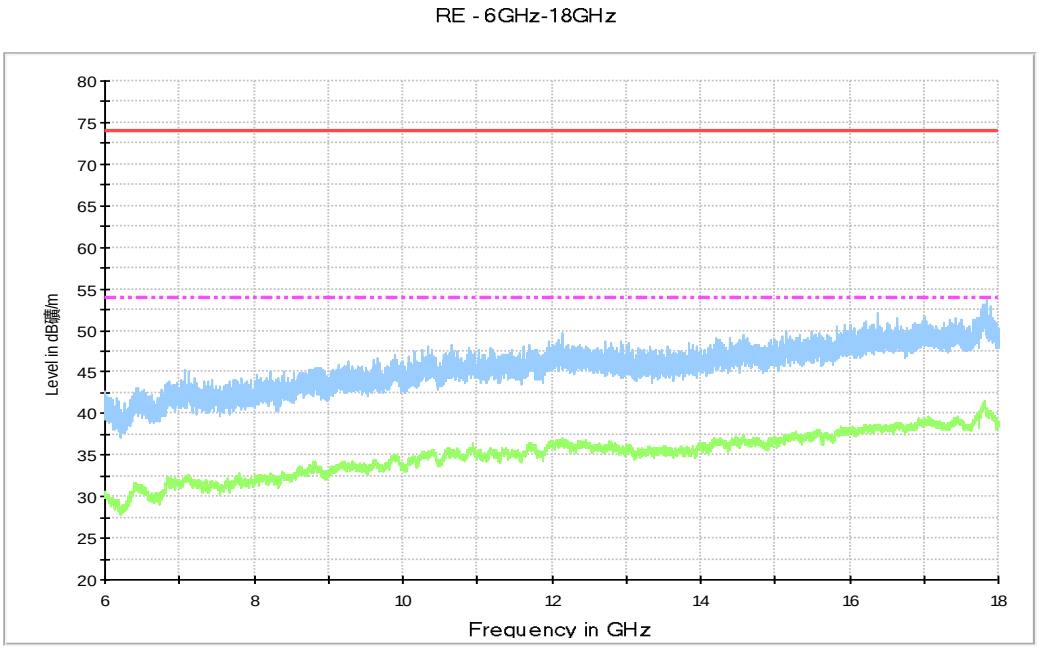


Fig. 46 Radiated Spurious Emission (802.11a, ch48, 6 GHz-18 GHz)

©Copyright. All rights reserved by CTTL.

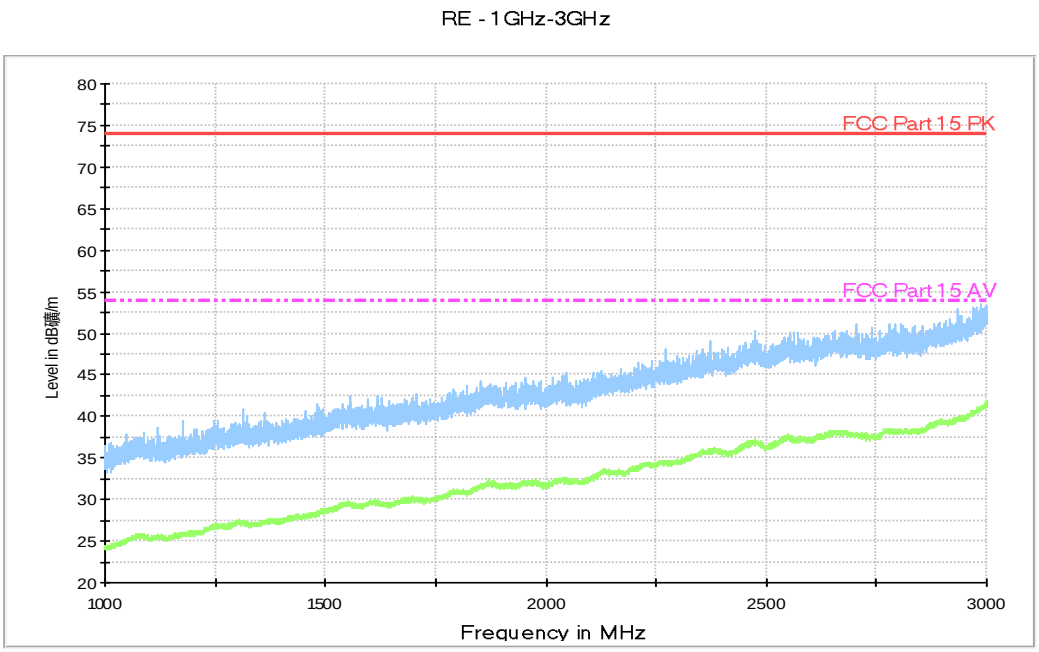


Fig. 47 Radiated Spurious Emission (802.11a, ch52, 1 GHz-3 GHz)

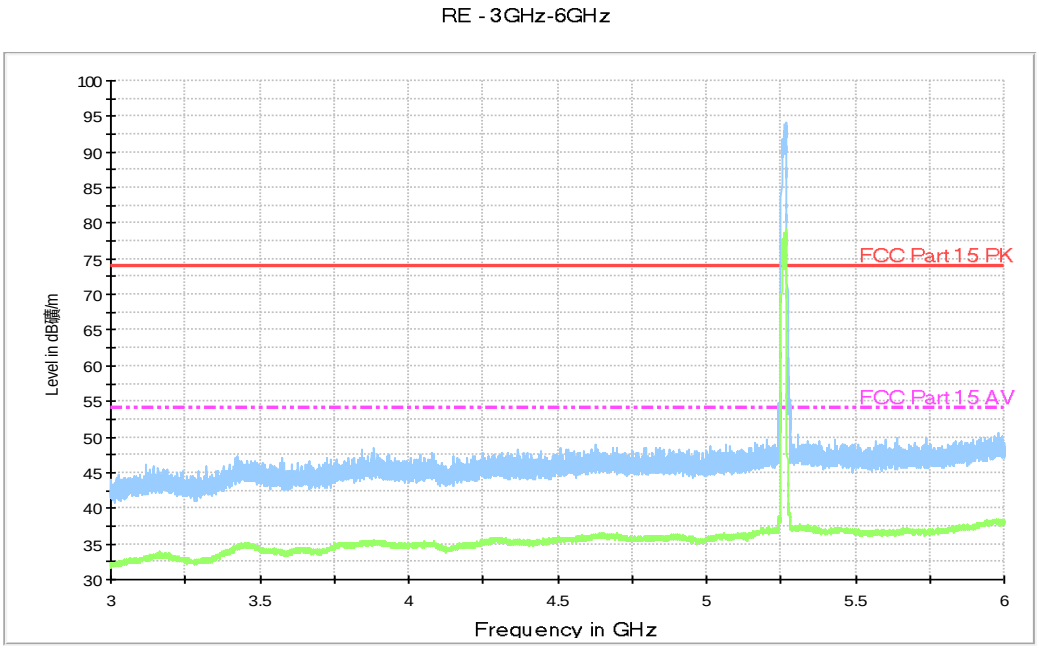


Fig. 48 Radiated Spurious Emission (802.11a, ch52, 3 GHz-6 GHz)

©Copyright. All rights reserved by CTTL.

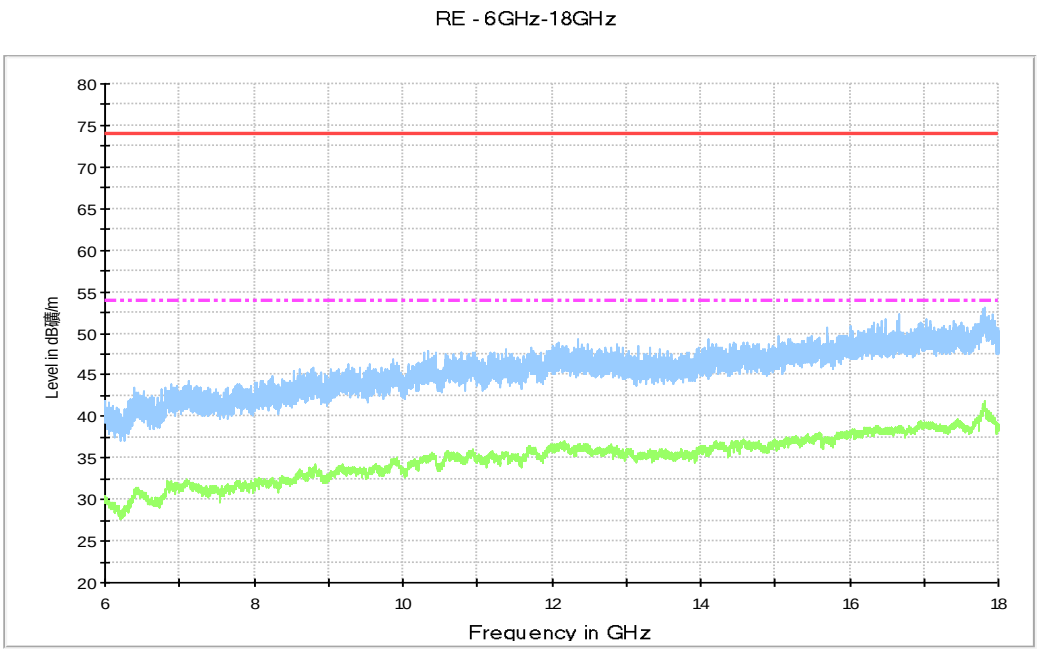


Fig. 49 Radiated Spurious Emission (802.11a, ch52, 6 GHz-18 GHz)

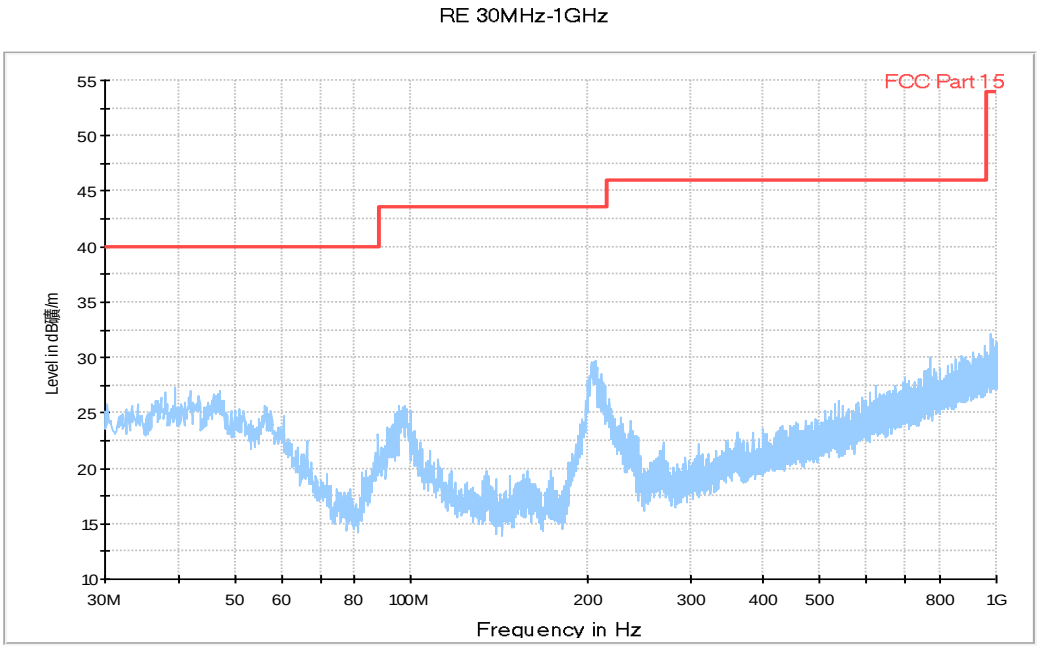


Fig. 50 Radiated Spurious Emission (802.11a, ch56, 30 MHz-1 GHz)

©Copyright. All rights reserved by CTTL.

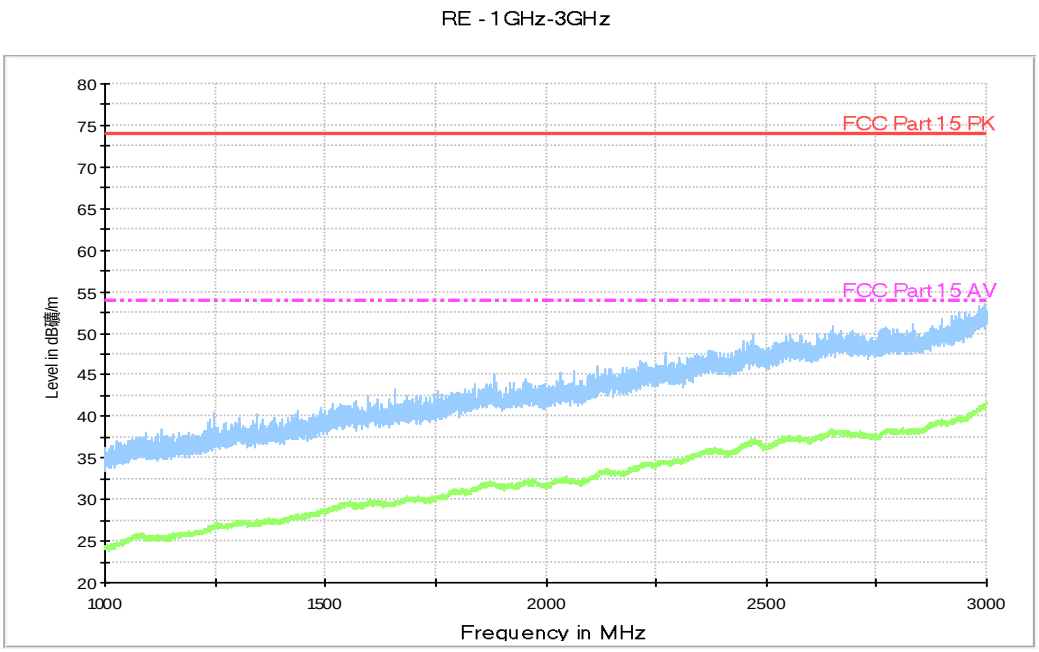


Fig. 51 Radiated Spurious Emission (802.11a, ch56, 1 GHz-3 GHz)

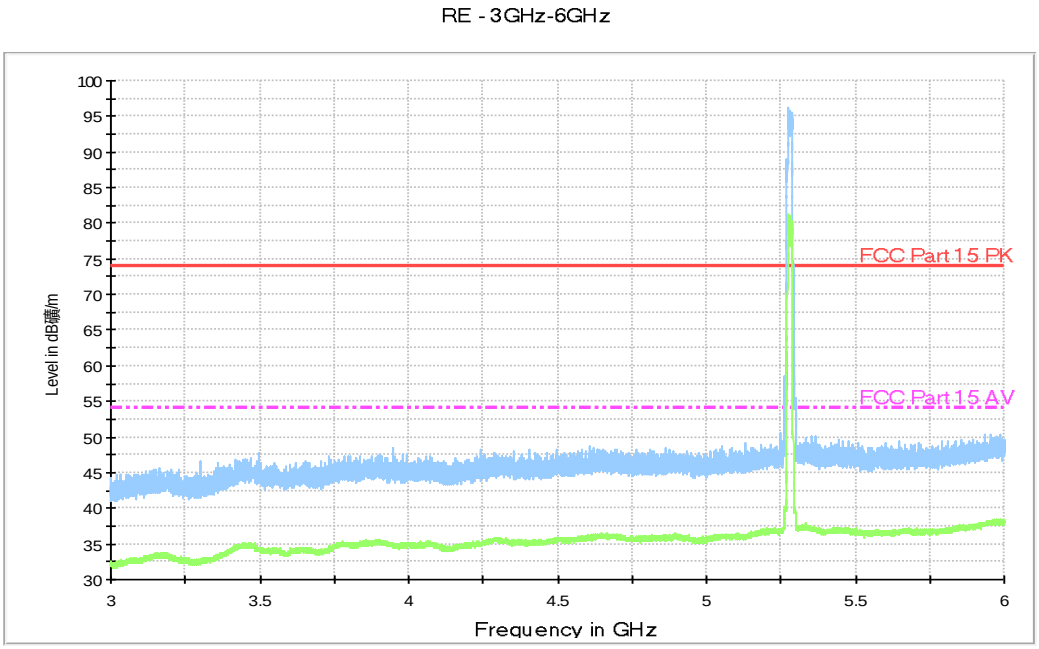


Fig. 52 Radiated Spurious Emission (802.11a, ch56, 3 GHz-6 GHz)

©Copyright. All rights reserved by CTTL.

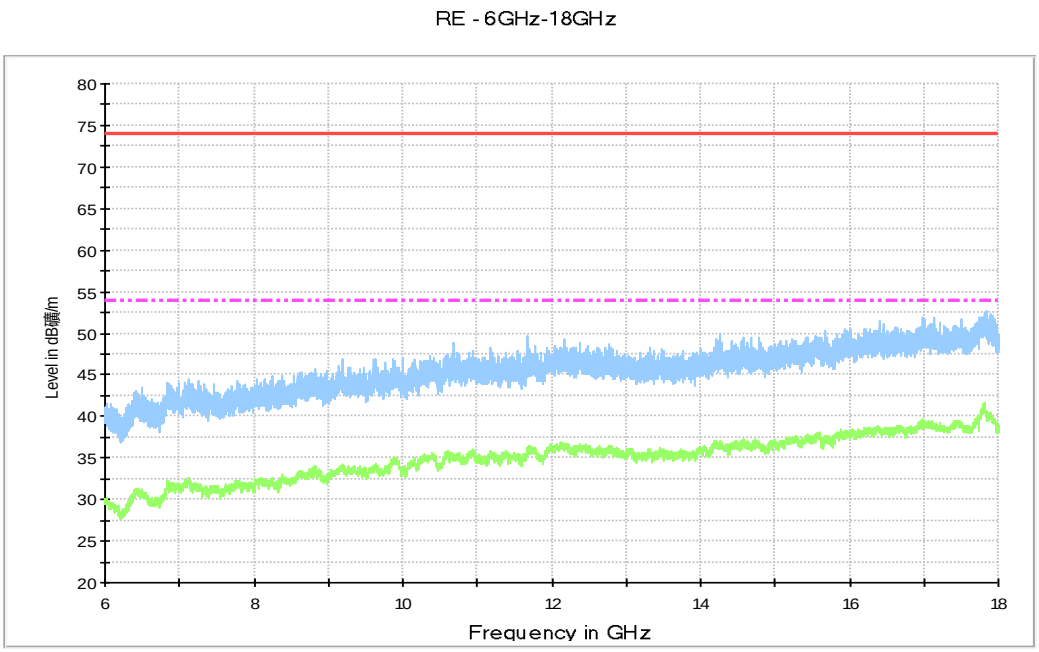


Fig. 53 Radiated Spurious Emission (802.11a, ch56, 6 GHz-18 GHz)

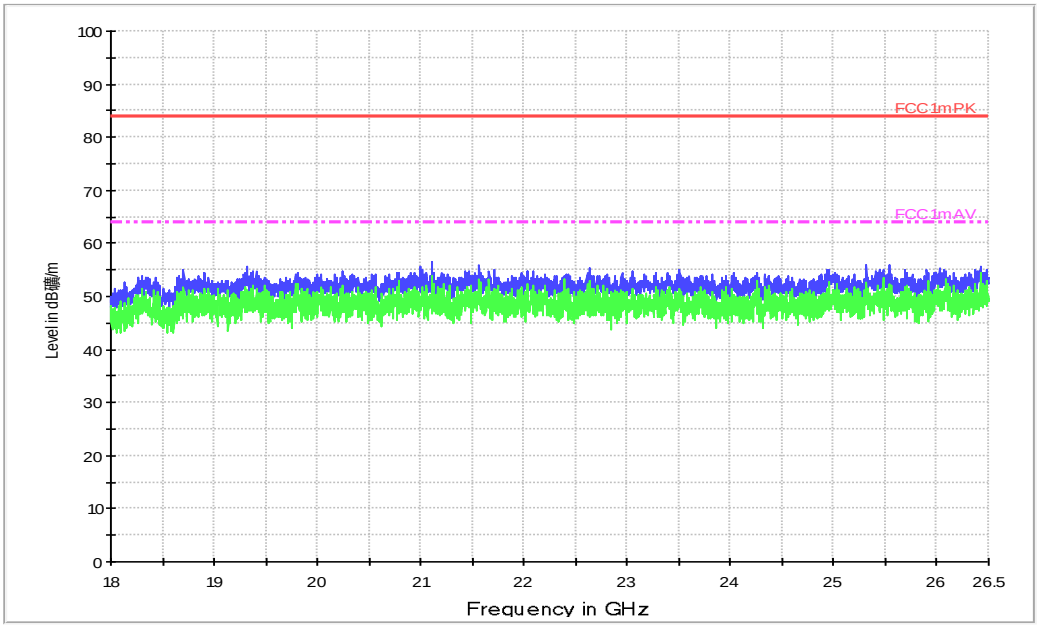


Fig. 54 Radiated Spurious Emission (802.11a, ch56, 18 GHz-26.5 GHz)

©Copyright. All rights reserved by CTTL.

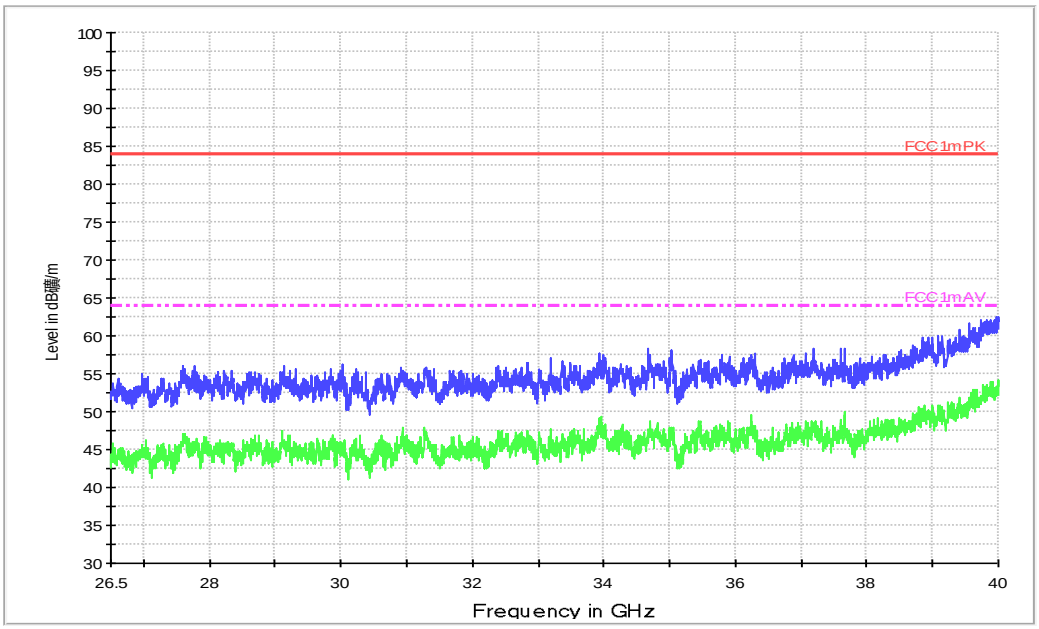


Fig. 55 Radiated Spurious Emission (802.11a, ch56, 26.5 GHz-40 GHz)

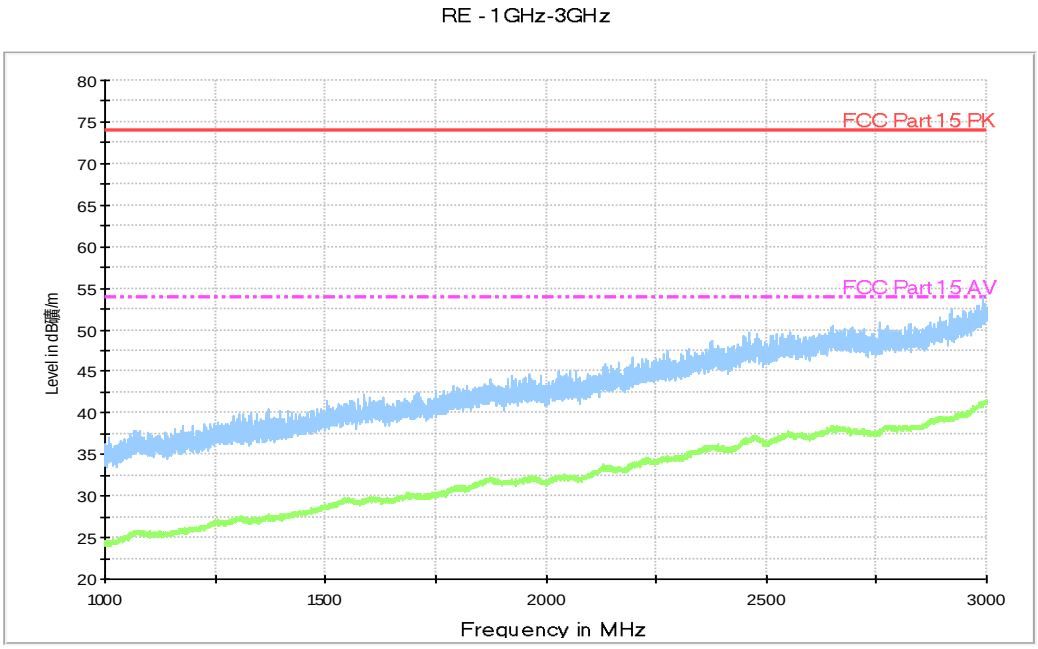


Fig. 56 Radiated Spurious Emission (802.11a, ch64, 1 GHz-3 GHz)

©Copyright. All rights reserved by CTTL.

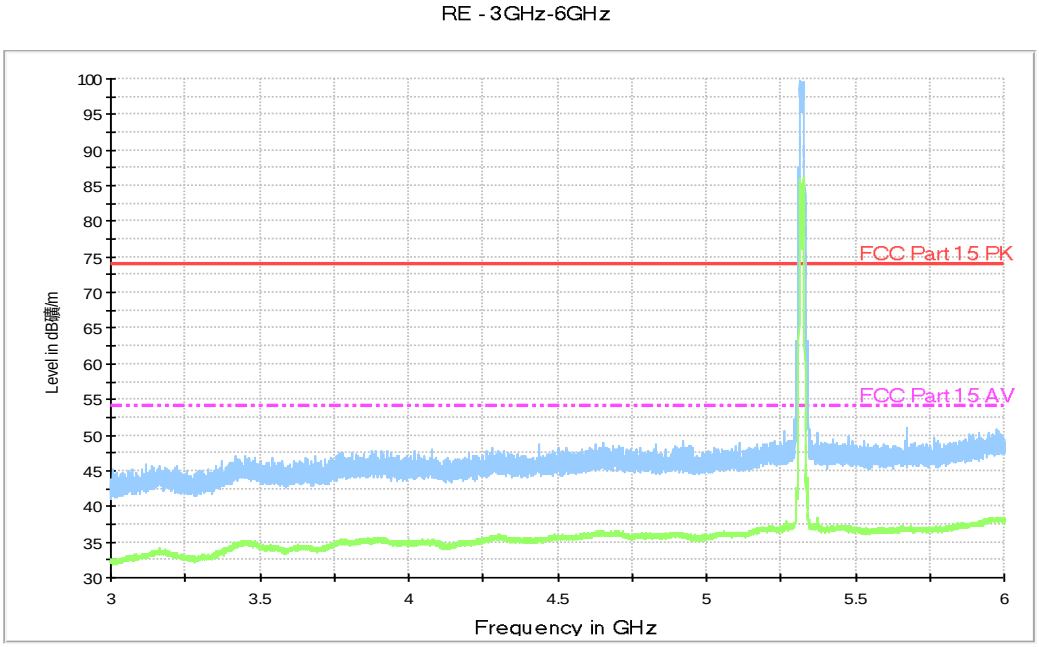
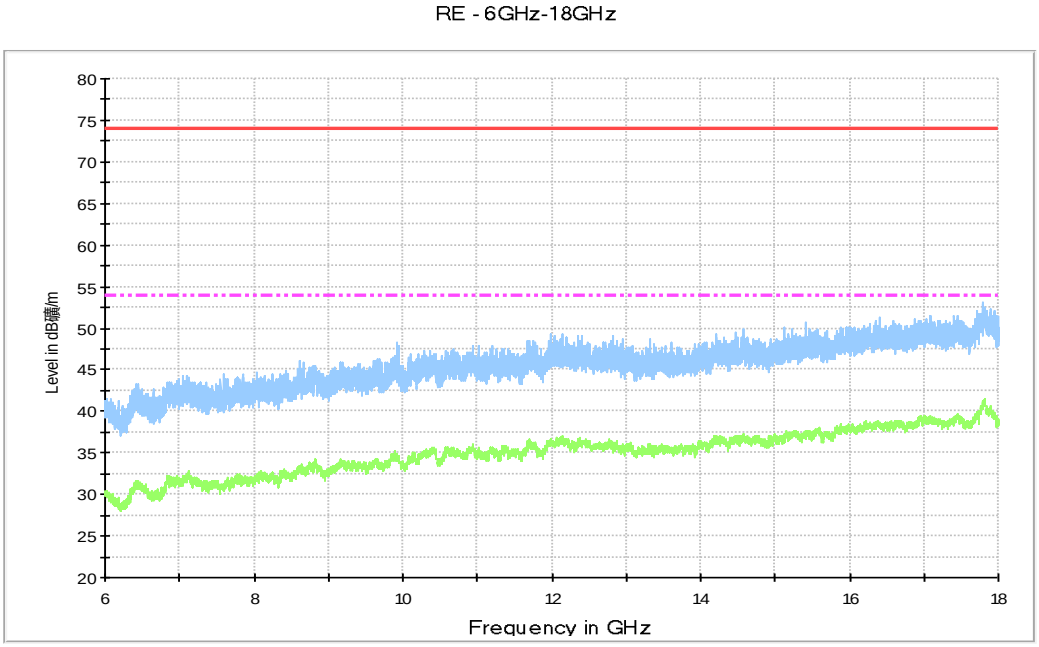


Fig. 57 Radiated Spurious Emission (802.11a, ch64, 3 GHz-6 GHz)



©Copyright. All rights reserved by CTTL.

Fig. 58 Radiated Spurious Emission (802.11a, ch64, 6 GHz-18 GHz)

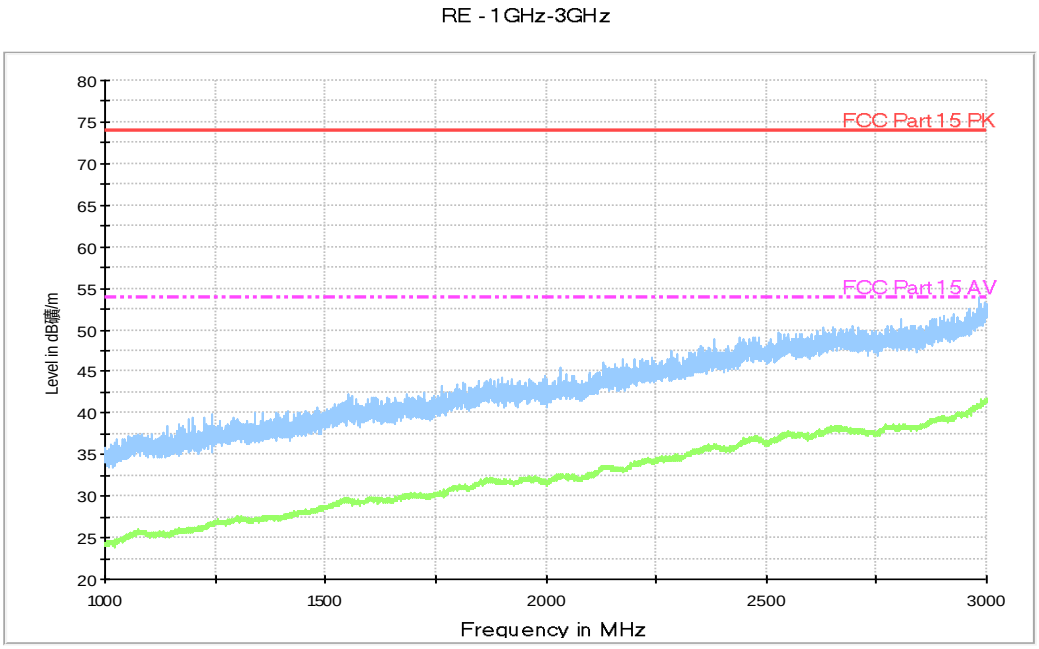


Fig. 59 Radiated Spurious Emission (802.11a, ch100, 1 GHz-3 GHz)

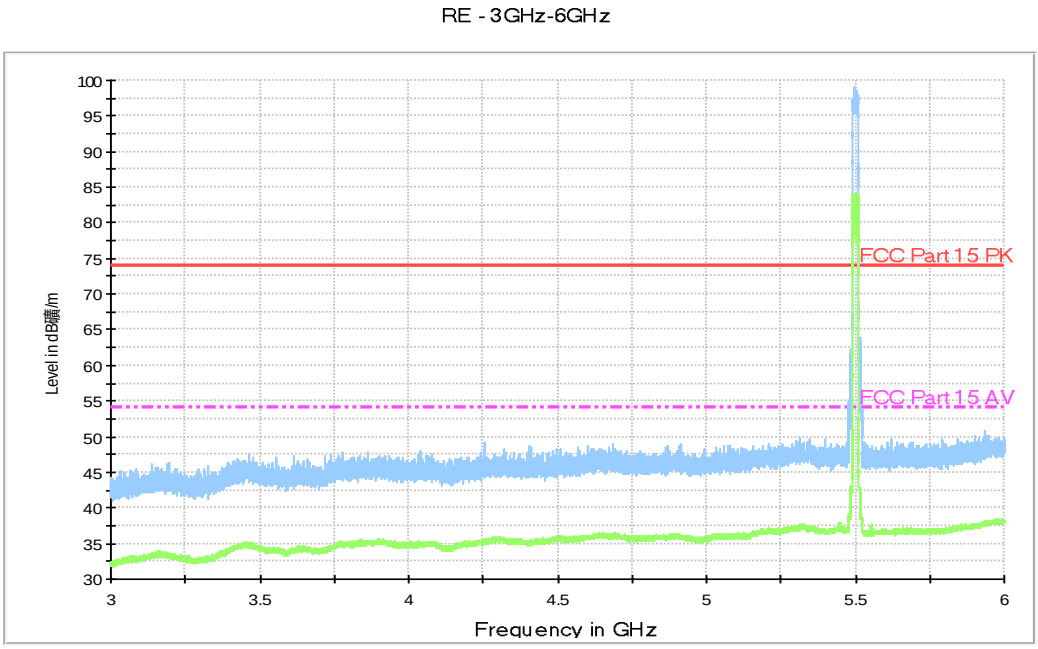


Fig. 60 Radiated Spurious Emission (802.11a, ch100, 3 GHz-6 GHz)

©Copyright. All rights reserved by CTTL.

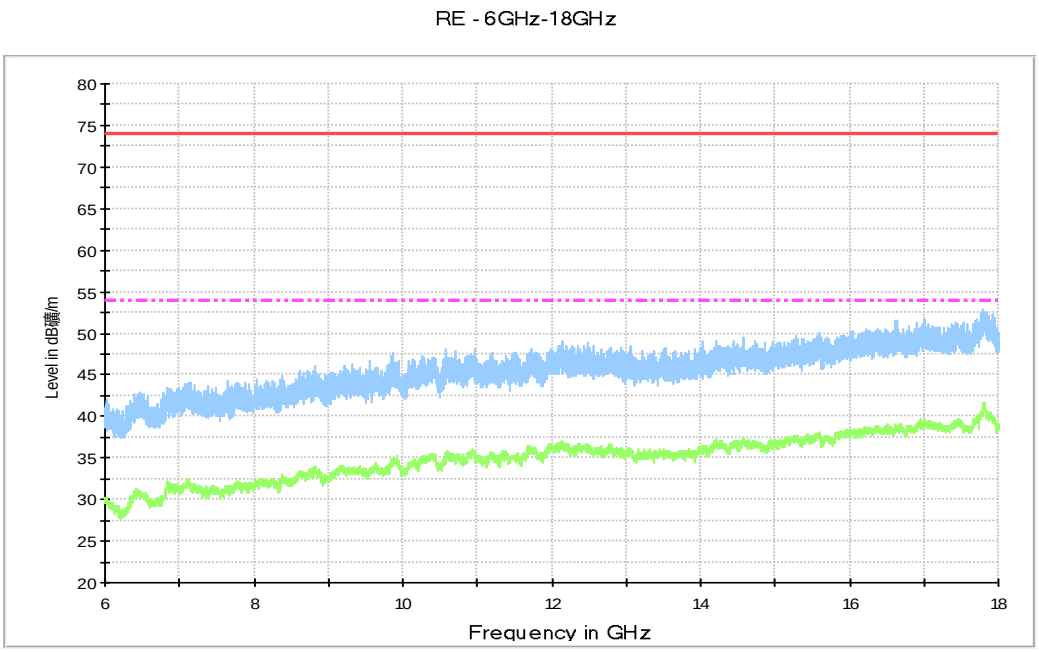
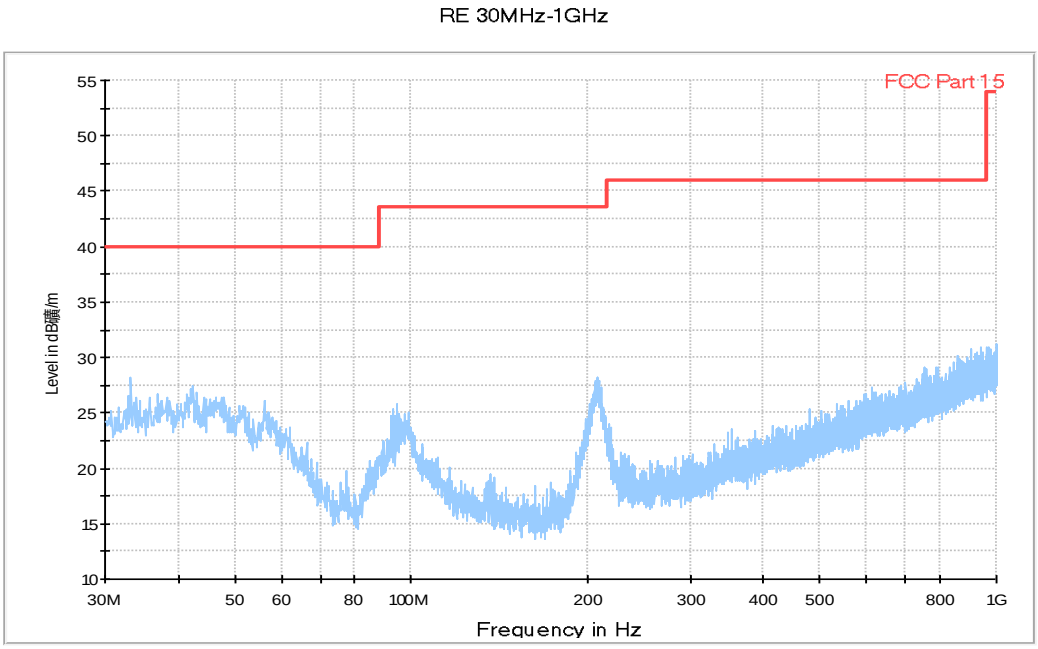


Fig. 61 Radiated Spurious Emission (802.11a, ch100, 6 GHz-18 GHz)



©Copyright. All rights reserved by CTTL.

Fig. 62 Radiated Spurious Emission (802.11a, ch116, 30 MHz-1 GHz)

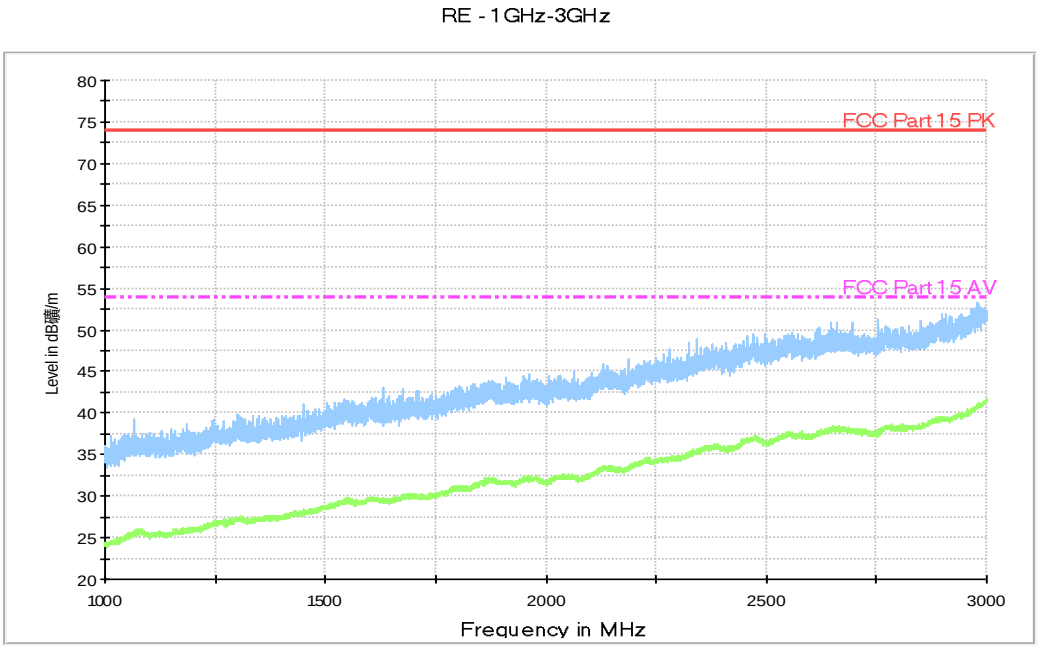
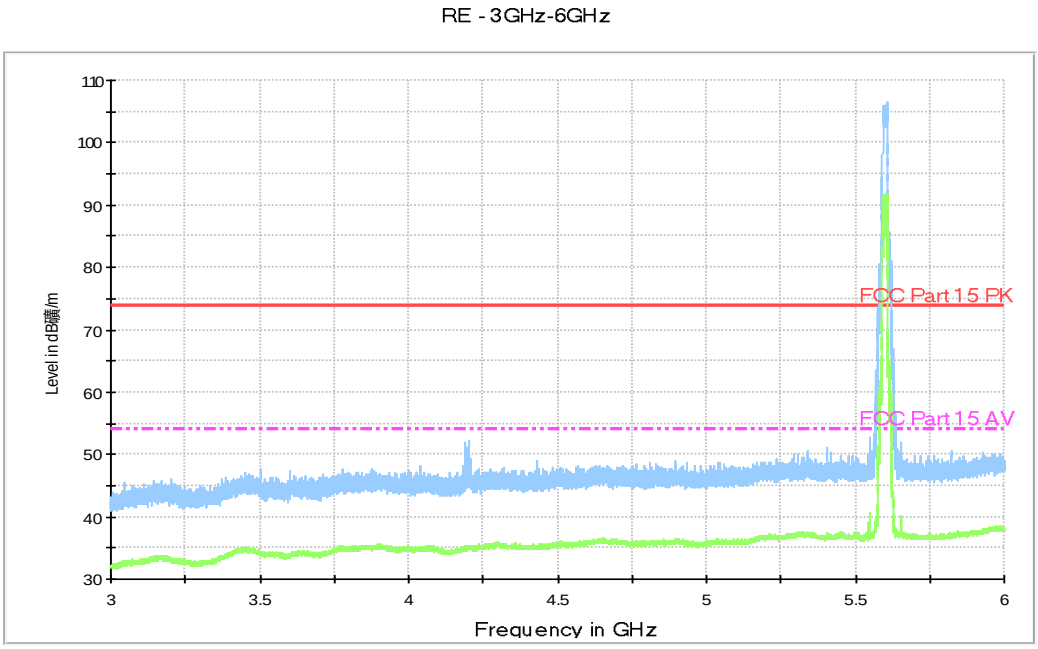


Fig. 63 Radiated Spurious Emission (802.11a, ch116, 1GHz-3 GHz)



©Copyright. All rights reserved by CTTL.

Fig. 64 Radiated Spurious Emission (802.11a, ch116,3G Hz-6 GHz)

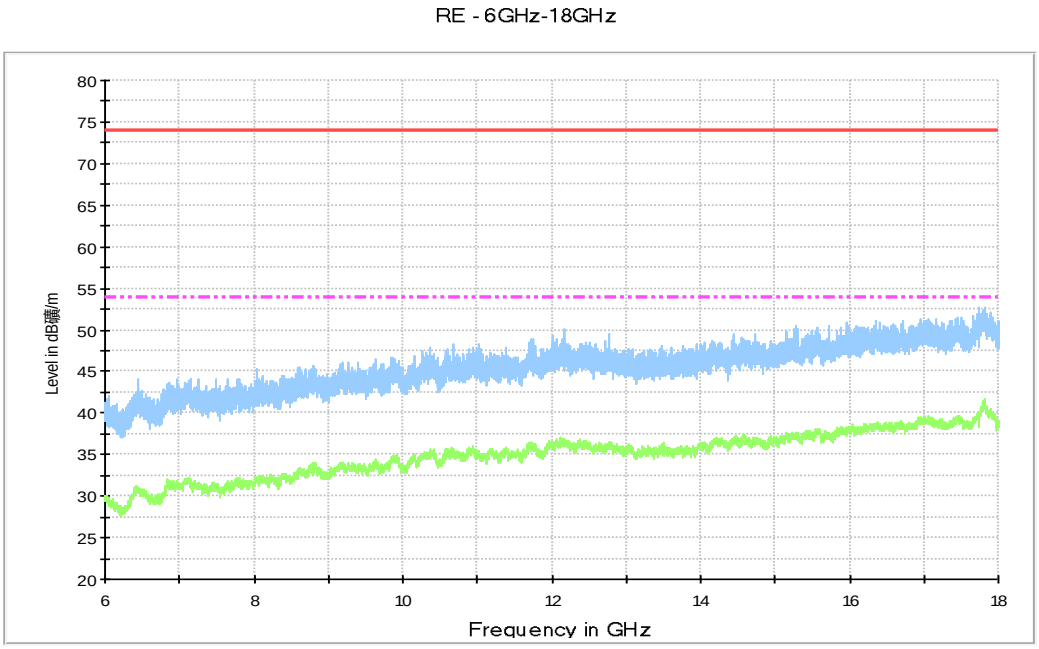


Fig. 65 Radiated Spurious Emission (802.11a, ch116, 6 GHz-18 GHz)

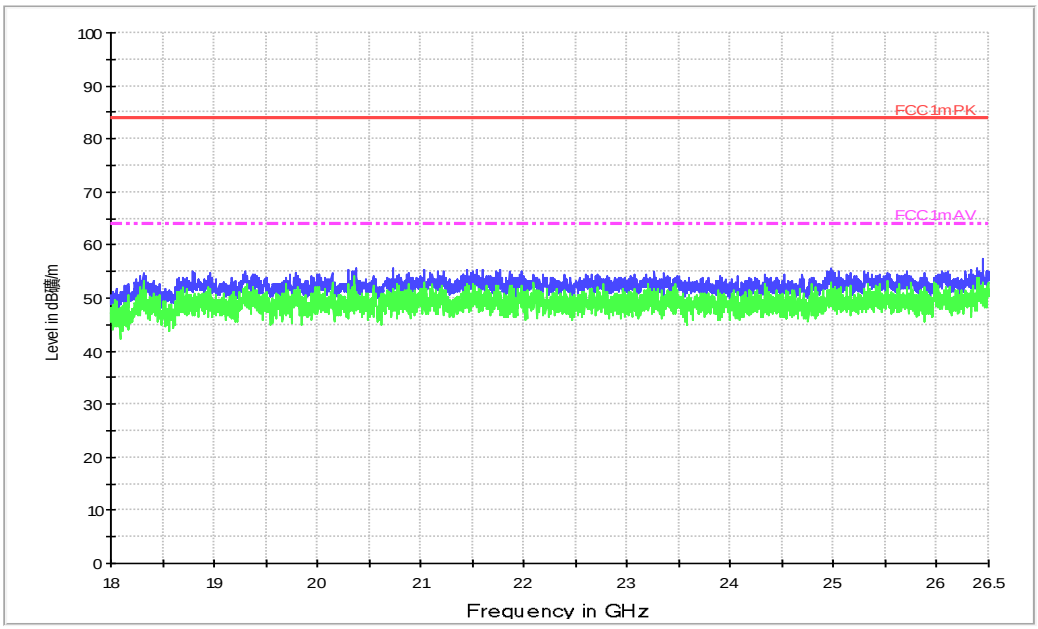


Fig. 66 Radiated Spurious Emission (802.11a, ch116, 18 GHz-26.5 GHz)

©Copyright. All rights reserved by CTTL.

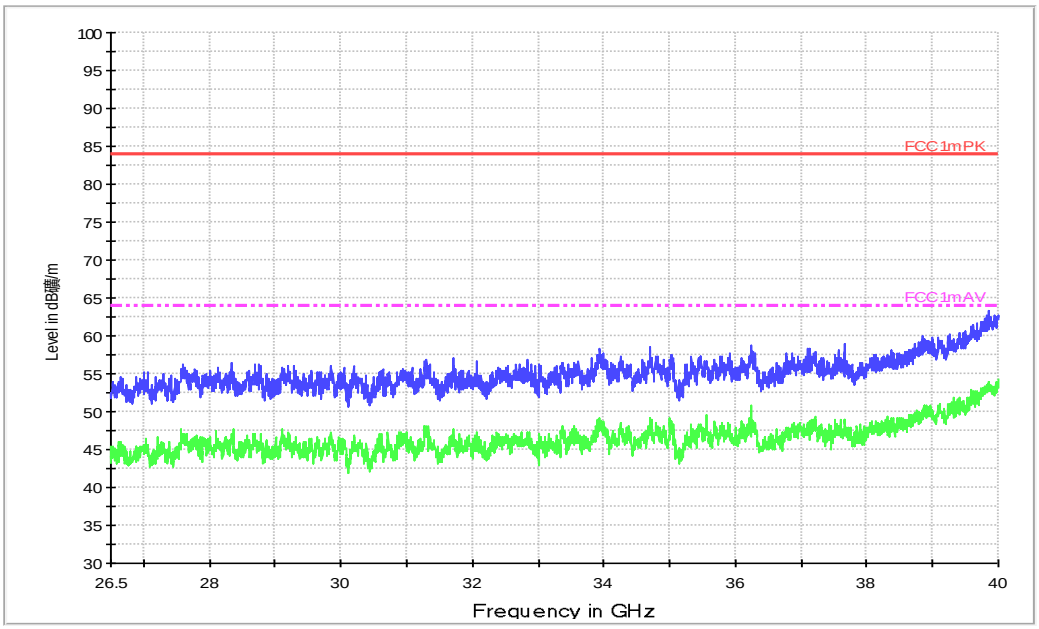
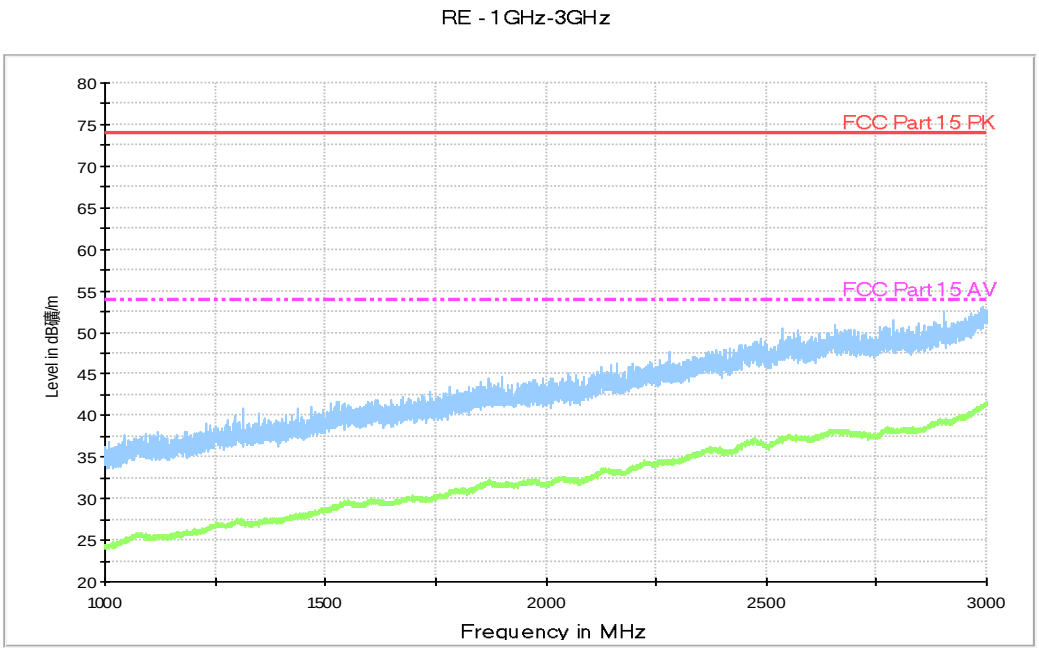


Fig. 67 Radiated Spurious Emission (802.11a, ch116, 26.5 GHz-40 GHz)



©Copyright. All rights reserved by CTTL.

Fig. 68 Radiated Spurious Emission (802.11a, ch140, 1 GHz-3 GHz)

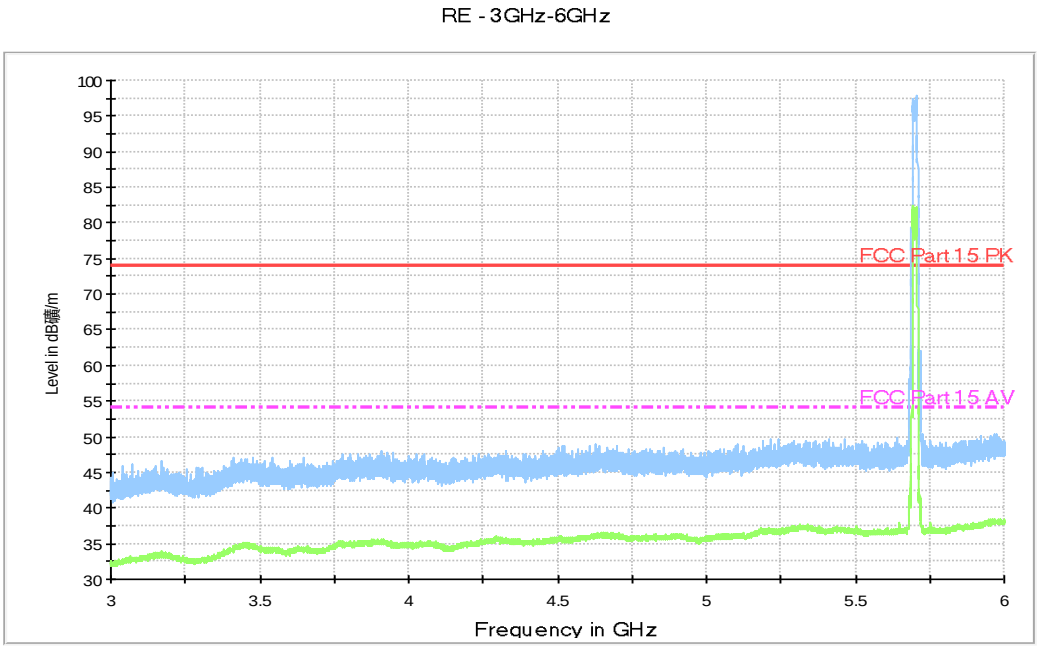


Fig. 69 Radiated Spurious Emission (802.11a, ch140, 3 GHz-6 GHz)

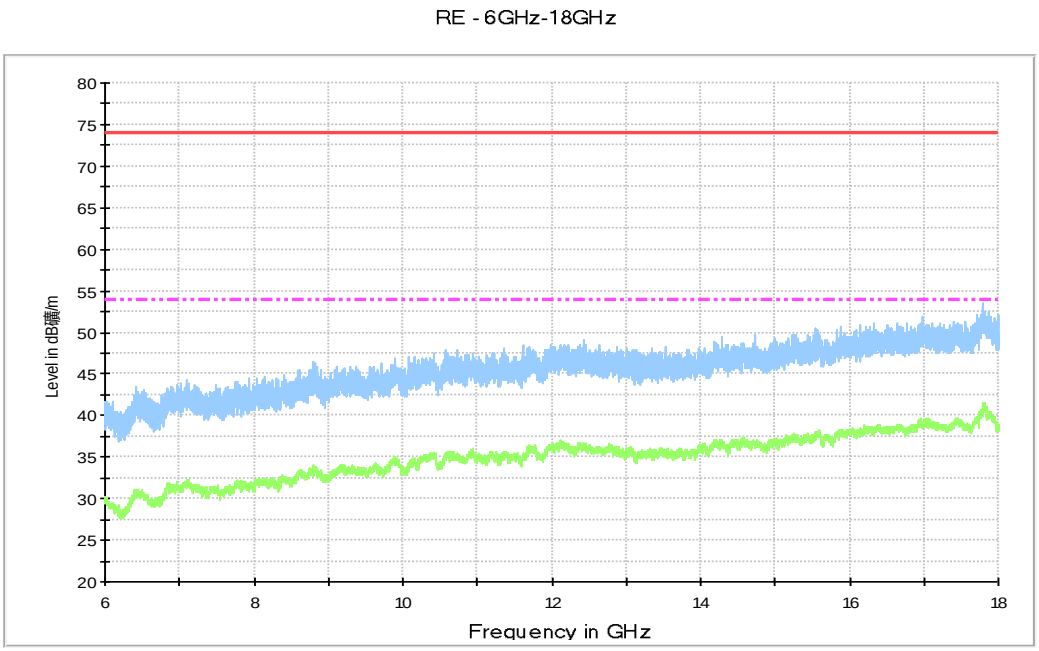


Fig. 70 Radiated Spurious Emission (802.11a, ch140, 6 GHz-18 GHz)

©Copyright. All rights reserved by CTTL.

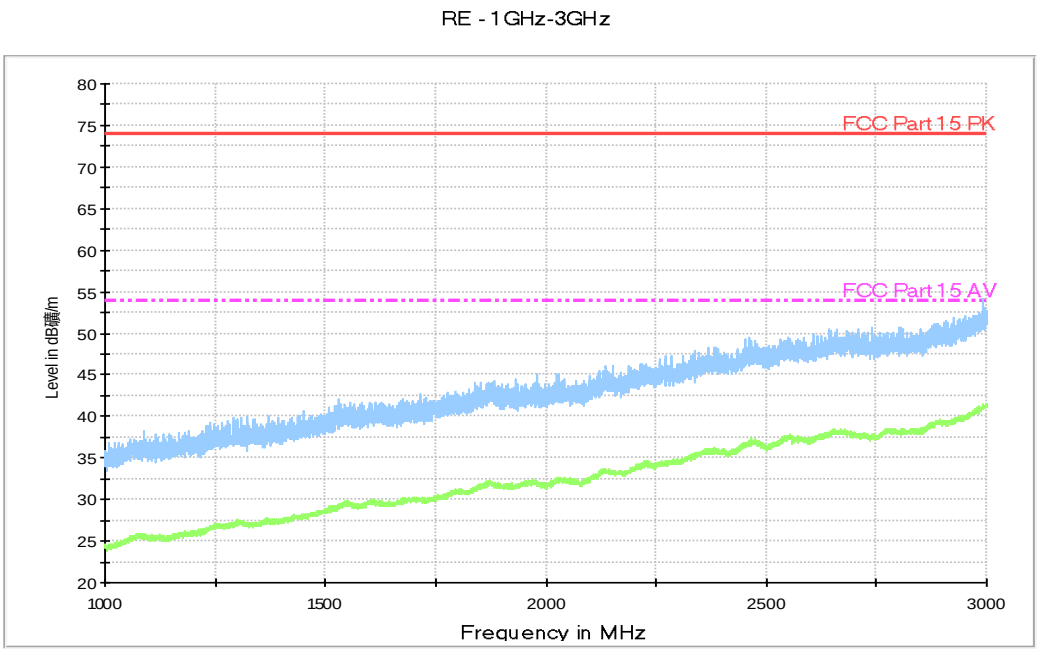


Fig. 71 Radiated Spurious Emission (802.11n-HT20, ch36, 1 GHz-3 GHz)

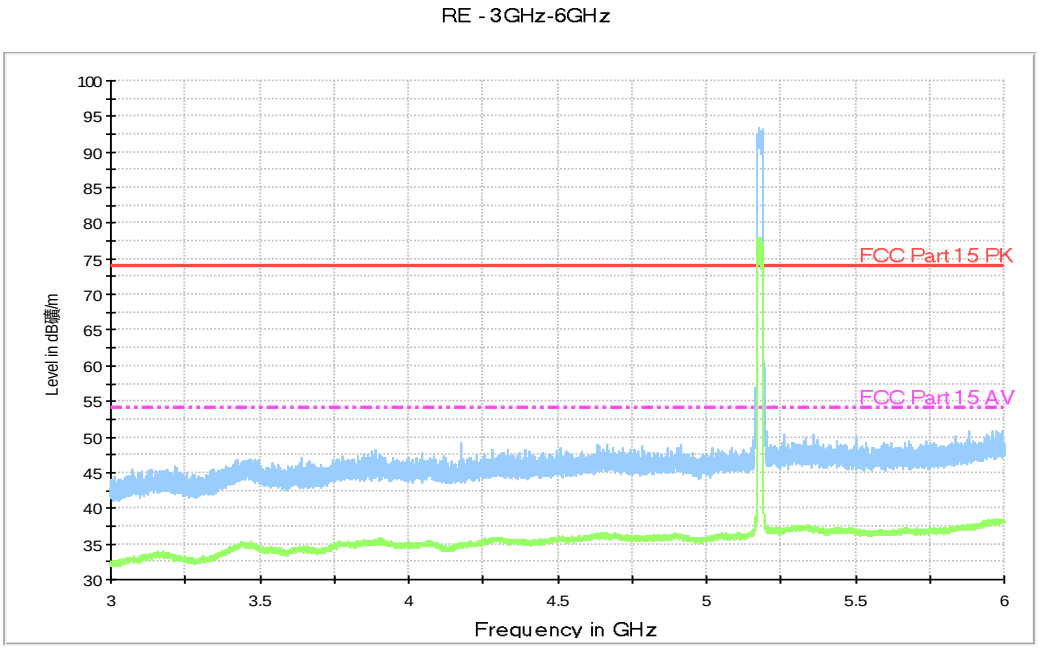


Fig. 72 Radiated Spurious Emission (802.11n-HT20, ch36, 3 GHz-6 GHz)

©Copyright. All rights reserved by CTTL.

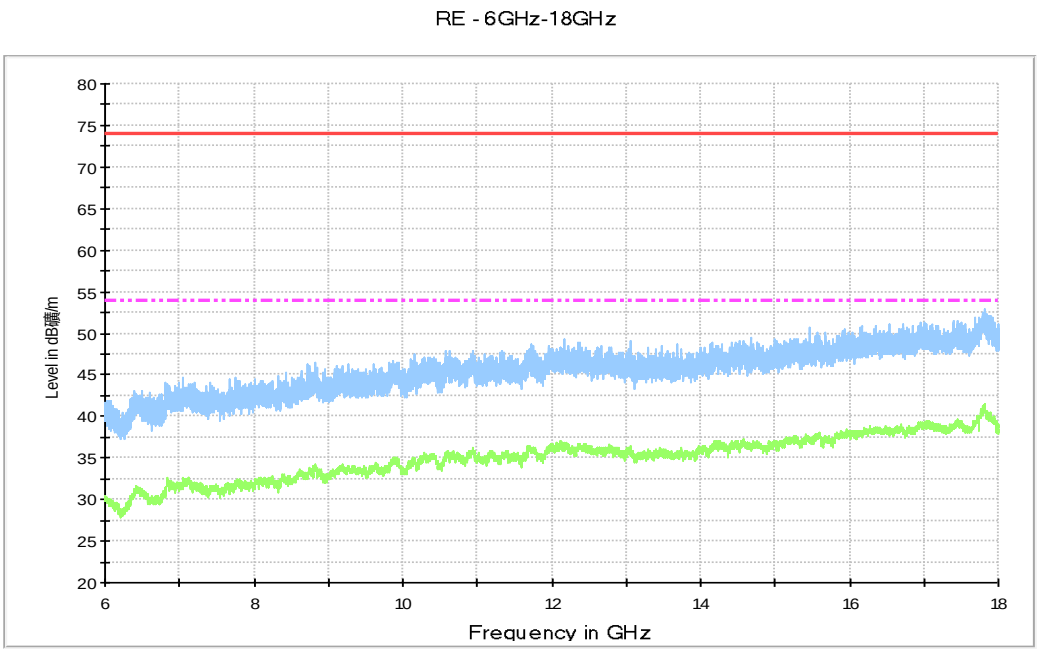


Fig. 73 Radiated Spurious Emission (802.11n-HT20, ch36, 6 GHz-18 GHz)

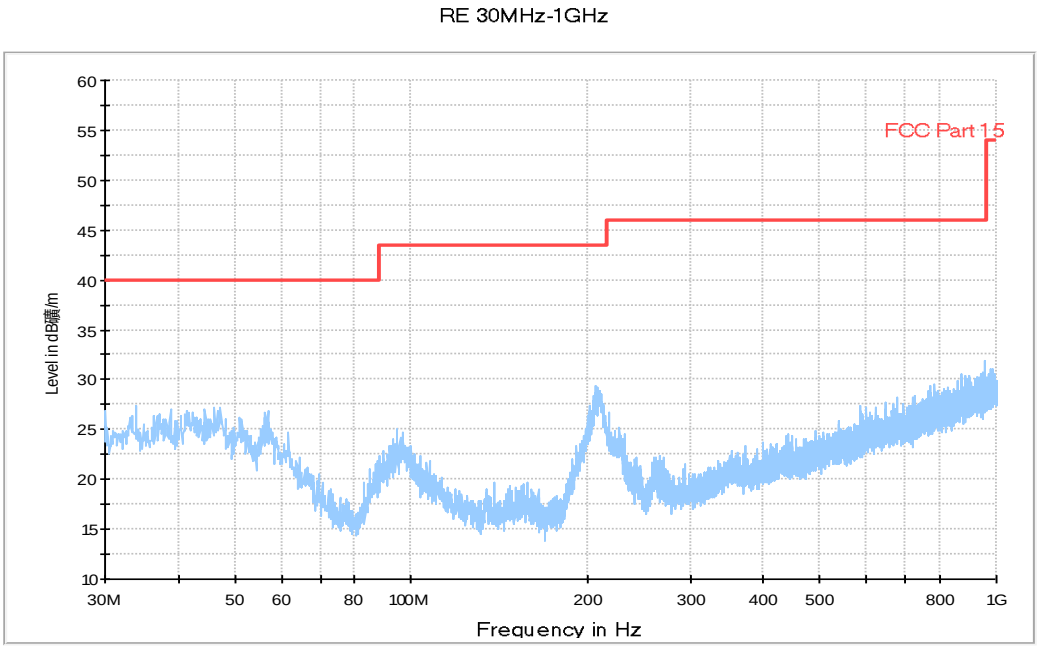


Fig. 74 Radiated Spurious Emission (802.11n-HT20, ch40, 30 MHz-1 GHz)

©Copyright. All rights reserved by CTTL.

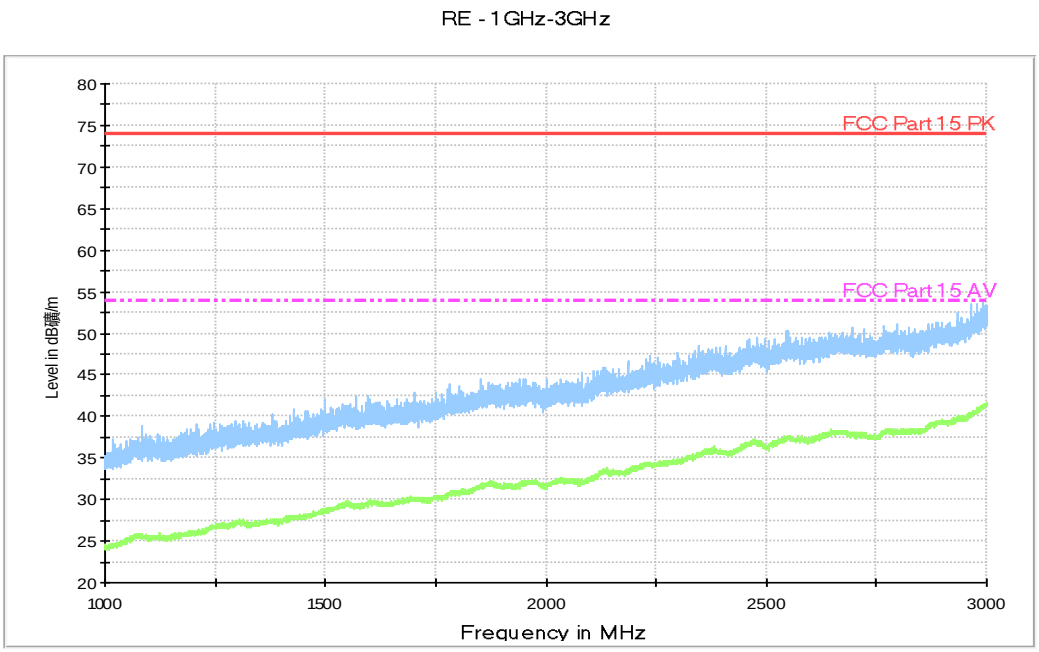


Fig. 75 Radiated Spurious Emission (802.11n-HT20, ch40, 1 GHz-3 GHz)

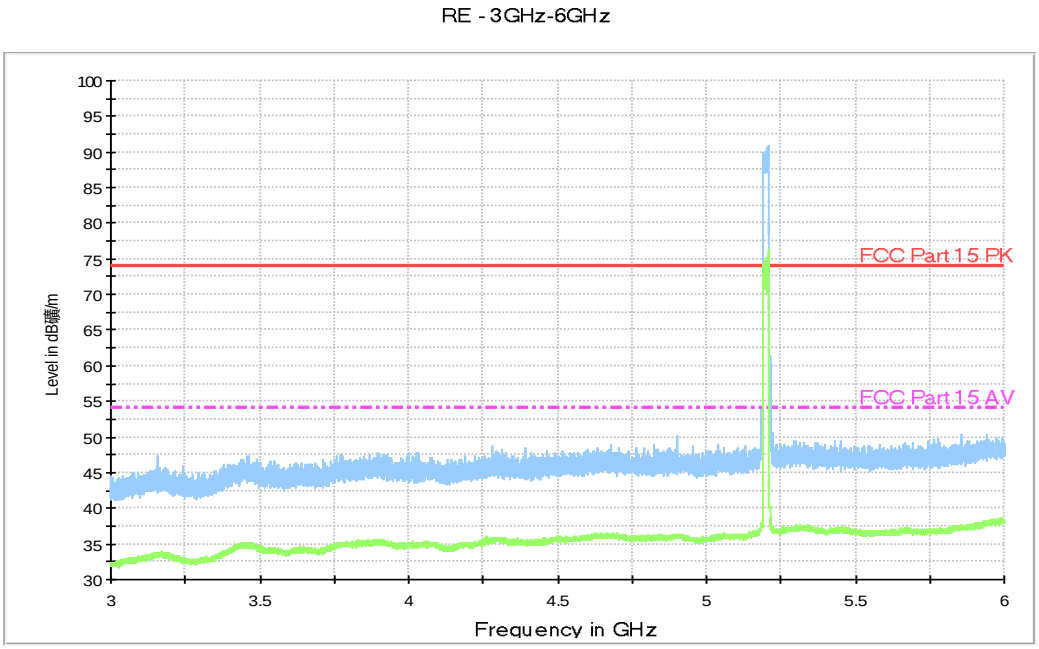


Fig. 76 Radiated Spurious Emission (802.11n-HT20, ch40, 3 GHz-6 GHz)

©Copyright. All rights reserved by CTTL.

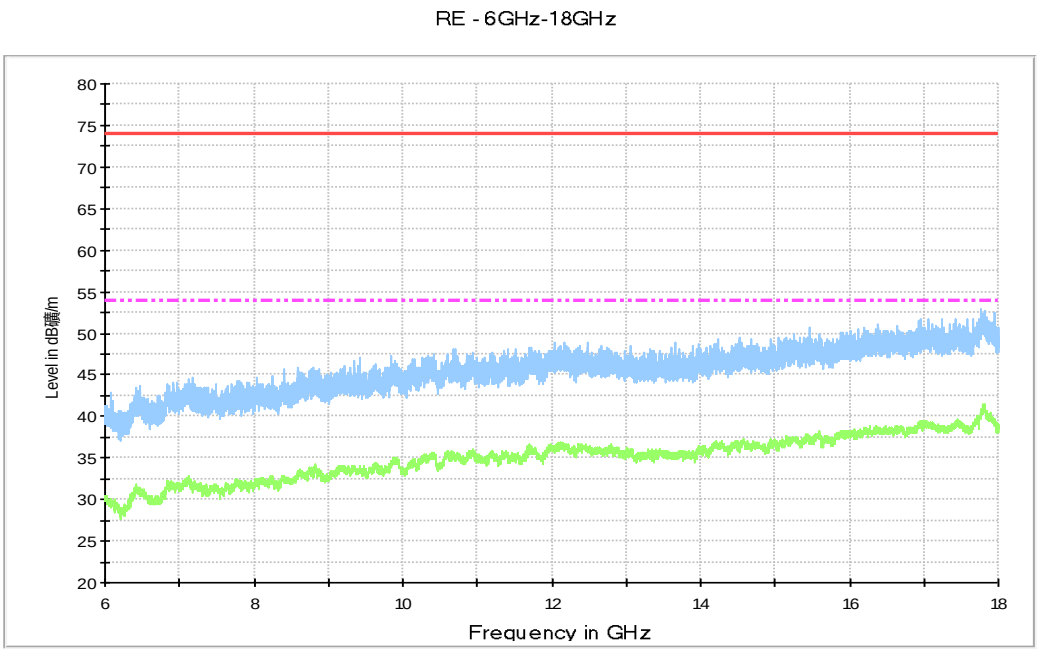


Fig. 77 Radiated Spurious Emission (802.11n-HT20, ch40, 6 GHz-18 GHz)

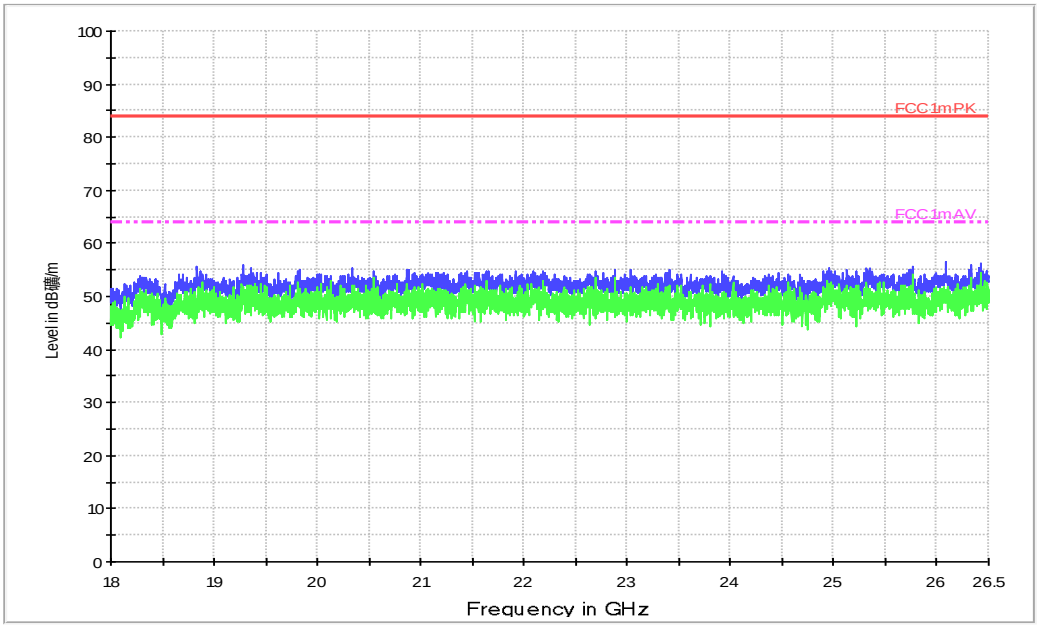


Fig. 78 Radiated Spurious Emission (802.11n-HT20, ch40, 18 GHz-26.5 GHz)

©Copyright. All rights reserved by CTTL.

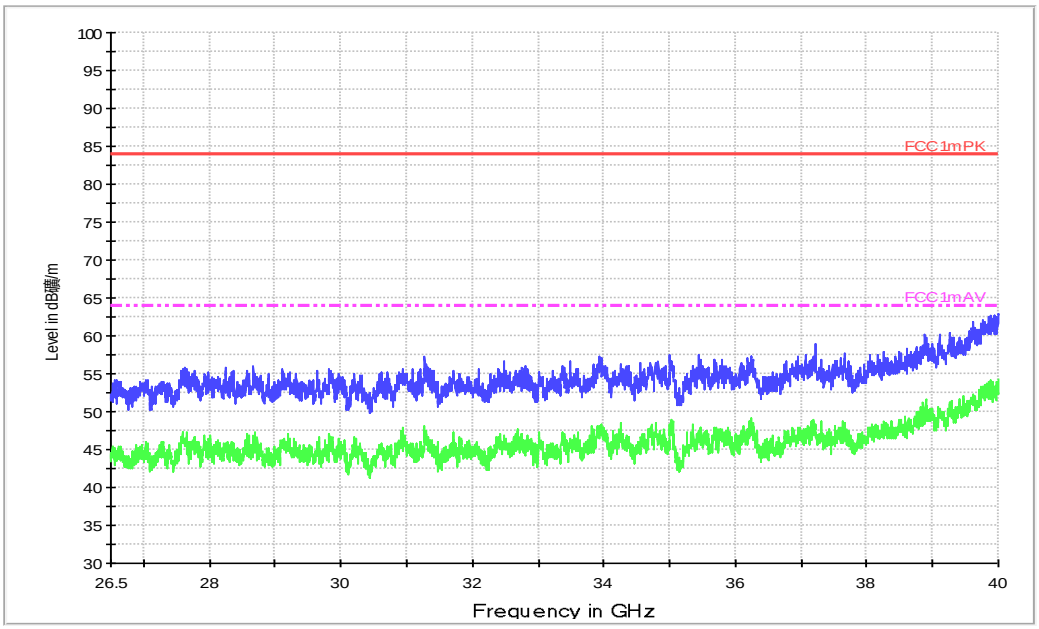
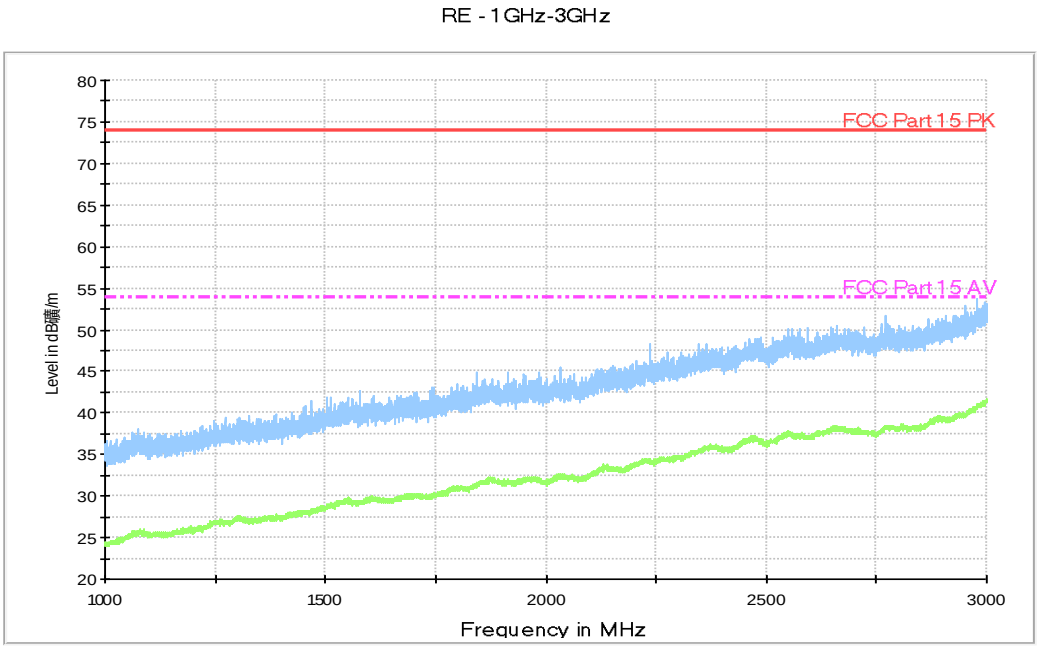


Fig. 79 Radiated Spurious Emission (802.11n-HT20, ch40, 26.5 GHz-40 GHz)



©Copyright. All rights reserved by CTTL.

Fig. 80 Radiated Spurious Emission (802.11n-HT20, ch48, 1 GHz-3 GHz)

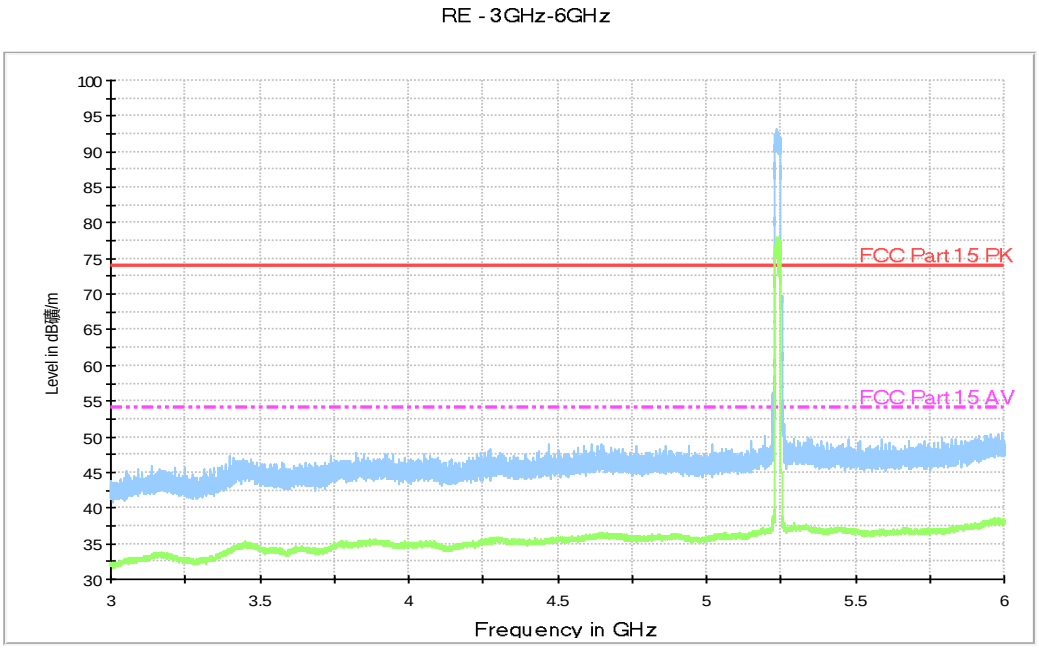


Fig. 81 Radiated Spurious Emission (802.11n-HT20, ch48, 3 GHz-6 GHz)

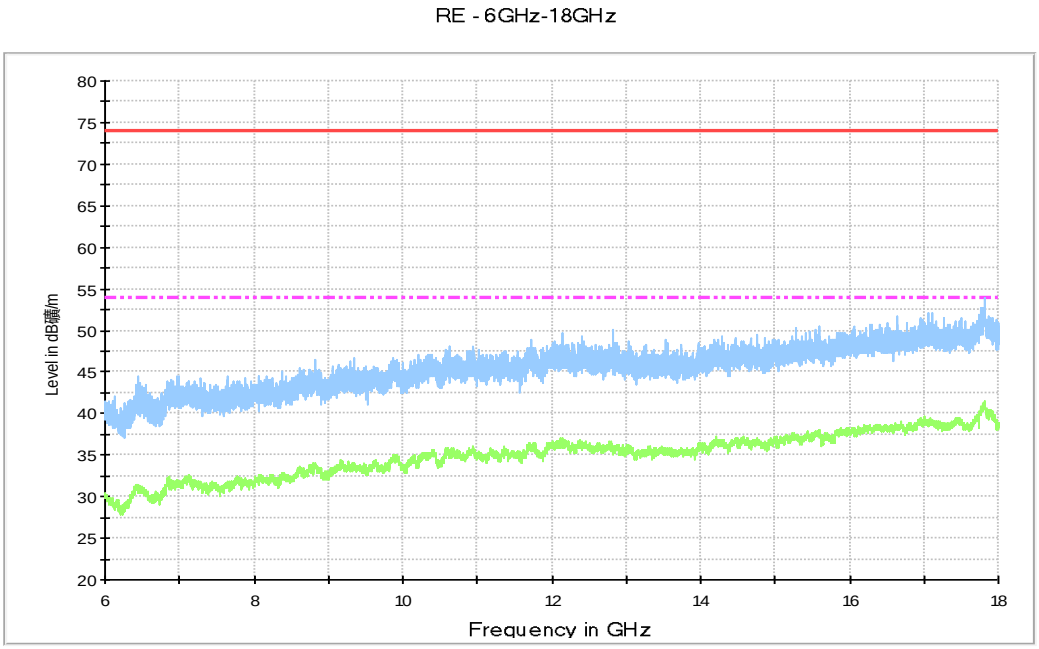


Fig. 82 Radiated Spurious Emission (802.11n-HT20, ch48, 6 GHz-18 GHz)

©Copyright. All rights reserved by CTTL.

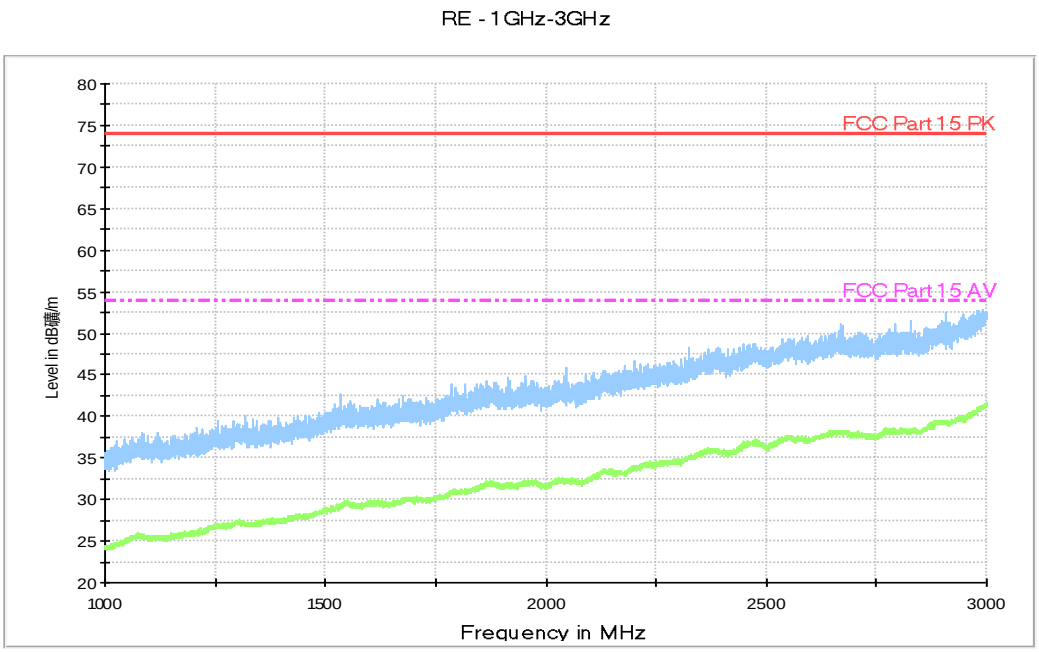


Fig. 83 Radiated Spurious Emission (802.11n-HT20, ch52, 1 GHz-3 GHz)

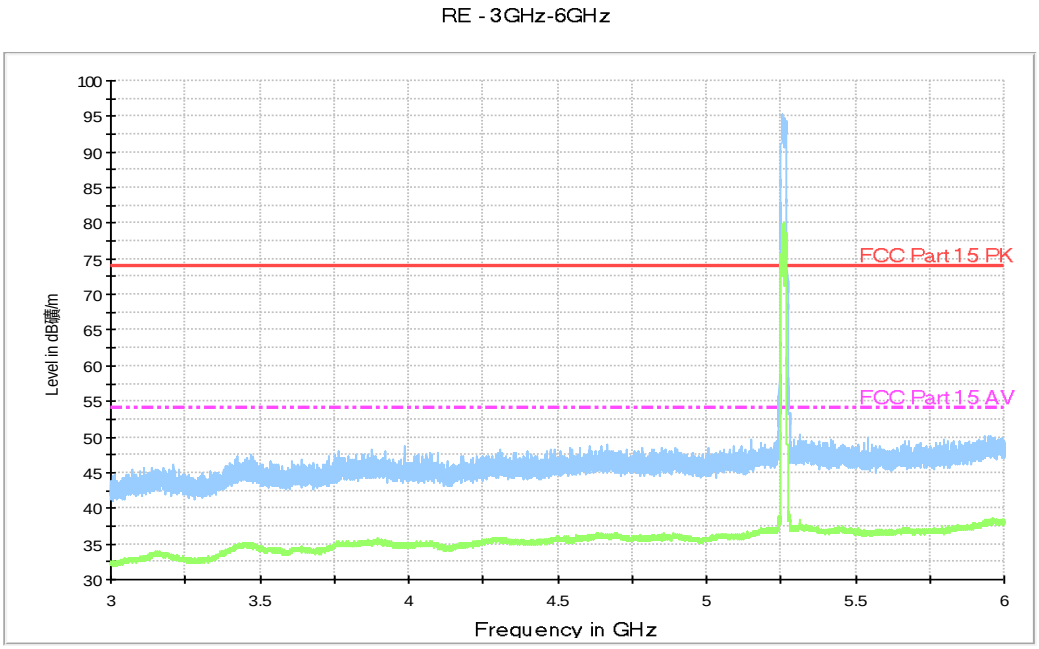


Fig. 84 Radiated Spurious Emission (802.11n-HT20, ch52, 3 GHz-6 GHz)

©Copyright. All rights reserved by CTTL.

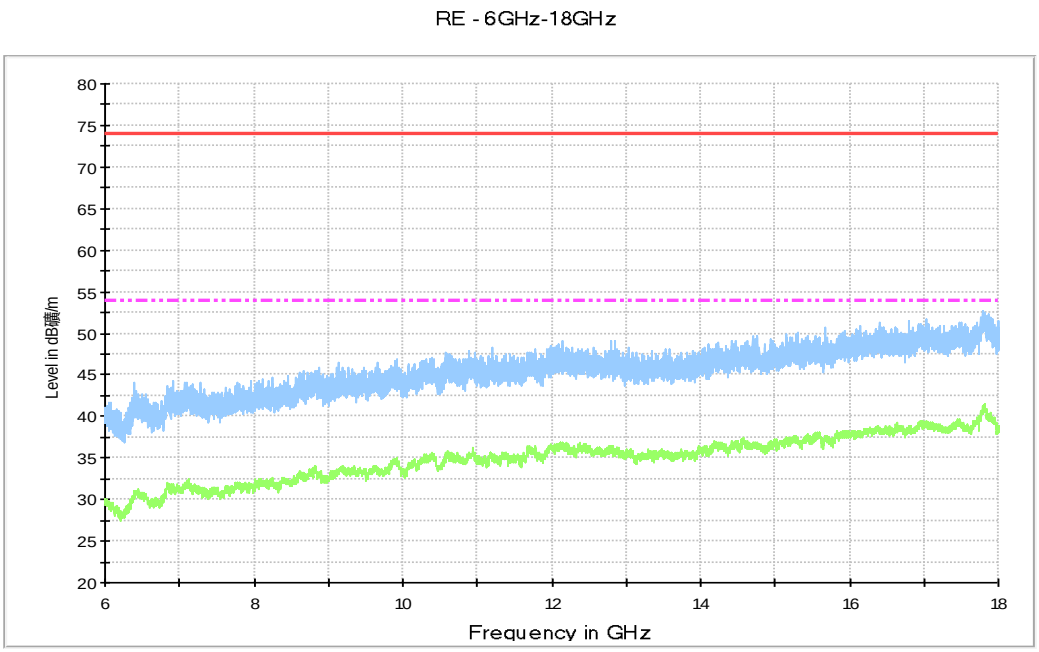


Fig. 85 Radiated Spurious Emission (802.11n-HT20, ch52, 6 GHz-18 GHz)

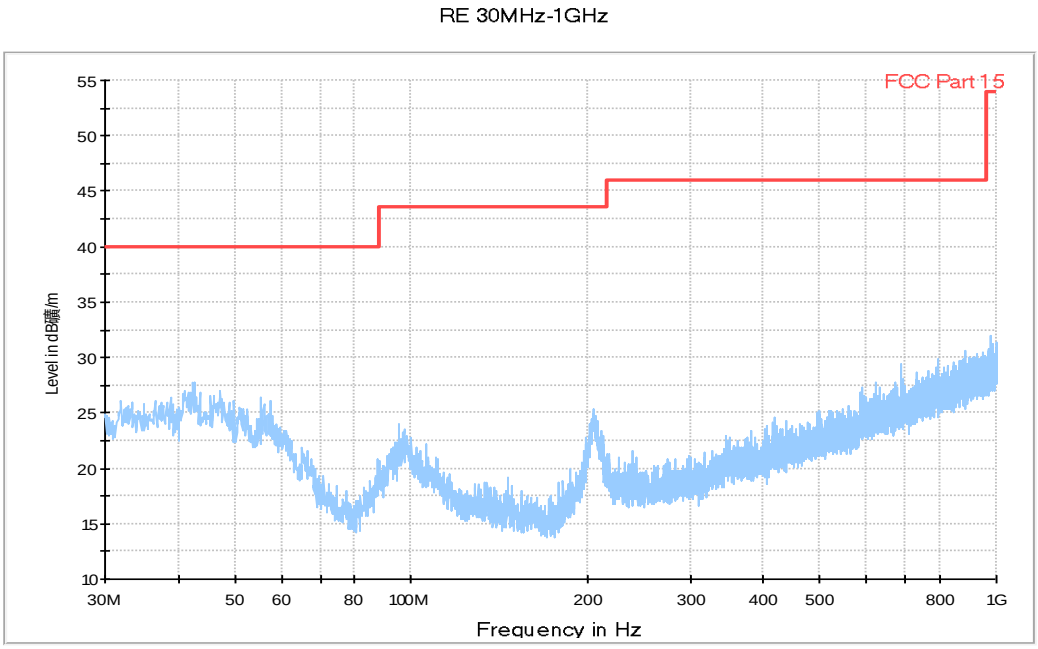


Fig. 86 Radiated Spurious Emission (802.11n-HT20, ch56, 30 MHz-1 GHz)

©Copyright. All rights reserved by CTTL.

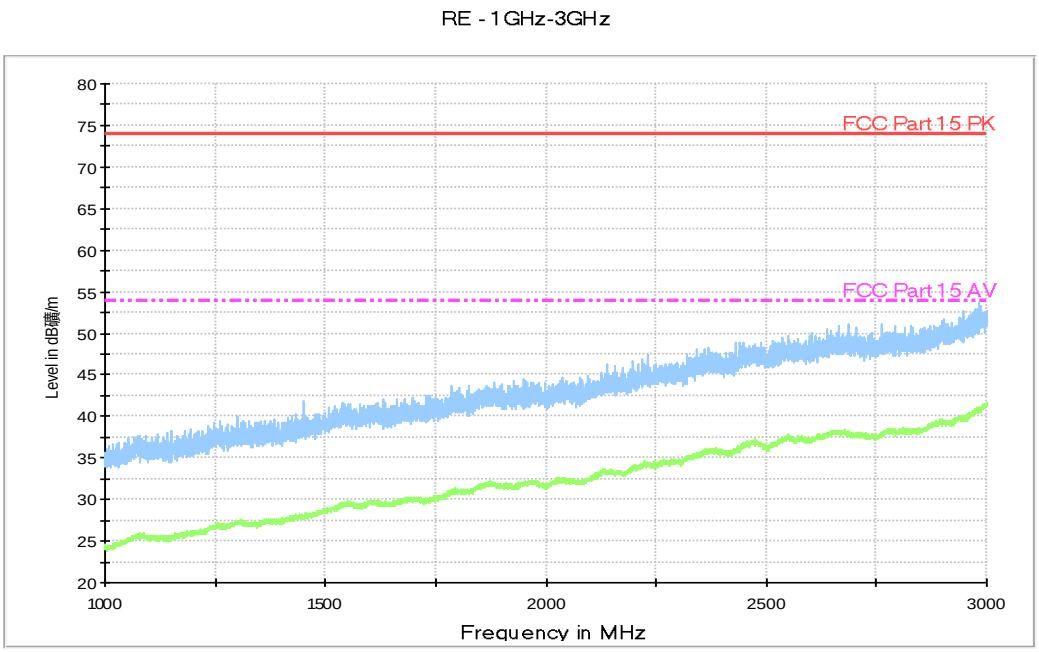


Fig. 87 Radiated Spurious Emission (802.11n-HT20, ch56, 1 GHz-3 GHz)

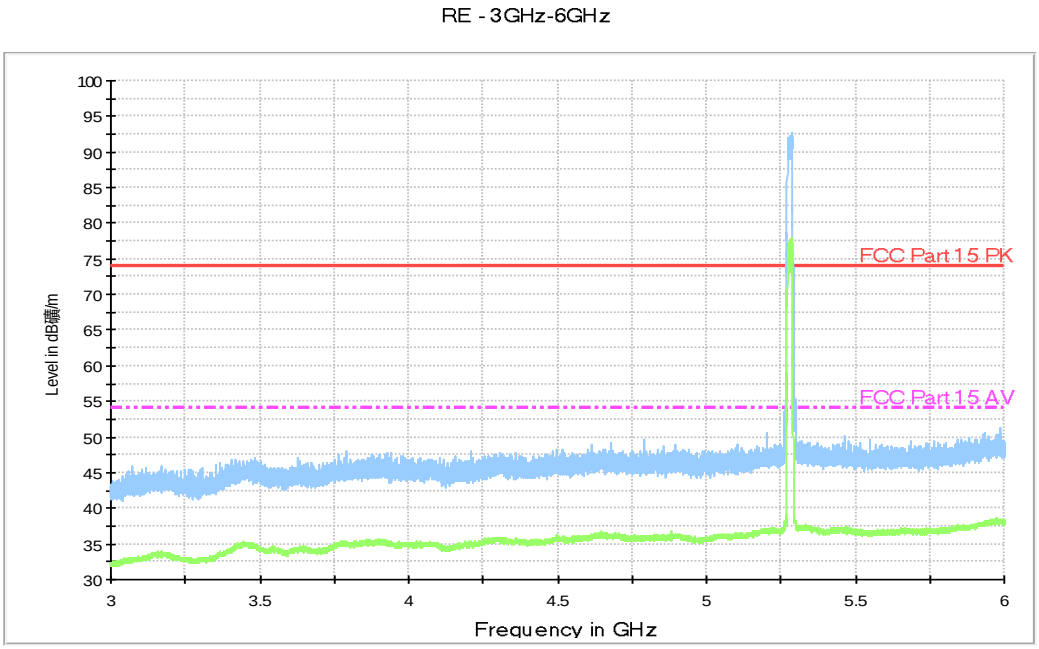


Fig. 88 Radiated Spurious Emission (802.11n-HT20, ch56, 3 GHz-6 GHz)

©Copyright. All rights reserved by CTTL.

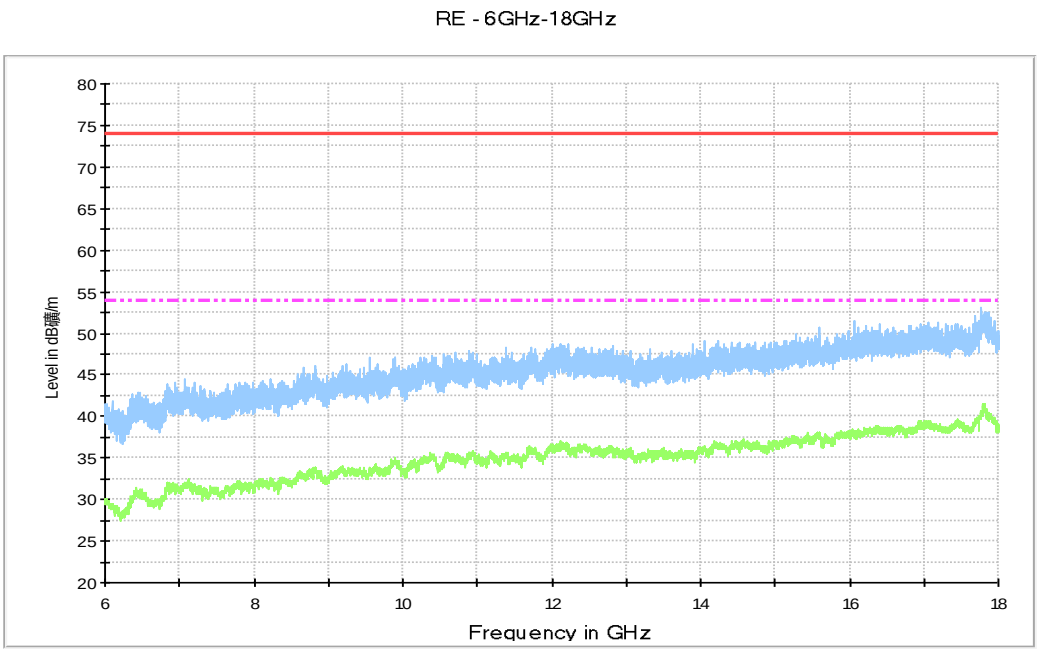


Fig. 89 Radiated Spurious Emission (802.11n-HT20, ch56, 6 GHz-18 GHz)

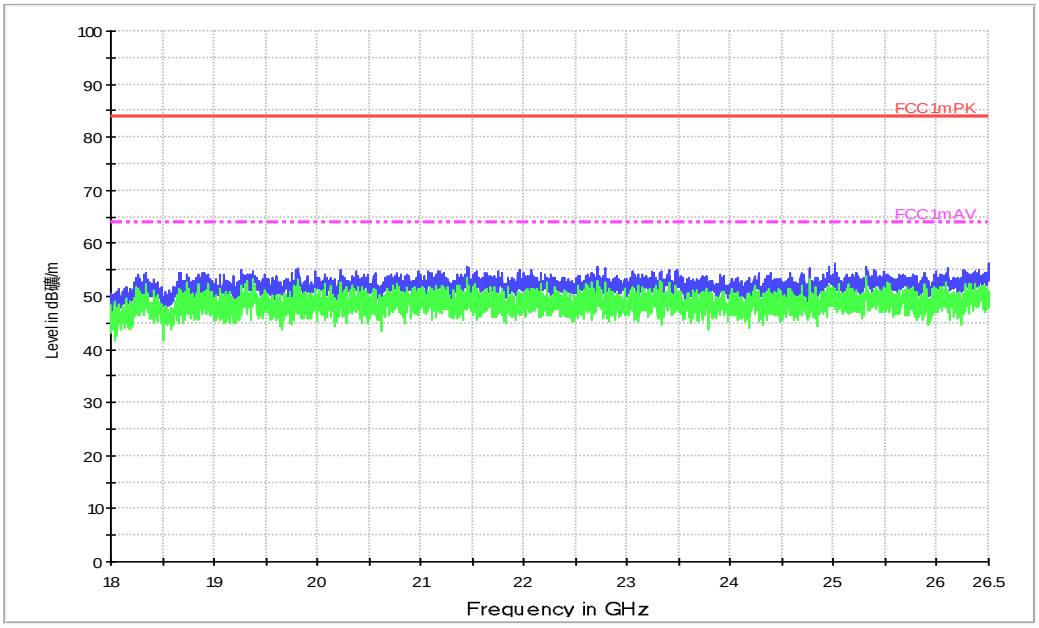


Fig. 90 Radiated Spurious Emission (802.11n-HT20, ch56, 18 GHz-26.5 GHz)

©Copyright. All rights reserved by CTTL.

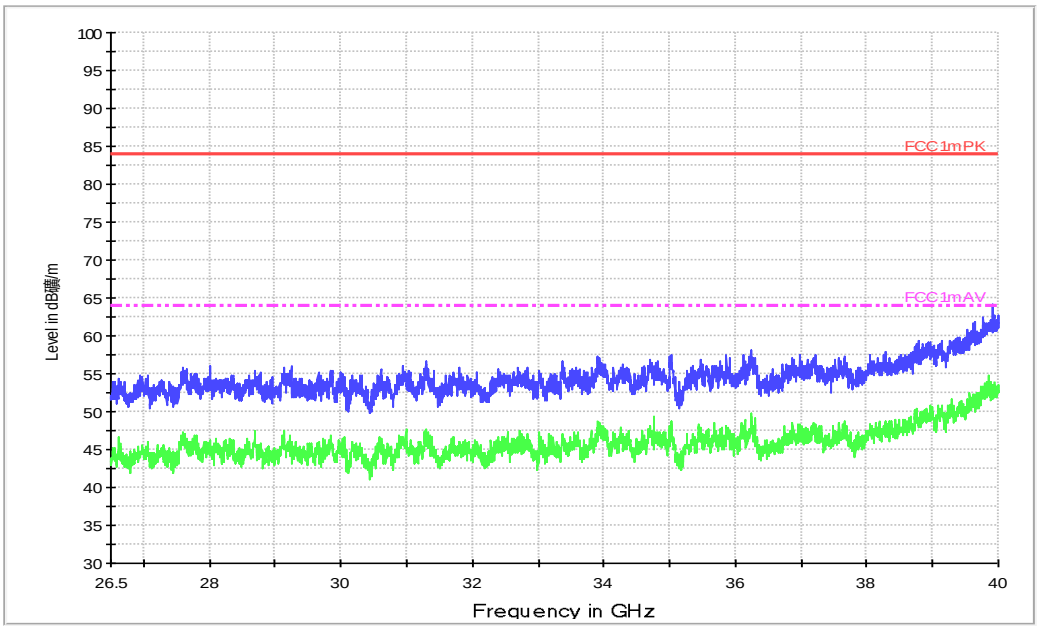
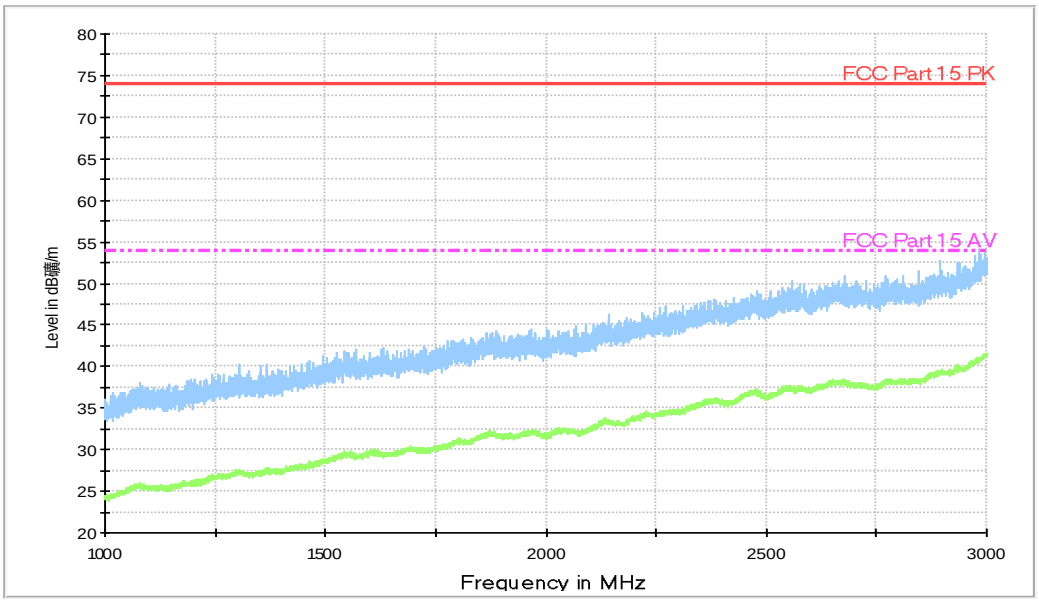


Fig. 91 Radiated Spurious Emission (802.11n-HT20, ch56, 26.5 GHz-40 GHz)

RE - 1GHz-3GHz



©Copyright. All rights reserved by CTTL.

Fig. 92 Radiated Spurious Emission (802.11n-HT20, ch64, 1 GHz-3 GHz)

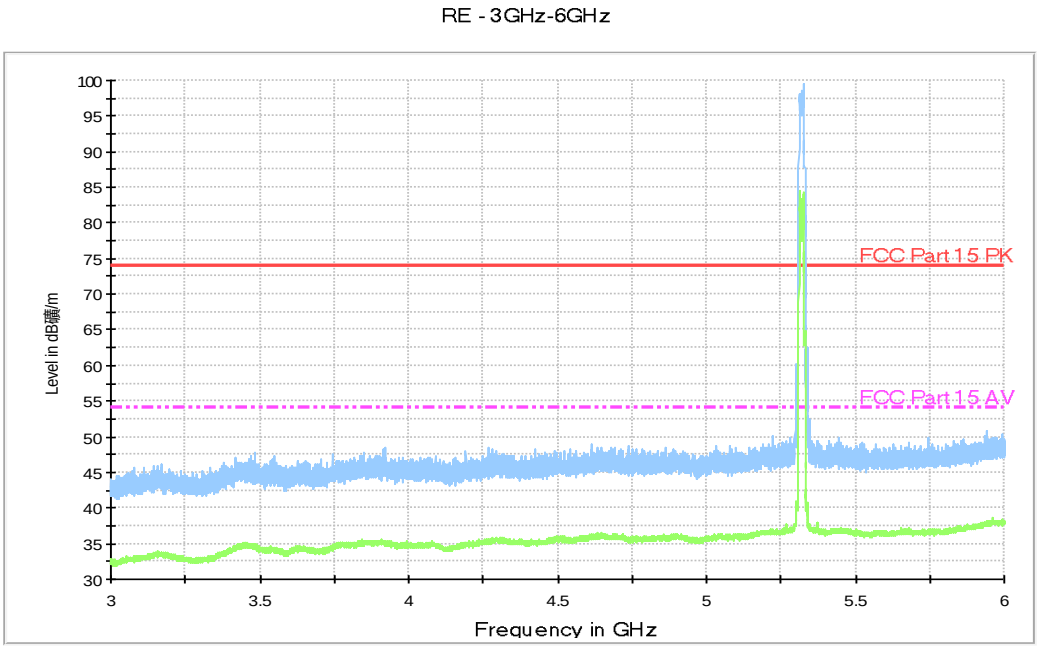
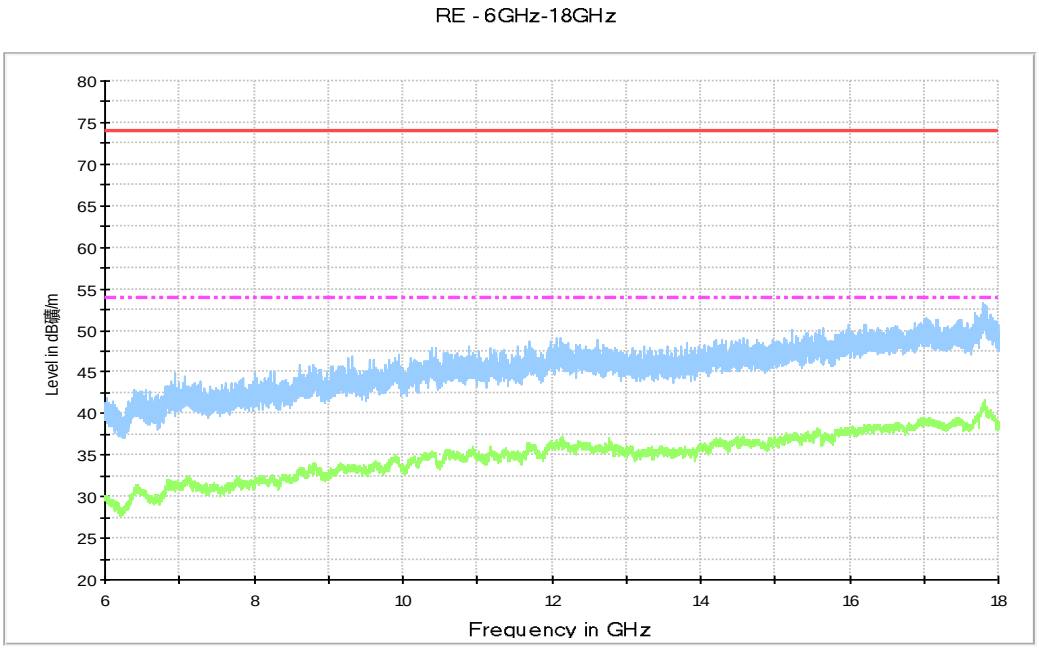


Fig. 93 Radiated Spurious Emission (802.11n-HT20, ch64, 3 GHz-6 GHz)



©Copyright. All rights reserved by CTTL.

Fig. 94 Radiated Spurious Emission (802.11n-HT20, ch64, 6 GHz-18 GHz)

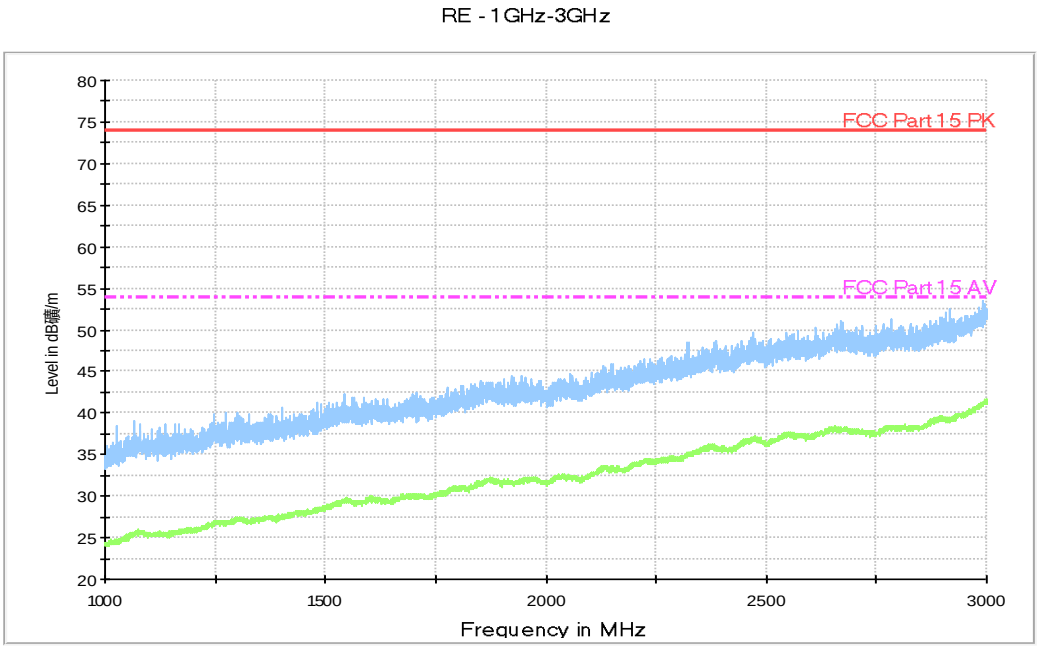


Fig. 95 Radiated Spurious Emission (802.11n-HT20, ch100, 1 GHz-3 GHz)

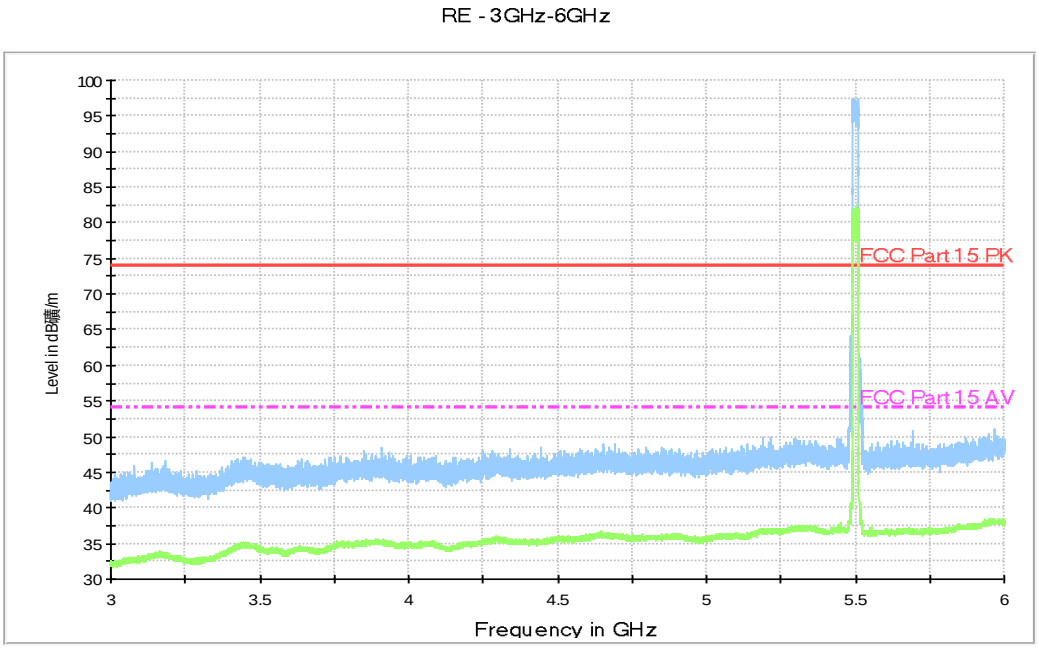


Fig. 96 Radiated Spurious Emission (802.11n-HT20, ch100, 3 GHz-6 GHz)

©Copyright. All rights reserved by CTTL.

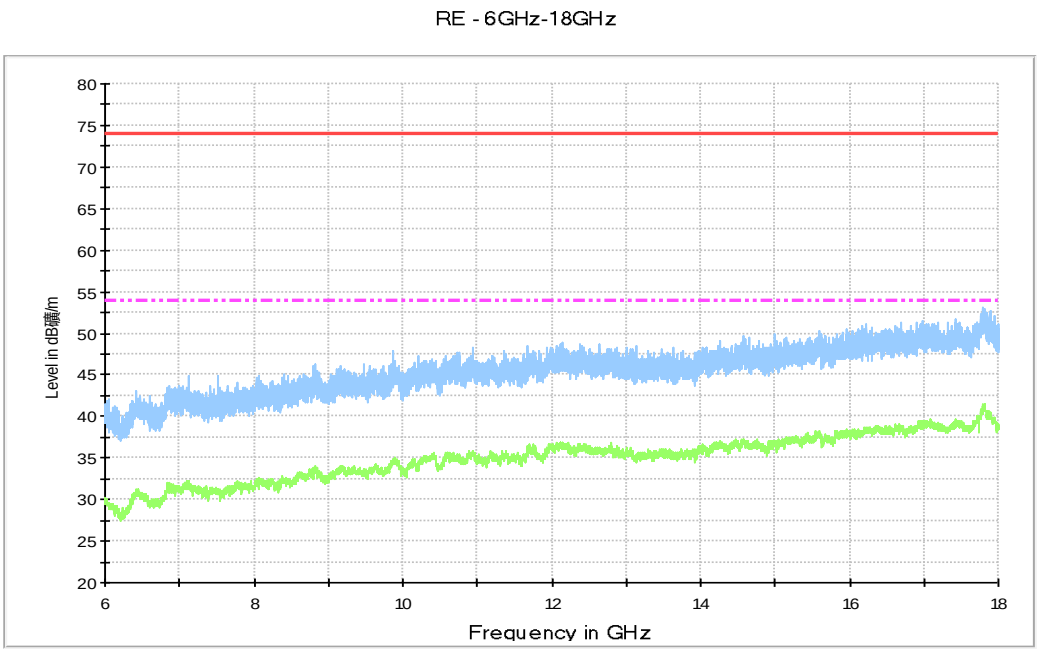


Fig. 97 Radiated Spurious Emission (802.11n-HT20, ch100, 6 GHz-18 GHz)

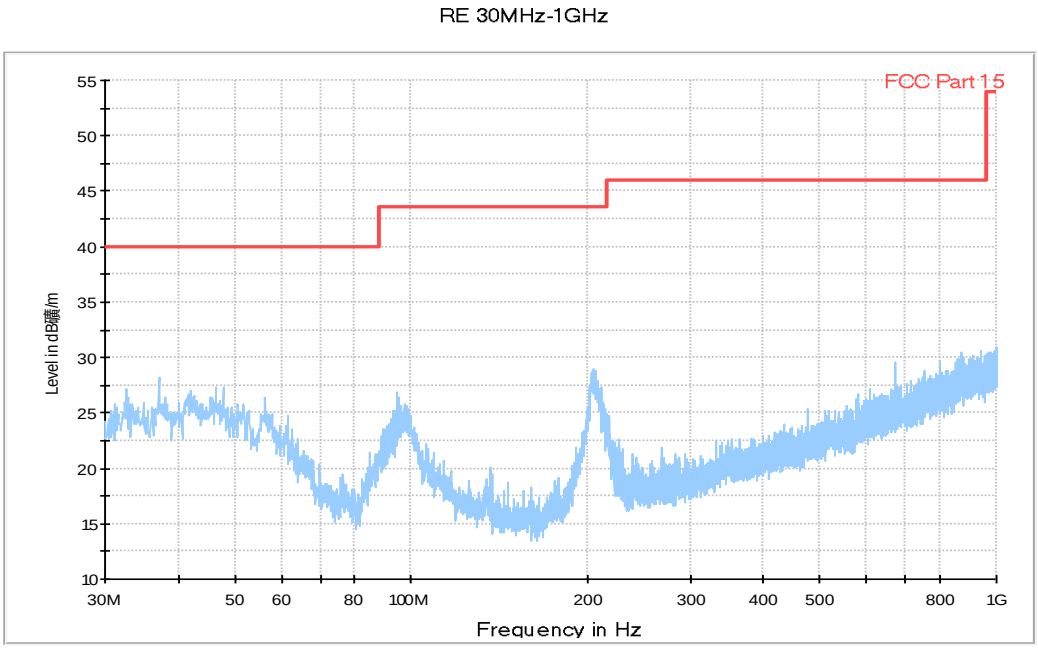


Fig. 98 Radiated Spurious Emission (802.11n-HT20, ch116, 30 MHz-1 GHz)

©Copyright. All rights reserved by CTTL.

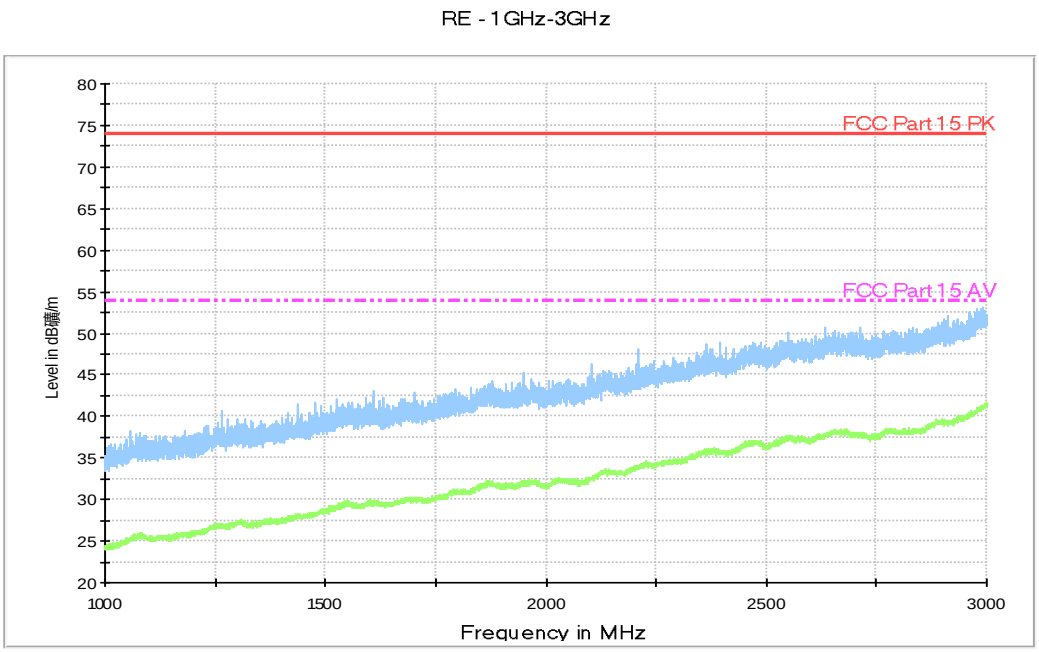


Fig. 99 Radiated Spurious Emission (802.11n-HT20, ch116, 1 GHz-3 GHz)

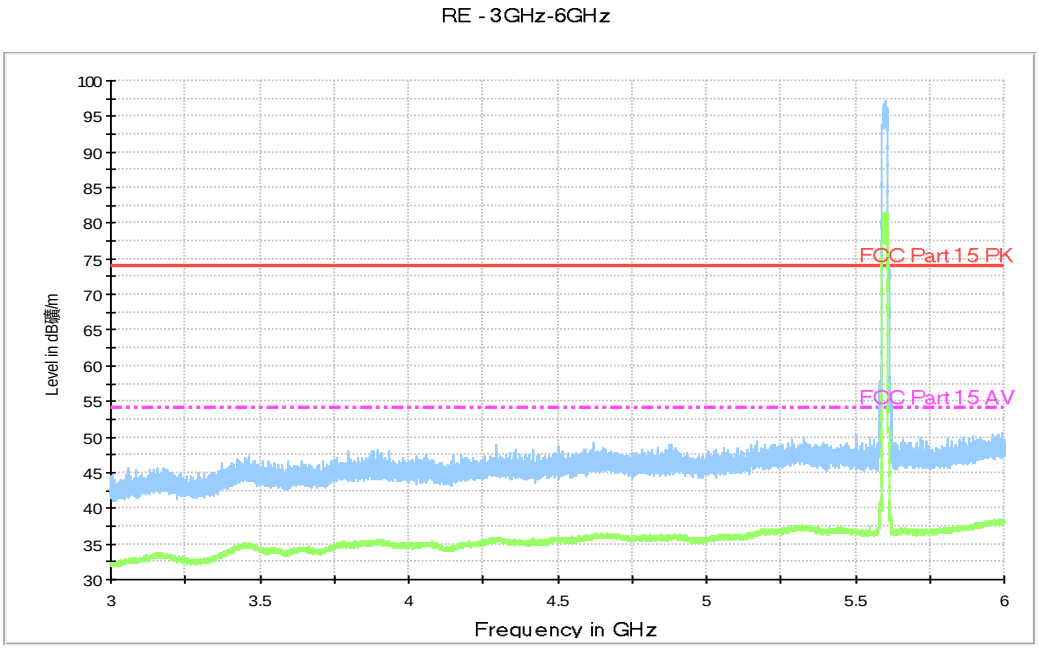


Fig. 100 Radiated Spurious Emission (802.11n-HT20, ch116, 3 GHz-6 GHz)

©Copyright. All rights reserved by CTTL.

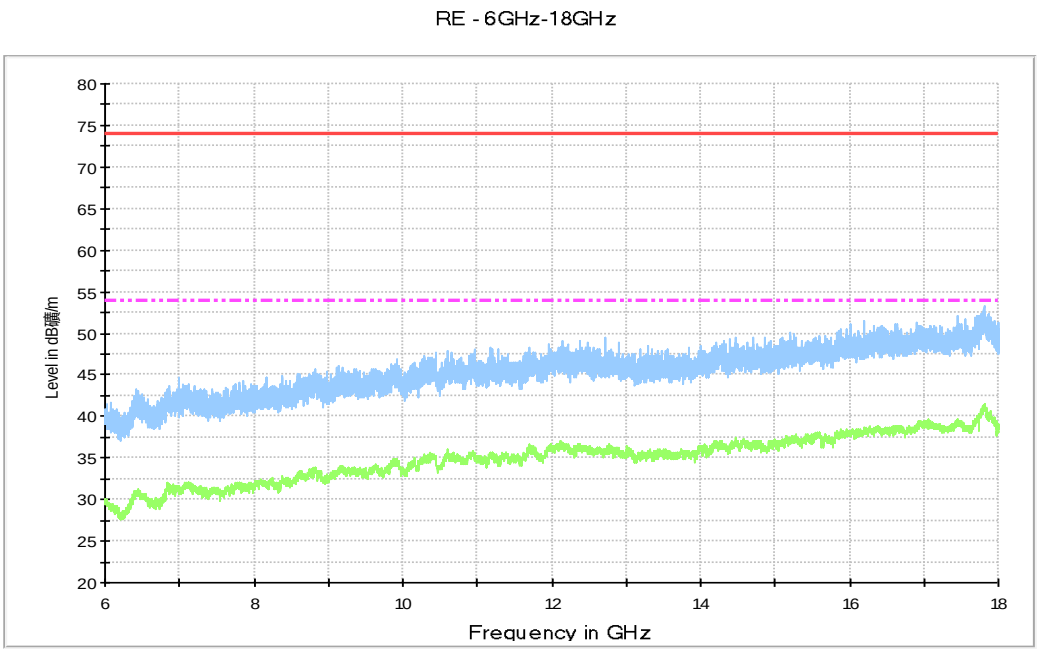


Fig. 101 Radiated Spurious Emission (802.11n-HT20, ch116, 6 GHz-18 GHz)

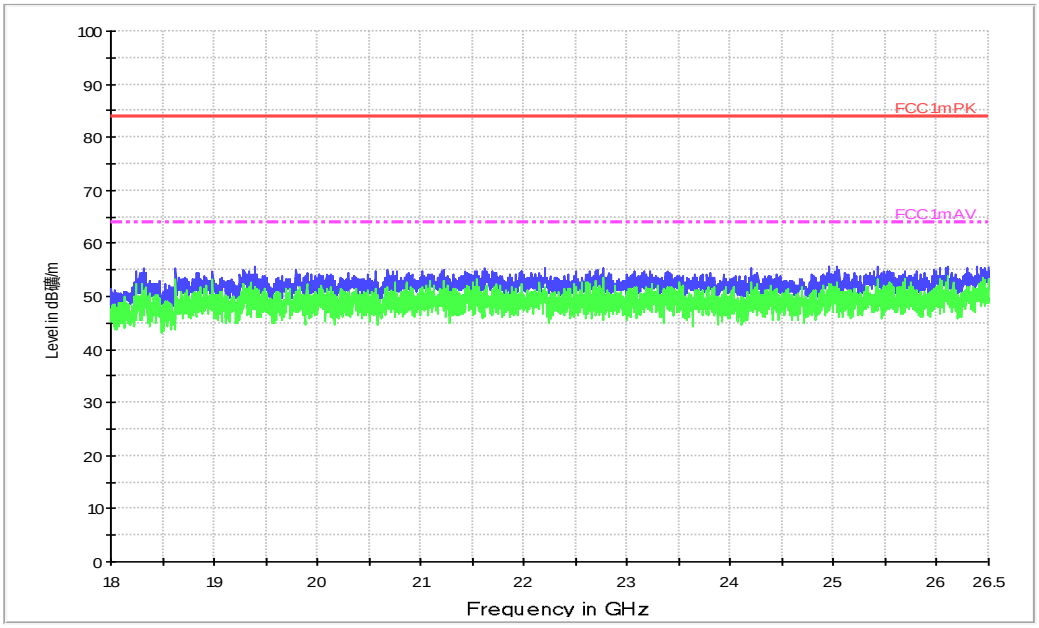


Fig. 102 Radiated Spurious Emission (802.11n-HT20, ch116, 18 GHz-26.5 GHz)

©Copyright. All rights reserved by CTTL.

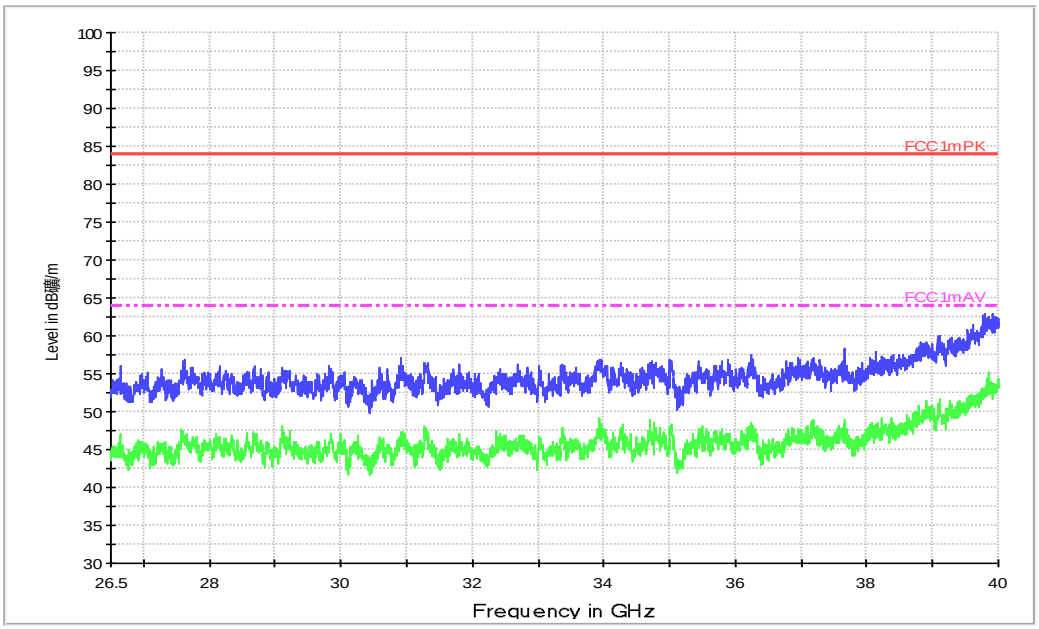
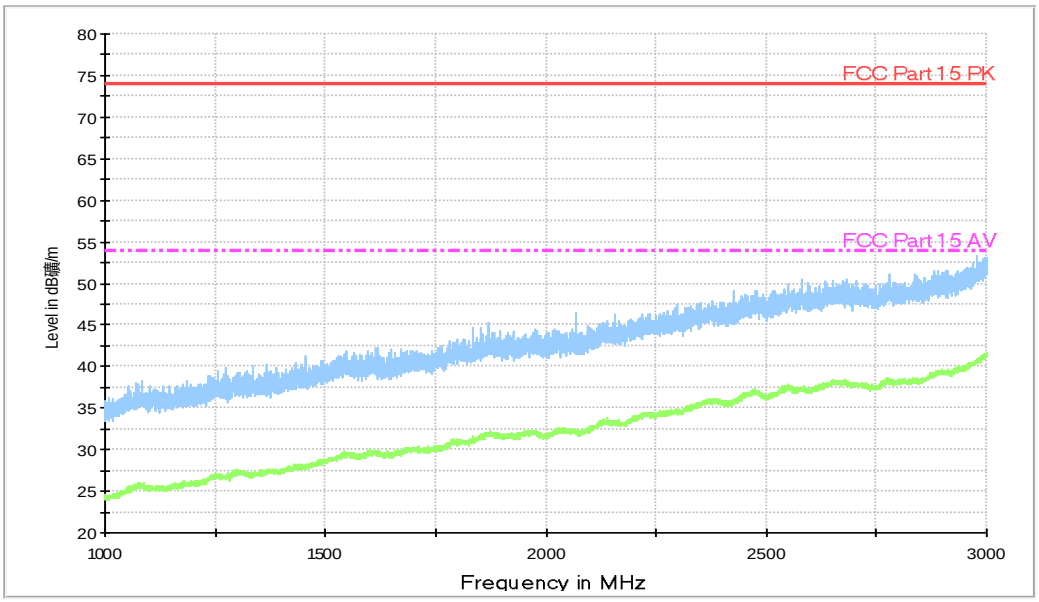


Fig. 103 Radiated Spurious Emission (802.11n-HT20, ch116, 26.5 GHz-40 GHz)

RE - 1GHz-3GHz



©Copyright. All rights reserved by CTTL.

Fig. 104 Radiated Spurious Emission (802.11n-HT20, ch140, 1 GHz-3 GHz)

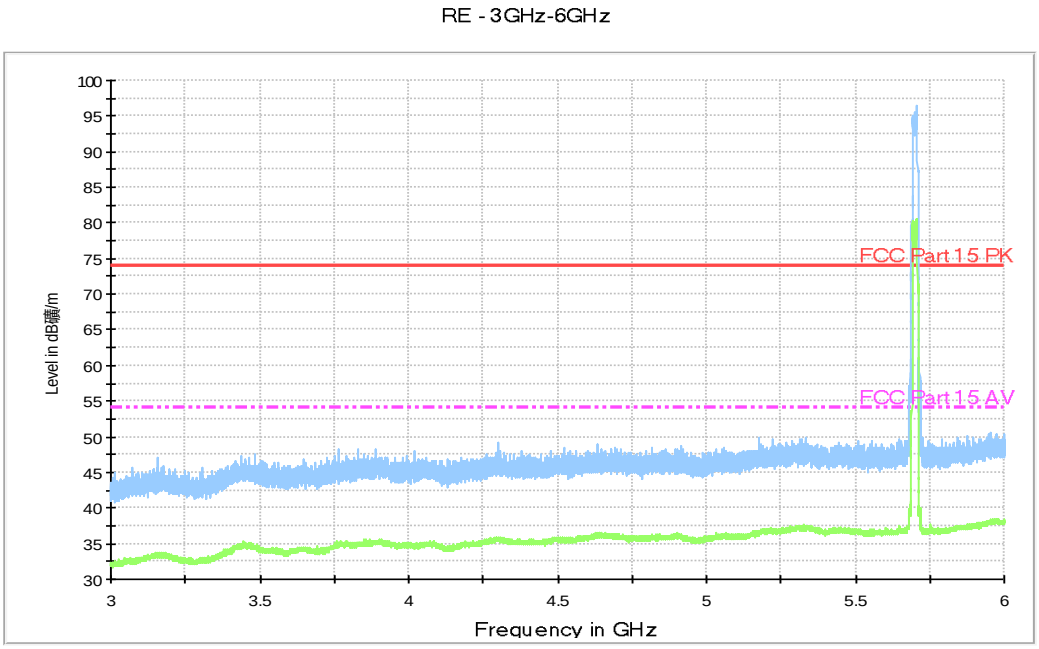


Fig. 105 Radiated Spurious Emission (802.11n-HT20, ch140, 3 GHz-6 GHz)

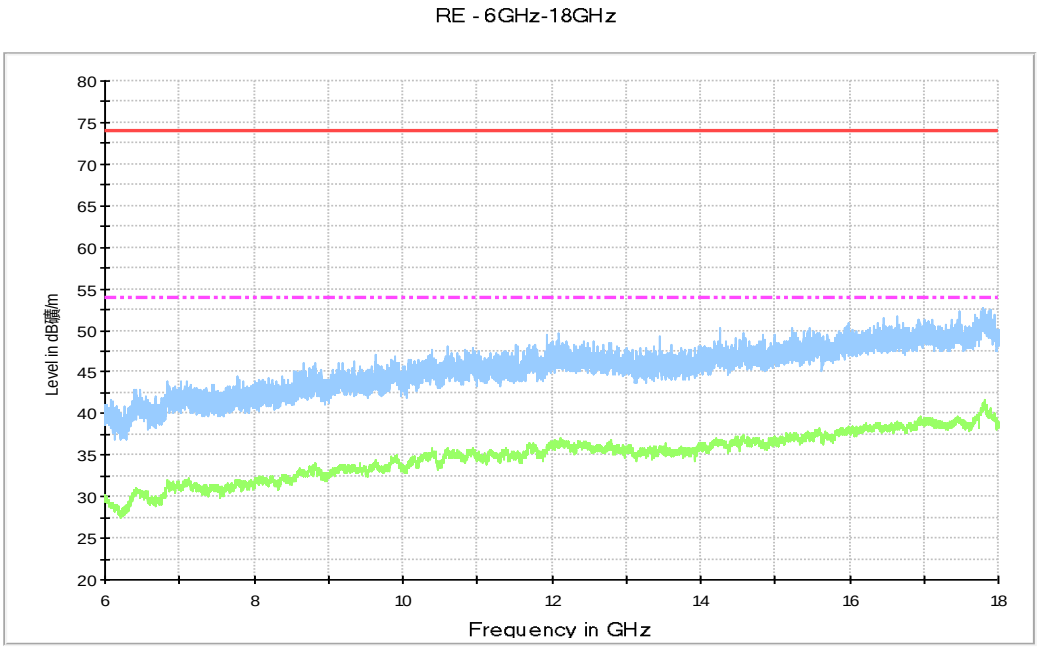


Fig. 106 Radiated Spurious Emission (802.11n-HT20, ch140, 6 GHz-18 GHz)

©Copyright. All rights reserved by CTTL.

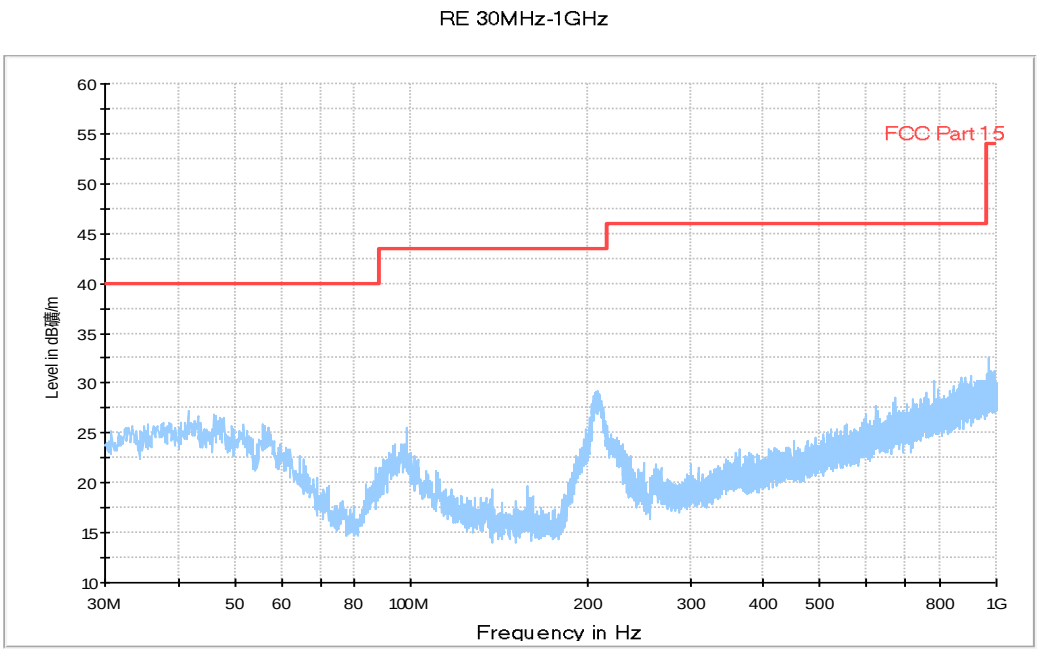
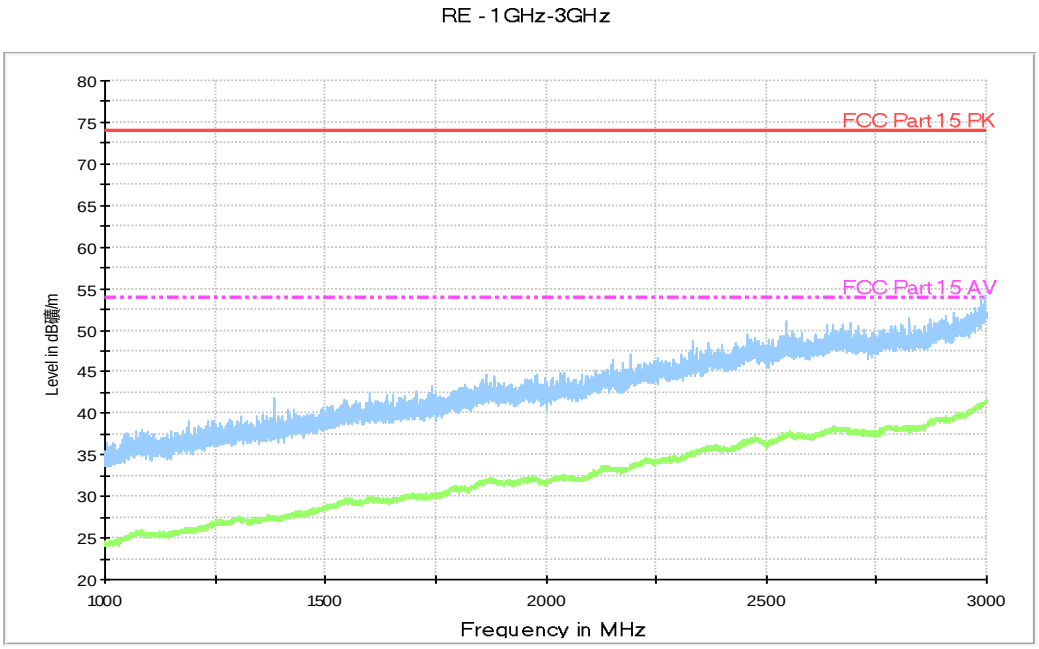


Fig. 107 Radiated Spurious Emission (802.11n-HT40, ch38, 30 MHz-1 GHz)



©Copyright. All rights reserved by CTTL.

Fig. 108 Radiated Spurious Emission (802.11n-HT40, ch38, 1 GHz-3 GHz)

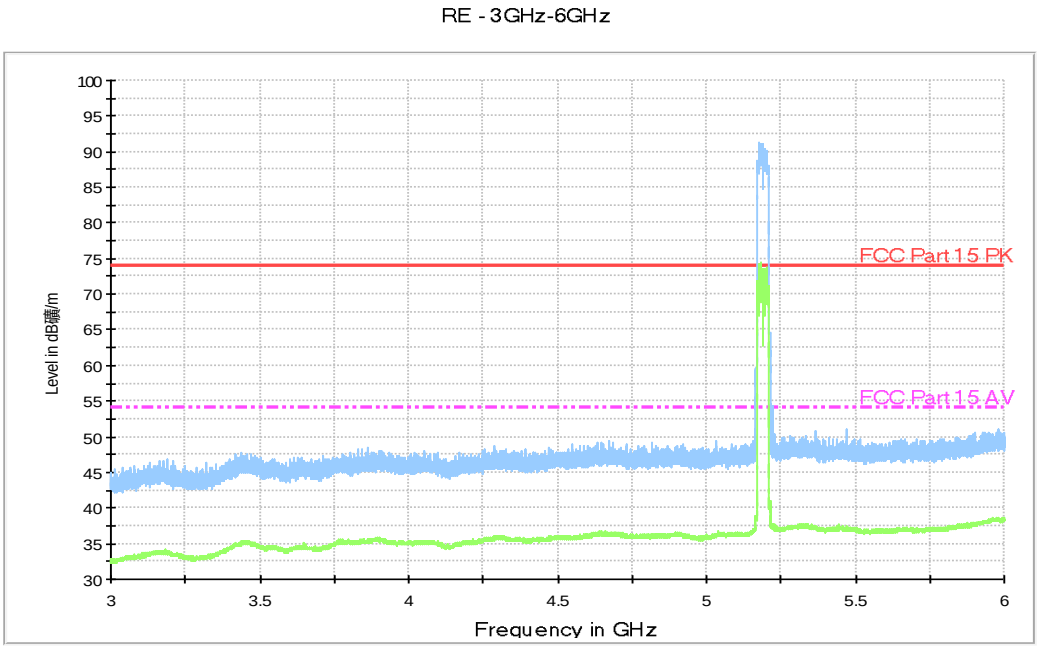


Fig. 109 Radiated Spurious Emission (802.11n-HT40, ch38, 3 GHz-6 GHz)

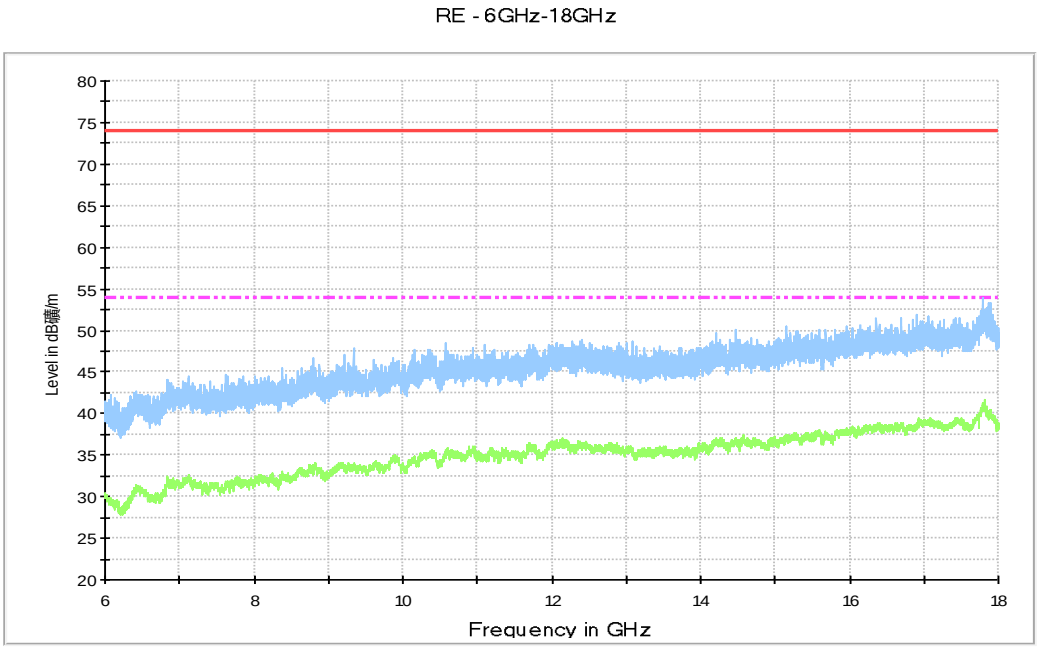


Fig. 110 Radiated Spurious Emission (802.11n-HT40, ch38, 6 GHz-18 GHz)

©Copyright. All rights reserved by CTTL.

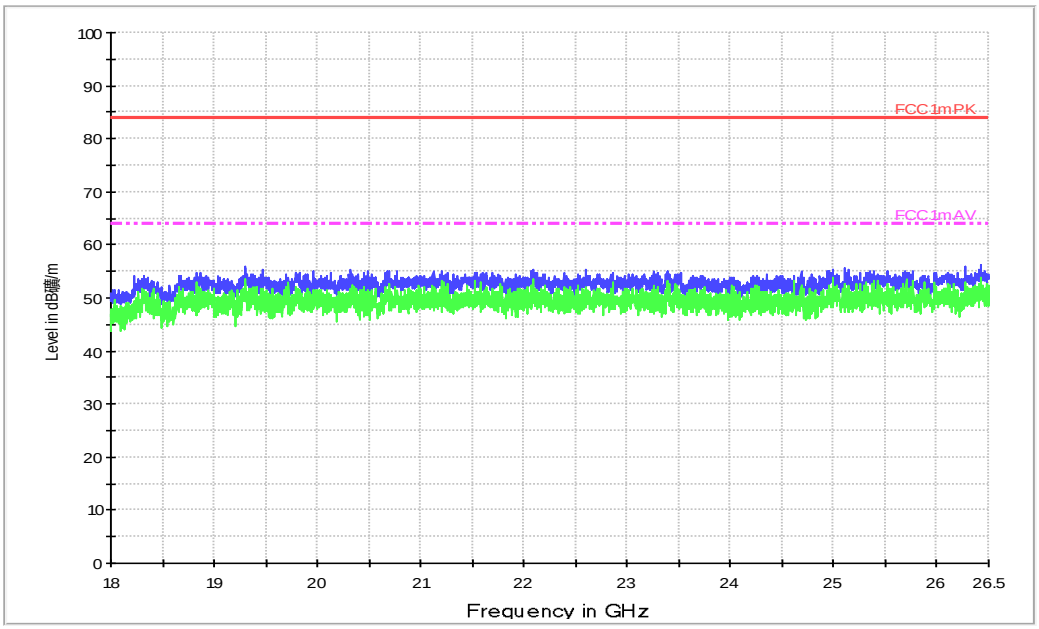


Fig. 111 Radiated Spurious Emission (802.11n-HT40, ch38, 18 GHz-26.5 GHz)

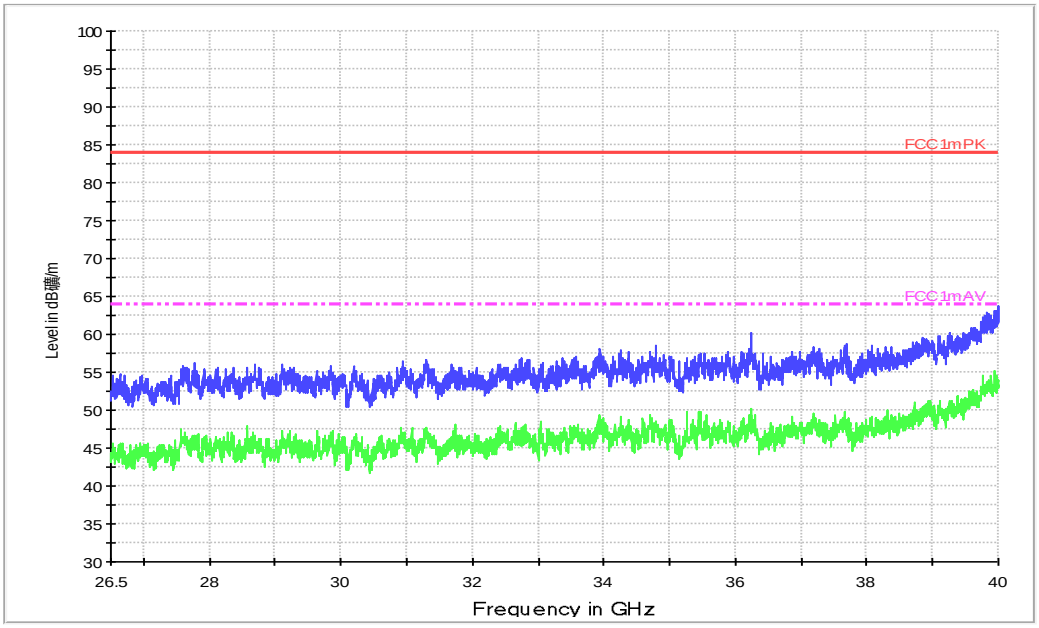


Fig. 112 Radiated Spurious Emission (802.11n-HT40, ch38, 26.5 GHz-40 GHz)

©Copyright. All rights reserved by CTTL.

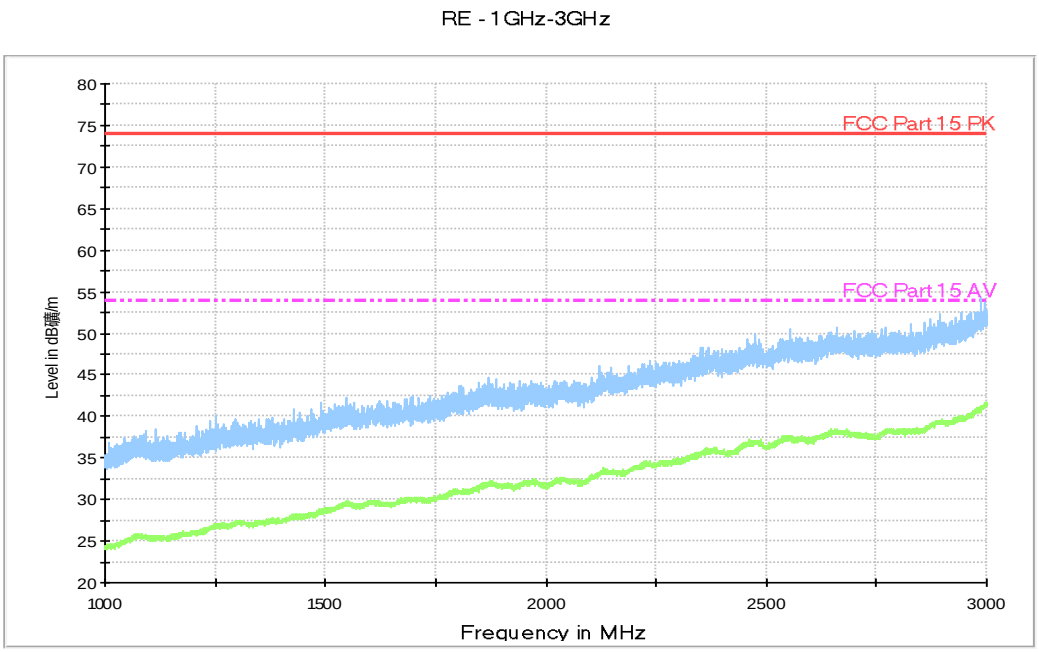


Fig. 113 Radiated Spurious Emission (802.11n-HT40, ch46, 1 GHz-3 GHz)

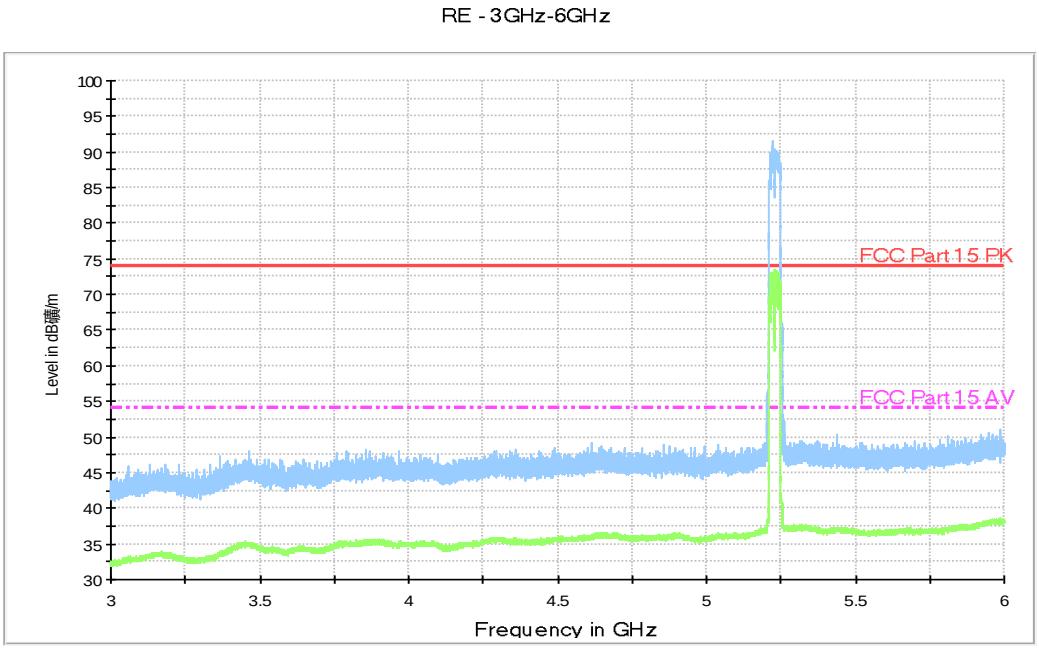


Fig. 114 Radiated Spurious Emission (802.11n-HT40, ch46, 3 GHz-6 GHz)

©Copyright. All rights reserved by CTTL.

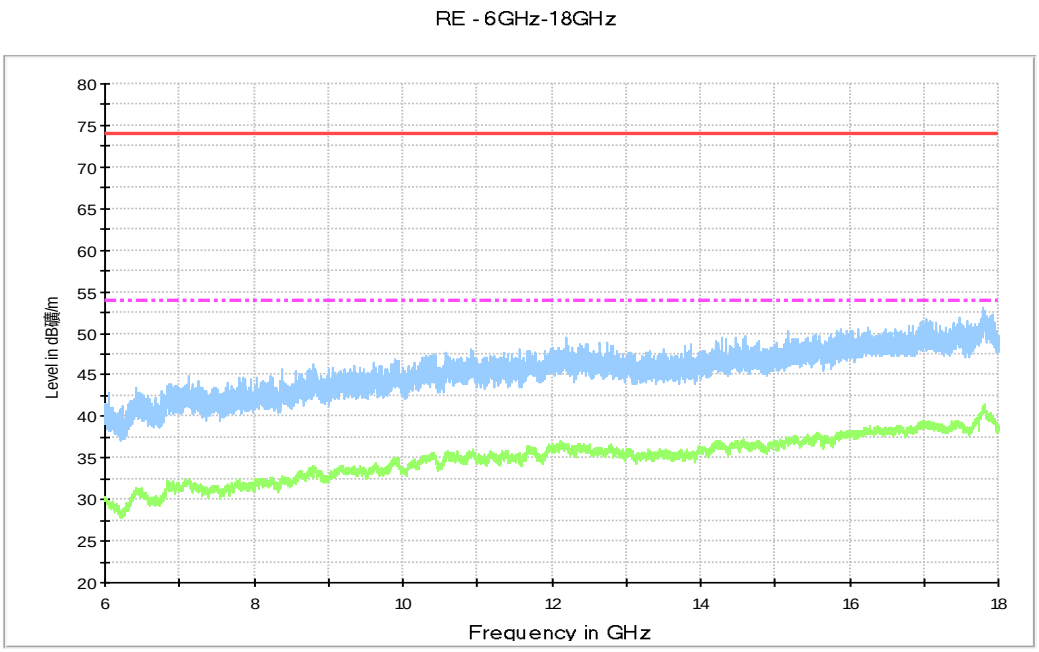


Fig. 115 Radiated Spurious Emission (802.11n-HT40, ch46, 6 GHz-18 GHz)

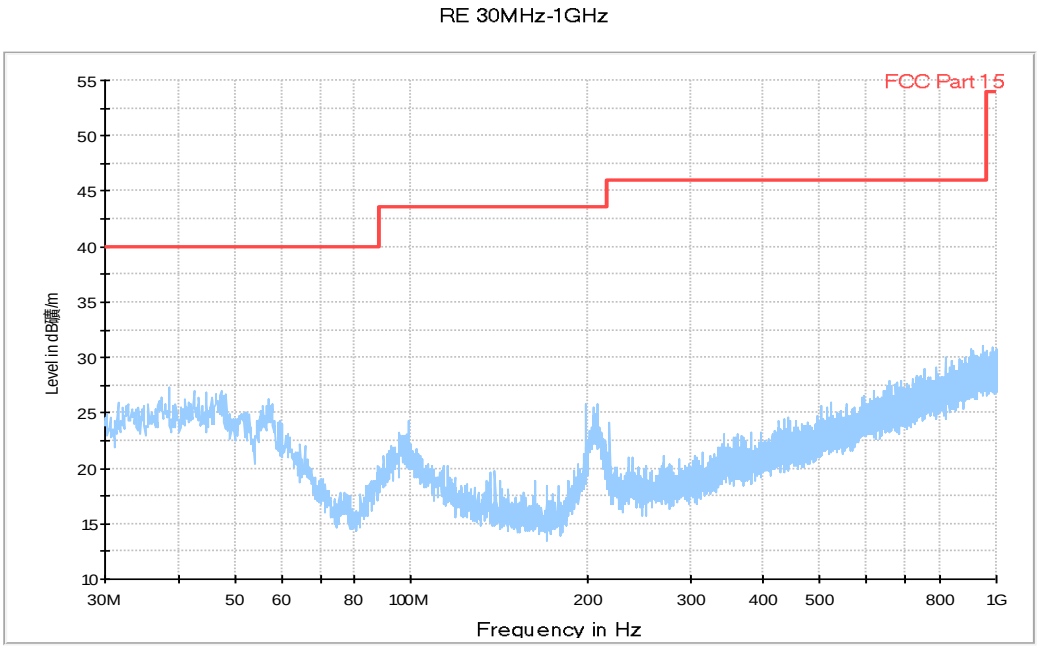


Fig. 116 Radiated Spurious Emission (802.11n-HT40, ch54, 30 MHz-1 GHz)

©Copyright. All rights reserved by CTTL.

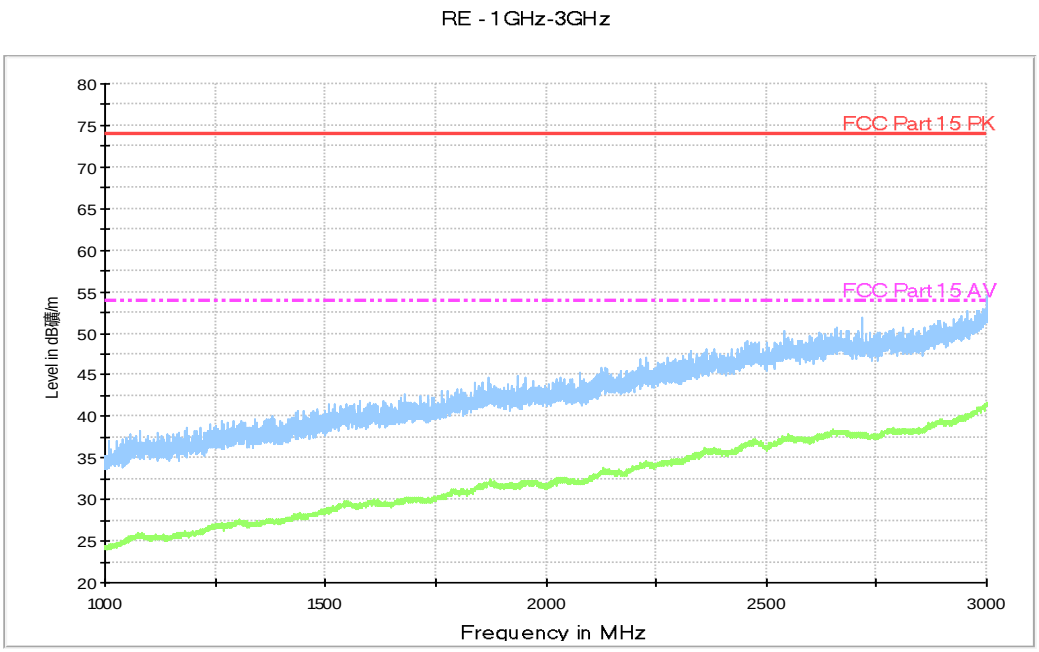


Fig. 117 Radiated Spurious Emission (802.11n-HT40, ch54, 1 GHz-3 GHz)

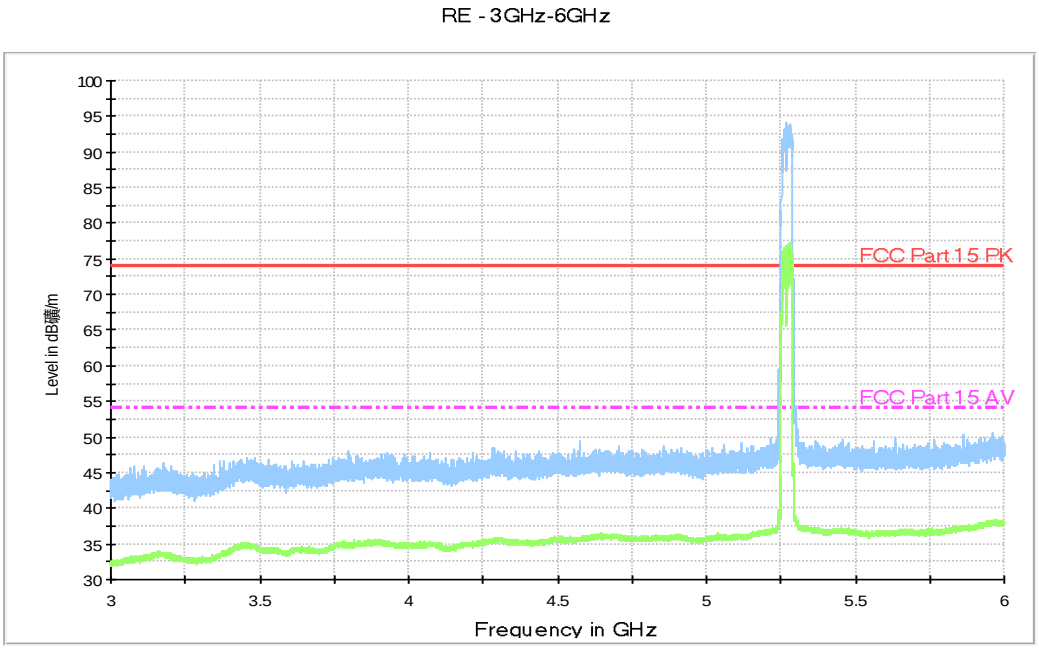


Fig. 118 Radiated Spurious Emission (802.11n-HT40, ch54, 3 GHz-6 GHz)

©Copyright. All rights reserved by CTTL.

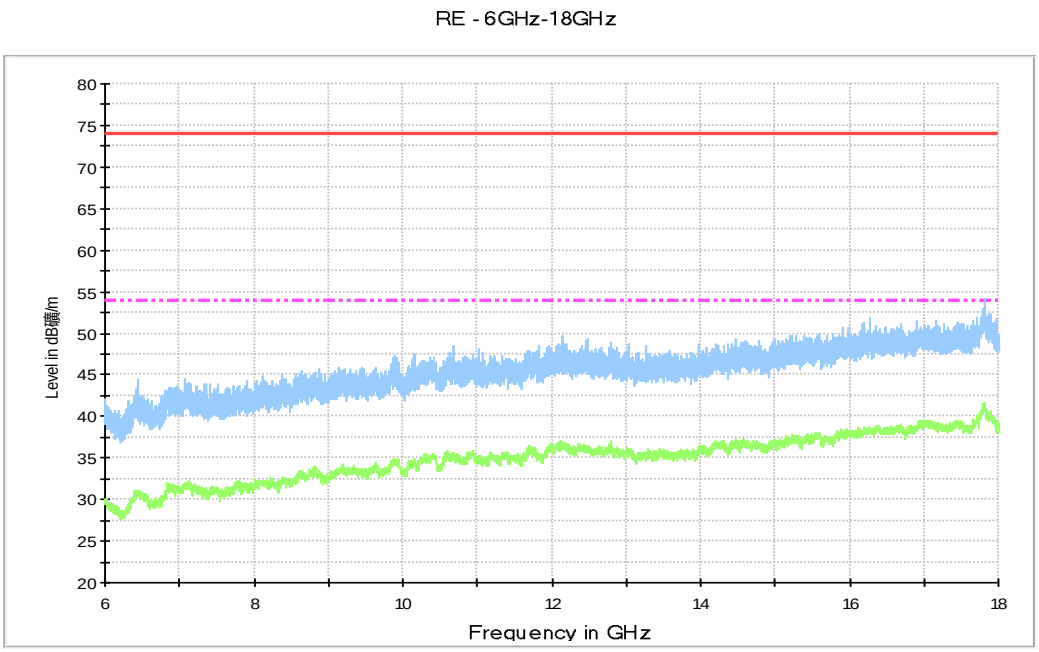


Fig. 119 Radiated Spurious Emission (802.11n-HT40, ch54, 6 GHz-18 GHz)

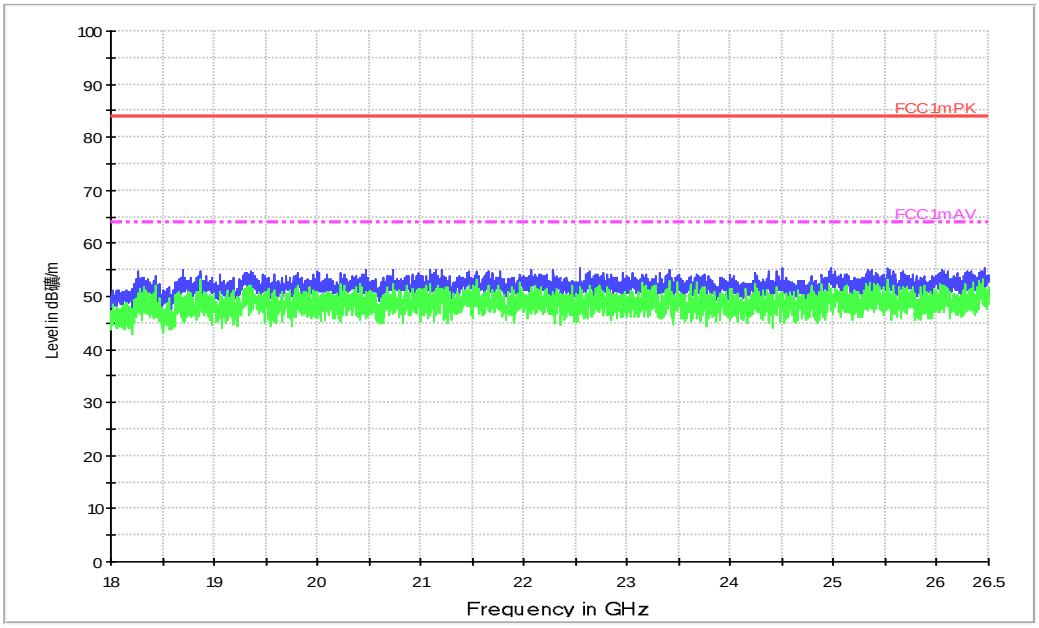


Fig. 120 Radiated Spurious Emission (802.11n-HT40, ch54, 18 GHz-26.5 GHz)

©Copyright. All rights reserved by CTTL.

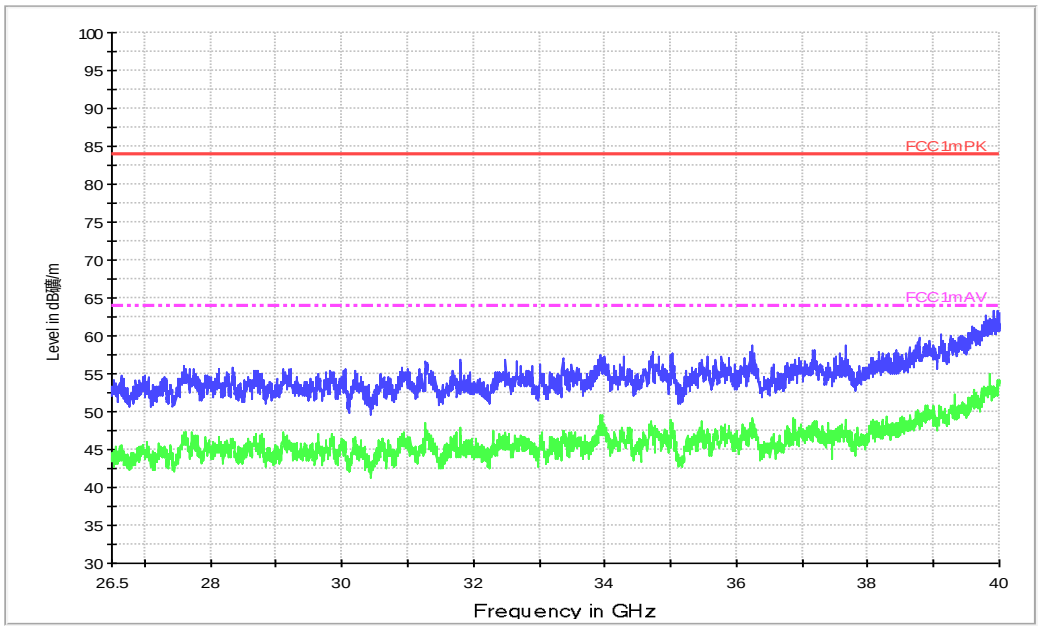
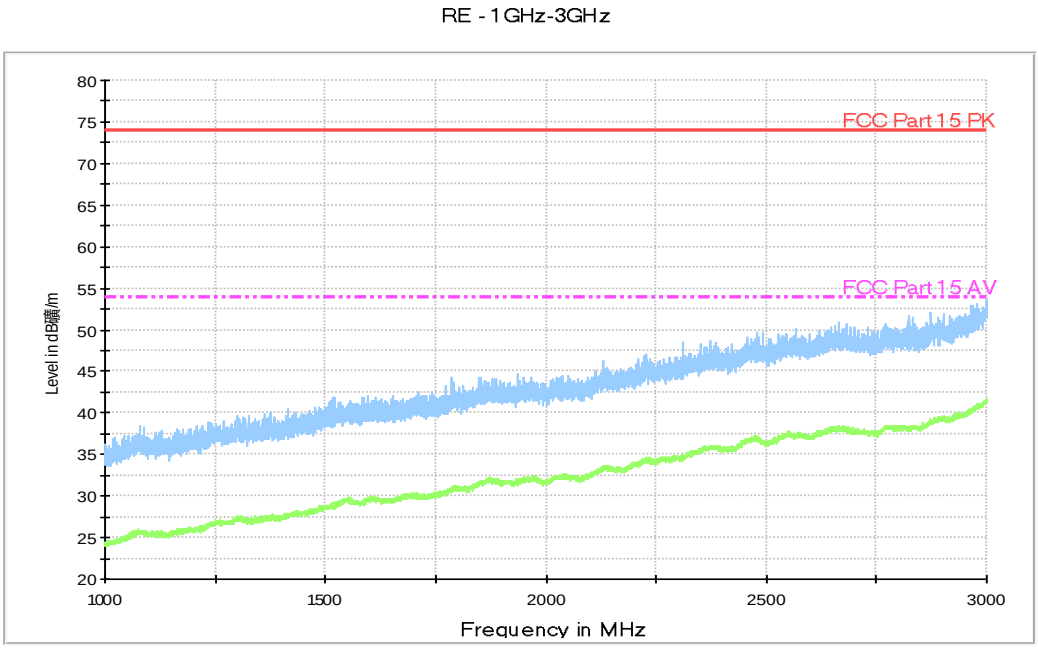


Fig. 121 Radiated Spurious Emission (802.11n-HT40, ch54, 26.5 GHz-40 GHz)



©Copyright. All rights reserved by CTTL.

Fig. 122 Radiated Spurious Emission (802.11n-HT40, ch62, 1 GHz-3 GHz)

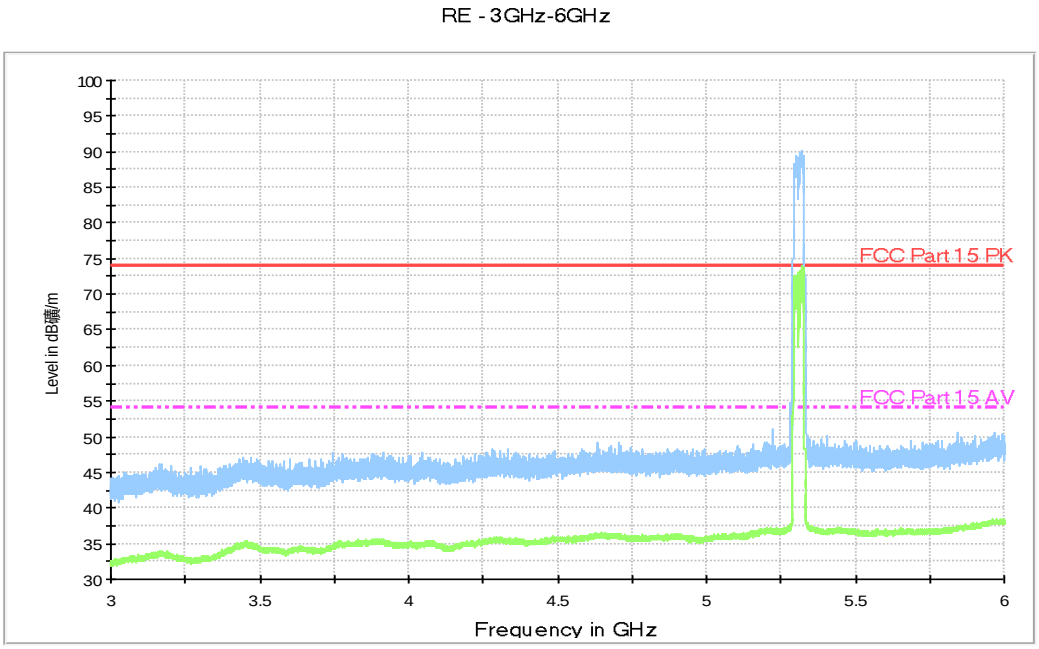
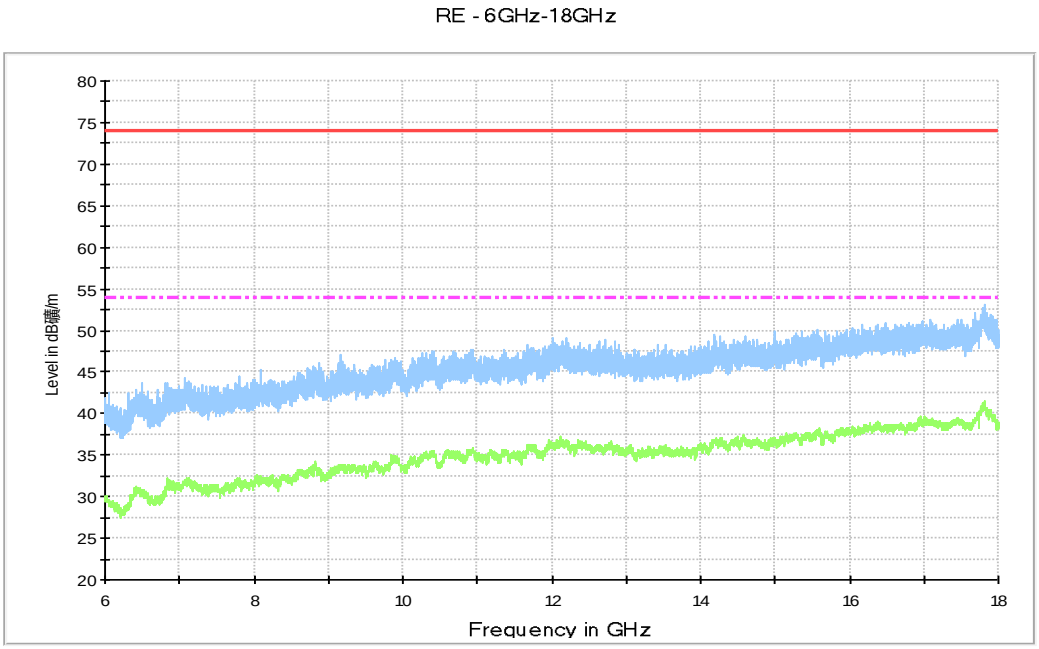


Fig. 123 Radiated Spurious Emission (802.11n-HT40, ch62, 3 GHz-6 GHz)



©Copyright. All rights reserved by CTTL.

Fig. 124 Radiated Spurious Emission (802.11n-HT40, ch62, 6 GHz-18 GHz)

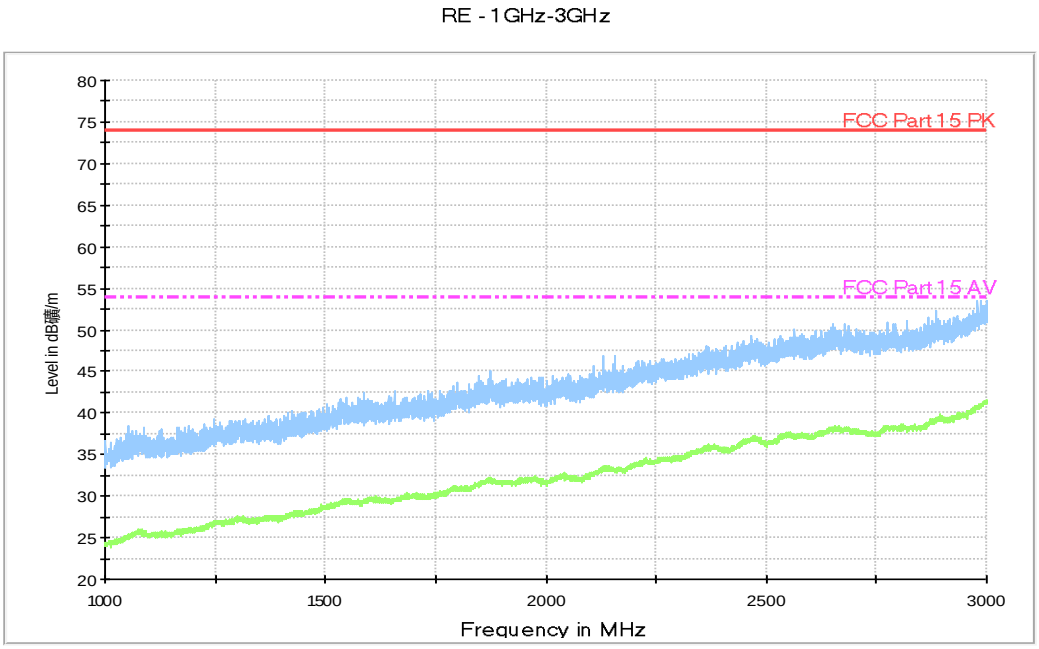
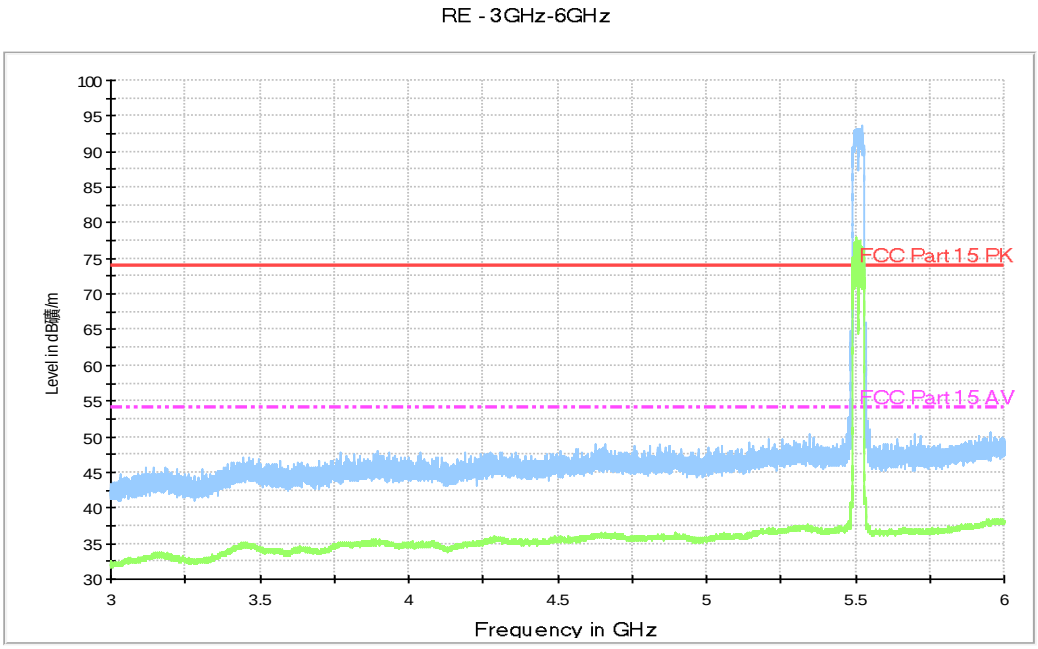


Fig. 125 Radiated Spurious Emission (802.11n-HT40, ch102, 1 GHz-3 GHz)



©Copyright. All rights reserved by CTTL.

Fig. 126 Radiated Spurious Emission (802.11n-HT40, ch102, 3 GHz-6 GHz)

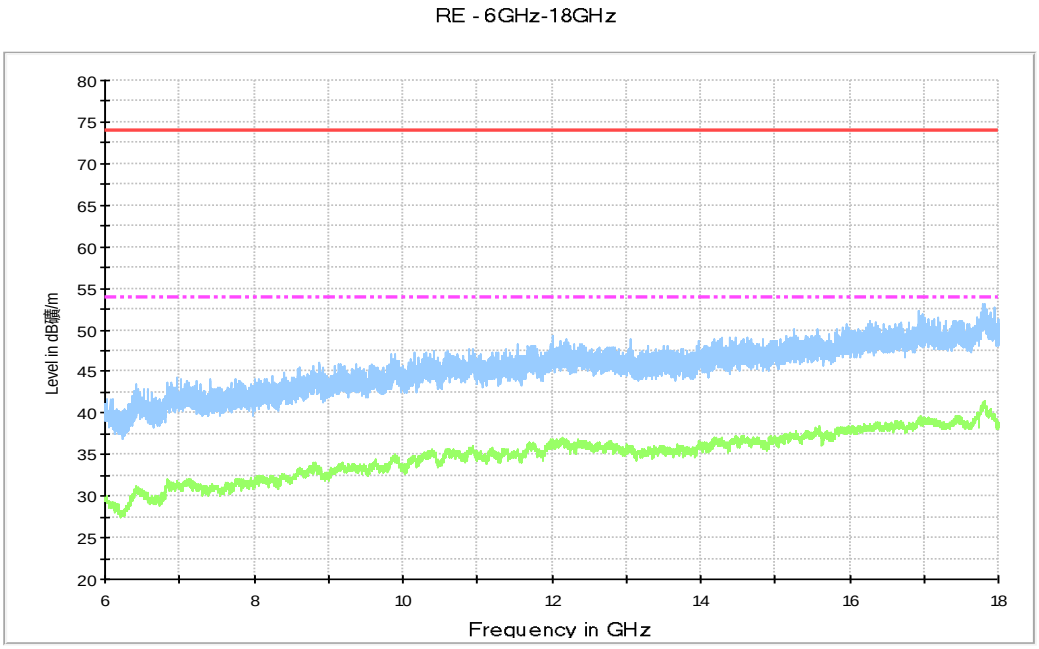
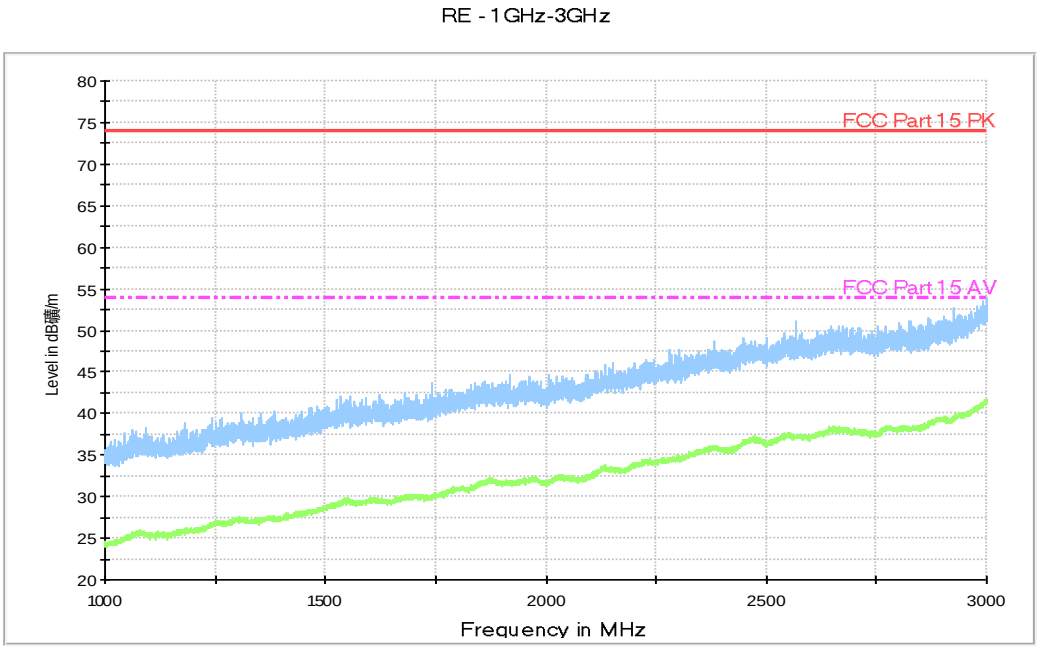


Fig. 127 Radiated Spurious Emission (802.11n-HT40, ch102, 6 GHz-18 GHz)



©Copyright. All rights reserved by CTTL.

Fig. 128 Radiated Spurious Emission (802.11n-HT40, ch134, 1 GHz-3 GHz)

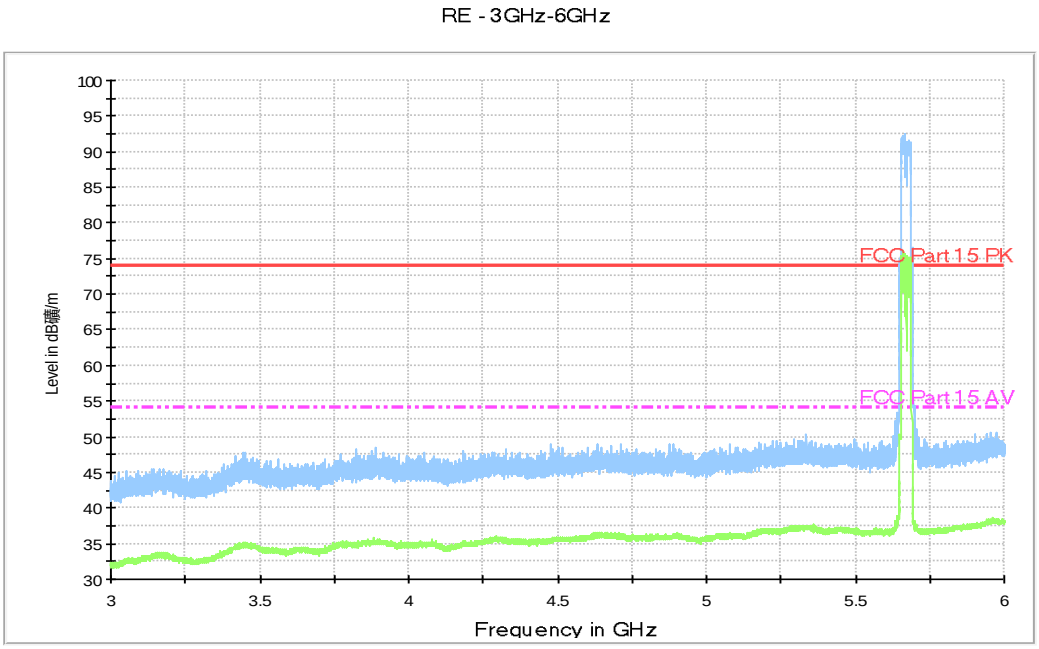


Fig. 129 Radiated Spurious Emission (802.11n-HT40, ch134, 3 GHz-6 GHz)

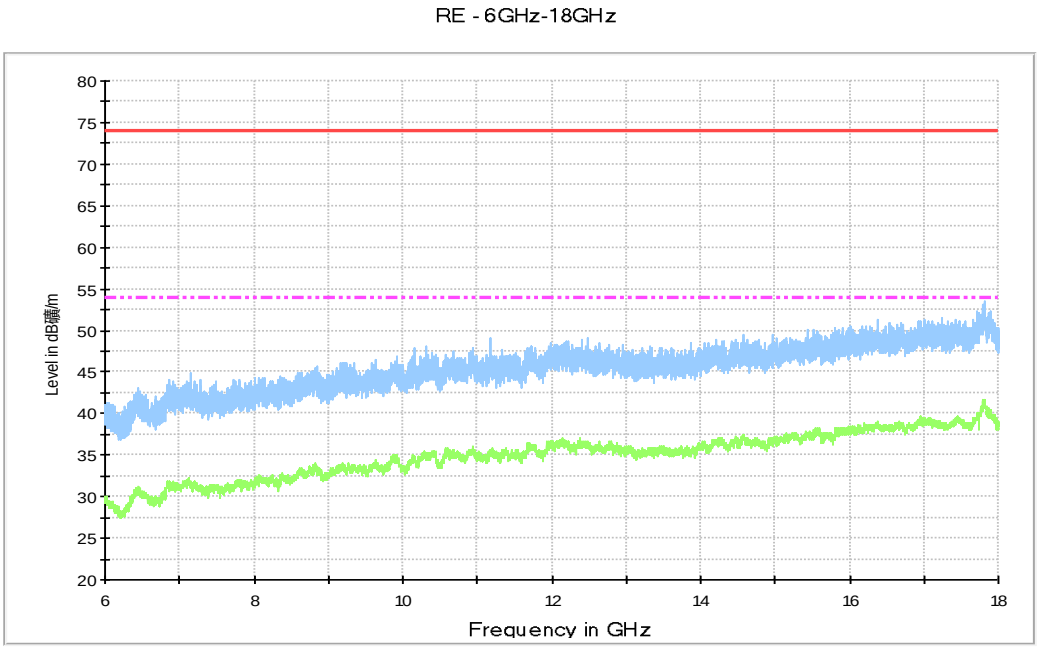


Fig. 130 Radiated Spurious Emission (802.11n-HT40, ch134, 6 GHz-18 GHz)

©Copyright. All rights reserved by CTTL.

A.7. Conducted Emission (150kHz- 30MHz)

Test Condition:

Voltage（V）	Frequency（Hz）
110	60

Measurement uncertainty:
Expanded measurement uncertainty for this test item is U =3.2dB, k=2.

Measurement Result and limit:
WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		11a mode	Idle	
0.15 to 0.5	66 to 56	Fig.131	Fig.132	P
0.5 to 5	56			
5 to 30	60			
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.				

WLAN (Average Limit)

Frequency range (MHz)	Average Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		11a mode	Idle	
0.15 to 0.5	56 to 46	Fig.131	Fig.132	P
0.5 to 5	46			
5 to 30	50			
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.				

Conclusion: PASS
Test graphs as below:

©Copyright. All rights reserved by CTTL.

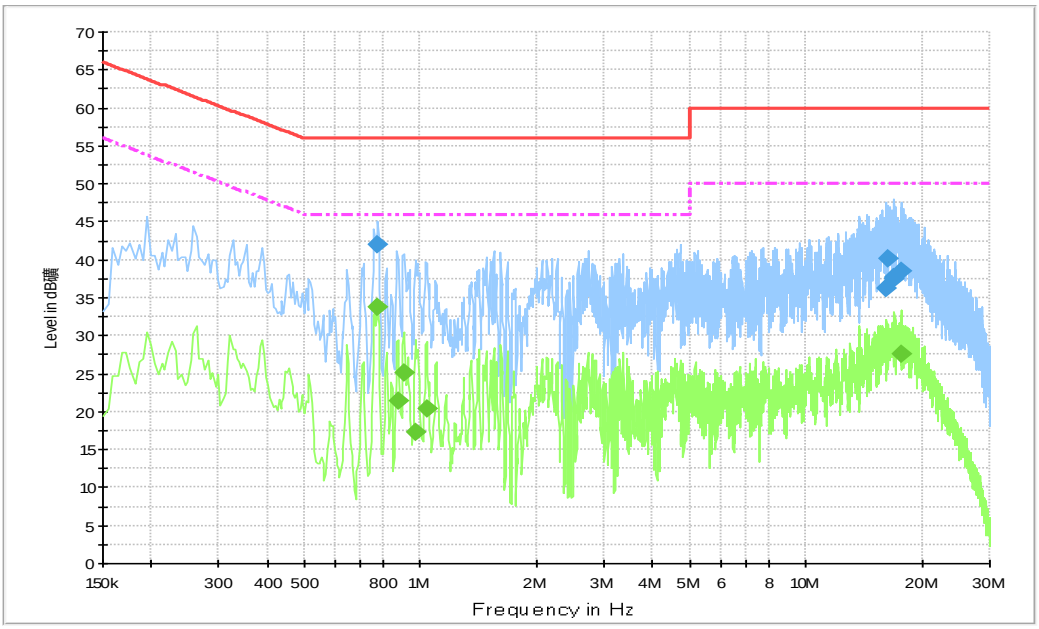


Fig. 131 Conducted Emission(802.11a, Ch40, TX)

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.775500	42.0	GND	L1	10.7	14.0	56.0
16.224000	36.3	GND	L1	11.2	23.7	60.0
16.354500	40.2	GND	L1	11.2	19.8	60.0
16.899000	37.6	GND	L1	11.2	22.4	60.0
17.002500	37.7	GND	L1	11.2	22.3	60.0
17.785500	38.5	GND	L1	11.2	21.5	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.775500	33.8	GND	L1	10.7	12.2	46.0
0.874500	21.5	GND	L1	10.7	24.5	46.0
0.906000	25.1	GND	L1	10.7	20.9	46.0
0.973500	17.3	GND	L1	10.7	28.7	46.0
1.036500	20.4	GND	L1	10.7	25.6	46.0
17.718000	27.6	GND	L1	11.2	22.4	50.0

©Copyright. All rights reserved by CTTL.

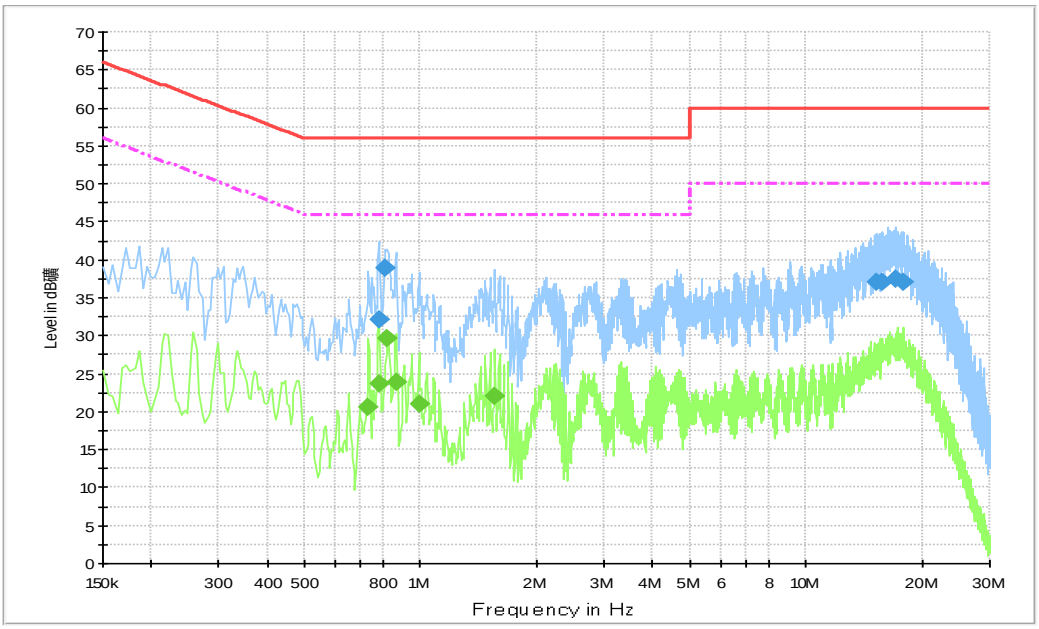


Fig. 132 Conducted Emission(802.11a, IDLE)

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.780000	32.0	GND	L1	10.7	24.0	56.0
0.811500	38.8	GND	L1	10.7	17.2	56.0
15.315000	37.0	GND	L1	11.2	23.0	60.0
15.783000	37.1	GND	L1	11.2	22.9	60.0
17.025000	37.4	GND	L1	11.2	22.6	60.0
17.947500	37.0	GND	L1	11.2	23.0	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.730500	20.7	GND	L1	10.7	25.3	46.0
0.780000	23.7	GND	L1	10.7	22.3	46.0
0.820500	29.7	GND	L1	10.7	16.3	46.0
0.865500	23.9	GND	L1	10.7	22.1	46.0
0.991500	21.0	GND	L1	10.7	25.0	46.0
1.558500	22.0	GND	L1	10.7	24.0	46.0

©Copyright. All rights reserved by CTTL.

A.9. 99% Occupied bandwidth

Method of Measurement: See ANSI C63.10-2013-clause 12.4.2.

a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.

b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.

c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2.

d) Step a) through step c) might require iteration to adjust within the specified range.

e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.

f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.

g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% ofthe total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.

h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

Measurement Uncertainty:

Measurement Uncertainty	60.80Hz

Measurement Result:

Mode	Channel	99% Occupied bandwidth (kHz)		conclusion
802.11a	5180 MHz	Fig.133	17.47	P
	5200 MHz	Fig.134	17.50	P
	5240 MHz	Fig.135	17.49	P
802.11n HT20	5180 MHz	Fig.136	18.40	P
	5200 MHz	Fig.137	18.40	P
	5240 MHz	Fig.138	18.41	P
802.11n HT40	5190 MHz	Fig.139	36.23	P
	5230 MHz	Fig.140	36.15	P

Conclusion: PASS

Test graphs as below:

©Copyright. All rights reserved by CTTL.

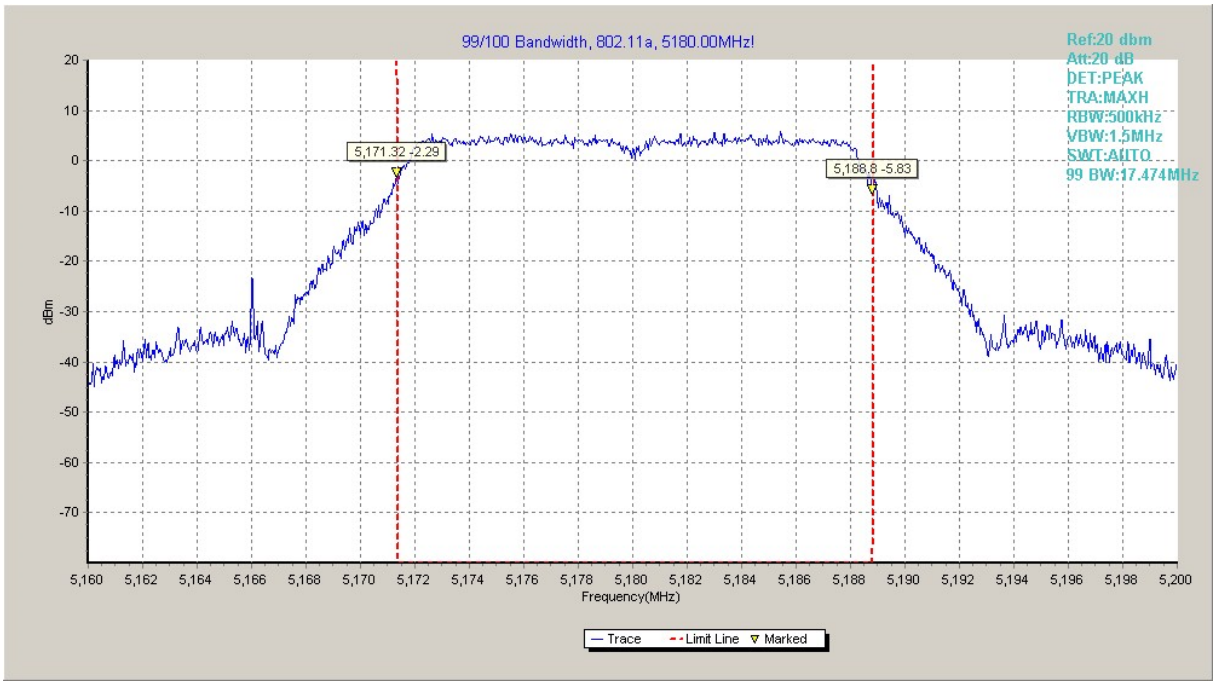


Fig. 133 99% Occupied bandwidth (802.11a, 5180MHz)

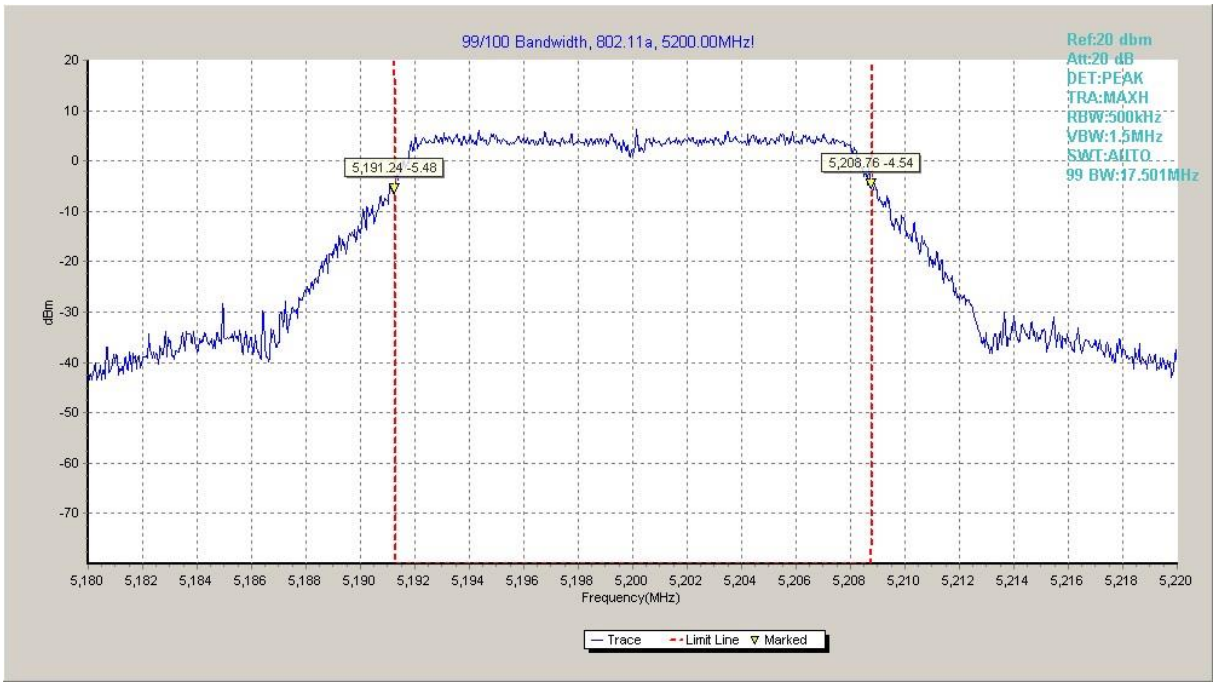


Fig. 134 99% Occupied bandwidth (802.11a, 5200MHz)

©Copyright. All rights reserved by CTTL.

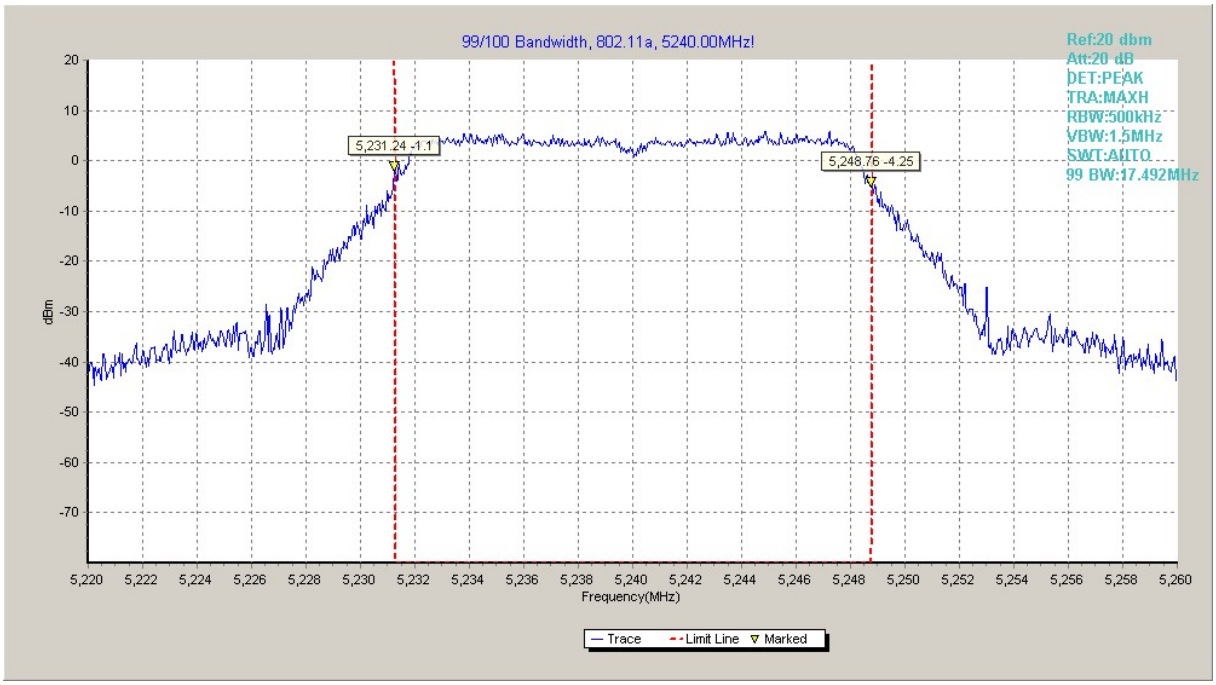


Fig. 135 99% Occupied bandwidth (802.11a, 5240MHz)

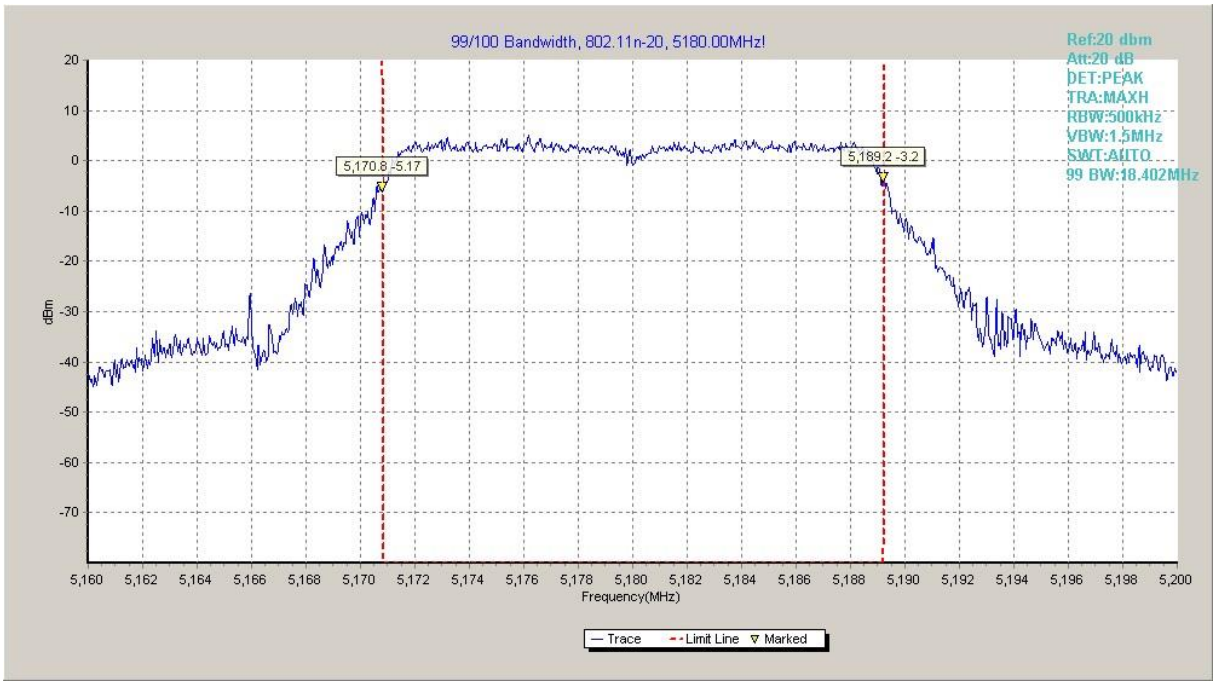


Fig. 136 99% Occupied bandwidth (802.11n-HT20, 5180MHz)

©Copyright. All rights reserved by CTTL.

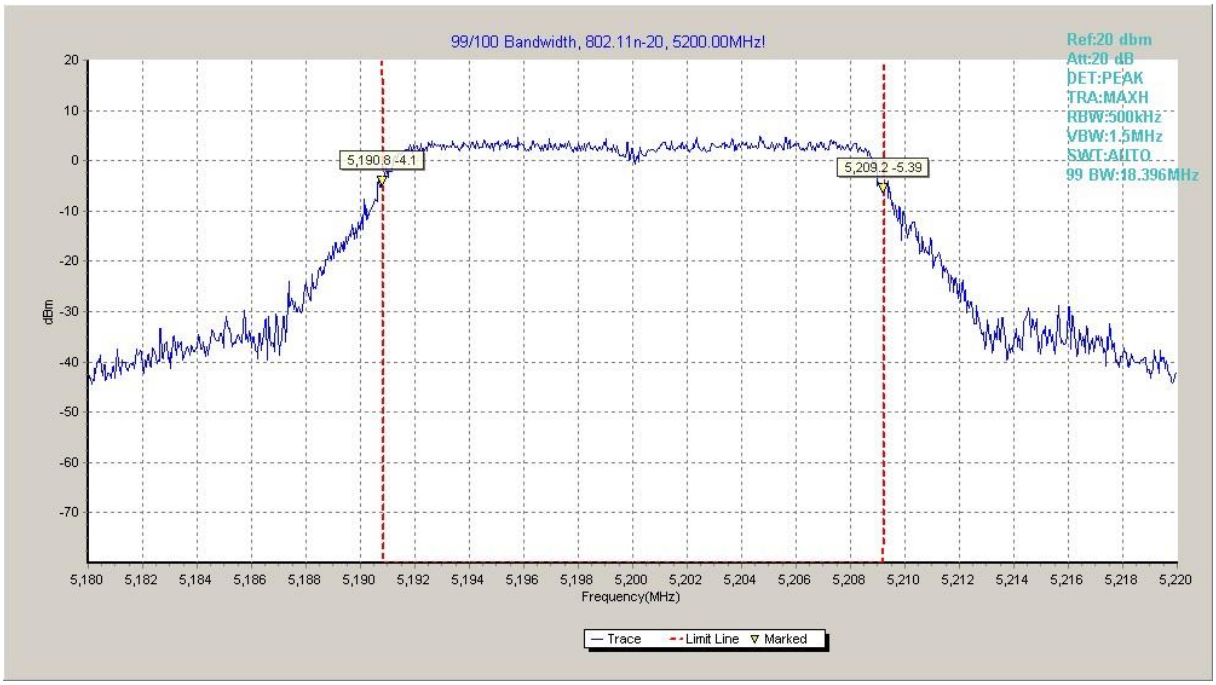


Fig. 137 99% Occupied bandwidth (802.11n-HT20, 5200MHz)

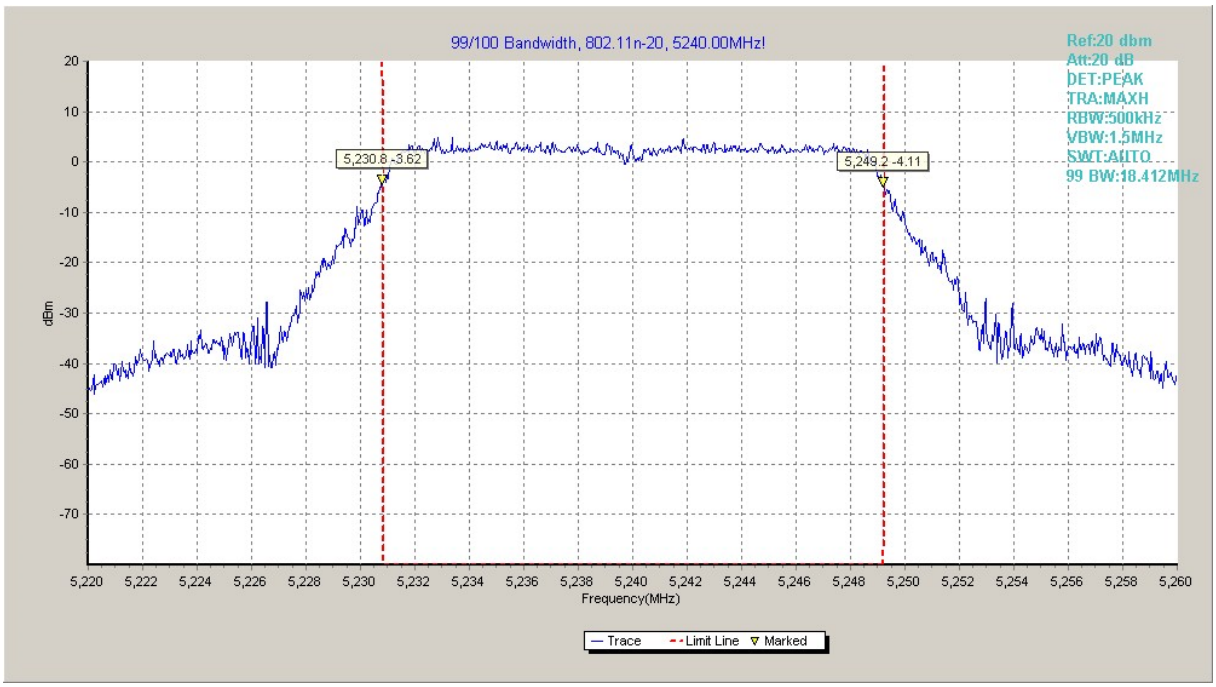


Fig. 138 99% Occupied bandwidth (802.11n-HT20, 5240MHz)

©Copyright. All rights reserved by CTTL.

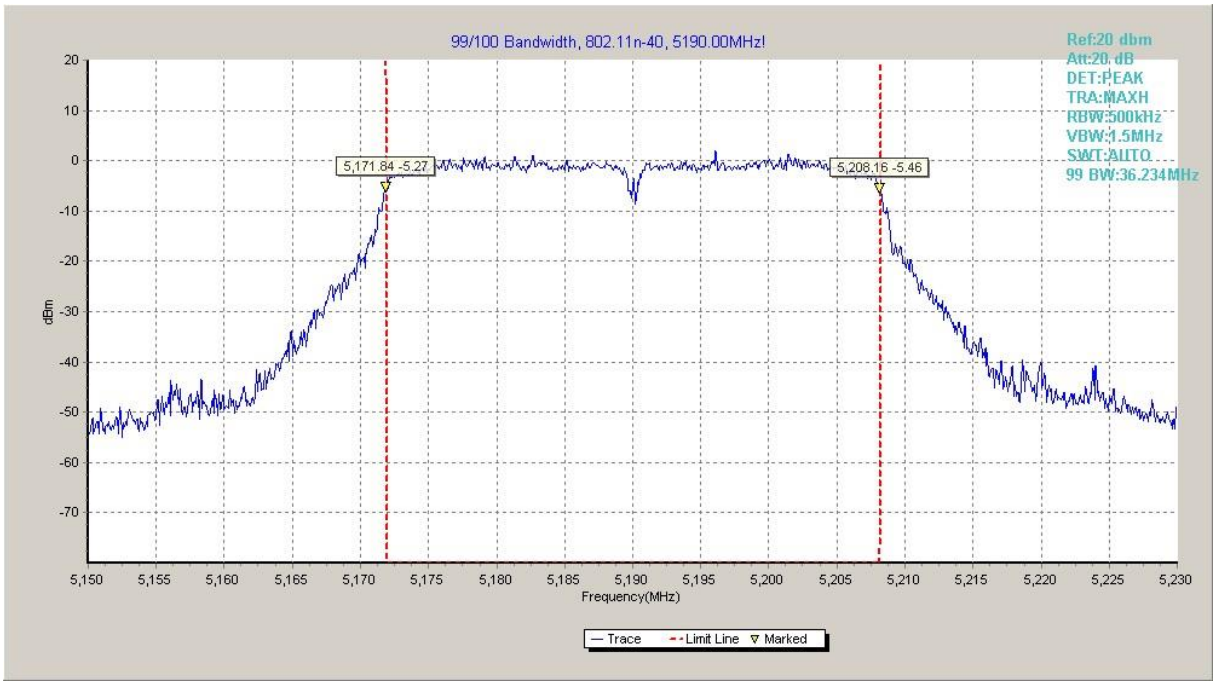


Fig. 139 99% Occupied bandwidth (802.11n-HT40, 5190MHz)

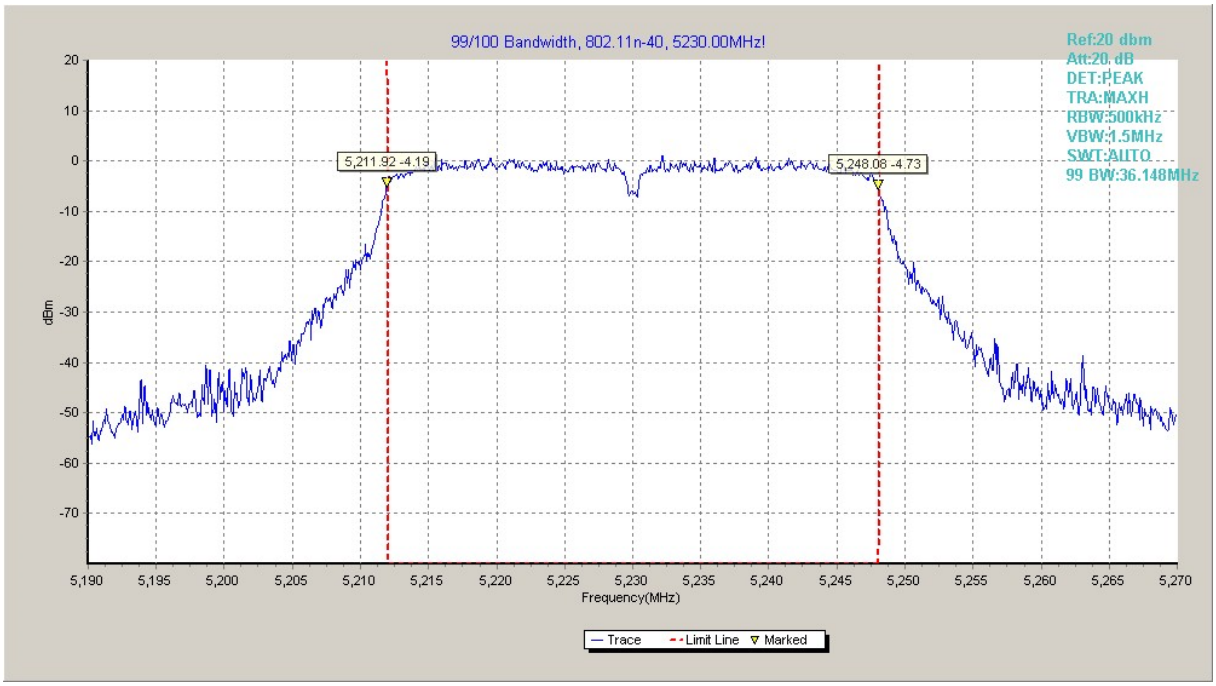


Fig. 140 99% Occupied bandwidth (802.11n-HT40, 5230MHz)

©Copyright. All rights reserved by CTTL.

A.10. Frequency Stability

Manufacturers ensured the EUT meet the requirement of 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.

Measurement Result:

Mode	Channel	Test Condition		Result
802.11a	5180 MHz	Tnom	Vnom	0.00
		Tmax	Vnom	
		Tmin	Vnom	
		Vmax	Tnom	
		Vmin	Tnom	
802.11a	5500 MHz	Tnom	Vnom	9.77
		Tmax	Vnom	
		Tmin	Vnom	
		Vmax	Tnom	
		Vmin	Tnom	
802.11a	5700 MHz	Tnom	Vnom	4.88
		Tmax	Vnom	
		Tmin	Vnom	
		Vmax	Tnom	
		Vmin	Tnom	

A.11. Power control

A Transmission Power Control mechanism is not required for systems with an e.i.r.p. of less than 27dBm (500 mW).

***** END OF REPORT BODY *****

©Copyright. All rights reserved by CTTL.