



**FCC PART 15C
TEST REPORT
No. 2013WLN0690**

for

TCT Mobile Limited

HSUPA/HSDPA/UMTS dualband / GSM quadband mobile phone

Model: Scribe5HD AWS

Marketing Name: ONE TOUCH 8008W

With

FCC ID: RAD330

Hardware Version: 1.5

Software Version: vA8D

Issued Date: 2013-05-14



Note:The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of TMC Beijing.

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1. TEST LABORATORY

1.1. Testing Location

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1.2. Testing Environment

Normal Temperature: 15-30°C
Extreme Temperature: -20/+55°C
Relative Humidity: 30-60%
Air Pressure 990hPa-1040hPa

Note: The climatic requirements above are general exclude the special requirements for dedicated test environments listed in section 5 and some specific test cases in other parts of this report.

1.3. Project data

Testing Start Date: 2013-03-05
Testing End Date: 2013-03-18

1.4. Signature



Xu Zhongfei
(Prepared this test report)



Gao Hong
(Reviewed this test report)



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2. CLIENT INFORMATION

2.1. Applicant Information

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3. EQUIPMENT UNDER TEST(EUT) AND ANCILLARY EQUIPMENT(AE)

3.1. About EUT

Description	HSUPA/HSDPA/UMTS dualband / GSM quadband mobile phone
Model	Scribe5HD AWS
Marketing Name	ONE TOUCH 8008W
FCC ID	RAD330
IC ID	/
With WLAN Function	Yes
Frequency Range	ISM 2400MHz~2483.5MHz
Type of Modulation	DSSS/CCK/OFDM
Number of Channels	11
Antenna	Integral Antenna
Power Supply	3.8V DC by Battery

Note: Photographs of EUT are shown in ANNEX C of this test report.

3.2. Internal Identification of EUT used during the test

EUT ID*	IMEI	HW Version	SW Version
EUT1	013507000011857	1.5	vA8D

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE used during the test

AE ID*	Description	Type	SN
AE1	Battery	CAC2500000C3	/
AE2	Charger	CBA3000AG0C1	/

*AE ID: is used to identify the test sample in the lab internally.

3.4. General Description

Equipment Under Test (EUT) is a model of HSUPA/HSDPA/UMTS dualband / GSM quadband mobile phone with integrated antenna. It consists of normal options: Battery and Charger. Manual and specifications of the EUT were provided to fulfil the test. Samples undergoing test were provided by the Client.

4. Reference Documents

4.1. Documents supplied by applicant

EUT feature information is supplied by the applicant or manufacturer, which is the basis of testing.

4.2. REFERENCE DOCUMENTS FOR TESTING

The following documents listed in this section are referred for testing.

FCC Part15	FCC CFR 47, Part 15, Subpart C: 15.205 Restricted bands of operation; 15.209 Radiated emission limits, general requirements; 15.247 Operation within the bands 902-928MHz, 2400-2483.5 MHz, and 5725-5850 MHz.	Oct, 2009 Edition
ANSI C63.10	Procedures for testing compliance of a wide variety of unlicensed wireless devices	2009

5. LABORATORY ENVIRONMENT

Semi-anechoic chamber (10 meters×6.7meters×6.15meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2 M ohm
Ground system resistance	< 0.5 Ω
Normalised site attenuation (NSA)	< ±3.5 dB, 3 m distance
Site voltage standing-wave ratio (S_{VSWR})	Between 0 and 6 dB, from 1GHz to 18GHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 3000 MHz
Normalised site attenuation (NSA)	< ±3.5 dB, 3 m distance, from 30 to 1000 MHz

Shielding Room2 (7.30 meters×4.00 meters×3.80 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω
Uniformity of field strength	Between 0 and 6 dB, from 80MHz to 3000 MHz
Normalised site attenuation (NSA)	< ±3.5 dB, 3 m distance, from 30 to 1000 MHz

6. SUMMARY OF TEST RESULTS

6.1. Summary of Test Results

SUMMARY OF MEASUREMENT RESULTS	Sub-clause of Part15C	Sub-clause of IC	Verdict
Transmitter Spurious Emission - Radiated	15.247, 15.205, 15.109	/	P
Transmitter Spurious Emission - Radiated<30MHz	15.247, 15.205, 15.109	/	P
AC Powerline Conducted Emission	15.107, 15.207	/	P

Please refer to **ANNEX A** for detail.

The measurement is made according to ANSI C63.10.

Terms used in Verdict column

P	Pass, The EUT complies with the essential requirements in the standard.
NP	Not Perform, The test was not performed by TMC
NA	Not Applicable, The test was not applicable
F	Fail, The EUT does not comply with the essential requirements in the standard

6.2. Statements

TMC has evaluated the test cases requested by the client/manufacture as listed in section 6.1 of this report for the EUT specified in section 3 according to the standards or reference documents listed in section 4.1.

This report only deals with the WLAN function among the features described in section 3.

Test Conditions

T nom	Normal Temperature
T min	Low Temperature
T max	High Temperature
V nom	Normal Voltage
V min	Low Voltage
V max	High Voltage
H nom	Norm Humidity
A nom	Norm Air Pressure

For this report, all the test cases listed above are tested under Normal Temperature and Normal Voltage which is using a new battery, and also under norm humidity, the specific conditions as following:

Temperature	T nom	26°C
Voltage	V nom	3.8V(By battery)
Humidity	H nom	44%
Air Pressure	A nom	1010hPa

7. TEST EQUIPMENTS UTILIZED

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Last Calibration	Calibration Period
1	Test receiver	ESS	847151/015	Rohde & Schwarz	2012-10-31	2013-10-30
2	LISN	ESH2-Z5	829991/012	Rohde & Schwarz	2012-08-13	2013-08-12

Radiated emission test system

No	Equipment	Model	Serial Number	Manufacturer	Last Calibration	Calibration Period
1	Test Receiver	ESI40	831564/002	Rohde & Schwarz	2012-08-12	2013-08-11
2	EMI Antenna	VULB 9163	9163 301	Schwarzbeck	2012-08-31	2013-08-30
3	EMI Antenna	3117	00034610	EMCO	2012-07-02	2013-07-01
4	Dual-Ridge Waveguide Horn Antenna	3116	2663	EMCO	2012-07-11	2013-07-10
5	Dual-Ridge Waveguide Horn Antenna	3116	2661	EMCO	2012-07-06	2013-07-05
6	Universal Radio Communication Tester	CMU200	105948	Rohde & Schwarz	2012-08-15	2013-08-14
7	LISN	ESH2-Z5	829991/012	Rohde & Schwarz	2013-03-18	2014-03-17
8	Pre-amplifier(18GHz)	/	1005277	Rohde & Schwarz	/	/
9	Pre-amplifier(26.5GHz)	/	1005277	Rohde & Schwarz	/	/
10	Antenna	HFH2-Z6	100043	Rohde & Schwarz	2013-09-01	2014-08-31

Anechoic chamber

Anechoic chamber by Frankonia German.

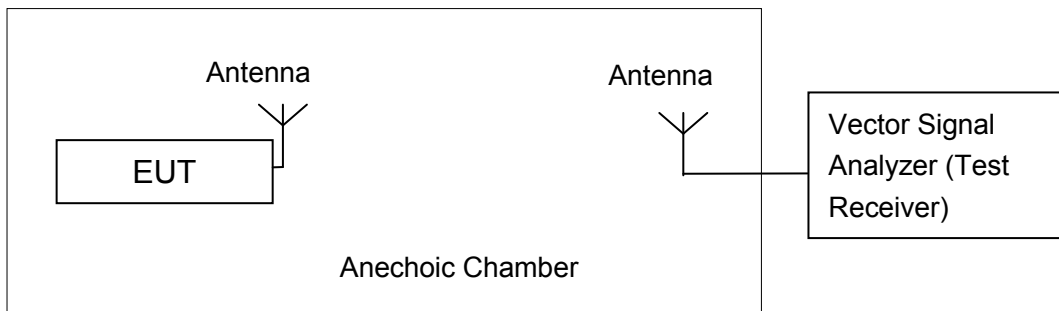
ANNEX A: MEASUREMENT RESULTS

A.1. Radiated Emission Measurements

In the case of radiated emission, the used settings are as follows,

Sweep frequency from 30 MHz to 1GHz, RBW = 100 kHz, VBW = 300 kHz;

Sweep frequency from 1 GHz to 26GHz, RBW = 1MHz, VBW = 10Hz;



The measurement is made according to ANSI C63.10

A.2. Maximum Peak Output Power-conducted

Measurement Limit and Method:

Standard	Limit (dBm)
FCC CRF Part 15.247(b)	< 30

The measurement is made according to ANSI C63.10, and EUT is operating in continuous transmitting mode.

Measurement Uncertainty:

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k=2$, $U=0.44$ dB.

Measurement Results:

Network Standards	Data Rate	Peak Output Power (dBm)		
		CH 1	CH 6	CH 11
802.11b	1 Mbps	17.50	17.20	16.58
	2 Mbps	17.46	17.28	16.60
	5.5 Mbps	18.04	17.57	16.91
	11 Mbps	18.06	17.58	17.10
802.11g	6 Mbps	18.60	18.98	19.50
	9 Mbps	18.64	19.10	19.62
	12 Mbps	18.82	19.12	19.70
	18 Mbps	18.70	19.00	19.47
	24 Mbps	18.54	18.95	19.50
	36 Mbps	18.52	19.02	18.52
	48 Mbps	18.45	18.95	19.49
	54 Mbps	18.61	18.90	19.40
802.11n HT20	MCS0	18.27	18.22	19.59
	MCS1	18.30	19.20	19.60
	MCS2	18.41	19.14	19.52
	MCS3	18.46	19.28	19.65
	MCS4	18.42	19.21	19.61
	MCS5	18.40	19.15	19.58
	MCS6	18.38	19.11	19.42
	MCS7	16.52	17.28	17.94

Network Standards	Data Rate	Peak Output Power (dBm)		
		CH 3	CH 6	CH 9
802.11n HT40	MCS0	19.10	19.65	19.87
	MCS1	19.14	19.58	19.88
	MCS2	19.35	19.72	19.90
	MCS3	19.21	19.68	19.80
	MCS4	19.27	19.62	19.78
	MCS5	19.20	19.64	19.69
	MCS6	19.11	19.42	19.85
	MCS7	18.25	17.74	18.25

Conclusion: PASS

A.2. Transmitter Spurious Emission - Radiated

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247, 15.205, 15.109	20dB below peak output power

In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.109(a) (see § 15.205(c)).

The measurement is made according to ANSI C63.10.

Note: Below 30MHz and above 18GHz , the test result is Noise Floor and no useful signals was detected.

Limit in restricted band:

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Test Condition

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

Frequency of emission (MHz)	RBW/VBW	Sweep Time(s)
30-1000	100KHz/300KHz	5
1000-4000	1MHz/1MHz	15
4000-18000	1MHz/1MHz	40
18000-26500	1MHz/1MHz	20

Measurement Results:

802.11b/g mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11b	Power	2.38GHz ~2.45GHz	Fig.1	P
	1	30 MHz ~1 GHz	Fig.2	P
		1 GHz ~ 3 GHz	Fig.3	P
		3 GHz ~ 18 GHz	Fig.4	P
	6	30 MHz ~1 GHz	Fig.5	P
		1 GHz ~ 3 GHz	Fig.6	P
		3 GHz ~ 18 GHz	Fig.7	P
	Power	2.45GHz ~2.5GHz	Fig.8	P
	11	30 MHz ~1 GHz	Fig.9	P
		1 GHz ~ 3 GHz	Fig.10	P
		3 GHz ~ 18 GHz	Fig.11	P
802.11g	Power	2.38GHz ~2.43GHz	Fig.12	P
	1	30 MHz ~1 GHz	Fig.13	P
		1 GHz ~ 3 GHz	Fig.14	P
		3 GHz ~ 18 GHz	Fig.15	P
	6	30 MHz ~1 GHz	Fig.16	P
		1 GHz ~ 3 GHz	Fig.17	P
		3 GHz ~ 18 GHz	Fig.18	P
	Power	2.45GHz ~2.5GHz	Fig.19	P
	11	30 MHz ~1 GHz	Fig.20	P
		1 GHz ~ 3 GHz	Fig.21	P
		3 GHz ~ 18 GHz	Fig.22	P

802.11n mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (20MHz)	Power	2.38GHz ~2.45GHz	Fig.23	P
	1	30 MHz ~1 GHz	Fig.24	P
		1 GHz ~ 3 GHz	Fig.25	P
		3 GHz ~ 18 GHz	Fig.26	P
	6	30 MHz ~1 GHz	Fig.27	P
		1 GHz ~ 3 GHz	Fig.28	P
		3 GHz ~ 18 GHz	Fig.29	P
	Power	2.45GHz ~2.5GHz	Fig.30	P
	11	30 MHz ~1 GHz	Fig.31	P
		1 GHz ~ 3 GHz	Fig.32	P
		3 GHz ~ 18 GHz	Fig.33	P
	802.11n (40MHz)	Power	2.38GHz ~2.45GHz	Fig.34
1		30 MHz ~1 GHz	Fig.35	P
		1 GHz ~ 3 GHz	Fig.36	P
		3 GHz ~ 18 GHz	Fig.37	P
6		30 MHz ~1 GHz	Fig.38	P
		1 GHz ~ 3 GHz	Fig.39	P
		3 GHz ~ 18 GHz	Fig.40	P
Power		2.45GHz ~2.5GHz	Fig.41	P
11		30 MHz ~1 GHz	Fig.42	P
		1 GHz ~ 3 GHz	Fig.43	P
		3 GHz ~ 18 GHz	Fig.44	P
/		All channels	18 GHz~ 26.5 GHz	Fig.45

Conclusion: PASS

Note:

A "reference path loss" is established and the A_{Rpl} is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss.

P_{Mea} is the field strength recorded from the instrument.

The measurement results are obtained as described below:

$$\text{Result} = P_{Mea} + A_{Rpl} = P_{Mea} + \text{Cable Loss} + \text{Antenna Factor}$$

802.11b

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17521.5	43.7	-25.2973	42.77	26.22728	HORIZONTAL
17495.25	43.6	-25.2973	43.04	25.85728	VERTICAL
17541	43.6	-25.2973	42.93	25.96728	VERTICAL
17485.5	43.6	-25.2973	43.04	25.85728	HORIZONTAL
17973	43.6	-25.228	42.7	26.12805	HORIZONTAL
17534.25	43.5	-25.2973	42.93	25.86728	VERTICAL

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17985	43.7	-25.228	42.26	26.66805	VERTICAL
17991	43.6	-24.7144	42.26	26.05436	HORIZONTAL
17494.5	43.6	-25.2973	43.04	25.85728	HORIZONTAL
17519.25	43.5	-25.2973	42.77	26.02728	VERTICAL
17512.5	43.5	-25.2973	42.77	26.02728	HORIZONTAL
17475	43.5	-25.2973	43.04	25.75728	VERTICAL

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17500.5	43.7	-25.2973	42.77	26.22728	VERTICAL
17510.25	43.6	-25.2973	42.77	26.12728	VERTICAL
17483.25	43.5	-25.2973	43.04	25.75728	VERTICAL
17498.25	43.5	-25.2973	43.04	25.75728	HORIZONTAL
17485.5	43.5	-25.2973	43.04	25.75728	VERTICAL
17994.75	43.5	-24.7144	42.26	25.95436	HORIZONTAL

802.11g

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17469	43.6	-25.2973	42.6	26.29728	HORIZONTAL
17505	43.5	-25.2973	42.77	26.02728	VERTICAL
17495.25	43.5	-25.2973	43.04	25.75728	VERTICAL
17982	43.5	-25.228	42.26	26.46805	VERTICAL
18000	43.5	-24.6437	42.74	25.40368	HORIZONTAL
17473.5	43.5	-25.2973	42.6	26.19728	VERTICAL

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17997.75	43.6	-24.7144	42.26	26.05436	HORIZONTAL
17497.5	43.6	-25.2973	43.04	25.85728	HORIZONTAL
17975.25	43.5	-25.228	42.26	26.46805	HORIZONTAL
17532.75	43.5	-25.2973	42.93	25.86728	VERTICAL
17489.25	43.5	-25.2973	43.04	25.75728	HORIZONTAL
17515.5	43.5	-25.2973	42.77	26.02728	VERTICAL

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17487	43.6	-25.2973	43.04	25.85728	VERTICAL
17459.25	43.5	-25.2973	42.6	26.19728	VERTICAL
17506.5	43.5	-25.2973	42.77	26.02728	HORIZONTAL
17997.75	43.5	-24.7144	42.26	25.95436	HORIZONTAL
17993.25	43.5	-24.7144	42.26	25.95436	VERTICAL
17984.25	43.5	-25.228	42.26	26.46805	HORIZONTAL

802.11n-HT20

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17473.5	43.6	-25.2973	42.6	26.29728	HORIZONTAL
17490.75	43.6	-25.2973	43.04	25.85728	HORIZONTAL
17988.75	43.5	-24.7144	42.26	25.95436	VERTICAL
17478	43.5	-25.2973	43.04	25.75728	HORIZONTAL
17493.75	43.5	-25.2973	43.04	25.75728	HORIZONTAL
17499.75	43.5	-25.2973	43.04	25.75728	VERTICAL

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17503.5	43.9	-25.2973	42.77	26.42728	VERTICAL
17498.25	43.7	-25.2973	43.04	25.95728	HORIZONTAL
17496.75	43.6	-25.2973	43.04	25.85728	VERTICAL
17515.5	43.6	-25.2973	42.77	26.12728	VERTICAL
17495.25	43.5	-25.2973	43.04	25.75728	HORIZONTAL
17531.25	43.5	-25.2973	42.93	25.86728	VERTICAL

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17530.5	43.5	-25.2973	42.93	25.86728	VERTICAL
17519.25	43.5	-25.2973	42.77	26.02728	VERTICAL
17483.25	43.5	-25.2973	43.04	25.75728	HORIZONTAL
17982	43.5	-25.228	42.26	26.46805	HORIZONTAL
17495.25	43.5	-25.2973	43.04	25.75728	VERTICAL
17488.5	43.5	-25.2973	43.04	25.75728	HORIZONTAL

802.11n-HT40

Ch3

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17524.5	43.6	-25.2973	42.77	26.12728	HORIZONTAL
17513.25	43.6	-25.2973	42.77	26.12728	HORIZONTAL
17526	43.6	-25.2973	42.93	25.96728	HORIZONTAL
17500.5	43.5	-25.2973	42.77	26.02728	HORIZONTAL
17963.25	43.5	-25.228	42.7	26.02805	HORIZONTAL
17499.75	43.5	-25.2973	43.04	25.75728	VERTICAL

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17544	43.8	-25.2973	42.93	26.16728	HORIZONTAL
17497.5	43.6	-25.2973	43.04	25.85728	VERTICAL
17484.75	43.6	-25.2973	43.04	25.85728	HORIZONTAL
17489.25	43.5	-25.2973	43.04	25.75728	VERTICAL
17982	43.5	-25.228	42.26	26.46805	HORIZONTAL
17491.5	43.5	-25.2973	43.04	25.75728	VERTICAL

Ch9

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17538	43.7	-25.2973	42.93	26.06728	VERTICAL
17502.75	43.7	-25.2973	42.77	26.22728	VERTICAL
17466.75	43.6	-25.2973	42.6	26.29728	HORIZONTAL
17485.5	43.6	-25.2973	43.04	25.85728	HORIZONTAL
17481	43.6	-25.2973	43.04	25.85728	VERTICAL
17512.5	43.6	-25.2973	42.77	26.12728	VERTICAL

Test graphs as below:

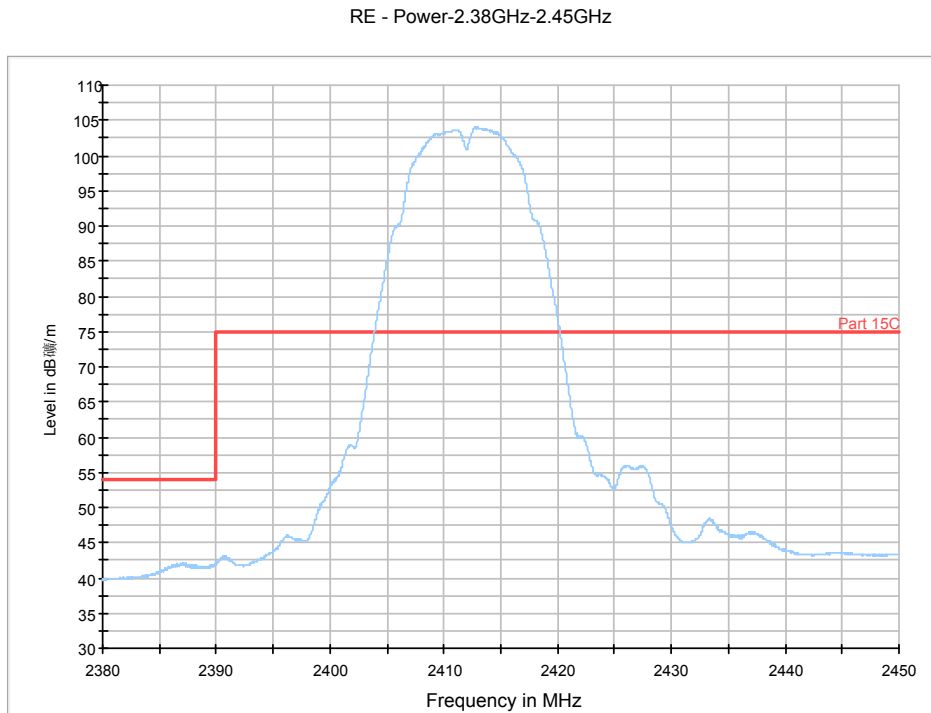


Fig. 1 Radiated Spurious Emission (Power): 802.11b, ch1, 2.38 GHz - 245GHz

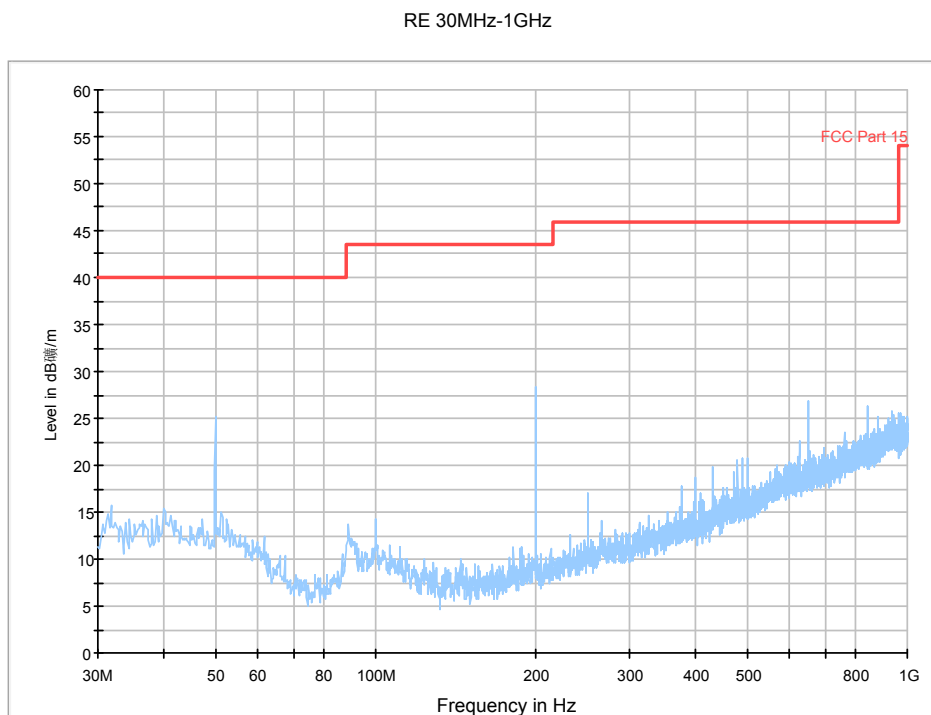


Fig. 2 Radiated Spurious Emission (802.11b, Ch1, 30 MHz-1 GHz)

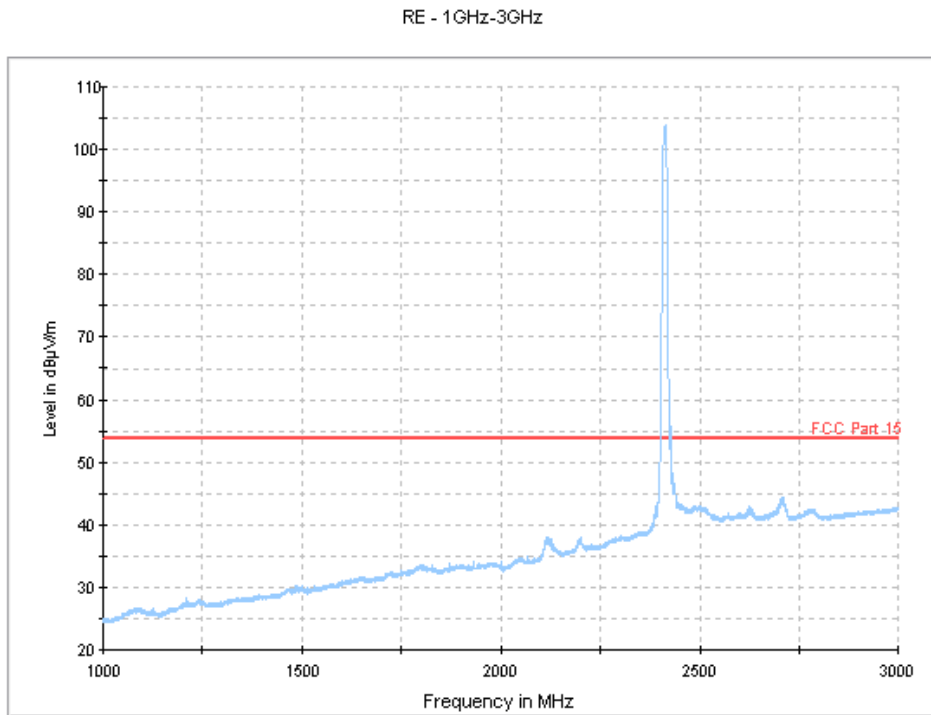


Fig. 3 Radiated Spurious Emission (802.11b, Ch1, 1 GHz-3 GHz)

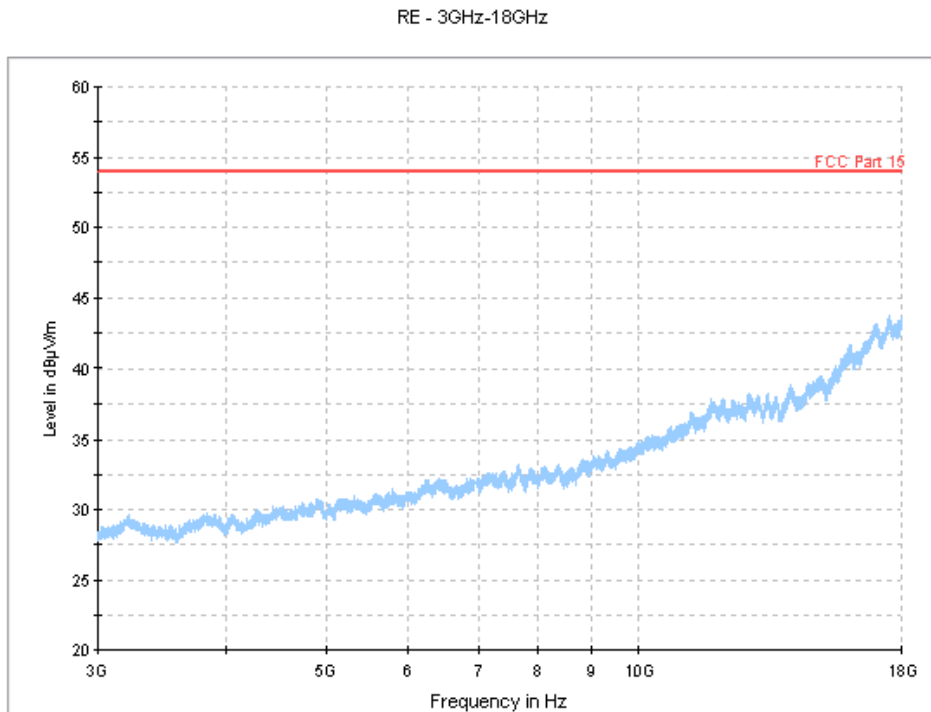


Fig. 4 Radiated Spurious Emission (802.11b, Ch1, 3 GHz-18 GHz)

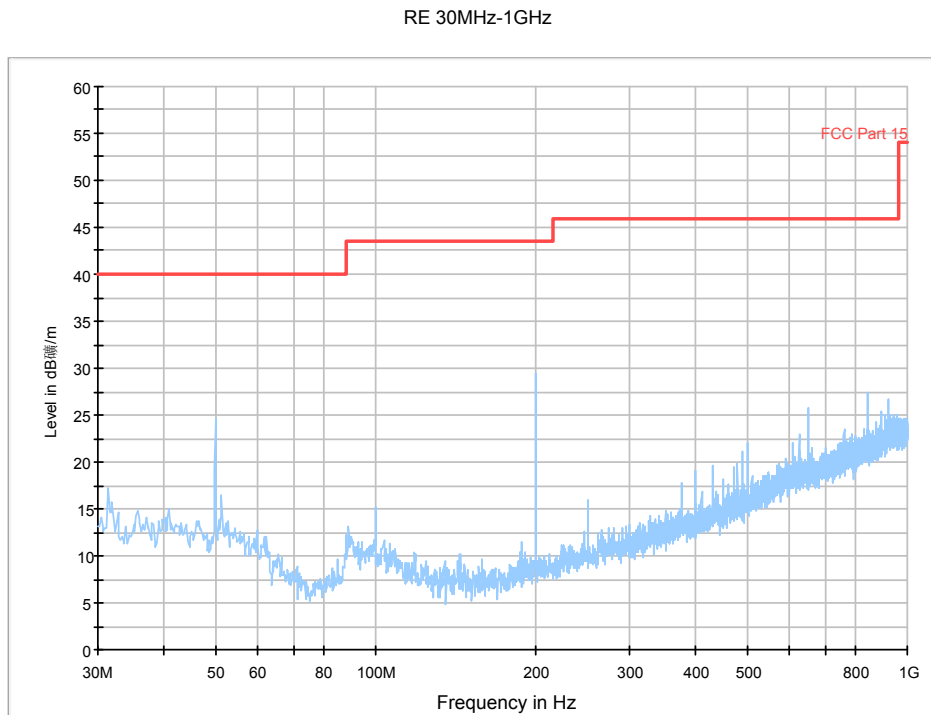


Fig. 5 Radiated Spurious Emission (802.11b, Ch6, 30 MHz-1 GHz)

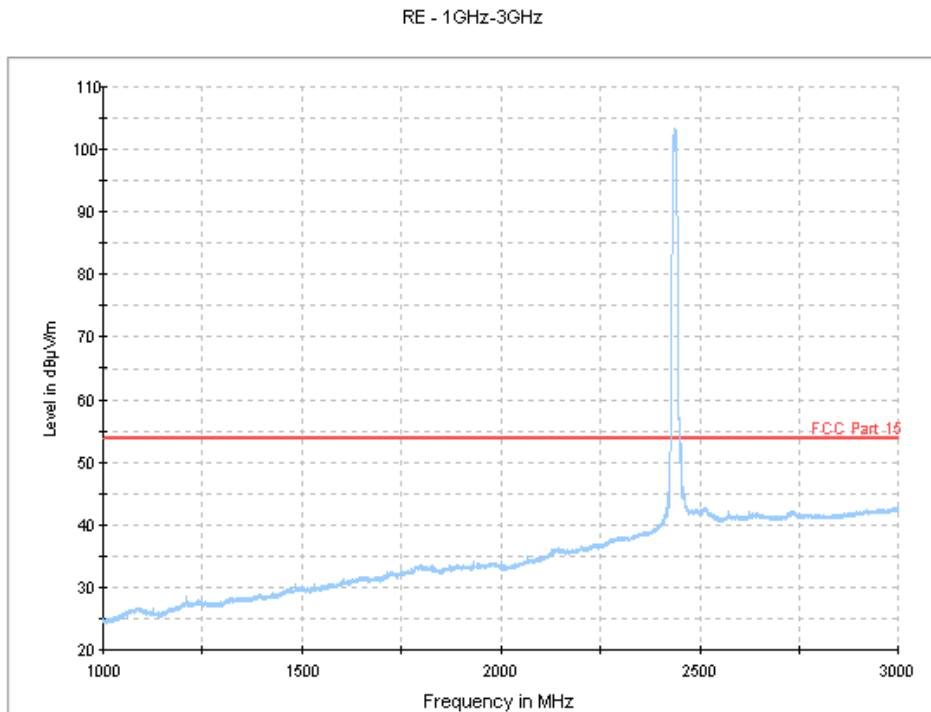


Fig. 6 Radiated Spurious Emission (802.11b, Ch6, 1 GHz-3 GHz)

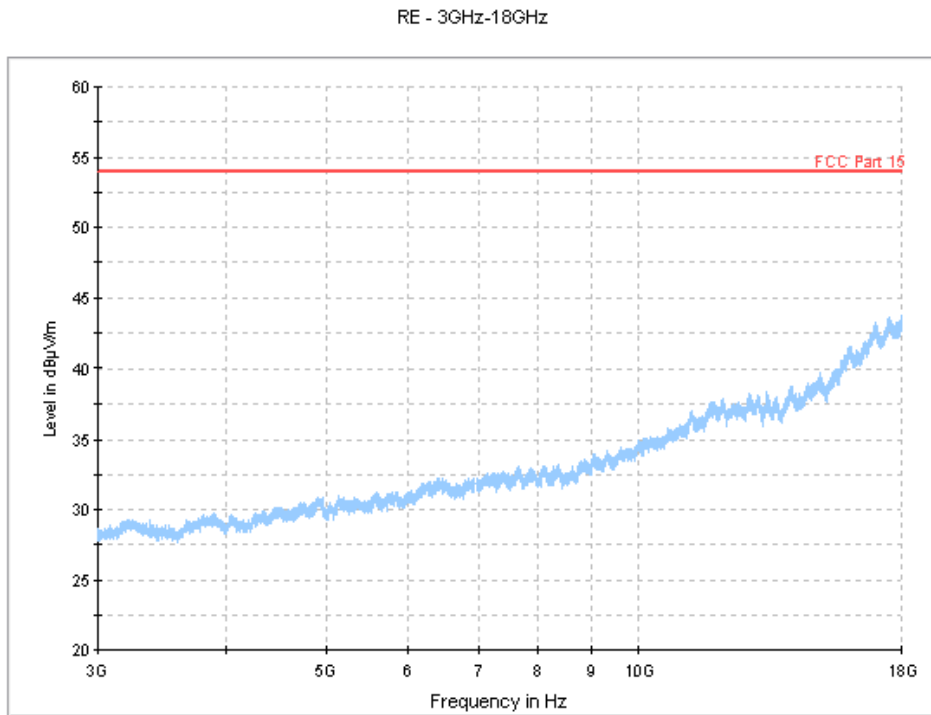


Fig. 7 Radiated Spurious Emission (802.11b, Ch6, 3 GHz-18 GHz)

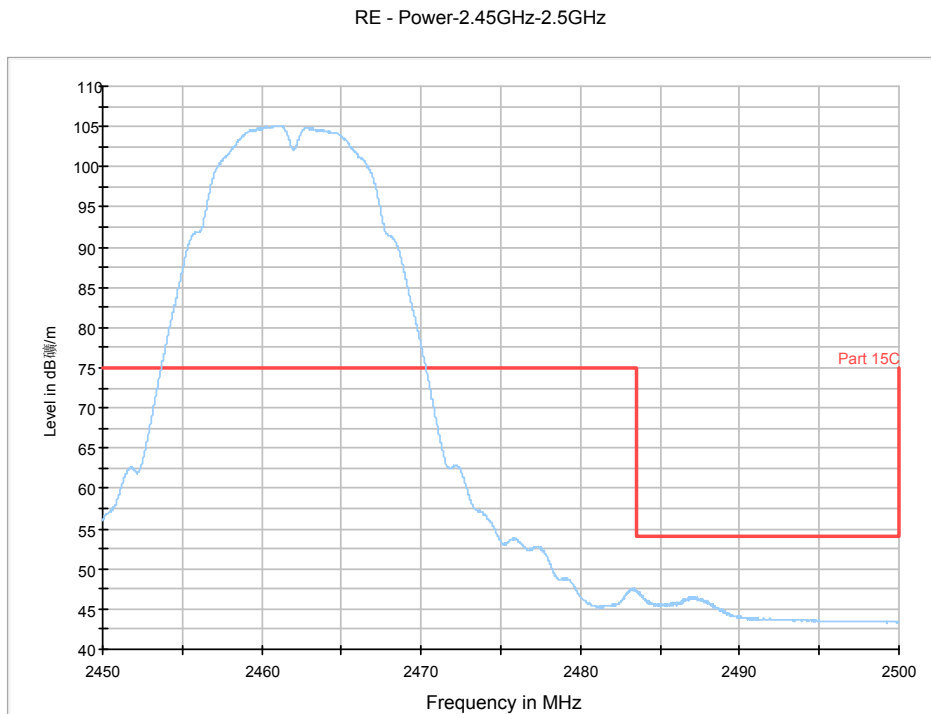


Fig. 8 Radiated Spurious Emission (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz

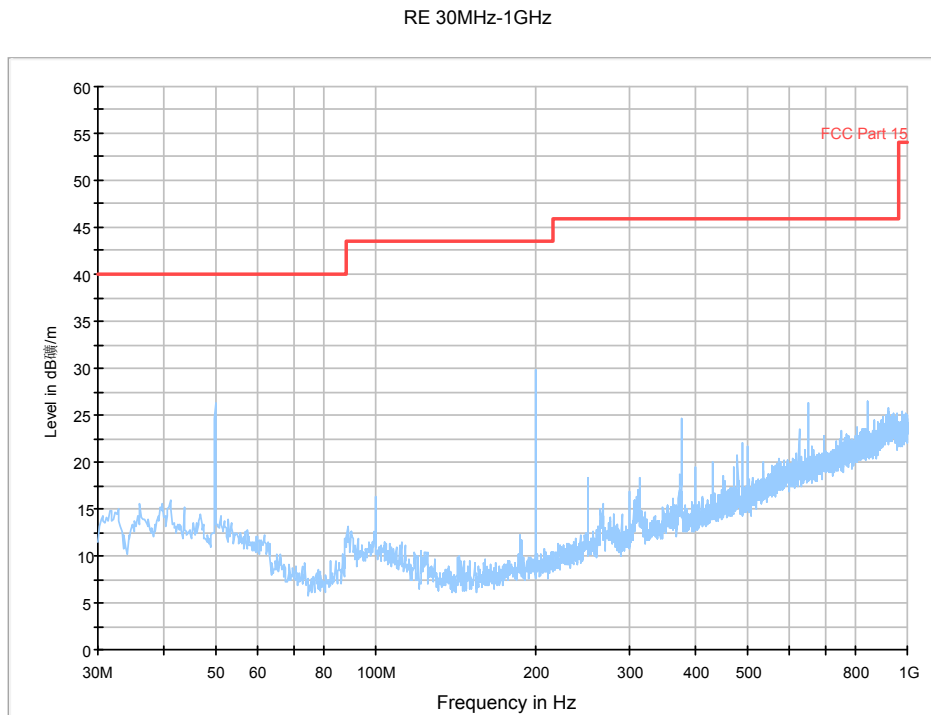


Fig. 9 Radiated Spurious Emission (802.11b, Ch11, 30 MHz-1 GHz)

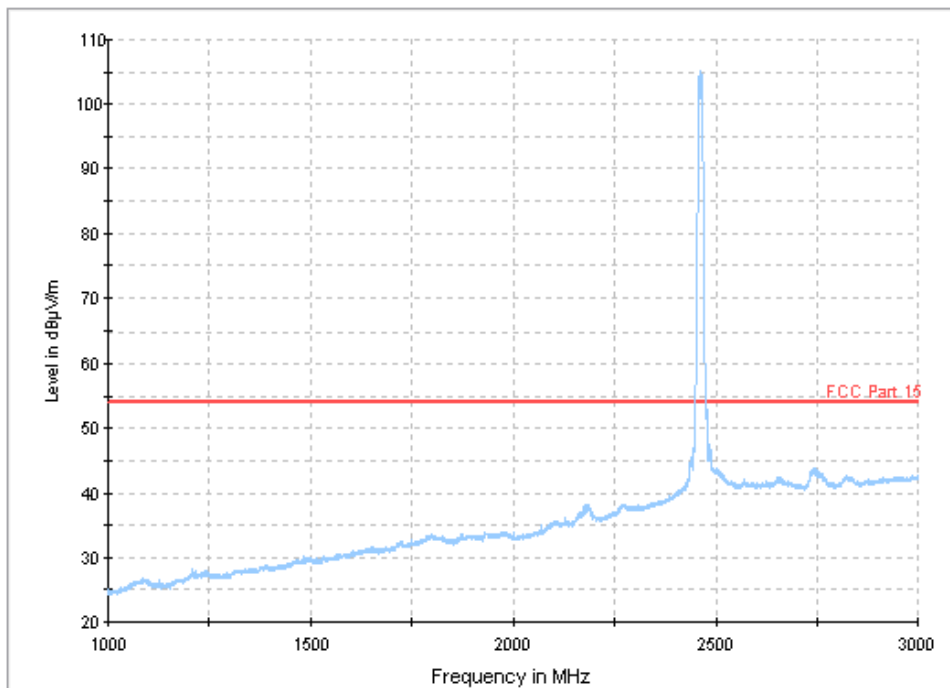


Fig. 10 Radiated Spurious Emission (802.11b, Ch11, 1 GHz-3 GHz)

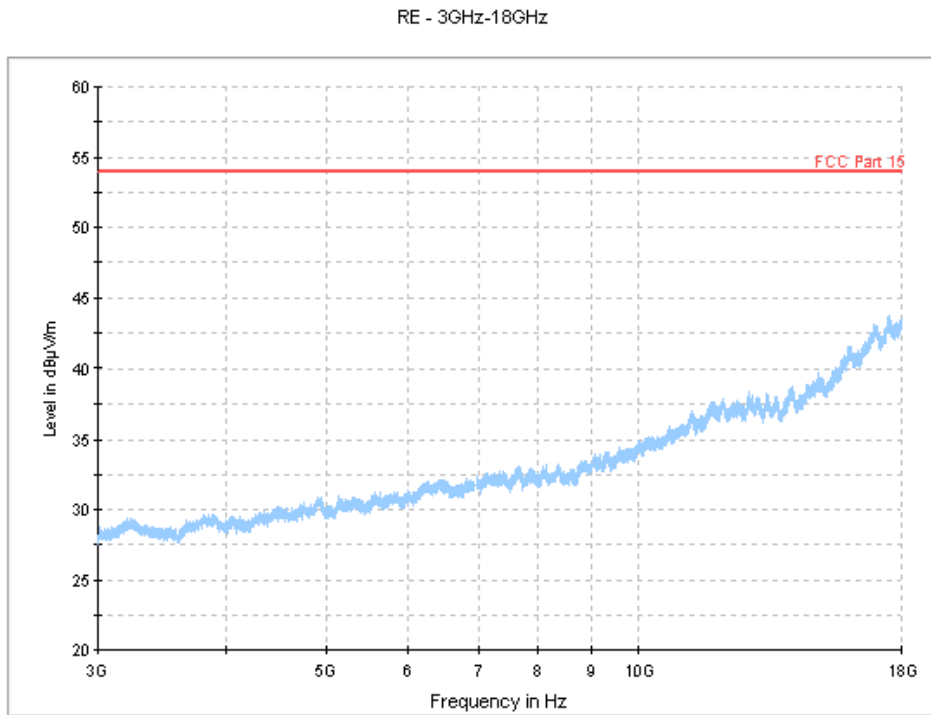


Fig. 11 Radiated Spurious Emission (802.11b, Ch11, 3 GHz-18 GHz)

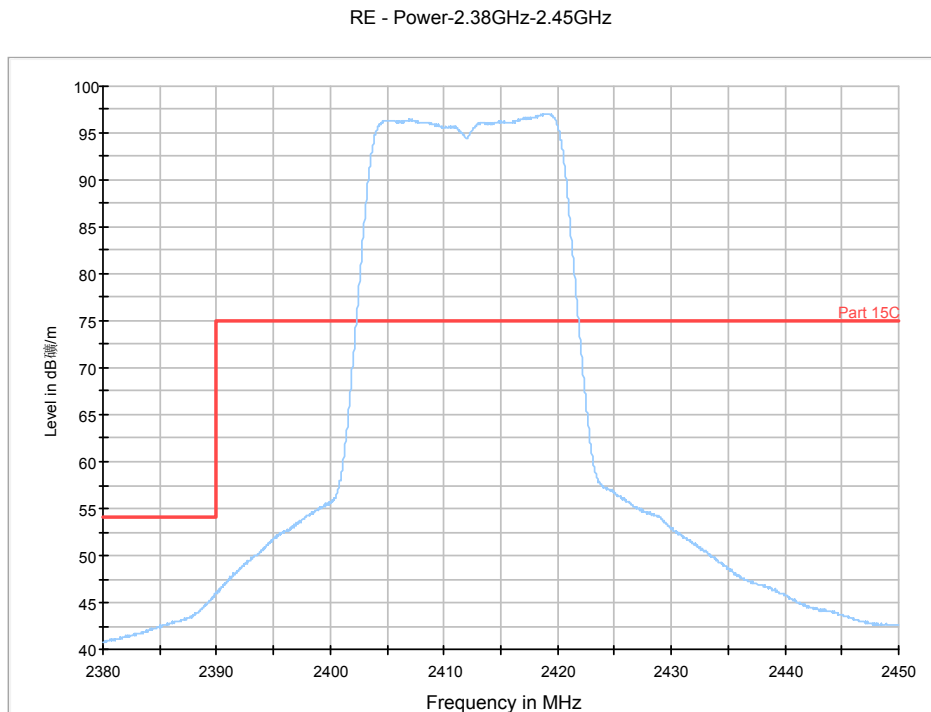


Fig. 12 Radiated Spurious Emission (Power): 802.11g, ch1, 2.38 GHz - 2.45GHz

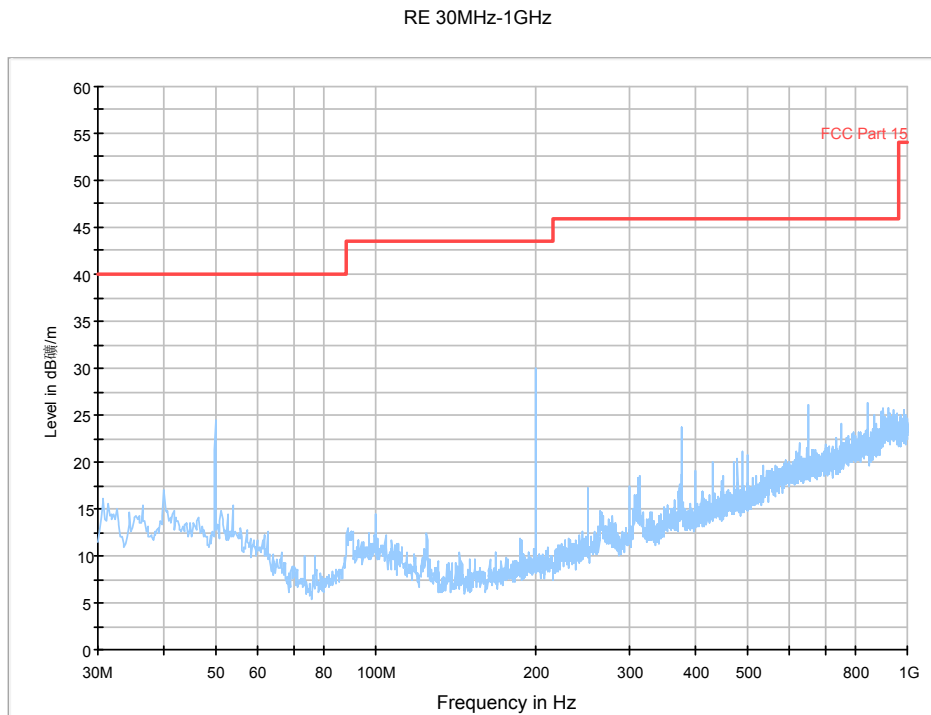


Fig. 13 Radiated Spurious Emission (802.11g, Ch1, 30 MHz-1 GHz)

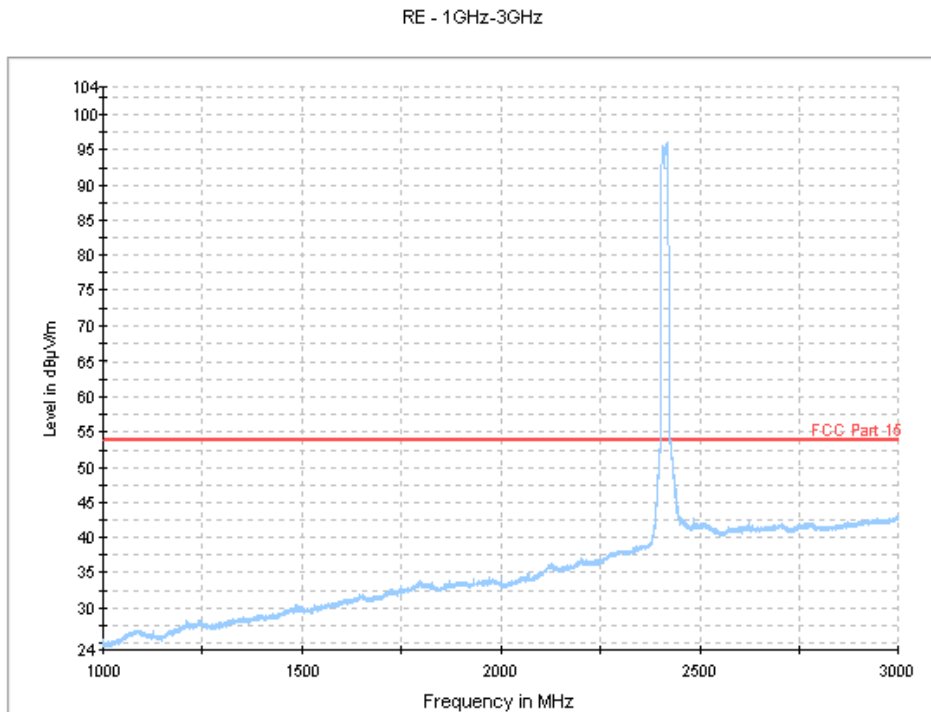


Fig. 14 Radiated Spurious Emission (802.11g, Ch1, 1 GHz-3 GHz)

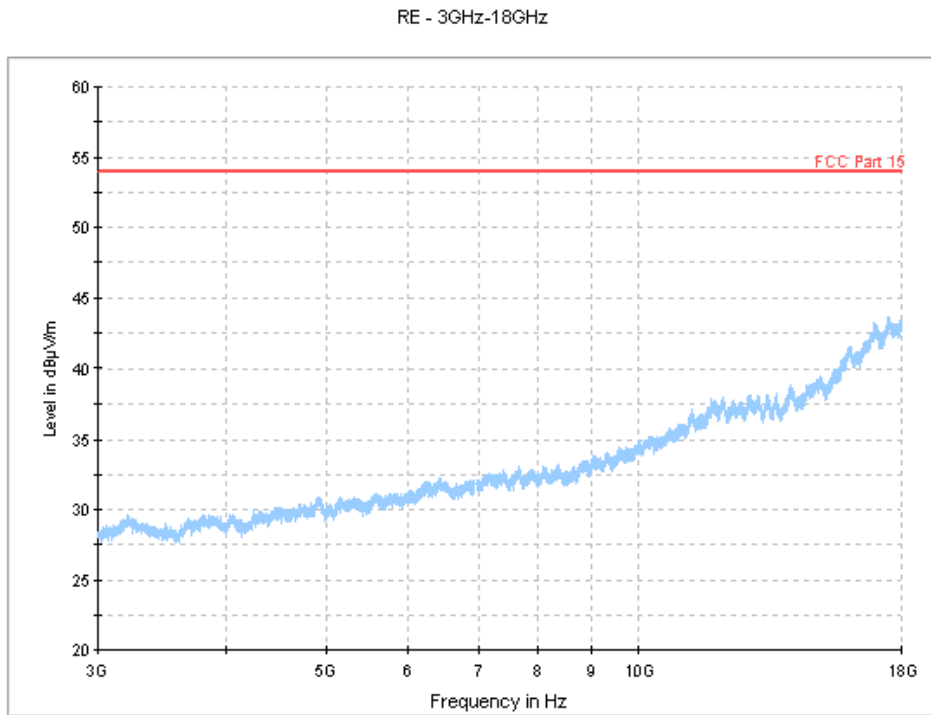


Fig. 15 Radiated Spurious Emission (802.11g, Ch1, 3 GHz-18 GHz)

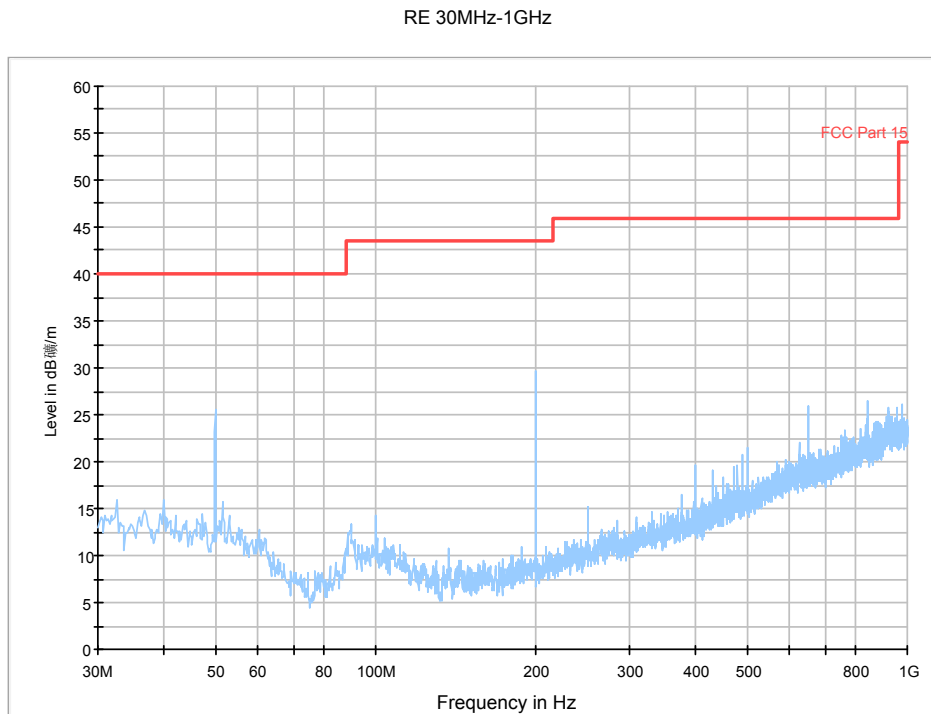


Fig. 16 Radiated Spurious Emission (802.11g, Ch6, 30 MHz-1 GHz)

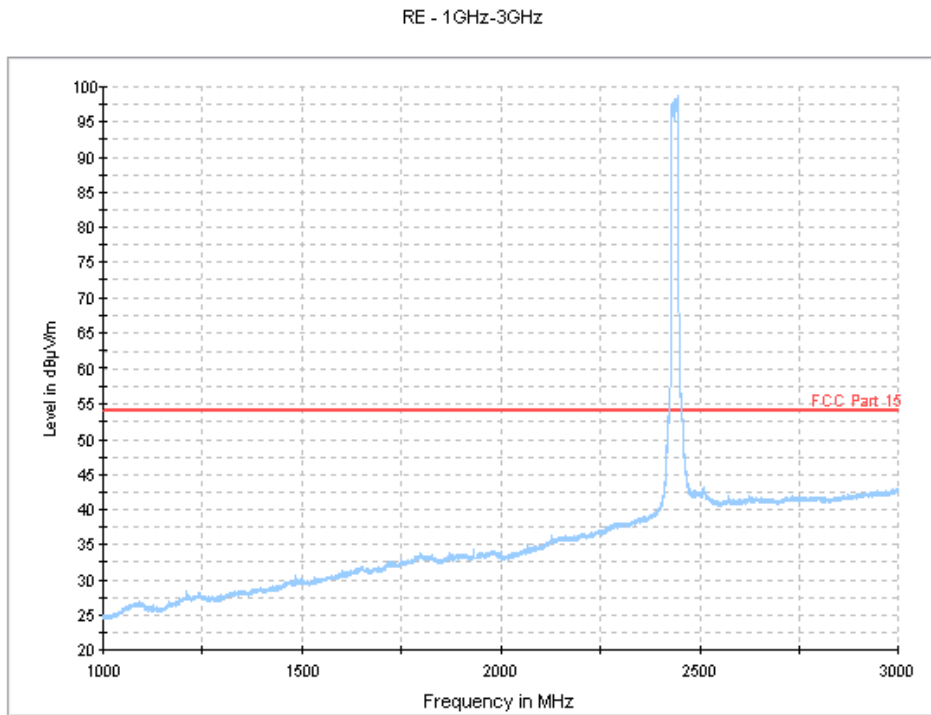


Fig. 17 Radiated Spurious Emission (802.11g, Ch6, 1 GHz-3 GHz)

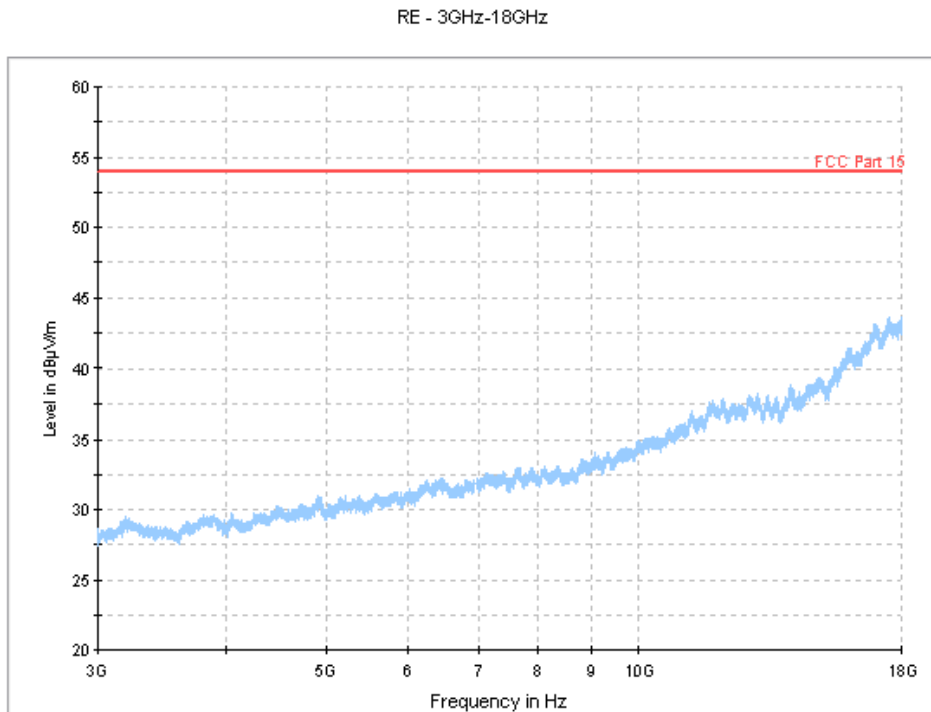


Fig. 18 Radiated Spurious Emission (802.11g, Ch6, 3 GHz-18 GHz)

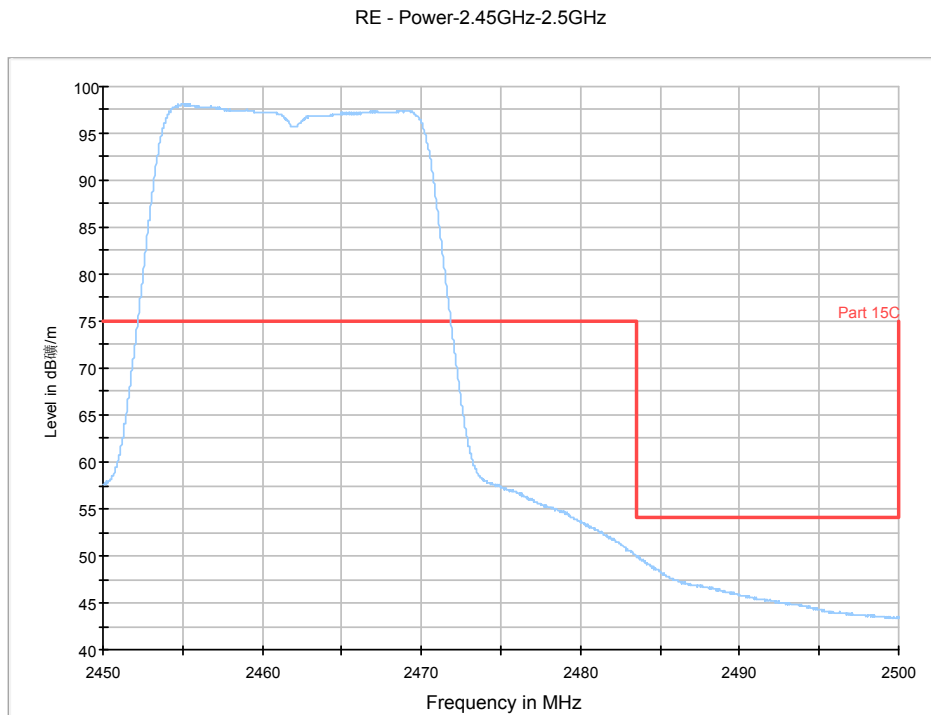


Fig. 19 Radiated Spurious Emission (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz

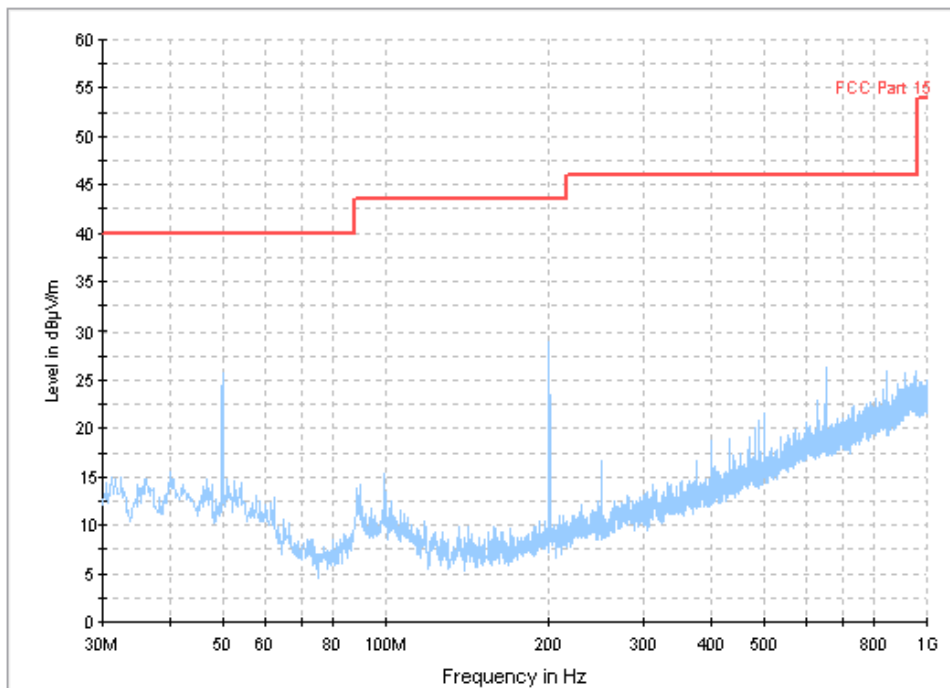


Fig. 20 Radiated Spurious Emission (802.11g, Ch11, 30 MHz-1 GHz)

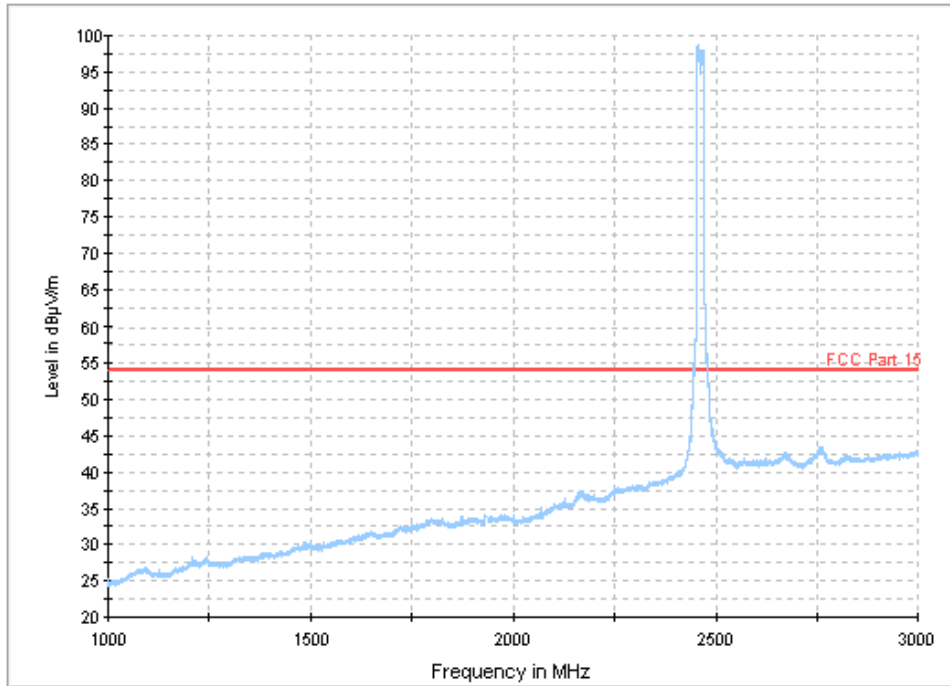


Fig. 21 Radiated Spurious Emission (802.11g, Ch11, 1 GHz-3 GHz)

RE - 3GHz-18GHz

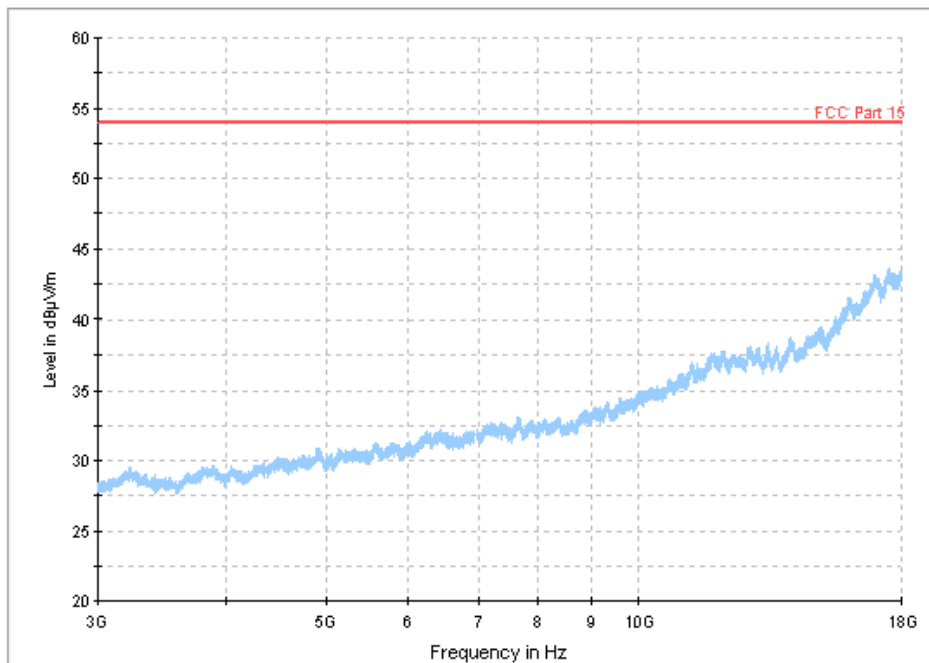


Fig. 22 Radiated Spurious Emission (802.11g, Ch11, 3 GHz-18 GHz)

RE - Power-2.38GHz-2.45GHz

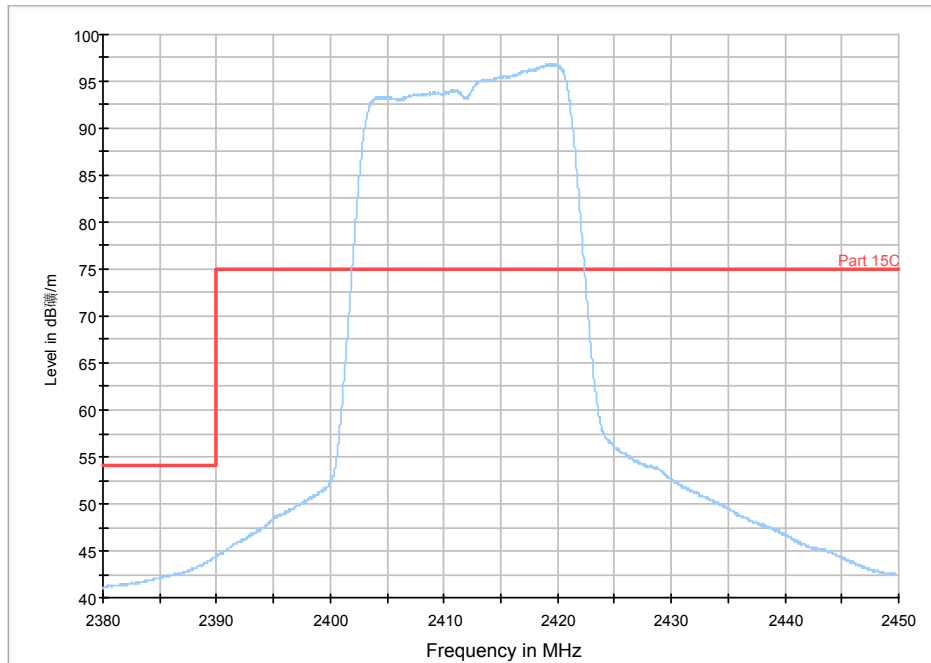


Fig. 23 Radiated Spurious Emission (Power): 802.11n-20MHz, ch1, 2.38 GHz - 2.45GHz

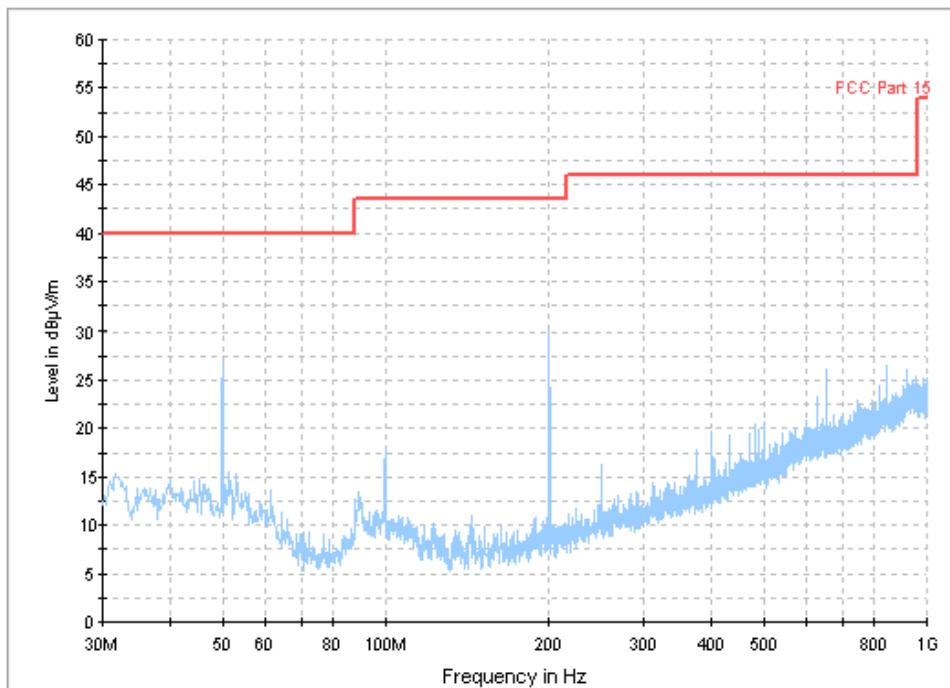


Fig. 24 Radiated Spurious Emission (802.11n-20MHz, Ch1, 30 MHz-1 GHz)

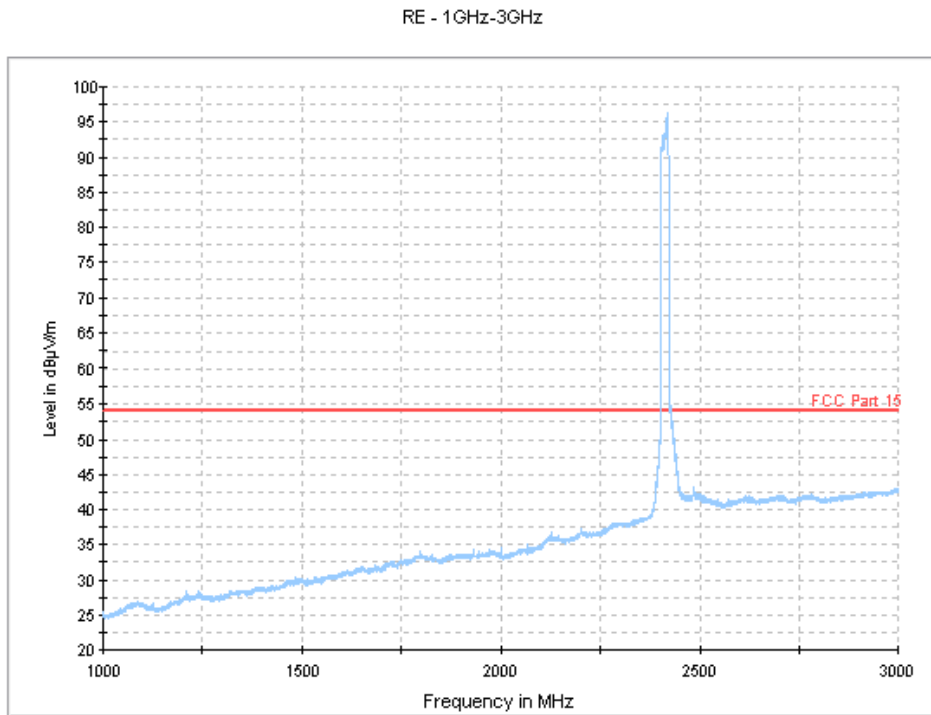


Fig. 25 Radiated Spurious Emission (802.11n-20MHz, Ch1, 1 GHz-3 GHz)

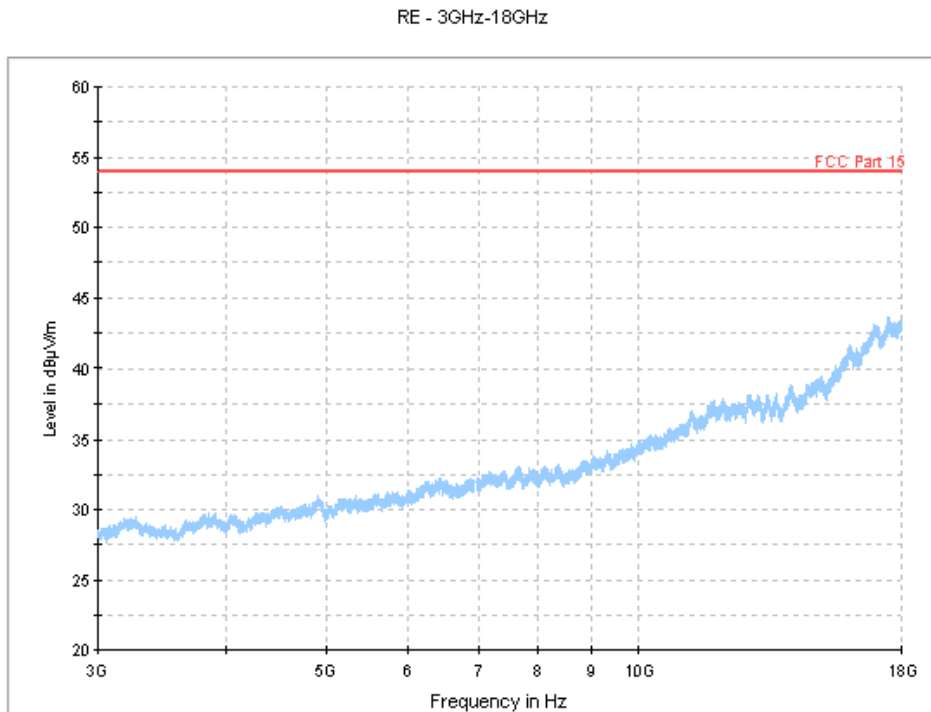


Fig. 26 Radiated Spurious Emission (802.11n-20MHz, Ch1, 3 GHz-18 GHz)

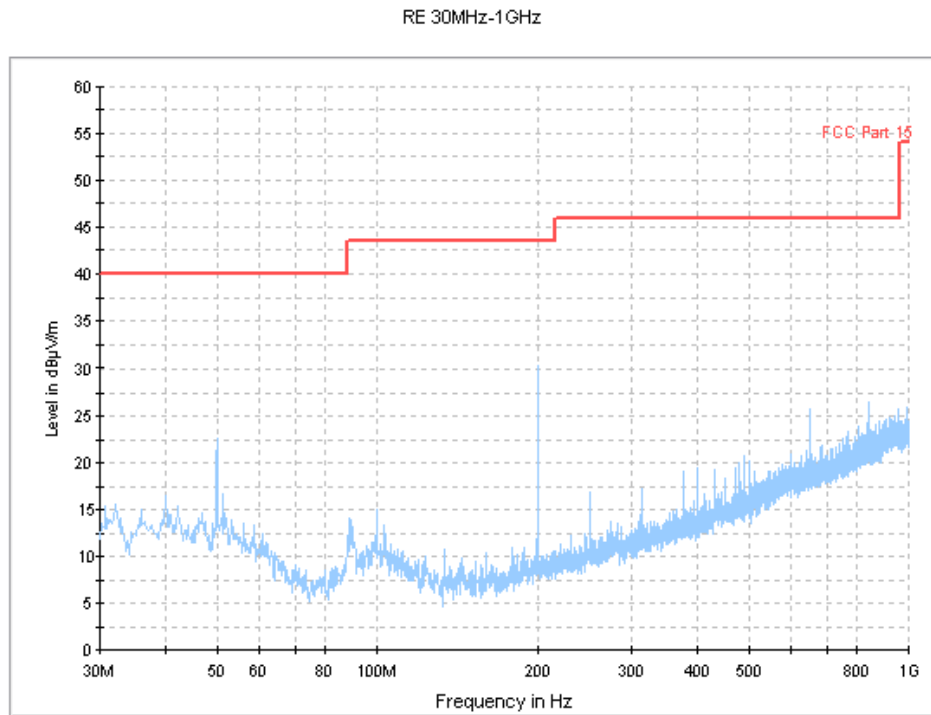


Fig. 27 Radiated Spurious Emission (802.11n-20MHz, Ch6, 30 MHz-1 GHz)

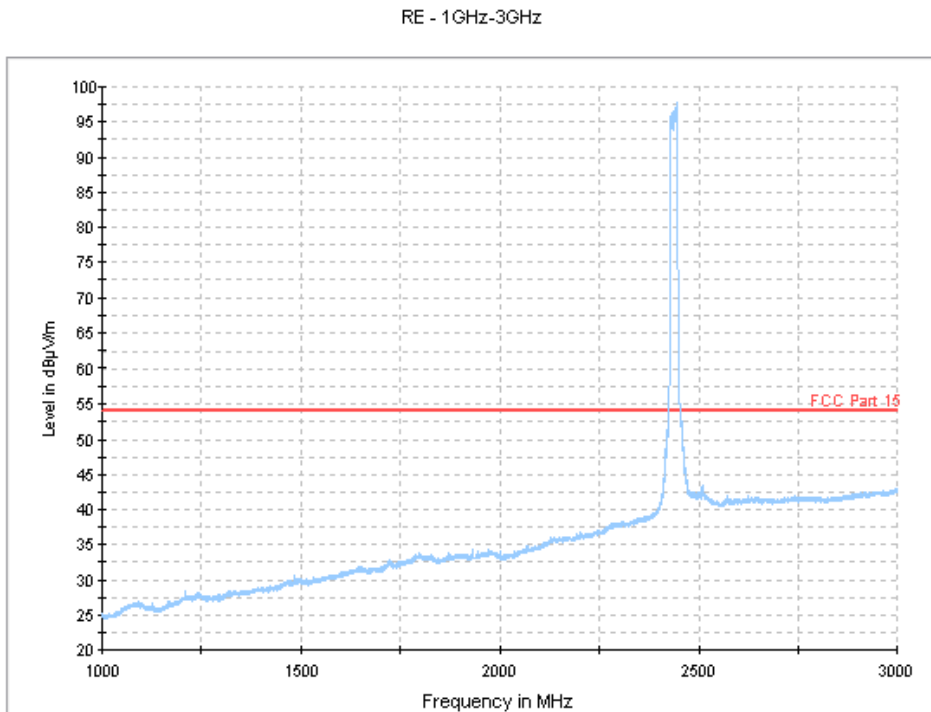


Fig. 28 Radiated Spurious Emission (802.11n-20MHz, Ch6, 1 GHz-3 GHz)

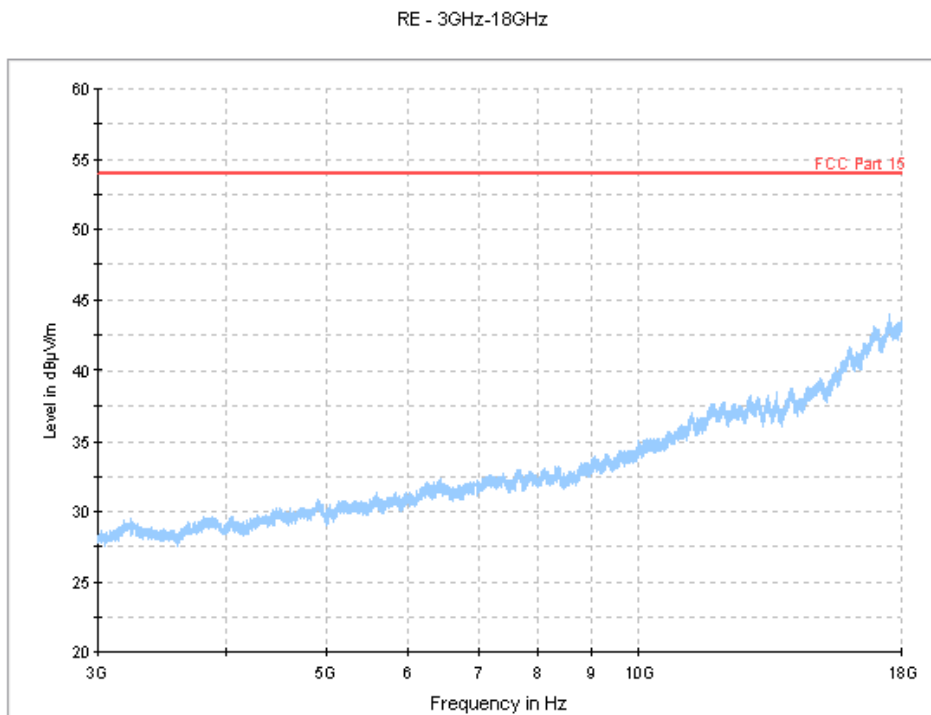


Fig. 29 Radiated Spurious Emission (802.11n-20MHz, Ch6, 3 GHz-18 GHz)

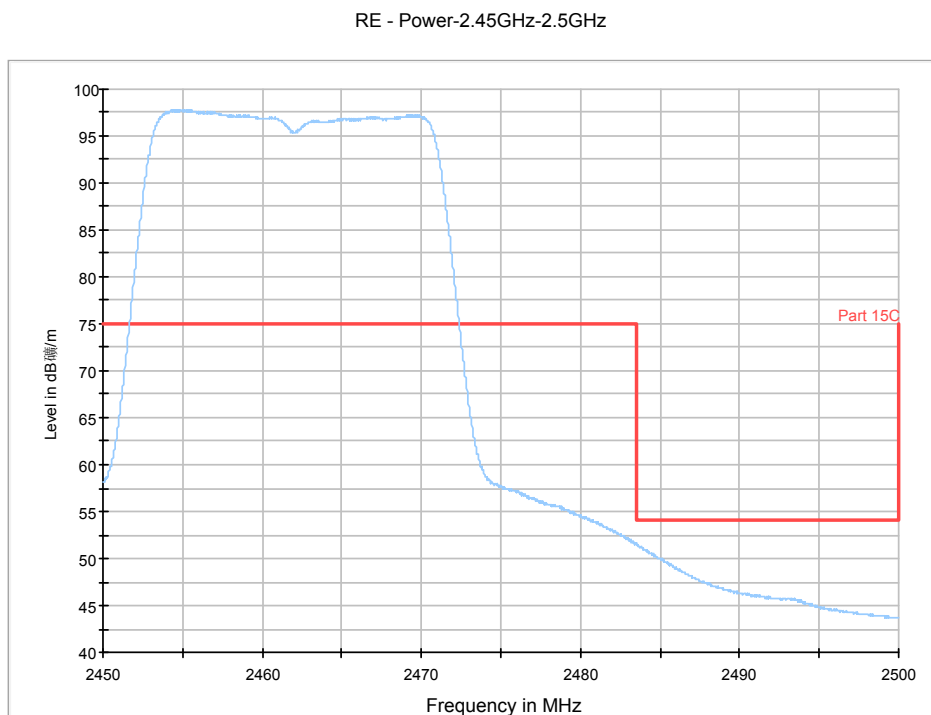


Fig. 30 Radiated Spurious Emission (Power): 802.11n-20MHz, ch11, 2.45 GHz - 2.50GHz

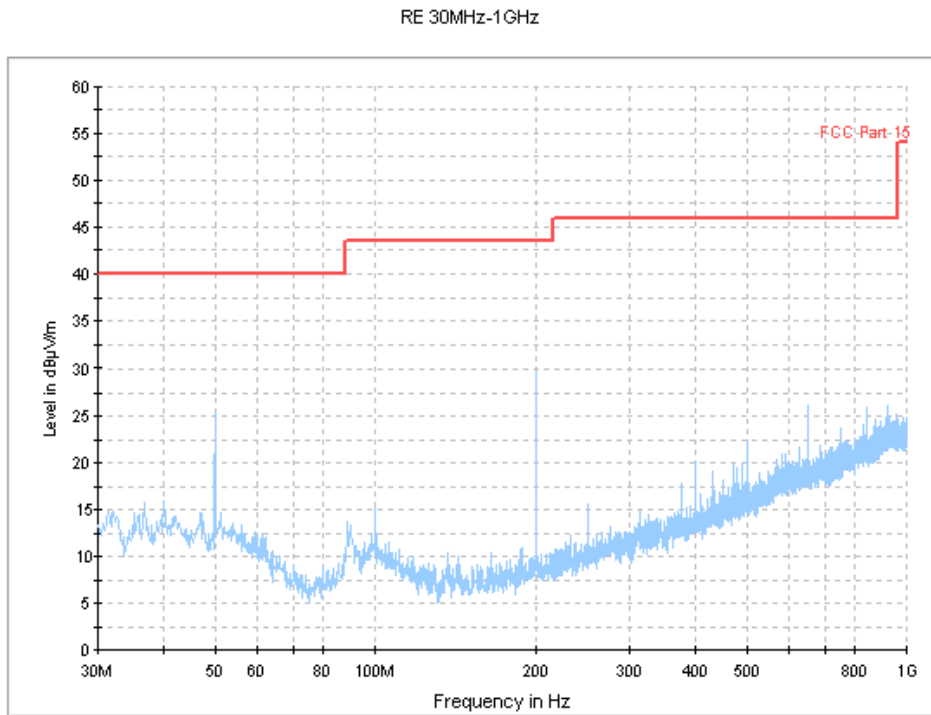


Fig. 31 Radiated Spurious Emission (802.11n-20MHz, Ch11, 30 MHz-1 GHz)

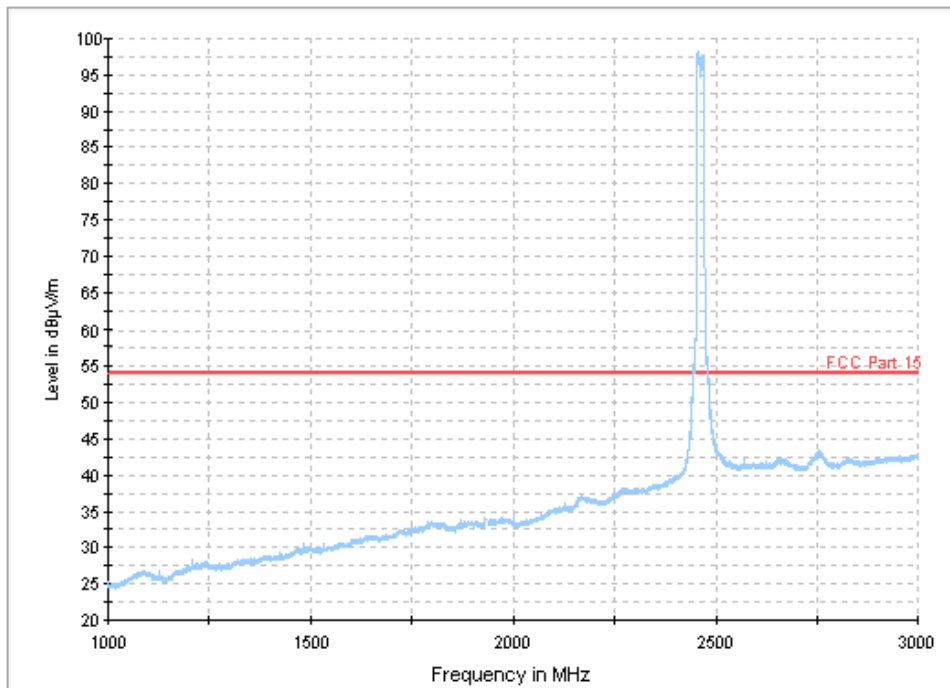


Fig. 32 Radiated Spurious Emission (802.11n-20MHz, Ch11, 1 GHz-3 GHz)

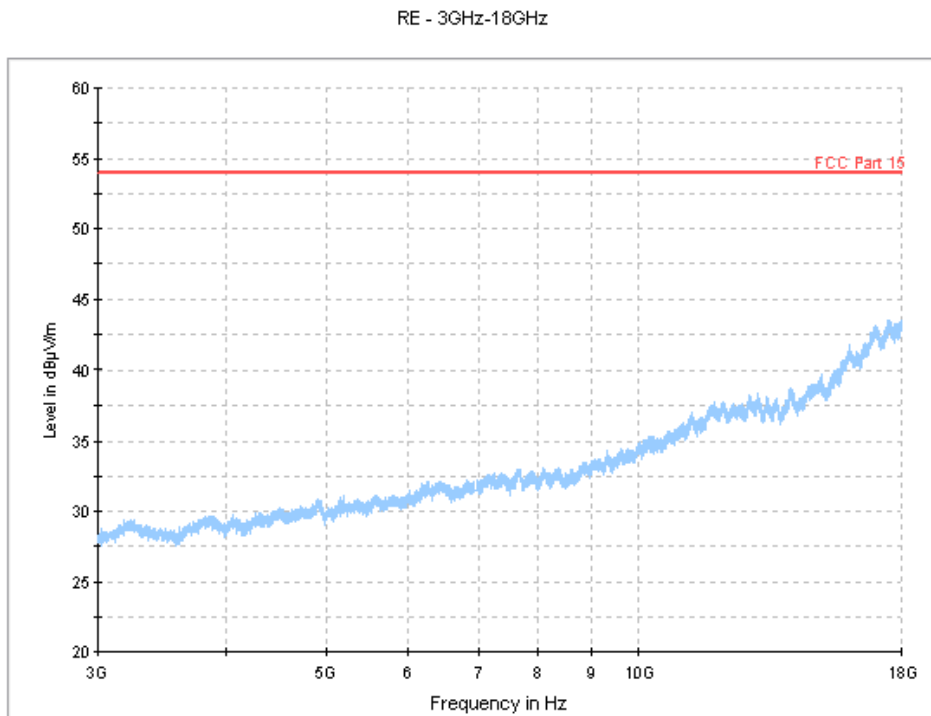


Fig. 33 Radiated Spurious Emission (802.11n-20MHz, Ch11, 3 GHz-18 GHz)

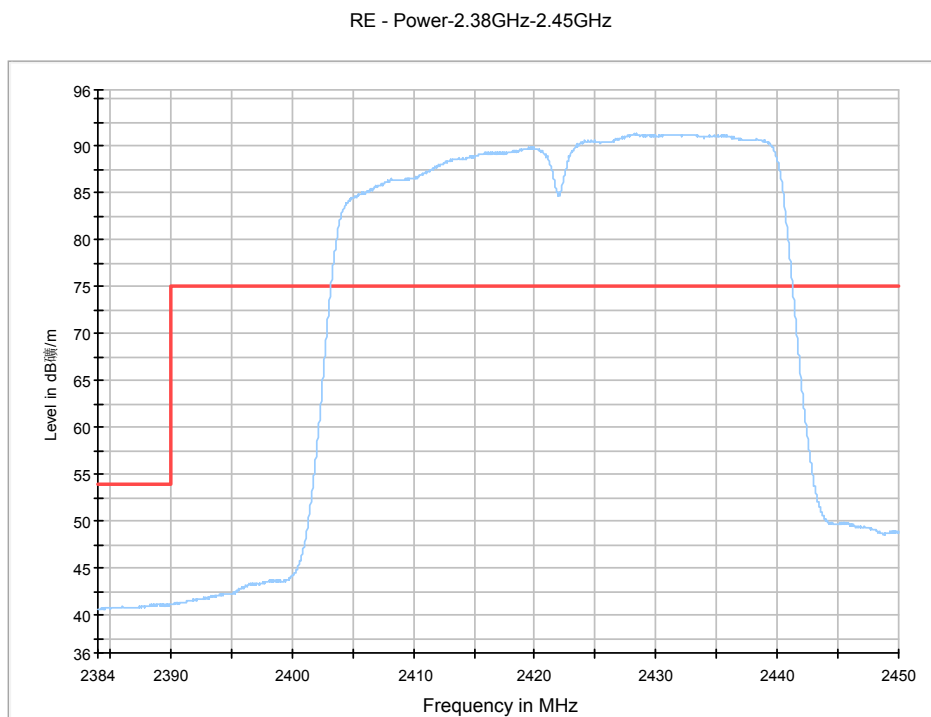


Fig. 34 Radiated Spurious Emission (Power): 802.11n-40MHz, ch3, 2.38 GHz - 2.45GHz

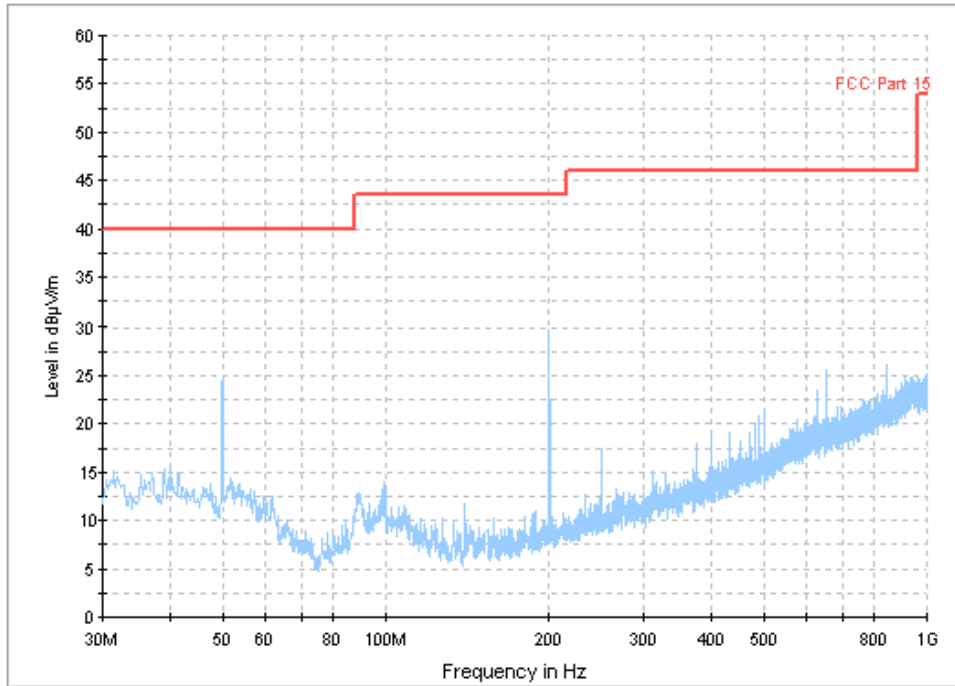


Fig. 35 Radiated Spurious Emission (802.11n-40MHz, Ch3, 30 MHz-1 GHz)

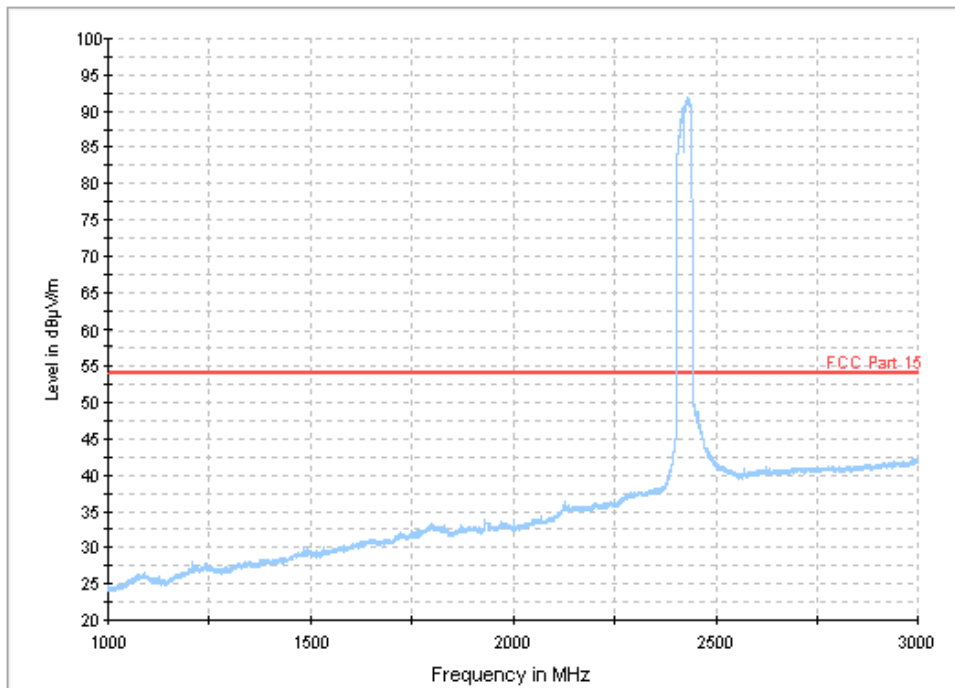


Fig. 36 Radiated Spurious Emission (802.11n-40MHz, Ch3, 1 GHz-3 GHz)

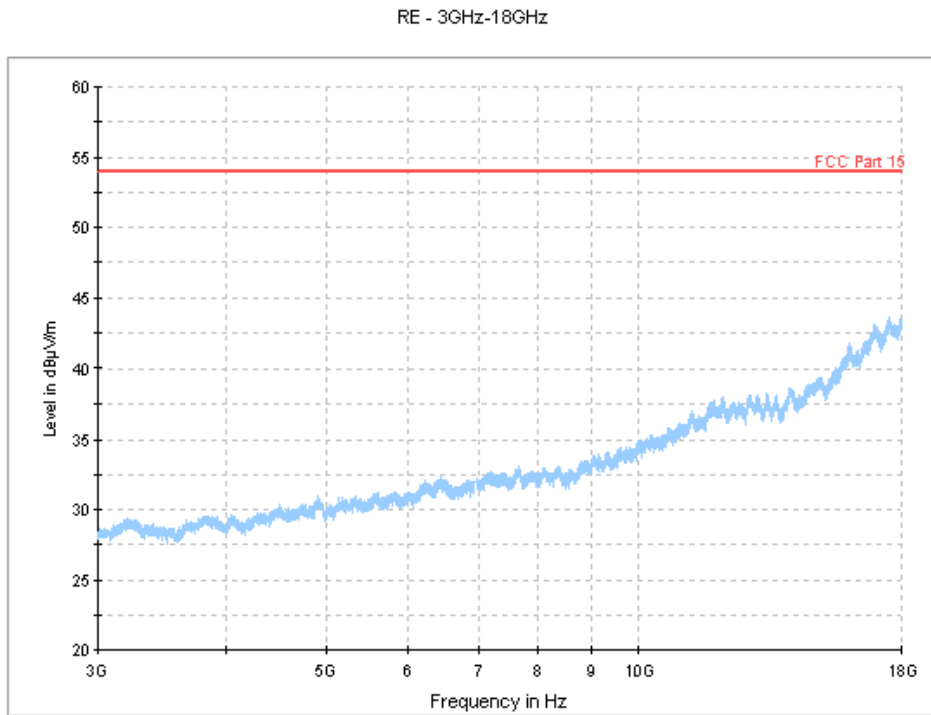


Fig. 37 Radiated Spurious Emission (802.11n-40MHz, Ch3, 3 GHz-18 GHz)

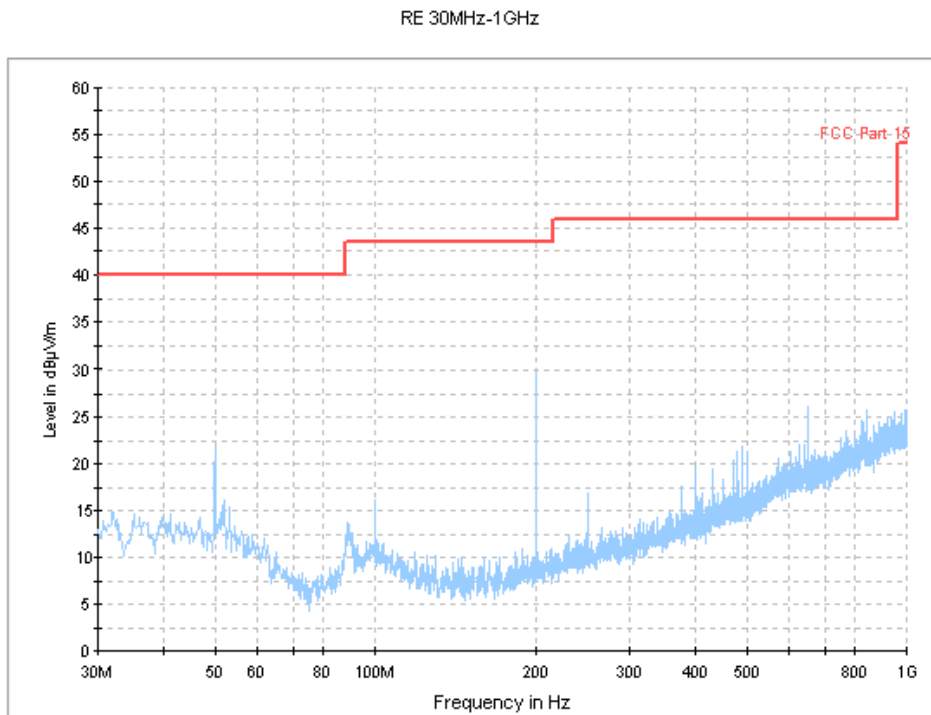


Fig. 38 Radiated Spurious Emission (802.11n-40MHz, Ch6, 30 MHz-1 GHz)

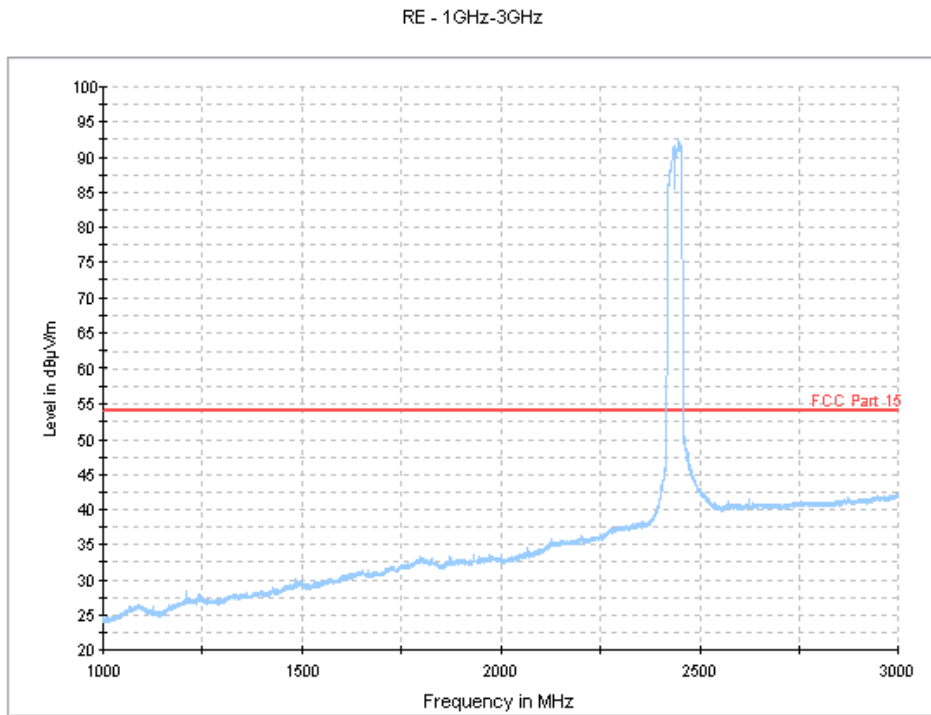


Fig. 39 Radiated Spurious Emission (802.11n-40MHz, Ch6, 1 GHz-3 GHz)

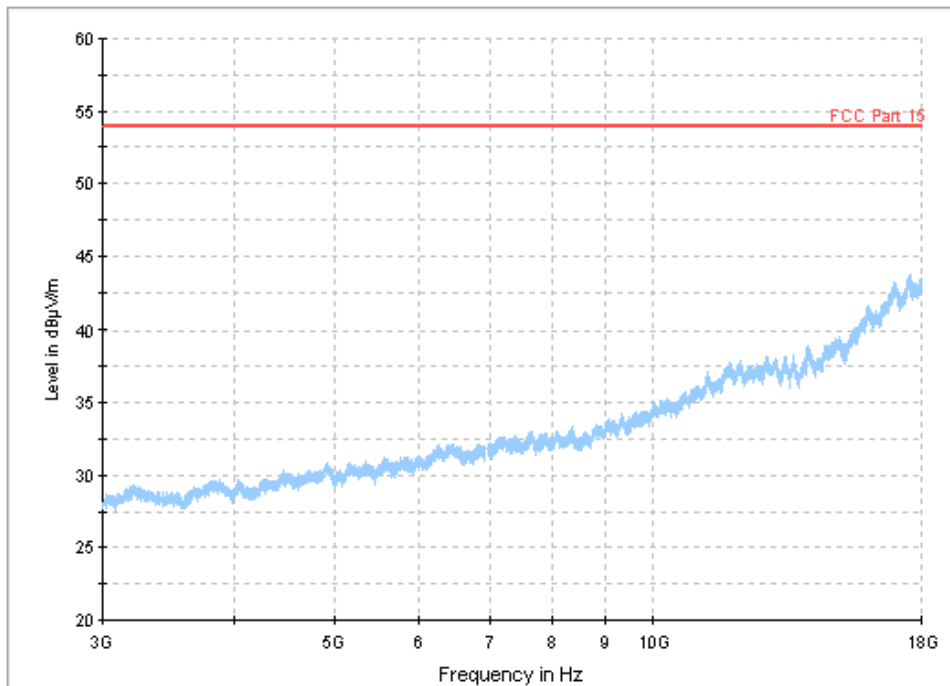


Fig. 40 Radiated Spurious Emission (802.11n-40MHz, Ch6, 3 GHz-18 GHz)

RE - Power-2.45GHz-2.5GHz

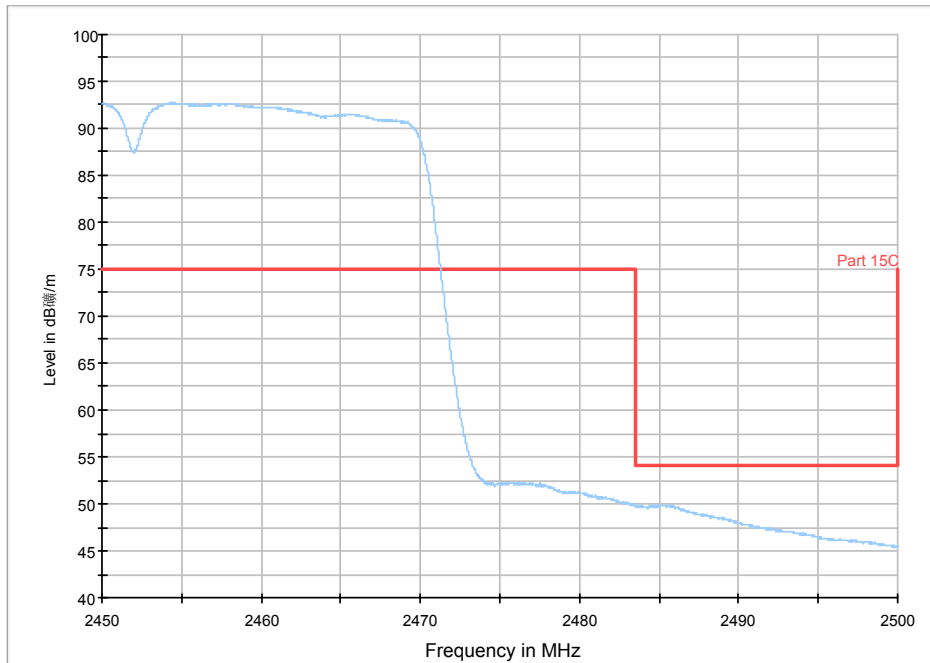


Fig. 41 Radiated Spurious Emission (Power): 802.11n-40MHz, ch9, 2.45 GHz - 2.50GHz

RE 30MHz-1GHz

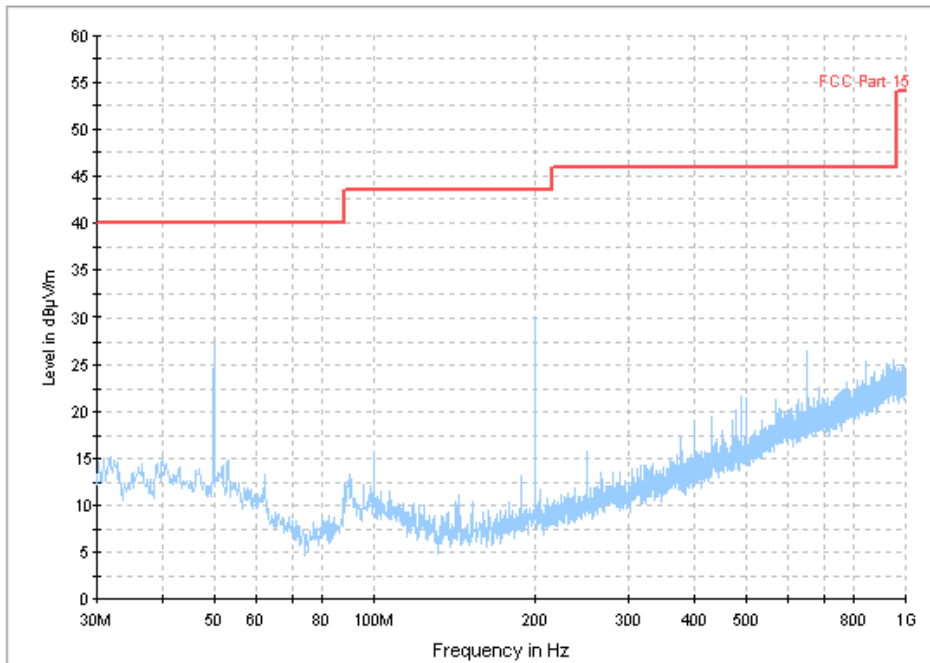


Fig. 42 Radiated Spurious Emission (802.11n-40MHz, Ch9, 30 MHz-1 GHz)

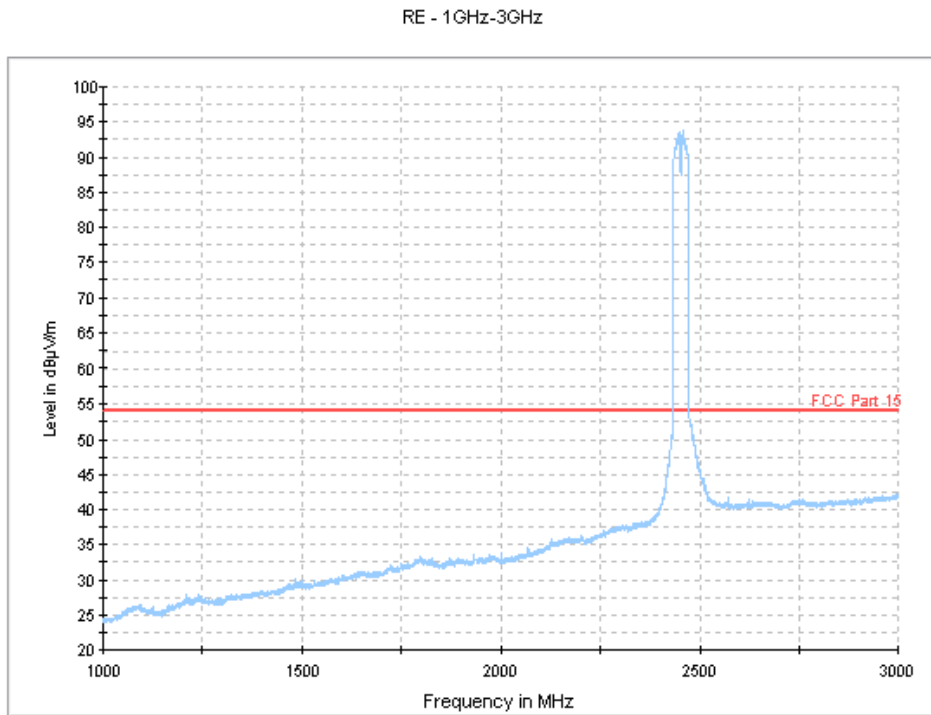


Fig. 43 Radiated Spurious Emission (802.11n-40MHz, Ch9, 1 GHz-3 GHz)

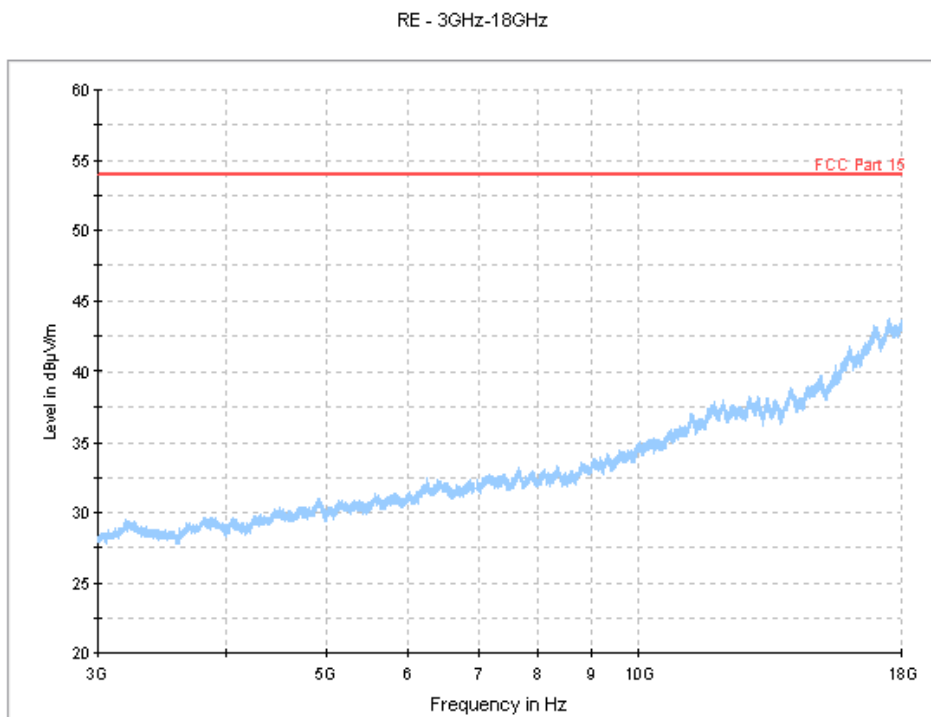


Fig. 44 Radiated Spurious Emission (802.11n-40MHz, Ch9, 3 GHz-18 GHz)

EMI 18GHz-26.5GHz

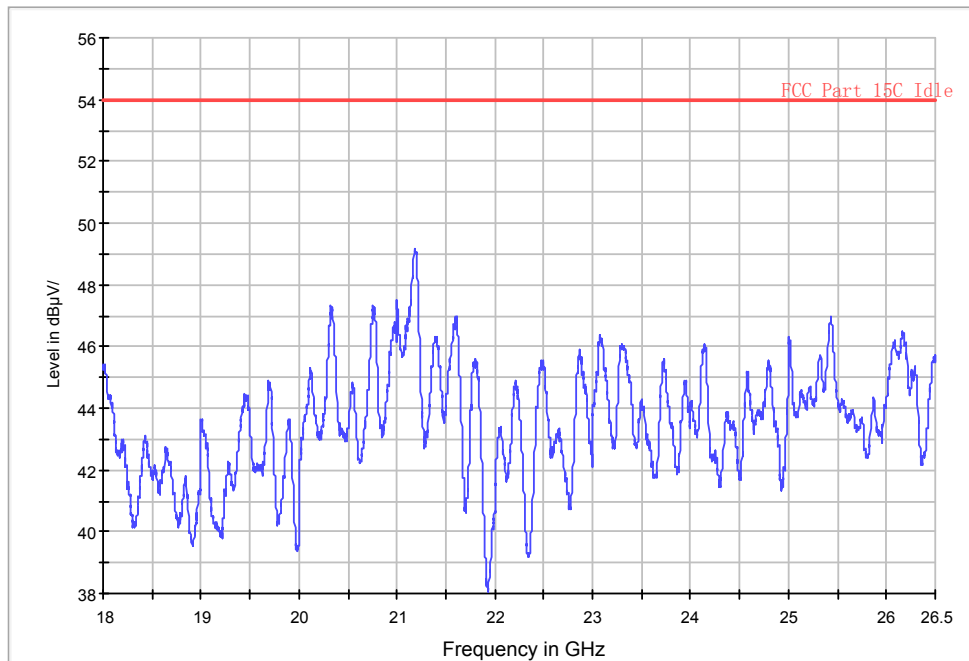


Fig. 45 Radiated Spurious Emission (All channels): 18GHz – 26.5GHz

A.4 AC Powerline Conducted Emission

Test Condition:

Voltage (V)	Frequency (Hz)
120	60

Measurement Result and limit:

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Result (dB μ V)				Conclusion
		With charger				
		802.11b	802.11g	802.11n (HT20)	802.11n (HT40)	
0.15 to 0.5	66 to 56	Fig. 46	Fig.47	Fig.48	Fig.49	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 (dB μ V)	Result (dB μ V)				Conclusion
		With charger				
		802.11b	802.11g	802.11n (HT20)	802.11n (HT40)	
0.15 to 0.5	56 to 46	Fig.46	Fig.47	Fig.48	Fig.49	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.						

The measurement is made according to ANSI C63.10

Conclusion: PASS

Test graphs as below:

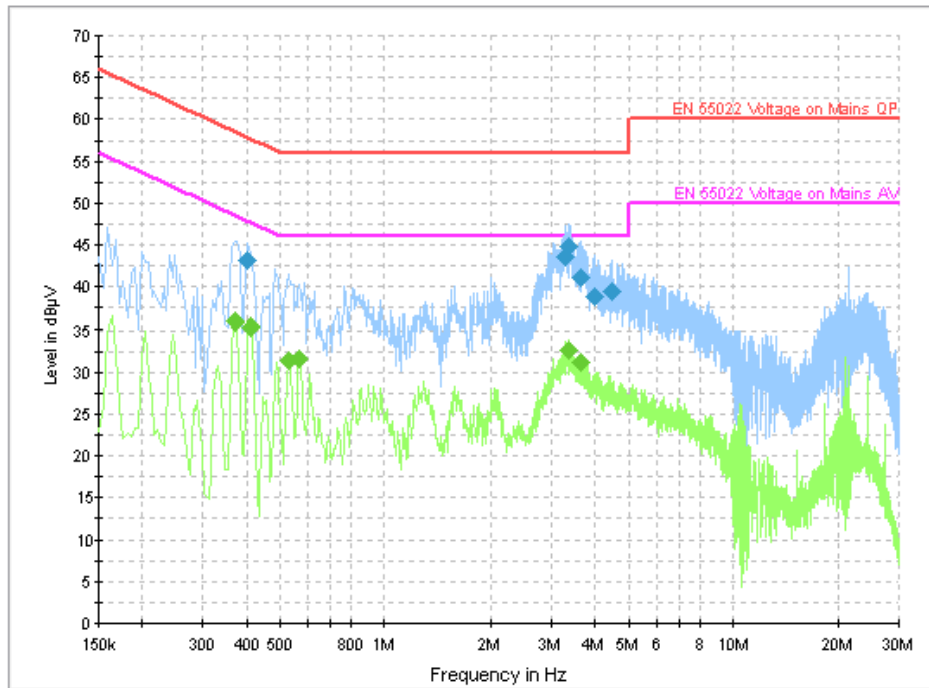


Fig. 46 AC Powerline Conducted Emission-802.11b

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.402001	43.1	GND	L1	9.4	14.7	57.8
3.286501	43.5	GND	L1	9.8	12.5	56.0
3.363001	44.8	GND	L1	9.8	11.2	56.0
3.646501	41.1	GND	L1	9.8	14.9	56.0
3.966001	38.8	GND	L1	9.8	17.2	56.0
4.452001	39.5	GND	L1	9.8	16.5	56.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.370501	35.9	GND	L1	9.3	12.6	48.5
0.411001	35.3	GND	L1	9.4	12.3	47.6
0.532501	31.3	GND	L1	9.8	14.7	46.0
0.568501	31.5	GND	L1	9.9	14.5	46.0
3.367501	32.6	GND	L1	9.8	13.4	46.0
3.646501	31.3	GND	L1	9.8	14.7	46.0

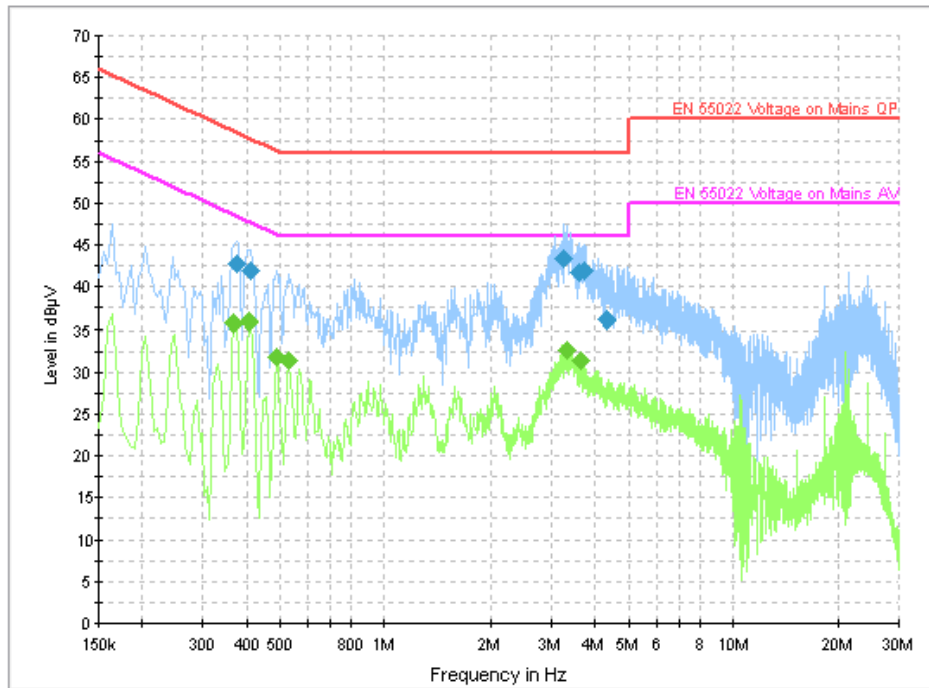


Fig. 47 AC Powerline Conducted Emission-802.11g

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.375001	42.8	GND	L1	9.3	15.6	58.4
0.411001	42.0	GND	L1	9.4	15.7	57.6
3.246001	43.4	GND	L1	9.8	12.6	56.0
3.579001	41.6	GND	L1	9.8	14.4	56.0
3.732001	41.9	GND	L1	9.8	14.1	56.0
4.303501	36.2	GND	L1	9.8	19.8	56.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.366001	35.8	GND	L1	9.3	12.8	48.6
0.406501	35.9	GND	L1	9.4	11.8	47.7
0.487501	31.8	GND	L1	9.7	14.4	46.2
0.532501	31.3	GND	L1	9.8	14.7	46.0
3.327001	32.6	GND	L1	9.8	13.4	46.0
3.619501	31.3	GND	L1	9.8	14.7	46.0

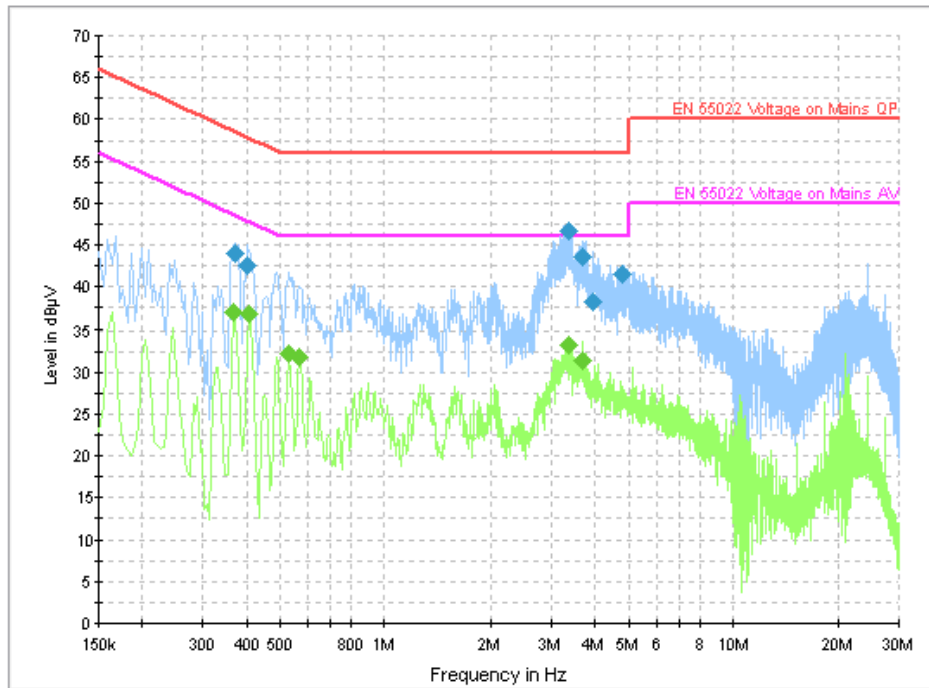


Fig. 48 AC Powerline Conducted Emission-802.11n-HT20

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.370501	44.0	GND	L1	9.3	14.5	58.5
0.402001	42.4	GND	L1	9.4	15.4	57.8
3.349501	46.6	GND	L1	9.8	9.4	56.0
3.691501	43.6	GND	L1	9.8	12.4	56.0
3.943501	38.2	GND	L1	9.8	17.8	56.0
4.780501	41.5	GND	L1	9.8	14.5	56.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.366001	37.0	GND	L1	9.3	11.6	48.6
0.406501	36.8	GND	L1	9.4	10.9	47.7
0.528001	32.2	GND	L1	9.8	13.8	46.0
0.568501	31.8	GND	L1	9.9	14.2	46.0
3.363001	33.3	GND	L1	9.8	12.7	46.0
3.678001	31.3	GND	L1	9.8	14.7	46.0

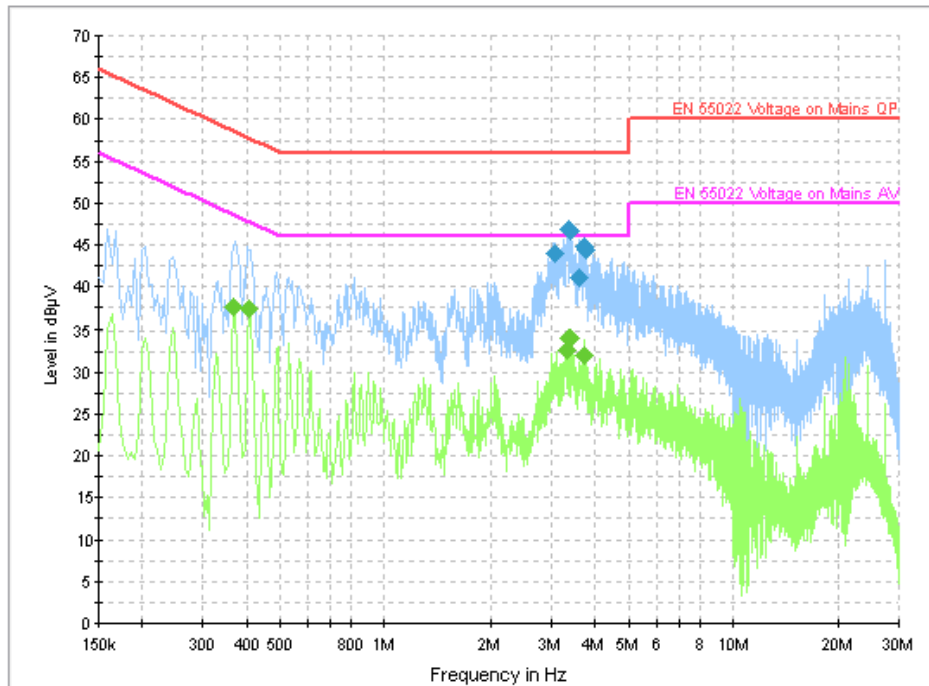


Fig. 49 AC Powerline Conducted Emission-802.11n-HT40

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
3.075001	44.0	GND	L1	9.8	12.0	56.0
3.349501	46.9	GND	L1	9.8	9.1	56.0
3.390001	46.7	GND	L1	9.8	9.3	56.0
3.606001	41.1	GND	L1	9.8	14.9	56.0
3.718501	44.7	GND	L1	9.8	11.3	56.0
3.759001	44.3	GND	L1	9.8	11.7	56.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.366001	37.5	GND	L1	9.3	11.1	48.6
0.406501	37.3	GND	L1	9.4	10.4	47.7
3.322501	32.6	GND	L1	9.8	13.4	46.0
3.349501	34.0	GND	L1	9.8	12.0	46.0
3.390001	34.1	GND	L1	9.8	12.0	46.0
3.718501	32.0	GND	L1	9.8	14.0	46.0

*** END OF REPORT BODY ***