TESTING
No. L2264

Part 15C

TEST REPORT

Product Name	Neptune pine
Model	P312
FCC ID	2ABWUP312
Client	NEPTUNE COMPUTER INC.
Manufacturer	NEPTUNE COMPUTER INC.
Date	June 10, 2014

TA Technology (Shanghai) Co., Ltd.

GENERAL SUMMARY

Reference Standard(s)	**FCC CFR47 Part 15C (2012)** Radio Frequency Devices **15.205** Restricted bands of operation; **15.207** Conducted limits; **15.209** Radiated emission limits; general requirements; **15.247** Operation within the bands 902-928 MHz,2400-2483.5 MHz, and 5725-5850MHz. **ANSI C63.4** Methods of Measurement of Radio-Noise Emission from Low-Voltage Electrical and Electronic Equipment in the Range of 9 KHz to 40GHz. (2009) **KDB 558074 D01 DTS Meas Guidance v03r01** Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247
Conclusion	This portable wireless equipment has been measured in all cases requested by the relevant standards. Test results in Chapter 2 of this test report are below limits specified in the relevant standards. General Judgment: **Pass**
Comment	The test result only responds to the measured sample.

Approved by Weizhong Yang
Weizhong Yang
Director

Revised by Lingling Kang
Lingling Kang
RF Manager

Performed by Yu Wang
Yu Wang
RF Engineer

TABLE OF CONTENT

1. General Information

1.1. Notes of the test report

TA Technology (Shanghai) Co., Ltd. has obtained the accreditation of China National Accreditation Service for Conformity Assessment (CNAS), and accreditation number: L2264.

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements. The site recognition number is 428261.

TA Technology (Shanghai) Co., Ltd. has been listed by industry Canada to perform electromagnetic emission measurement. The site recognition number is 8510A.

TA Technology (Shanghai) Co., Ltd. guarantees the reliability of the data presented in this test report, which is the results of measurements and tests performed for the items under test on the date and under the conditions stated in this test report and is based on the knowledge and technical facilities available at TA Technology (Shanghai) Co., Ltd. at the time of execution of the test.

TA Technology (Shanghai) Co., Ltd. is liable to the client for the maintenance by its personnel of the confidentiality of all information related to the items under test and the results of the test. The sample under test was selected by the Client. This report only refers to the item that has undergone the test.

This report alone does not constitute or imply by its own an approval of the product by the certification Bodies or competent Authorities. This report cannot be used partially or in full for publicity and/or promotional purposes without previous written approval of **TA Technology (Shanghai) Co., Ltd.** and the Accreditation Bodies, if it applies.

If the electronic report is inconsistent with the printed one, it should be subject to the latter.

1.2. Testing laboratory

Company:	TA Technology (Shanghai) Co., Ltd.
Address:	No.145, Jintang Rd, Tangzhen Industry Park, Pudong
City:	Shanghai
Post code:	201201
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Fax:	+86-021-50791141/2/3-8000
Website:	http://www.ta-shanghai.com
E-mail:	yangweizhong@ta-shanghai.com

1.3. Applicant Information

Company:	NEPTUNE COMPUTER INC.
Address:	666 SHERBROOKE ST. W., SUITE 1000 MONTREAL H3A 1E7 CANADA

1.4. Manufacturer Information

Company:	NEPTUNE COMPUTER INC.
Address:	666 SHERBROOKE ST. W., SUITE 1000 MONTREAL H3A 1E7 CANADA

1.5. Information of EUT

General information

Name of EUT:	Neptune pine
IMEI:	354727049900673
Hardware Version:	P1
Software Version:	JB_V0.29
Antenna Type:	Internal Antenna
Device Operating Configurations:	
Network Standards:	802.11b, 802.11g, 802.11n(HT20);
Test Modulation:	(802.11b)DSSS; (802.11g)OFDM; 802.11n(HT20) OFDM
Power Supply:	Battery or Charger (AC adaptor)
Max Conducted Power	17.17 dBm
Operating Frequency Range(s)	2412MHz~ 2462MHz (HT20)
Tested Frequency Range(s)	2400MHz~ 2483.5 MHz

Auxiliary Equipment Details

AE1: Battery

Model:	Mini Phone
Manufacturer:	Tian Yu Communication Technology (Kun Shan) CO.,Ltd
S/N:	/

AE2: Adapter

Model:	DSA-5PFK-05 FUS 050100a
Manufacturer:	DEE VAN ENTERPRISE CO., LTD.
S/N:	/

1.6. Test Date

The test is performed from March 11, 2014 to March 19, 2014.

2. Test Information

2.1. Test Mode

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

In order to find the worst case condition, Pre-tests are needed at the presence of different data rate declared in basic standard IEEE802.11.Preliminary tests has been done on all the configuration for confirmming worst case. Data rate below means worst-case rate of each test item.

Results of test modes, data rates and test channels are shown as following table.

	Test items	Modes	Data Rate	Test channel
Conducted Test cases	Peak Power Output –Conducted	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n	MCS0 Mbps	1/6/11
	Minimum 6dB bandwidth	802.11b	1Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n	MCS0 Mbps	1/6/11
	Band Edges compliance	802.11b	1Mbps	1/11
		802.11g	6 Mbps	1/11
		802.11n	MCS0 Mbps	1/11
	Power spectral Density	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n	MCS0 Mbps	1/6/11
	Conducted Spurious Emission	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n	MCS0 Mbps	1/6/11
	Conducted Emissions	802.11b	1 Mbps	6
		802.11g	6 Mbps	6
		802.11n	MCS0 Mbps	6
Radiated Test cases	Spurious Radiated Emissions in the restricted band	802.11b	1 Mbps	1/11
		802.11g	6 Mbps	1/11
		802.11n	MCS0 Mbps	1/11
	Radiates Emission	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n	MCS0 Mbps	1/6/11

2.2. Summary of test results

Number	Summary of measurements of results	Clause in FCC rules	Verdict
1	Peak Power Output –Conducted	15.247(b)(3)	PASS
2	Minimum 6dB bandwidth	15.247(a)(2)	PASS
3	Band Edges compliance	15.247(d)	PASS
4	Spurious Radiated Emissions in the restricted band	15.247(d),15.205,15.209	PASS
5	Power spectral Density	15.247(e)	PASS
6	Conducted Spurious Emission	15.247	PASS
7	Radiates Emission	15.247(d),15.205,15.209	PASS
8	Conducted Emissions	15.207,15.107	PASS

2.3. Peak Power Output –Conducted

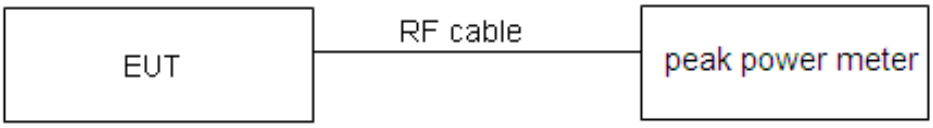
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~ 25°C	45% ~ 50%	101.5kPa

Methods of Measurement

During the process of the testing, The EUT was connected to the peak power meter through an external attenuator and a known loss cable. The EUT is max power transmission with proper modulation. We use 5.2.1 Maximum Peak Conducted Output Power Level Method in KDB 558074 D01 for this test.

Test Setup



Limits

Rule Part 15.247 (b) (3) specifies that " For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt.”

Peak Output Power	≤ 1W (30dBm)

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.

Test Results：

Network Standards	Carrier frequency (MHz)	Peak Output Power (dBm)	Conclusion
802.11b	2412	16.08	PASS
	2437	16.73	PASS
	2462	16.75	PASS
802.11g	2412	15.32	PASS
	2437	17.03	PASS
	2462	16.56	PASS
802.11n HT20	2412	15.88	PASS
	2437	17.17	PASS
	2462	16.94	PASS

Note: The measured power density (dBm) has the offset with cable loss already.

2.4. Occupied Bandwidth (6dB)

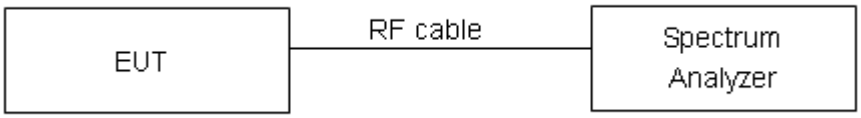
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable. RBW is set to 100 kHz, VBW is set to 300 kHz on spectrum analyzer.

Test Setup



Limits

Rule Part 15.247 (a) (2) specifies that “Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.”

minimum 6 dB bandwidth	≥ 500 kHz

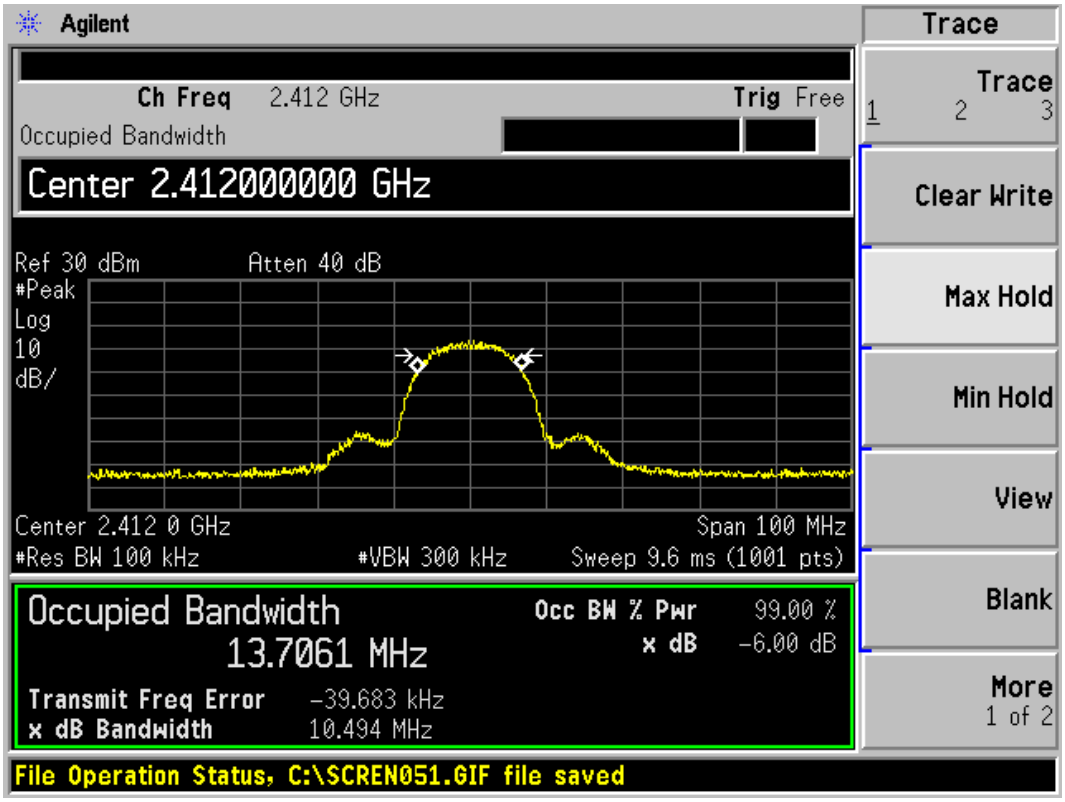
Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 936 Hz.

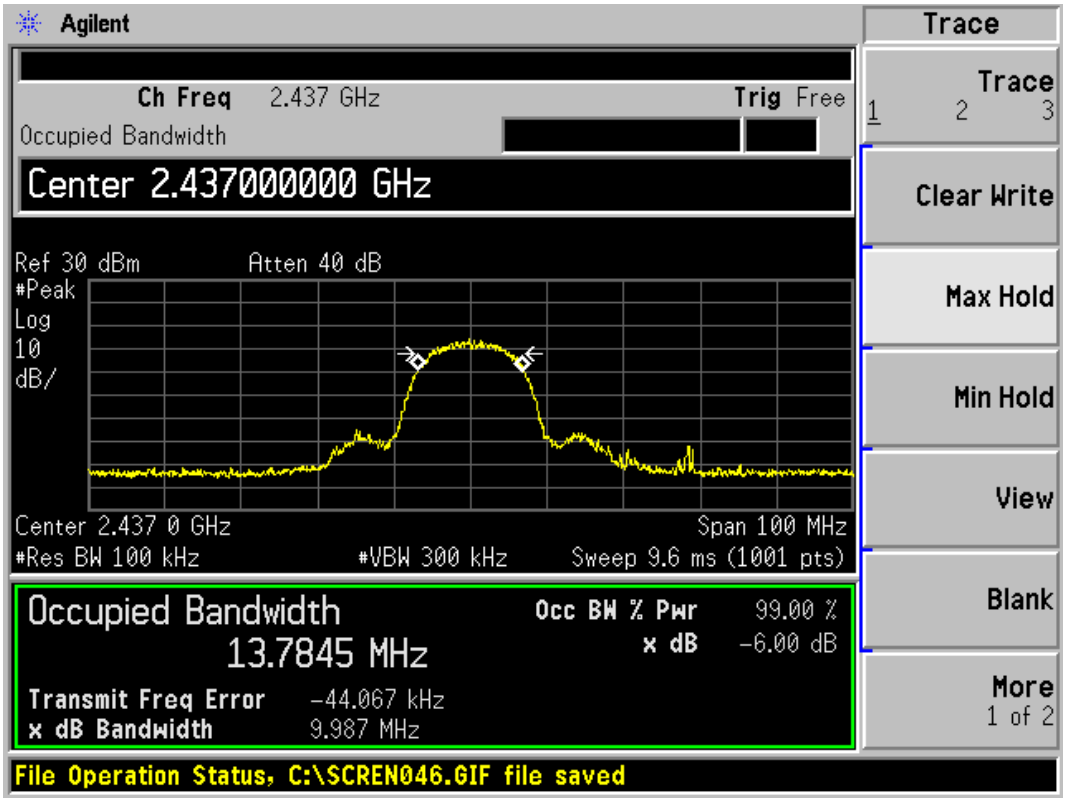
Test Results:

Network Standards	Carrier frequency (MHz)	Minimum 6 dB bandwidth (MHz)	Conclusion
802.11b	2412	10.494	PASS
	2437	9.987	PASS
	2462	10.067	PASS
802.11g	2412	16.504	PASS
	2437	16.389	PASS
	2462	16.507	PASS
802.11n HT20	2412	17.668	PASS
	2437	17.633	PASS
	2462	17.586	PASS

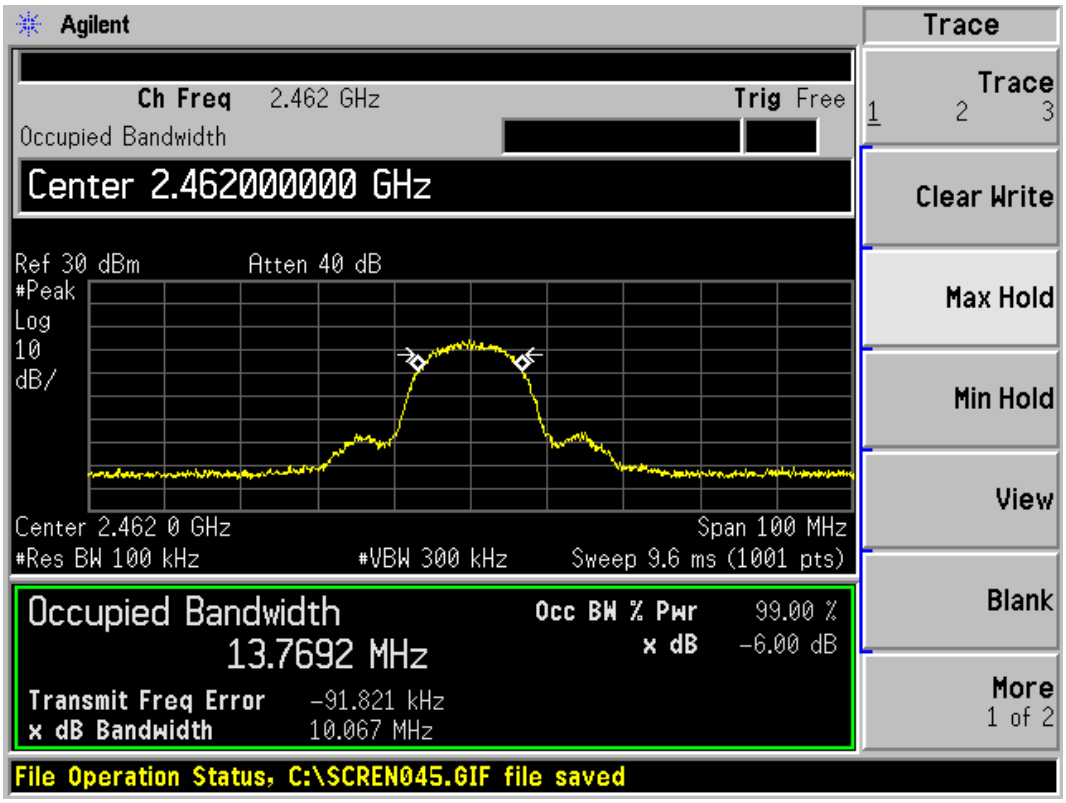
802.11b



802.11b, Carrier frequency (MHz): 2412

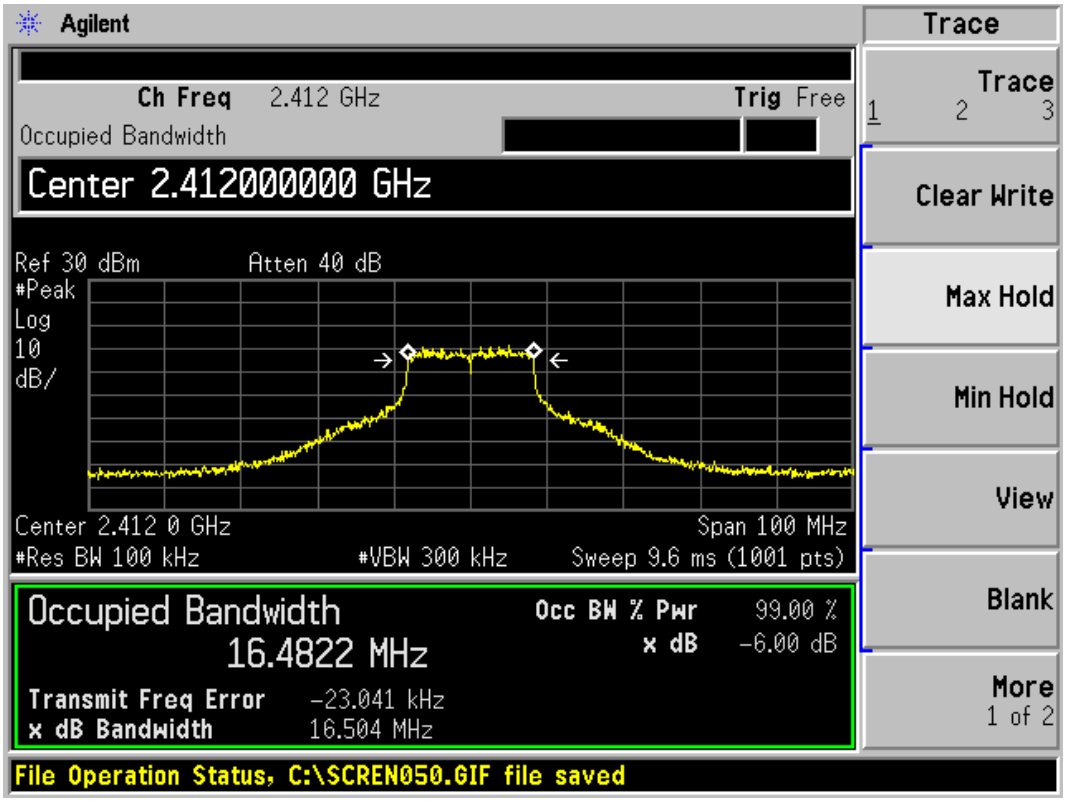


802.11b, Carrier frequency (MHz): 2437

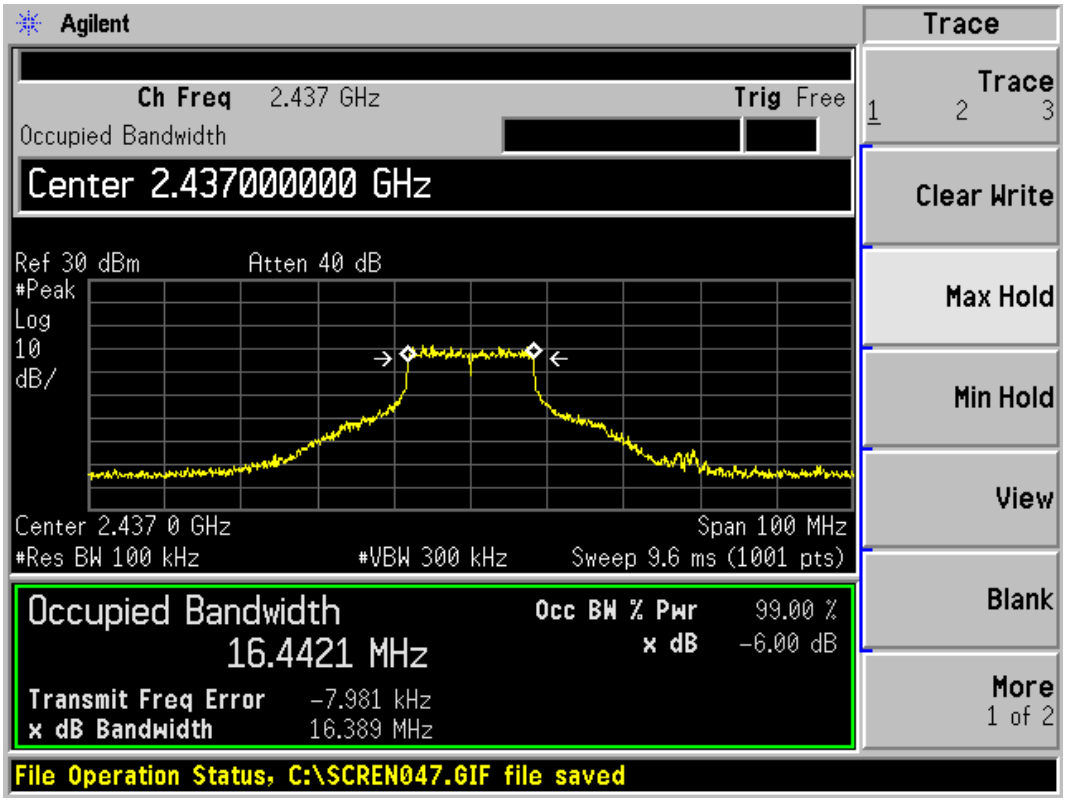


802.11b, Carrier frequency (MHz):2462

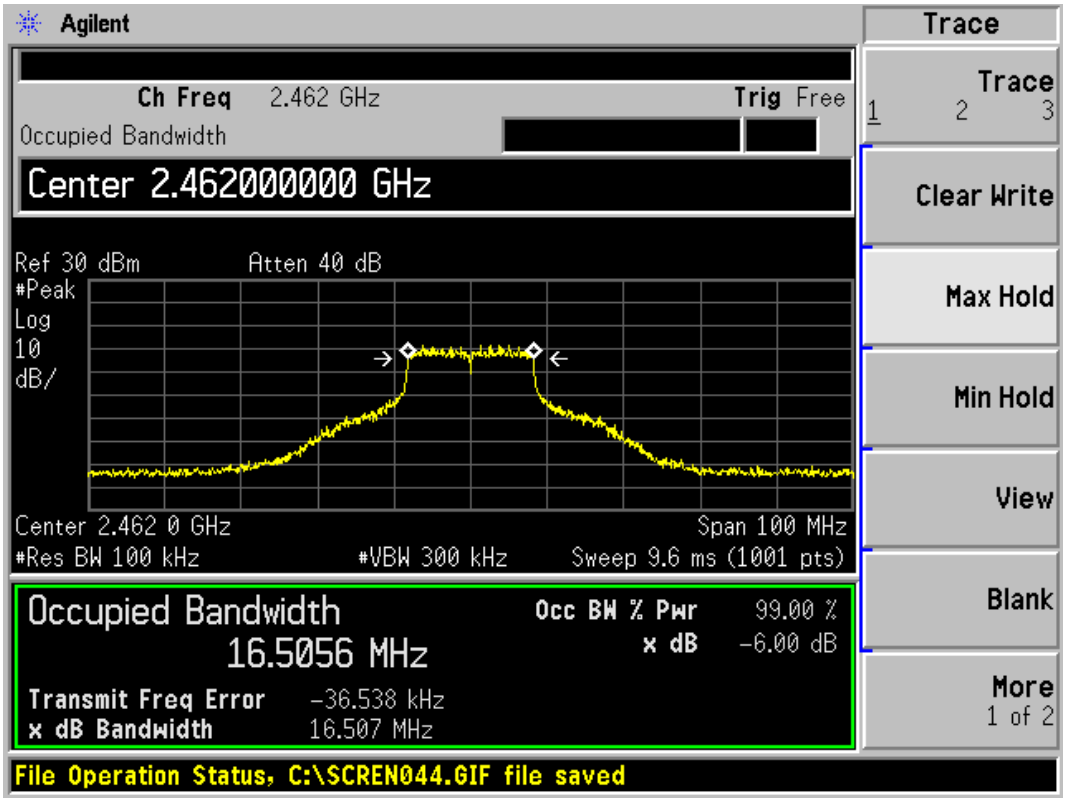
802.11g



802.11g, Carrier frequency (MHz): 2412

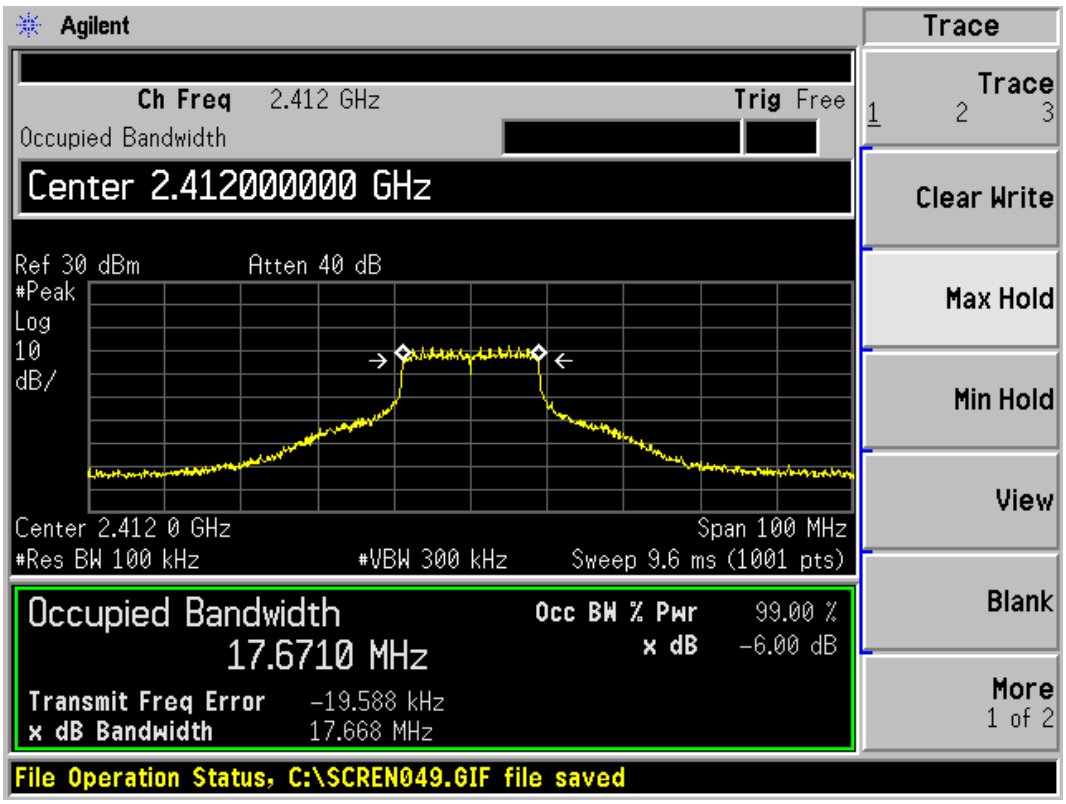


802.11g, Carrier frequency (MHz): 2437

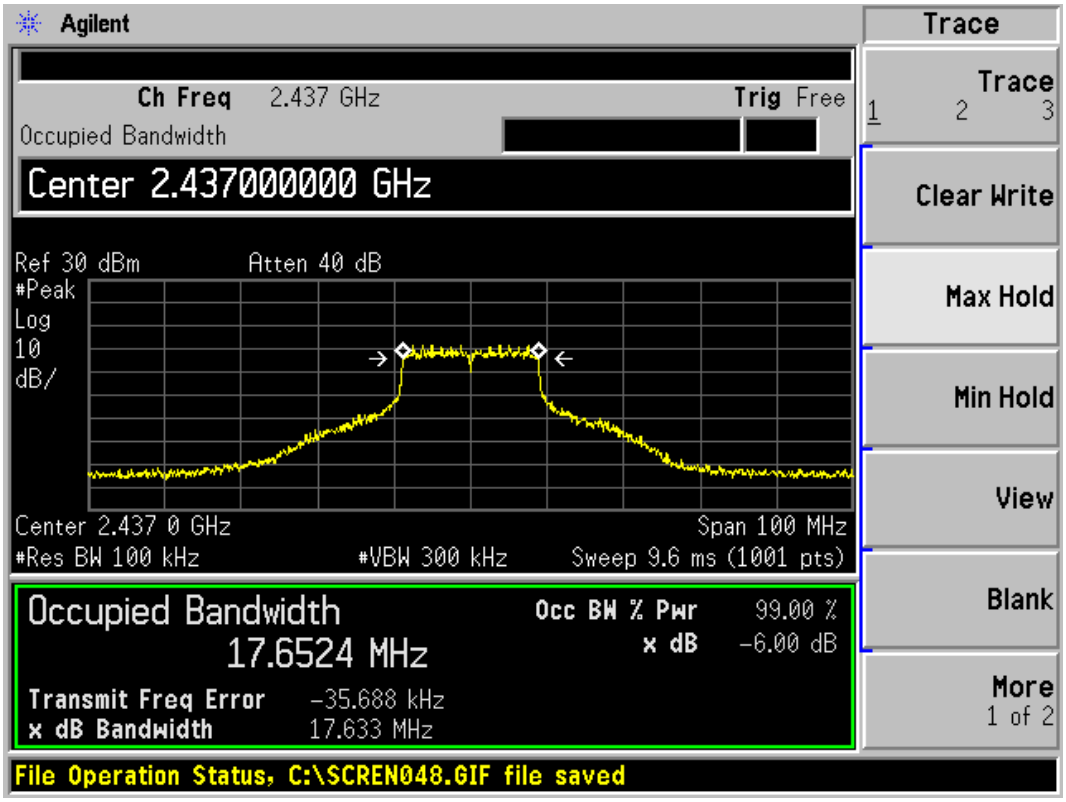


802.11g, Carrier frequency (MHz):2462

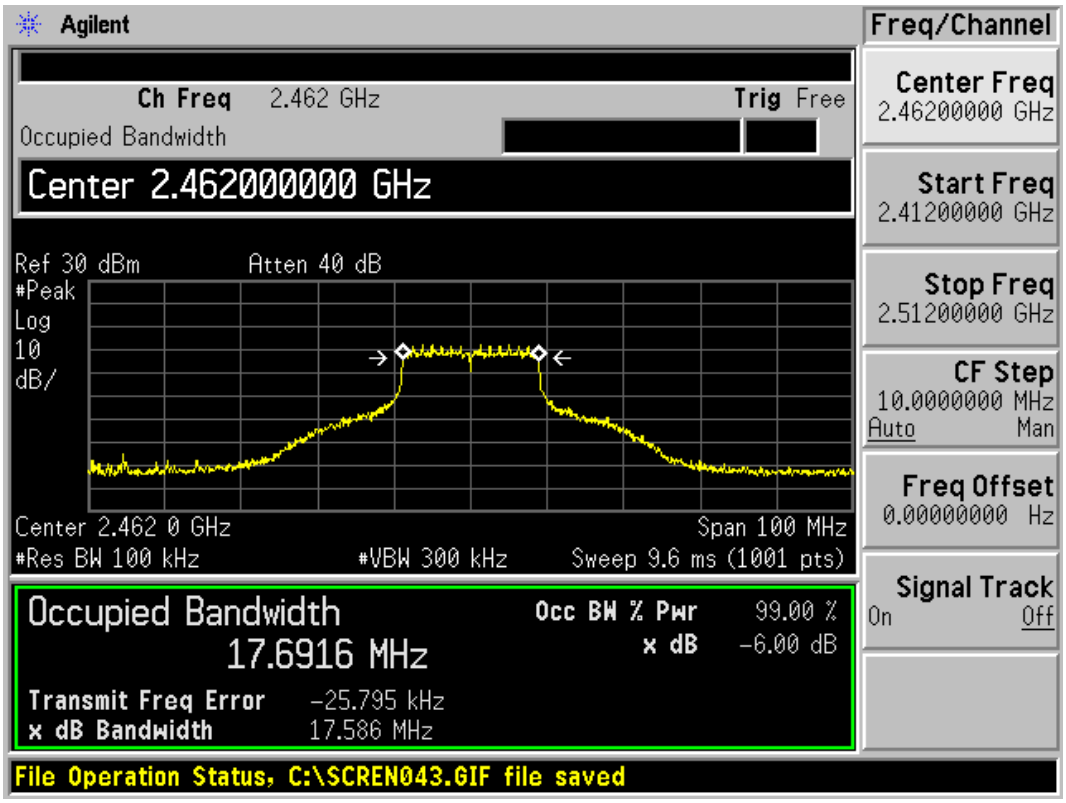
802.11n(HT20)



802.11n, Carrier frequency (MHz): 2412



802.11n, Carrier frequency (MHz): 2437



802.11n, Carrier frequency (MHz):2462

2.5. Band Edge Compliance

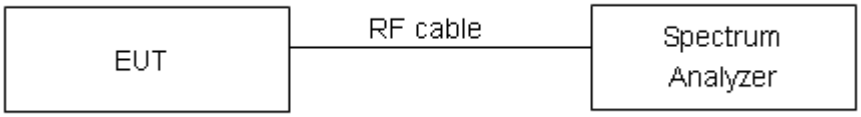
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable the band edge of the lowest and highest channels were measured. The peak detector is used and RBW is set to 100kHz and VBW is set to 300kHz on spectrum analyzer. Spectrum analyzer plots are included on the following pages.

Test Setup



Limits

Rule Part 15.247(d) specifies that “In any 100 kHz bandwidth outside
the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.”

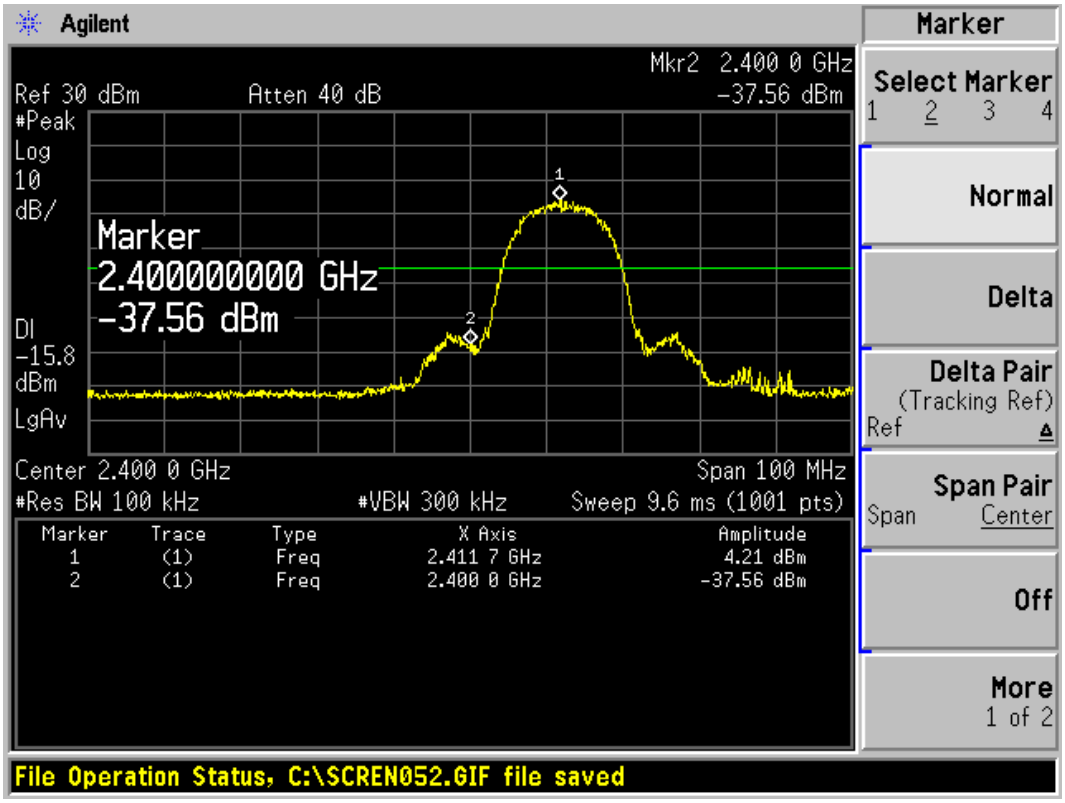
Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96.

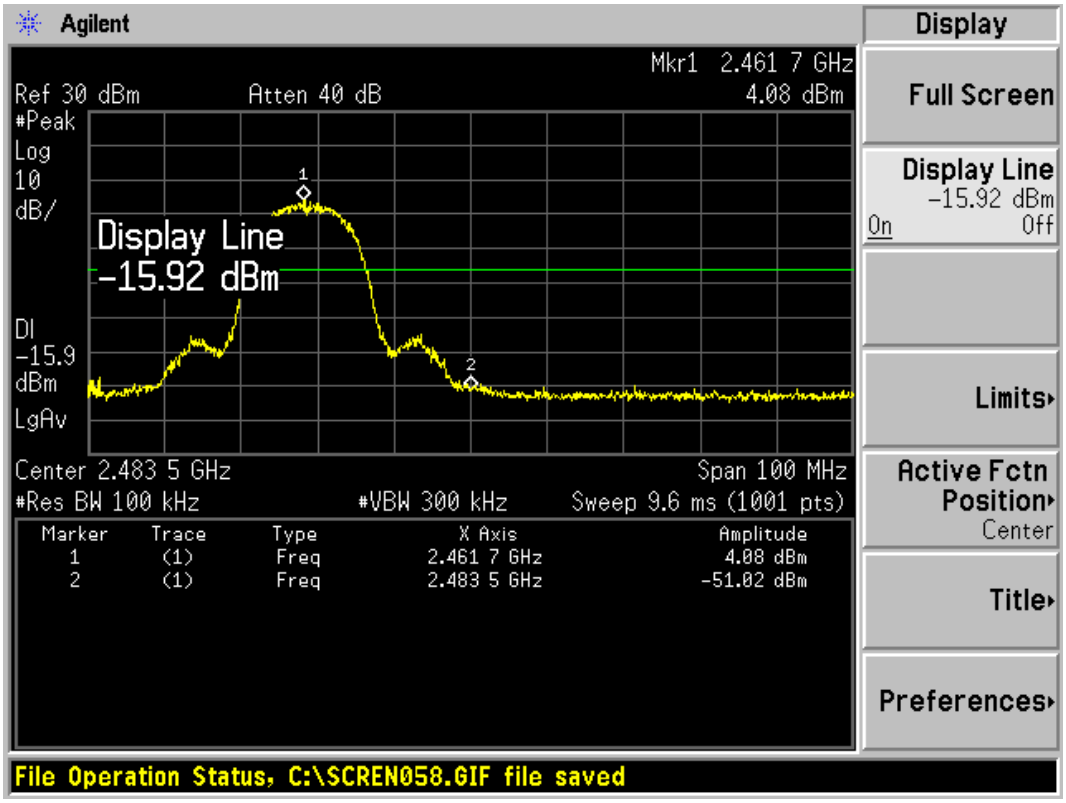
Frequency	Uncertainty
2GHz-3GHz	1.407 dB

Test Results: PASS

802.11b

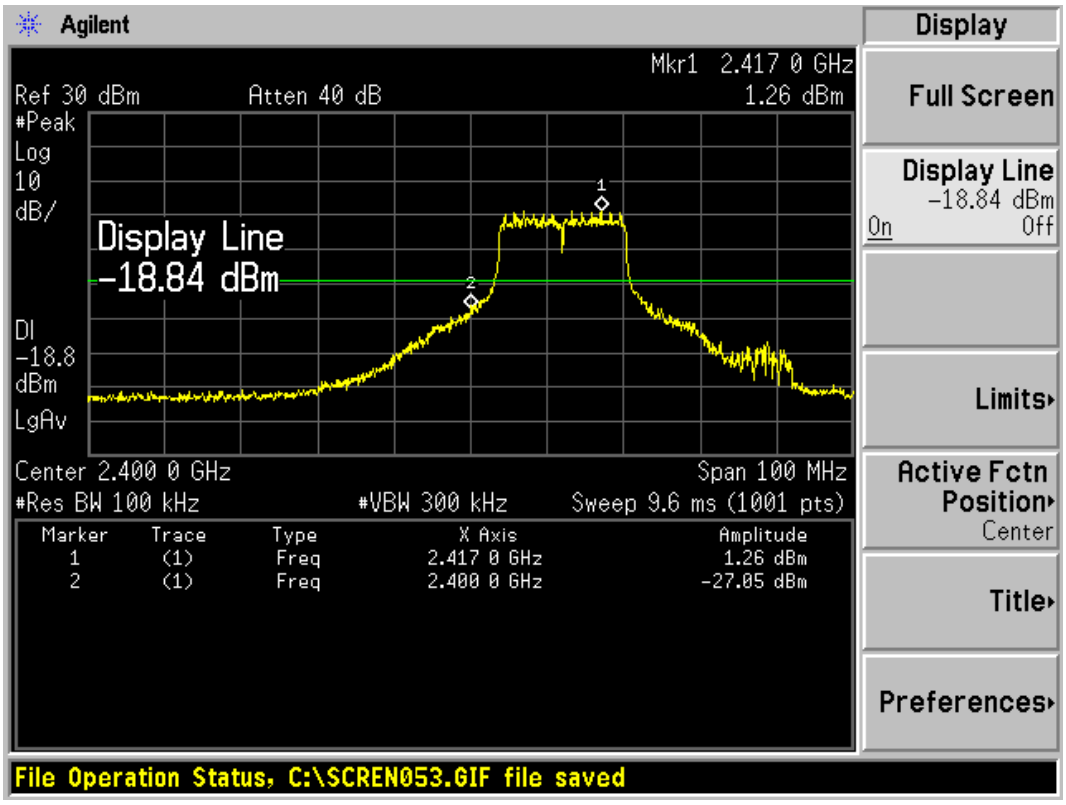


802.11b, Channel No.: 1

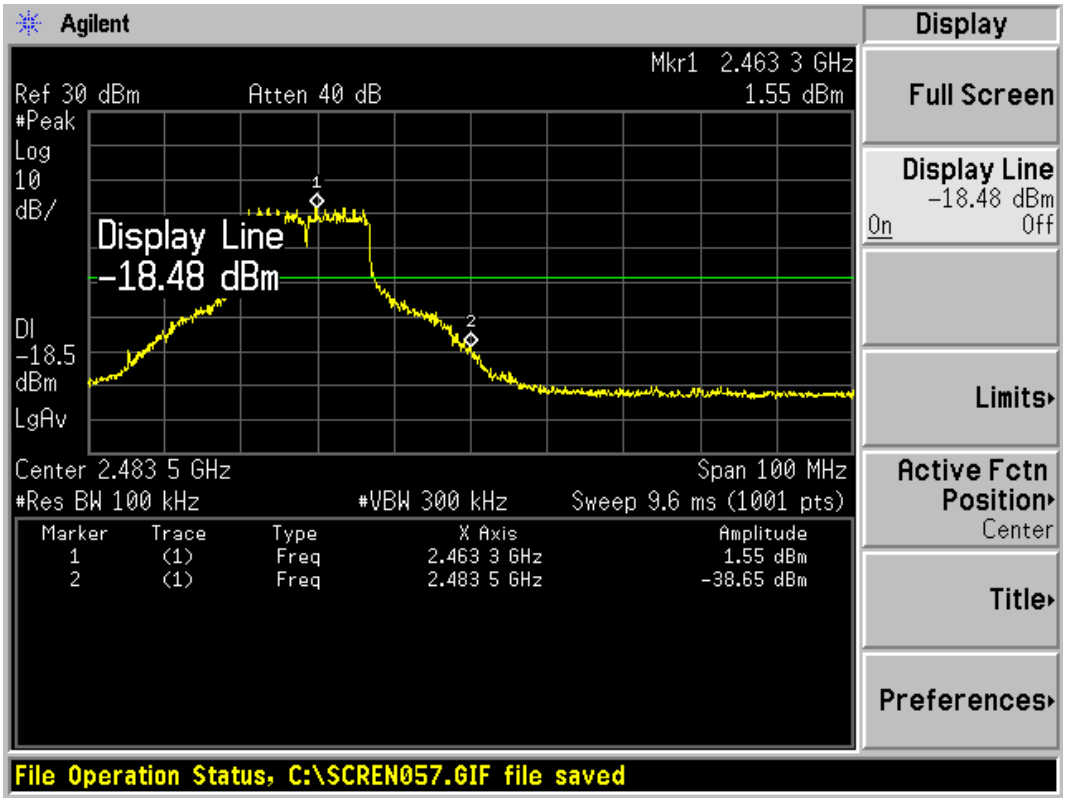


802.11b, Channel No.: 11

802.11g

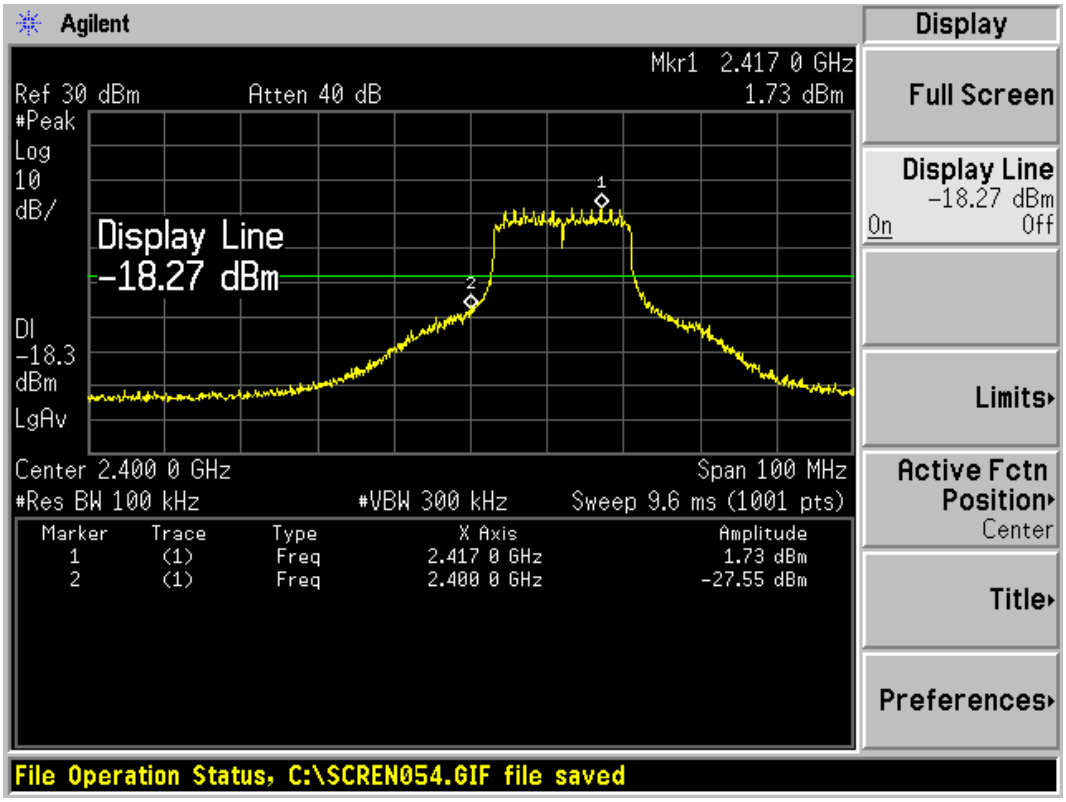


802.11g, Channel No.: 1

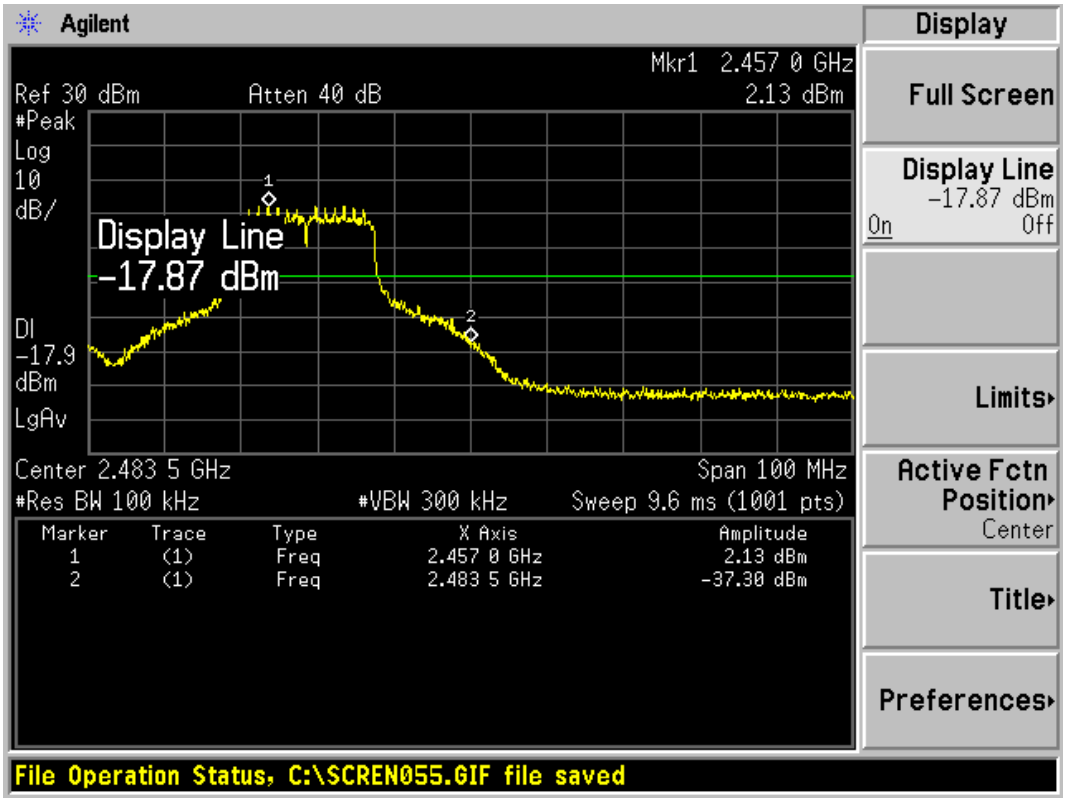


802.11g, Channel No.: 11

802.11n(HT20)



802.11n, Channel No.: 1



802.11n, Channel No.: 11

2.6. Spurious Radiated Emissions in the restricted band

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

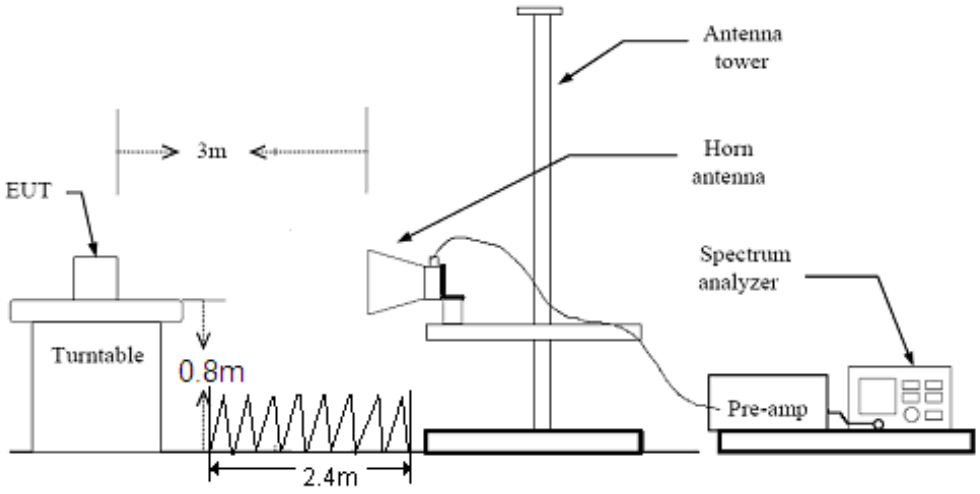
The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. RBW is set to 100kHz.The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing. Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

Set the spectrum analyzer in the following:
(a) PEAK: RBW=VBW=1MHz / Sweep=AUTO
(b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO
This setting method can refer to **KDB 558074.**

The field strength of spurious emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Y axis) and the antenna is vertical.

The test is in transmitting mode.

Test setup



Note: Area side:2.4mX3.6m

Limits

Spurious Radiated Emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])
13.36 - 13.41			

Limit in restricted band

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
0.009–0.490	2400/F(kHz)	/
0.490–1.705	24000/F(kHz)	/
1.705–30.0	30	/
30-88	100	40
88-216	150	43.5
216-960	200	46
Above960	500	54

§15.35(b)

There is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

Peak Limit=74 dBuV/m

Average Limit=54 dBuV/m

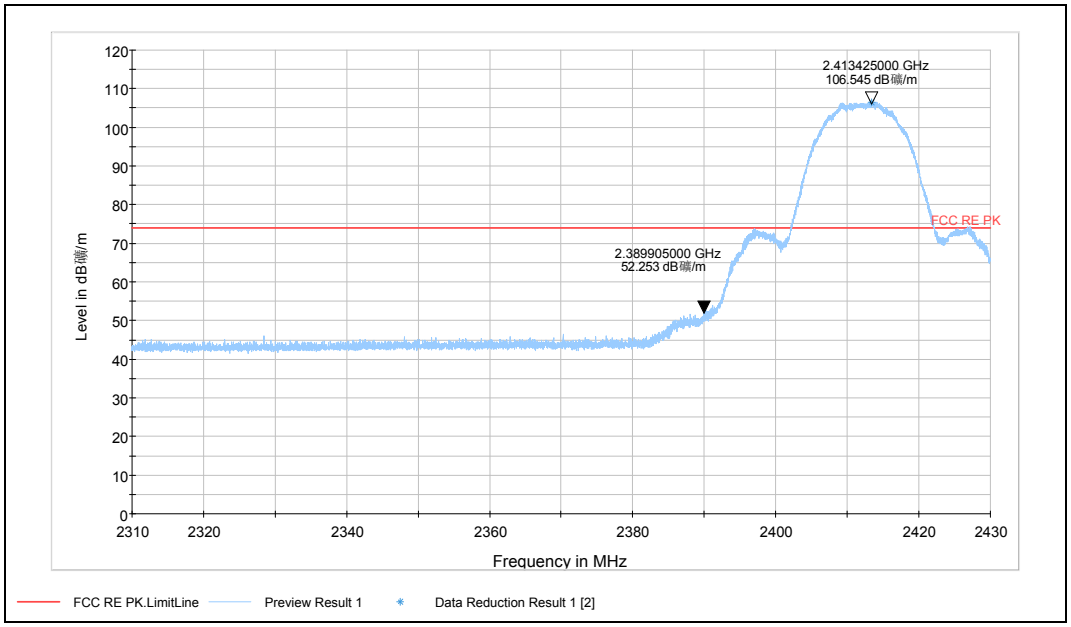
Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96, U= 3.55 dB.

Test Results: PASS

802.11b-Channel 1:

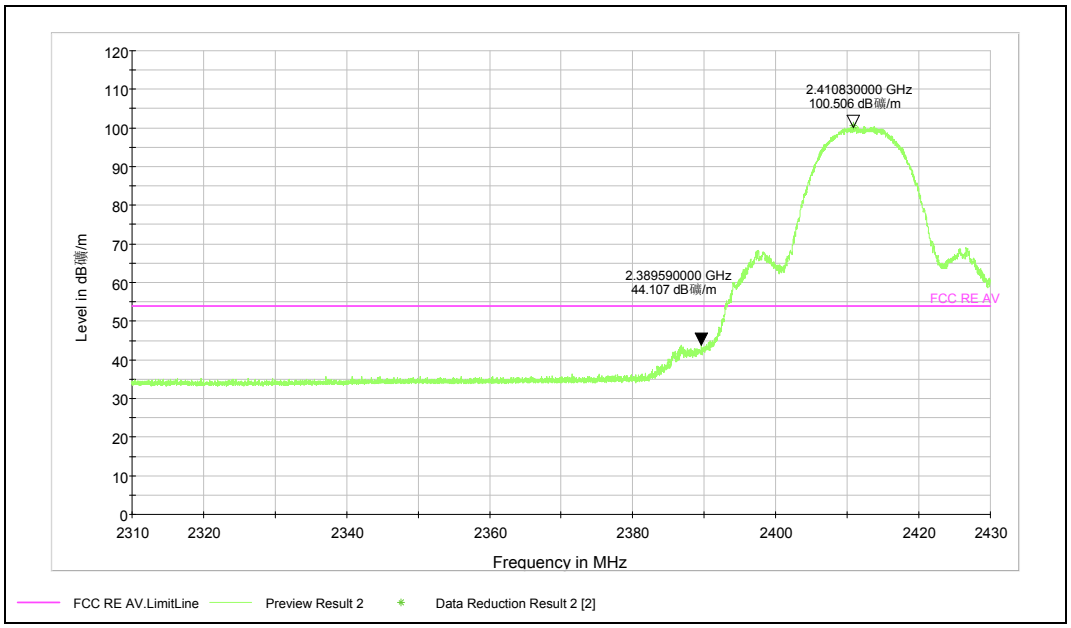
Peak



Note: The signal beyond the limit is carrier

Channel 1

Average

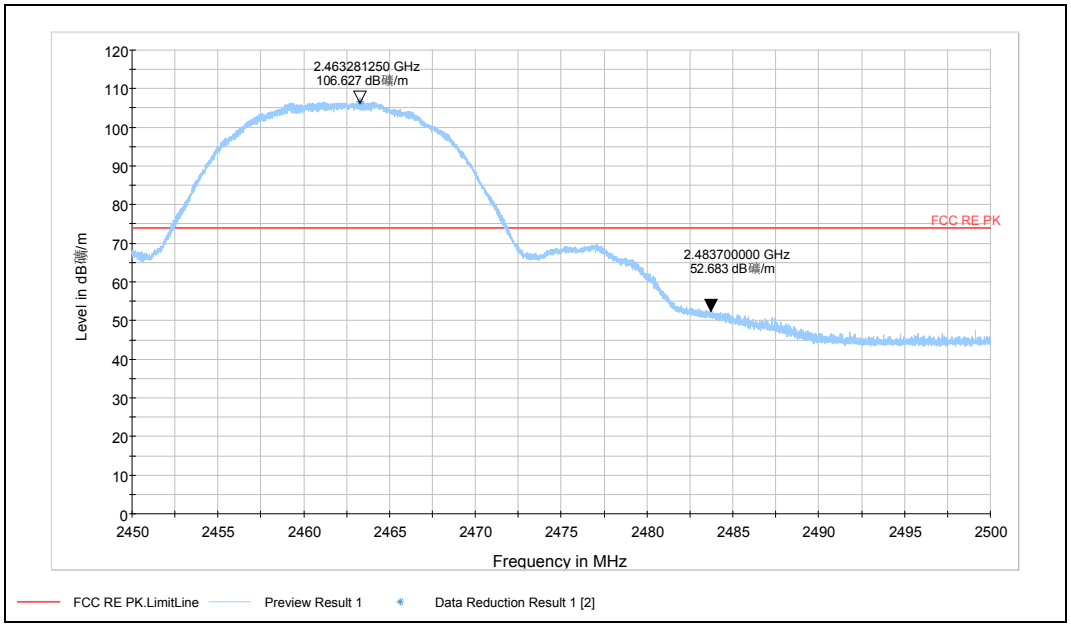


Note: The signal beyond the limit is carrier

Channel 1

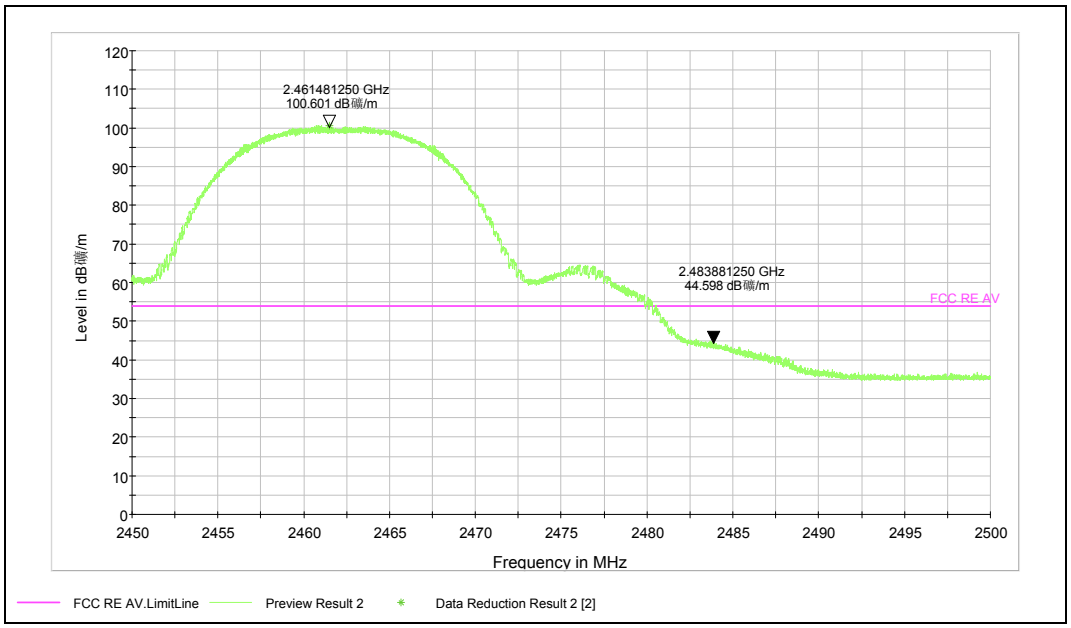
802.11b-Channel 11:

Peak



Note: The signal beyond the limit is carrier
Channel 11

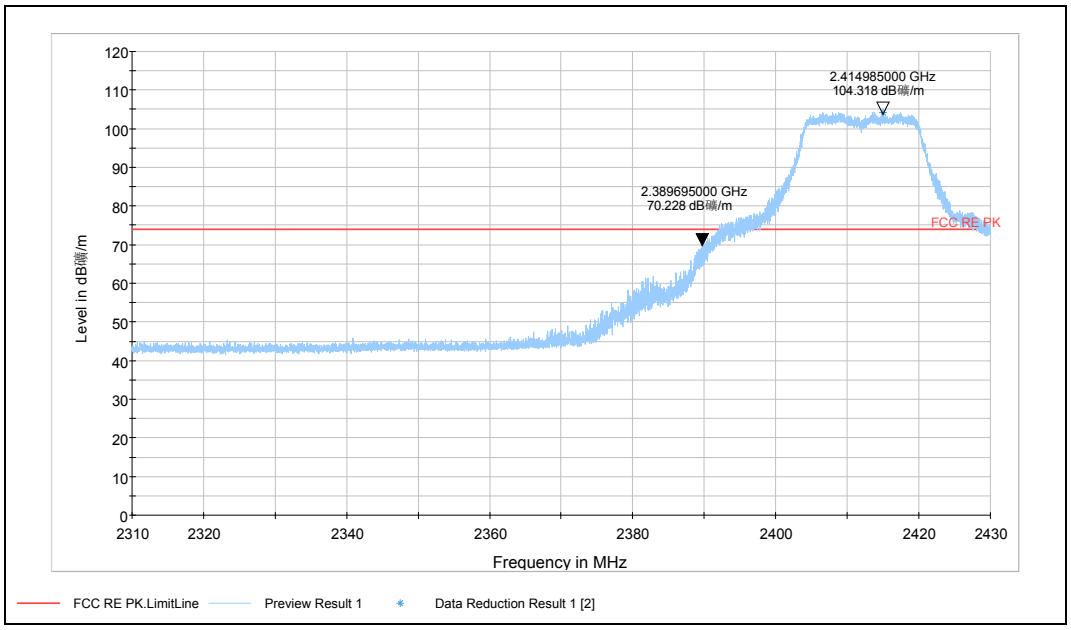
Average



Note: The signal beyond the limit is carrier
Channel 11

802.11g-Channel 1:

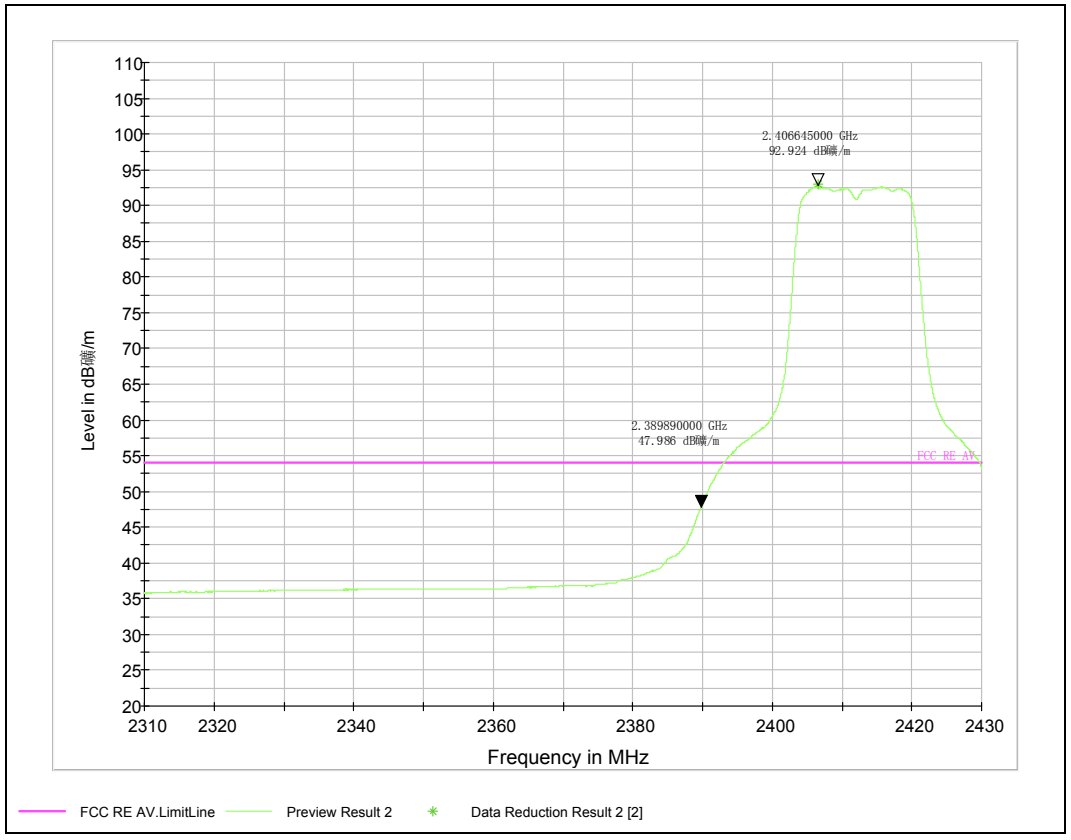
Peak



Note: The signal beyond the limit is carrier

Channel 1

Average

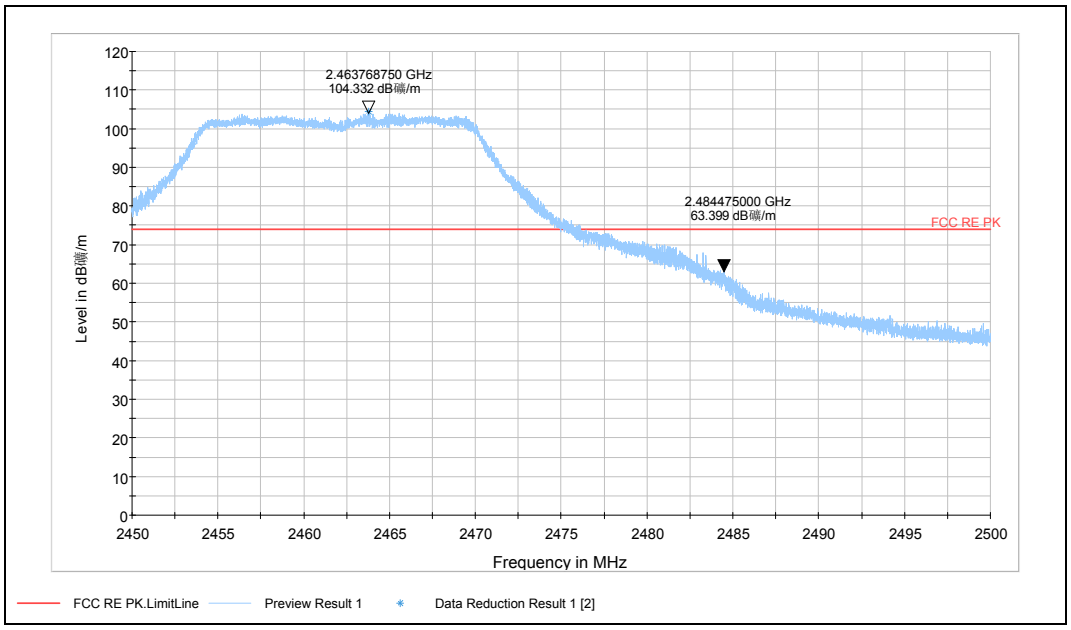


Note: The signal beyond the limit is carrier

Channel 1

802.11g-Channel 11:

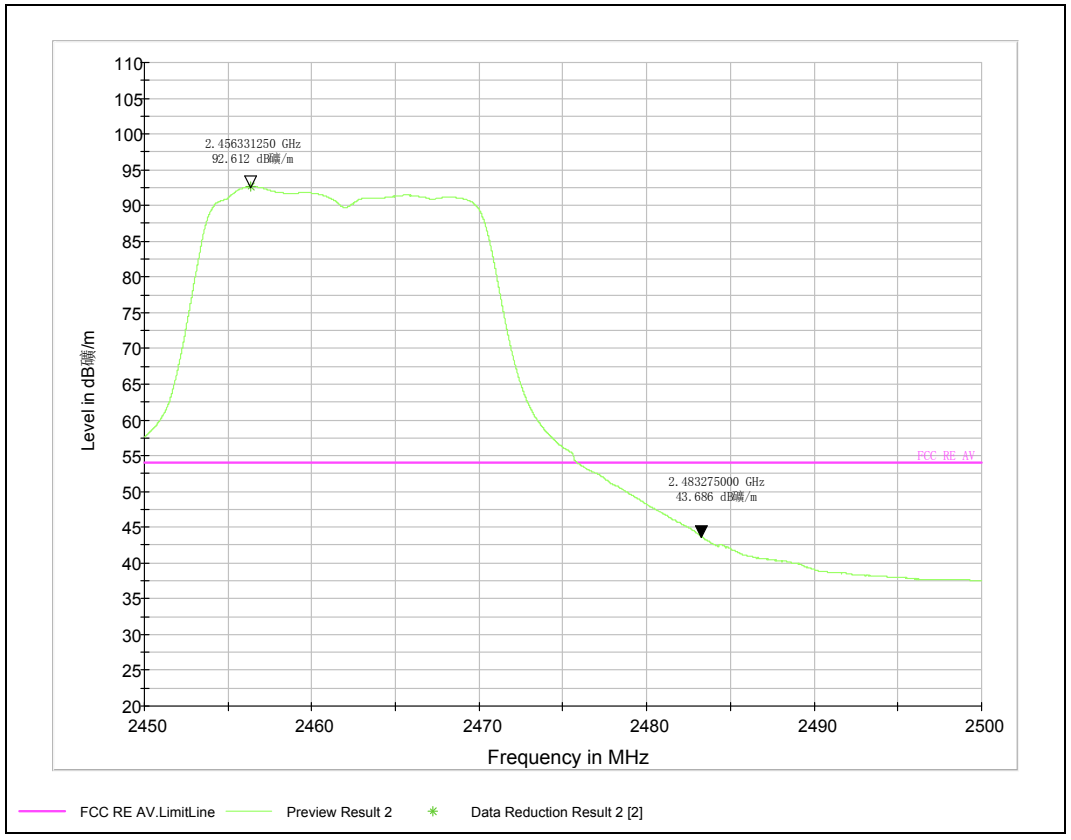
Peak



Note: The signal beyond the limit is carrier

Channel 11

Average

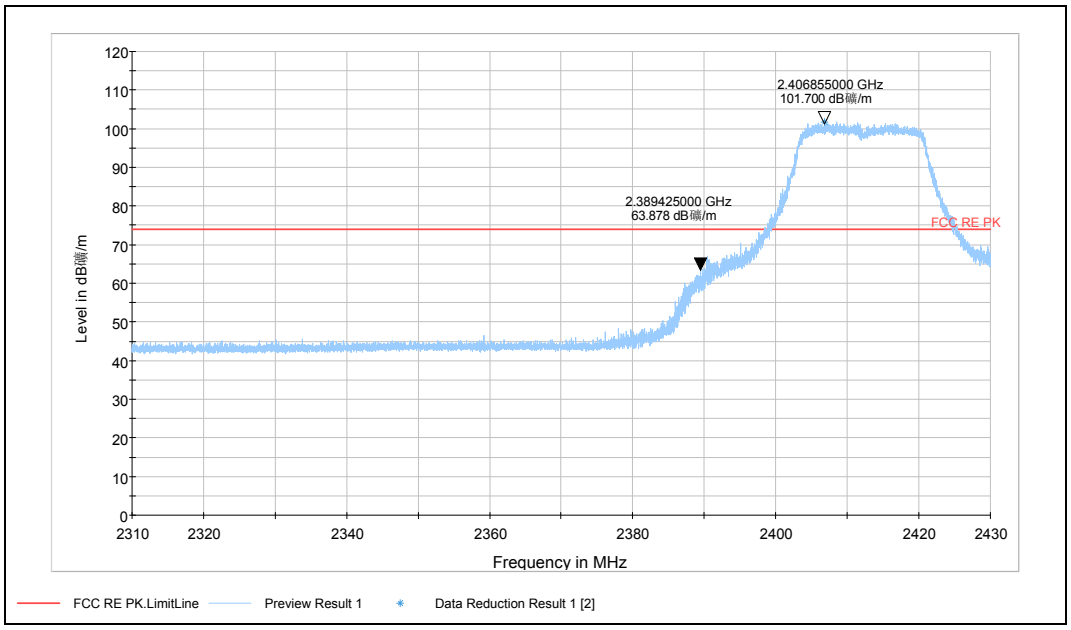


Note: The signal beyond the limit is carrier

Channel 11

802.11n-Channel 1(HT20):

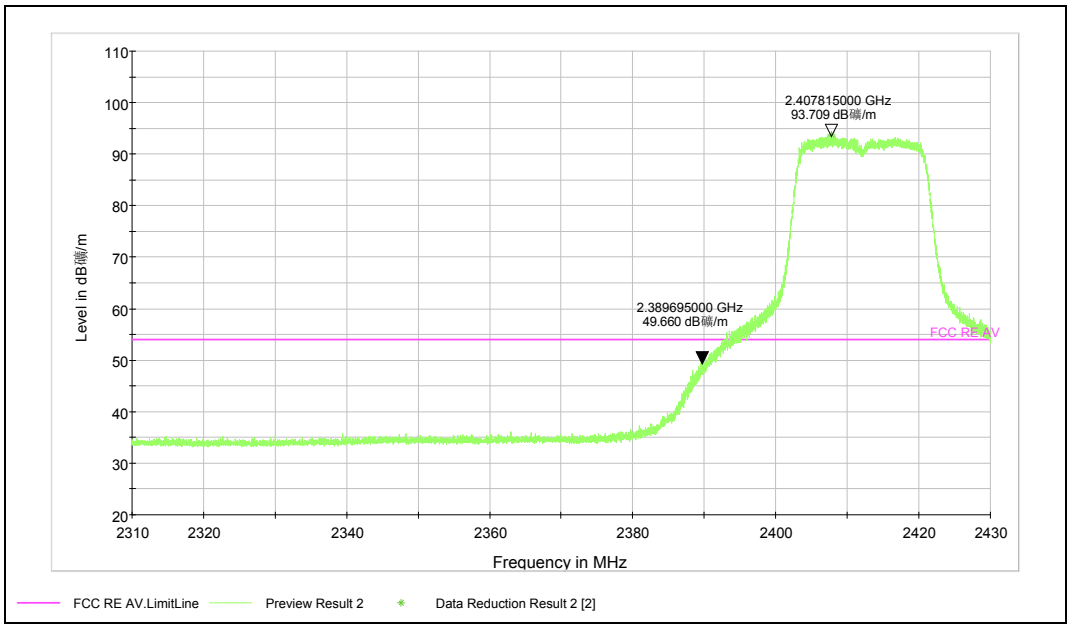
Peak



Note: The signal beyond the limit is carrier

Channel 1

Average

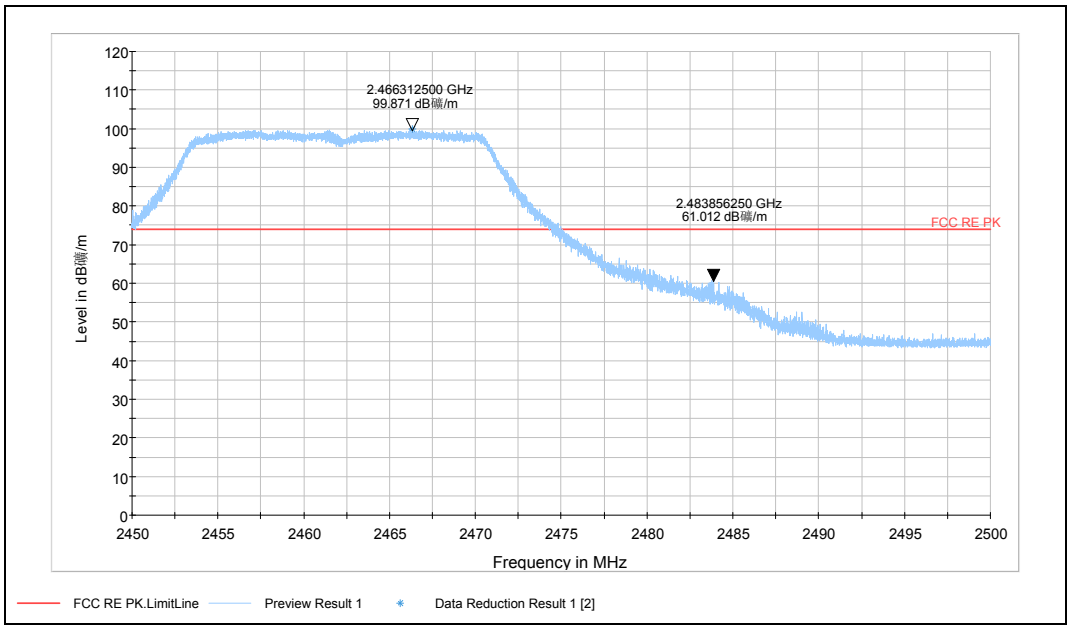


Note: The signal beyond the limit is carrier

Channel 1

802.11n-Channel 11(HT20):

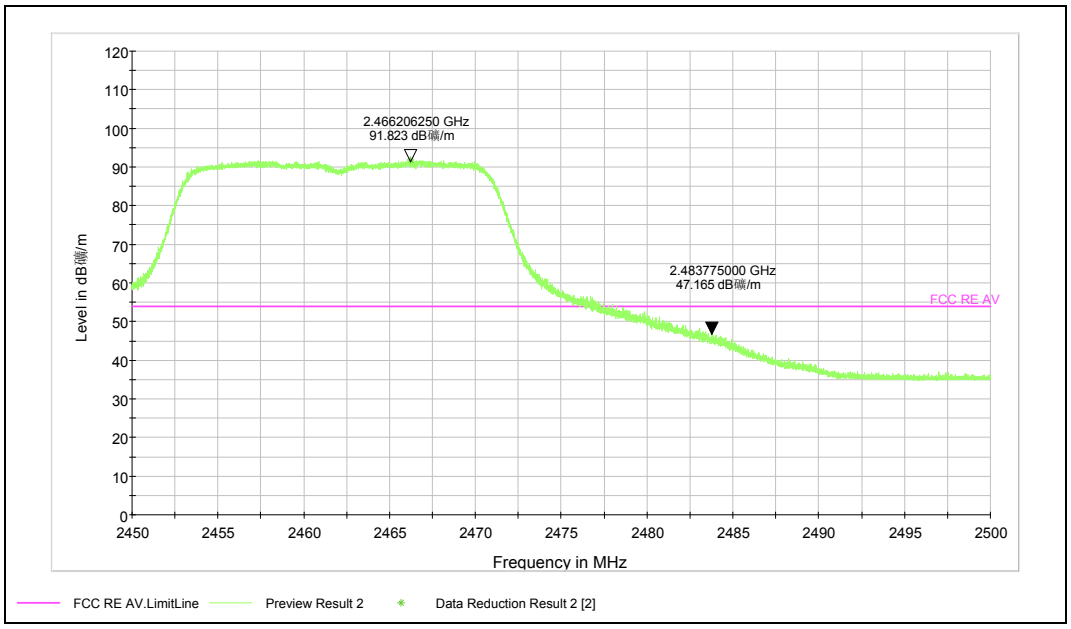
Peak



Note: The signal beyond the limit is carrier

Channel 11

Average



Note: The signal beyond the limit is carrier

Channel 11

2.7. Power Spectral Density

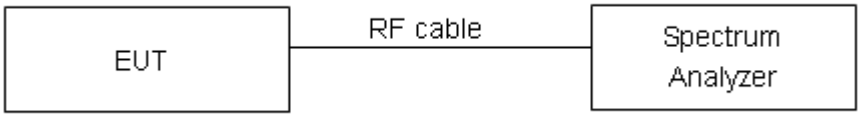
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable. RBW is set to 3 kHz and VBW is set to 10 kHz on spectrum analyzer. Set the span to at least 1.5 times the DTS channel bandwidth. Sweep time = auto couple. Trace mode = max hold. The peak power spectral density is recorded.

Test setup



Limits

Rule Part 15.247(e) specifies that" For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. ‘’

Limits	≤ 8 dBm / 3kHz

Measurement Uncertainty

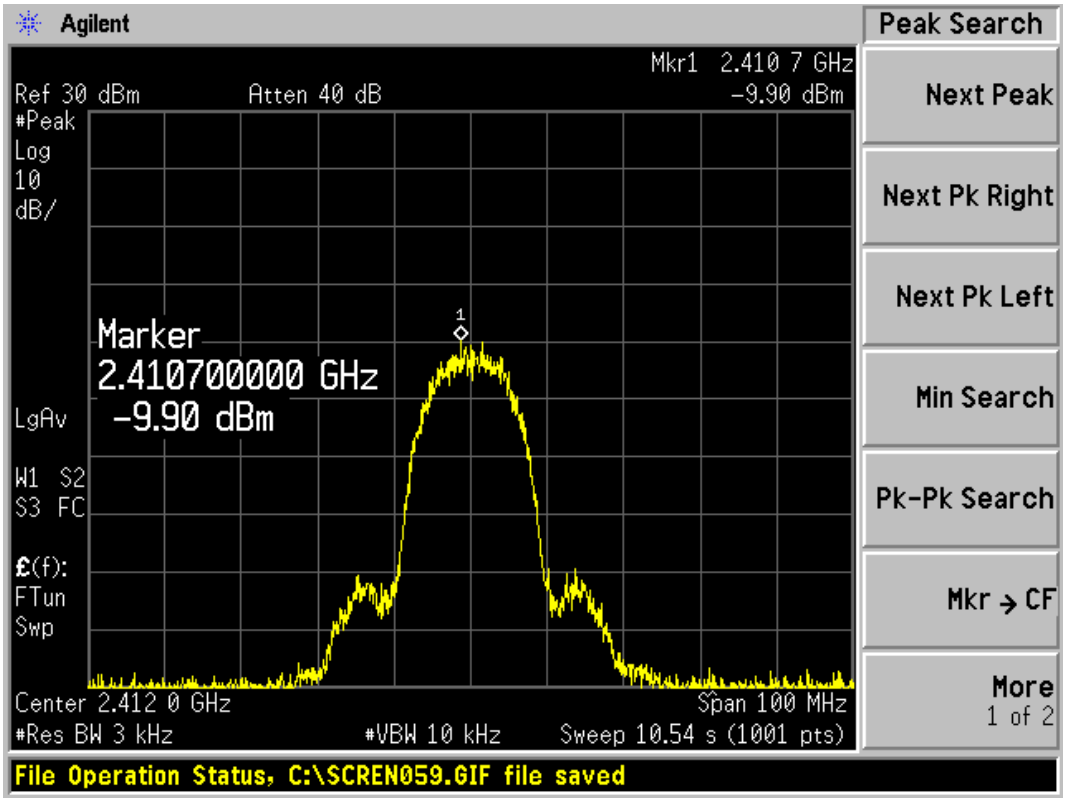
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 0.75dB.

Test Results:

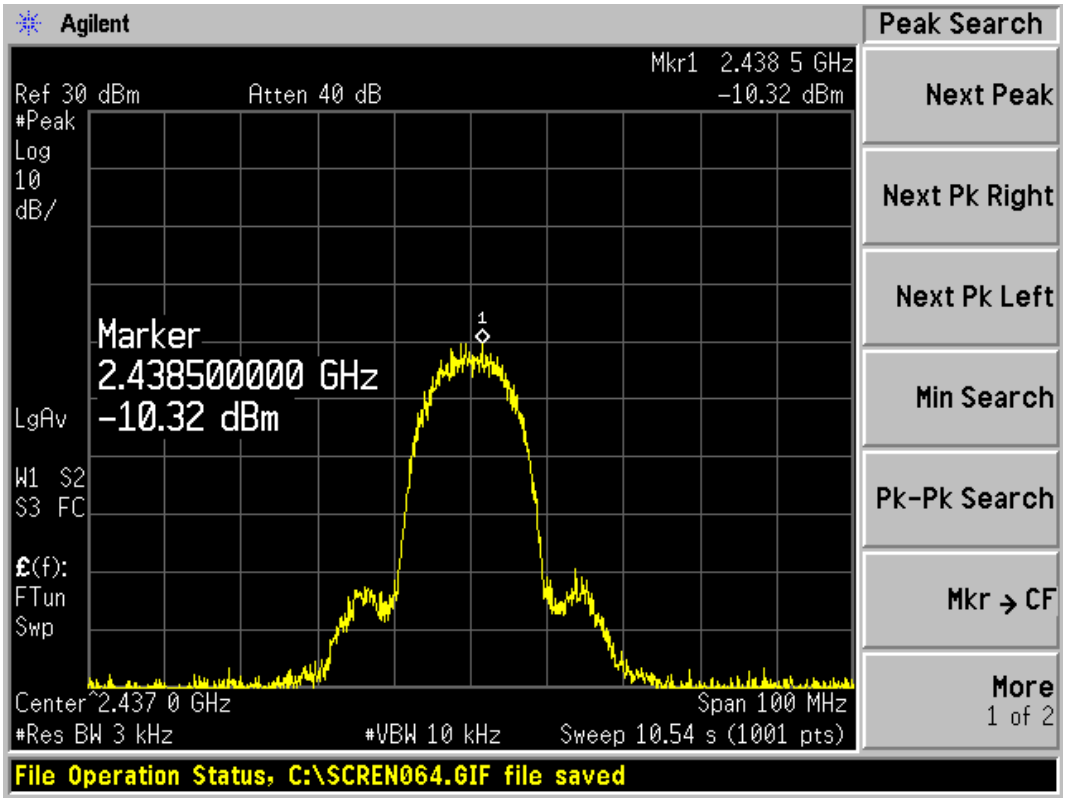
Network Standards	Channel Number	Power Spectral Density dBm / 3kHz	Conclusion
802.11b	1	-9.90	PASS
	6	-10.32	PASS
	11	-10.22	PASS
802.11g	1	-13.26	PASS
	6	-13.55	PASS
	11	-13.65	PASS
802.11n HT20	1	-14.53	PASS
	6	-14.06	PASS
	11	-13.98	PASS

Note: The measured power density (dBm) has the offset with cable loss already.

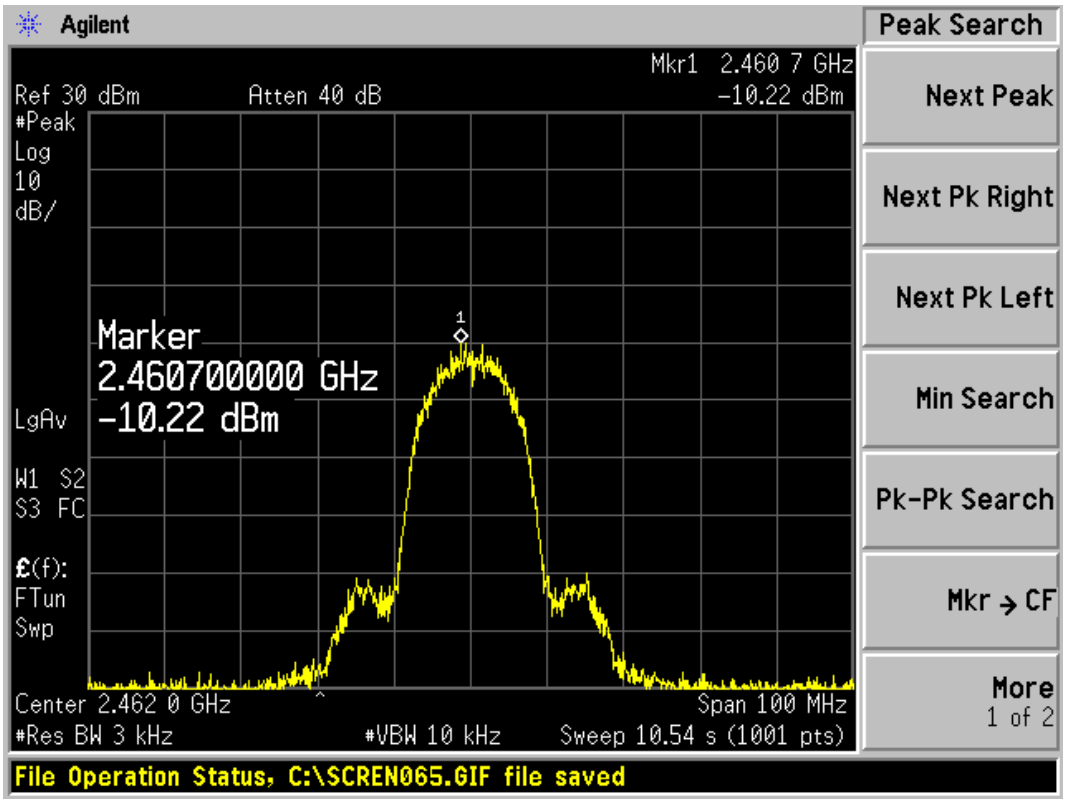
802.11b



802.11b, Channel No.: 1

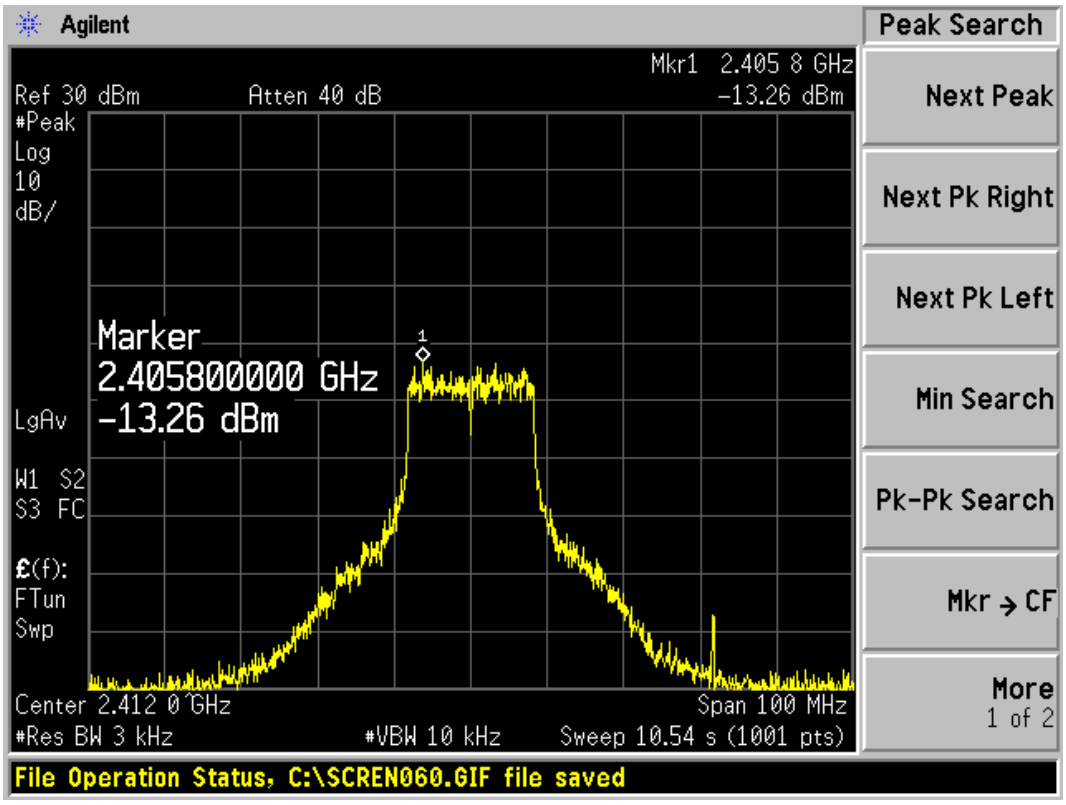


802.11b, Channel No.: 6

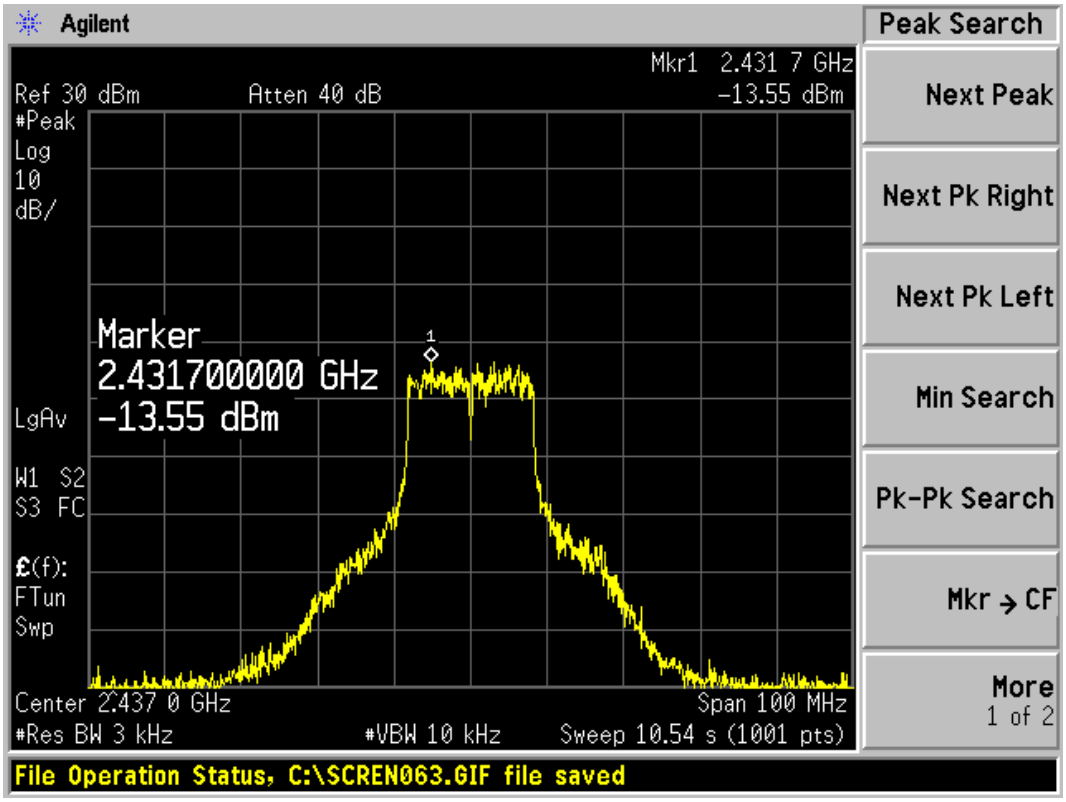


802.11b, Channel No.: 11

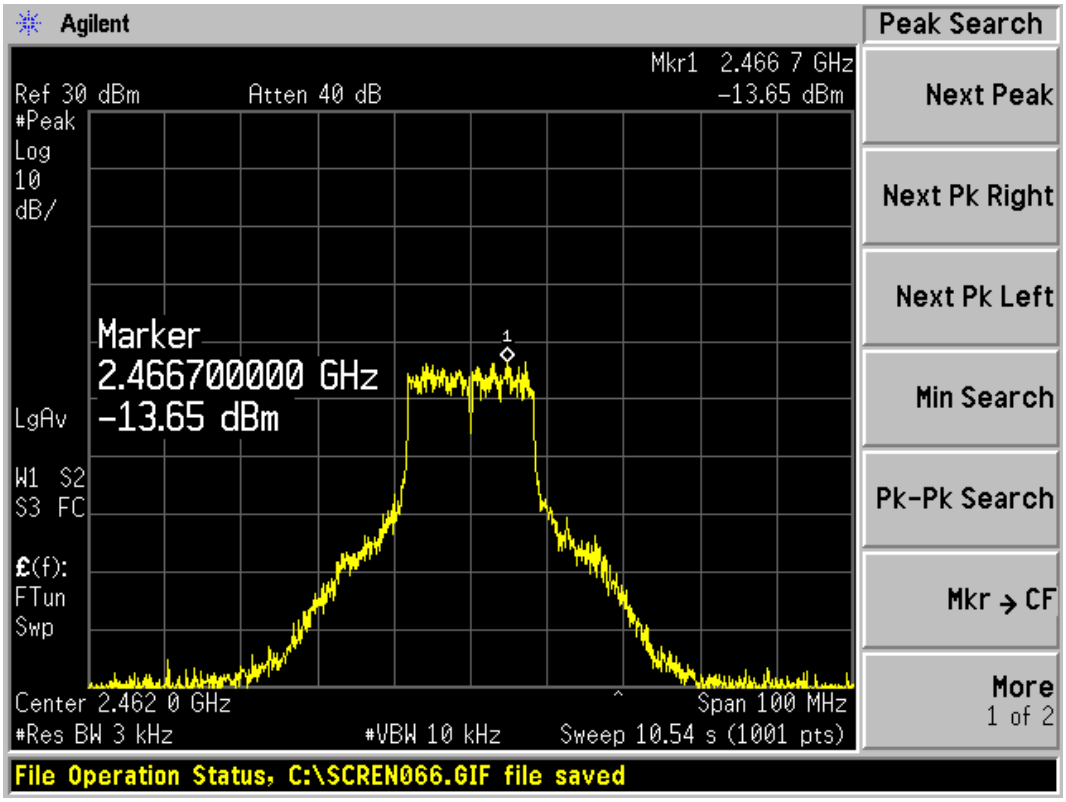
802.11g



802.11g, Channel No.: 1

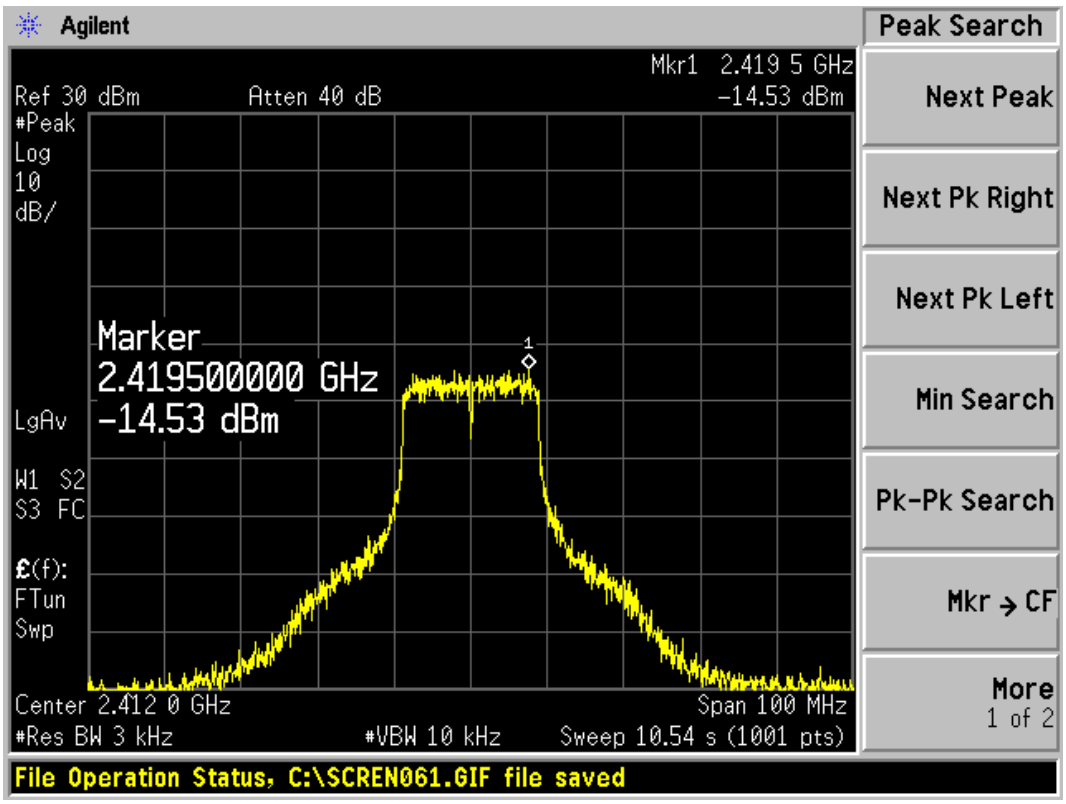


802.11g, Channel No.: 6

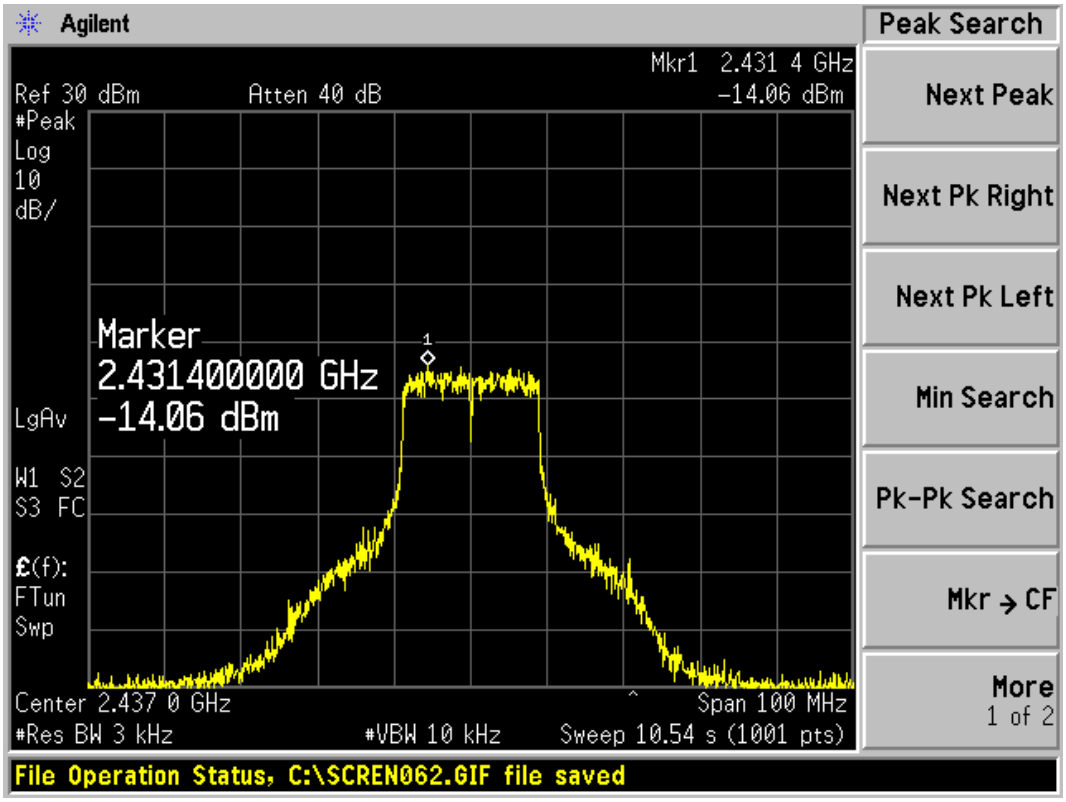


802.11g, Channel No.: 11

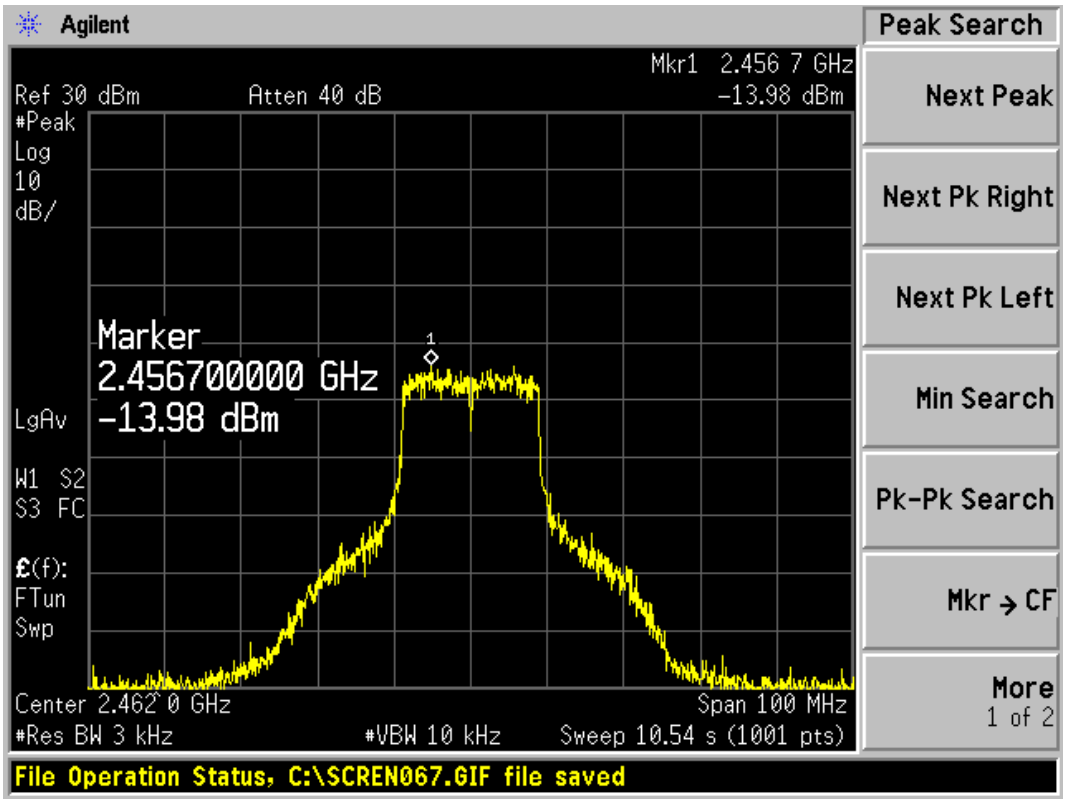
802.11n(HT20)



802.11n, Channel No.: 1



802.11n, Channel No.: 6



802.11n, Channel No.: 11

2.8. Spurious RF Conducted Emissions

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer and WIFI test set via a power splitter with a known loss. The spectrum analyzer scans from 30MHz to the 10th harmonic of the carrier. The peak detector is used. RBW and VBW are set to 100 kHz, Sweep is set to ATUO.
The test is in transmitting mode.

Test setup

Limits

Rule Part 15.247(d) pacifies that “In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.”

Network Standards	Carrier frequency (MHz)	Reference value (dBm)	Limit (dBm)
802.11b	2412	6.564	≤-13.436
	2437	0.426	≤-19.574
	2462	5.411	≤-14.589
802.11g	2412	0.062	≤-19.938
	2437	-2.987	≤-22.987
	2462	0.166	≤-19.834
802.11n HT20	2412	-1.882	≤-21.882
	2437	-5.654	≤-25.654
	2462	-2.838	≤-22.838

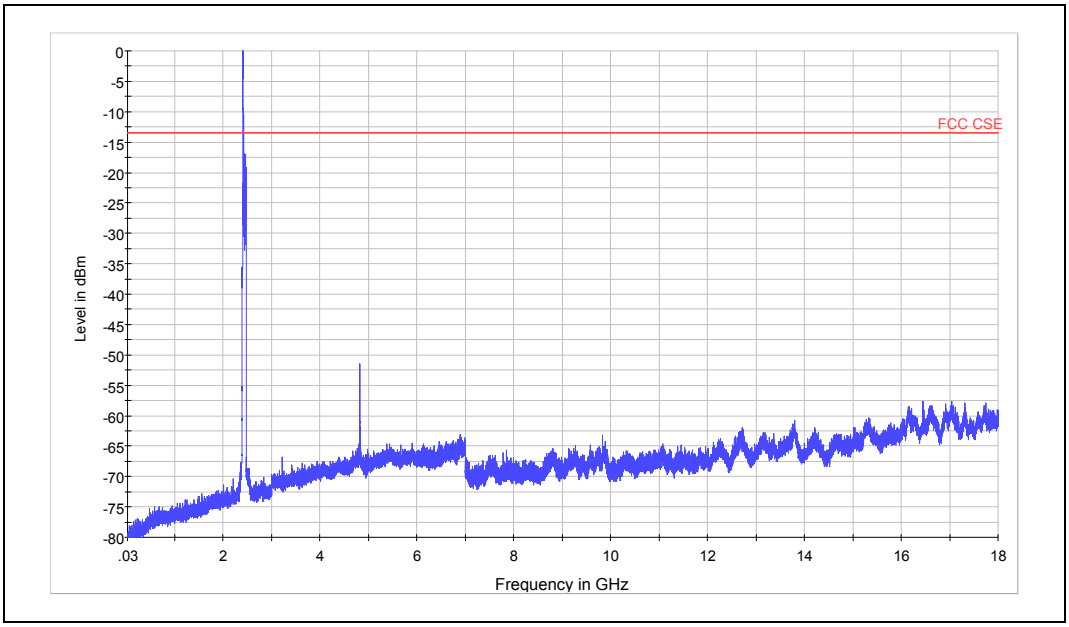
Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor *k* = 1.96.

Frequency	Uncertainty
100kHz-2GHz	0.684 dB
2GHz-26.5GHz	1.407 dB

Test Results:

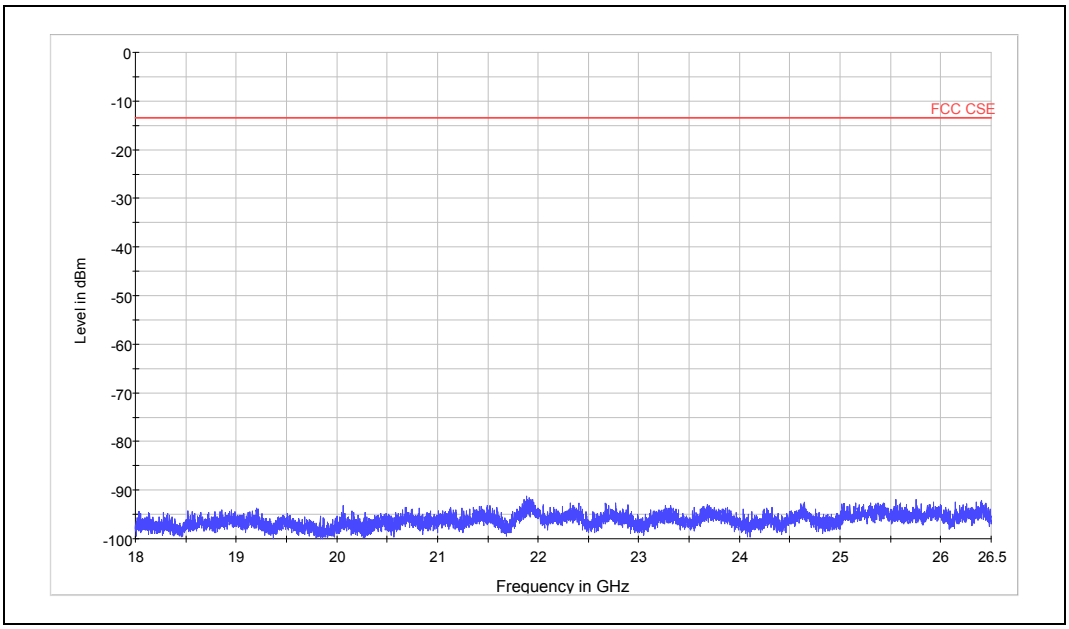
802.11b CH1



Note: The signal beyond the limit is carrier

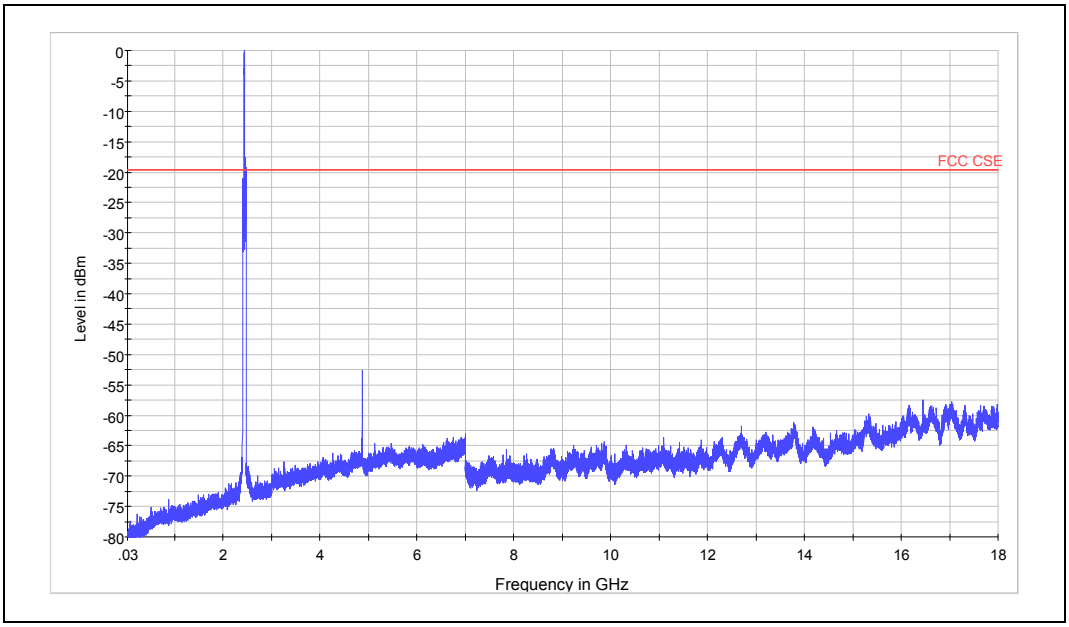
Spurious RF conducted emissions from 30MHz to 18GHz

Harmonic	TX ch.1 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	4824.0	-51.52	-13.436



Spurious RF conducted emissions from 18GHz to 26.5GHz

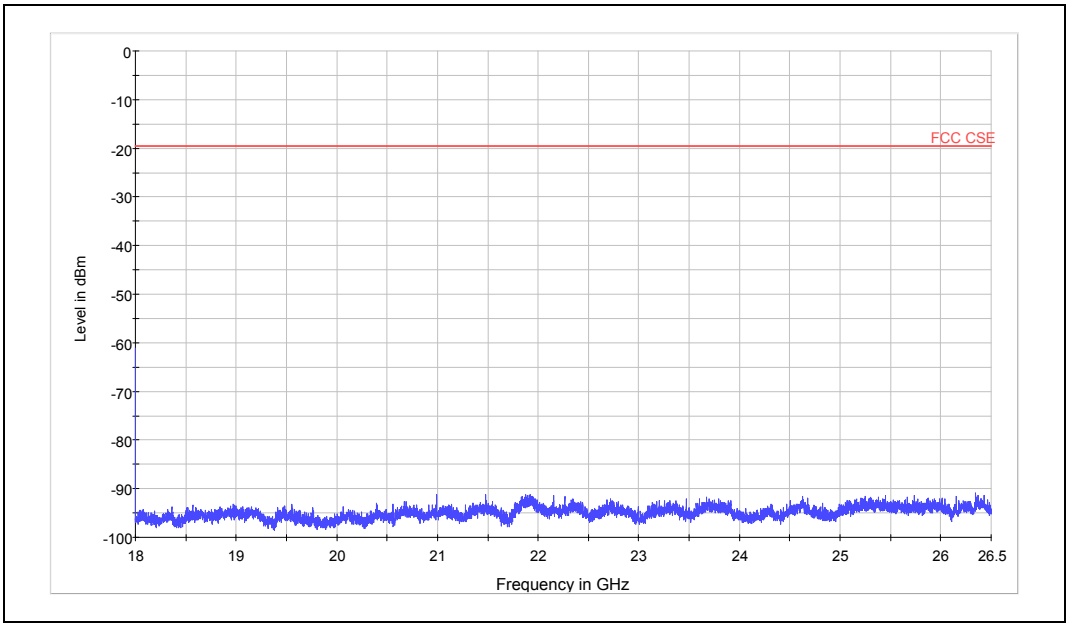
802.11b CH6



Note: The signal beyond the limit is carrier

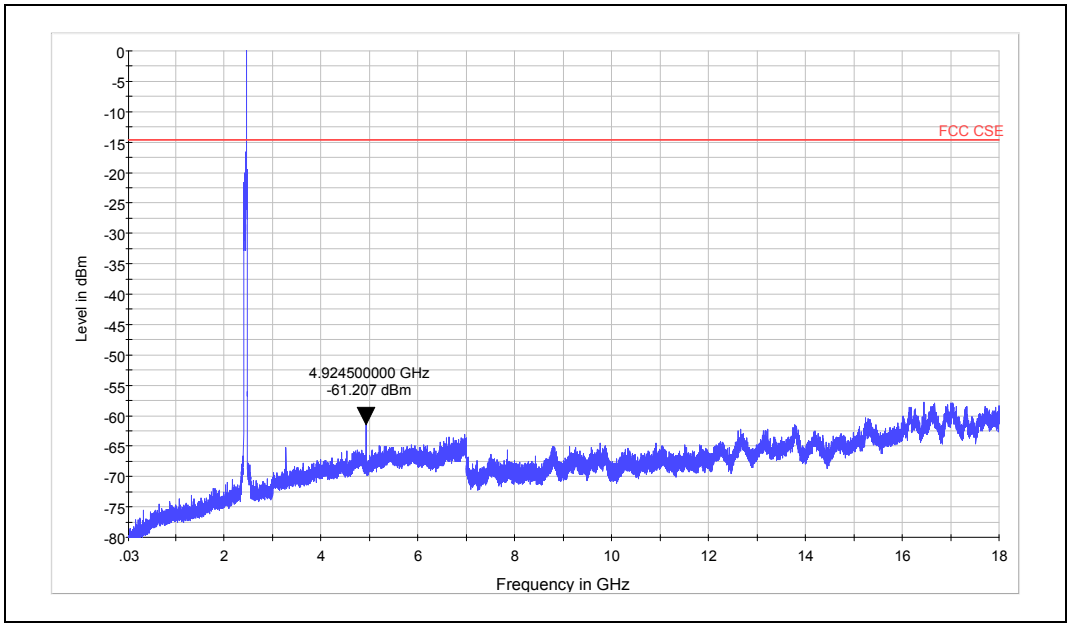
Spurious RF conducted emissions from 30MHz to 18GHz

Harmonic	TX ch.6 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	4874.3	-52.56	-19.574



Spurious RF conducted emissions from 18GHz to 26.5GHz

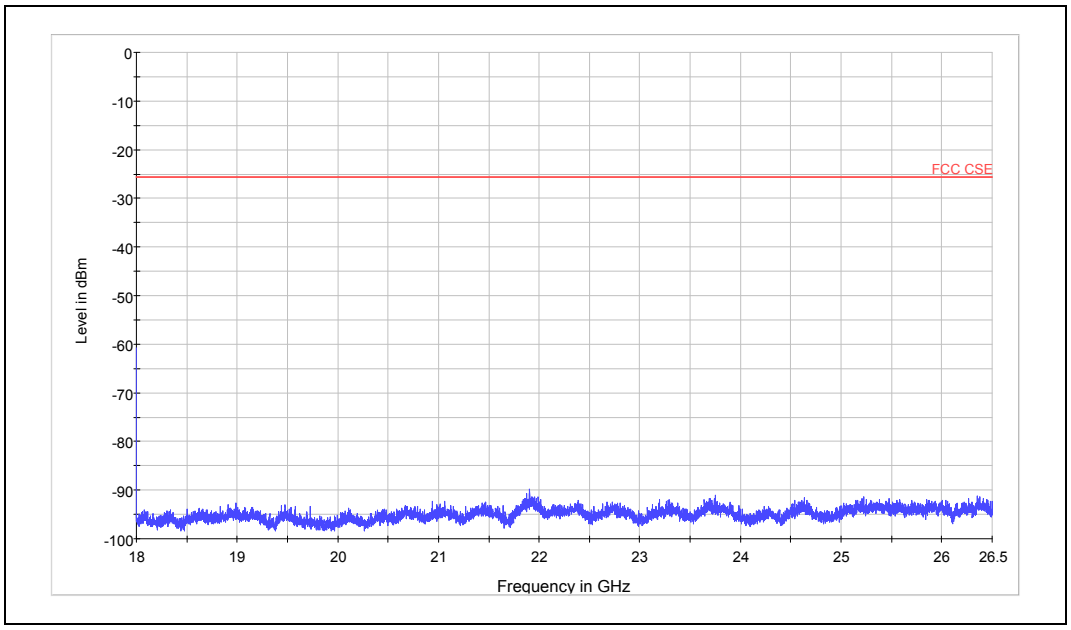
802.11b CH11



Note: The signal beyond the limit is carrier

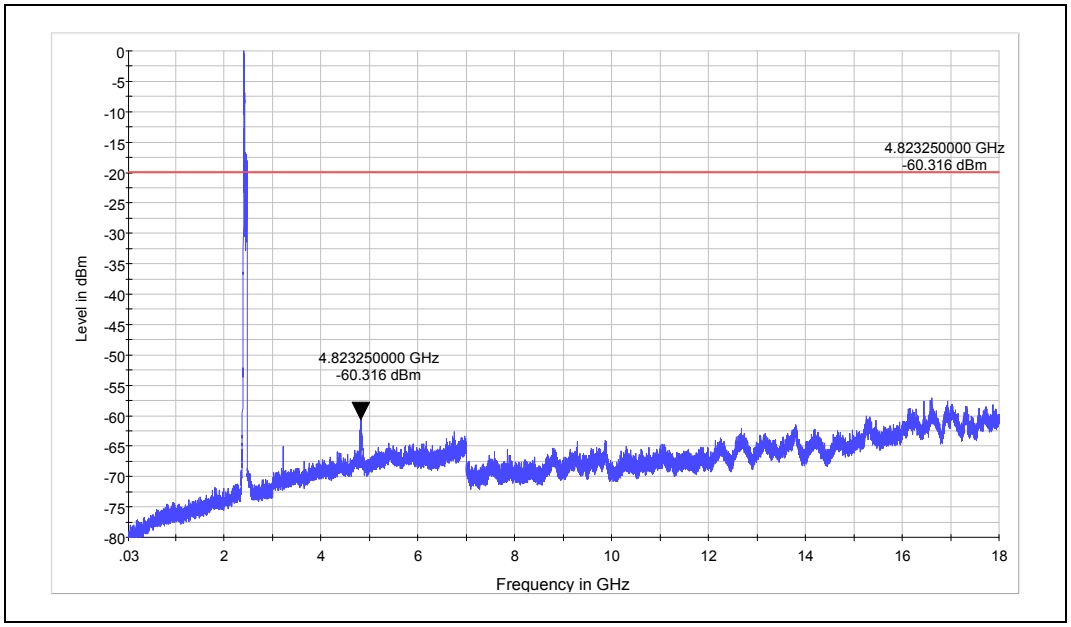
Spurious RF conducted emissions from 30MHz to 18GHz

Harmonic	TX ch.11 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	4924.5	-61.21	-14.589



Spurious RF conducted emissions from 18GHz to 26.5GHz

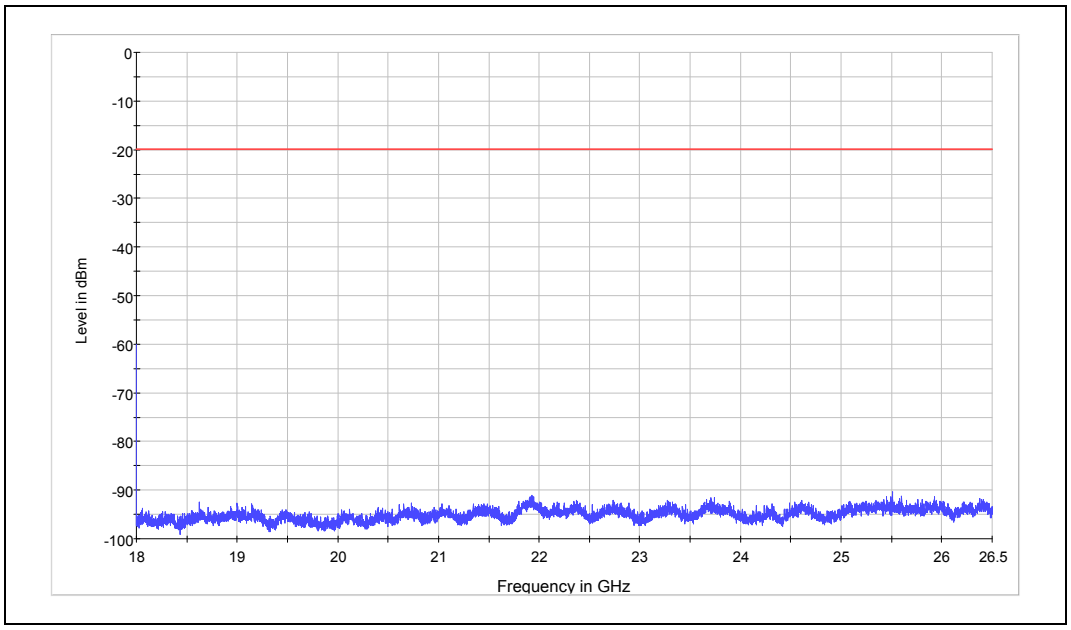
802.11g CH1



Note: The signal beyond the limit is carrier

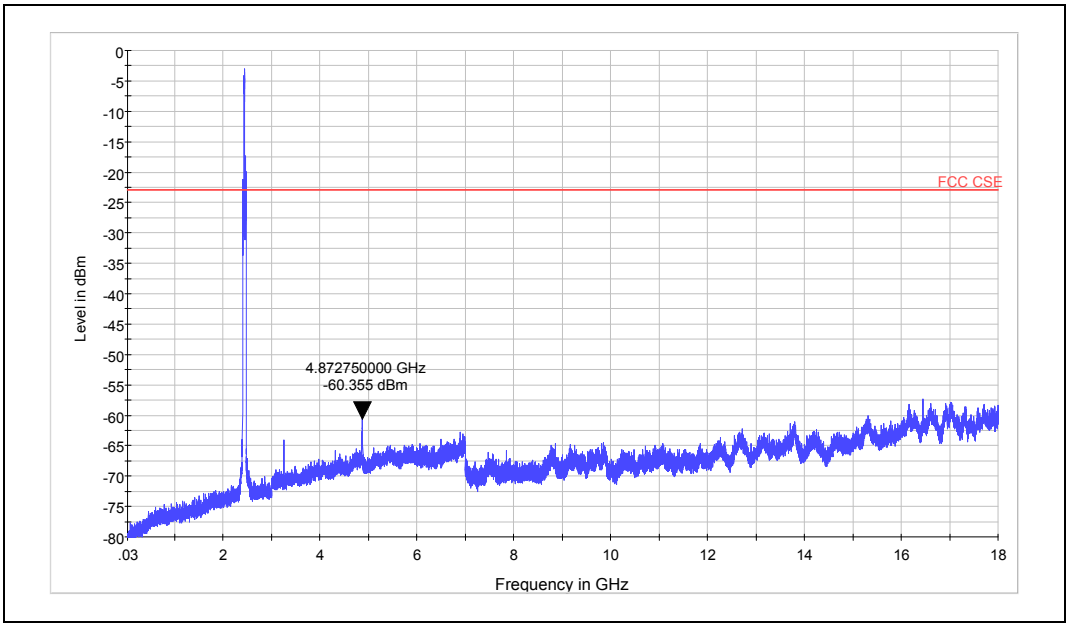
Spurious RF conducted emissions from 30MHz to 18GHz

Harmonic	TX ch.1 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	4823.3	-60.32	-19.938



Spurious RF conducted emissions from 18GHz to 26.5GHz

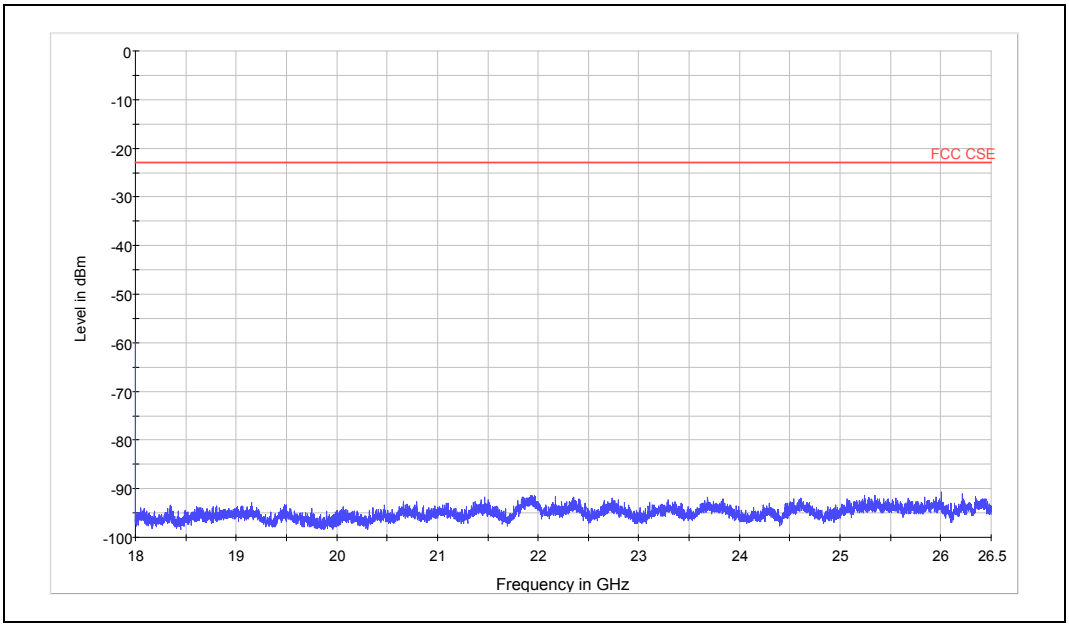
802.11g CH6



Note: The signal beyond the limit is carrier

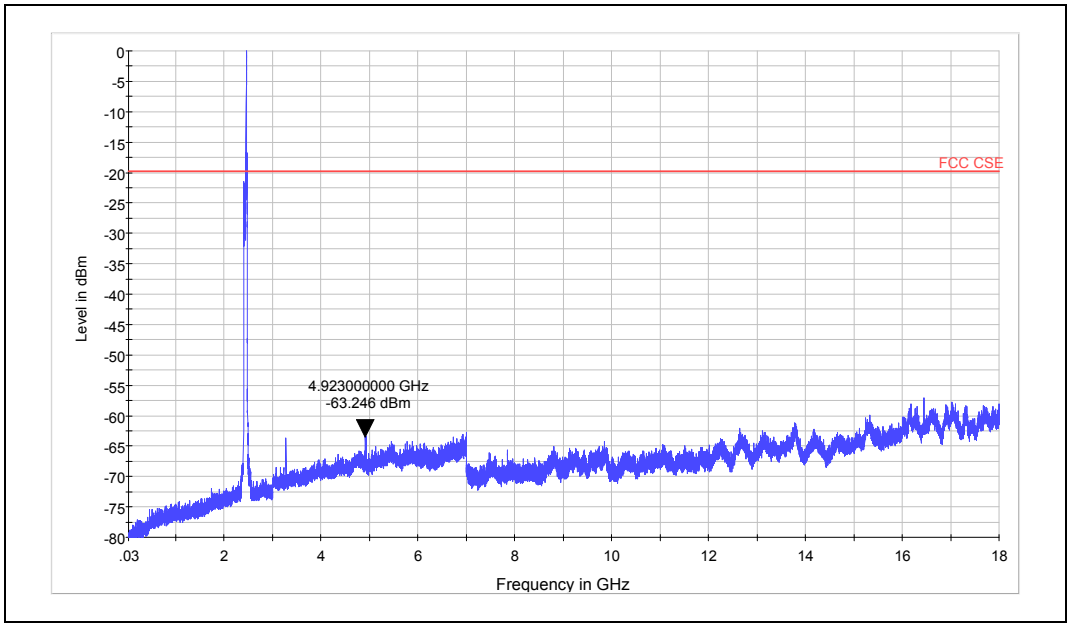
Spurious RF conducted emissions from 30MHz to 18GHz

Harmonic	TX ch.6 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	4872.8	-60.36	-22.987



Spurious RF conducted emissions from 18GHz to 26.5GHz

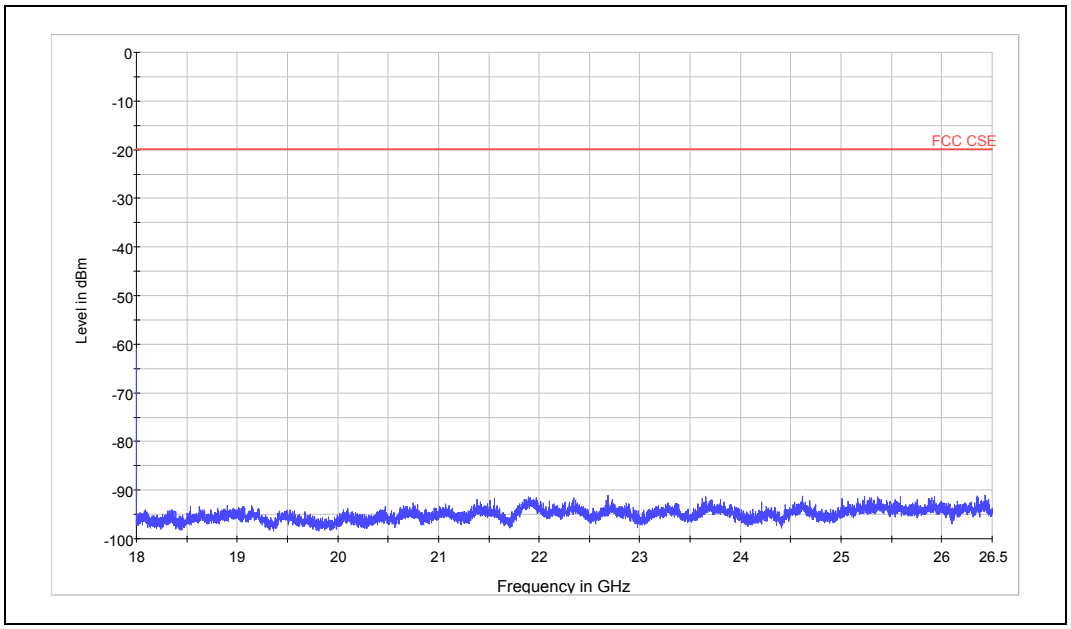
802.11g CH11



Note: The signal beyond the limit is carrier

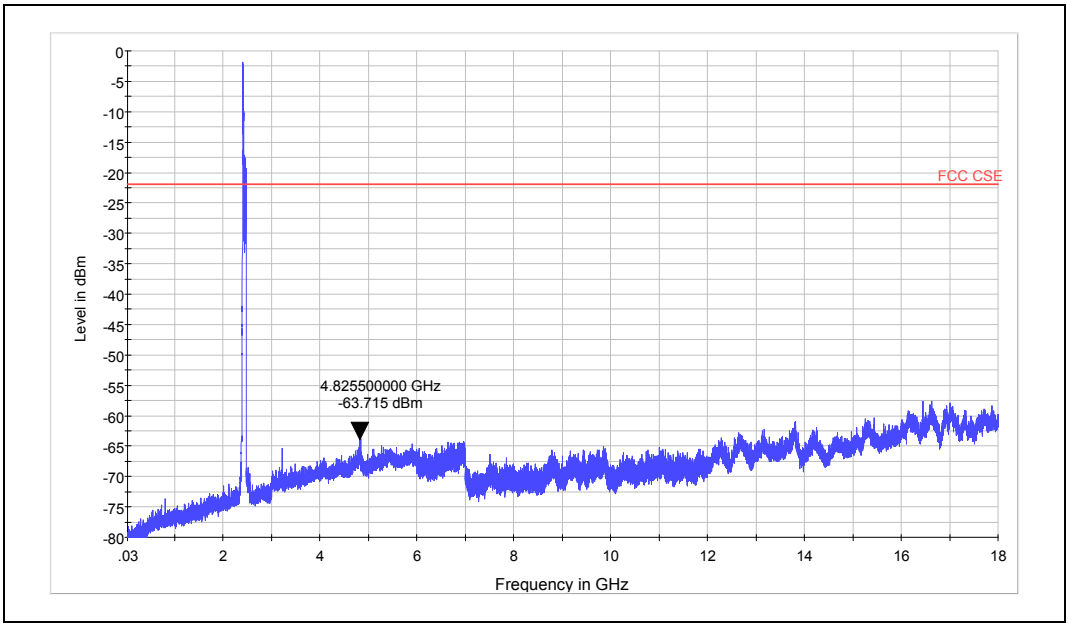
Spurious RF conducted emissions from 30MHz to 18GHz

Harmonic	TX ch.11 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	4923.0	-63.25	-19.834



Spurious RF conducted emissions from 18GHz to 26.5GHz

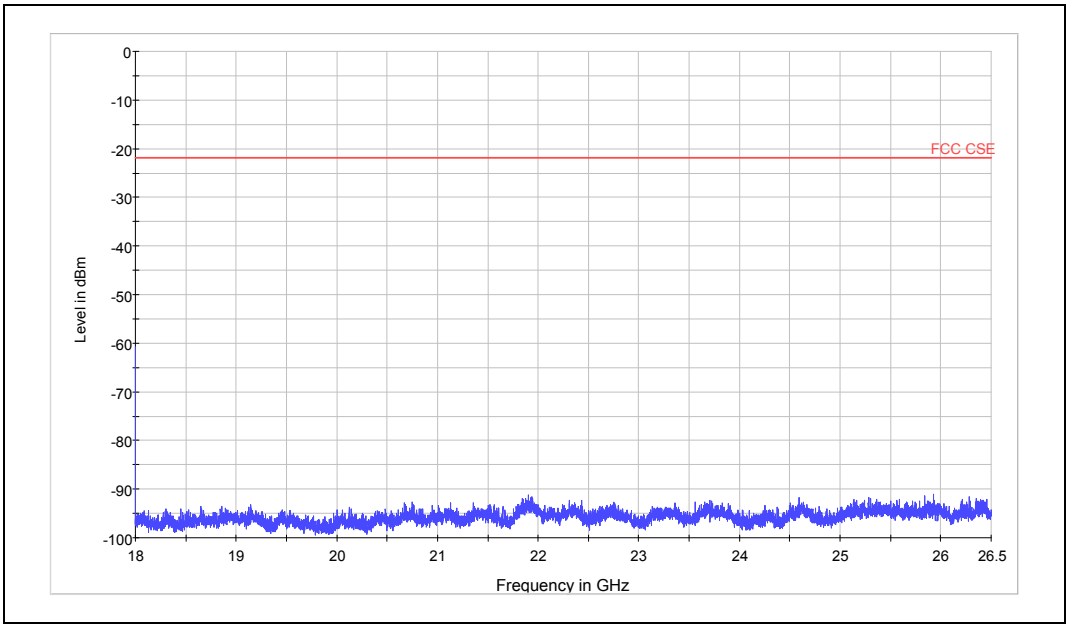
802.11n(HT20) CH1



Note: The signal beyond the limit is carrier

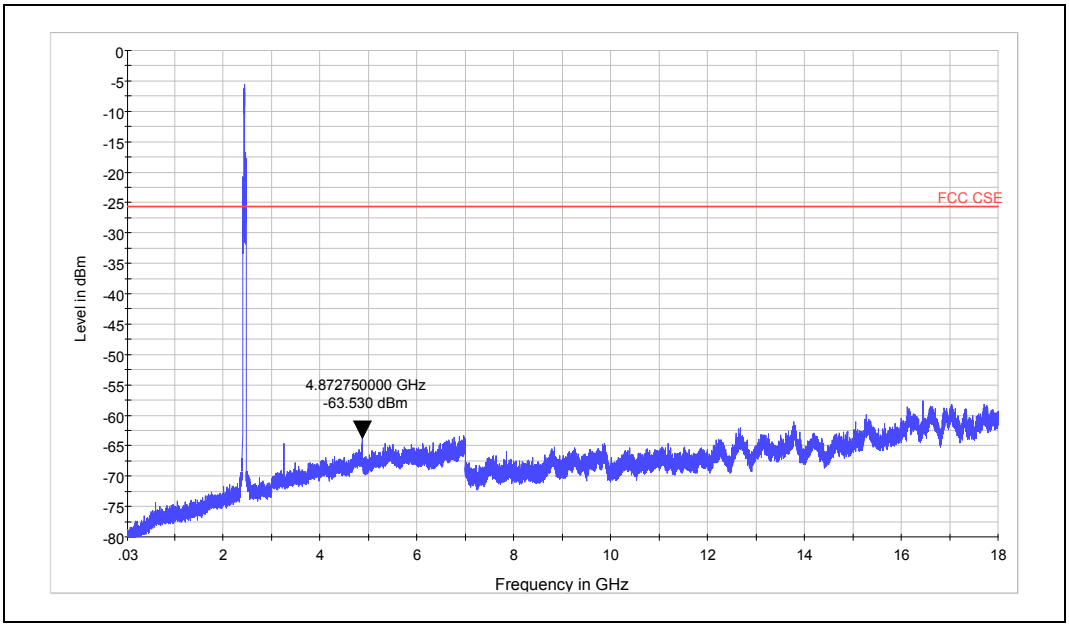
Spurious RF conducted emissions from 30MHz to 18GHz

Harmonic	TX ch.1 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	4825.5	-63.72	-21.882



Spurious RF conducted emissions from 18GHz to 26.5GHz

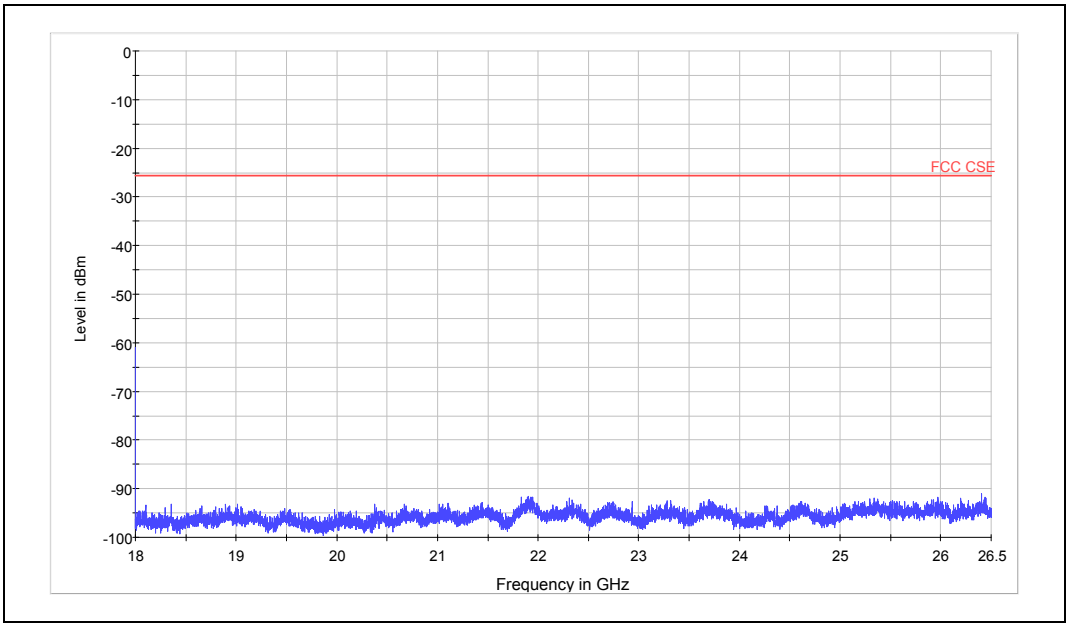
802.11n(HT20) CH6



Note: The signal beyond the limit is carrier

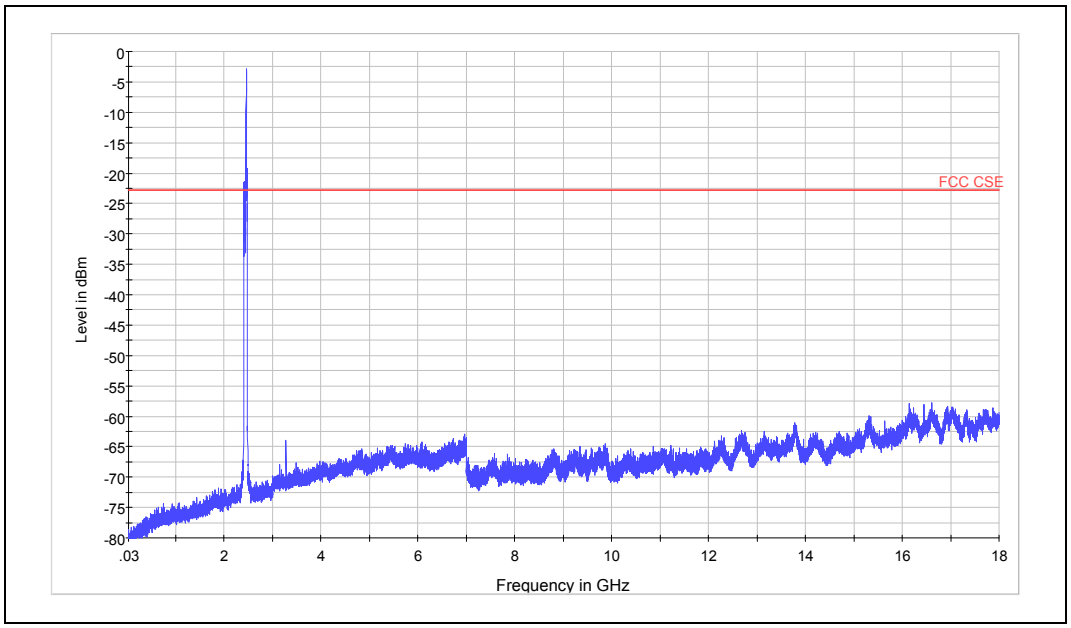
Spurious RF conducted emissions from 30MHz to 18GHz

Harmonic	TX ch.6 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	4872.8	-63.53	-25.654



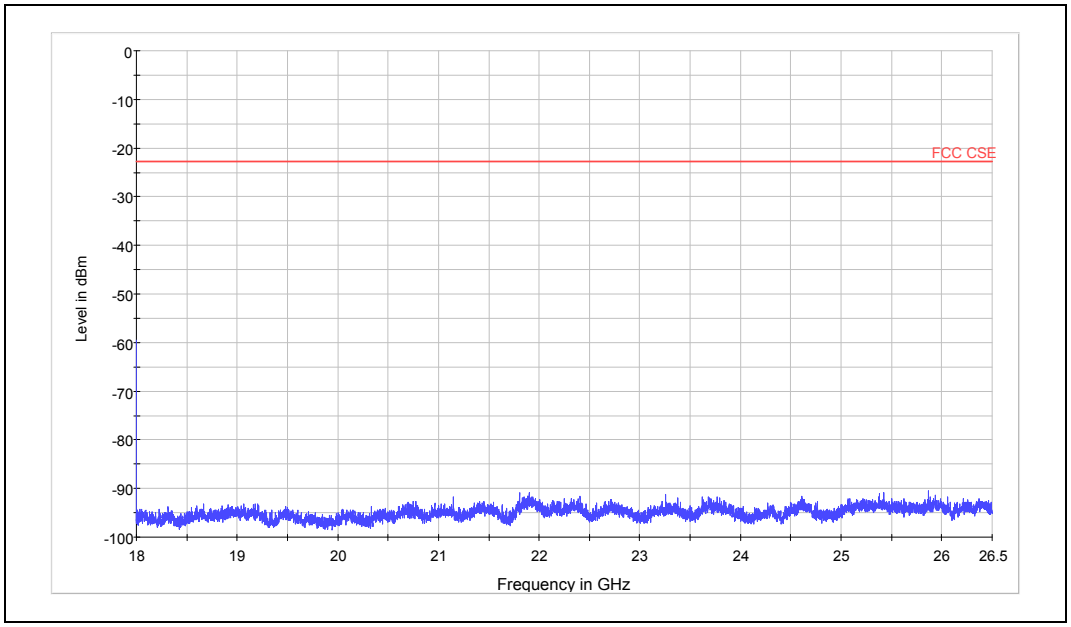
Spurious RF conducted emissions from 18GHz to 26.5GHz

802.11n(HT20) CH11



Note: The signal beyond the limit is carrier

Spurious RF conducted emissions from 30MHz to 18GHz



Spurious RF conducted emissions from 18GHz to 26.5GHz

2.9. Radiates Emission

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The test set-up was made in accordance to the general provisions of ANSI C63.4-2009. The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The radiated emissions measurements were made in a typical installation configuration.
Sweep the whole frequency band range from 9kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

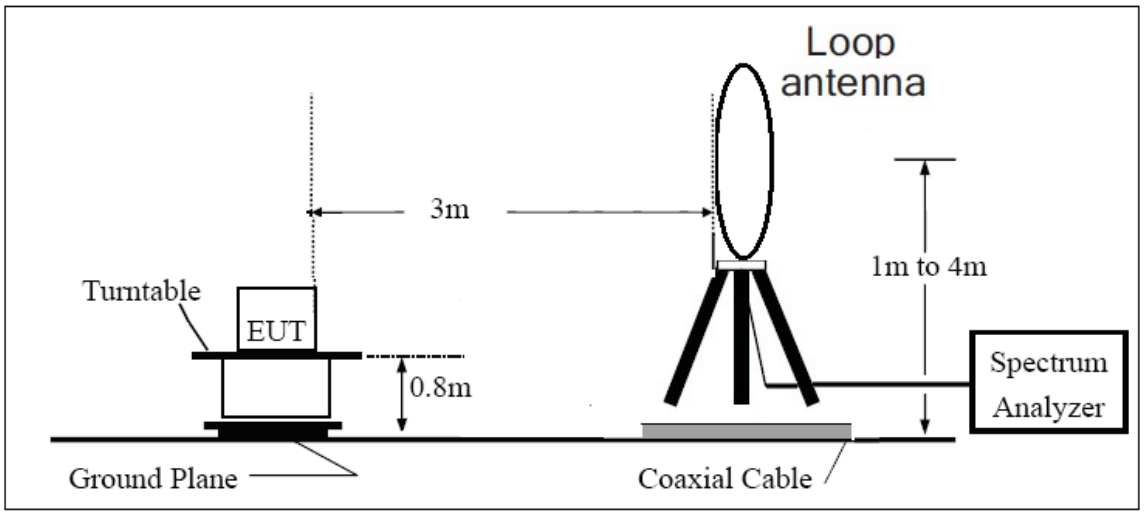
During the test, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing.
Set the spectrum analyzer in the following:
Below 1GHz (detector: Peak and Quasi-Peak)
RBW=100kHz / VBW=300kHz / Sweep=AUTO
Above 1GHz(detector: Peak):
(a) PEAK: RBW=1MHz VBW=3MHz/ Sweep=AUTO
(b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

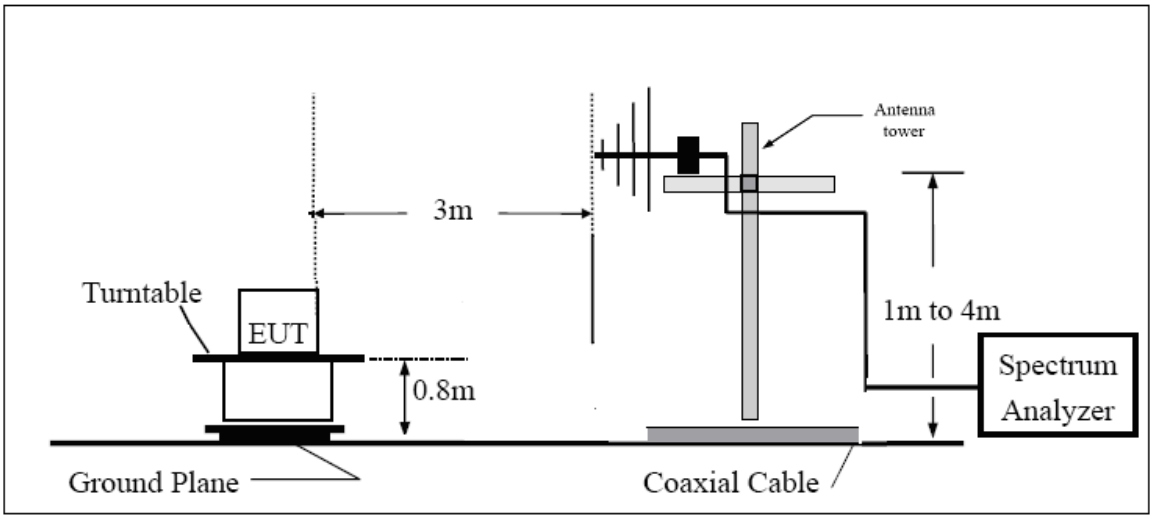
The test is in transmitting mode.

Test setup

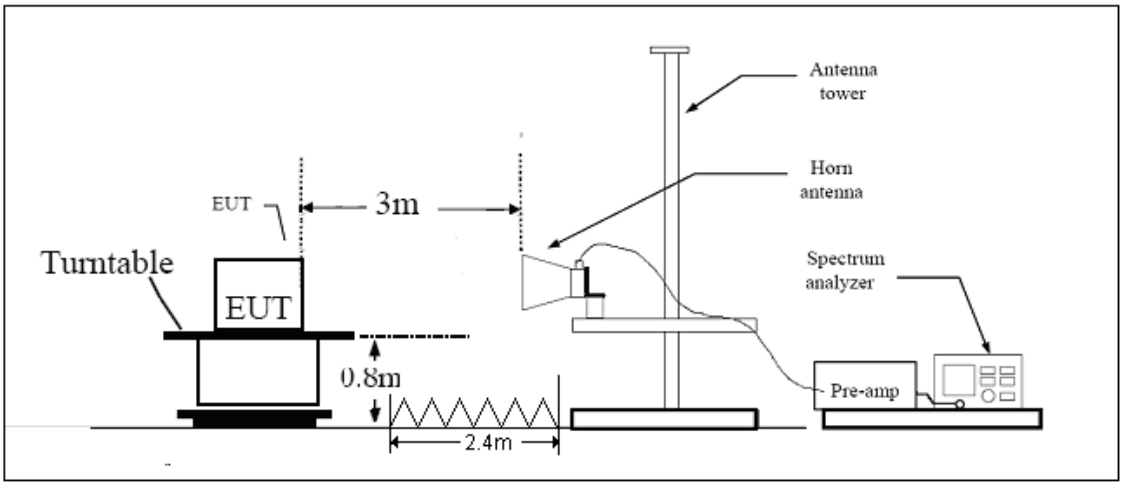
9KHz~~~ 30MHz



30MHz~~~ 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

Limits

Rule Part 15.247(d) specifies that “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 § 15.209(a) (see § 15.205(c)).”

Limit in restricted band

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
0.009–0.490	2400/F(kHz)	/
0.490–1.705	24000/F(kHz)	/
1.705–30.0	30	/
30-88	100	40
88-216	150	43.5
216-960	200	46
Above960	500	54

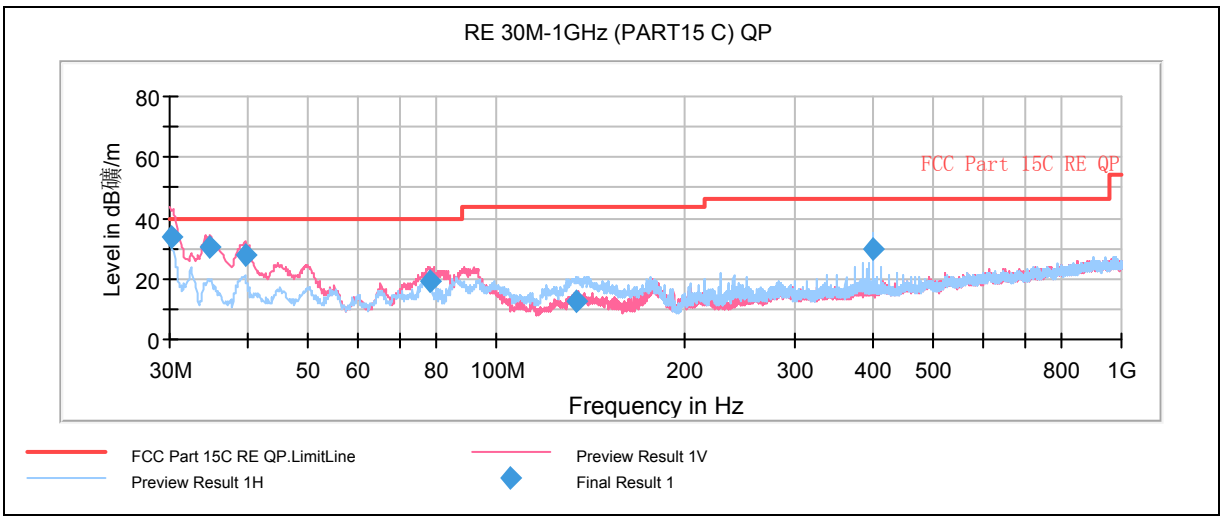
Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96.

Frequency	Uncertainty
9KHz-30MHz	3.55 dB
30MHz-200MHz	4.19 dB
200MHz-1GHz	3.63 dB
Above 1GHz	3.68 dB

Test result

802.11b CH1



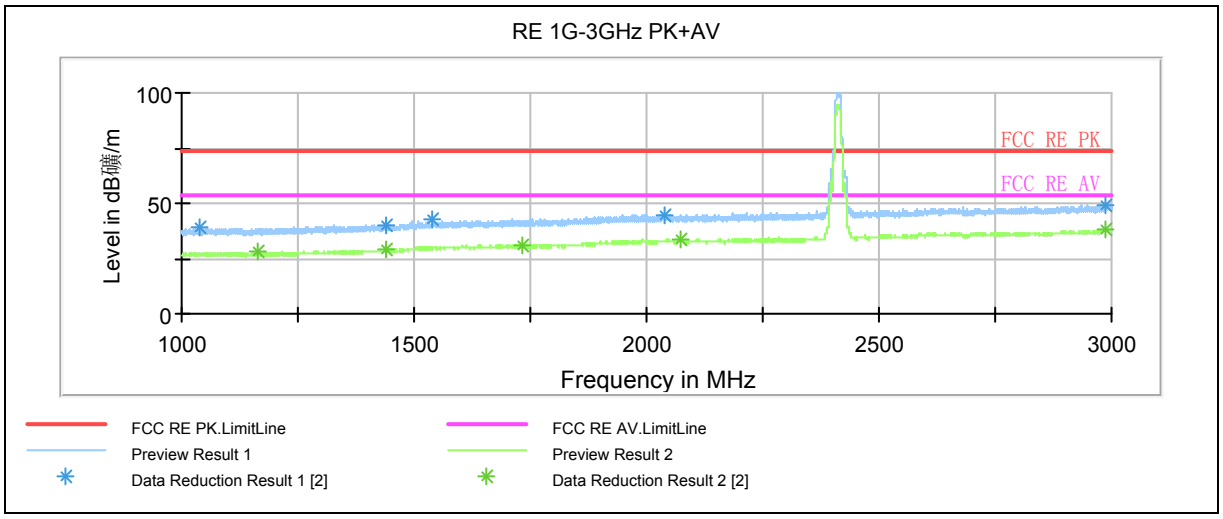
Note: a font (Level in dBuV/m)in the test plot =(level in dBuv/m)
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
30.180000	33.7	125.0	V	93.0	50.8	-17.1	6.3	40.0
34.743750	30.7	100.0	V	137.0	49.8	-19.1	9.3	40.0
39.598750	27.7	100.0	V	5.0	47.0	-19.3	12.3	40.0
78.197500	18.9	100.0	V	16.0	47.1	-28.2	21.1	40.0
134.413750	12.4	221.0	H	286.0	41.3	-28.9	31.1	43.5
399.995000	30.0	220.0	H	55.0	50.2	-20.2	16.0	46.0

Remark: 1. Quasi-Peak = Reading value + Correction factor

2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)

3. Margin = Limit – Quasi-Peak



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

Note: The signal beyond the limit is carrier.

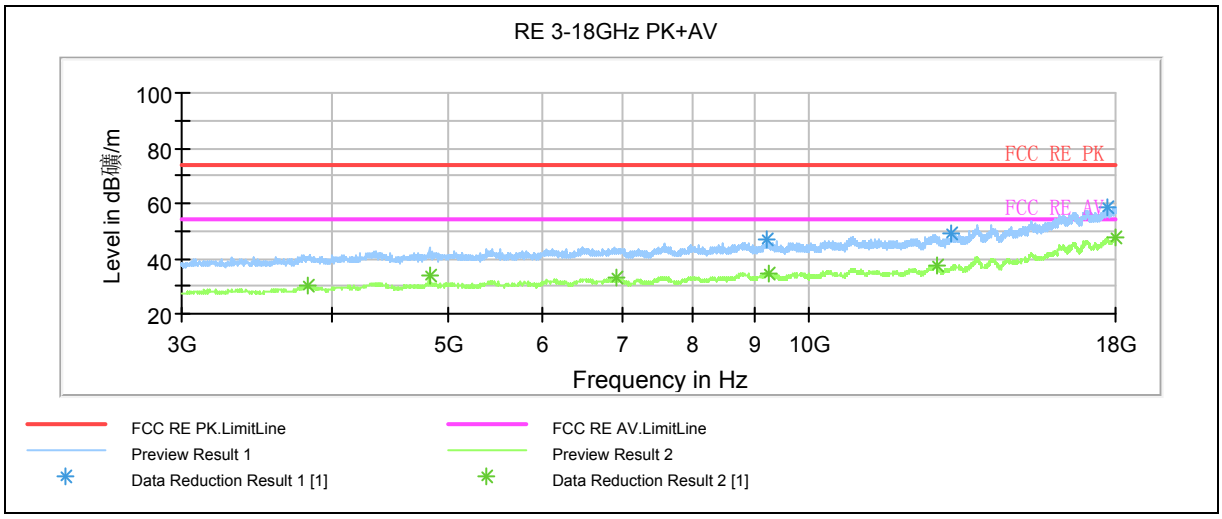
Radiates Emission from 1GHz to 3GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1039.250000	39.1	100.0	V	354.0	49.0	-9.9	34.9	74
1440.750000	40.2	100.0	H	101.0	48.2	-8	33.8	74
1537.000000	42.7	100.0	H	101.0	49.4	-6.7	31.3	74
2037.000000	44.9	100.0	V	79.0	47.9	-3	29.1	74
2987.500000	48.7	100.0	V	144.0	47.4	1.3	25.3	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1163.500000	27.8	100.0	H	34.0	37.4	-9.6	26.2	54
1441.250000	28.7	100.0	V	354.0	36.6	-7.9	25.3	54
1731.750000	30.9	100.0	V	236.0	36.4	-5.5	23.1	54
2071.500000	33.3	100.0	V	272.0	36.3	-3	20.7	54
2985.000000	37.8	100.0	H	48.0	36.5	1.3	16.2	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

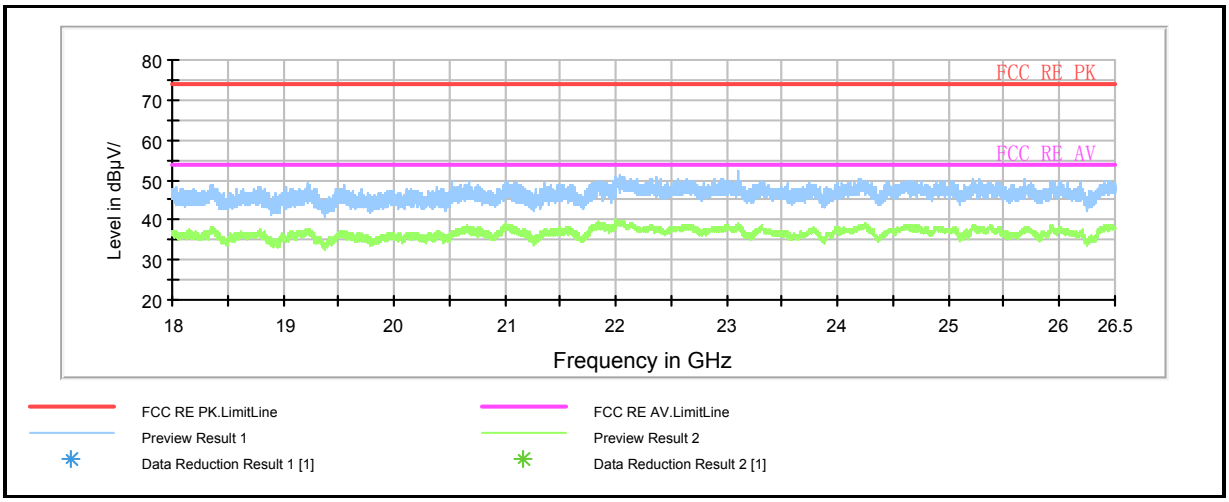
Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
9208.125000	46.9	100.0	H	2.0	37.9	9	27.1	74
13145.625000	49.1	100.0	V	217.0	36.3	12.8	24.9	74
17711.250000	58.5	100.0	V	0.0	35.9	22.6	15.5	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

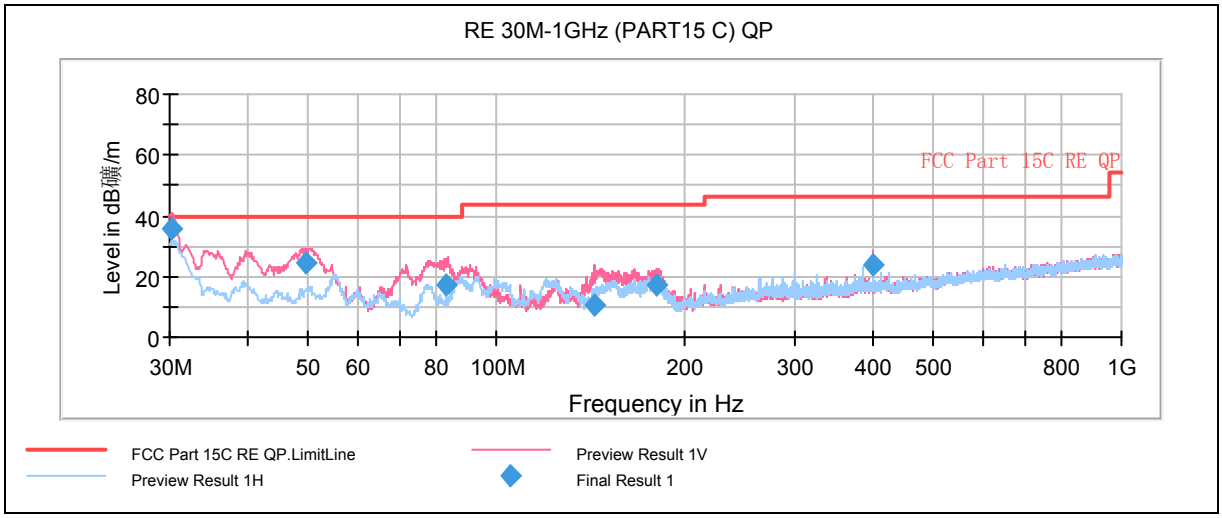
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3823.125000	29.9	100.0	V	208.0	30.0	-0.1	24.1	54
4824.375000	34.2	100.0	H	36.0	32.3	1.9	19.8	54
6905.625000	32.9	100.0	H	169.0	28.3	4.6	21.1	54
9241.875000	34.9	100.0	H	27.0	26.1	8.8	19.1	54
12770.625000	37.2	100.0	V	0.0	24.5	12.7	16.8	54
18000.000000	47.4	100.0	H	19.0	23.9	23.5	6.6	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Radiates Emission from 18GHz to 26.5GHz

802.11b CH6



Note: a font (Level in dBuV/m)in the test plot =(level in dBuv/m)

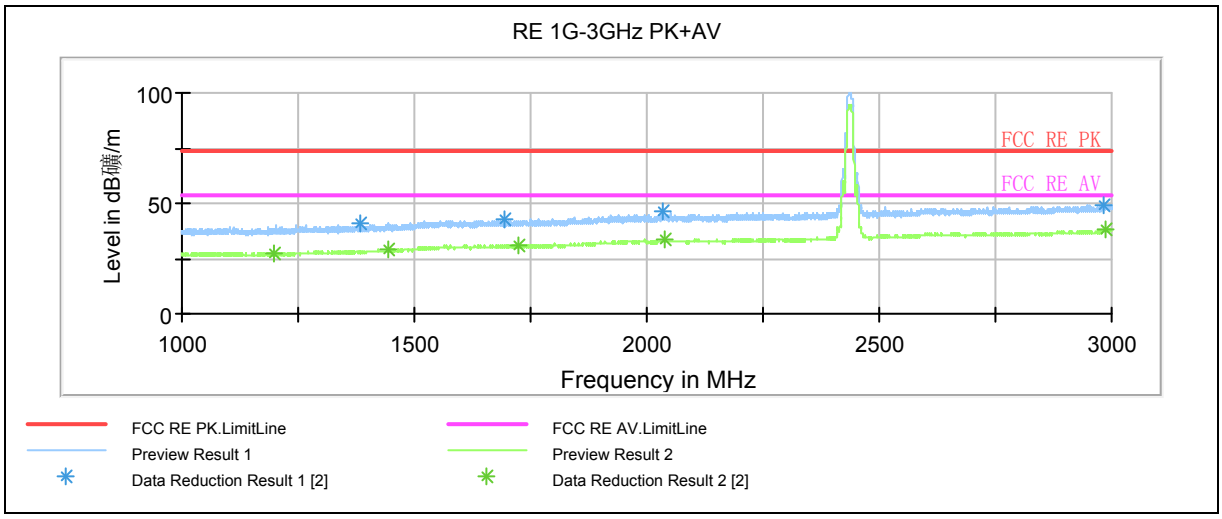
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
30.220000	35.6	120.0	V	0.0	52.7	-17.1	4.4	40.0
49.418750	24.2	100.0	V	154.0	45.8	-21.6	15.8	40.0
82.931250	17.4	100.0	V	78.0	44.8	-27.4	22.6	40.0
143.786250	10.4	175.0	V	341.0	39.6	-29.2	33.1	43.5
179.846250	17.2	100.0	V	282.0	44.6	-27.4	26.3	43.5
399.995000	23.5	121.0	V	138.0	43.7	-20.2	22.5	46.0

Remark: 1. Quasi-Peak = Reading value + Correction factor

2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)

3. Margin = Limit – Quasi-Peak



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

Note: The signal beyond the limit is carrier.

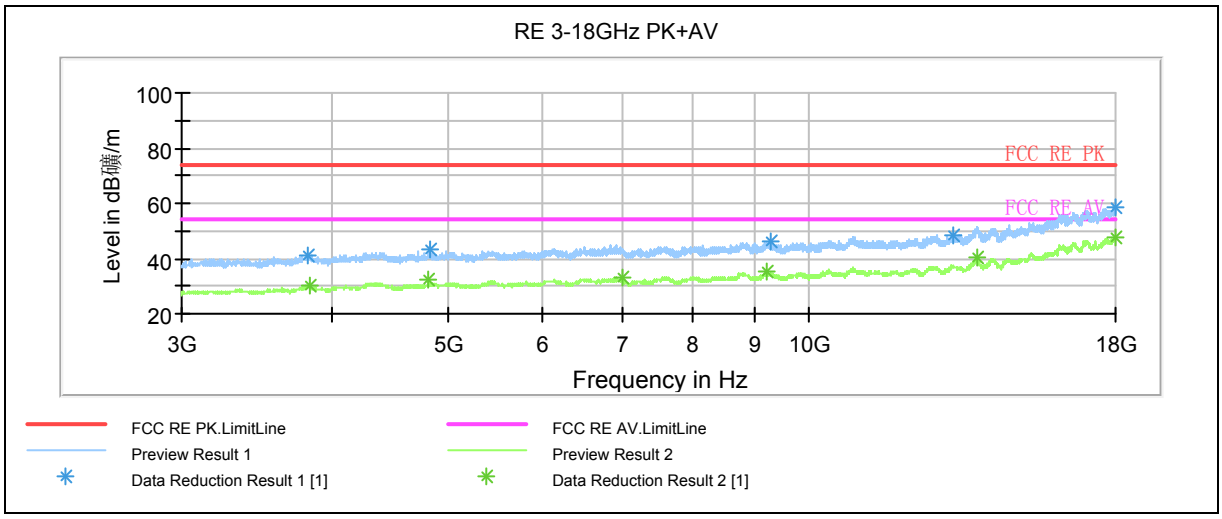
Radiates Emission from 1GHz to 3GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1385.500000	40.5	100.0	H	8.0	48.8	-8.3	33.5	74
1692.000000	42.5	100.0	H	0.0	48.1	-5.6	31.5	74
2036.500000	46.0	100.0	H	23.0	49.0	-3	28.0	74
2981.750000	49.4	100.0	H	0.0	48.1	1.3	24.6	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1198.750000	27.7	100.0	H	90.0	37.4	-9.7	26.3	54
1442.000000	28.7	100.0	V	345.0	36.6	-7.9	25.3	54
1723.250000	30.9	100.0	V	174.0	36.5	-5.6	23.1	54
2039.750000	33.3	100.0	V	316.0	36.3	-3	20.7	54
2988.250000	38.1	100.0	H	202.0	36.7	1.4	15.9	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

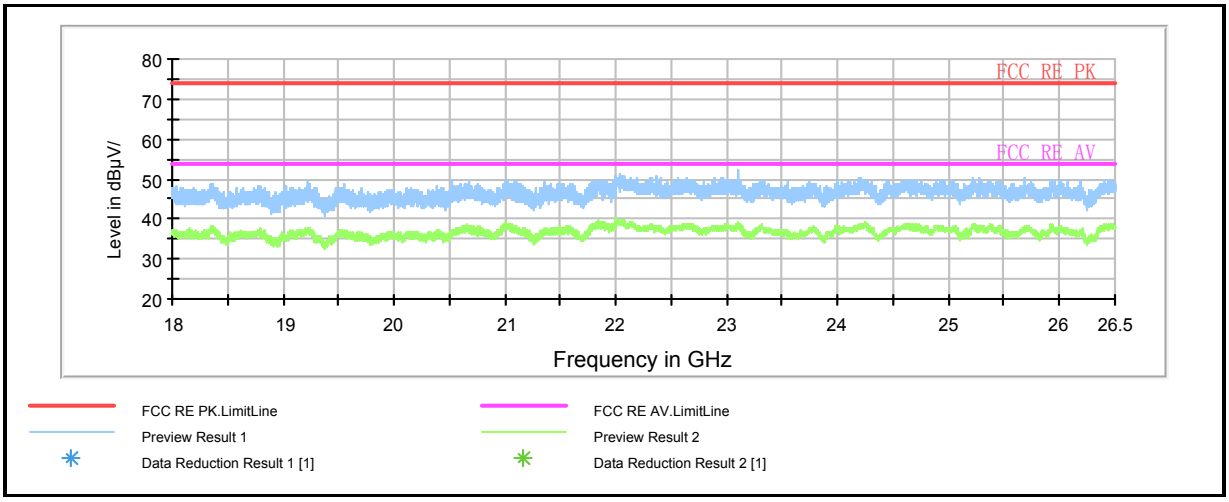
Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3826.875000	41.0	100.0	H	0.0	41.1	-0.1	33.0	74
4824.375000	42.9	100.0	V	29.0	41.0	1.9	31.1	74
9296.250000	46.5	100.0	H	168.0	38.0	8.5	27.5	74
13179.375000	48.5	100.0	V	330.0	35.8	12.7	25.5	74
18000.000000	58.5	100.0	H	45.0	35.0	23.5	15.5	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

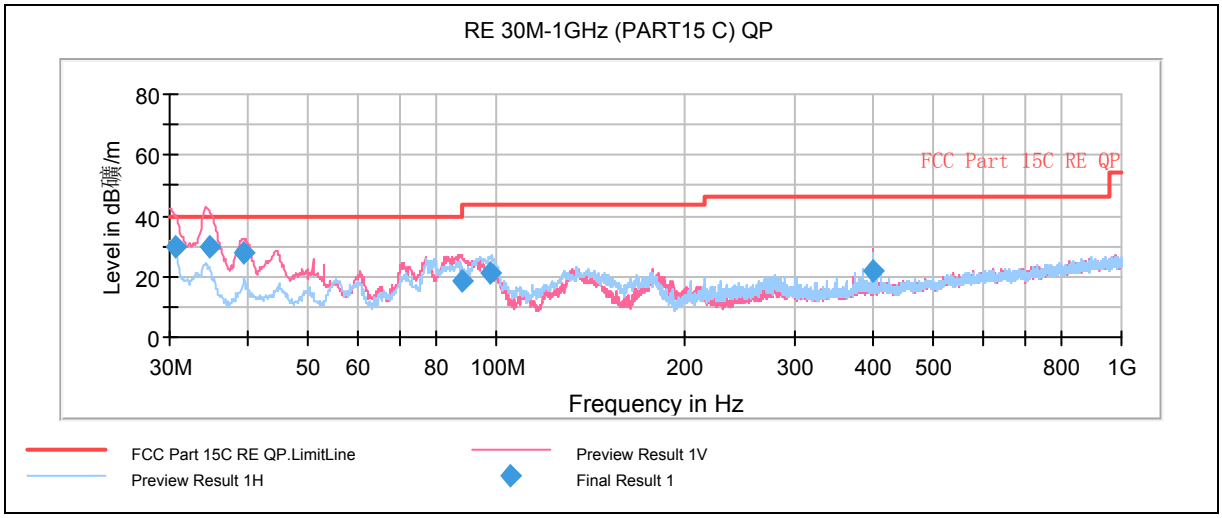
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3830.625000	30.0	100.0	V	242.0	30.1	-0.1	24.0	54
4822.500000	32.7	100.0	H	37.0	30.8	1.9	21.3	54
6993.750000	32.7	100.0	H	160.0	27.7	5	21.3	54
9202.500000	35.0	100.0	V	154.0	26.0	9	19.0	54
13785.000000	40.5	100.0	V	0.0	25.7	14.8	13.5	54
17996.250000	47.6	100.0	V	172.0	24.1	23.5	6.4	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Radiates Emission from 18GHz to 26.5GHz

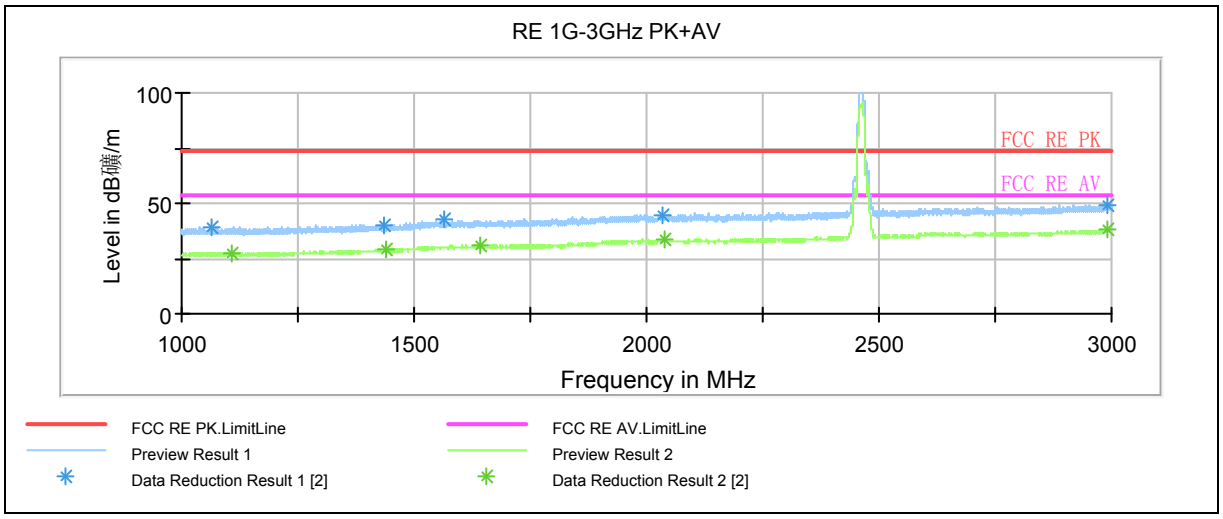
802.11b CH11



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
30.740000	30.1	101.0	V	348.0	47.5	-17.4	9.9	40.0
34.665000	29.5	102.0	V	0.0	48.6	-19.1	10.5	40.0
39.517500	27.7	101.0	V	175.0	47.0	-19.3	12.3	40.0
88.011250	18.5	125.0	V	45.0	44.4	-25.9	25.0	43.5
97.962500	21.1	276.0	H	0.0	45.7	-24.6	22.4	43.5
399.995000	22.0	122.0	V	348.0	42.2	-20.2	24.0	46.0

Remark: 1. Quasi-Peak = Reading value + Correction factor
2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
3. Margin = Limit – Quasi-Peak



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

Note: The signal beyond the limit is carrier.

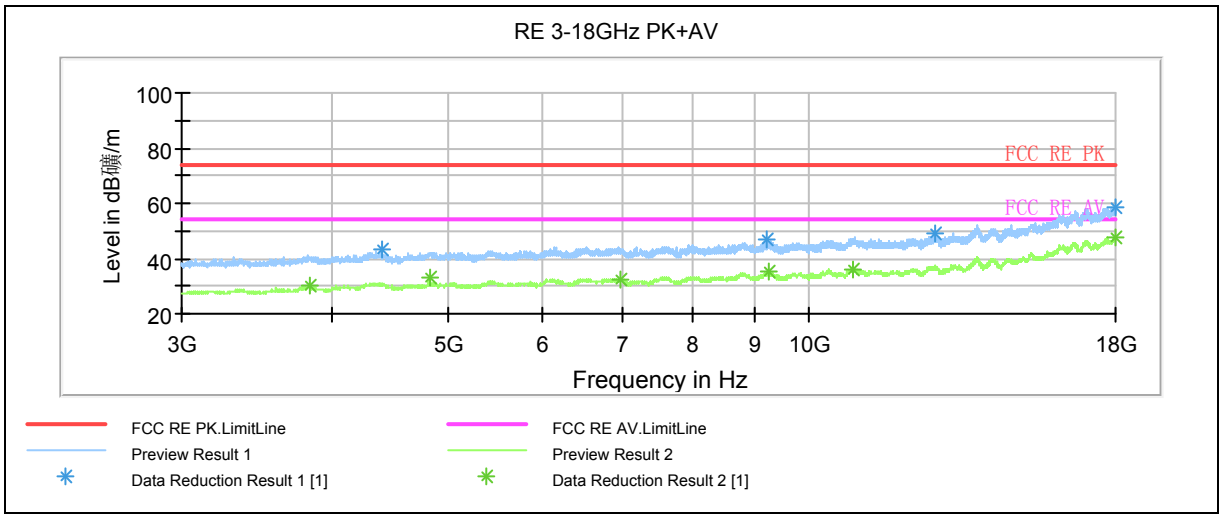
Radiates Emission from 1GHz to 3GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1065.250000	39.1	100.0	H	46.0	48.9	-9.8	34.9	74
1434.250000	40.4	100.0	H	0.0	48.4	-8	33.6	74
1565.000000	42.6	100.0	H	64.0	49.5	-6.9	31.4	74
2032.750000	44.9	100.0	V	244.0	48.0	-3.1	29.1	74
2989.250000	49.3	100.0	H	64.0	47.9	1.4	24.7	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1108.250000	27.5	100.0	H	117.0	37.4	-9.9	26.5	54
1441.750000	28.8	100.0	V	167.0	36.7	-7.9	25.2	54
1642.750000	30.9	100.0	H	95.0	36.1	-5.2	23.1	54
2039.750000	33.4	100.0	V	0.0	36.4	-3	20.6	54
2990.500000	38.1	100.0	H	9.0	36.7	1.4	15.9	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

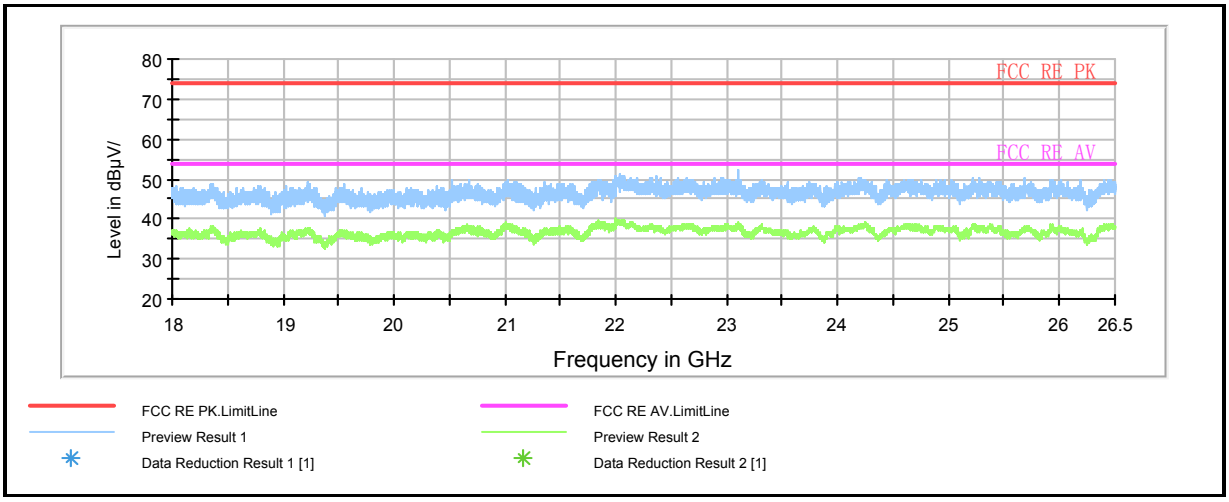
Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
4404.375000	43.1	100.0	V	0.0	41.9	1.2	30.9	74
9202.500000	46.7	100.0	V	215.0	37.7	9	27.3	74
12744.375000	49.2	100.0	V	260.0	36.6	12.6	24.8	74
17983.125000	58.8	100.0	H	138.0	35.4	23.4	15.2	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

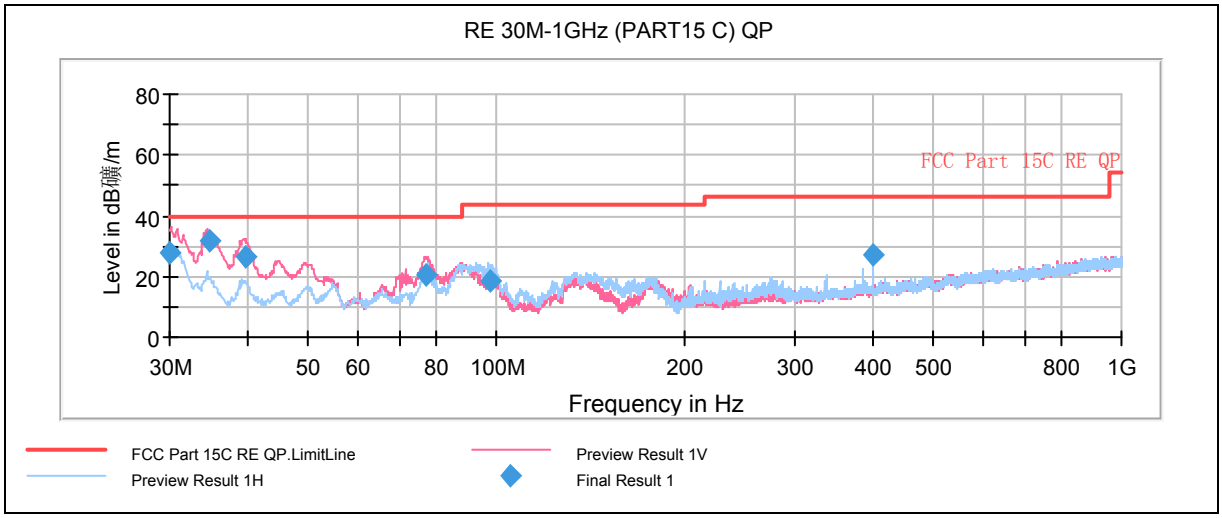
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3830.625000	30.1	100.0	H	14.0	30.2	-0.1	23.9	54
4824.375000	32.9	100.0	H	0.0	31.0	1.9	21.1	54
6975.000000	32.7	100.0	V	0.0	27.8	4.9	21.3	54
9241.875000	35.0	100.0	H	200.0	26.2	8.8	19.0	54
10891.875000	36.3	100.0	H	14.0	24.9	11.4	17.7	54
17998.125000	47.4	100.0	H	40.0	23.9	23.5	6.6	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Radiates Emission from 18GHz to 26.5GHz

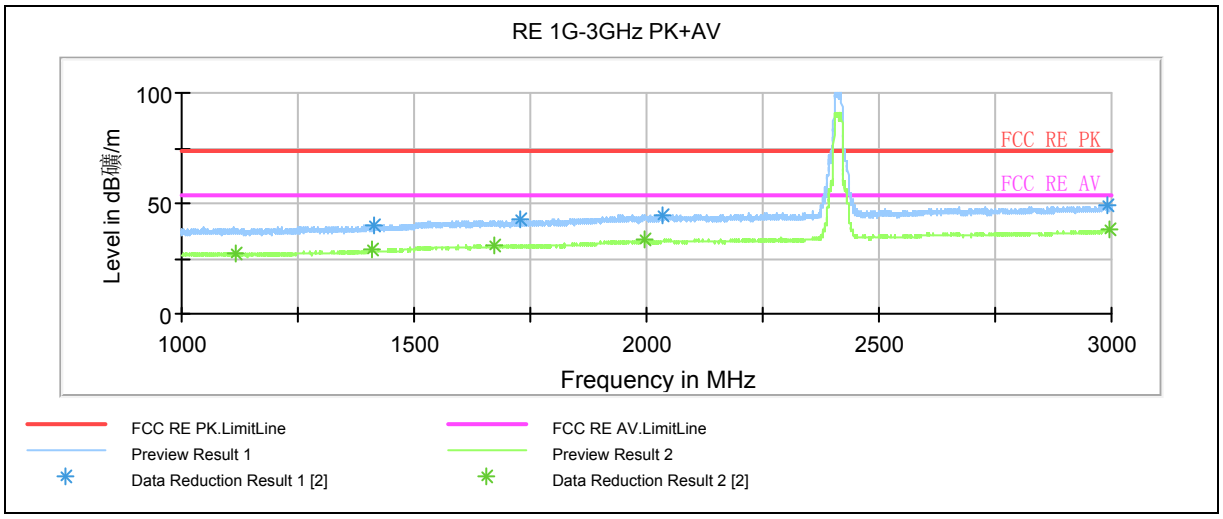
802.11g CH1



Note: a font (Level in dBuV/m)in the test plot =(level in dBuv/m)
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
30.100000	27.9	175.0	V	71.0	45.0	-17.1	12.1	40.0
34.826250	31.4	221.0	V	37.0	50.5	-19.1	8.6	40.0
39.636250	26.8	100.0	V	194.0	46.1	-19.3	13.2	40.0
77.150000	20.7	100.0	V	33.0	48.8	-28.1	19.3	40.0
97.671250	18.7	225.0	H	0.0	43.4	-24.7	24.8	43.5
399.995000	27.2	100.0	H	73.0	47.4	-20.2	18.8	46.0

Remark: 1. Quasi-Peak = Reading value + Correction factor
2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
3. Margin = Limit – Quasi-Peak



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

Note: The signal beyond the limit is carrier.

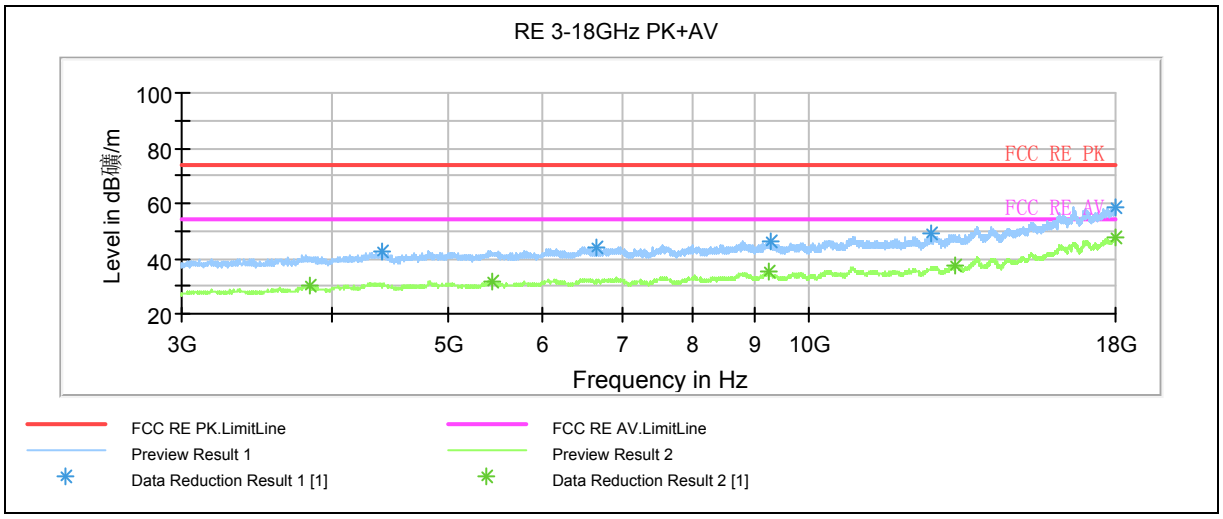
Radiates Emission from 1GHz to 3GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1414.500000	40.2	100.0	H	22.0	48.5	-8.3	33.8	74
1728.750000	42.4	100.0	H	58.0	48.1	-5.7	31.6	74
2035.250000	44.9	100.0	H	164.0	47.9	-3	29.1	74
2992.000000	49.2	100.0	H	171.0	47.8	1.4	24.8	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1117.000000	27.3	100.0	V	320.0	37.1	-9.8	26.7	54
1408.500000	28.8	100.0	V	342.0	37.2	-8.4	25.2	54
1670.750000	30.9	100.0	V	342.0	36.5	-5.6	23.1	54
1994.000000	33.6	100.0	H	342.0	36.5	-2.9	20.4	54
2997.000000	38.1	100.0	V	312.0	36.7	1.4	15.9	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

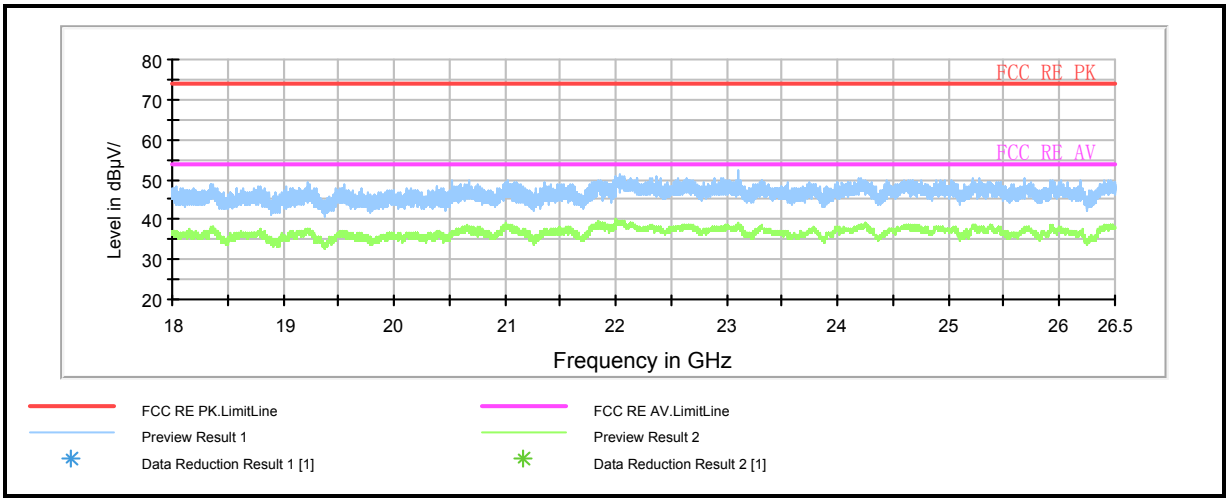
Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
4402.500000	42.6	100.0	H	104.0	41.4	1.2	31.4	74
6660.000000	43.8	100.0	H	8.0	39.4	4.4	30.2	74
9273.750000	46.2	100.0	V	322.0	37.6	8.6	27.8	74
12645.000000	49.0	100.0	H	51.0	37.6	11.4	25.0	74
17971.875000	58.6	100.0	V	0.0	35.2	23.4	15.4	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

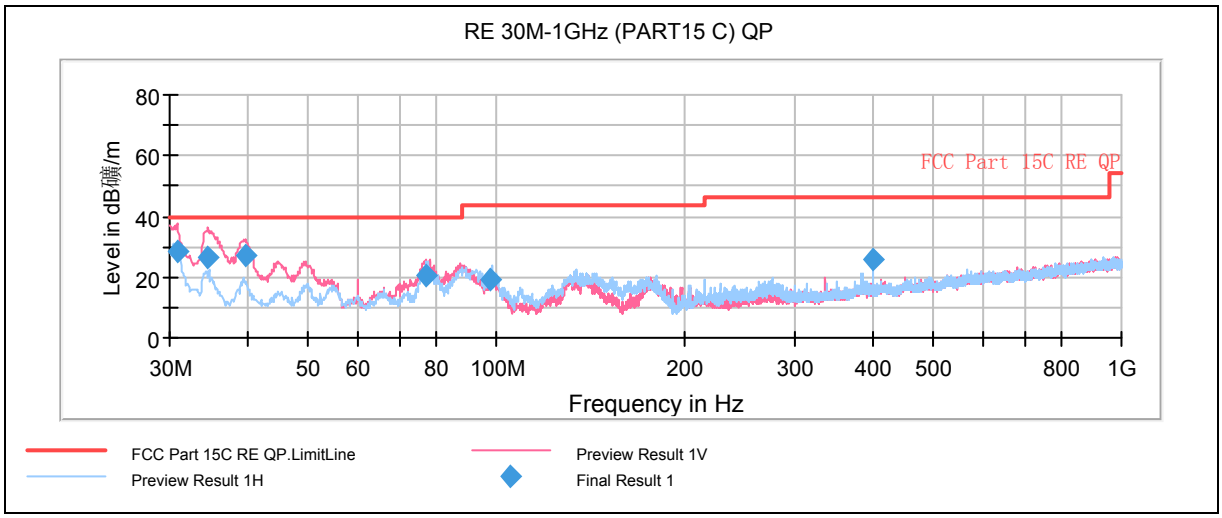
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3832.500000	30.0	100.0	V	357.0	30.1	-0.1	24.0	54
5452.500000	31.6	100.0	H	173.0	28.8	2.8	22.4	54
9249.375000	35.1	100.0	H	17.0	26.4	8.7	18.9	54
13248.750000	37.4	100.0	H	0.0	24.7	12.7	16.6	54
17983.125000	47.4	100.0	V	0.0	24.0	23.4	6.6	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Radiates Emission from 18GHz to 26.5GHz

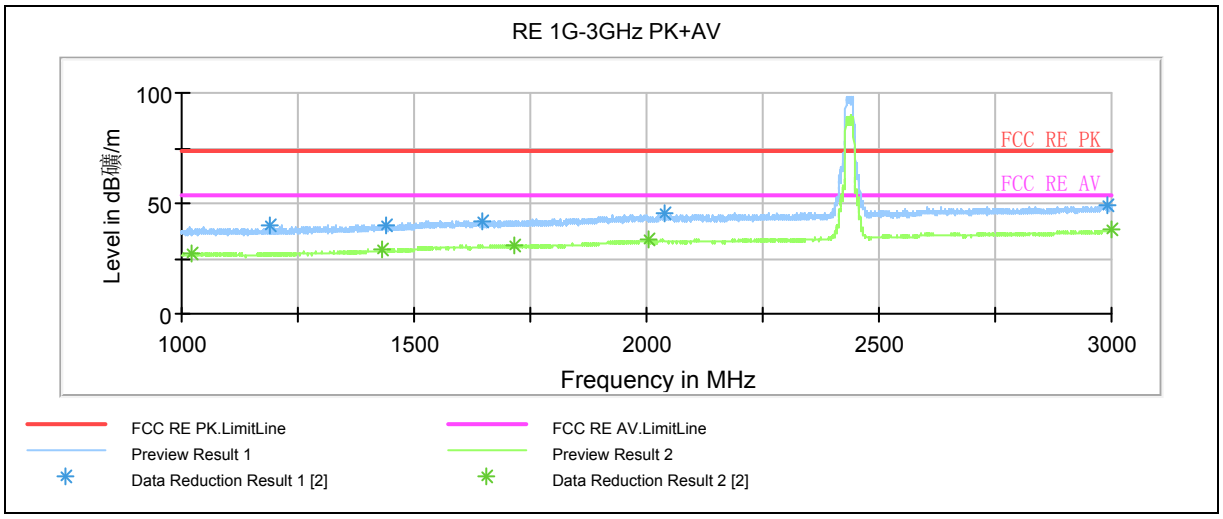
802.11g CH6



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
30.908750	28.7	126.0	V	6.0	46.1	-17.4	11.3	40.0
34.547500	26.3	222.0	V	36.0	45.3	-19.0	13.7	40.0
39.600000	26.9	100.0	V	256.0	46.2	-19.3	13.1	40.0
77.263750	20.7	102.0	V	46.0	48.8	-28.1	19.3	40.0
98.043750	19.0	277.0	H	0.0	43.6	-24.6	24.5	43.5
399.995000	25.9	101.0	H	169.0	46.1	-20.2	20.1	46.0

Remark: 1. Quasi-Peak = Reading value + Correction factor
2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
3. Margin = Limit – Quasi-Peak



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

Note: The signal beyond the limit is carrier.

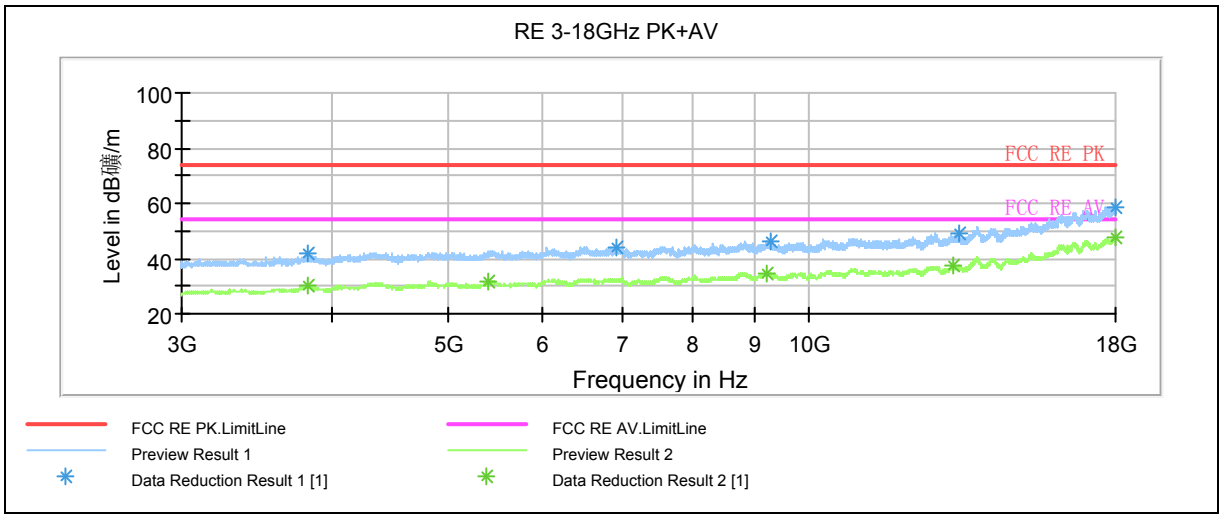
Radiates Emission from 1GHz to 3GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1190.750000	39.8	100.0	H	226.0	49.5	-9.7	34.2	74
1438.250000	40.1	100.0	H	91.0	48.1	-8	33.9	74
1645.250000	42.1	100.0	V	80.0	47.4	-5.3	31.9	74
2038.750000	45.1	100.0	V	290.0	48.1	-3	28.9	74
2991.250000	49.5	100.0	H	91.0	48.1	1.4	24.5	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1023.000000	27.4	100.0	V	0.0	37.4	-10	26.6	54
1430.250000	28.7	100.0	H	128.0	36.8	-8.1	25.3	54
1716.500000	30.9	100.0	H	242.0	36.4	-5.5	23.1	54
2002.500000	33.3	100.0	V	0.0	36.4	-3.1	20.7	54
2998.750000	37.9	100.0	V	0.0	36.5	1.4	16.1	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

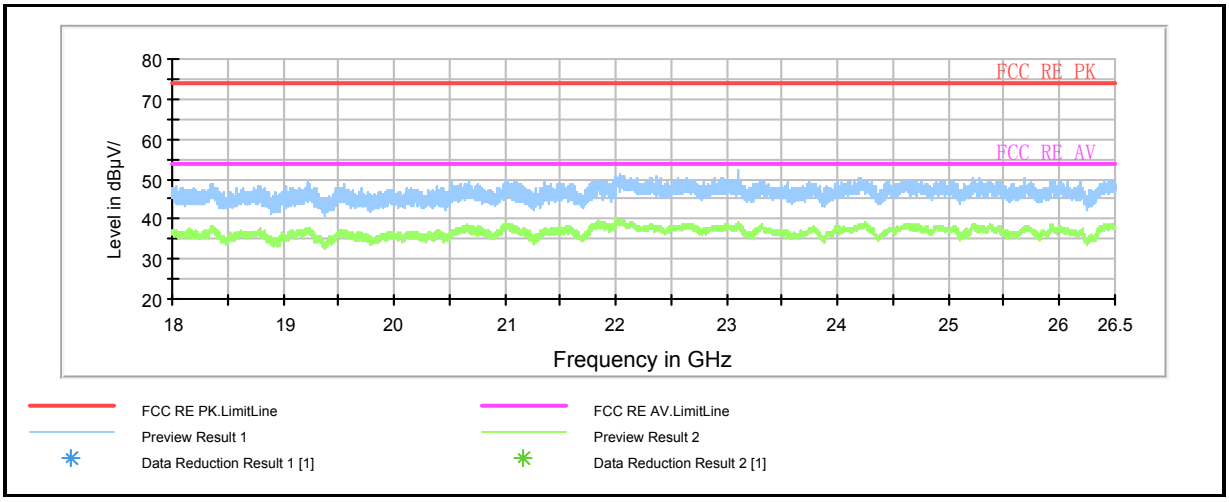
Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3825.000000	41.7	100.0	H	0.0	41.8	-0.1	32.3	74
6901.875000	44.2	100.0	H	255.0	39.6	4.6	29.8	74
9294.375000	46.4	100.0	H	211.0	37.9	8.5	27.6	74
13344.375000	48.7	100.0	V	0.0	36.2	12.5	25.3	74
17968.125000	58.9	100.0	V	0.0	35.5	23.4	15.1	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

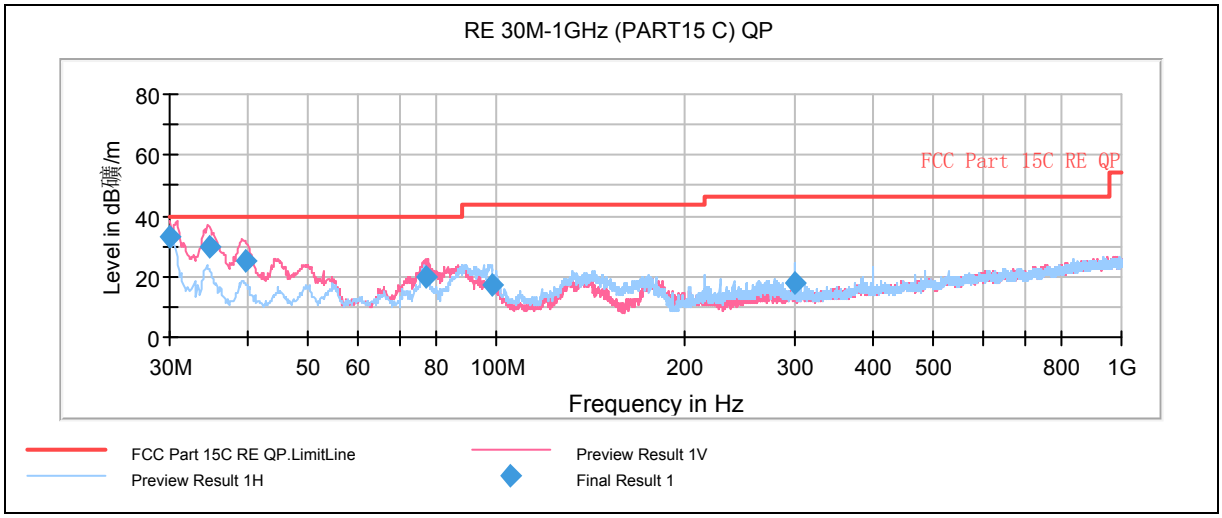
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3817.500000	30.0	100.0	H	228.0	30.2	-0.2	24.0	54
5409.375000	31.7	100.0	V	221.0	29.1	2.6	22.3	54
9230.625000	34.9	100.0	H	113.0	26.1	8.8	19.1	54
13192.500000	37.3	100.0	H	202.0	24.6	12.7	16.7	54
17998.125000	47.3	100.0	V	0.0	23.8	23.5	6.7	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Radiates Emission from 18GHz to 26.5GHz

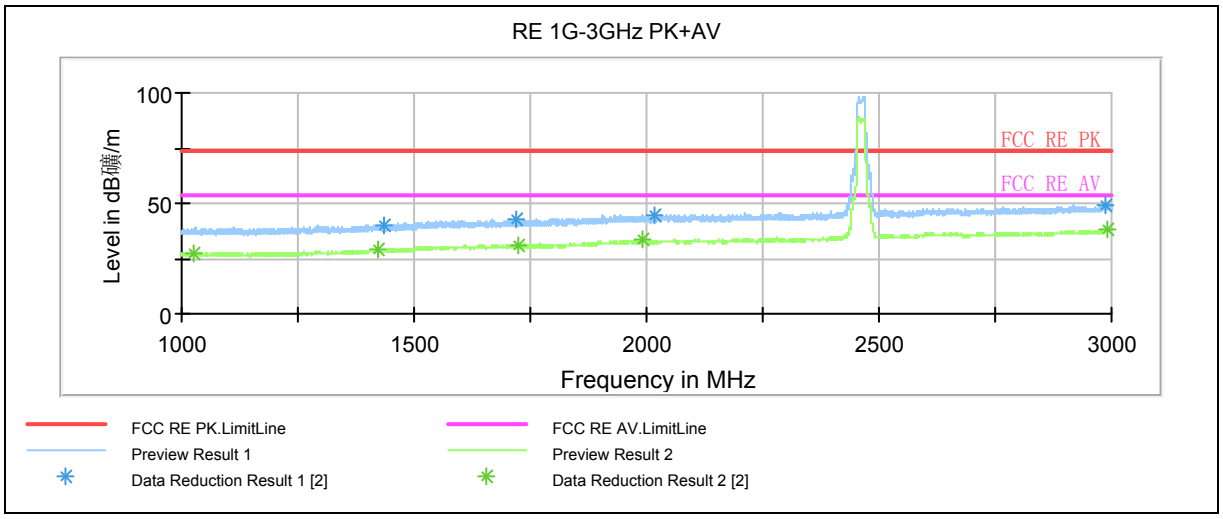
802.11g CH11



Note: a font (Level in dBuV/m)in the test plot =(level in dBuv/m)
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
30.100000	33.1	101.0	V	0.0	50.2	-17.1	6.9	40.0
34.786250	29.6	101.0	V	134.0	48.7	-19.1	10.4	40.0
39.675000	25.2	101.0	V	193.0	44.5	-19.3	14.8	40.0
77.343750	20.0	101.0	V	46.0	48.1	-28.1	20.0	40.0
98.162500	17.5	400.0	H	0.0	42.1	-24.6	26.0	43.5
300.003750	17.7	122.0	H	180.0	40.7	-23.0	28.3	46.0

Remark: 1. Quasi-Peak = Reading value + Correction factor
2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
3. Margin = Limit – Quasi-Peak



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

Note: The signal beyond the limit is carrier.

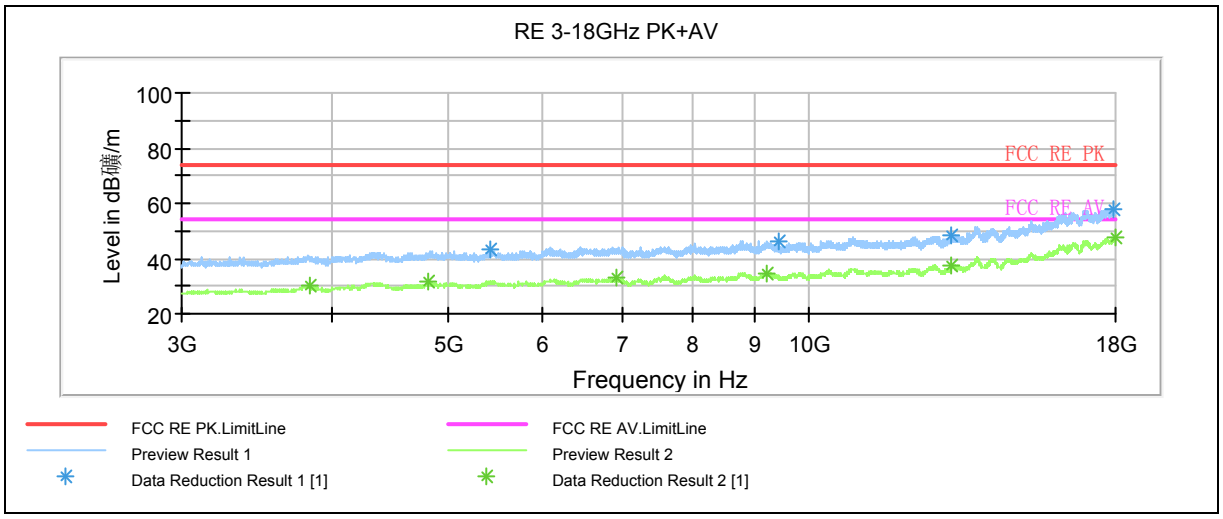
Radiates Emission from 1GHz to 3GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1436.500000	40.4	100.0	H	20.0	48.4	-8	33.6	74
1721.500000	42.4	100.0	V	0.0	48.0	-5.6	31.6	74
2018.000000	44.8	100.0	V	233.0	48.1	-3.3	29.2	74
2985.250000	49.3	100.0	H	221.0	48.0	1.3	24.7	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1023.750000	27.4	100.0	H	56.0	37.4	-10	26.6	54
1422.750000	28.9	100.0	H	86.0	37.0	-8.1	25.1	54
1723.500000	31.1	100.0	V	262.0	36.7	-5.6	22.9	54
1991.250000	33.3	100.0	V	255.0	36.3	-3	20.7	54
2991.500000	37.9	100.0	H	94.0	36.5	1.4	16.1	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

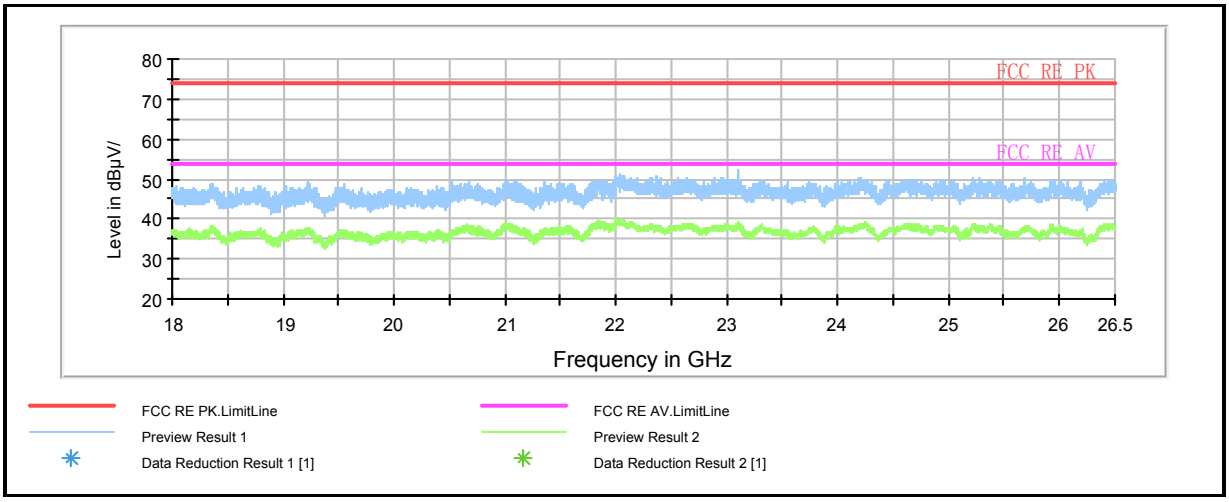
Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
5426.250000	43.2	100.0	H	71.0	40.5	2.7	30.8	74
9440.625000	46.4	100.0	H	35.0	37.5	8.9	27.6	74
13143.750000	48.6	100.0	V	352.0	35.8	12.8	25.4	74
17953.125000	58.2	100.0	V	204.0	34.8	23.4	15.8	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

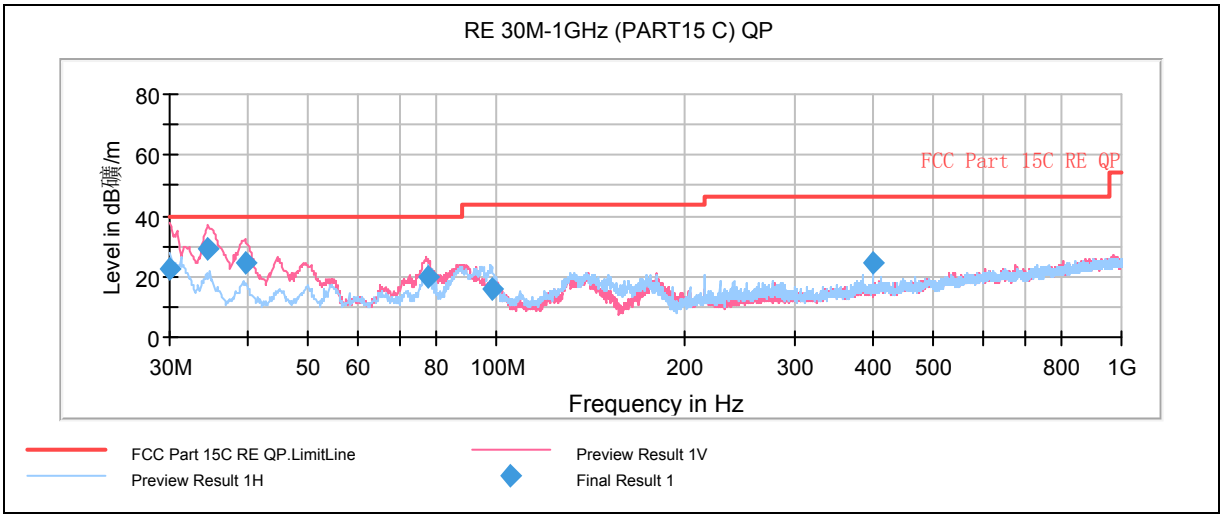
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3840.000000	29.9	100.0	H	0.0	30.1	-0.2	24.1	54
4822.500000	31.8	100.0	V	97.0	29.9	1.9	22.2	54
6918.750000	32.9	100.0	H	116.0	28.2	4.7	21.1	54
9223.125000	34.9	100.0	V	134.0	26.0	8.9	19.1	54
13134.375000	37.4	100.0	V	291.0	24.6	12.8	16.6	54
17998.125000	47.6	100.0	V	124.0	24.1	23.5	6.4	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Radiates Emission from 18GHz to 26.5GHz

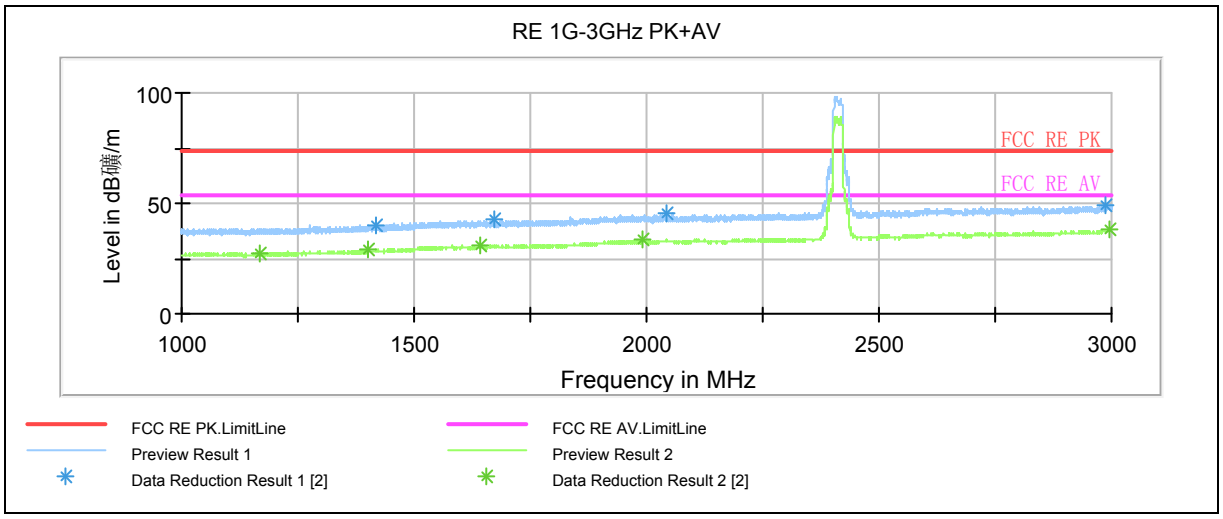
802.11n(HT20) CH1



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
30.080000	22.8	100.0	V	351.0	39.9	-17.1	17.2	40.0
34.627500	29.1	175.0	V	351.0	48.1	-19.0	10.9	40.0
39.718750	24.4	100.0	V	238.0	43.7	-19.3	15.6	40.0
77.626250	19.9	100.0	V	0.0	48.0	-28.1	20.1	40.0
98.521250	16.1	225.0	H	6.0	40.7	-24.6	27.4	43.5
399.995000	24.8	100.0	H	336.0	45.0	-20.2	21.2	46.0

Remark: 1. Quasi-Peak = Reading value + Correction factor
2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
3. Margin = Limit – Quasi-Peak



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

Note: The signal beyond the limit is carrier.

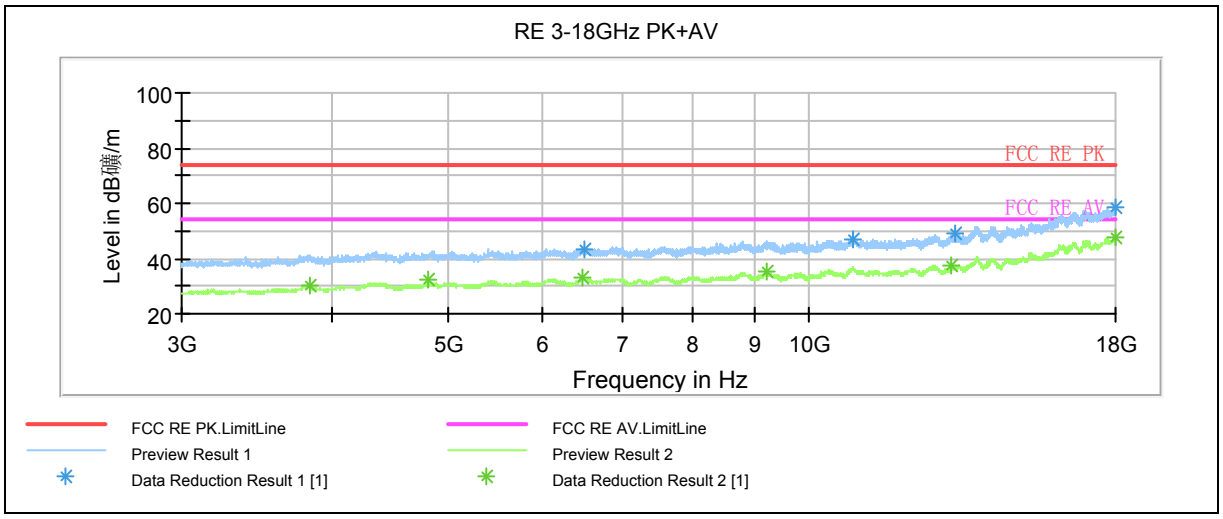
Radiates Emission from 1GHz to 3GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1417.750000	40.0	100.0	V	82.0	48.2	-8.2	34.0	74
1674.500000	42.5	100.0	V	158.0	48.1	-5.6	31.5	74
2043.250000	45.4	100.0	V	247.0	48.4	-3	28.6	74
2989.000000	49.3	100.0	H	222.0	47.9	1.4	24.7	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1168.750000	27.3	100.0	H	17.0	36.8	-9.5	26.7	54
1399.000000	28.9	100.0	V	263.0	37.3	-8.4	25.1	54
1644.250000	30.8	100.0	H	143.0	36.1	-5.3	23.2	54
1990.750000	33.4	100.0	H	0.0	36.4	-3	20.6	54
2994.250000	37.8	100.0	V	120.0	36.4	1.4	16.2	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

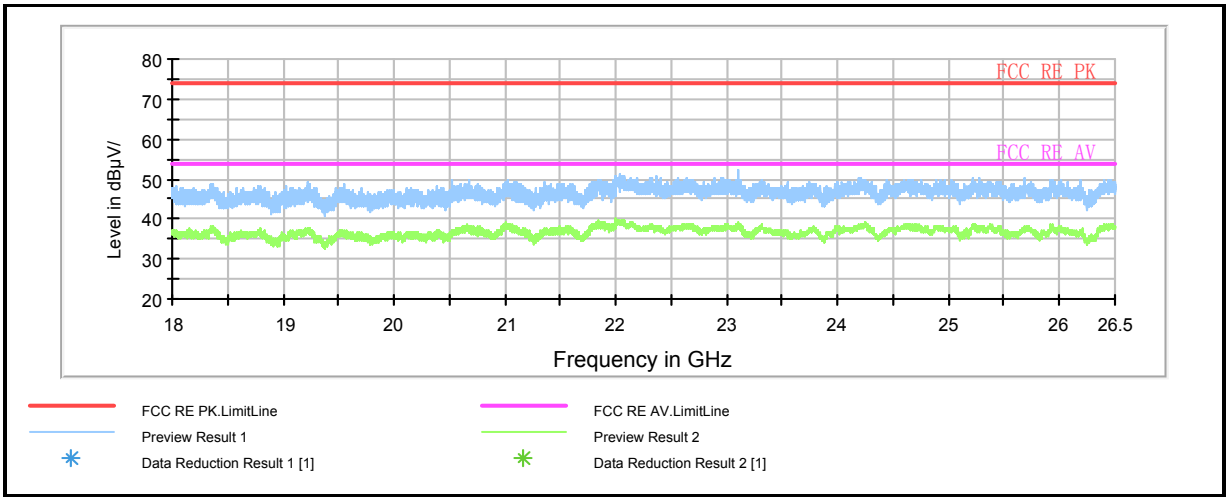
Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
13252.500000	49.0	100.0	V	0.0	36.3	12.7	25.0	74
17988.750000	58.9	100.0	H	115.0	35.4	23.5	15.1	74
6491.250000	43.2	100.0	V	133.0	38.5	4.7	30.8	74
10869.375000	47.2	100.0	V	276.0	35.7	11.5	26.8	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

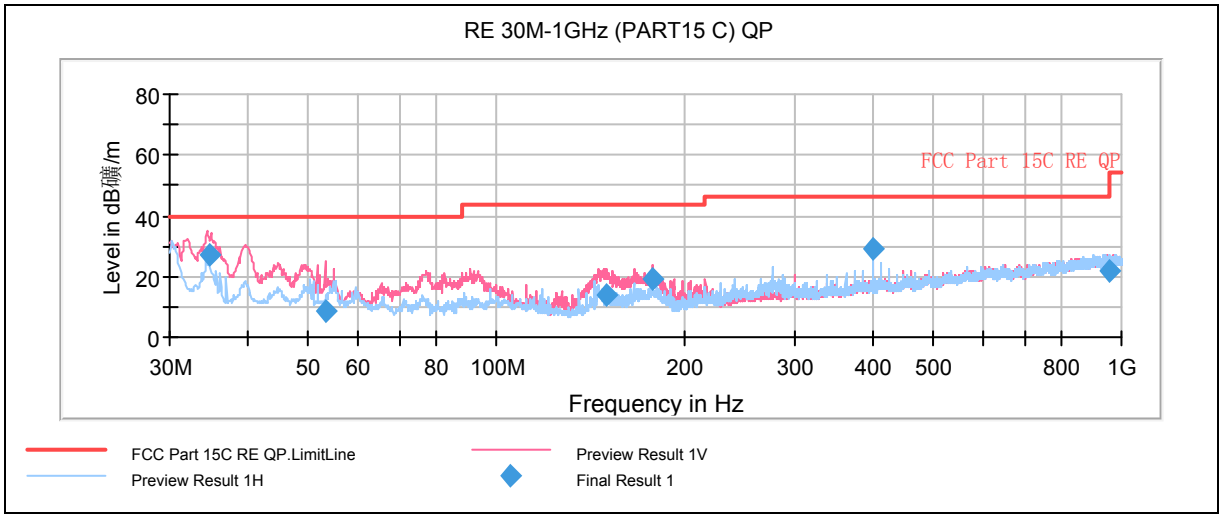
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3841.875000	30.0	100.0	H	0.0	30.2	-0.2	24.0	54
4820.625000	32.0	100.0	V	285.0	30.2	1.8	22.0	54
6470.625000	32.8	100.0	V	0.0	28.1	4.7	21.2	54
9215.625000	35.0	100.0	V	0.0	26.1	8.9	19.0	54
13147.500000	37.6	100.0	H	123.0	24.9	12.7	16.4	54
17994.375000	47.3	100.0	V	151.0	23.8	23.5	6.7	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Radiates Emission from 18GHz to 26.5GHz

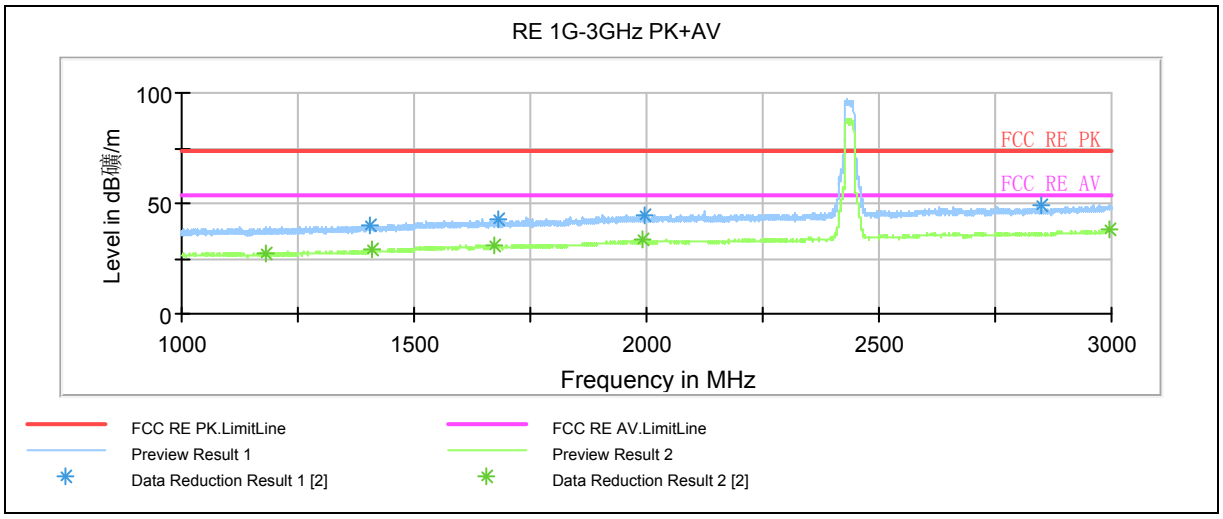
802.11n(HT20) CH6



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
34.706250	26.9	102.0	V	245.0	46.0	-19.1	13.1	40.0
53.420000	8.8	101.0	V	299.0	31.1	-22.3	31.2	40.0
150.178750	13.9	101.0	V	208.0	43.1	-29.2	29.6	43.5
178.187500	19.0	101.0	V	242.0	46.5	-27.5	24.5	43.5
399.995000	29.4	101.0	H	163.0	49.6	-20.2	16.6	46.0
957.260000	22.0	400.0	H	26.0	33.4	-11.4	24.0	46.0

Remark: 1. Quasi-Peak = Reading value + Correction factor
2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
3. Margin = Limit – Quasi-Peak



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

Note: The signal beyond the limit is carrier.

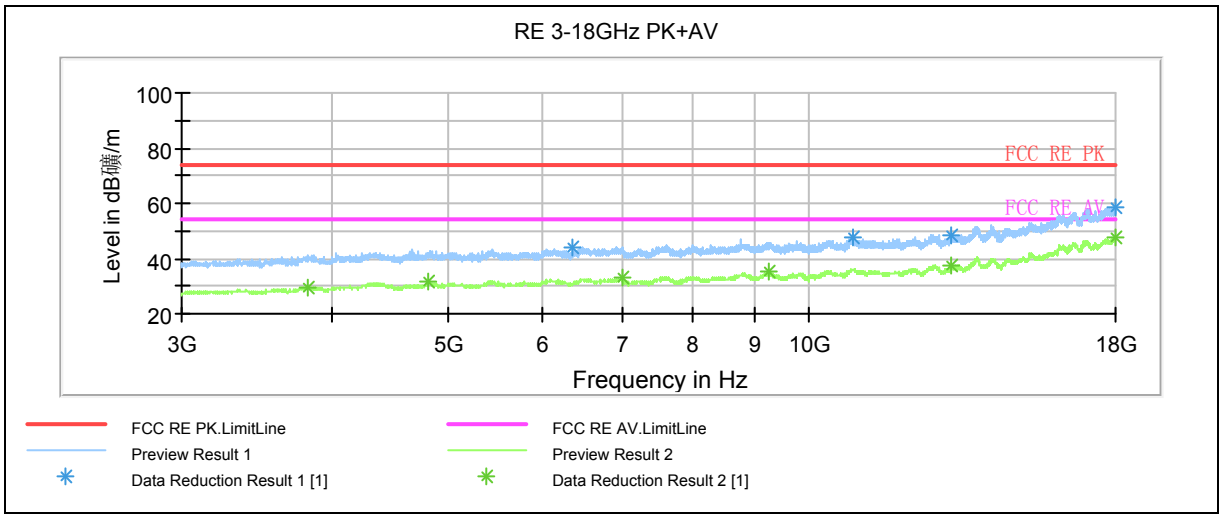
Radiates Emission from 1GHz to 3GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1404.000000	39.7	100.0	V	192.0	48.1	-8.4	34.3	74
1681.000000	42.5	100.0	V	154.0	48.1	-5.6	31.5	74
1993.750000	44.9	100.0	V	274.0	47.8	-2.9	29.1	74
2848.250000	49.4	100.0	H	60.0	49.5	-0.1	24.6	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1182.500000	27.5	100.0	H	107.0	37.0	-9.5	26.5	54
1409.750000	29.0	100.0	H	0.0	37.4	-8.4	25.0	54
1671.000000	30.8	100.0	H	82.0	36.4	-5.6	23.2	54
1991.250000	33.2	100.0	H	2.0	36.2	-3	20.8	54
2995.250000	37.8	100.0	V	313.0	36.4	1.4	16.2	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

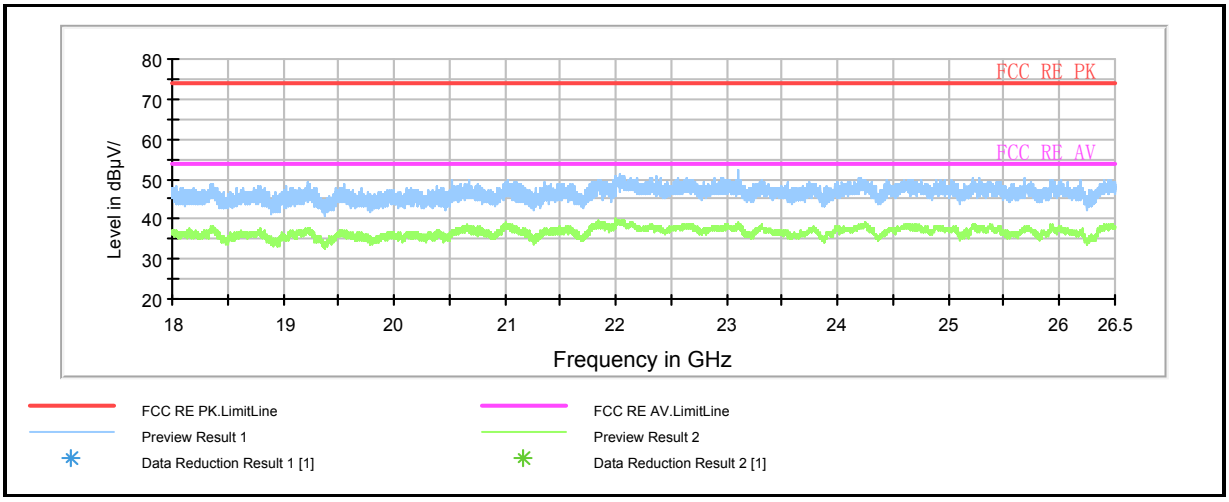
Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
6360.000000	44.3	100.0	V	0.0	40.4	3.9	29.7	74
10876.875000	47.9	100.0	V	299.0	36.4	11.5	26.1	74
13111.875000	48.5	100.0	V	273.0	35.6	12.9	25.5	74
17996.250000	58.6	100.0	H	0.0	35.1	23.5	15.4	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

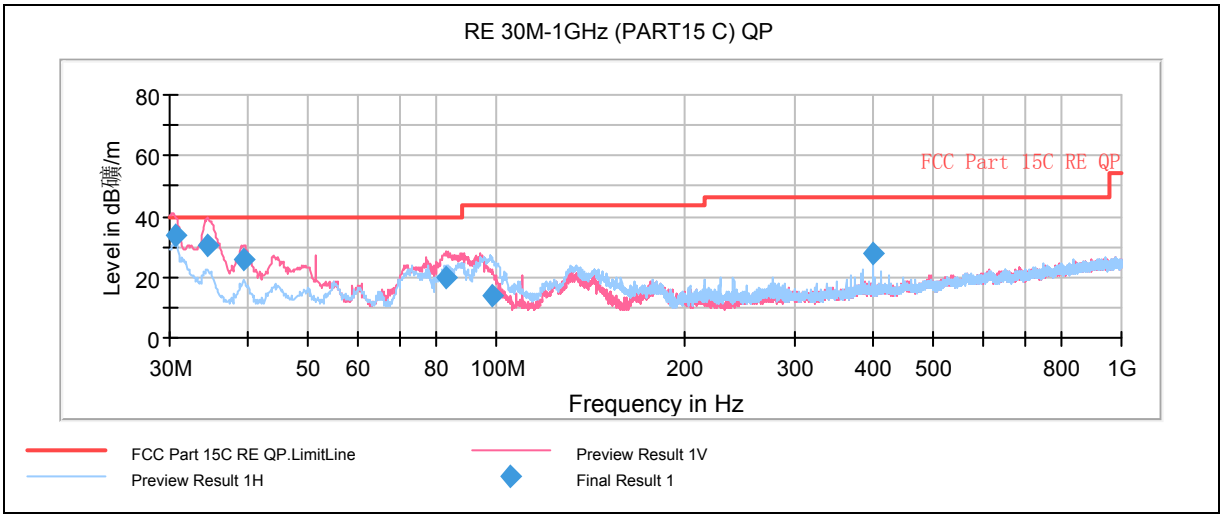
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3828.750000	29.8	100.0	H	109.0	29.9	-0.1	24.2	54
4822.500000	31.8	100.0	V	67.0	29.9	1.9	22.2	54
6991.875000	32.8	100.0	V	0.0	27.8	5	21.2	54
9249.375000	35.1	100.0	H	135.0	26.4	8.7	18.9	54
13155.000000	37.3	100.0	V	229.0	24.6	12.7	16.7	54
17973.750000	47.4	100.0	V	220.0	24.0	23.4	6.6	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Radiates Emission from 18GHz to 26.5GHz

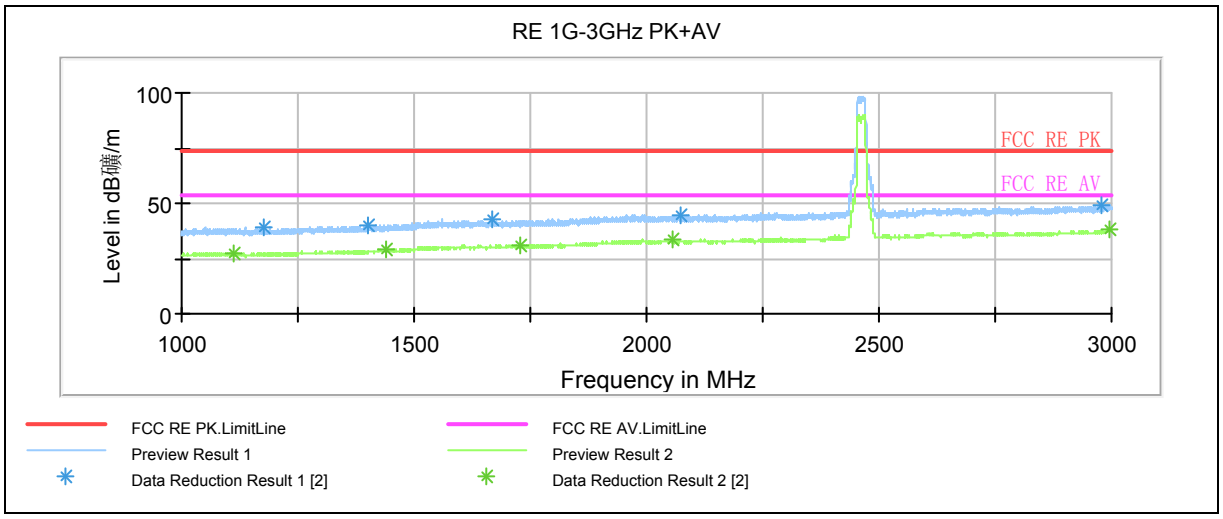
802.11n(HT20) CH11



Note: a font (Level in dBuv/m)in the test plot =(level in dBuv/m)
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
30.660000	33.6	101.0	V	108.0	50.9	-17.3	6.4	40.0
34.546250	30.6	101.0	V	6.0	49.6	-19.0	9.4	40.0
39.436250	25.9	102.0	V	0.0	45.2	-19.3	14.1	40.0
83.006250	19.9	122.0	V	78.0	47.3	-27.4	20.1	40.0
98.440000	14.0	303.0	H	0.0	38.6	-24.6	29.5	43.5
400.035000	28.0	101.0	H	73.0	48.2	-20.2	18.0	46.0

Remark: 1. Quasi-Peak = Reading value + Correction factor
2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
3. Margin = Limit – Quasi-Peak



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

Note: The signal beyond the limit is carrier.

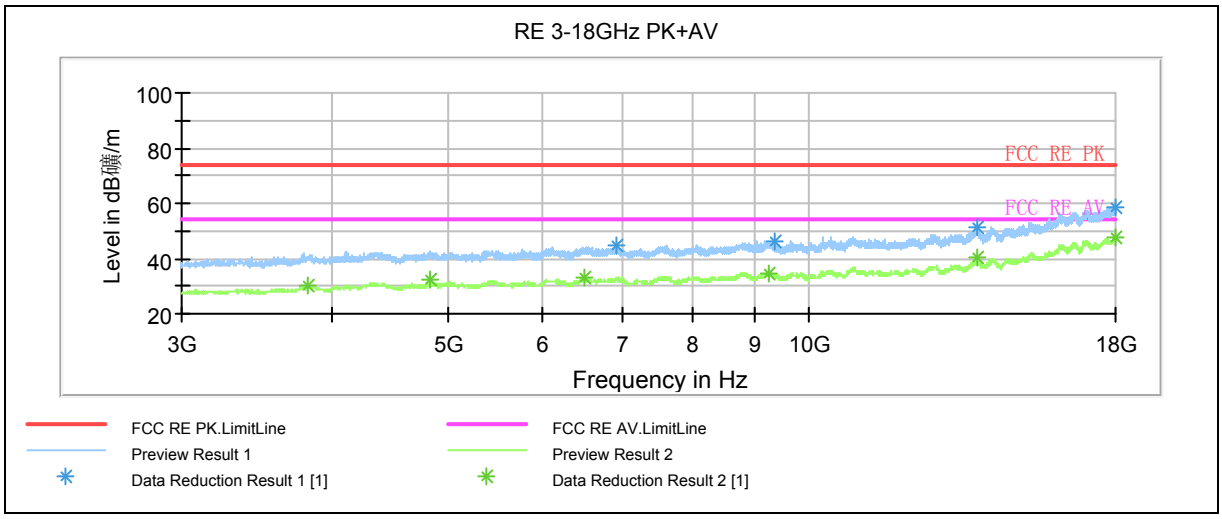
Radiates Emission from 1GHz to 3GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1176.500000	39.3	100.0	V	214.0	48.7	-9.4	34.7	74
1403.000000	40.3	100.0	H	248.0	48.7	-8.4	33.7	74
1669.000000	42.6	100.0	V	303.0	48.3	-5.7	31.4	74
2073.750000	45.0	100.0	H	200.0	48.0	-3	29.0	74
2977.750000	49.2	100.0	H	102.0	47.9	1.3	24.8	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1110.500000	27.4	100.0	H	240.0	37.2	-9.8	26.6	54
1439.000000	29.0	100.0	H	281.0	37.0	-8	25.0	54
1730.500000	30.7	100.0	V	310.0	36.3	-5.6	23.3	54
2057.500000	33.3	100.0	V	63.0	36.3	-3	20.7	54
2994.000000	38.0	100.0	V	339.0	36.6	1.4	16.0	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

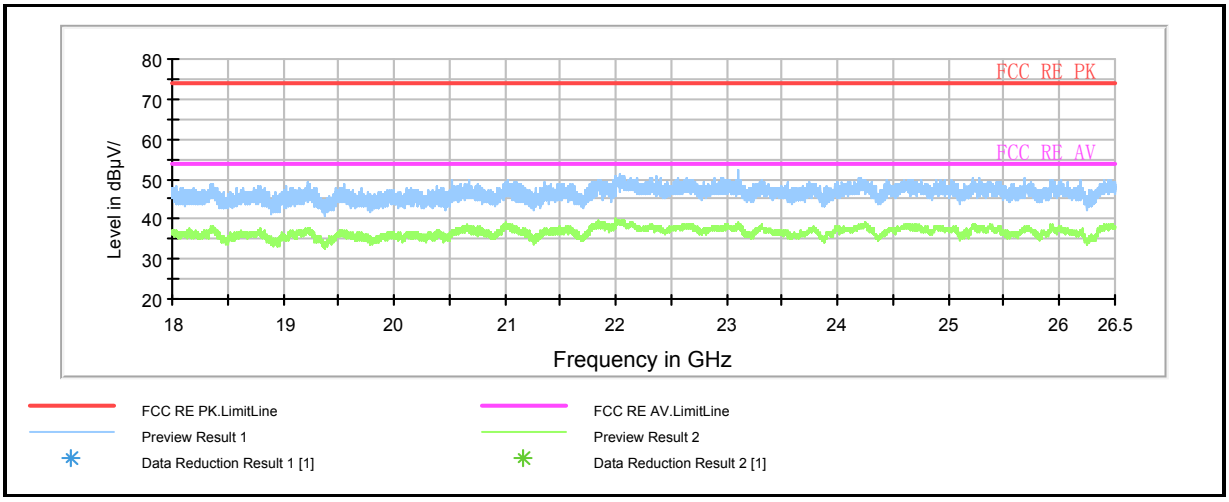
Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
6911.250000	44.8	100.0	H	64.0	40.1	4.7	29.2	74
9346.875000	46.1	100.0	H	161.0	37.3	8.8	27.9	74
17983.125000	58.4	100.0	H	143.0	35.0	23.4	15.6	74
13803.750000	51.2	100.0	V	176.0	36.5	14.7	22.8	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3828.750000	29.9	100.0	H	242.0	30.0	-0.1	24.1	54
4826.250000	32.4	100.0	V	0.0	30.5	1.9	21.6	54
6506.250000	33.0	100.0	H	0.0	28.4	4.6	21.0	54
9249.375000	34.7	100.0	H	21.0	26.0	8.7	19.3	54
17990.625000	47.6	100.0	V	353.0	24.1	23.5	6.4	54
13779.375000	40.1	100.0	H	224.0	25.3	14.8	13.9	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Radiates Emission from 18GHz to 26.5GHz

2.10. Conducted Emissions

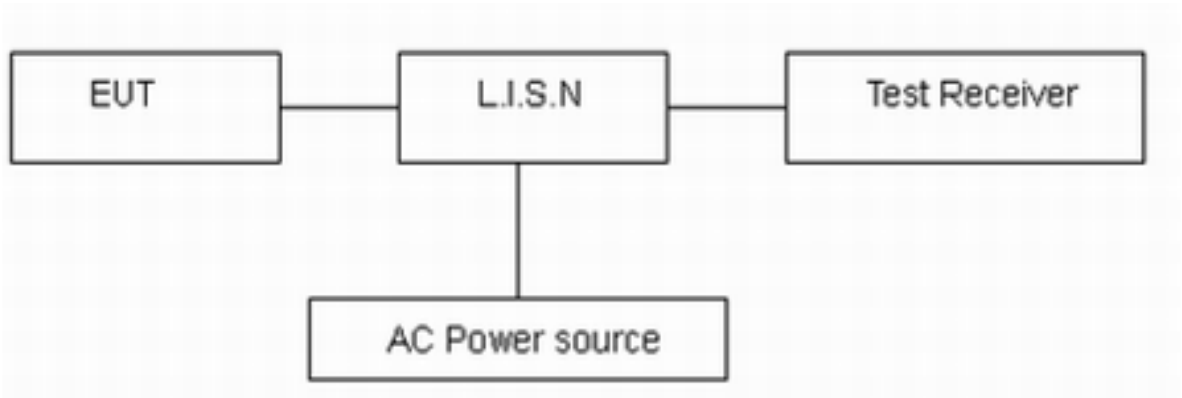
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT IS placed on a non-metallic table of 80cm height above the horizontal metal reference ground plane. During the test, the EUT was operating in its typical mode. The test method is according to ANSIC63.4-2009.Connect the AC power line of the EUT to the LISN Use EMI receiver to detect the average and Quasi-peak value. RBW is set to 9kHz,VBW is set to 30kHz The measurement result should include both L line and N line.
The test is in transmitting mode.

Test setup



Note: AC Power source is used to change the voltage from 220V/50Hz to 110V/60Hz.

Limits

Frequency (MHz)	Conducted Limits(dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46*
0.5 - 5	56	46
5 - 30	60	50
*: Decreases with the logarithm of the frequency.		

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96, U= 2.69 dB.

Test Results:

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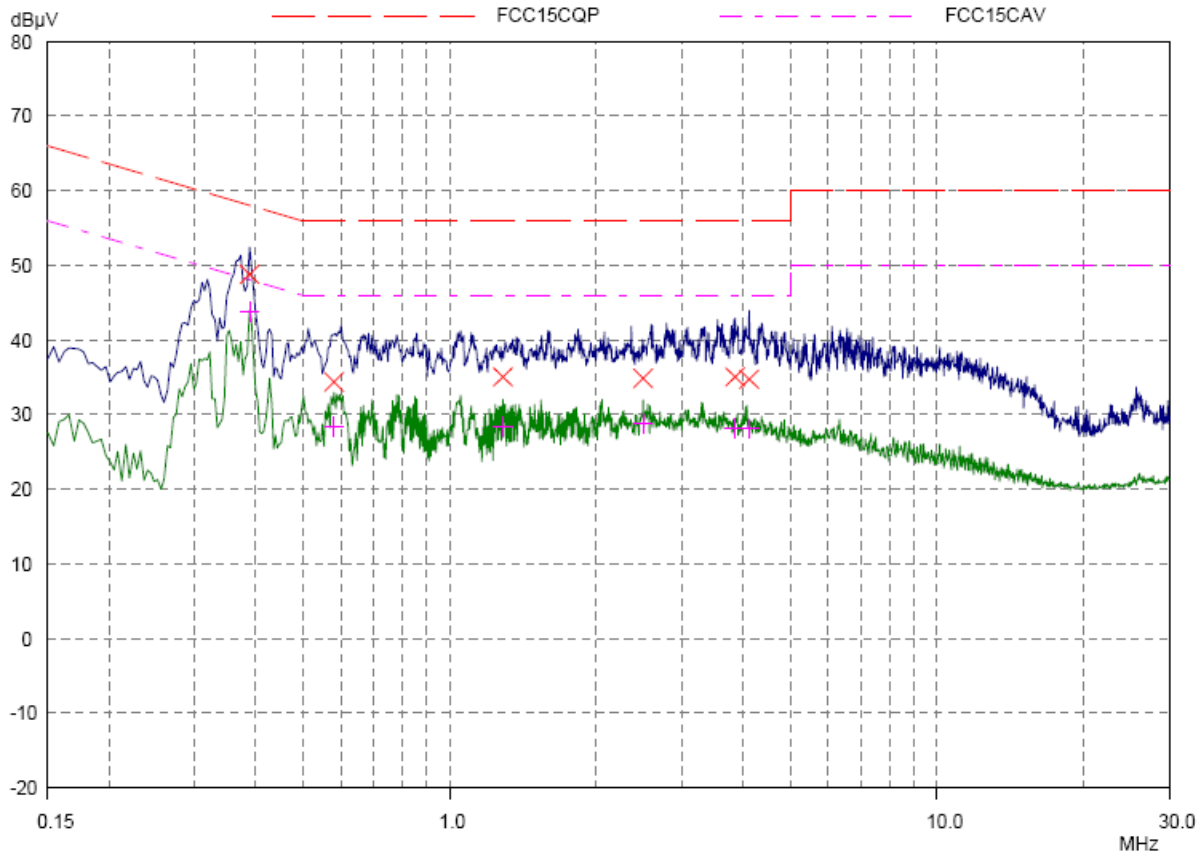
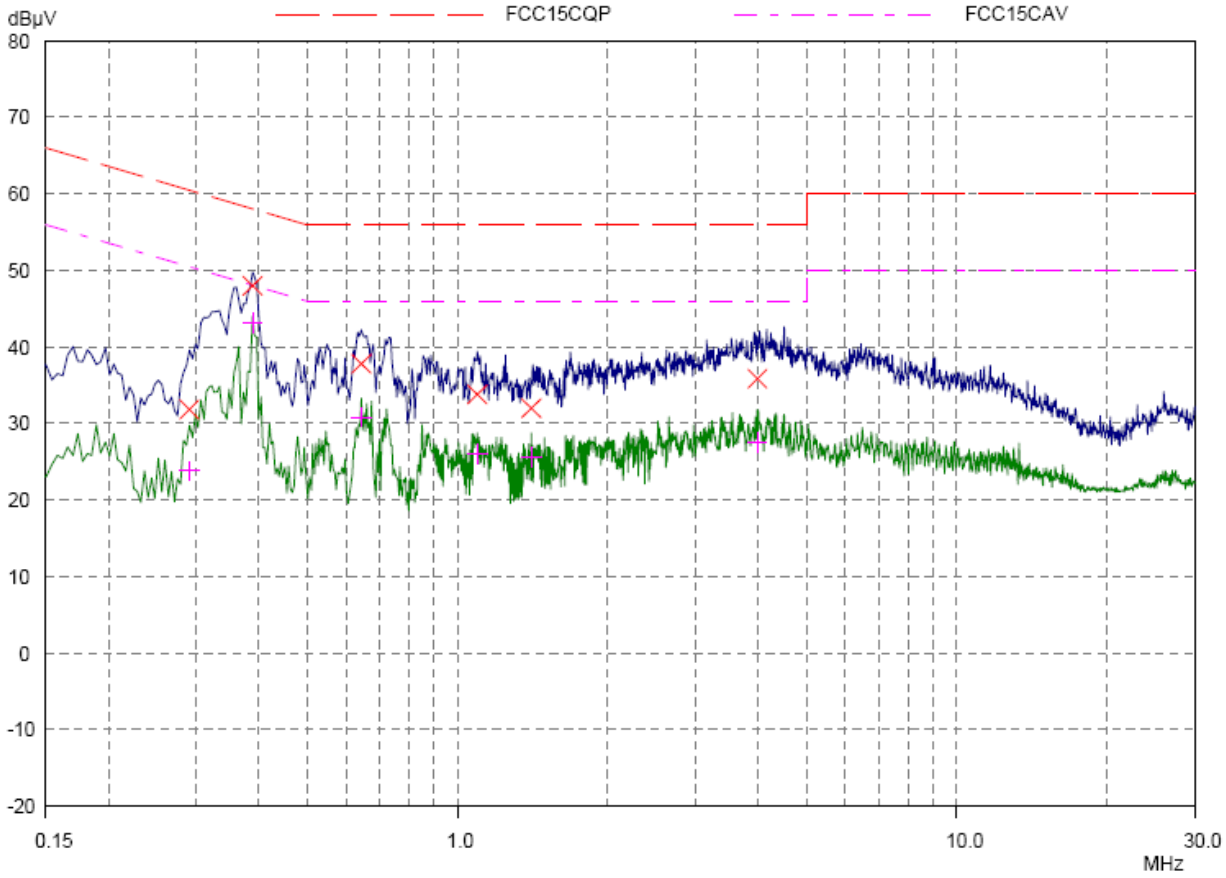


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.38828	48.79	58.10	9.31	L1	gnd
0.57968	34.40	56.00	21.60	L1	gnd
1.28671	35.03	56.00	20.97	L1	gnd
2.49765	34.87	56.00	21.13	L1	gnd
3.85703	35.03	56.00	20.97	L1	gnd
4.12265	34.76	56.00	21.24	L1	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.38828	43.79	48.10	4.31	L1	gnd
0.57968	28.40	46.00	17.60	L1	gnd
1.28671	28.39	46.00	17.61	L1	gnd
2.49765	28.79	46.00	17.21	L1	gnd
3.85703	28.17	46.00	17.83	L1	gnd
4.12265	28.09	46.00	17.91	L1	gnd

L Line



Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.29062	31.87	60.51	28.64	N	gnd
0.38828	48.01	58.10	10.09	N	gnd
0.64218	37.78	56.00	18.22	N	gnd
1.09531	33.81	56.00	22.19	N	gnd
1.4039	32.02	56.00	23.98	N	gnd
3.98593	35.86	56.00	20.14	N	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.29062	23.77	50.51	26.74	N	gnd
0.38828	43.15	48.10	4.95	N	gnd
0.64218	30.80	46.00	15.20	N	gnd
1.09531	26.03	46.00	19.97	N	gnd
1.4039	25.63	46.00	20.37	N	gnd
3.98593	27.54	46.00	18.46	N	gnd

N Line

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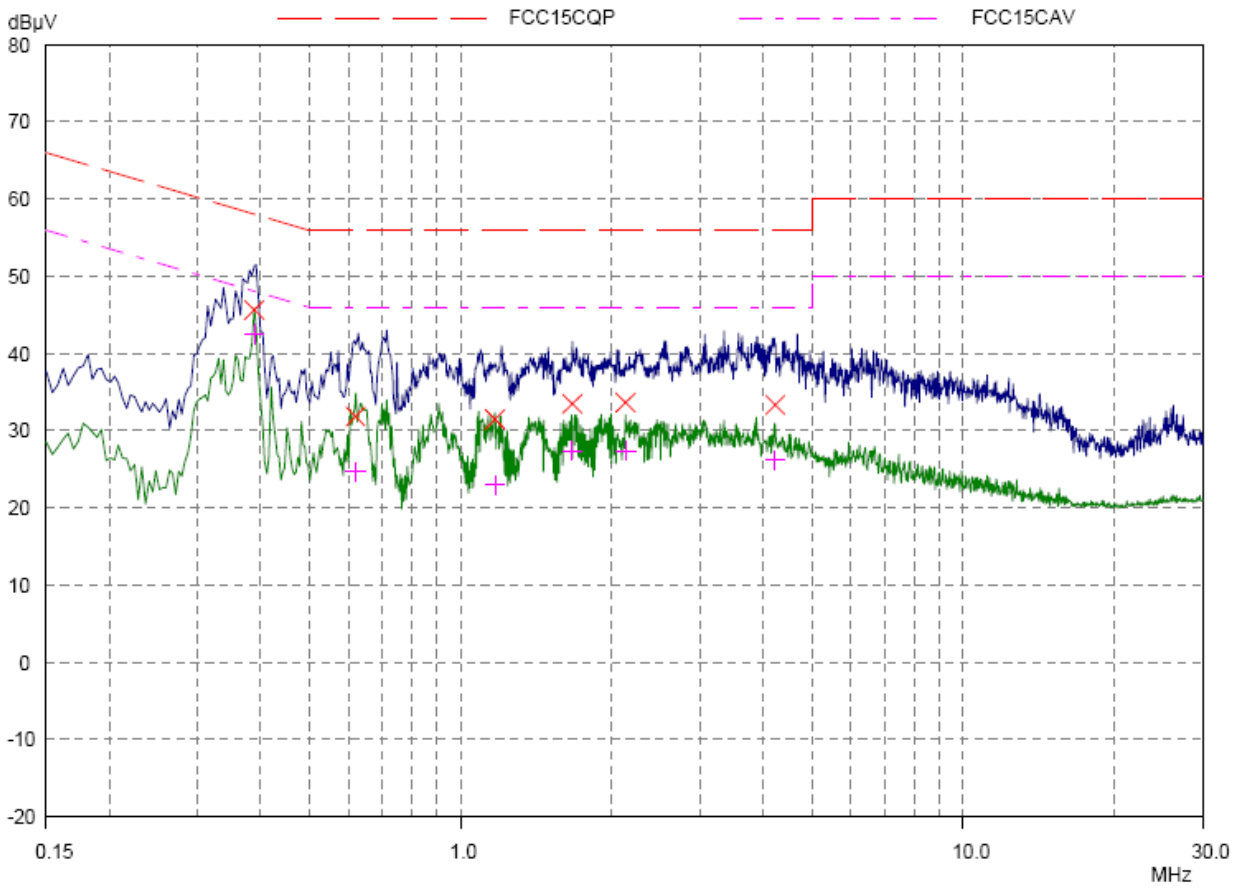
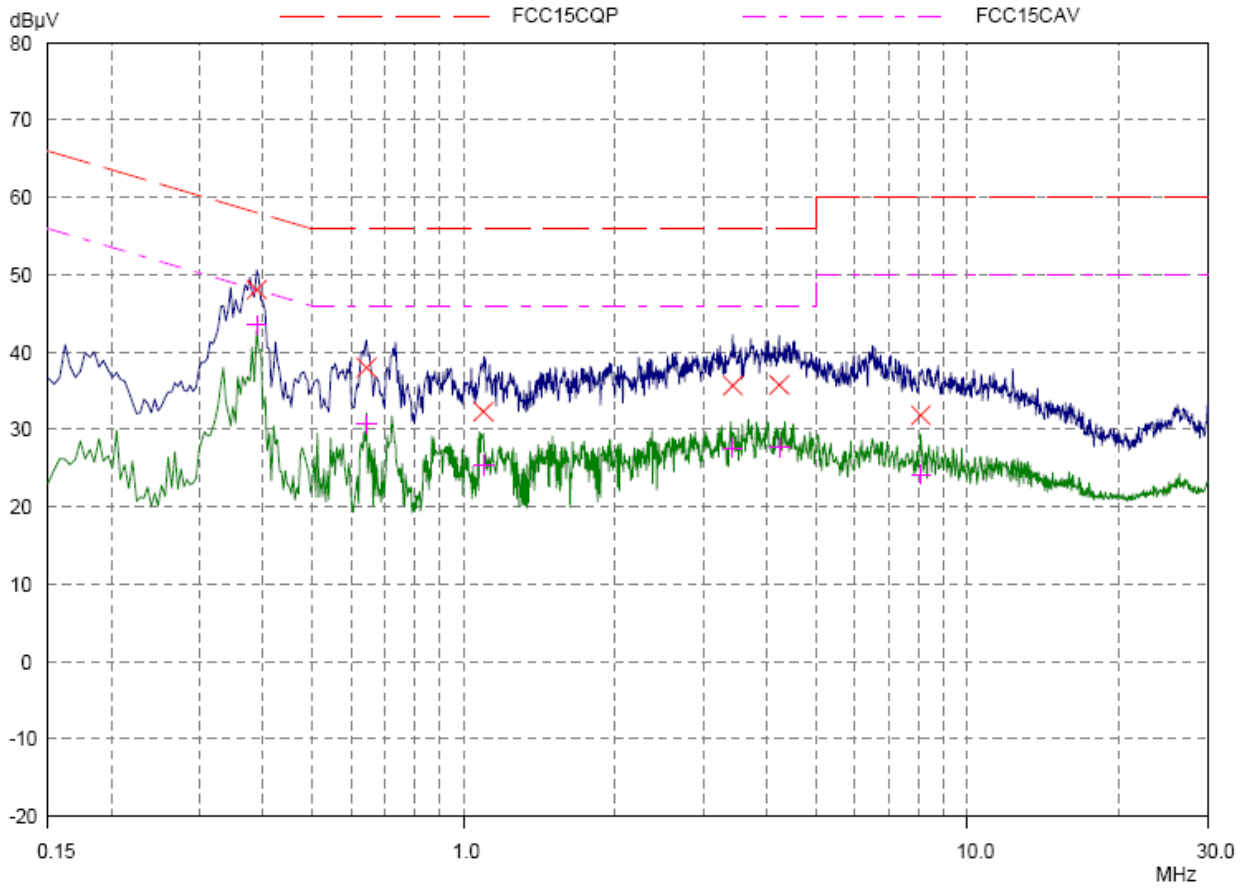


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.38828	45.67	58.10	12.43	L1	gnd
0.61875	31.86	56.00	24.14	L1	gnd
1.16953	31.49	56.00	24.51	L1	gnd
1.66953	33.50	56.00	22.50	L1	gnd
2.13046	33.67	56.00	22.33	L1	gnd
4.22421	33.32	56.00	22.68	L1	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.38828	42.51	48.10	5.59	L1	gnd
0.61875	24.65	46.00	21.35	L1	gnd
1.16953	22.92	46.00	23.08	L1	gnd
1.66953	27.41	46.00	18.59	L1	gnd
2.13046	27.37	46.00	18.63	L1	gnd
4.22421	26.19	46.00	19.81	L1	gnd

L Line



Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.38828	48.05	58.10	10.05	N	gnd
0.64218	38.00	56.00	18.00	N	gnd
1.09531	32.29	56.00	23.71	N	gnd
3.41953	35.70	56.00	20.30	N	gnd
4.23593	35.78	56.00	20.22	N	gnd
8.08358	31.84	60.00	28.16	N	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.38828	43.48	48.10	4.62	N	gnd
0.64218	30.67	46.00	15.33	N	gnd
1.09531	25.40	46.00	20.60	N	gnd
3.41953	27.58	46.00	18.42	N	gnd
4.23593	27.65	46.00	18.35	N	gnd
8.08358	24.18	50.00	25.82	N	gnd

N Line

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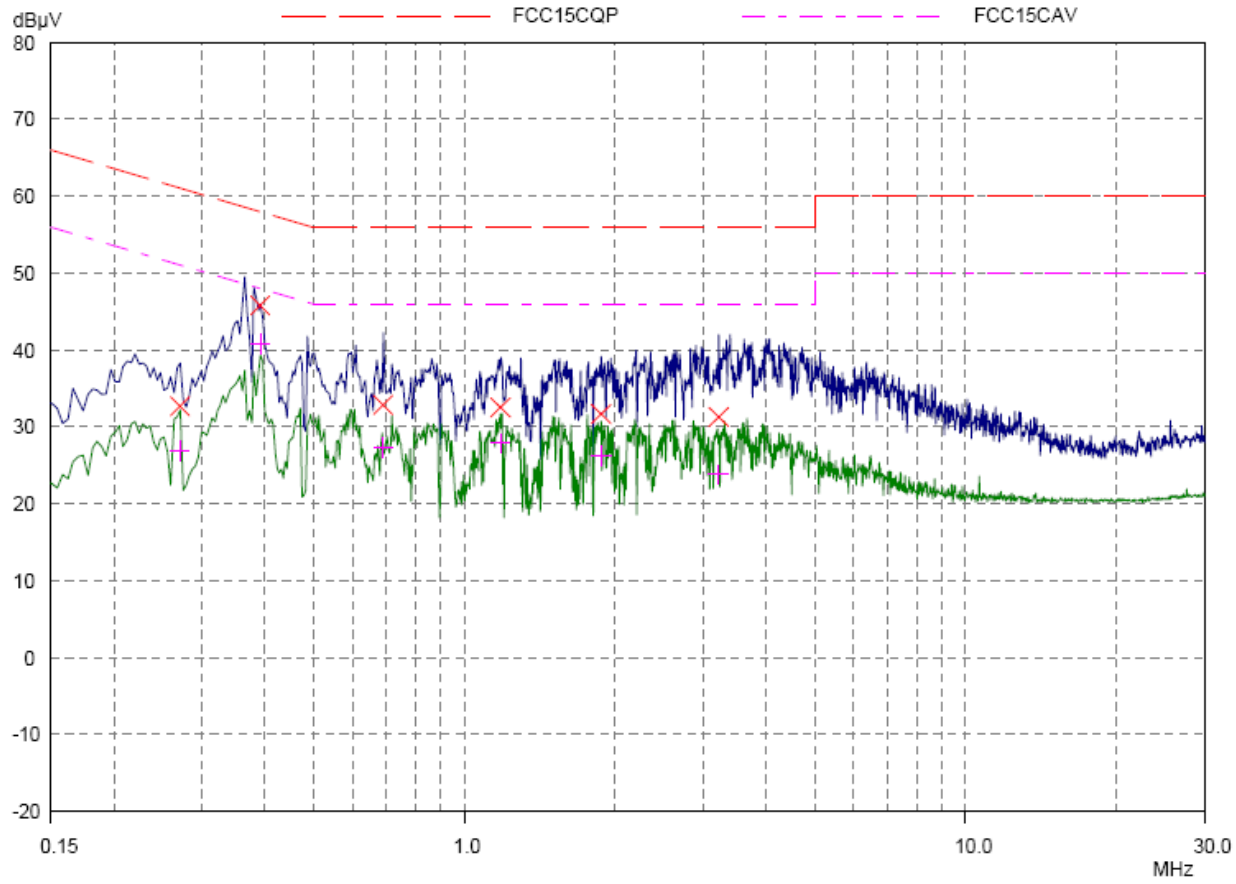
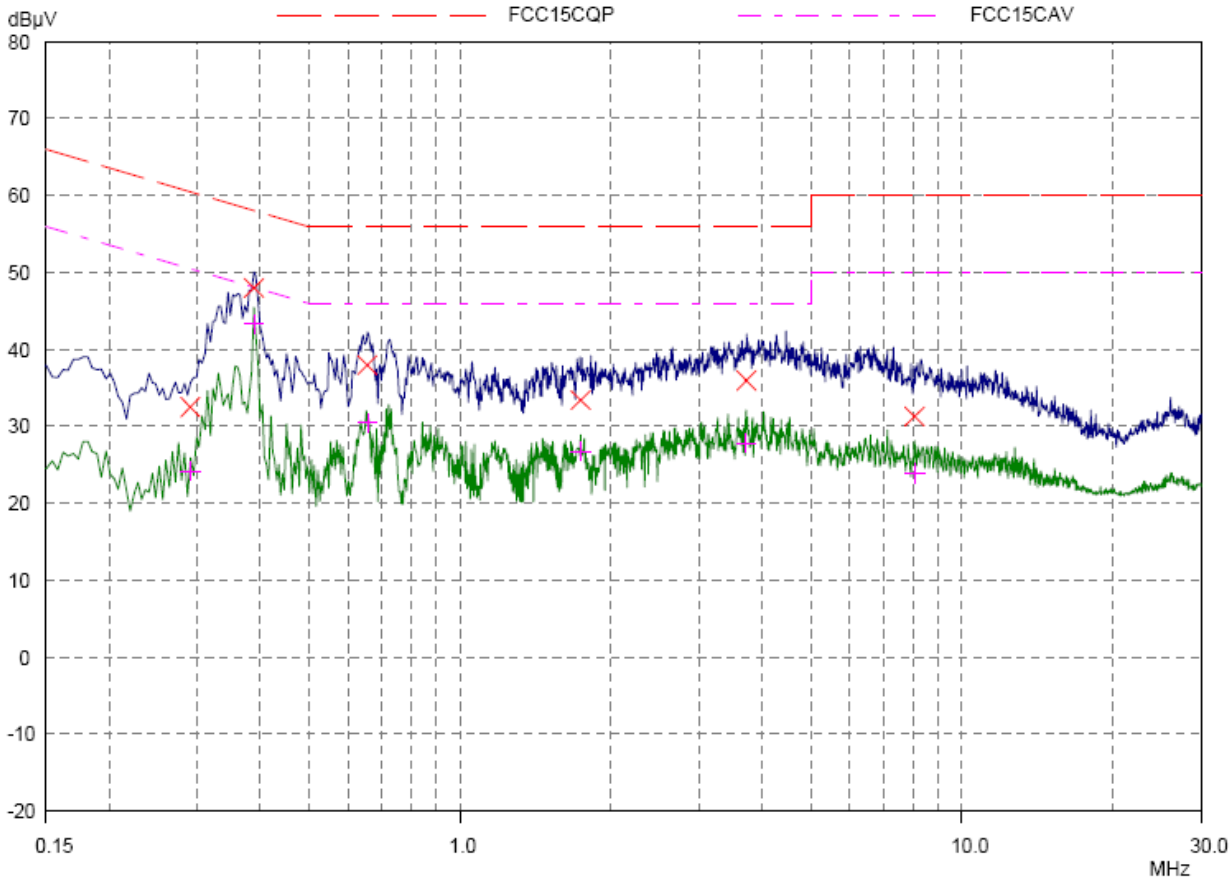


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.27109	32.69	61.08	28.39	L1	gnd
0.39218	45.82	58.02	12.20	L1	gnd
0.68906	32.86	56.00	23.14	L1	gnd
1.18125	32.53	56.00	23.47	L1	gnd
1.87265	31.72	56.00	24.28	L1	gnd
3.22031	31.33	56.00	24.67	L1	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.27109	26.92	51.08	24.16	L1	gnd
0.39218	40.75	48.02	7.27	L1	gnd
0.68906	27.28	46.00	18.72	L1	gnd
1.18125	27.89	46.00	18.11	L1	gnd
1.87265	26.25	46.00	19.75	L1	gnd
3.22031	23.86	46.00	22.14	L1	gnd

L Line



Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.29062	32.51	60.51	28.00	N	gnd
0.38828	48.03	58.10	10.07	N	gnd
0.6539	37.99	56.00	18.01	N	gnd
1.73984	33.42	56.00	22.58	N	gnd
3.72031	35.97	56.00	20.03	N	gnd
8.05233	31.30	60.00	28.70	N	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.29062	24.15	50.51	26.36	N	gnd
0.38828	43.32	48.10	4.78	N	gnd
0.6539	30.46	46.00	15.54	N	gnd
1.73984	26.75	46.00	19.25	N	gnd
3.72031	27.83	46.00	18.17	N	gnd
8.05233	23.96	50.00	26.04	N	gnd

N Line

2. Main Test Instruments

No.	Name	Type	Manufacturer	Serial Number	Calibration Date	Valid Period
01	EMI Test Receiver	ESCI	R&S	100948	2013-06-29	One year
02	Loop Antenna	FMZB1516	SCHWARZBECK	237	2012-06-30	Two years
03	TRILOG Broadband Antenna	VULB 9163	Schwarzbeck	9163-201	2013-06-19	Three years
04	Signal Analyzer	FSV30	R&S	100815	2013-06-29	One year
05	Double Ridged Waveguide Horn Antenna	HF907	R&S	100126	2012-07-02	Three years
06	Standard Gain Horn	3160-09	ETS-Lindgren	00102644	2012-05-20	Three years
07	EMI Test Receiver	ESCS30	R&S	100138	2014-01-14	One year
08	LISN	ENV216	R&S	101171	2014-04-12	One year
09	Spectrum Analyzer	E4445A	Agilent	MY46181146	2013-06-29	One year
10	MOB COMMS DC SUPPLY	66319D	Agilent	MY43004105	2013-06-29	One year
11	Peak Power Meter	8990B	Agilent	51000109	2013-05-31	One year
12	Wideband Power Sensors	N1923A	Agilent	MY51220004	2013-05-31	One year

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

ANNEX A: EUT Appearance and Test Setup

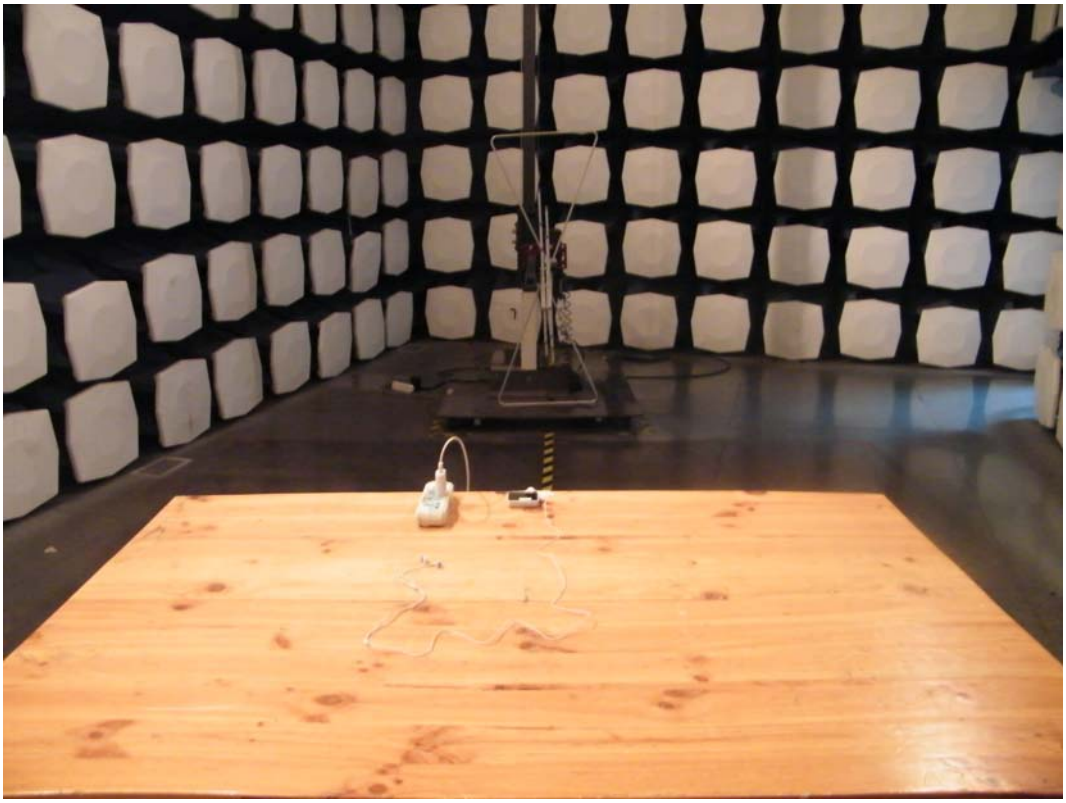
A.1 EUT Appearance

a: EUT

b: Adapter

Picture 1 Constituents of EUT

A.2 Test Setup



Picture 2 Radiated Emission Test Setup