



TEST REPORT

No.24T04N002645-008-WLAN 2G

for

Shanghai Sunmi Technology Co.,Ltd.

Wireless data POS System

Model Name: T5F1A

with

Hardware Version: SM03_MB_V1.1

Software Version: QSC625VPBCJ10R01A03_BA01BP01GLM03V01

FCC ID: 2AH25T5F1A

Issued Date: 2025-02-17

Designation Number: CN1210

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 SAICT.

Test Laboratory:

SAICT, Shenzhen Academy of Information and Communications Technology

Building G, Shenzhen International Innovation Center, No.1006 Shennan Road, Futian District, Shenzhen,
Guangdong, P. R. China 518000.

Tel:+86(0)755-33322000, Fax:+86(0)755-33322001

Email: yewu@caict.ac.cn. www.saict.ac.cn



REPORT HISTORY

Report Number	Revision	Description	Issue Date
24T04N002645-008-WLAN 2G	Rev.0	1st edition	2025-02-17

Note: the latest revision of the test report supersedes all previous versions.



CONTENTS

CONTENTS	3
1. SUMMARY OF TEST REPORT	4
1.1. TEST ITEMS	4
1.2. TEST STANDARDS	4
1.3. TEST RESULT	4
1.4. TESTING LOCATION	4
1.5. PROJECT DATA	4
1.6. SIGNATURE	4
2. CLIENT INFORMATION	5
2.1. APPLICANT INFORMATION	5
2.2. MANUFACTURER INFORMATION	5
3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE)	6
3.1. ABOUT EUT	6
3.2. INTERNAL IDENTIFICATION OF EUT	6
3.3. INTERNAL IDENTIFICATION OF AE	6
3.4. GENERAL DESCRIPTION	6
4. REFERENCE DOCUMENTS	7
4.1. DOCUMENTS SUPPLIED BY APPLICANT	7
4.2. REFERENCE DOCUMENTS FOR TESTING	7
5. TEST RESULTS	8
5.1. TESTING ENVIRONMENT	8
5.2. TEST RESULTS	8
5.3. STATEMENTS	8
6. TEST EQUIPMENTS UTILIZED	9
7. LABORATORY ENVIRONMENT	10
8. MEASUREMENT UNCERTAINTY	11
ANNEX A: DETAILED TEST RESULTS	12
TEST CONFIGURATION	12
A.0 ANTENNA REQUIREMENT	15
A.1 MAXIMUM OUTPUT POWER	16
A.2 PEAK POWER SPECTRAL DENSITY	17
A.3 6dB BANDWIDTH	20
A.4 BAND EDGES COMPLIANCE	24
A.5 CONDUCTED EMISSION	27
A.6 RADIATED EMISSION	35
A.7 AC POWER LINE CONDUCTED EMISSION	51



1. Summary of Test Report

1.1. Test Items

Description	Wireless data POS System
Model Name	T5F1A
Applicant's name	Shanghai Sunmi Technology Co.,Ltd.
Manufacturer's Name	Shanghai Sunmi Technology Co.,Ltd.

1.2. Test Standards

FCC Part15-2023; ANSI C63.10-2013.

1.3. Test Result

Pass

Please refer to "5.2. Test Results"

1.4. Testing Location

Address: Building G, Shenzhen International Innovation Center, No.1006 Shennan Road,
Futian District, Shenzhen, Guangdong, P. R. China 51800

1.5. Project data

Testing Start Date:	2024-11-07
Testing End Date:	2024-12-10

1.6. Signature

Lin Zechuang
(Prepared this test report)

An Ran
(Reviewed this test report)

Zhang Bojun
(Approved this test report)



2. Client Information

2.1. Applicant Information

Company Name: Shanghai Sunmi Technology Co.,Ltd.
Address: Room 505, NO.388 Song Hu Road, Yang Pu District, Shanghai
200433, China
Contact Person Emma Yang
E-Mail chan.yang@sunmi.com
Telephone: 13510126210
Fax: /

2.2. Manufacturer Information

Company Name: Shanghai Sunmi Technology Co.,Ltd.
Address: Room 505, NO.388 Song Hu Road, Yang Pu District, Shanghai
200433, China
Contact Person Emma Yang
E-Mail chan.yang@sunmi.com
Telephone: 13510126210
Fax: /



3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Description	Wireless data POS System
Model Name	T5F1A
RF Protocol	IEEE 802.11b/g/n-HT20/n-HT40
Operating Frequency	ISM 2412MHz~2462MHz
Type of Modulation	DSSS/CCK/OFDM
Antenna Type	Integrated antenna
Antenna Gain	-0.18dBi
Power Supply	7.7V DC by Battery
FCC ID	2AH25T5F1A
Condition of EUT as received	No abnormality in appearance

Note: Components list, please refer to documents of the manufacturer; it is also included in the original test record of Shenzhen Academy of Information and Communications Technology.

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version	Date of Receipt
UT13aa	869233070014219	SM03_MB_V1.1	QSC625VPBCJ10	2024-11-06
			R01A03_BA01BP	
			01GLM03V01	
UT01aa	869233070014896	SM03_MB_V1.1	QSC625VPBCJ10	2024-11-04
			R01A03_BA01BP	
			01GLM03V01	

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

UT13aa is used for conduction test, UT01aa is used for radiation test and AC Power line Conducted Emission test.

3.3. Internal Identification of AE used during the test

AE No.	Description	AE ID*
AE1	/	/

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

3.4. General Description

The Equipment under Test (EUT) is a model of Wireless data POS System with integrated antenna and battery.

It consists of normal options: Lithium Battery, Charger and USB Cable.

Manual and specifications of the EUT were provided to fulfil the test.

Samples undergoing test were selected 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.

Reference	Title	Version
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	2023
ANSI C63.10	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices	2013

5. Test Results

5.1. Testing Environment

Normal Temperature: 15~35°C

Relative Humidity: 20~75%

5.2. Test Results

No	Test cases	Sub-clause of Part 15C	Verdict
0	Antenna Requirement	15.203	P
1	Maximum Output Power	15.247 (b)	P
2	Peak Power Spectral Density	15.247 (e)	P
3	6dB Bandwidth	15.247 (a)	P
4	Band Edges Compliance	15.247 (d)	P
5	Conducted Emission	15.247 (d)	P
6	Radiated Emission	15.247, 15.205, 15.209	P
7	AC Power line Conducted	15.207	P

See **ANNEX A** for details.

5.3. Statements

SAICT has evaluated the test cases requested by the applicant/manufacture as listed in section 5.2 of this report, for the EUT specified in section 3, according to the standards or reference documents listed in section 4.2.

Disclaimer:

A. After confirmation with the customer, the sample information provided by the customer may affect the validity of the measurement results in this report, and the impact and consequences arising therefrom shall be borne by the customer.

B. The samples in this report are provided by the customer, and the test results are only applicable to the samples received.

6. Test Equipments Utilized

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Due date	Calibration Period
1	Vector Signal Analyzer	FSV40	100903	Rohde & Schwarz	2024-12-27	1 year
2	Power Sensor	U2021XA	MY55430013	Keysight	2024-12-27	1 year
3	RF Control Unit	JS0806-2	21C8060398	Tonscend	2025-05-06	1 year
4	Shielding Room	S81	CT000986-1344	ETS-Lindgren	2026-09-12	5 years

Radiated test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Due date	Calibration Period
1	Test Receiver	ESR7	101676	Rohde & Schwarz	2025-11-21	1 year
2	Hybrid Antenna	VULB 9163	330	Schwarzbeck	2027-04-21	3 years
3	Horn Antenna	3117	00066577	ETS-Lindgren	2025-04-17	3 years
4	Anechoic Chamber	FACT3-2.0	1285	ETS-Lindgren	2025-05-28	2 years
5	Spectrum Analyzer	FSV40	101192	Rohde & Schwarz	2025-01-12	1 year
6	Loop Antenna	HLA6120	35779	TESEQ	2025-05-10	3 years
7	Horn Antenna	QSH-SL-1 8-26-S-20	17013	Q-par	2026-02-01	3 years
8	Test Receiver	ESCI	100702	Rohde & Schwarz	2025-01-10	1 year
9	LISN	ENV216	102067	Rohde & Schwarz	2024-10-07	1 year

Test software

No.	Equipment	Manufacturer	Version
1	JS1120-3	Tonscend	3.5
2	EMC32	Rohde & Schwarz	10.50.40

EUT is engineering software provided by the customer to control the transmitting signal. The EUT was programmed to be in continuously transmitting mode.

7. Laboratory Environment

Shielded room

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 20 %, Max. = 75 %
Shielding effectiveness	0.014MHz-1MHz> 60 dB; 1MHz-18000MHz>90 dB
Electrical insulation	> 2MΩ
Ground system resistance	< 4 Ω

Anechoic chamber

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 20 %, Max. = 75 %
Shielding effectiveness	0.014MHz-1MHz> 60 dB; 1MHz-18000MHz>90 dB
Electrical insulation	> 2MΩ
Ground system resistance	< 4 Ω
Normalised site attenuation (NSA)	<±4 dB, 3 m distance, from 30 to 1000 MHz
Voltage Standing Wave Ratio (VSWR)	≤ 6 dB, from 1 to 18 GHz, 3m distance
Uniformity of field strength	Between 0 and 6 dB, from 80 to 6000 MHz

8. Measurement Uncertainty

Test Name	Uncertainty ($k=2$)	
1. Maximum Peak Output Power	1.32dB	
2. Peak Power Spectral Density	1.32dB	
3. 6dB Bandwidth	4.56kHz	
4. Band Edges Compliance	1.92dB	
5. Transmitter Spurious Emission - Conducted	$30\text{MHz} \leq f < 1\text{GHz}$	1.41dB
	$1\text{GHz} \leq f < 7\text{GHz}$	1.92dB
	$7\text{GHz} \leq f < 13\text{GHz}$	2.31dB
	$13\text{GHz} \leq f \leq 26\text{GHz}$	2.61dB
6. Transmitter Spurious Emission - Radiated	$9\text{kHz} \leq f < 30\text{MHz}$	1.79dB
	$30\text{MHz} \leq f < 1\text{GHz}$	4.86dB
	$1\text{GHz} \leq f < 18\text{GHz}$	4.82dB
	$18\text{GHz} \leq f \leq 40\text{GHz}$	2.90dB
7. AC Power line Conducted Emission	$150\text{kHz} \leq f \leq 30\text{MHz}$	2.62dB

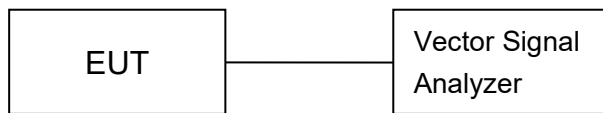
ANNEX A: Detailed Test Results

Test Configuration

The measurement is made according to ANSI C63.10.

1) Conducted Measurements

1. Connect the EUT to the test system correctly.
2. Set the EUT to the required work mode.
3. Set the EUT to the required channel.
4. Set the spectrum analyzer to start measurement.
5. Record the values.



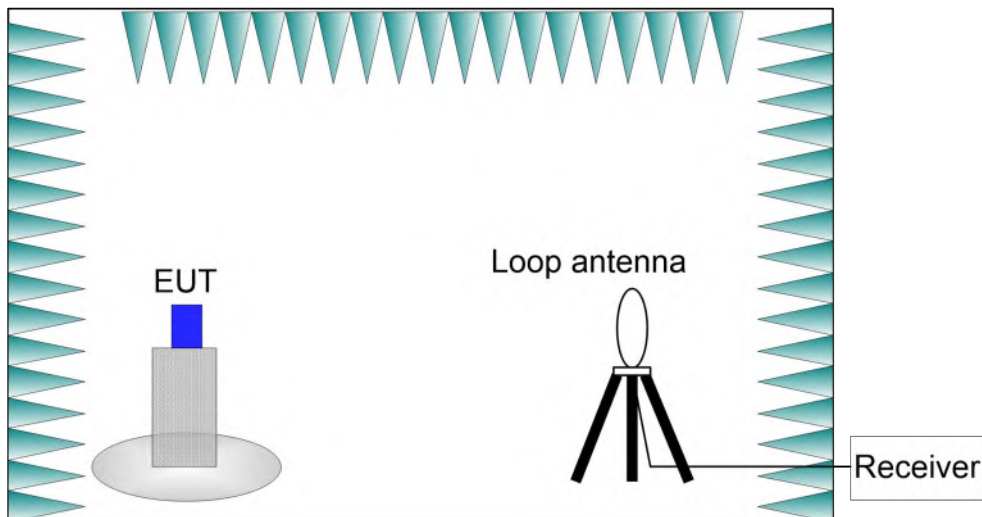
2) Radiated Measurements

Test setup:

9kHz-30MHz:

The EUT are measured in a anechoic chamber. The EUT is placed on a non-conductive stand of 80cm high, and at a measurement distance of 3m from the receiving antenna. The center of the receiving loop antenna is 1.0 meter above the ground. The test setup refers to figure below.

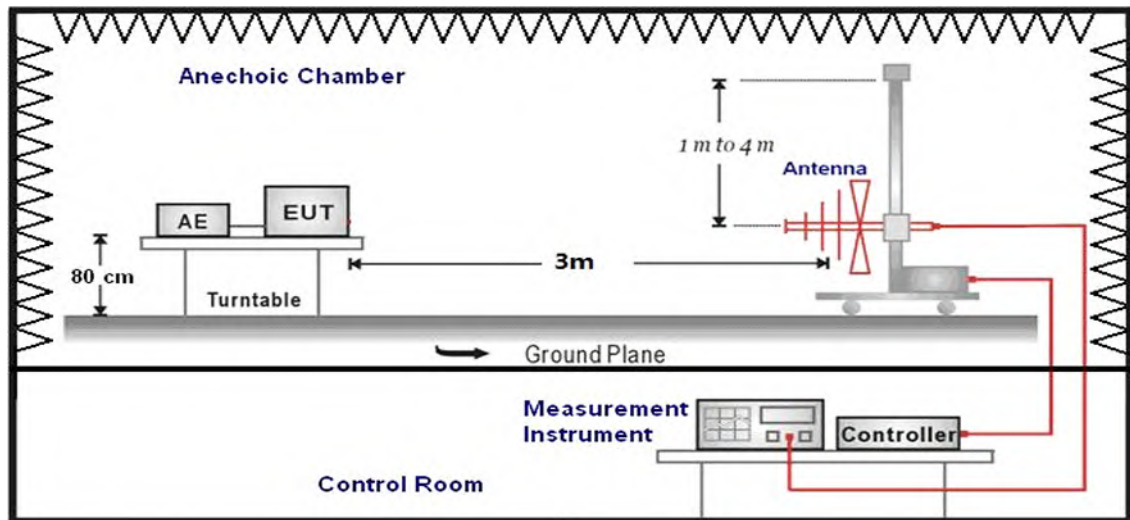
Detected emissions were maximized at each frequency by rotating the EUT and adjusting the receiver antenna polarization.



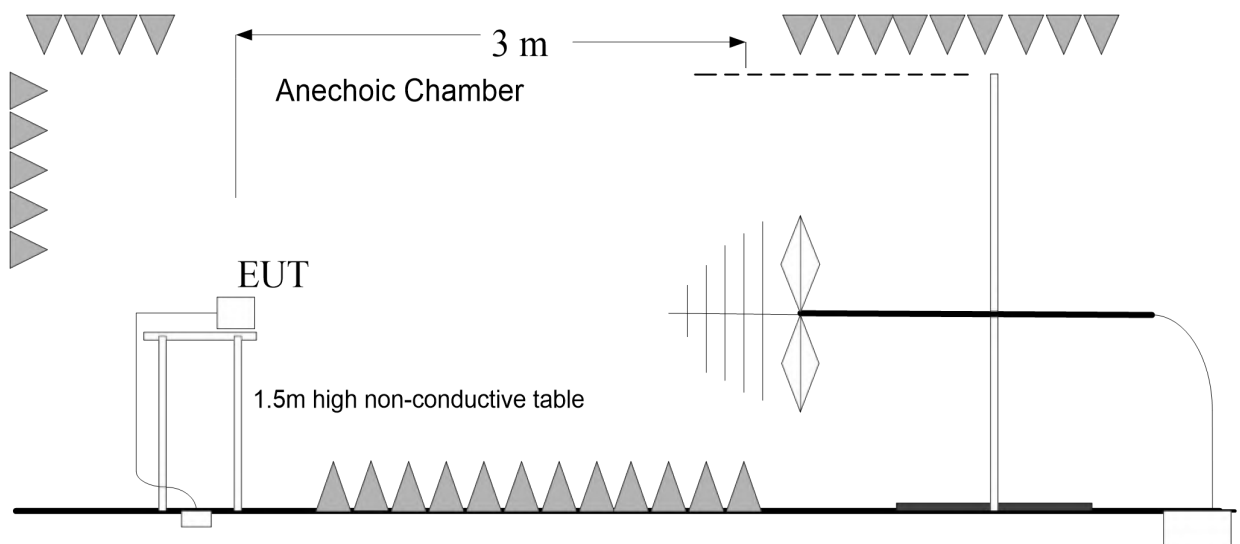
30MHz-26.5GHz:

The EUT are measured in a anechoic chamber. The EUT is placed on a non-conductive stand of 80cm high, and at a measurement distance of 3m from the receiving antenna. The center of the receiving antenna is 1.0 meter to 4.0 meter above the ground. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the EUT and adjusting the receiver antenna polarization.

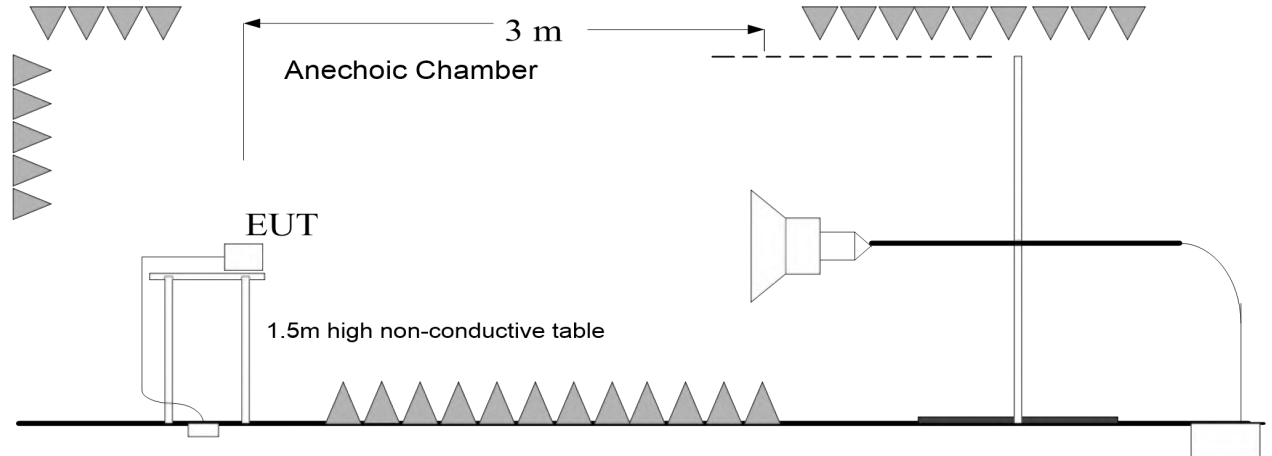
30MHz-1GHz:



1GHz-3GHz:

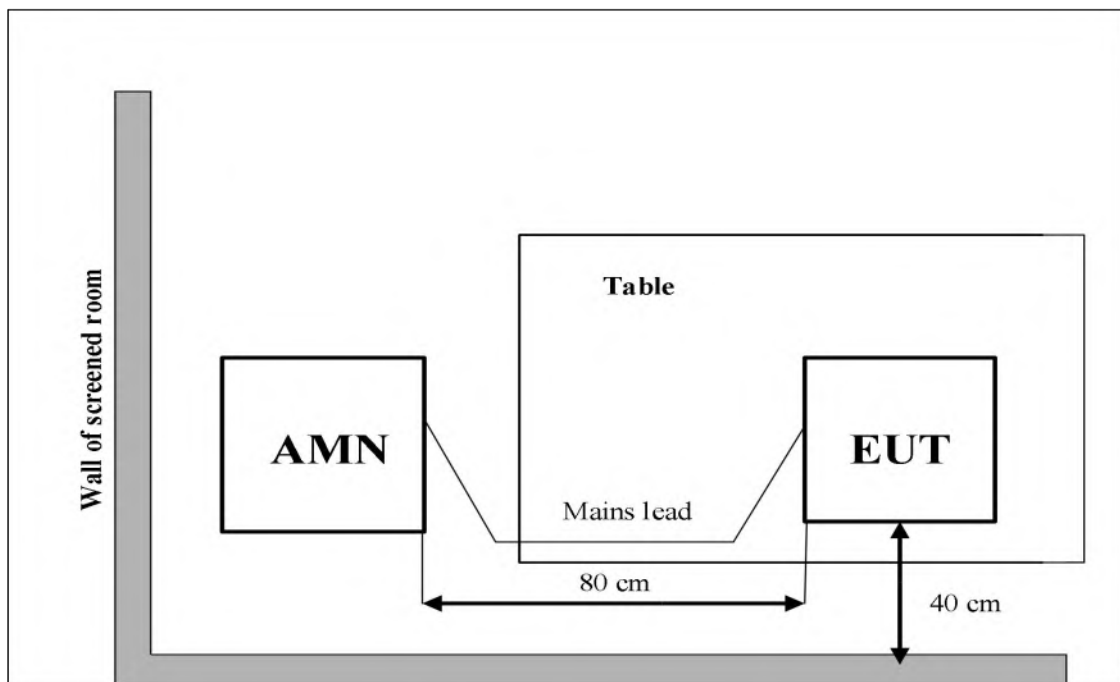


3GHz-26.5GHz:



3) AC Power line Conducted Emission Measurement

For WLAN, the EUT is working under test mode. The EUT is commanded to operate at maximum transmitting power.



**A.0 Antenna requirement****Measurement Limit:**

Standard	Requirement
FCC CRF Part 15.203	An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

**Conclusion: The Directional gains of antenna used for transmitting: -0.18dBi.
The RF transmitter uses an integrate antenna without connector.**

A.1 Maximum Output Power

Measurement of method: See ANSI C63.10-2013-Clause 11.9.2.3.2.

Method AVGPM-G is a measurement using a gated RF average power meter.

Alternatively, measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Because the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

Measurement Limit:

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

Measurement Results:

Mode	RF output power (dBm)		
	2412MHz(CH1)	2437MHz(CH6)	2462MHz(CH11)
802.11b	18.46	18.29	18.40
802.11g	19.99	19.89	19.91
802.11n-HT20	18.78	18.65	18.70
/	2422MHz(CH3)	2437MHz(CH6)	2452MHz(CH9)
802.11n-HT40	18.82	18.58	18.79

Note:

The data rate 1Mbps (11b mode), 6Mbps (11g mode) and MCS0 (11n mode) are selected as the Worst-Case. The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.

Conclusion: PASS

**A.2 Peak Power Spectral Density****Method of Measurement:** See ANSI C63.10-clause 11.10.2.**Measurement Limit:**

Standard	Limit (dBm/10 kHz)
FCC CRF Part 15.247(e)	< 8

Measurement Results:

Mode	Frequency (MHz)	Test Results (dBm/10 kHz)		Conclusion
802.11b	2412(CH1)	Fig.1	7.46	P
	2437(CH6)	Fig.2	7.60	P
	2462(CH11)	Fig.3	7.72	P
802.11g	2412(CH1)	/	-1.39	P
	2437(CH6)	/	-1.22	P
	2462(CH11)	/	-1.58	P
802.11n-HT20	2412(CH1)	/	-1.47	P
	2437(CH6)	/	-2.50	P
	2462(CH11)	/	-1.72	P

Note: The 20M bandwidth mode has the worst PSD.

See below for test graphs.**Conclusion: PASS**

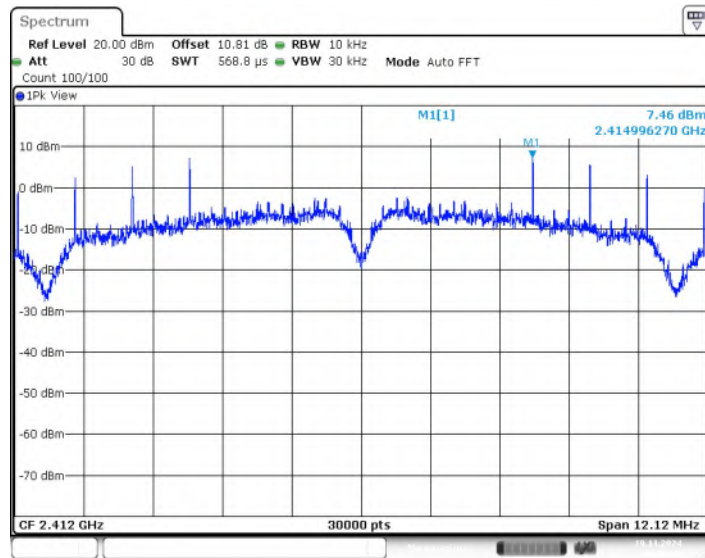


Fig.1 Power Spectral Density (802.11b, CH1)

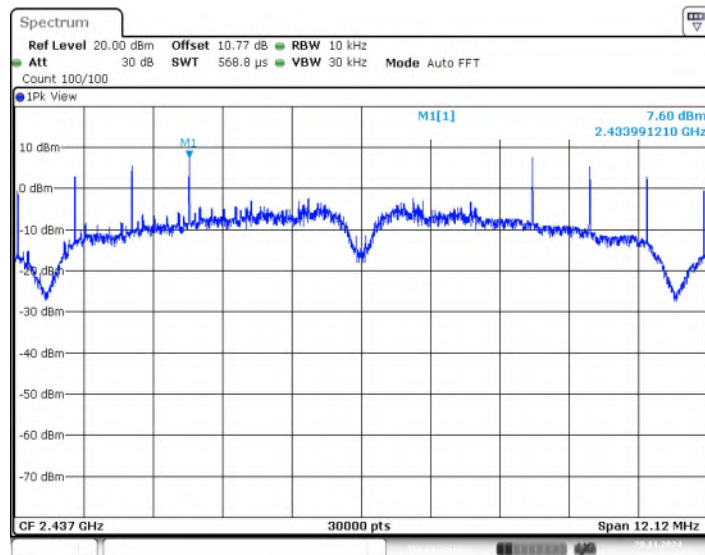


Fig.2 Power Spectral Density (802.11b, CH6)

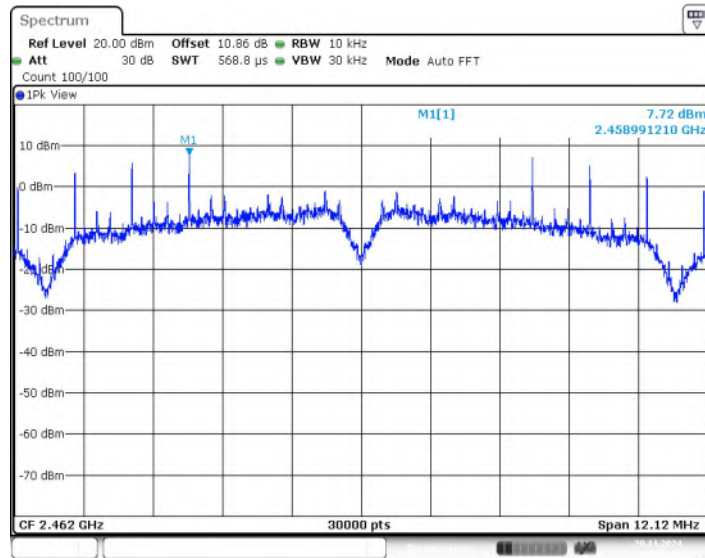


Fig.3 Power Spectral Density (802.11b, CH11)



A.3 6dB Bandwidth

Method of Measurement: See ANSI C63.10-clause 11.8.

Measurement Limit:

Standard	Limit (MHz)
FCC 47 CFR Part 15.247 (a)	≥ 0.5

Measurement Result:

Mode	Frequency (MHz)	Test Results (MHz)		Conclusion
802.11b	2412(CH1)	Fig.4	8.08	P
	2437(CH6)	Fig.5	8.08	P
	2462(CH11)	Fig.6	8.08	P
802.11g	2412(CH1)	/	15.12	P
	2437(CH6)	/	14.68	P
	2462(CH11)	/	15.32	P
802.11n-HT20	2412(CH1)	/	15.08	P
	2437(CH6)	/	15.36	P
	2462(CH11)	/	14.96	P
802.11n-HT40	2422(CH3)	Fig.7	35.12	P
	2437(CH6)	Fig.8	36.08	P
	2452(CH9)	Fig.9	35.12	P

See below for test graphs.

Conclusion: PASS

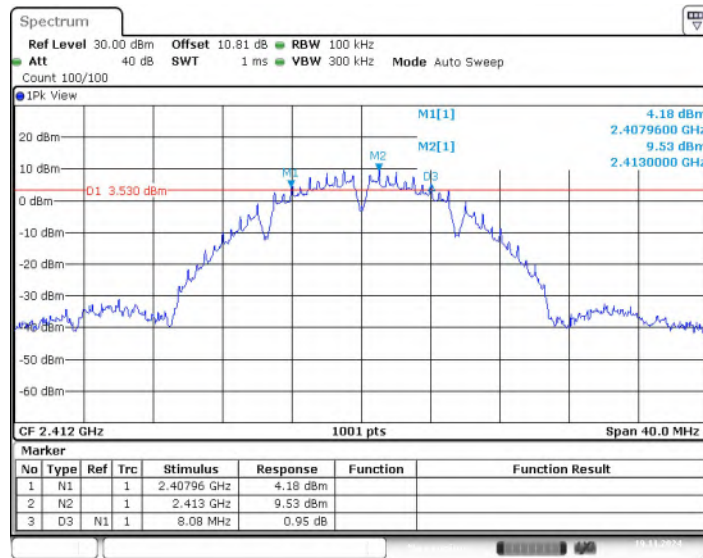


Fig.4 6dB Bandwidth (802.11b, CH1)

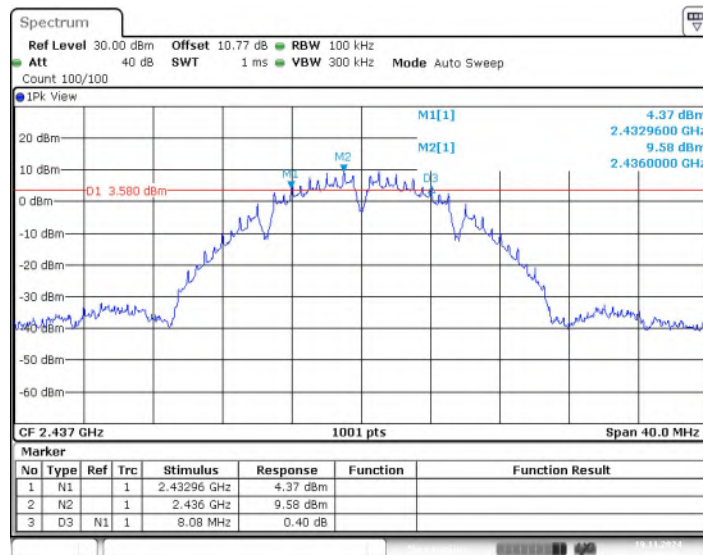


Fig.5 6dB Bandwidth (802.11b, CH6)

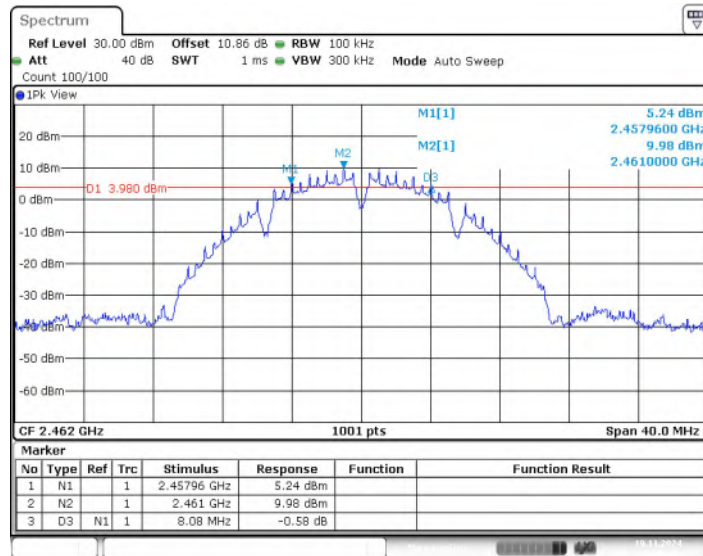


Fig.6 6dB Bandwidth (802.11b, CH11)

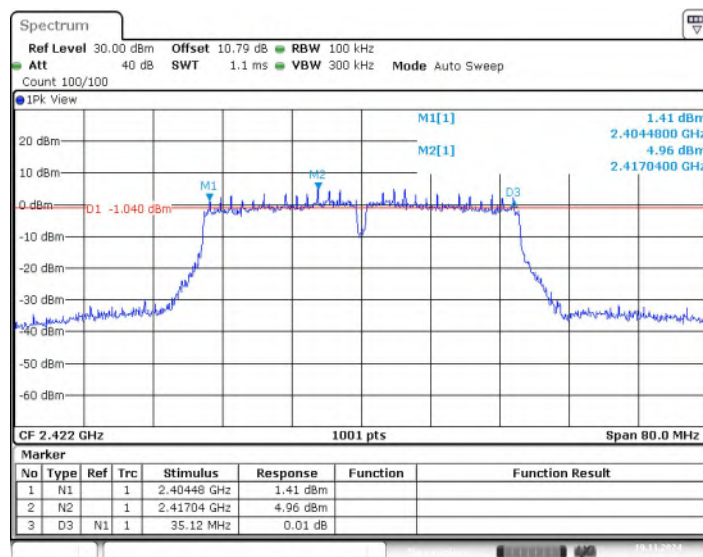


Fig.7 6dB Bandwidth (802.11n-HT40, CH3)

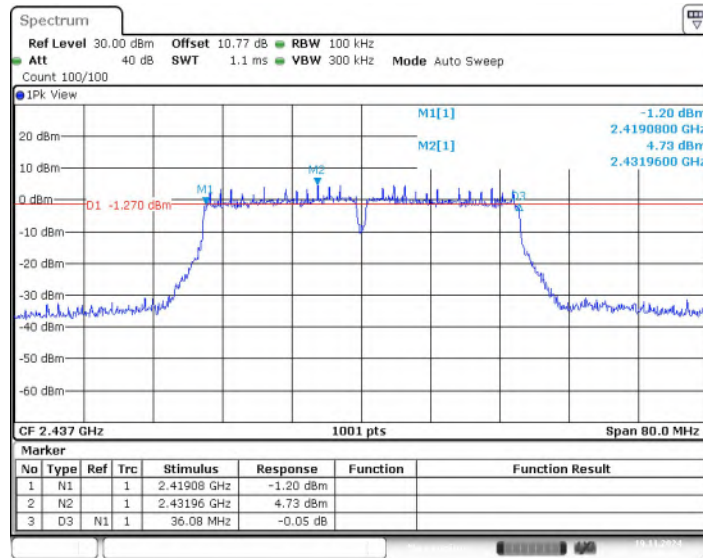


Fig.8 6dB Bandwidth (802.11n-HT40, CH6)

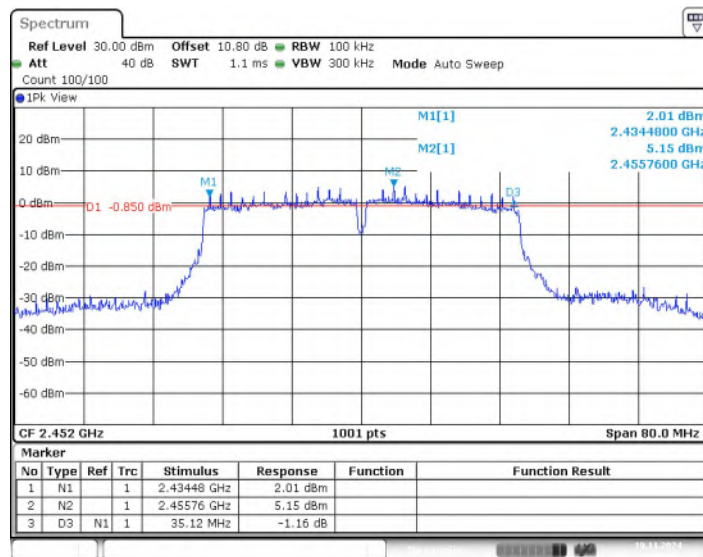


Fig.9 6dB Bandwidth (802.11n-HT40, CH9)



A.4 Band Edges Compliance

Method of Measurement: See ANSI C63.10-clause 11.13.3.

Measurement Limit:

Standard	Limit (dBc)
FCC 47 CFR Part 15.247 (d)	> 30

Measurement Result:

Mode	Frequency (MHz)	Test Results (dBc)		Conclusion
802.11b	2412(CH1)	Fig.10	41.35	P
	2462(CH11)	Fig.11	53.78	P
802.11g	2412(CH1)	/	31.00	P
	2462(CH11)	/	42.47	P
802.11n-HT20	2412(CH1)	/	29.63	P
	2462(CH11)	/	43.62	P
802.11n-HT40	2422(CH3)	Fig.12	35.07	P
	2452(CH9)	Fig.13	32.75	P

See below for test graphs.

Conclusion: PASS

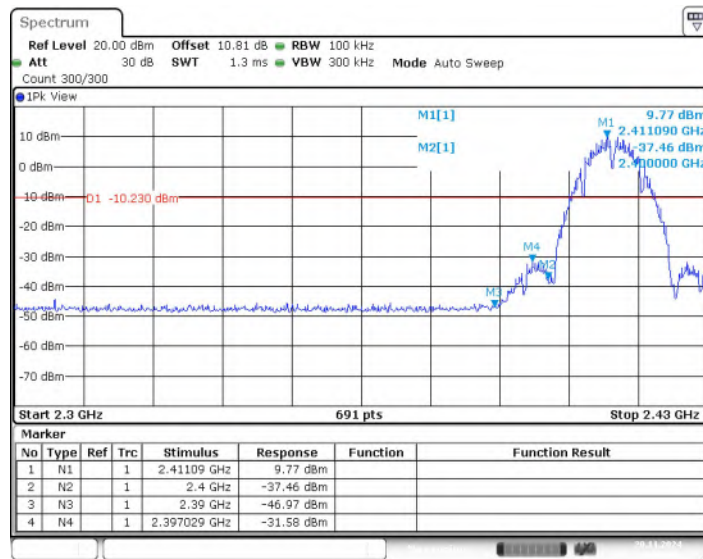


Fig.10 Band Edges (802.11b, CH1)

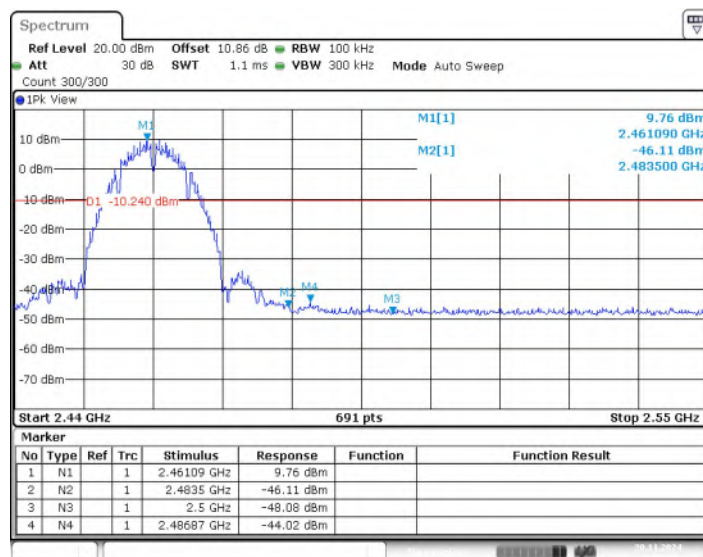


Fig.11 Band Edges (802.11b, CH11)

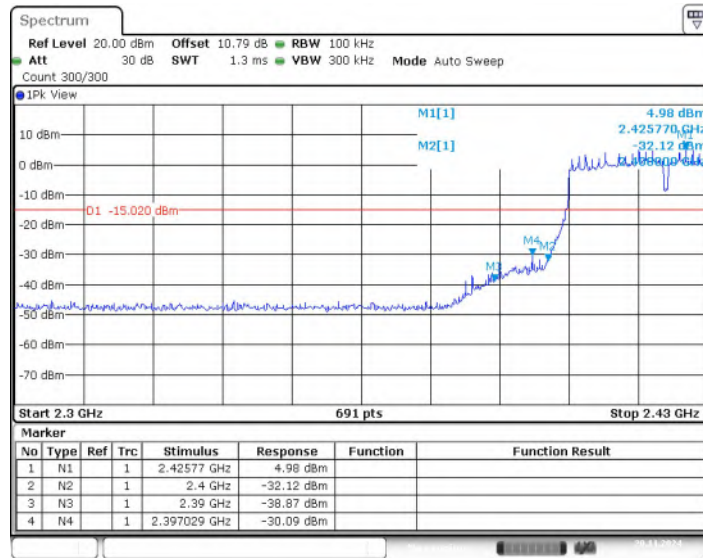


Fig.12 Band Edges (802.11n-HT40, CH3)

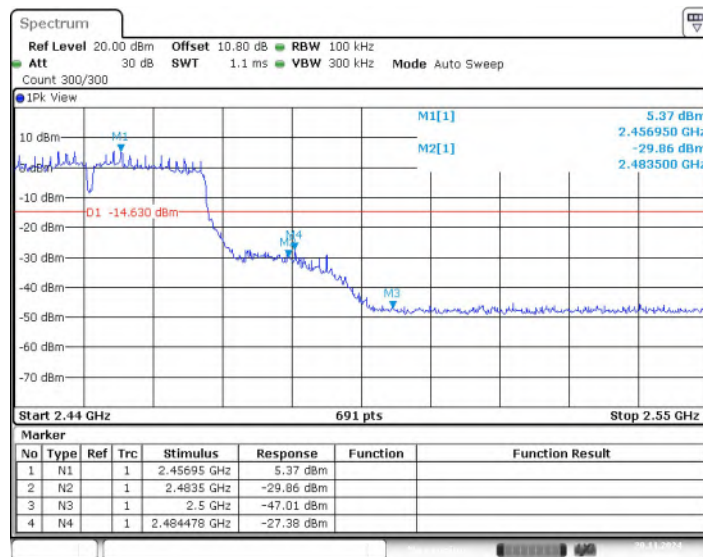


Fig.13 Band Edges (802.11n-HT40, CH9)



A.5 Conducted Emission

Method of Measurement: See ANSI C63.10-clause 11.11.

Measurement Limit:

Standard	Limit (dBm)
FCC 47 CFR Part 15.247 (d)	30dBm below peak output power in 100kHz bandwidth

Measurement Results:

Mode	Frequency (MHz)	Frequency Range	Test Results	Conclusion
802.11b	2412(CH1)	1GHz-26.5GHz	Fig.14	P
	2437(CH6)	1GHz-26.5GHz	Fig.15	P
	2462(CH11)	1GHz-26.5GHz	Fig.16	P
802.11g	2412(CH1)	1GHz-26.5GHz	Fig.17	P
	2437(CH6)	1GHz-26.5GHz	Fig.18	P
	2462(CH11)	1GHz-26.5GHz	Fig.19	P
802.11n-HT20	2412(CH1)	1GHz-26.5GHz	Fig.20	P
	2437(CH6)	1GHz-26.5GHz	Fig.21	P
	2462(CH11)	1GHz-26.5GHz	Fig.22	P
802.11n-HT40	2422(CH3)	1GHz-26.5GHz	Fig.23	P
	2437(CH6)	1GHz-26.5GHz	Fig.24	P
	2452(CH9)	1GHz-26.5GHz	Fig.25	P
/	All channels	30MHz -1GHz	Fig.26	P

See below for test graphs.

Conclusion: PASS

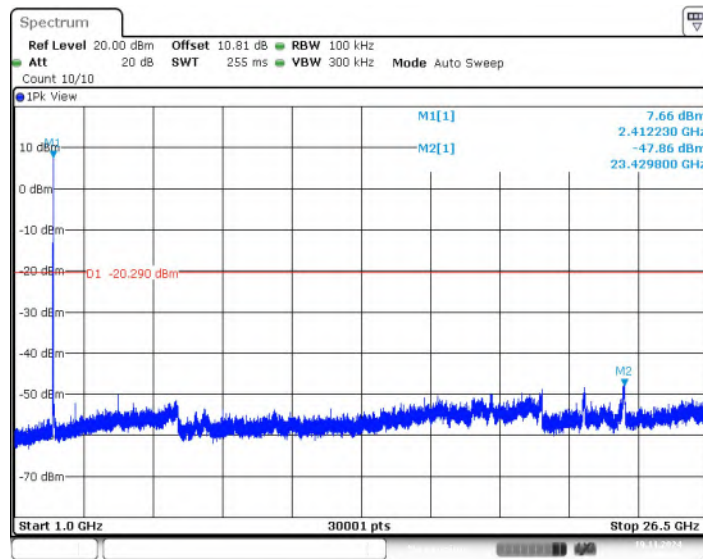


Fig.14 Conducted Spurious Emission (1GHz-26.5GHz, 802.11b, CH1)

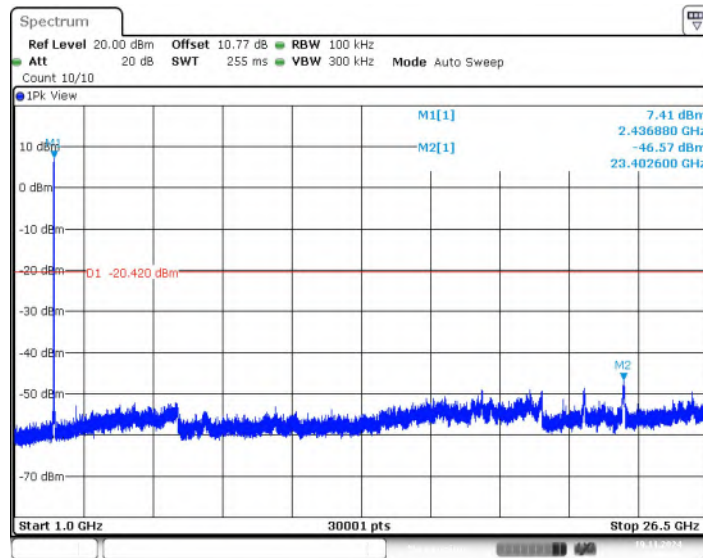


Fig.15 Conducted Spurious Emission (1GHz-26.5GHz, 802.11b, CH6)

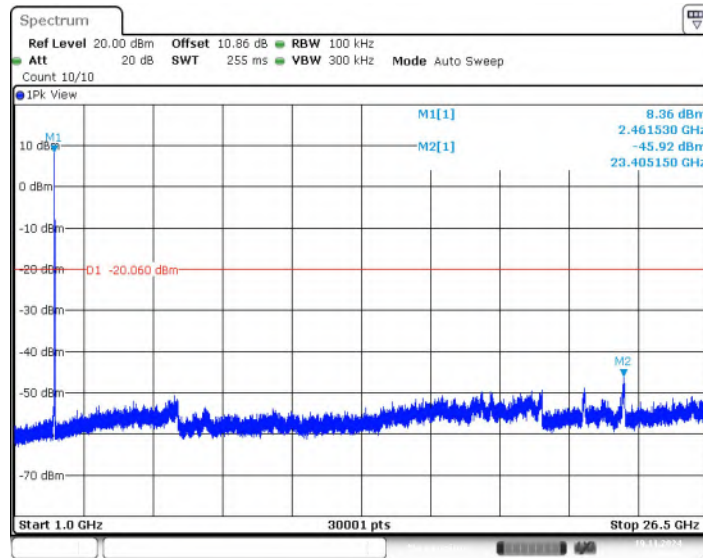


Fig.16 Conducted Spurious Emission (1GHz-26.5GHz, 802.11b, CH11)

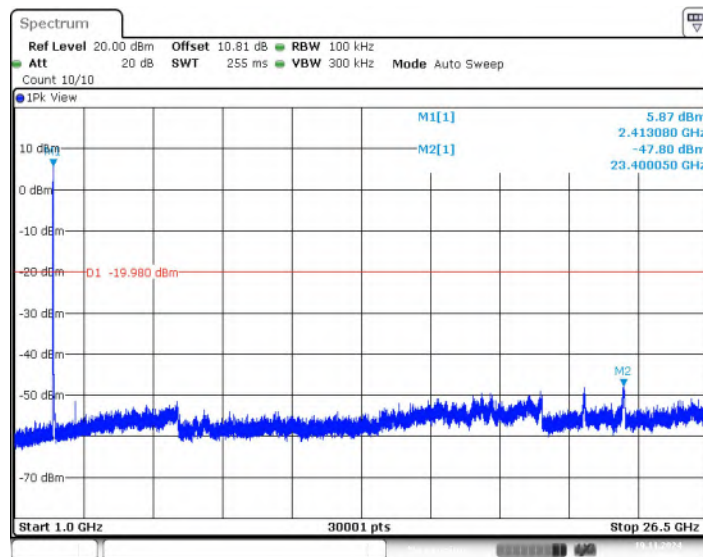


Fig.17 Conducted Spurious Emission (1GHz-26.5GHz, 802.11g, CH1)

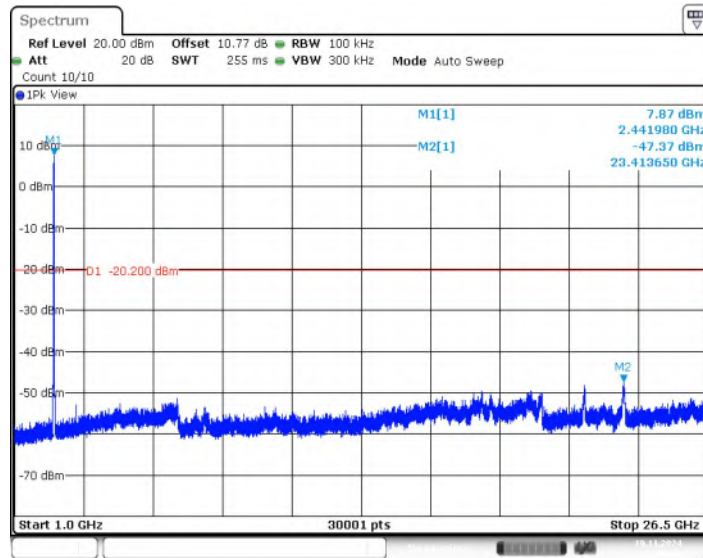


Fig.18 Conducted Spurious Emission (1GHz-26.5GHz, 802.11g, CH6)

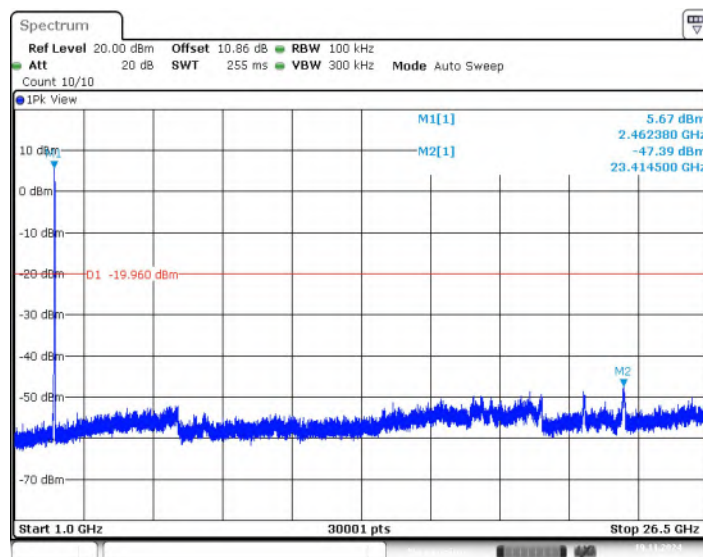


Fig.19 Conducted Spurious Emission (1GHz-26.5GHz, 802.11g, CH11)

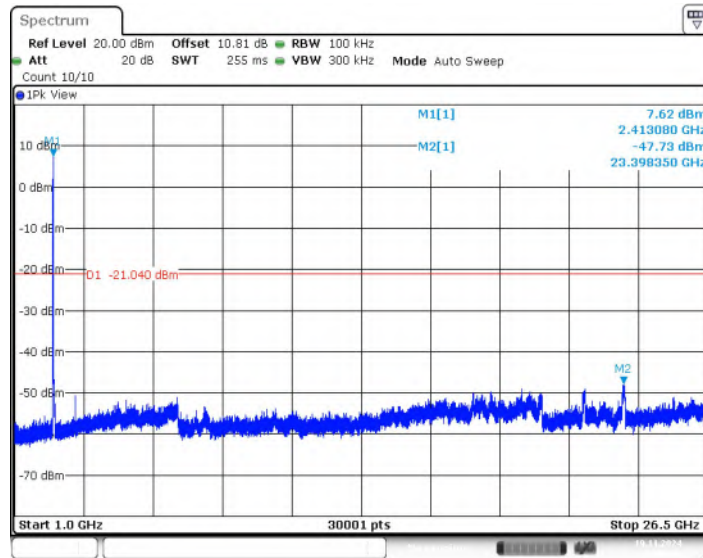


Fig.20 Conducted Spurious Emission (1GHz-26.5GHz, 802.11n-HT20, CH1)

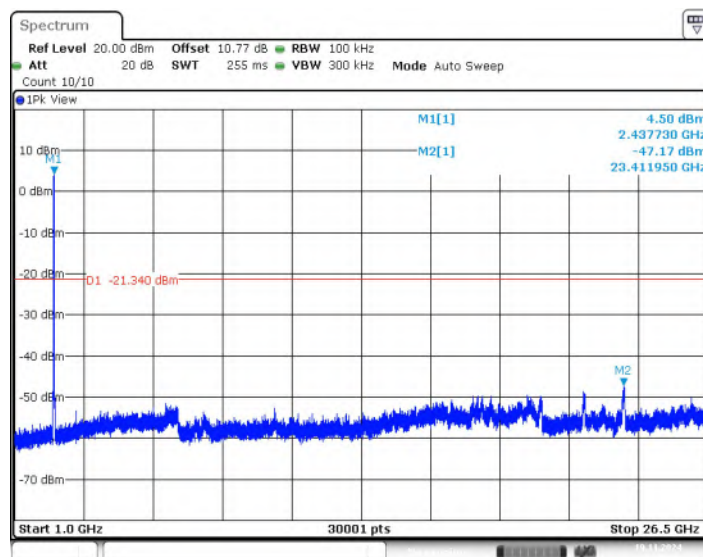


Fig.21 Conducted Spurious Emission (1GHz-26.5GHz, 802.11n-HT20, CH6)

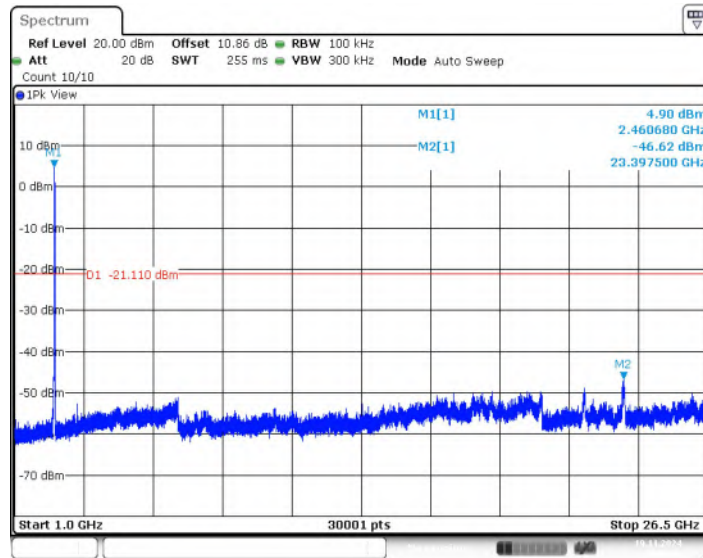


Fig.22 Conducted Spurious Emission (1GHz-26.5GHz, 802.11n-HT20, CH11)

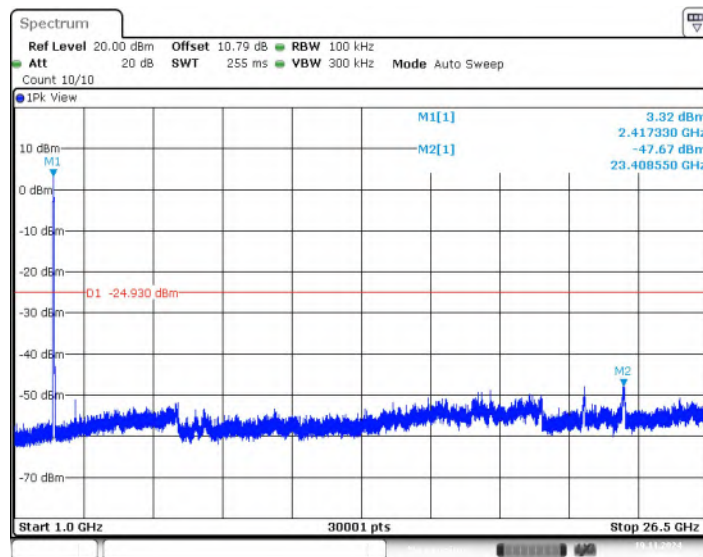


Fig.23 Conducted Spurious Emission (1GHz-26.5GHz, 802.11n-HT40, CH3)

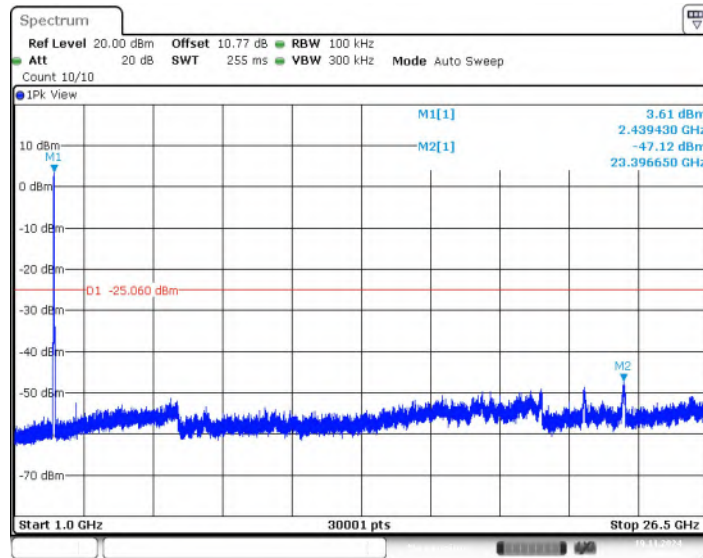


Fig.24 Conducted Spurious Emission (1GHz-26.5GHz, 802.11n-HT40, CH6)

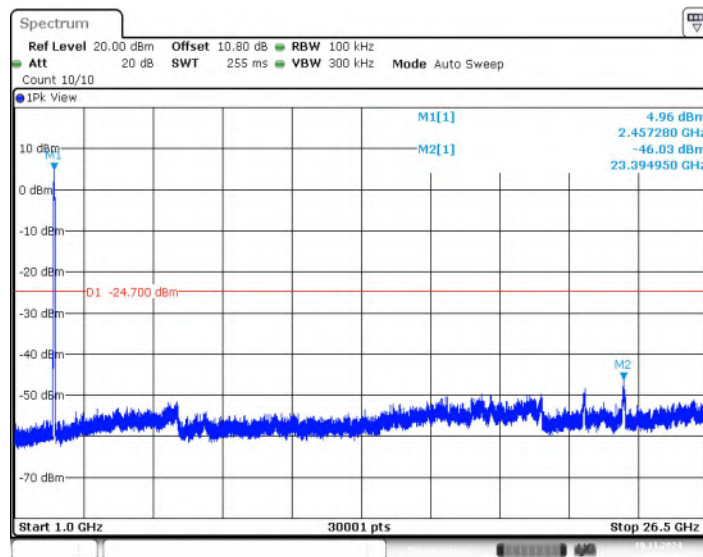


Fig.25 Conducted Spurious Emission (1GHz-26.5GHz, 802.11n-HT40, CH9)

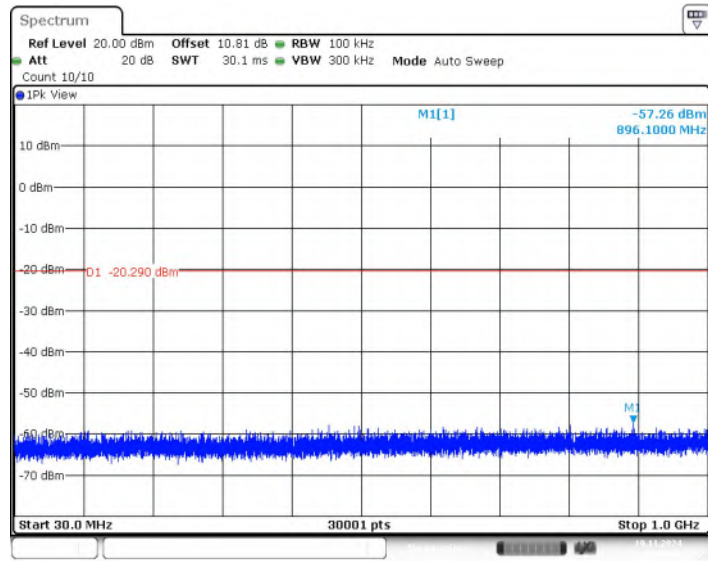


Fig.26 Conducted Spurious Emission (All Channels, 30MHz -1GHz)

A.6 Radiated Emission

Method of Measurement: See ANSI C63.10-clause 11.11&11.12.

Measurement Limit:

Standard	Limit (dBm)
FCC 47 CFR Part 15.247, 15.205, 15.209	20dBm 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 § 15.209(a) (see § 15.205(c)).

Limit in restricted band:

Frequency of emission (MHz)	Field strength(μ V/m)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

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	120kHz/300kHz	5
1000-4000	1MHz/3MHz	15
4000-18000	1MHz/3MHz	40
18000-26500	1MHz/3MHz	20

Note: According to the performance evaluation, the radiated emission margin of EUT is over 20dB in the band from 9kHz to 30MHz. Therefore, the measurement starts from 30MHz to tenth harmonic. The measurement results include the horizontal polarization and vertical polarization measurements. For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases were recorded in this report.

Measurement Results:

Mode	Frequency (MHz)	Frequency Range	Test Results	Conclusion
802.11b	2412(CH1)	1 GHz ~18 GHz	Fig.27	P
	2437(CH6)	1 GHz ~18 GHz	Fig.28	P
	2462(CH11)	1 GHz ~18 GHz	Fig.29	P
	Restricted Band (CH1)	2.38 GHz ~ 2.45 GHz	Fig.30	P
	Restricted Band (CH11)	2.45 GHz ~ 2.5 GHz	Fig.31	P
802.11g	2412(CH1)	1 GHz ~18 GHz	Fig.32	P
	2437(CH6)	1 GHz ~18 GHz	Fig.33	P
	2462(CH11)	1 GHz ~18 GHz	Fig.34	P
	Restricted Band (CH1)	2.38 GHz ~ 2.45 GHz	Fig.35	P
	Restricted Band (CH11)	2.45 GHz ~ 2.5 GHz	Fig.36	P
802.11n- HT20	2412(CH1)	1 GHz ~18 GHz	Fig.37	P
	2437(CH6)	1 GHz ~18 GHz	Fig.38	P
	2462(CH11)	1 GHz ~18 GHz	Fig.39	P
	Restricted Band (CH1)	2.38 GHz ~ 2.45 GHz	Fig.40	P
	Restricted Band (CH11)	2.45 GHz ~ 2.5 GHz	Fig.41	P
802.11n- HT40	2422(CH3)	1 GHz ~18 GHz	Fig.42	P
	2437(CH6)	1 GHz ~18 GHz	Fig.43	P
	2452(CH9)	1 GHz ~18 GHz	Fig.44	P
	Restricted Band (CH3)	2.38 GHz ~ 2.45 GHz	Fig.45	P
	Restricted Band (CH9)	2.45 GHz ~ 2.5 GHz	Fig.46	P
/	All Channels	9 kHz ~30 MHz	Fig.47	P
		30 MHz ~1 GHz	Fig.48	P
		18 GHz ~26.5 GHz	Fig.49	P

Worst-Case Result:
802.11b CH1 (1-18GHz)

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB/m)
8911.714286	46.09	74.00	27.91	V	6.5
10389.000000	47.41	74.00	26.59	V	9.0
11904.428572	47.29	74.00	26.71	H	10.2
14836.285714	50.74	74.00	23.26	V	12.9
16920.857143	54.65	74.00	19.35	V	18.1
17909.142857	55.04	74.00	18.96	H	18.9

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB/m)
8911.714286	33.24	54.00	20.76	V	6.5
10389.000000	35.17	54.00	18.83	V	9.0
11904.428572	34.84	54.00	19.16	H	10.2
14836.285714	38.32	54.00	15.68	V	12.9

16920.857143	42.17	54.00	11.83	V	18.1
17909.142857	42.54	54.00	11.46	H	18.9

802.11g CH1 (1GHz-18GHz)

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB/m)
5527.200000	47.71	74.00	26.29	H	3.8
8843.571429	45.63	74.00	28.37	V	6.4
10928.571429	47.40	74.00	26.60	V	9.5
12275.571429	49.01	74.00	24.99	V	11.0
14909.142857	51.05	74.00	22.95	H	13.0
17048.571429	54.03	74.00	19.97	H	18.5

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB/m)
5527.200000	35.08	54.00	18.92	H	3.8
8843.571429	33.12	54.00	20.88	V	6.4
10928.571429	35.32	54.00	18.68	V	9.5
12275.571429	36.09	54.00	17.91	V	11.0
14909.142857	38.63	54.00	15.37	H	13.0
17048.571429	42.15	54.00	11.85	H	18.5

802.11n-HT20 CH1 (1GHz-18GHz)

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB/m)
4648.500000	47.13	74.00	26.87	H	4.6
8949.857143	46.60	74.00	27.40	H	6.5
10452.428572	47.75	74.00	26.25	V	9.0
12599.142857	48.17	74.00	25.83	H	11.3
14873.571429	50.52	74.00	23.48	V	13.0
16914.000000	54.62	74.00	19.38	V	18.1

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB/m)
4648.500000	34.65	54.00	19.35	H	4.6
8949.857143	33.26	54.00	20.74	H	6.5
10452.428572	35.18	54.00	18.82	V	9.0
12599.142857	35.97	54.00	18.03	H	11.3
14873.571429	38.54	54.00	15.46	V	13.0
16914.000000	42.25	54.00	11.75	V	18.1

**802.11n-HT40 CH3 (1GHz-18GHz)**

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB/m)
4696.200000	46.67	74.00	27.33	V	4.5
5995.200000	48.89	74.00	25.11	H	5.1
9586.285714	45.22	74.00	28.78	H	7.3
12885.000000	49.03	74.00	24.97	H	11.0
16619.142857	53.91	74.00	20.09	V	17.0
17911.285714	54.92	74.00	19.08	H	18.9

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB/m)
4696.200000	34.56	54.00	19.44	V	4.5
5995.200000	35.83	54.00	18.17	H	5.1
9586.285714	33.06	54.00	20.94	H	7.3
12885.000000	36.60	54.00	17.40	H	11.0
16619.142857	41.56	54.00	12.44	V	17.0
17911.285714	42.53	54.00	11.47	H	18.9

Note:

A "reference path loss" is established and the A_{Rpl} is the attenuation of "reference path loss", and Antenna Factor, 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:

Result= P_{Mea} +Cable Loss +Antenna Factor-Gain of the preamplifier.

See below for test graphs.

Conclusion: PASS

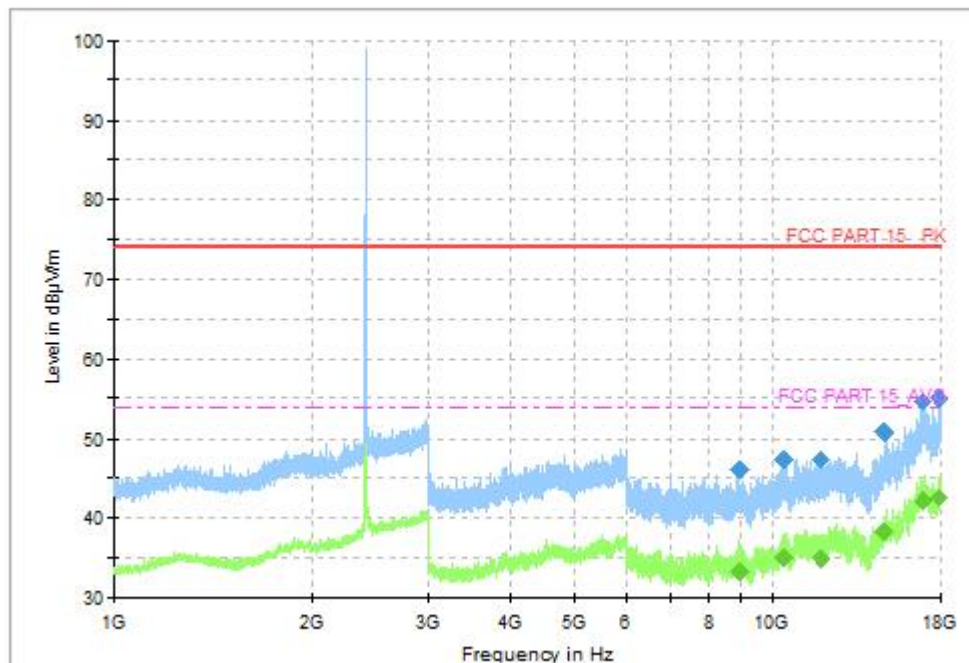


Fig.27 Radiated Spurious Emission (802.11b, CH1, 1GHz-18GHz)

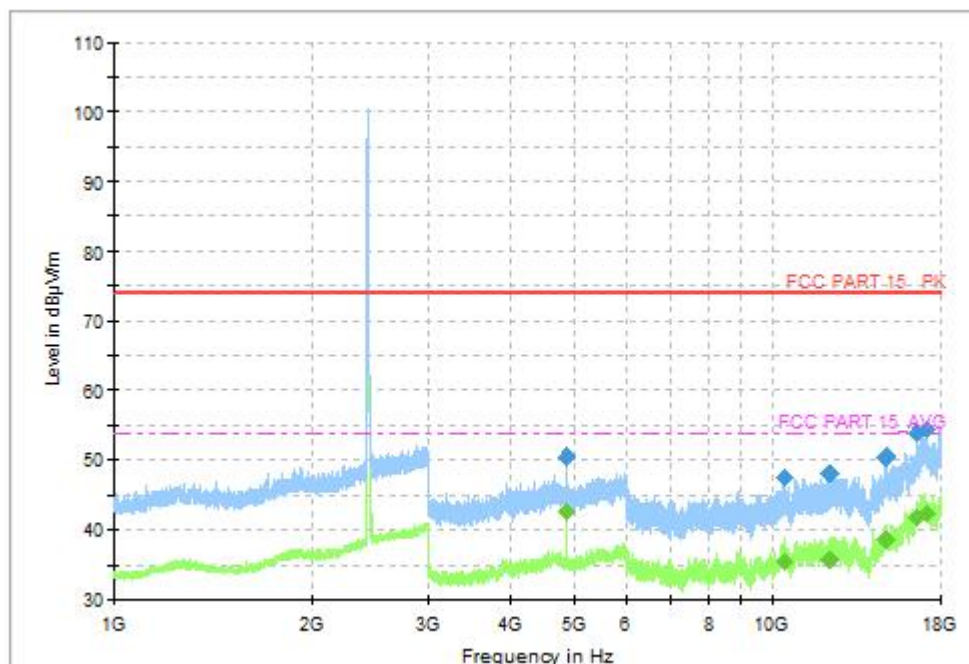


Fig.28 Radiated Spurious Emission (802.11b, CH6, 1GHz-18GHz)

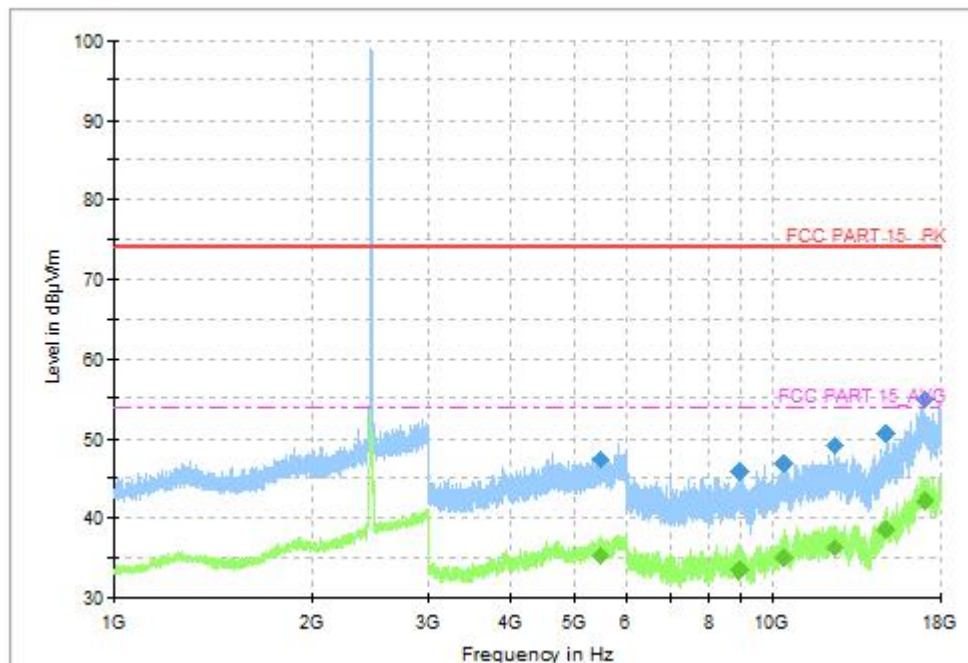


Fig.29 Radiated Spurious Emission (802.11b, CH11, 1GHz-18GHz)

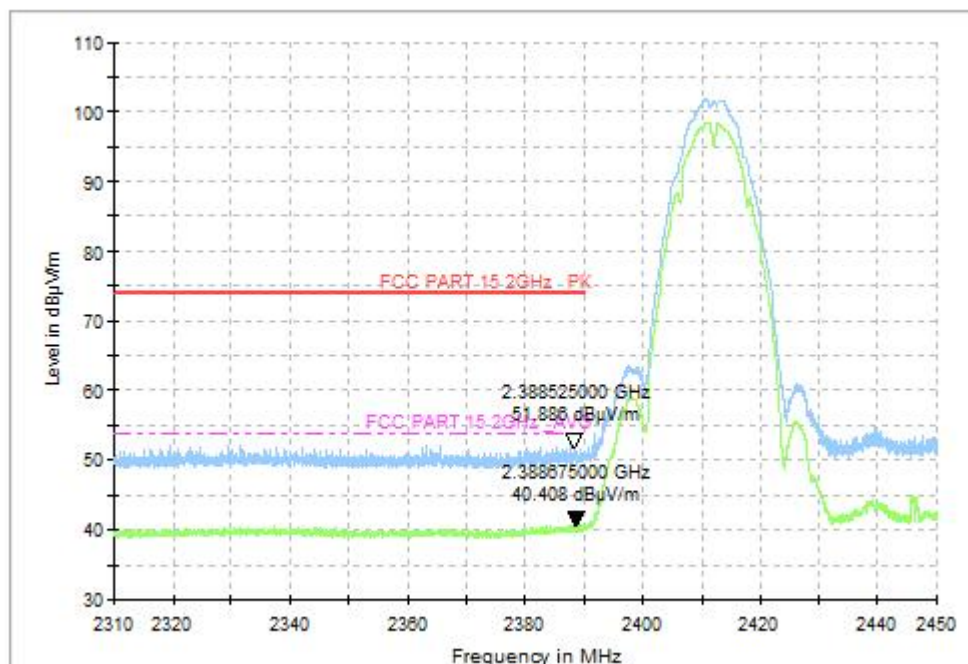


Fig.30 Radiated Restricted Band (802.11b, CH1, 2.38GHz~2.45GHz)

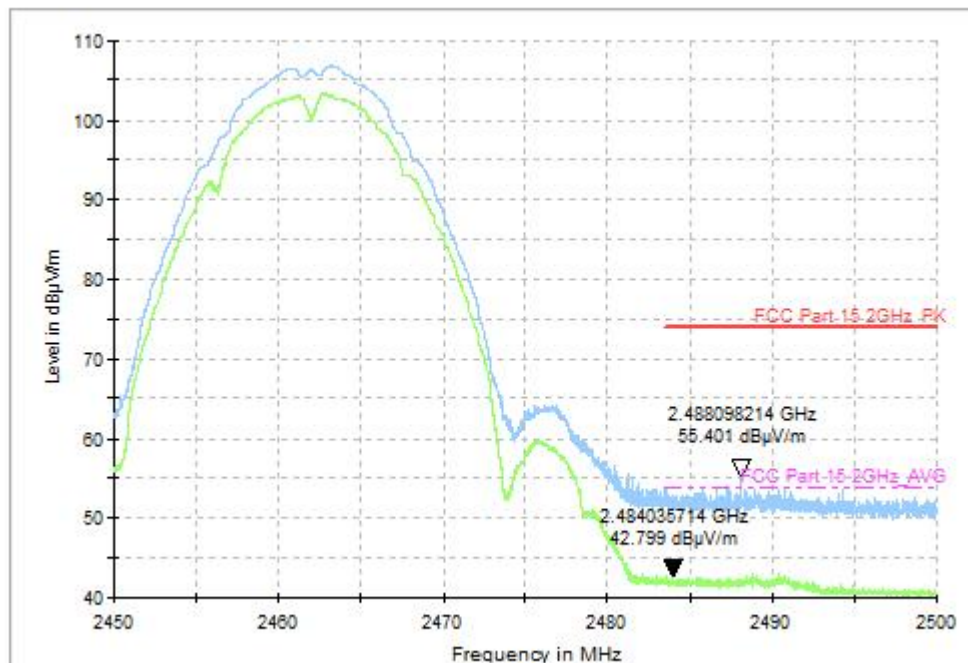


Fig.31 Radiated Restricted Band (802.11b, CH11, 2.45GHz~2.50GHz)

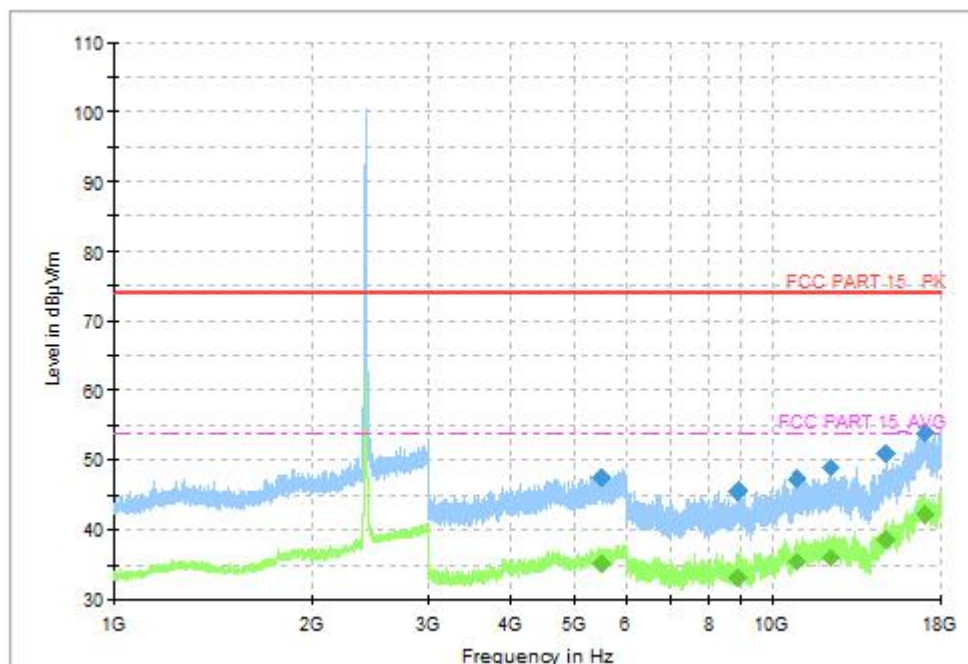


Fig.32 Radiated Spurious Emission (802.11g, CH1, 1GHz-18GHz)

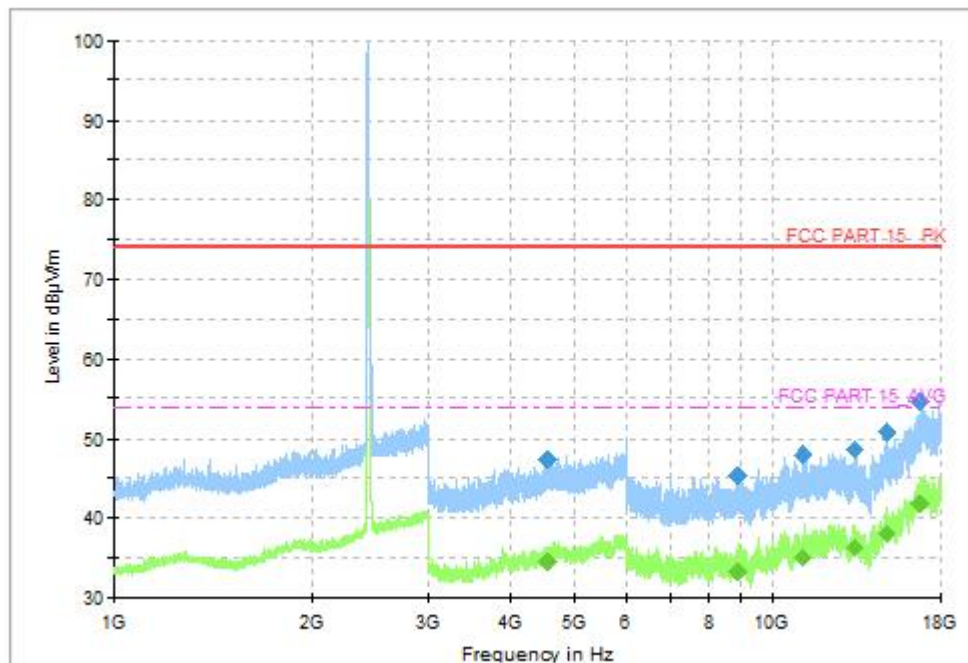


Fig.33 Radiated Spurious Emission (802.11g, CH6, 1GHz-18GHz)

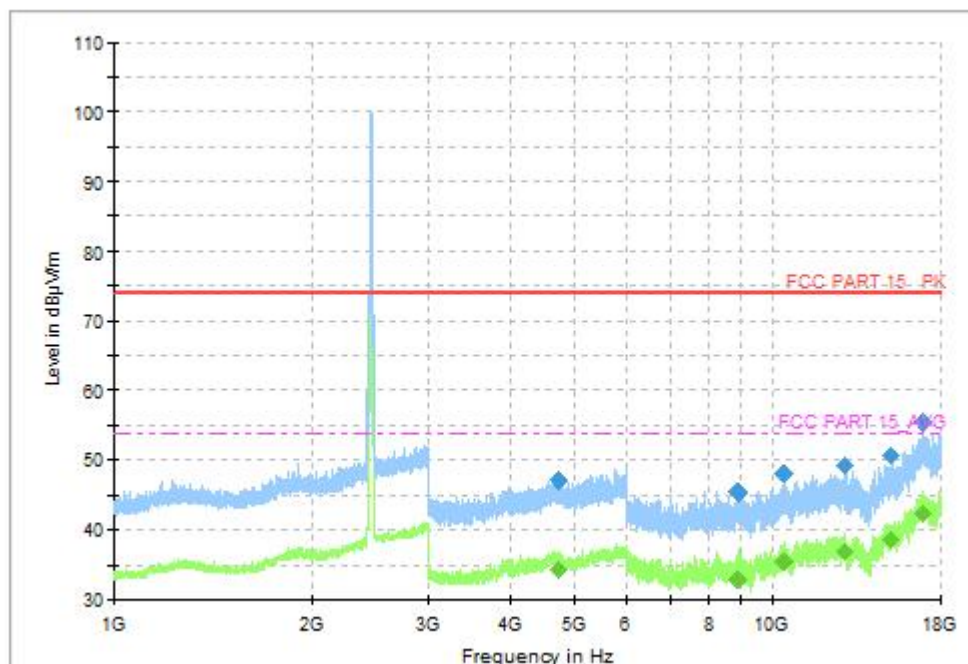


Fig.34 Radiated Spurious Emission (802.11g, CH11, 1GHz-18GHz)

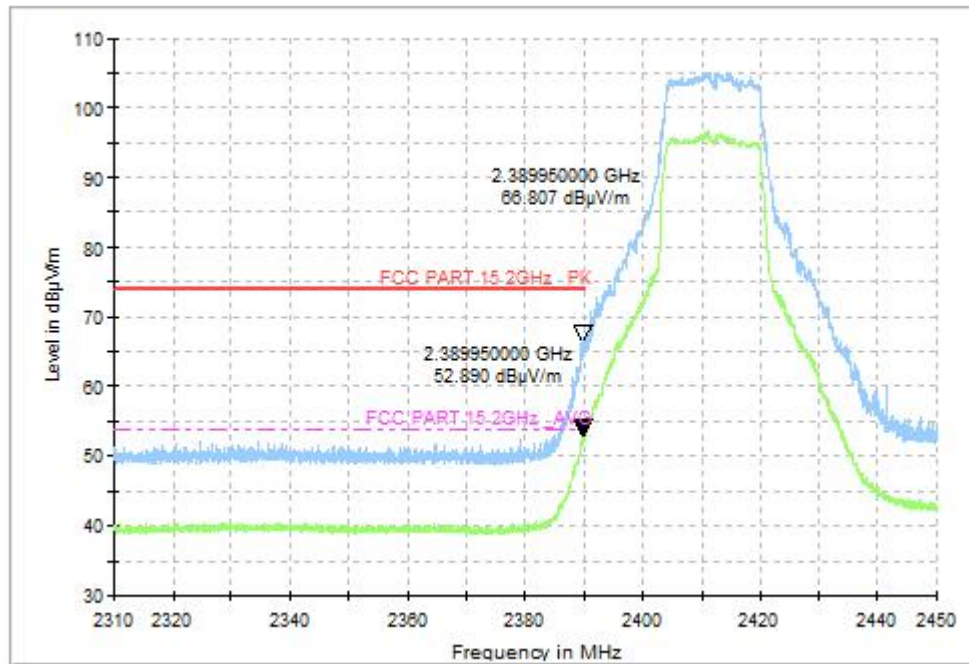


Fig.35 Radiated Restricted Band (802.11g, CH1, 2.38GHz~2.45GHz)

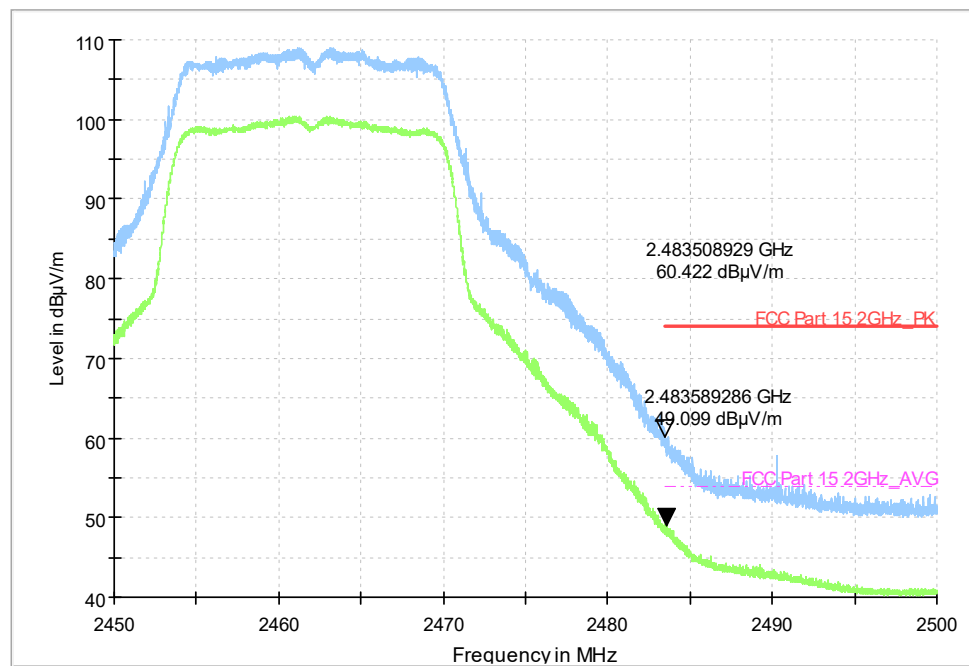


Fig.36 Radiated Restricted Band (802.11g, CH11, 2.45GHz~2.50GHz)

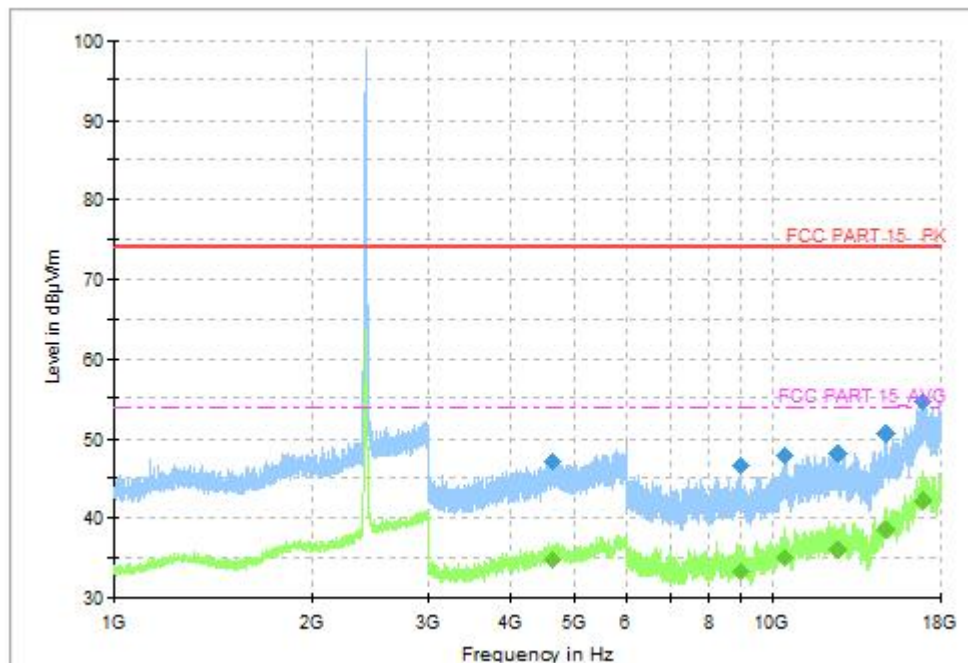


Fig.37 Radiated Spurious Emission (802.11n-HT20, CH1, 1GHz-18GHz)

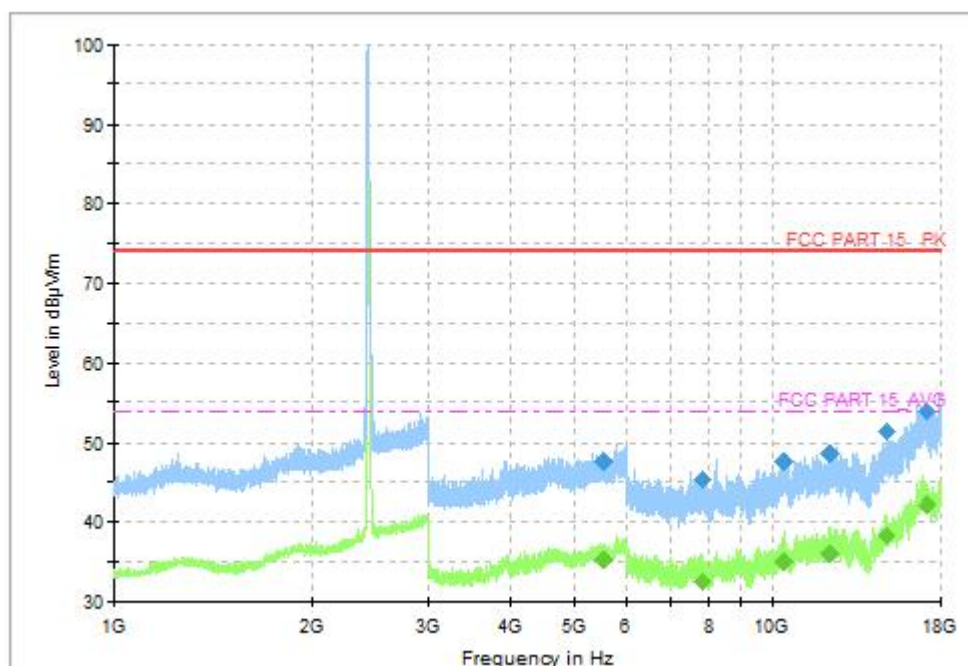


Fig.38 Radiated Spurious Emission (802.11n-HT20, CH6, 1GHz-18GHz)

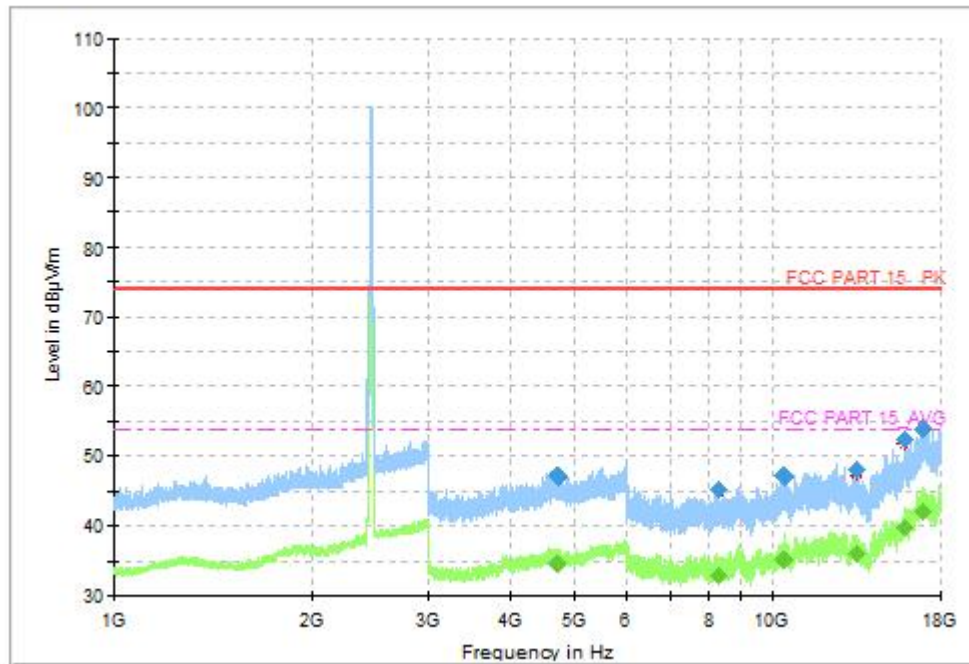


Fig.39 Radiated Spurious Emission (802.11n-HT20, CH11, 1GHz-18GHz)

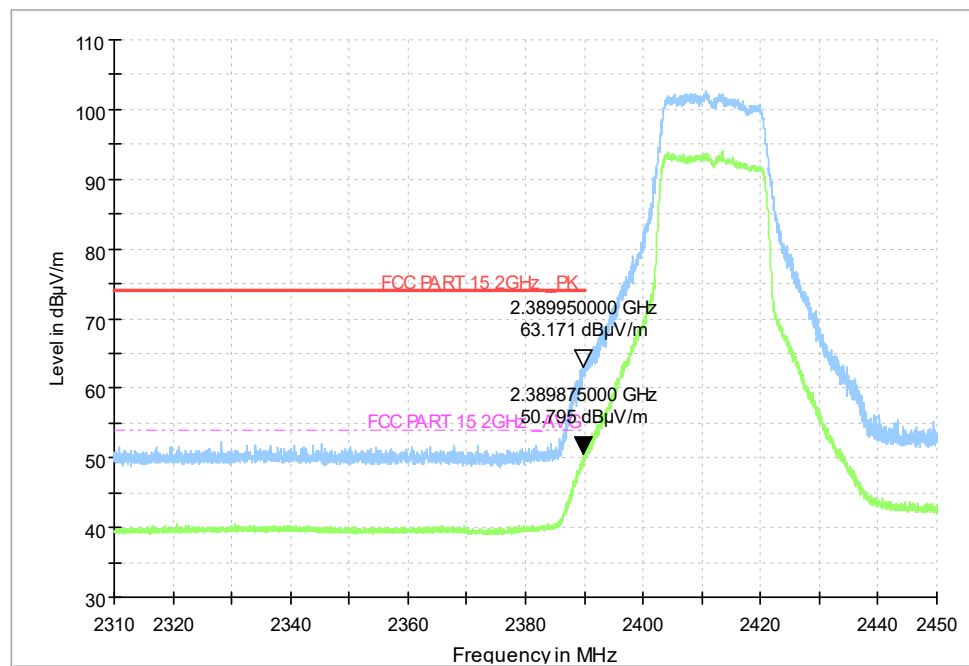


Fig.40 Radiated Restricted Band (802.11n-HT20, CH1, 2.38GHz~2.45GHz)

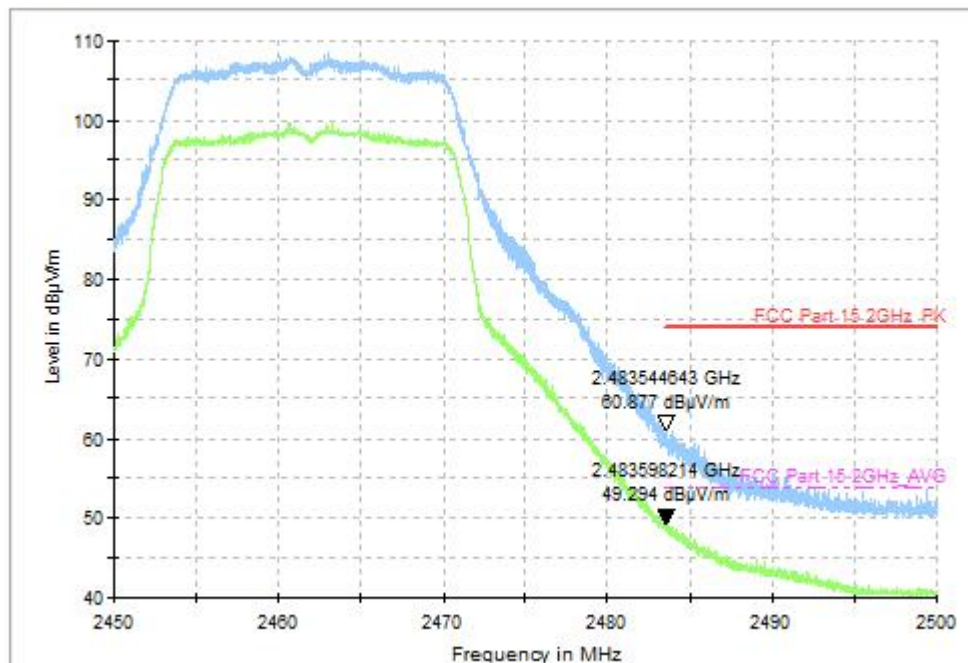


Fig.41 Radiated Restricted Band (802.11n-HT20, CH11, 2.45GHz~2.50GHz)

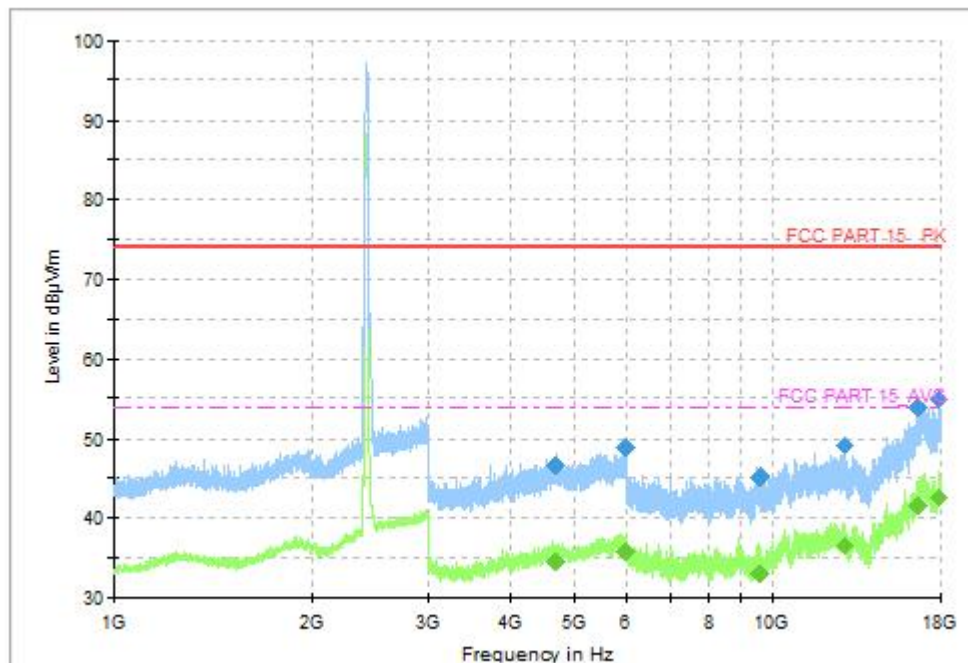


Fig.42 Radiated Spurious Emission (802.11n-HT40, CH3, 1GHz-18GHz)

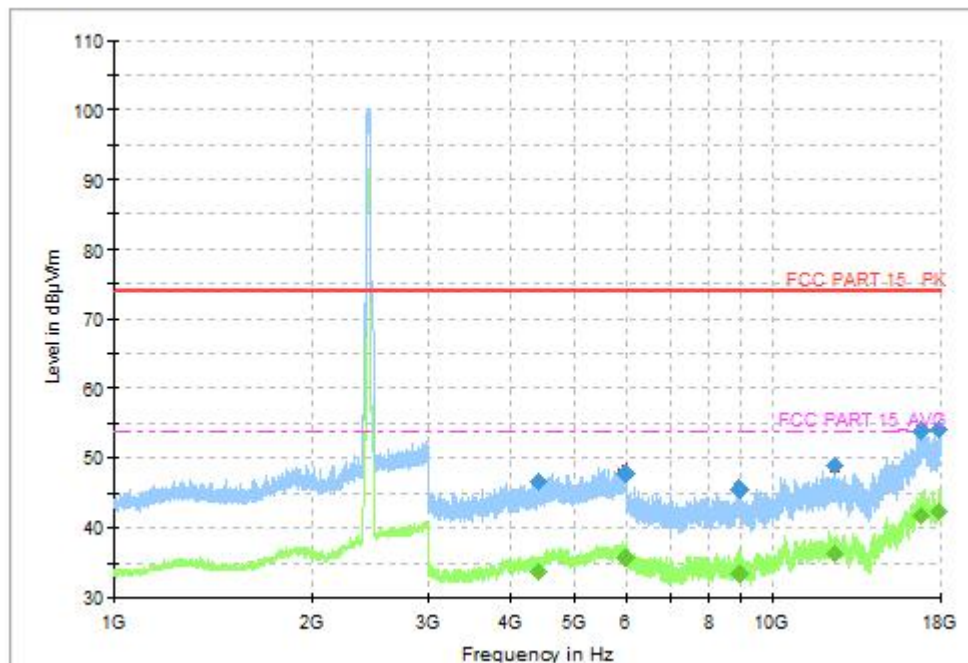


Fig.43 Radiated Spurious Emission (802.11n-HT40, CH6, 1GHz-18GHz)

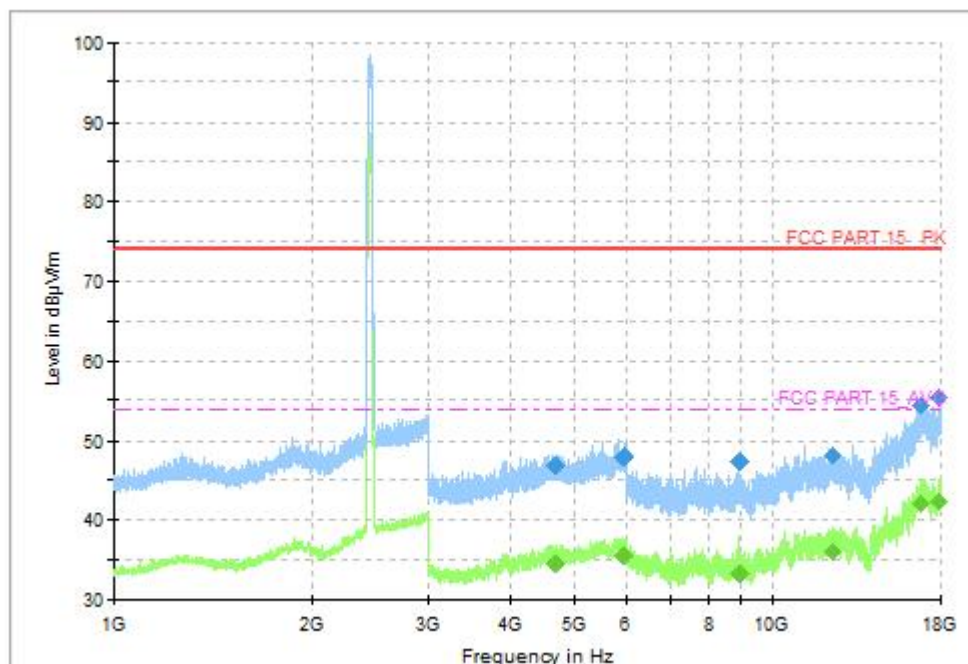


Fig.44 Radiated Spurious Emission (802.11n-HT40, CH9, 1GHz-18GHz)

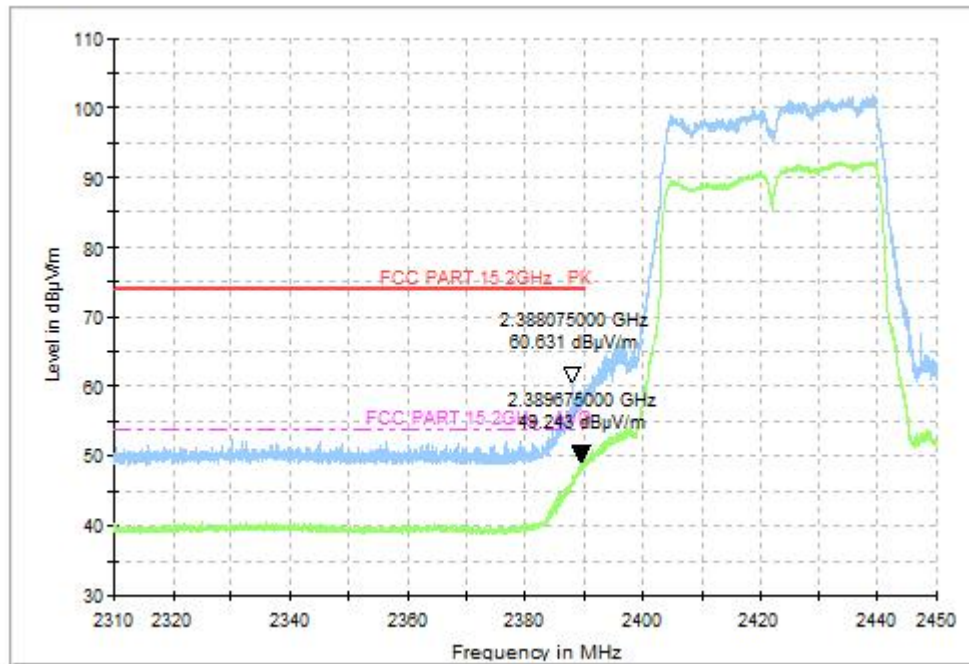


Fig.45 Radiated Restricted Band (802.11n-HT40, CH3, 2.38GHz~2.45GHz)

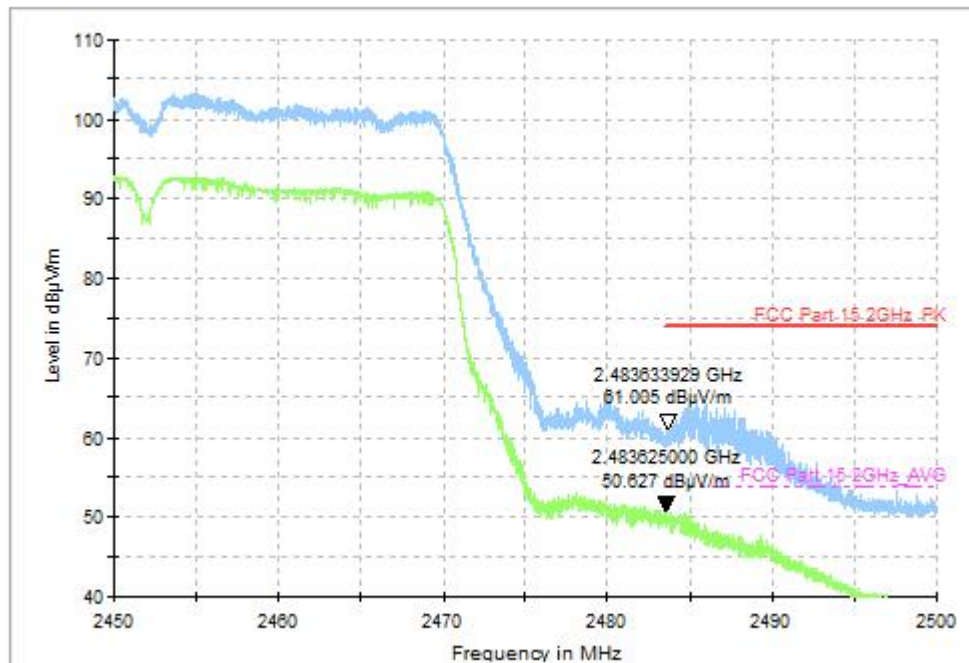


Fig.46 Radiated Restricted Band (802.11n-HT40, CH9, 2.45GHz~2.50GHz)

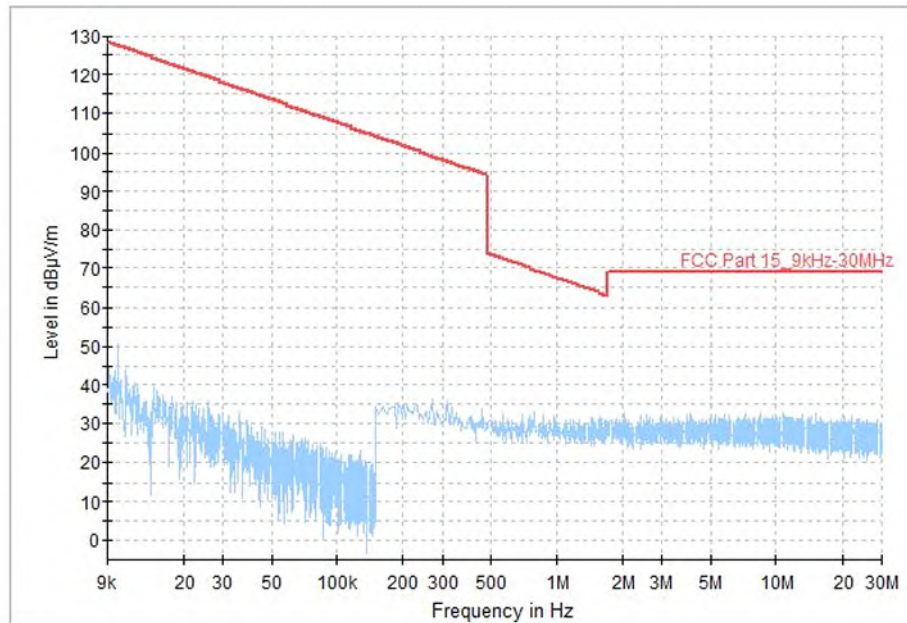


Fig.47 Radiated Spurious Emission (All Channels, 9kHz-30MHz)

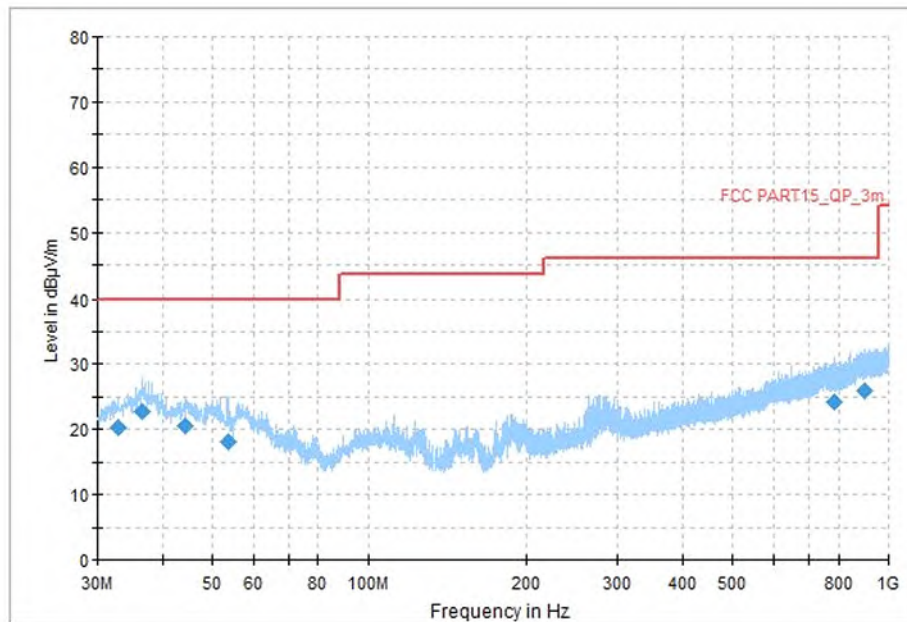


Fig.48 Radiated Spurious Emission (All Channels, 30MHz-1GHz)

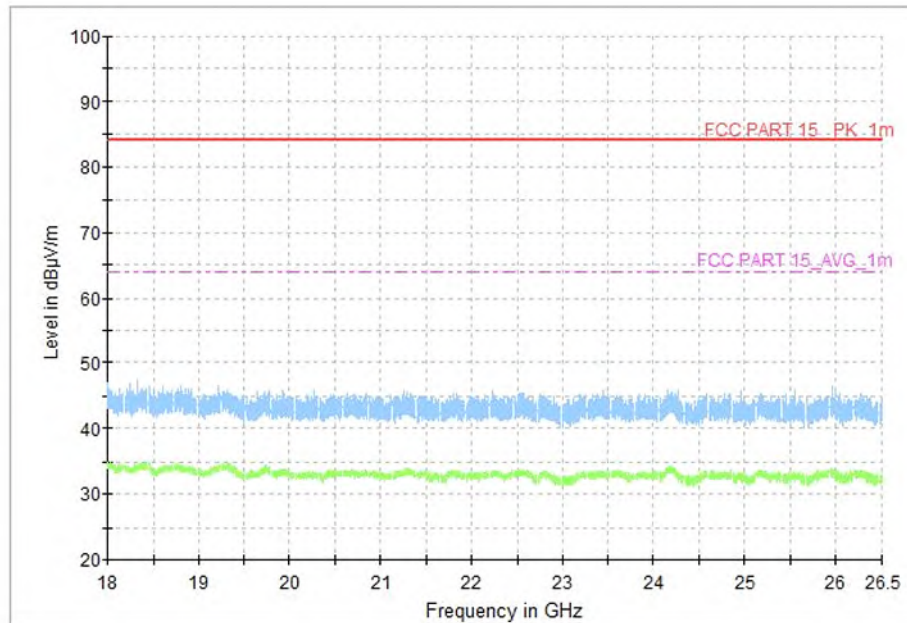


Fig.49 Radiated Spurious Emission (All Channels, 18GHz-26.5GHz)

**A.7 AC Power line Conducted Emission****Method of Measurement: See ANSI C63.10-clause 6.2****Test Condition:**

Voltage (V)	Frequency (Hz)
120	60

Measurement Result and limit:

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Average-peak Limit (dB μ V)	Result (dB μ V)		Conclusion
			Traffic	Idle	
0.15 to 0.5	66 to 56	56 to 46	Fig.50	Fig.51	P
0.5 to 5	56	46			
5 to 30	60	50			

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

Note: The measurement results include the L1 and N measurements.**See below for test graphs.****Conclusion: PASS**

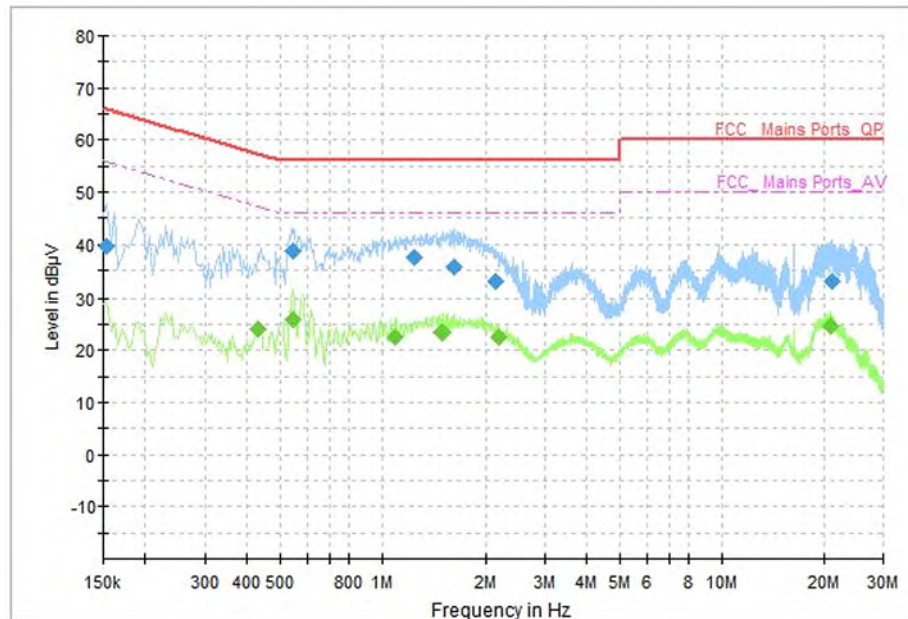


Fig.50 AC Power line Conducted Emission (Traffic)

Measurement Results: Quasi Peak

Frequency (MHz)	Quasi Peak (dBμV)	Limit (dBμV)	Margin (dB)	Line	Filter	Corr. (dB)
0.154000	39.55	65.78	26.23	L1	ON	10
0.546000	38.60	56.00	17.40	L1	ON	10
1.242000	37.47	56.00	18.53	L1	ON	10
1.610000	35.77	56.00	20.23	N	ON	10
2.134000	32.92	56.00	23.08	L1	ON	10
21.170000	32.87	60.00	27.13	L1	ON	10

Measurement Results: Average

Frequency (MHz)	Quasi Peak (dBμV)	Limit (dBμV)	Margin (dB)	Line	Filter	Corr. (dB)
0.430000	23.99	47.25	23.26	L1	ON	10
0.546000	25.80	46.00	20.20	N	ON	10
1.094000	22.36	46.00	23.64	L1	ON	10
1.494000	23.33	46.00	22.67	L1	ON	10
2.182000	22.53	46.00	23.47	N	ON	10
20.902000	24.75	50.00	25.25	N	ON	10

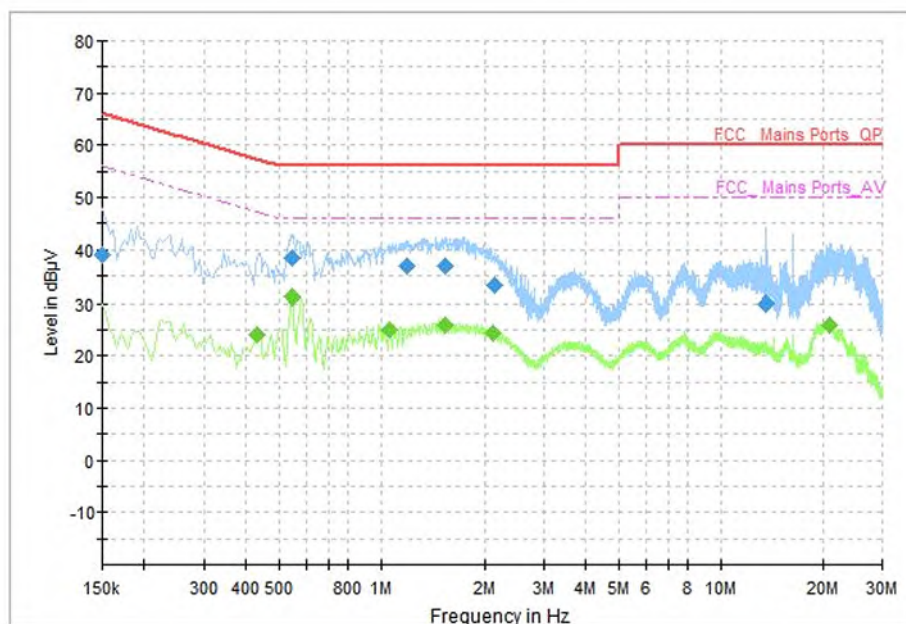


Fig.51 AC Power line Conducted Emission (Idle)

Measurement Results: Quasi Peak

Frequency (MHz)	Quasi Peak (dBμV)	Limit (dBμV)	Margin (dB)	Line	Filter	Corr. (dB)
0.150000	39.17	66.00	26.83	L1	ON	10
0.546000	38.42	56.00	17.58	L1	ON	10
1.190000	36.89	56.00	19.11	L1	ON	10
1.534000	36.74	56.00	19.26	N	ON	10
2.146000	33.34	56.00	22.66	L1	ON	10
13.566000	29.74	60.00	30.26	L1	ON	10

Measurement Results: Average

Frequency (MHz)	Quasi Peak (dBμV)	Limit (dBμV)	Margin (dB)	Line	Filter	Corr. (dB)
0.430000	23.90	47.25	23.35	L1	ON	10
0.546000	30.99	46.00	15.01	L1	ON	10
1.058000	24.85	46.00	21.15	L1	ON	10
1.534000	25.99	46.00	20.01	N	ON	10
2.122000	24.25	46.00	21.75	L1	ON	10
20.954000	25.95	50.00	24.05	L1	ON	10

END OF REPORT