



**FCC PART 15E
TEST REPORT
No. I17N00290-RLAN01**

For

Doro AB

LTE phone

Model Name: DSB-0090

With

Hardware Version: 1011

Software Version: FRANK01A-S10A_DSB0090_201_USER_170503

FCC ID: WS5DSB0090

Issued Date: 2017-06-08

Test Laboratory:

FCC 2.948 Listed: No.342690

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 CTTL.

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
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1. TEST LATORATORY

1.1. Testing Location

Location: CTTL(South Branch)

Address: TCL International E city, No. 1001, Zhongshanyuan Road, Nanshan
District, Shenzhen, Guangdong, China 518000

1.2. Testing Environment

Normal Temperature: 15-35°C

Extreme Temperature: 0/+40°C

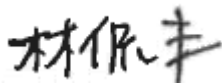
Relative Humidity: 20-75%

1.3. Project data

Testing Start Date: 2017-03-21

Testing End Date: 2017-04-26

1.4. Signature



Lin Kanfeng
(Prepared this test report)



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2. CLIENT INFORMATION

2.1. Applicant Information

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City: Lund
Postal Code: /
Country: Sweden
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2.2. Manufacturer Information

Company Name: CK TELECOM LTD.
Address: Technology Road. High-Tech Development Zone. Heyuan,
Guangdong, P.R. China
City: Heyuan
Postal Code: /
Country: China
Telephone: 0755-26739100 ext.8515
Fax: 0755-26739600

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

3.1. About EUT

Description	LTE phone
Model Name	DSB-0090
Market Name	Doro8040
FCC ID	WS5DSB0090
WLAN Frequency Range	ISM Bands: 5150MHz~5350MHz
Type of modulation	OFDM
Antenna	Integral Antenna
Voltage	3.8V DC by Battery

3.2. Internal Identification of EUT

EUT ID*	IMEI	HW Version	SW Version	Receive Date
EUT1	35511508 0003723	1011	FRANK01A-S10A_DSB0090_201_U SER_170503	2017-03-21

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

3.3. Internal Identification of AE

AE ID*	Description	SN
AE1	Charger	/
AE2	Charger	/

AE1

Model	A2-3762-501000
Manufacturer	Dongguan Aohai Power Technology Co., LTD

AE2

Model	A806A-050100U-UK1
Manufacturer	Dongguan Aohai Power Technology Co., LTD

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

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	Title 47 of the Code of Federal Regulations; Chapter I Part 15 - Radio frequency devices	Nov,2015
ANSI C63.10	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	Jun,2013
UNII: KDB 789033	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E	Jun,2014

5. SUMMARY OF TEST RESULTS

5.1. Summary of Test Results

SUMMARY OF MEASUREMENT RESULTS	Sub-clause of Part15E	Verdict
Maximum Output Power	15.407(a)	P
Power Spectral Density	15.407(a)	P
Occupied 26dB Bandwidth	15.403(i)	P
Band edge compliance	15.407(b)	P
Spurious emissions conducted	15.407(a)	P
AC Powerline Conducted Emission	15.107, 15.207	P
Frequency Stability	15.407(g)	P

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

5.2. Statements

CTTL has evaluated the test cases requested by the applicant/matrix manufacturer as listed in section 5.1 of this report, for the EUT specified in section 3, according to the standards or reference documents listed in section 4.2.

5.3. Terms used in the result table

Terms used in Verdict column

P	Pass
NA	Not Available
F	Fail

Abbreviations

AC	Alternating Current
AFH	Adaptive Frequency Hopping
BW	Band Width
E.I.R.P.	equivalent isotropic radiated power
ISM	Industrial, Scientific and Medical
R&TTE	Radio and Telecommunications Terminal Equipment
RF	Radio Frequency
Tx	Transmitter

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	2018-01-18	1 year
2	Climate chamber	SU-242	93008165	ESPEC	2018-04-06	1 year
3	DC Power Supply	NGSM3 2/10	5425	Rohde & Schwarz	2017-11-12	1 year

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Due date	Calibration Period
1	Test Receiver	ESCI	100701	R&S	2017-08-09	1 year
2	Loop Antenna	HLA6120	35779	TESEQ	2019-05-02	3 years
3	BiLog Antenna	VULB9163	9163 329	Schwarzbeck	2020-02-17	3 years
4	Horn Antenna	3117	00066585	ETS-Lindgren	2019-03-05	3 years
5	Universal Radio Communication Tester	CMW270	100540	Rohde & Schwarz	2018-04-12	1 year
6	Spectrum Analyzer	FSP 40	100378	R&S	2017-12-15	1 year
7	Chamber	FACT5-2.0	4166	ETS-Lindgren	2018-05-13	3 years

Anechoic chamber

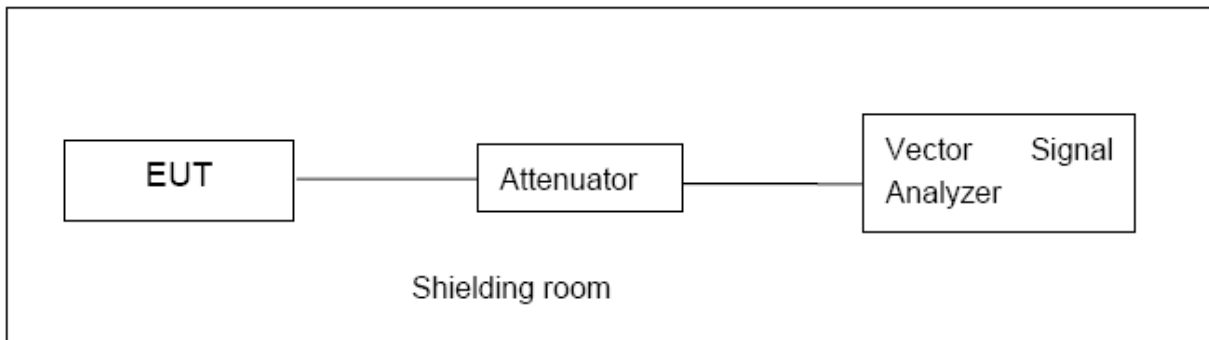
Fully anechoic chamber by ETS-Lindgren

ANNEX A: MEASUREMENT RESULTS

A.1. Measurement Method

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

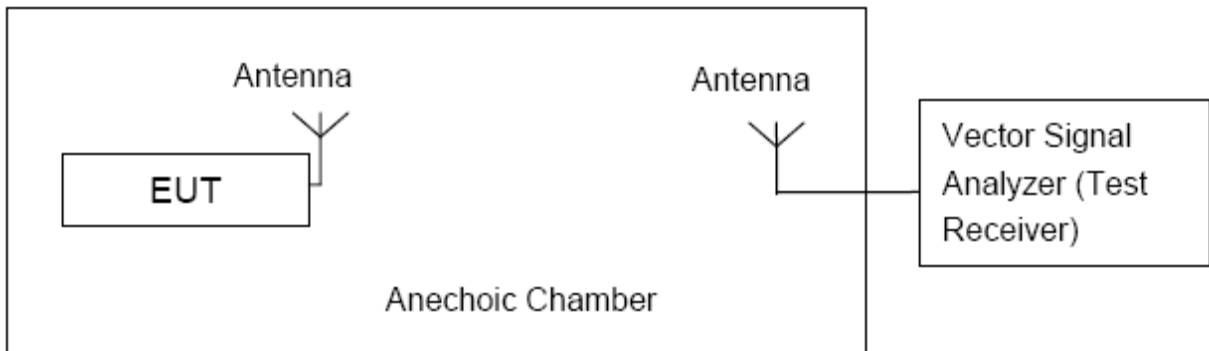


Radiated Emission Measurements

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

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

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



The measurement is made according to KDB 789033.

The radiated emission test is performed in semi-anechoic chamber. The distance from the EUT to the reference point of measurement antenna is 3m. The test is carried out on both vertical and horizontal polarization and only maximization result of both polarizations is kept. During the test, the turntable is rotated 360° and the measurement antenna is moved from 1m to 4m to get the maximization result.

A.2. Maximum output Power

Measurement Limit and Method:

Standard	Frequency (MHz)	Limit (dBm)
FCC CRF Part 15.407(a)	5150MHz~5250MHz	24dBm
	5250MHz~5350MHz	24dBm or 11+10logB

Limit use the less value, and B is the 26dB bandwidth.

The measurement method SA-1 is made according to KDB 789033.

Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep):

(i) Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal.

(ii) Set RBW = 1 MHz

(iii) Set VBW \geq 3 MHz

(iv) Number of points in sweep $\geq 2 \times \text{span} / \text{RBW}$. (This ensures that bin-to-bin spacing is $\leq \text{RBW}/2$, so that narrowband signals are not lost between frequency bins.)

(v) Sweep time = auto.

(vi) Detector = power averaging (rms), if available. Otherwise, use sample detector mode.

(vii) If transmit duty cycle $< 98\%$, use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle $\geq 98\%$, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run."

(viii) Trace average at least 100 traces in power averaging (rms) mode.

(ix) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum.

Measurement Results:

802.11a mode

Mode	Channel	Test Result (dBm)							
		Data Rate (Mbps)							
		6	9	12	18	24	36	48	54
802.11a	5180MHz(Ch36)	10.63	/	/	/	/	/	/	/
	5200MHz(Ch40)	10.88	/	/	/	/	/	/	/
	5240MHz(Ch48)	10.97	11.03	11.13	11.21	11.02	10.96	11.08	11.14
	5260MHz(Ch52)	10.30	/	/	/	/	/	/	/
	5280MHz(Ch56)	10.42	/	/	/	/	/	/	/
	5320MHz(Ch64)	10.55	/	/	/	/	/	/	/

The data rate 6Mbps is selected as worse condition, and the following cases are performed with this condition.

802.11n-HT20 mode

Mode	Channel	Test Result (dBm)							
		Data Rate (Mbps)							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
802.11n (HT20)	5180MHz(Ch36)	10.51	/	/	/	/	/	/	/
	5200MHz(Ch40)	10.80	/	/	/	/	/	/	/
	5240MHz(Ch48)	11.02	10.93	11.18	11.06	11.05	11.07	11.06	11.02
	5260MHz(Ch52)	10.32	/	/	/	/	/	/	/
	5280MHz(Ch56)	10.55	/	/	/	/	/	/	/
	5320MHz(Ch64)	10.59	/	/	/	/	/	/	/

The data rate MCS0 is selected as worse condition, and the following cases are performed with this condition.

802.11n-HT40 mode

Mode	Channel	Test Result (dBm)							
		Data Rate (Mbps)							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
802.11n (HT40)	5190MHz(Ch38)	10.45	/	/	/	/	/	/	/
	5230MHz(Ch46)	10.74	10.63	10.82	10.77	10.49	10.56	10.21	10.18
	5270MHz(Ch54)	10.22	/	/	/	/	/	/	/
	5310MHz(Ch62)	10.42	/	/	/	/	/	/	/

The data rate MCS0 is selected as worse condition, and the following cases are performed with this condition.

A.3. Peak Power Spectral Density (conducted)

Measurement Limit:

Standard	Frequency (MHz)	Limit (dBm/MHz)
FCC CRF Part 15.407(a)	5150MHz~5250MHz	11
	5250MHz~5350MHz	11

The output power measurement method SA-1 is made according to KDB 789033.

Measurement Results:

Mode	Channel	Power Spectral Density (dBm/MHz)	Conclusion
802.11a	5180 MHz	5.88	P
	5200 MHz	5.96	P
	5240 MHz	5.75	P
	5260 MHz	5.45	P
	5280 MHz	5.03	P
	5320 MHz	5.36	P
802.11n HT20	5180 MHz	5.41	P
	5200 MHz	5.39	P
	5240 MHz	5.90	P
	5260 MHz	5.30	P
	5280 MHz	4.96	P
	5320 MHz	5.29	P

Mode	Channel	Power Spectral Density (dBm/MHz)	Conclusion
802.11n HT40	5190 MHz	3.57	P
	5230 MHz	2.93	P
	5270 MHz	2.40	P
	5310 MHz	2.20	P

Conclusion: PASS

A.4. Occupied 26dB Bandwidth(conducted)

Measurement Limit:

Standard	Limit (kHz)
FCC 47 CFR Part 15.403 (i)	/

The measurement is made according to KDB 789033.

Measurement Uncertainty:

Measurement Uncertainty	60.80Hz
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Measurement Result:

Mode	Channel	Occupied 26dB Bandwidth (kHz)		conclusion
		Fig.	Value	
802.11a	5180 MHz	Fig.1	32150	P
	5200 MHz	Fig.2	32800	P
	5240 MHz	Fig.3	32050	P
	5260 MHz	Fig.4	28800	P
	5280 MHz	Fig.5	29800	P
	5320 MHz	Fig.6	27000	P
802.11n HT20	5180 MHz	Fig.7	36600	P
	5200 MHz	Fig.8	34400	P
	5240 MHz	Fig.9	36600	P
	5260 MHz	Fig.10	28100	P
	5280 MHz	Fig.11	31600	P
	5320 MHz	Fig.12	29300	P
802.11n HT40	5190 MHz	Fig.13	71520	P
	5230 MHz	Fig.14	69840	P
	5270 MHz	Fig.15	65120	P
	5310 MHz	Fig.16	59120	P

Conclusion: PASS

Test graphs as below:

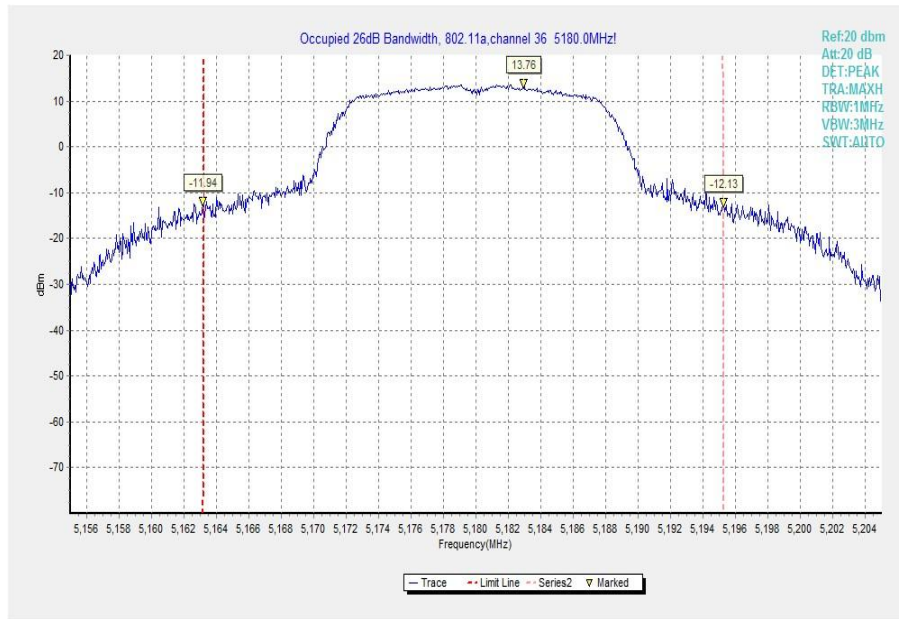


Fig. 1 Occupied 26dB Bandwidth (802.11a, 5180MHz)

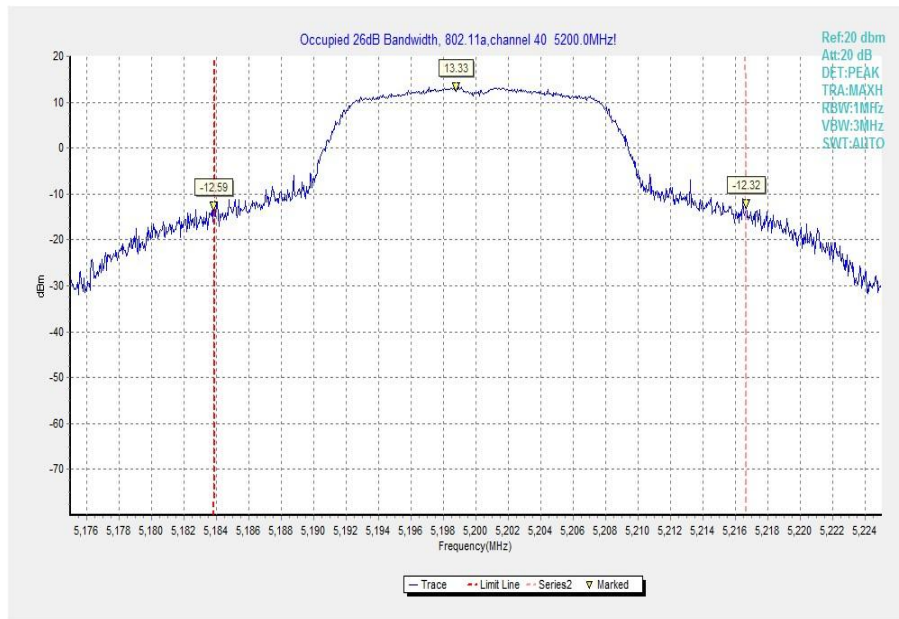


Fig. 2 Occupied 26dB Bandwidth (802.11a, 5200MHz)

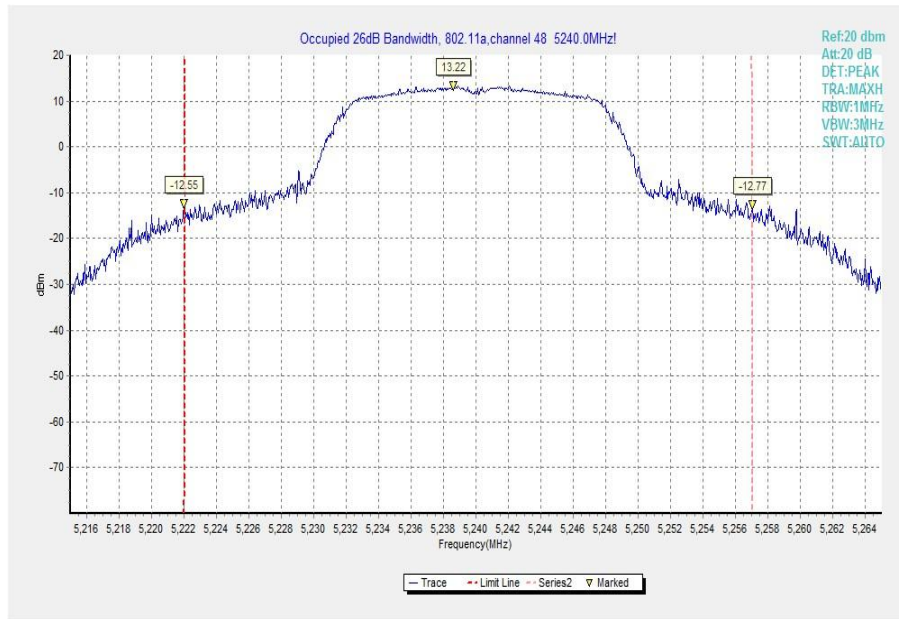


Fig. 3 Occupied 26dB Bandwidth (802.11a, 5240MHz)

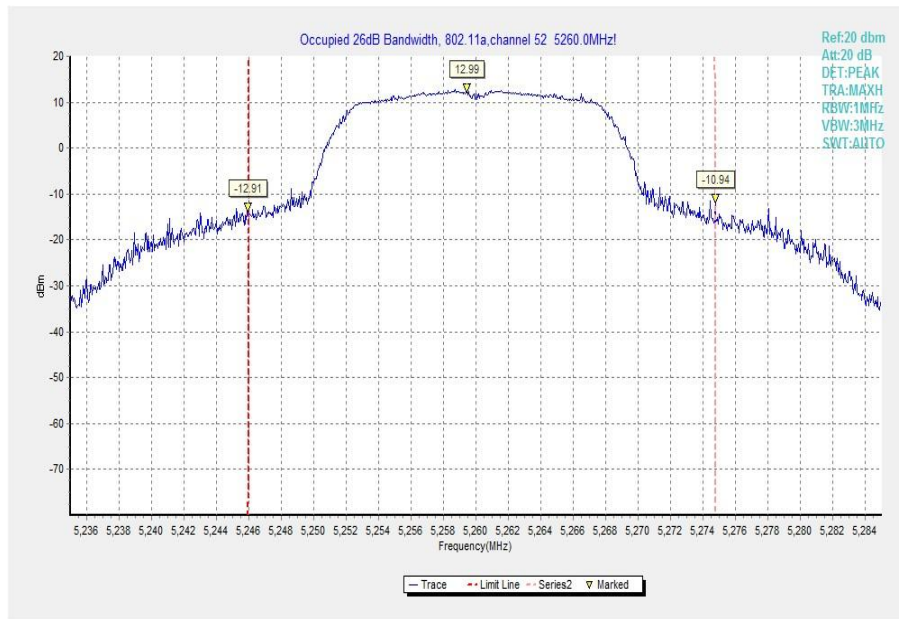


Fig. 4 Occupied 26dB Bandwidth (802.11a, 5260MHz)

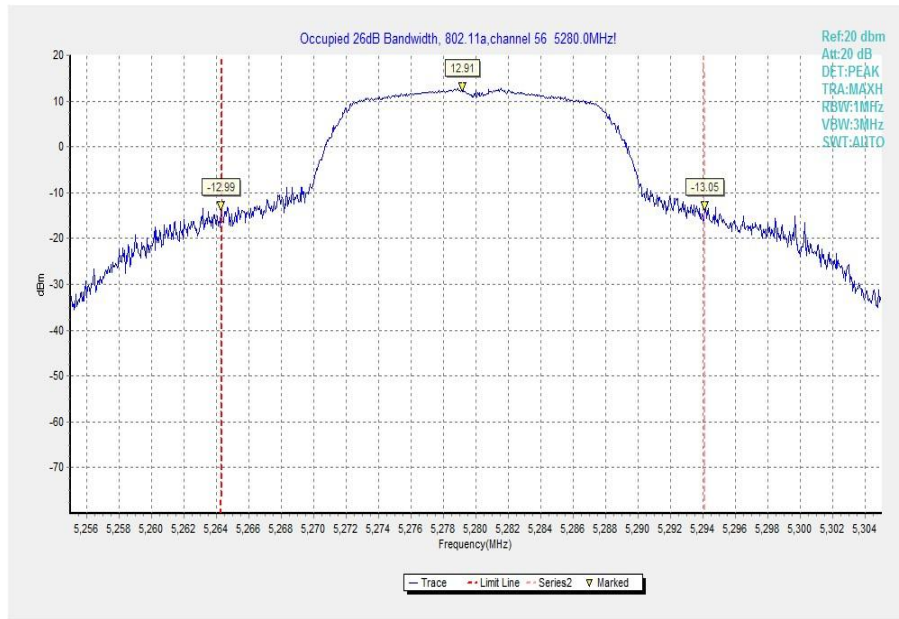


Fig. 5 Occupied 26dB Bandwidth (802.11a, 5280MHz)

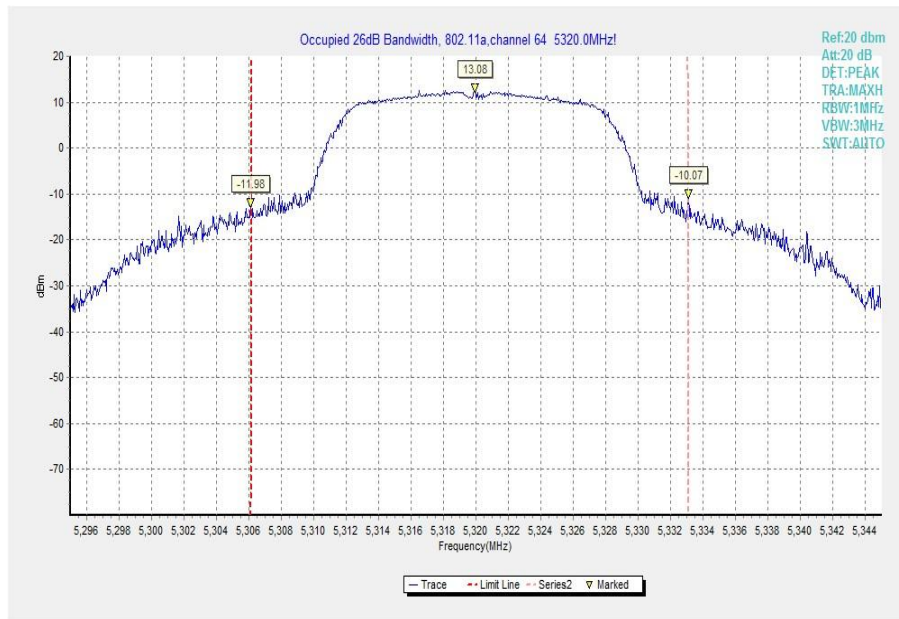


Fig. 6 Occupied 26dB Bandwidth (802.11a, 5320MHz)



Fig. 7 Occupied 26dB Bandwidth (802.11n-HT20, 5180MHz)



Fig. 8 Occupied 26dB Bandwidth (802.11n-HT20, 5200MHz)

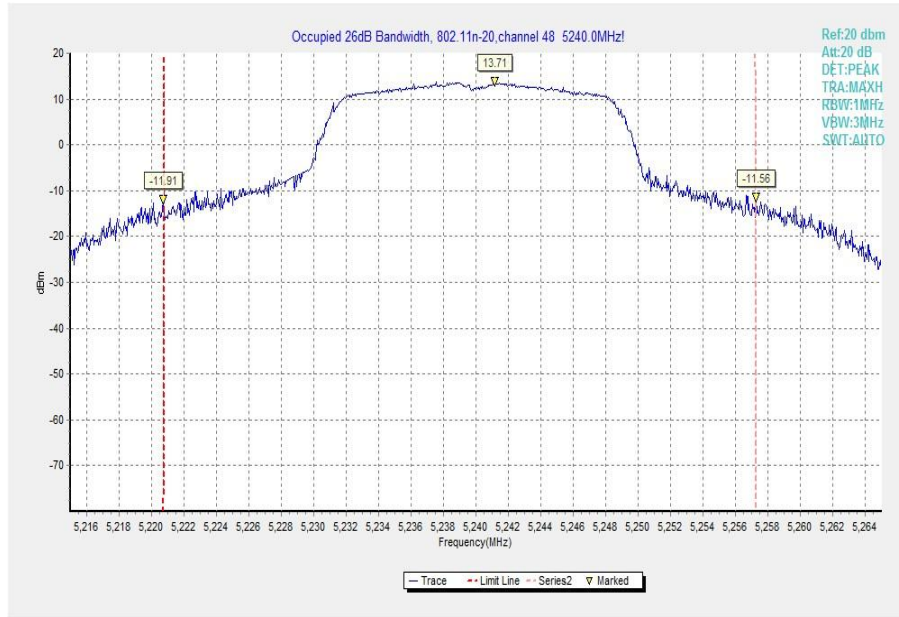


Fig. 9 Occupied 26dB Bandwidth (802.11n-HT20, 5240MHz)

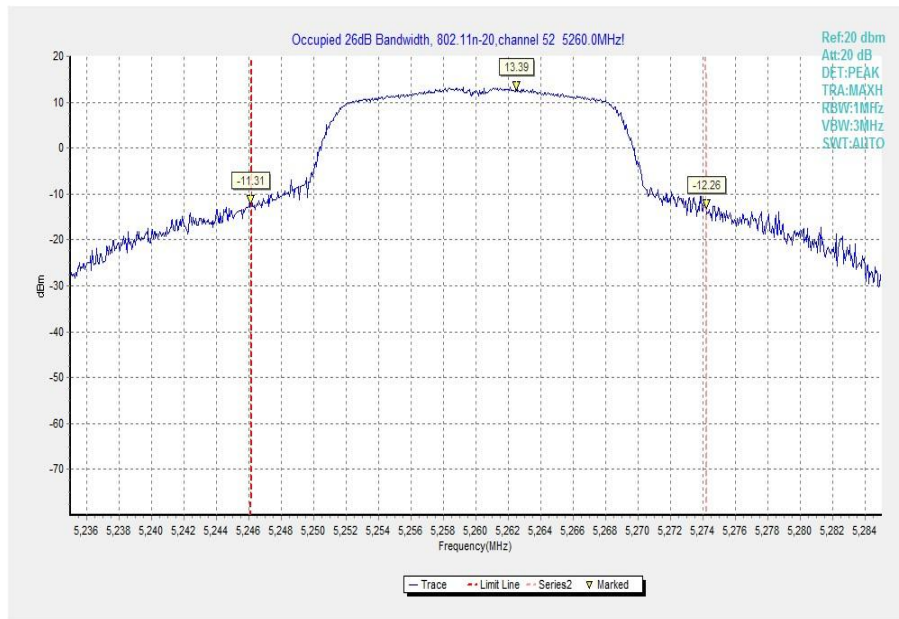


Fig. 10 Occupied 26dB Bandwidth (802.11n-HT20, 5260MHz)

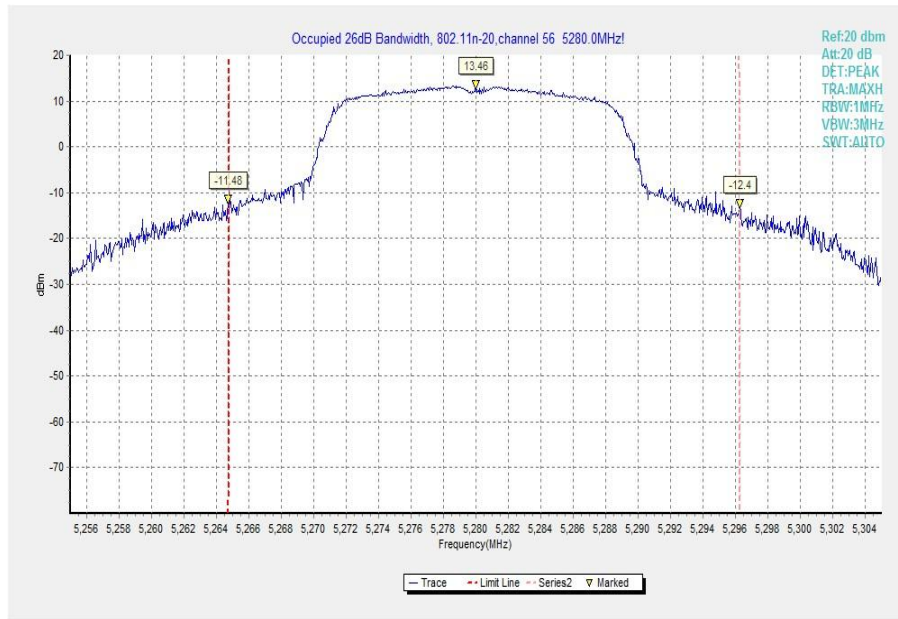


Fig. 11 Occupied 26dB Bandwidth (802.11n-HT20, 5280MHz)

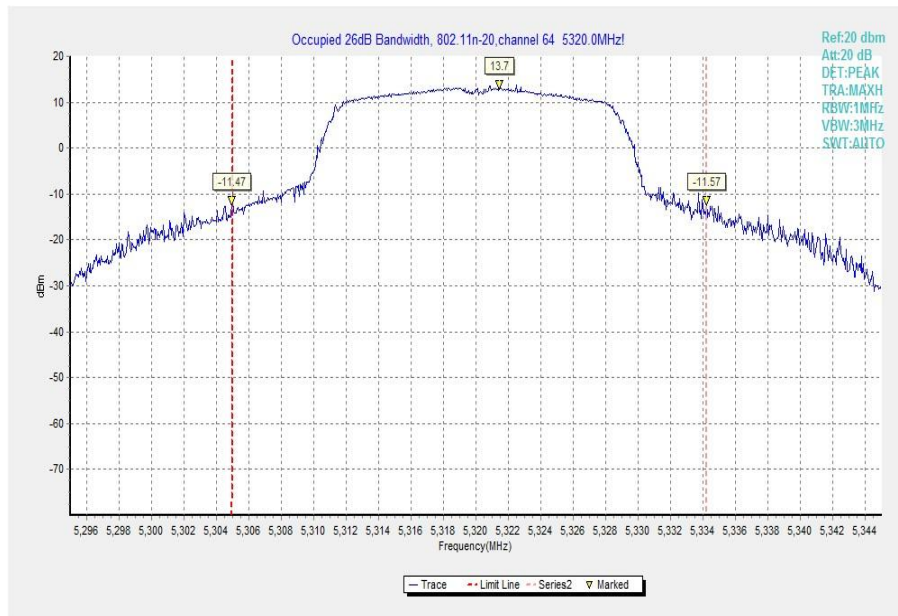


Fig. 12 Occupied 26dB Bandwidth (802.11n-HT20, 5320MHz)

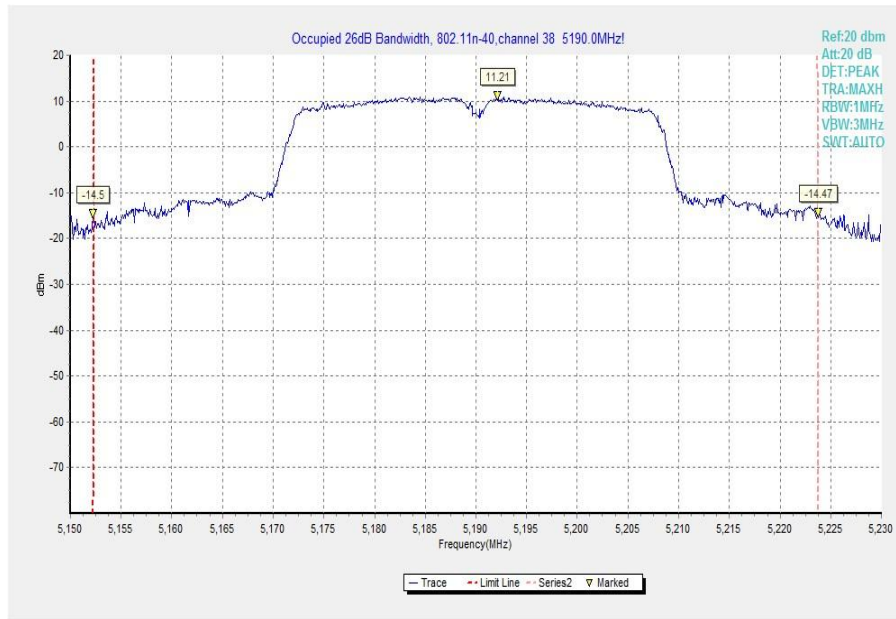


Fig. 13 Occupied 26dB Bandwidth (802.11n-HT40, 5190MHz)

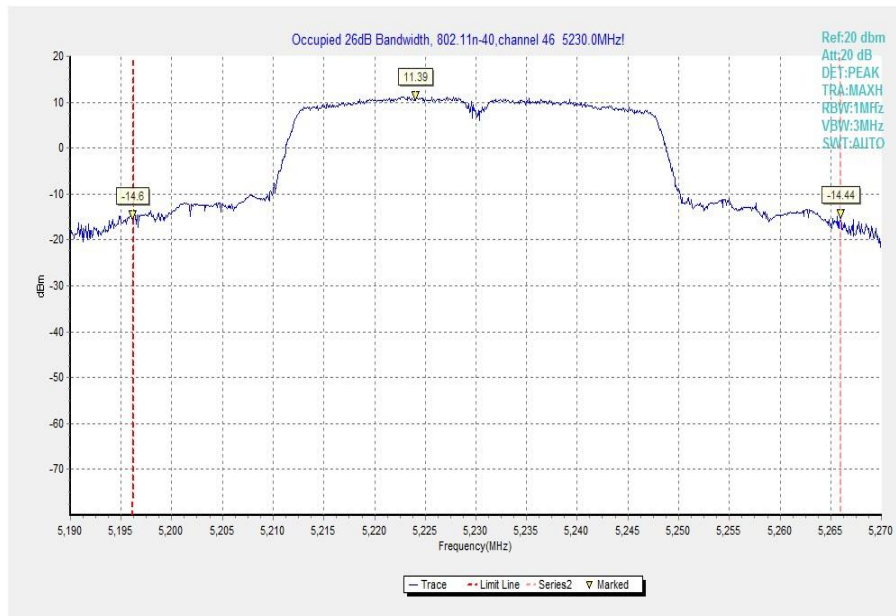


Fig. 14 Occupied 26dB Bandwidth (802.11n-HT40, 5230MHz)



Fig. 15 Occupied 26dB Bandwidth (802.11n-HT40, 5270MHz)



Fig. 16 Occupied 26dB Bandwidth (802.11n-HT40, 5310MHz)

A.5. Band Edges Compliance

Band Edges - conducted

Measurement Limit:

Standard	Limit (dBm/MHz)
FCC 47 CFR Part 15.407(b)	< -27

The measurement is made according to KDB 789033.

Measurement Uncertainty:

Measurement Uncertainty	0.75dB
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Measurement Result:

Mode	Channel	Test Results	Conclusion
802.11a	5180 MHz	Fig.17	P
	5240 MHz	Fig.18	P
	5260 MHz	Fig.19	P
	5320 MHz	Fig.20	P
802.11n HT20	5180 MHz	Fig.21	P
	5240 MHz	Fig.22	P
	5260 MHz	Fig.23	P
	5320 MHz	Fig.24	P
802.11n HT40	5190 MHz	Fig.25	P
	5230 MHz	Fig.26	P
	5270 MHz	Fig.27	P
	5310 MHz	Fig.28	P

Conclusion: PASS

Test graphs as below:

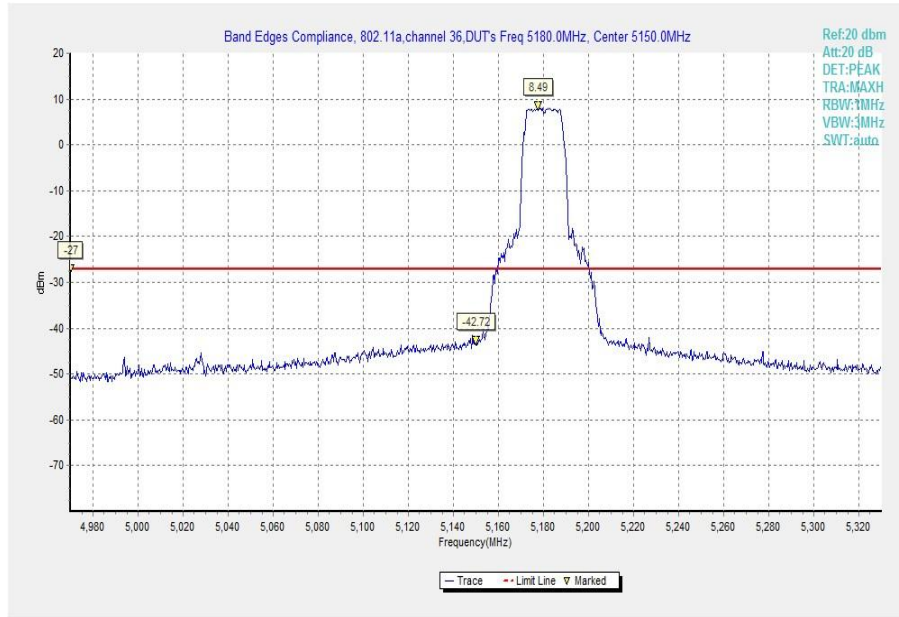


Fig. 17 Band Edges (802.11a, 5180MHz)

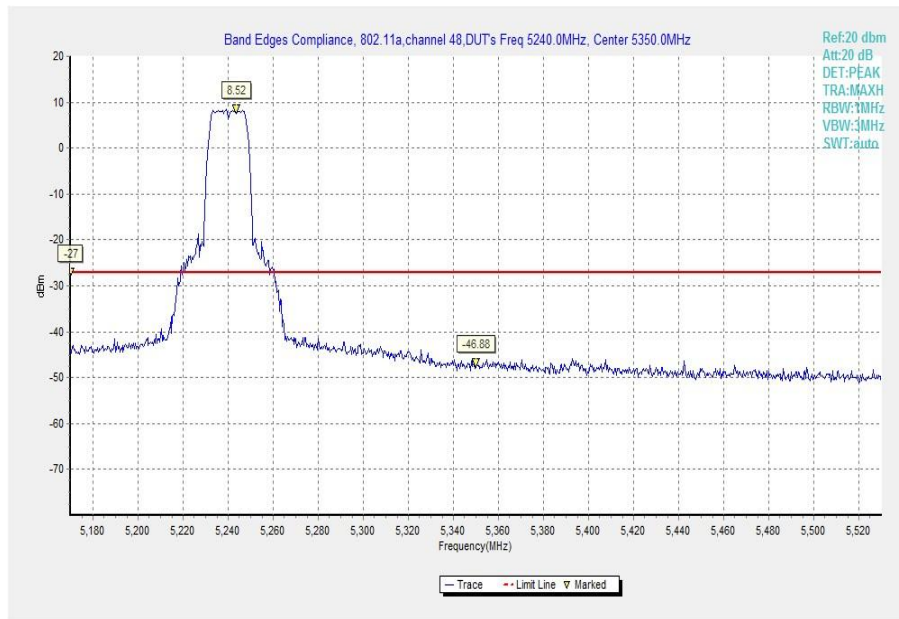


Fig. 18 Band Edges (802.11a, 5240MHz)

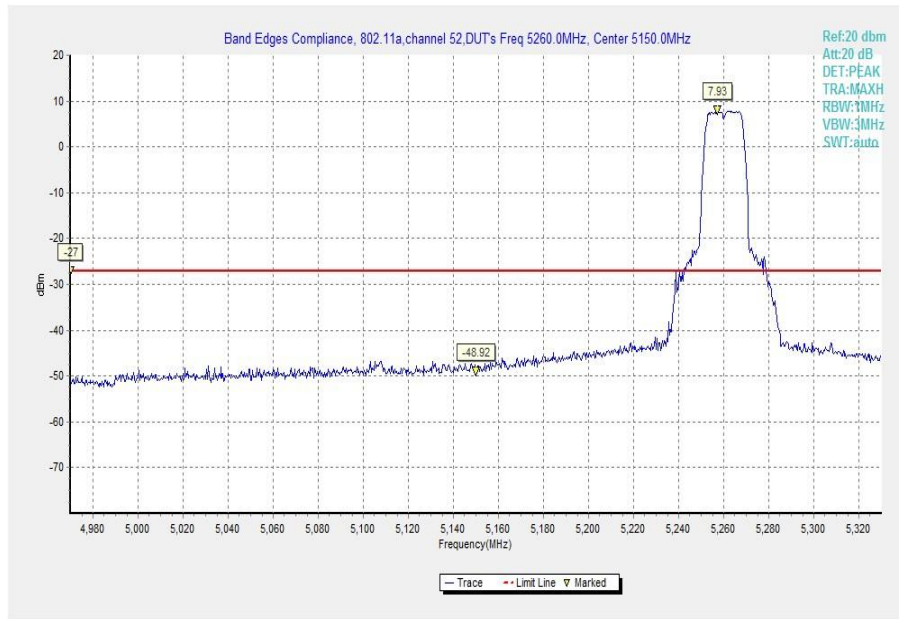


Fig. 19 Band Edges (802.11a, 5260MHz)

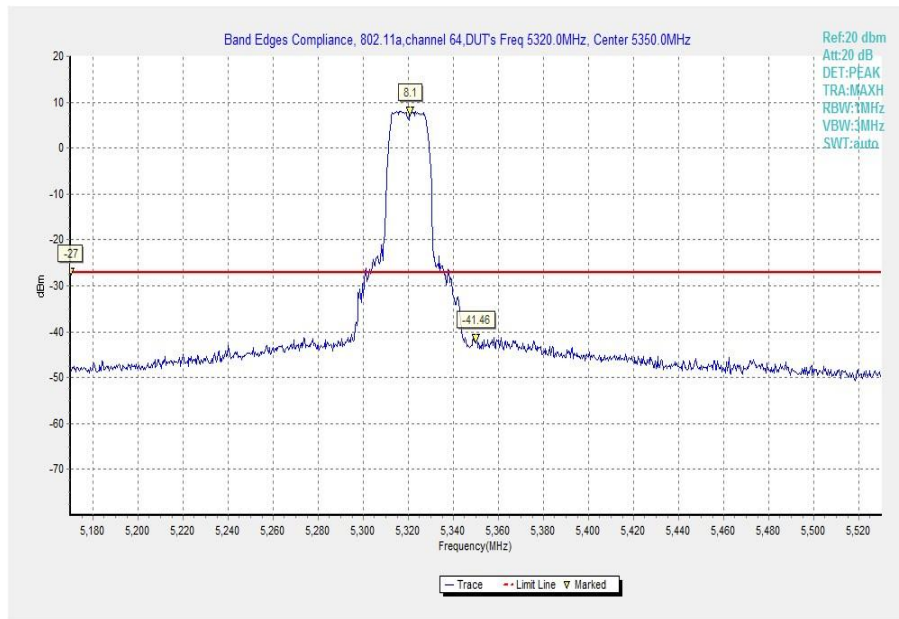


Fig. 20 Band Edges (802.11a, 5320MHz)

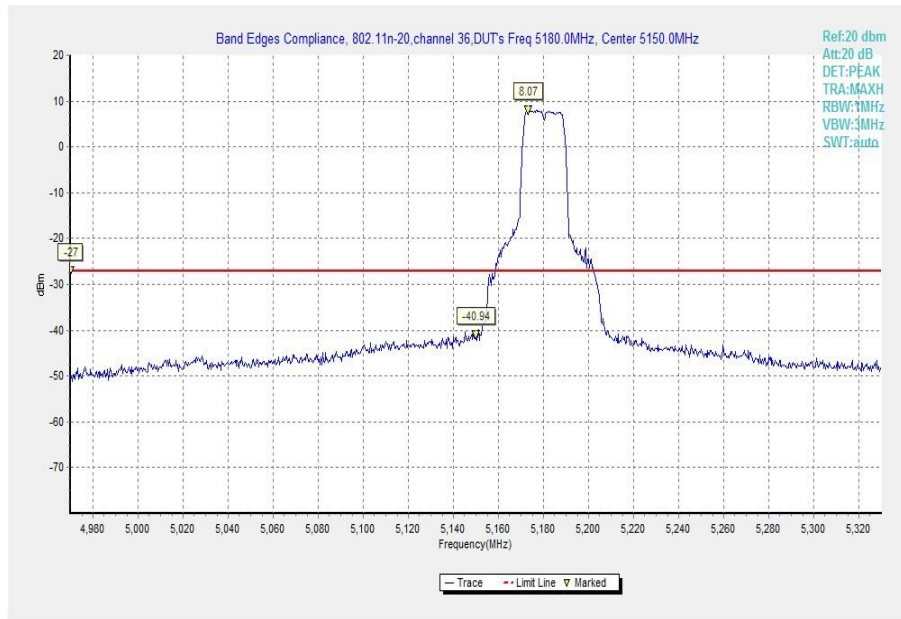


Fig. 21 Band Edges (802.11n-HT20, 5180MHz)

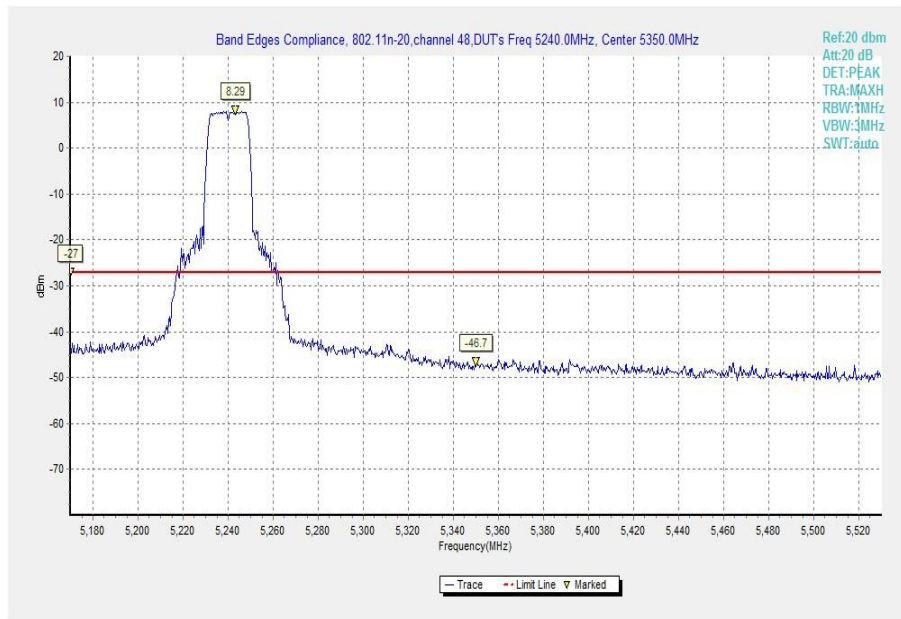


Fig. 22 Band Edges (802.11n-HT20, 5240MHz)



Fig. 23 Band Edges (802.11n-HT20, 5260MHz)

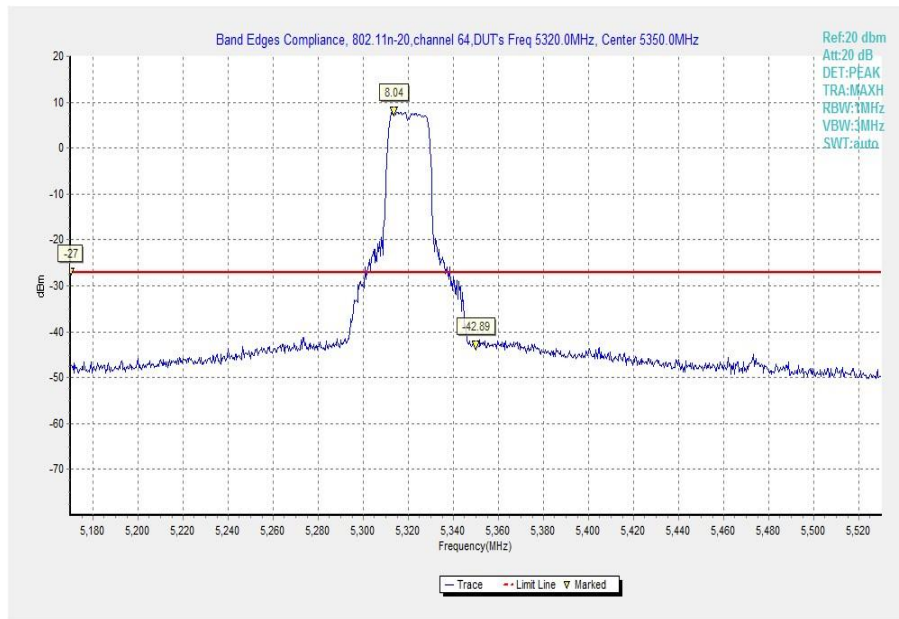


Fig. 24 Band Edges (802.11n-HT20, 5320MHz)



Fig. 25 Band Edges (802.11n-HT40, 5190MHz)

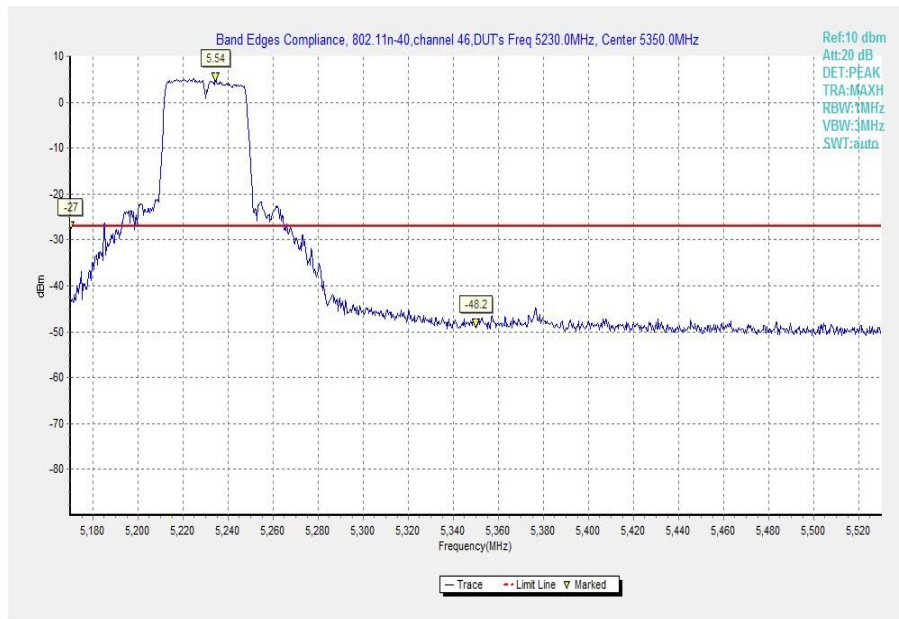


Fig. 26 Band Edges (802.11n-HT40, 5230MHz)

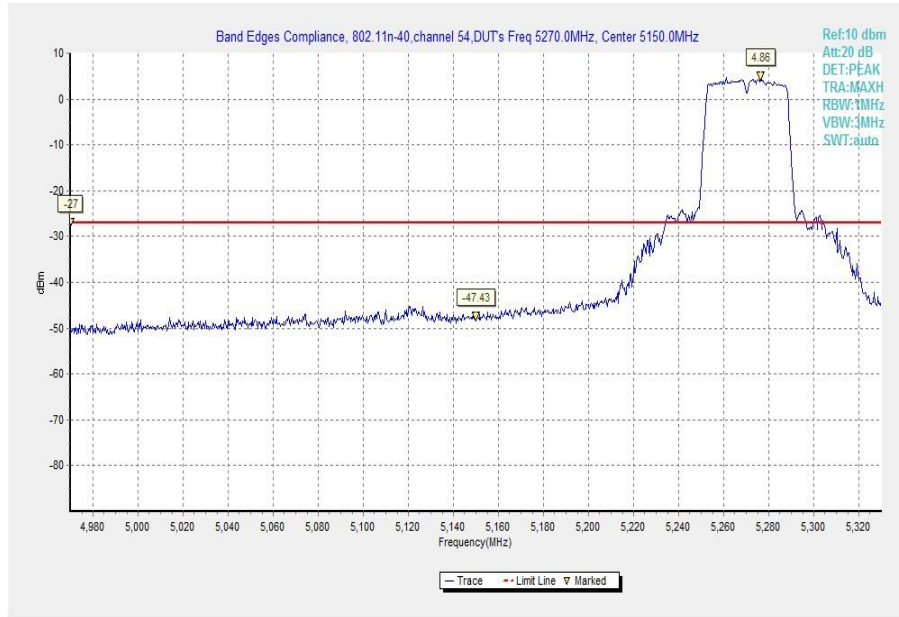


Fig. 27 Band Edges (802.11n-HT40, 5270MHz)



Fig. 28 Band Edges (802.11n-HT40, 5310MHz)

A.6. Radiated Spurious Emission > 30MHz

Measurement Limit:

Standard	Limit (dBm/MHz)
FCC 47 CFR Part 15.407(a)	< -27

The measurement is made according to KDB 789033.

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 (dBµV/m)	Measurement distance (m)
30-88	40.0	3
88-216	43.5	3
216-960	46.0	3
Above 960	54.0	3

Note: For frequency range below 960MHz, the limit in 15.209 is defined in 10m test distance. The limit used above is calculated from 10m to 3m.

Measurement Uncertainty:

Expanded measurement uncertainty for this test item is U =5.28 dB, k=2.

Measurement Result:

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11a	36	1 GHz ~18 GHz	Fig.29	P
	40	30 MHz ~1 GHz	Fig.30	P
		1 GHz ~18 GHz	Fig.31	P
		18 GHz ~26.5 GHz	Fig.32	P
		26.5 GHz ~40 GHz	Fig.33	P
	48	1 GHz ~18 GHz	Fig.34	P
	52	1 GHz ~18 GHz	Fig.35	P
	56	30 MHz ~1 GHz	Fig.36	P
		1 GHz ~18 GHz	Fig.37	P
		18 GHz ~26.5 GHz	Fig.38	P
26.5 GHz ~40 GHz		Fig.39	P	
64	1 GHz ~18 GHz	Fig.40	P	
802.11n HT20	36	1 GHz ~18 GHz	Fig.41	P
	40	30 MHz ~1 GHz	Fig.42	P
		1 GHz ~18 GHz	Fig.43	P
		18 GHz ~26.5 GHz	Fig.44	P
		26.5 GHz ~40 GHz	Fig.45	P
	48	1 GHz ~18 GHz	Fig.46	P
	52	1 GHz ~18 GHz	Fig.47	P

	56	30 MHz ~1 GHz	Fig.48	P
		1 GHz ~18 GHz	Fig.49	P
		18 GHz ~26.5 GHz	Fig.50	P
		26.5 GHz ~40 GHz	Fig.51	P
	64	1 GHz ~18 GHz	Fig.52	P
802.11n HT40	38	30 MHz ~1 GHz	Fig.53	P
		1 GHz ~18 GHz	Fig.54	P
		18 GHz ~26.5 GHz	Fig.55	P
		26.5 GHz ~40 GHz	Fig.56	P
	46	1 GHz ~18 GHz	Fig.57	P
	54	30 MHz ~1 GHz	Fig.58	P
		1 GHz ~18 GHz	Fig.59	P
		18 GHz ~26.5 GHz	Fig.60	P
		26.5 GHz ~40 GHz	Fig.61	P
	62	1 GHz ~18 GHz	Fig.62	P

Conclusion: PASS

Test graphs as below:

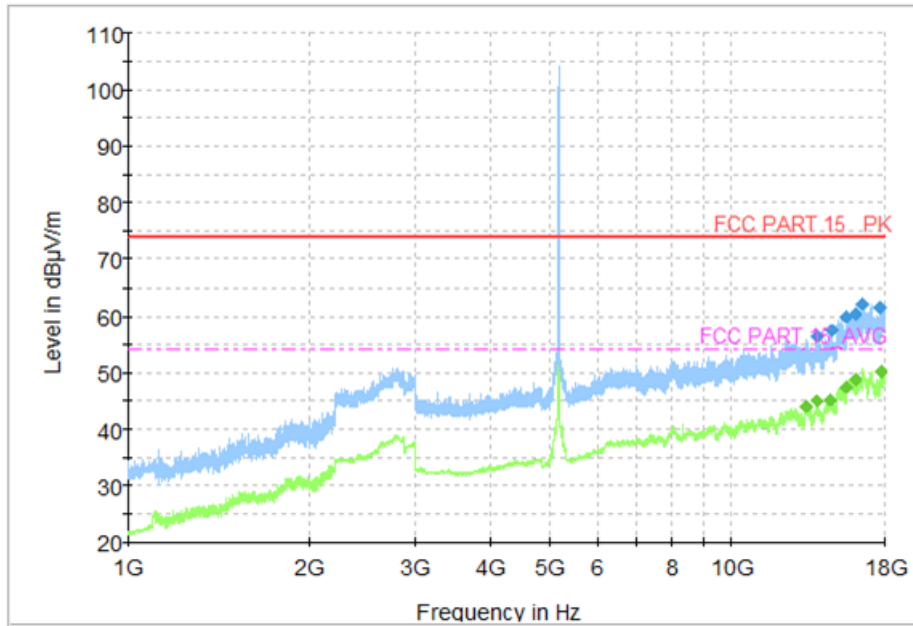


Fig. 29 WIFI-11a-CH36-1G-18G

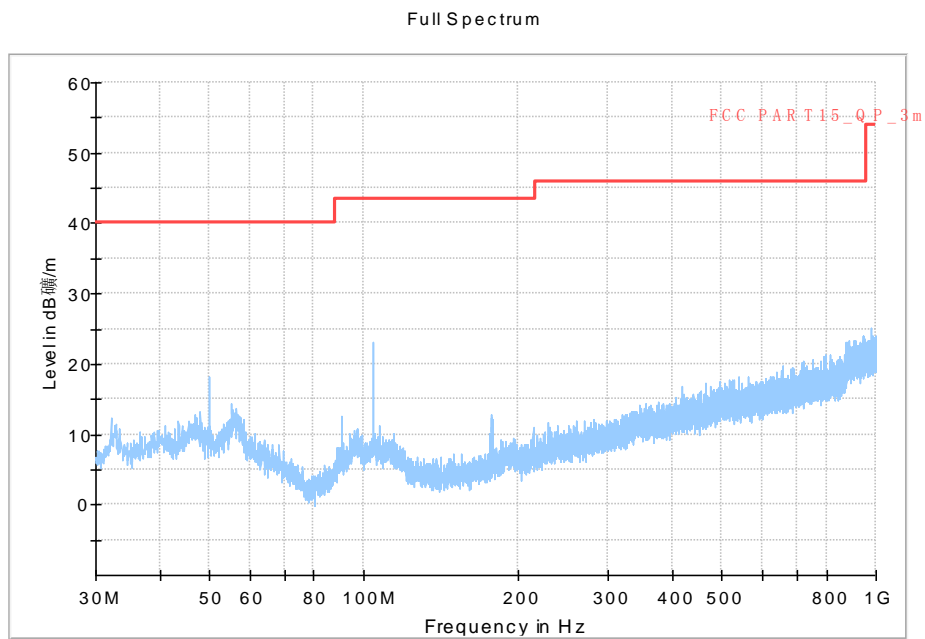


Fig. 30 WIFI-11a-CH40-30M-1G

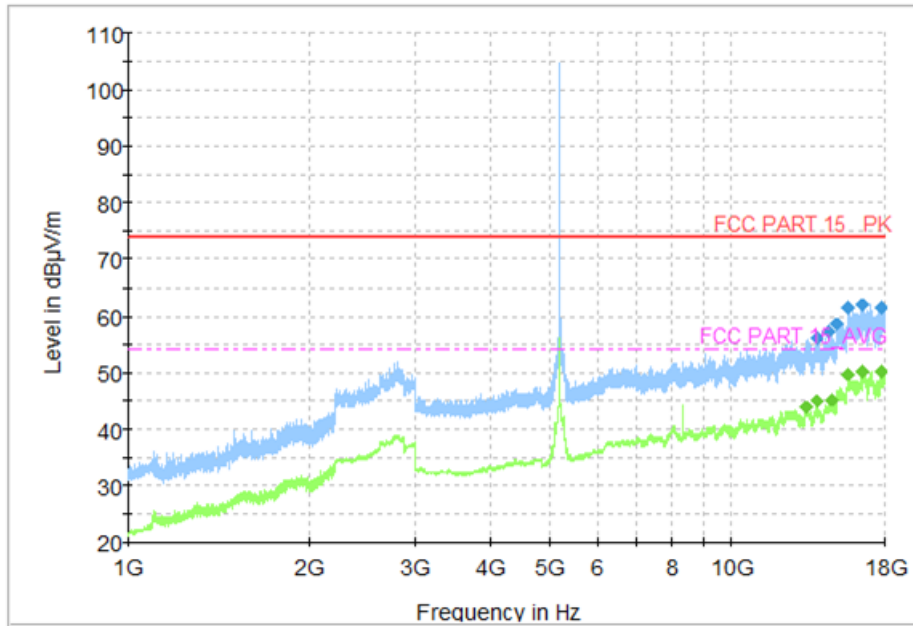


Fig. 31 WIFI-11a-CH40-1G-18G

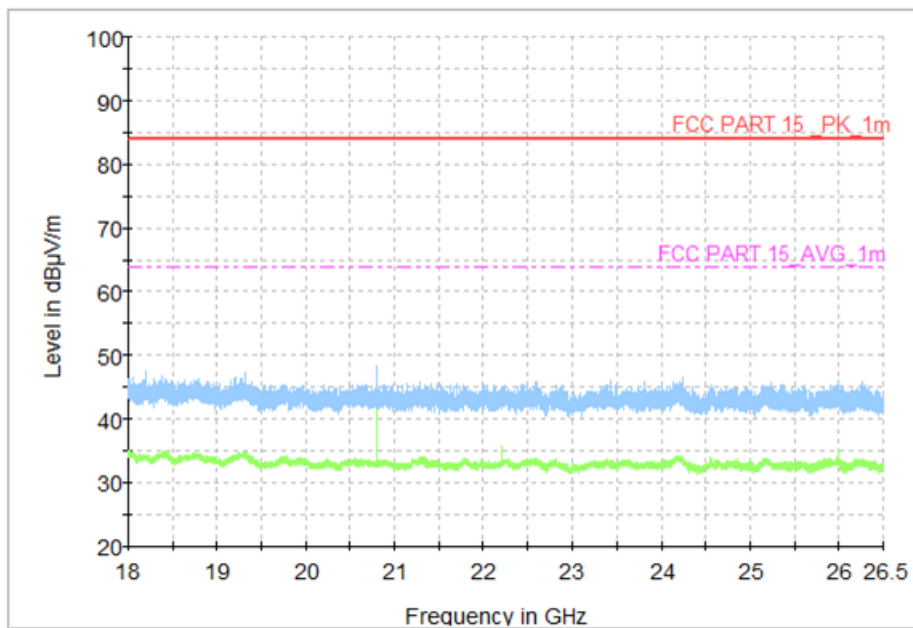


Fig. 32 WIFI-11a-CH40-18G-26.5G

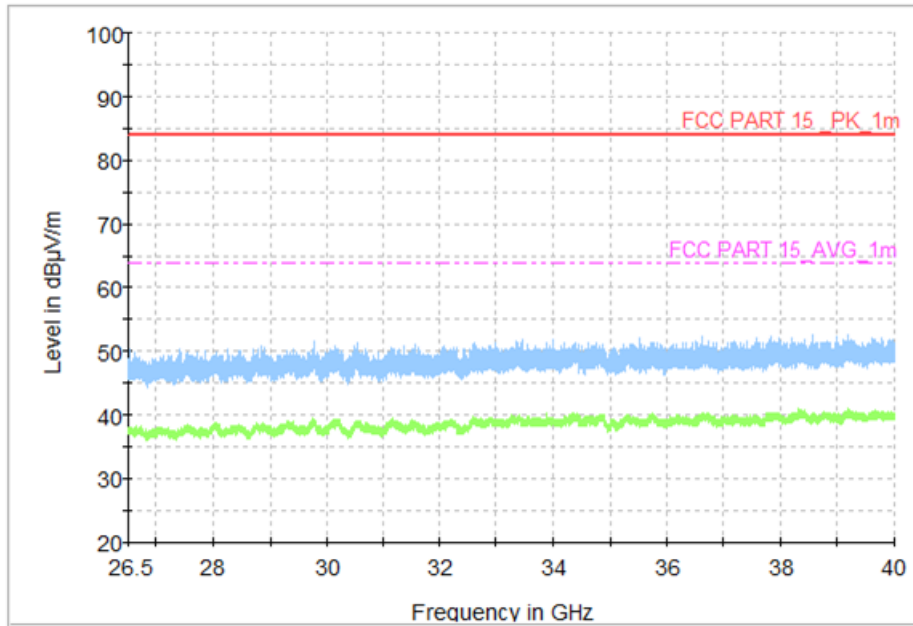


Fig. 33 WIFI-11a-CH40-26.5G-40G

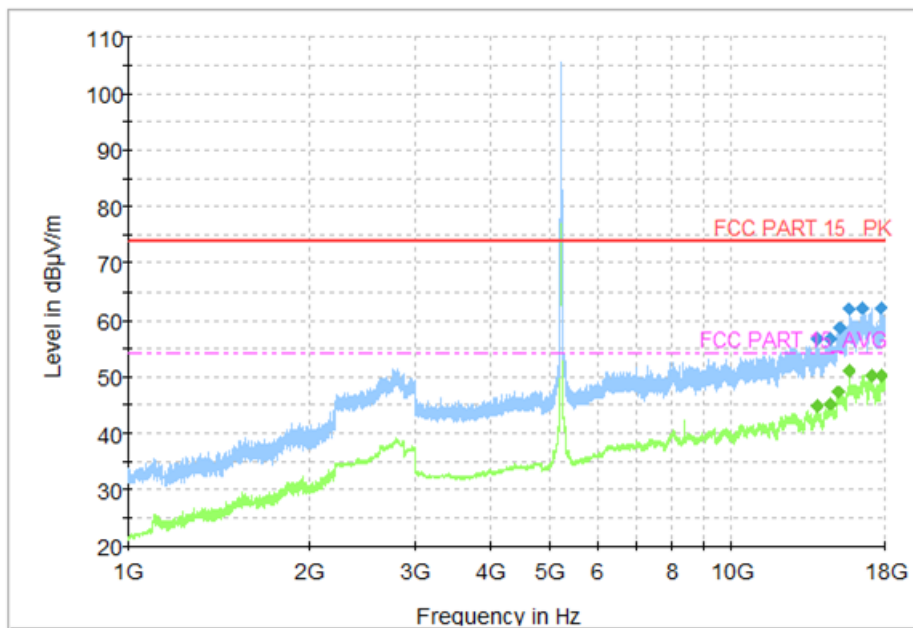


Fig. 34 WIFI-11a-CH48-1G-18G

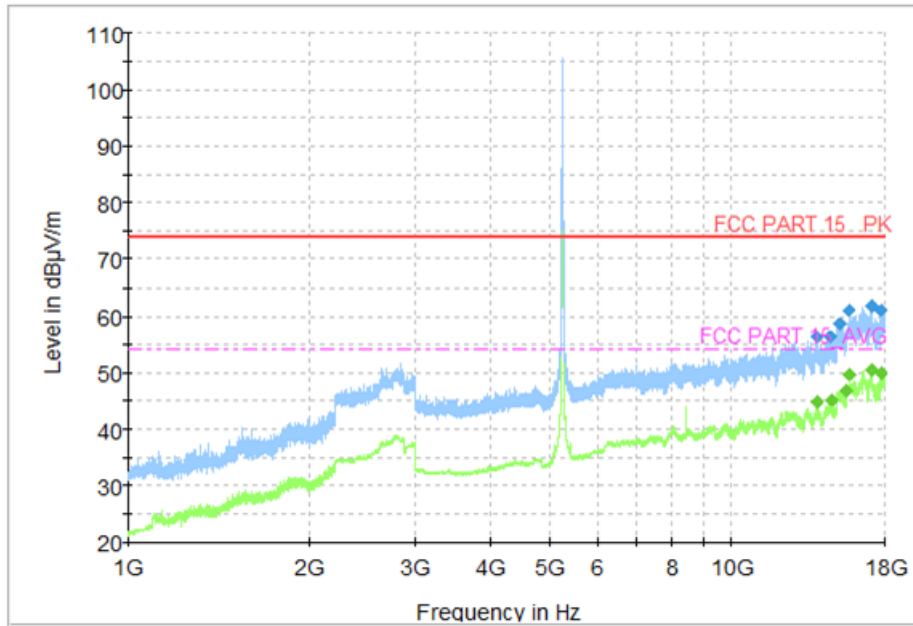


Fig. 35 WIFI-11a-CH52-1G-18G

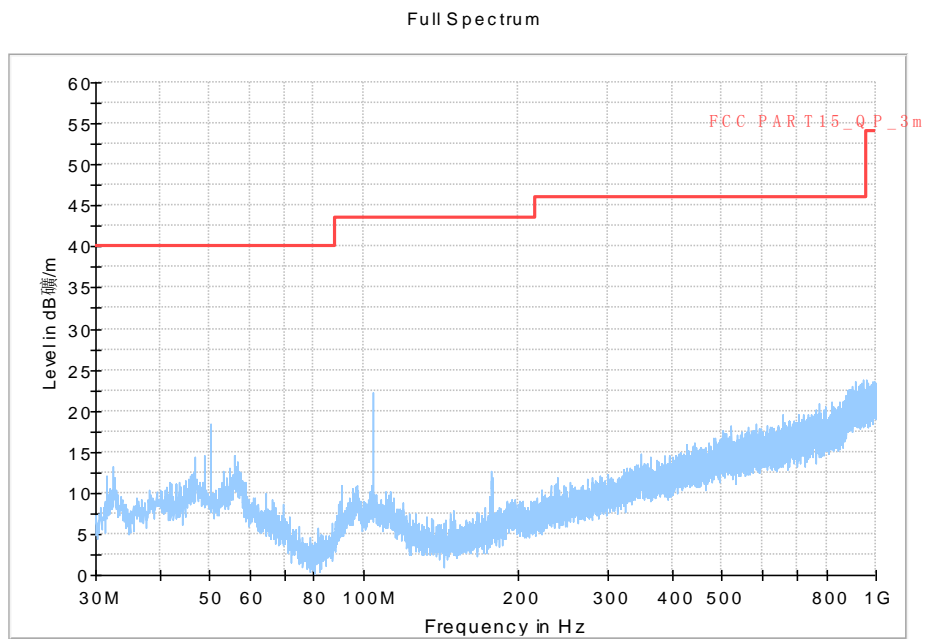


Fig. 36 WIFI-11a-CH56-30M-1G

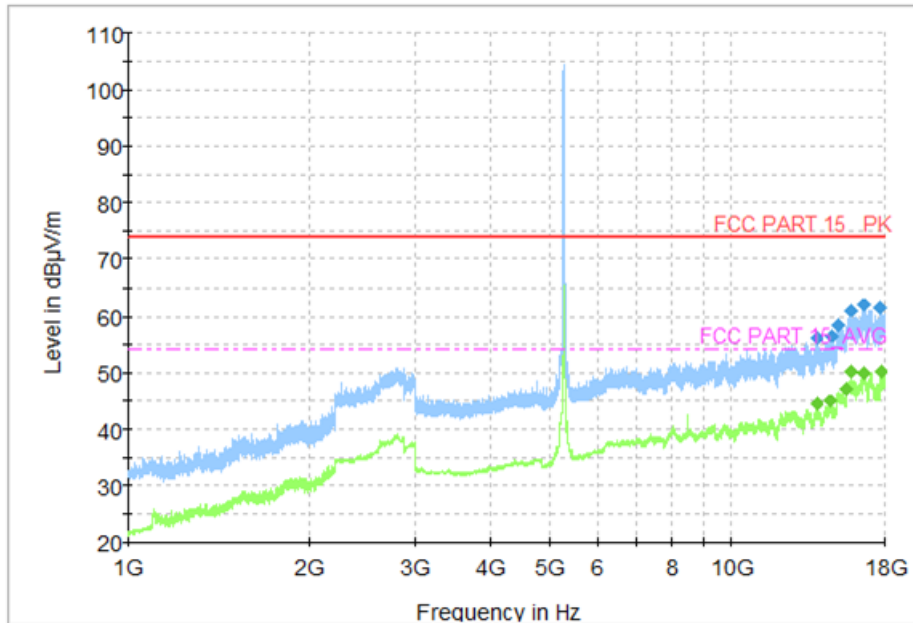


Fig. 37 WIFI-11a-CH56-1G-18G

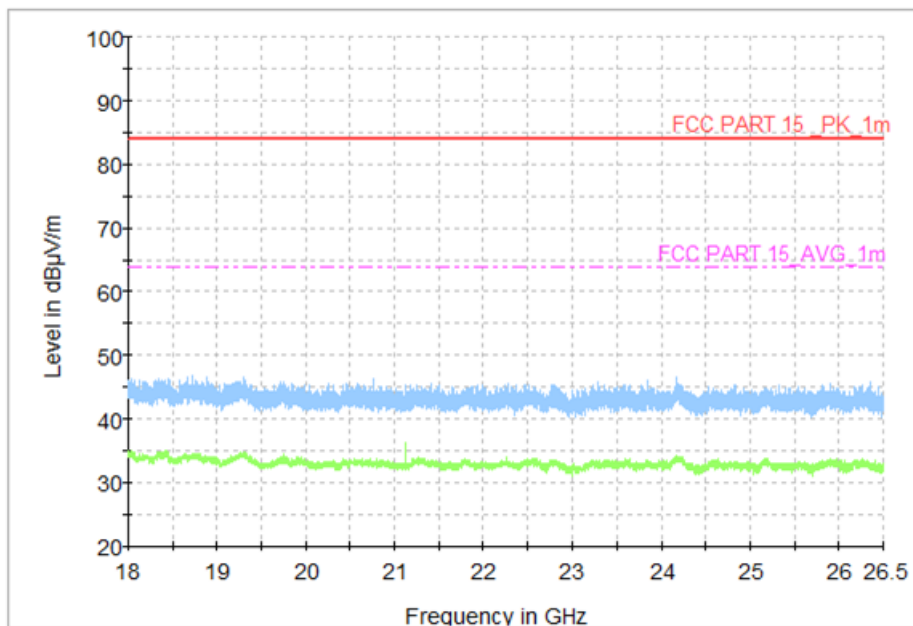


Fig. 38 WIFI-11a-CH56-18G-26.5G

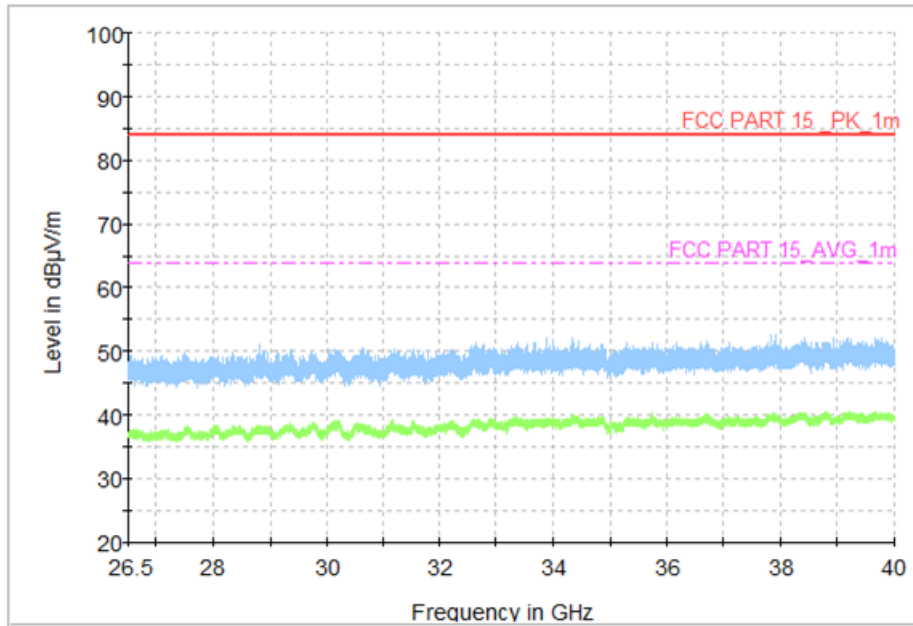


Fig. 39 WIFI-11a-CH56-26.5G-40G

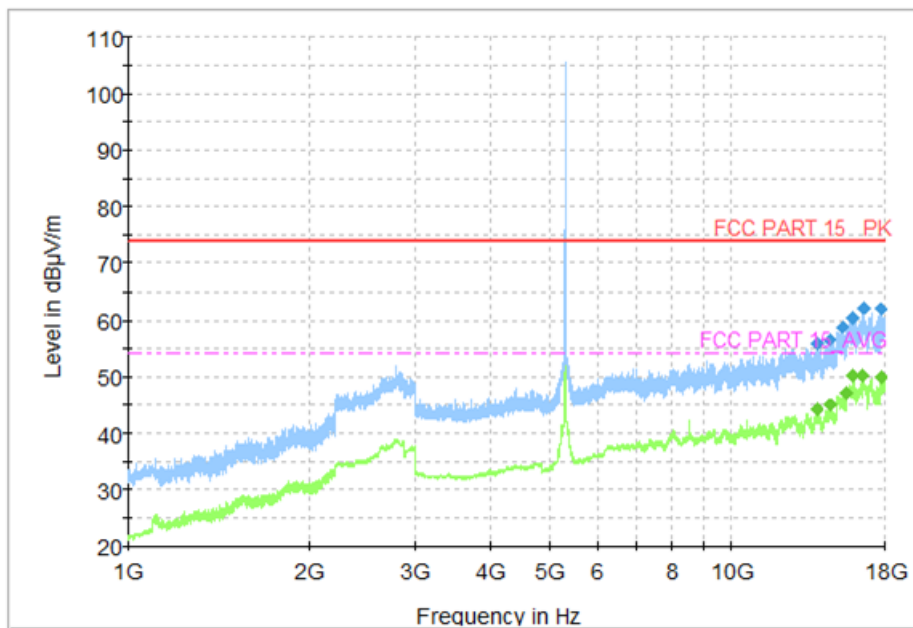


Fig. 40 WIFI-11a-CH64-1G-18G

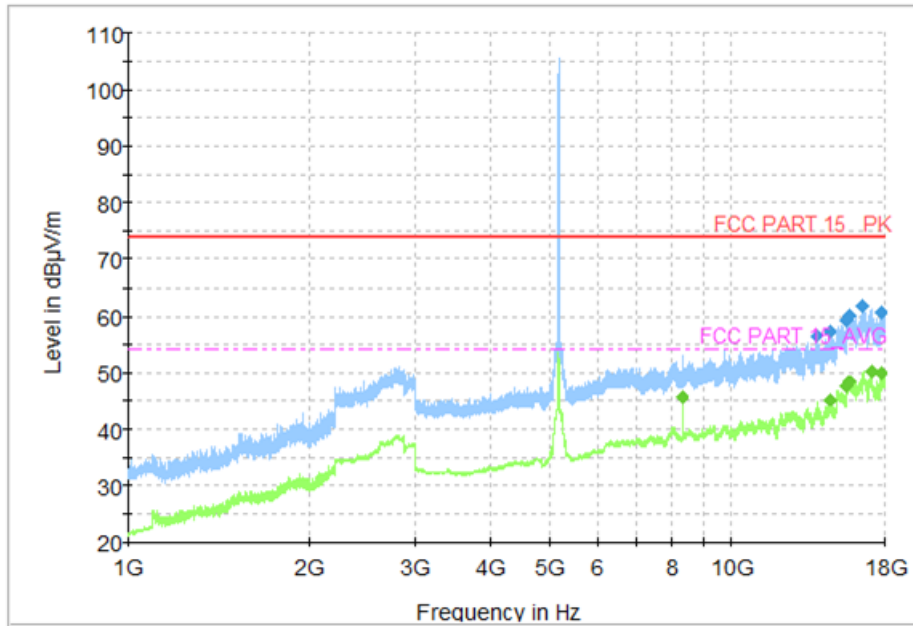


Fig. 41 WIFI-11n(HT20)-CH36-1G-18G

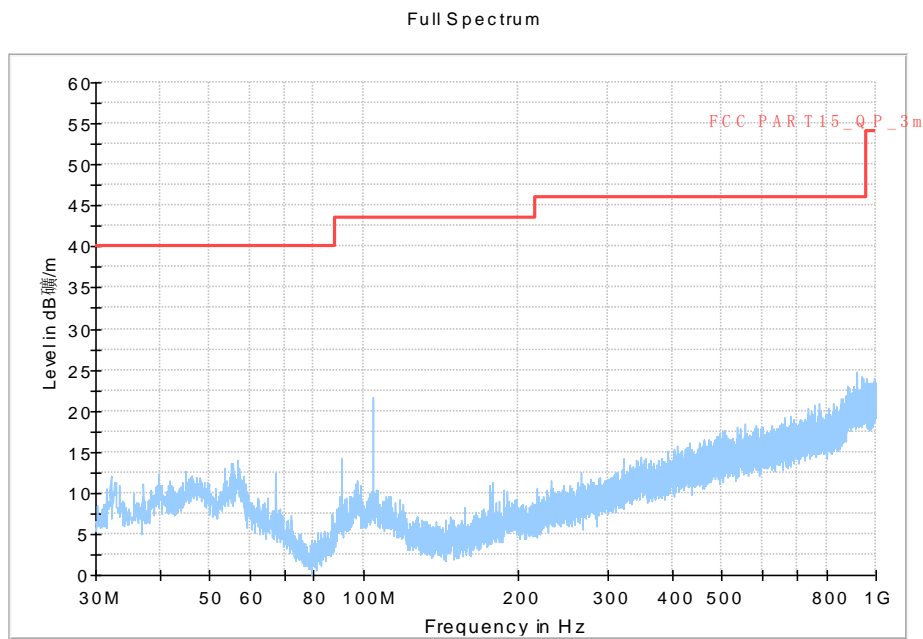


Fig. 42 WIFI-11n(HT20)-CH40-30M-1G

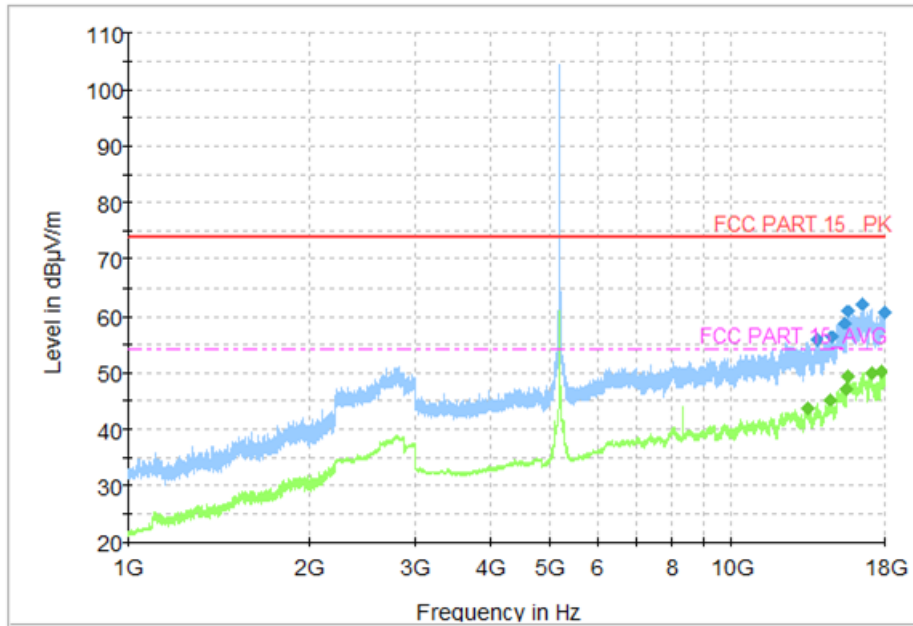


Fig. 43 WIFI-11n(HT20)-CH40-1G-18G

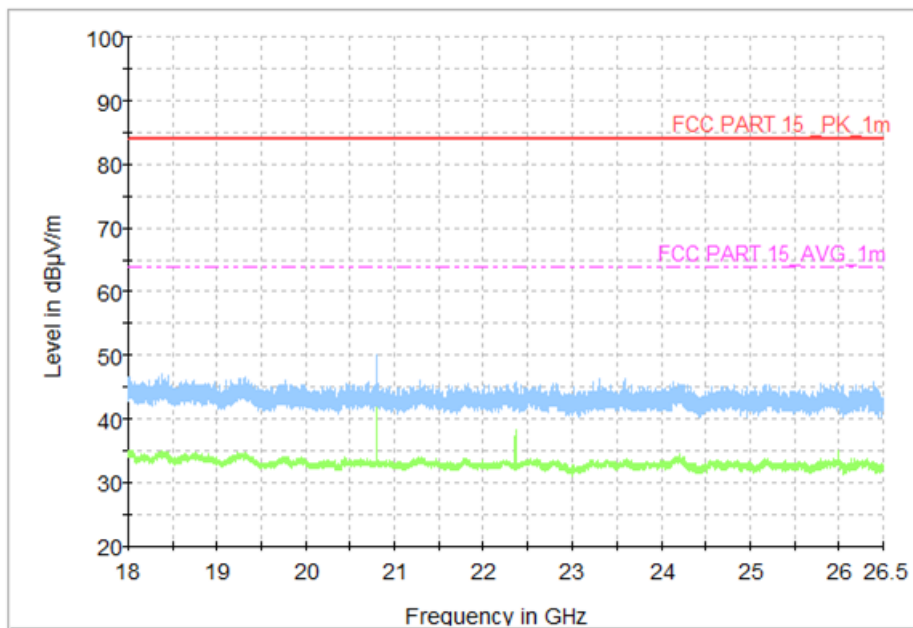


Fig. 44 WIFI-11n(HT20)-CH40-18G-26.5G

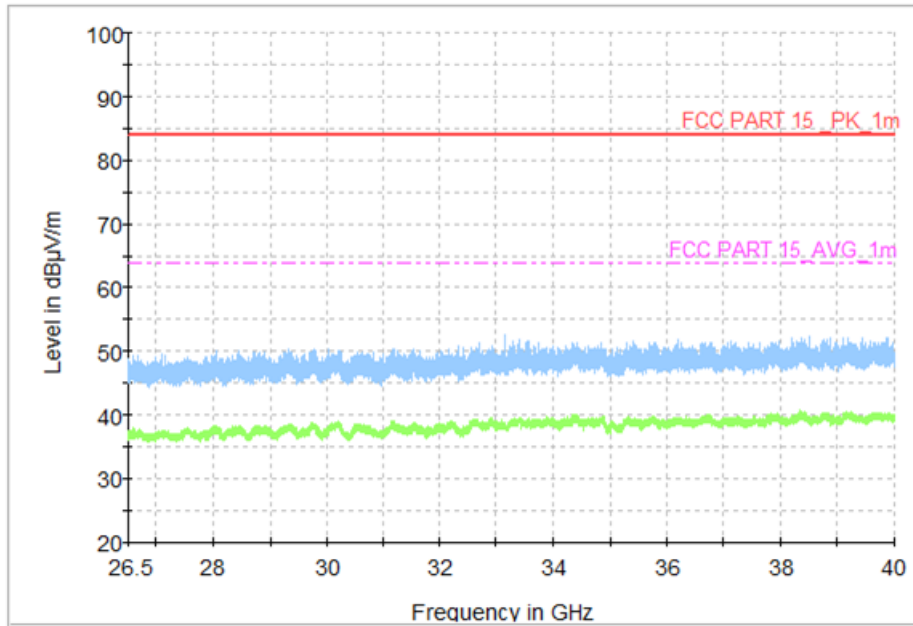


Fig. 45 WIFI-11n(HT20)-CH40-26.5G-40G

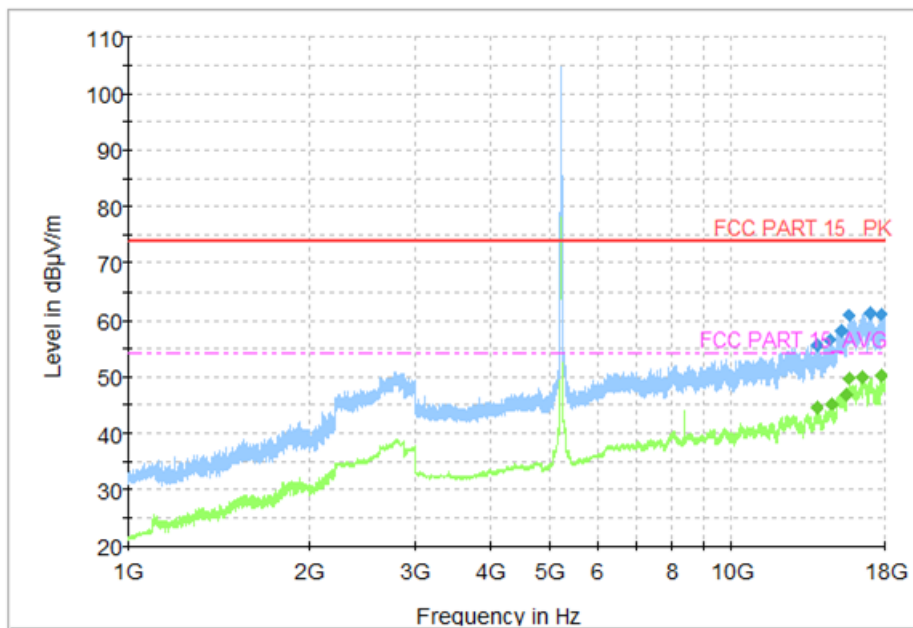


Fig. 46 WIFI-11 n(HT20)-CH48-1G-18G

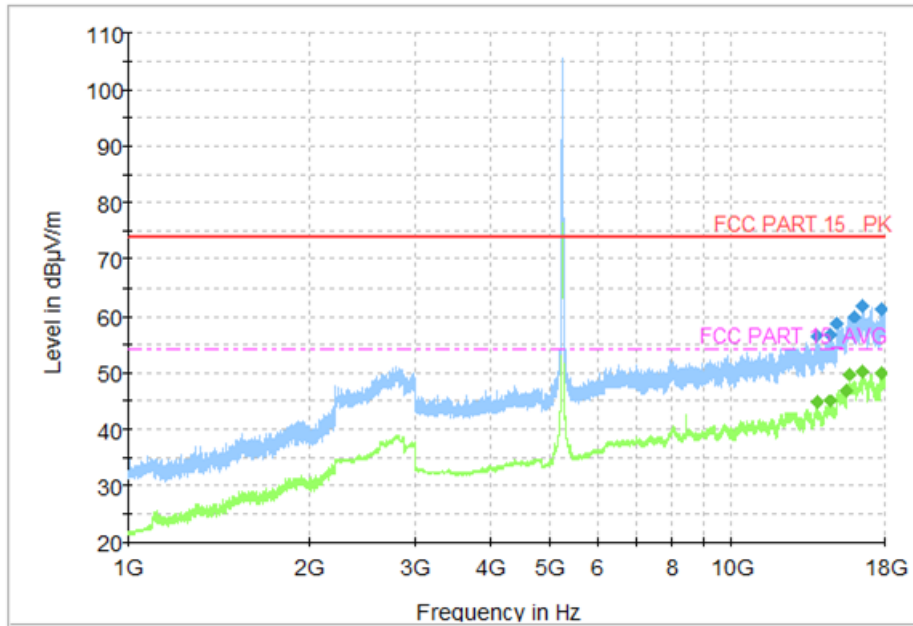


Fig. 47 WIFI-11 n(HT20)-CH52-1G-18G

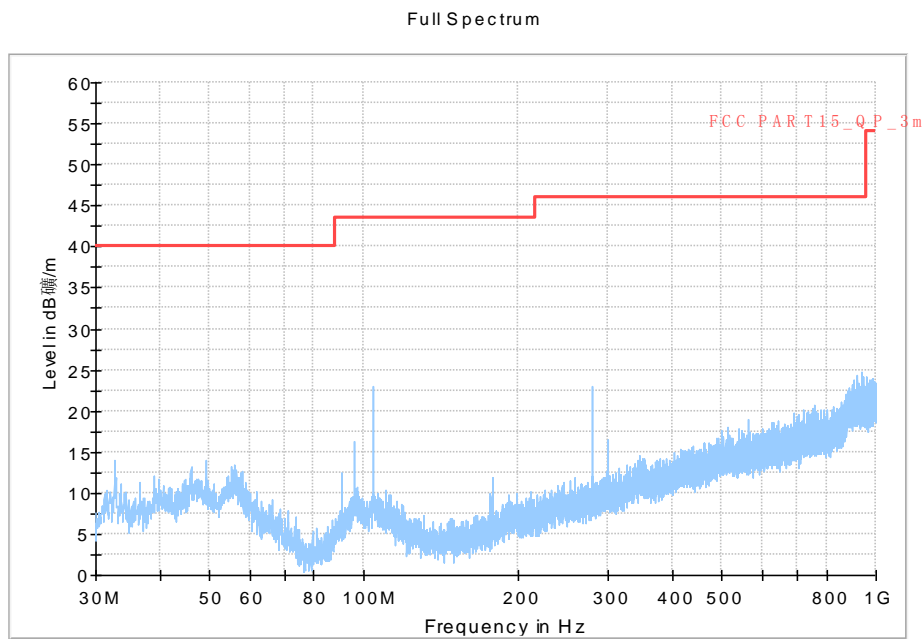


Fig. 48 WIFI-11 n(HT20)-CH56-30M-1G

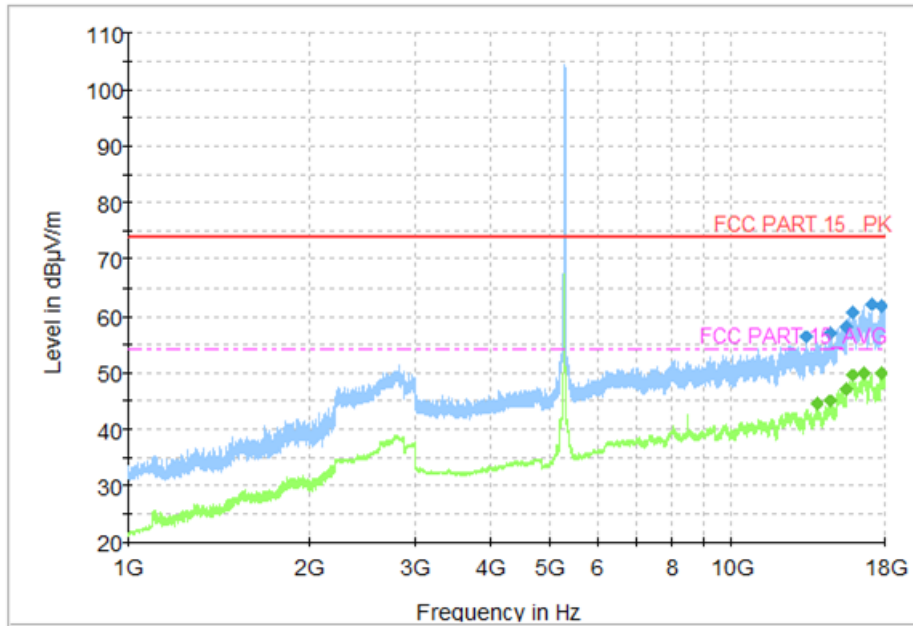


Fig. 49 WIFI-11 n(HT20)-CH56-1G-18G

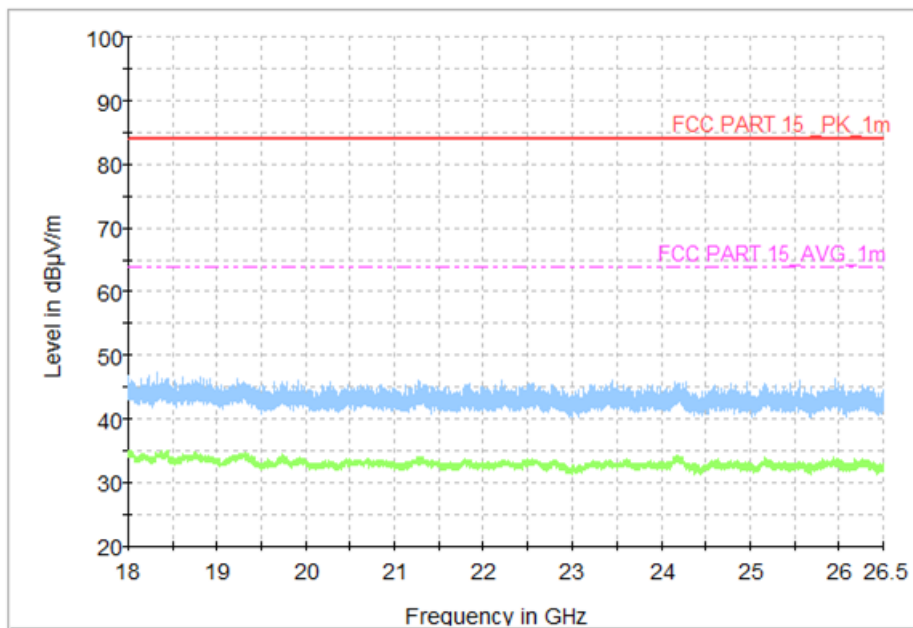


Fig. 50 WIFI-11 n(HT20)-CH56-18G-26.5G

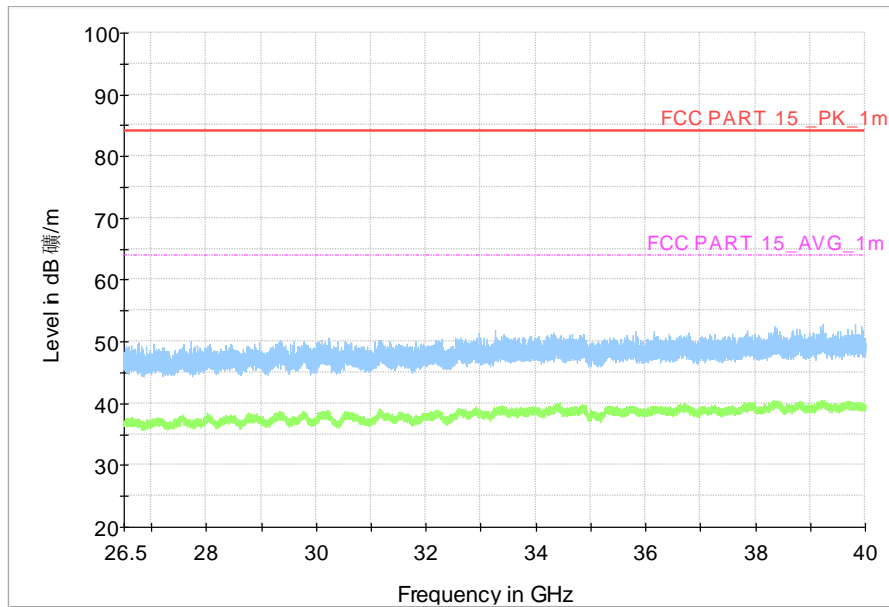


Fig. 51 WIFI-11 n(HT20)-CH56-26.5G-40G

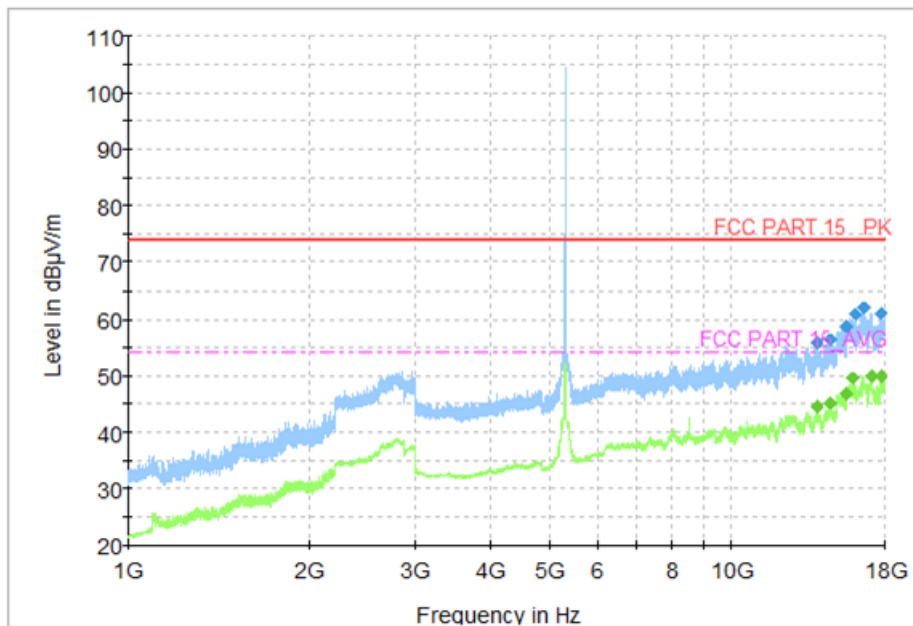


Fig. 52 WIFI-11 n(HT20)-CH64-1G-18G

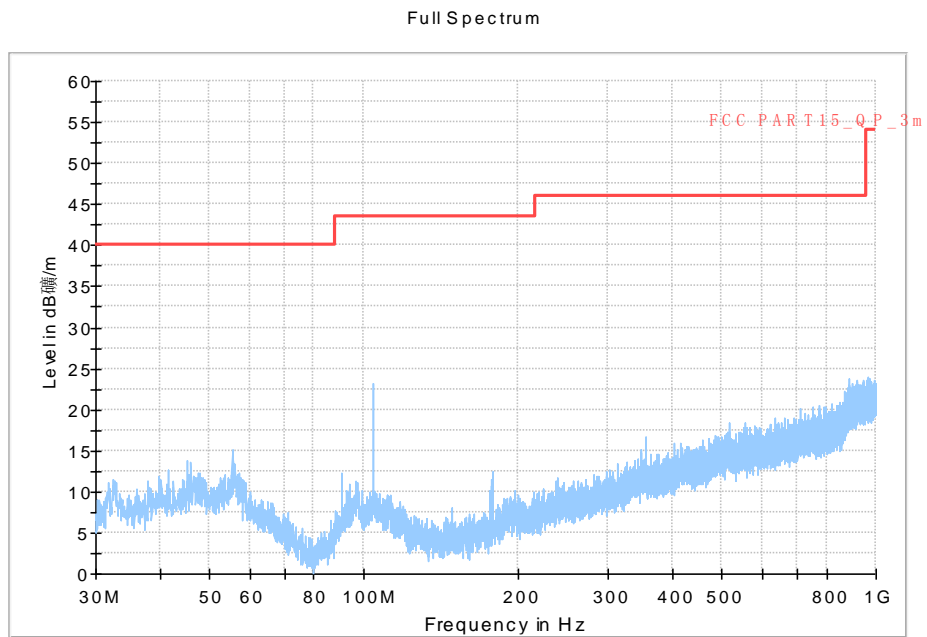


Fig. 53 WIFI-11 n(HT40)-CH38-30M-1G

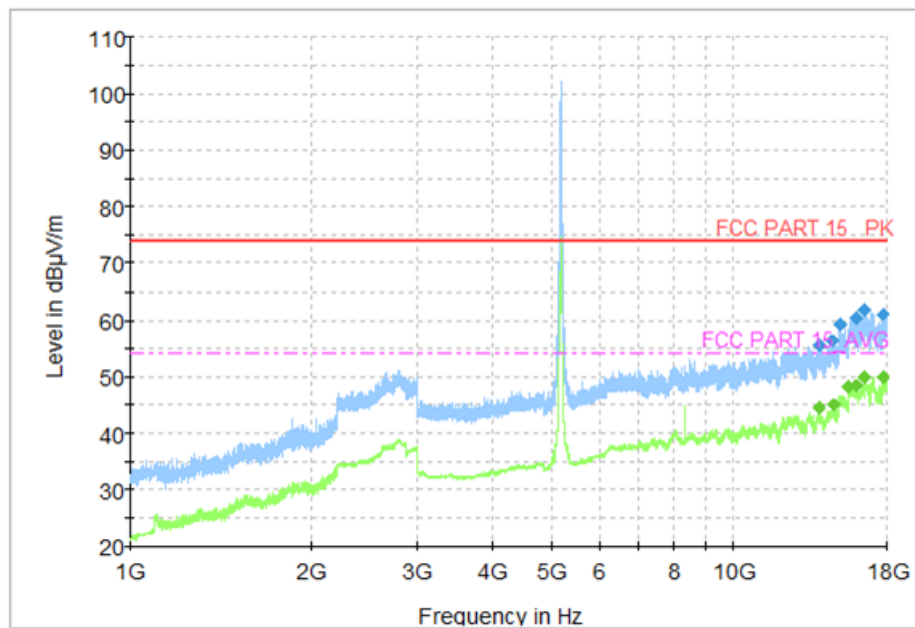


Fig. 54 WIFI-11 n(HT40)-CH38-1G-18G

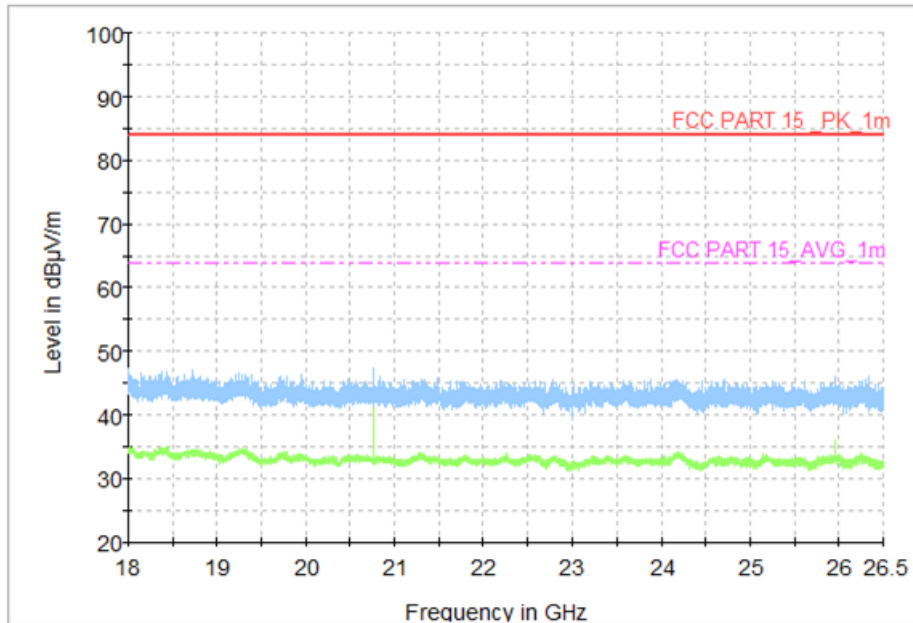


Fig. 55 WIFI-11 n(HT40)-CH38-18G-26.5G

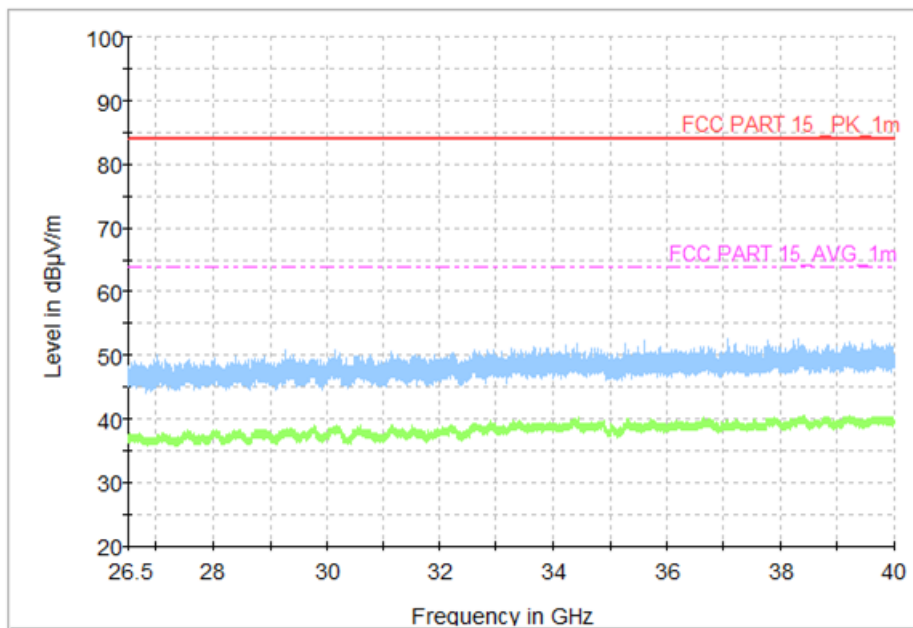


Fig. 56 WIFI-11 n(HT40)-CH38-26.5G-40G

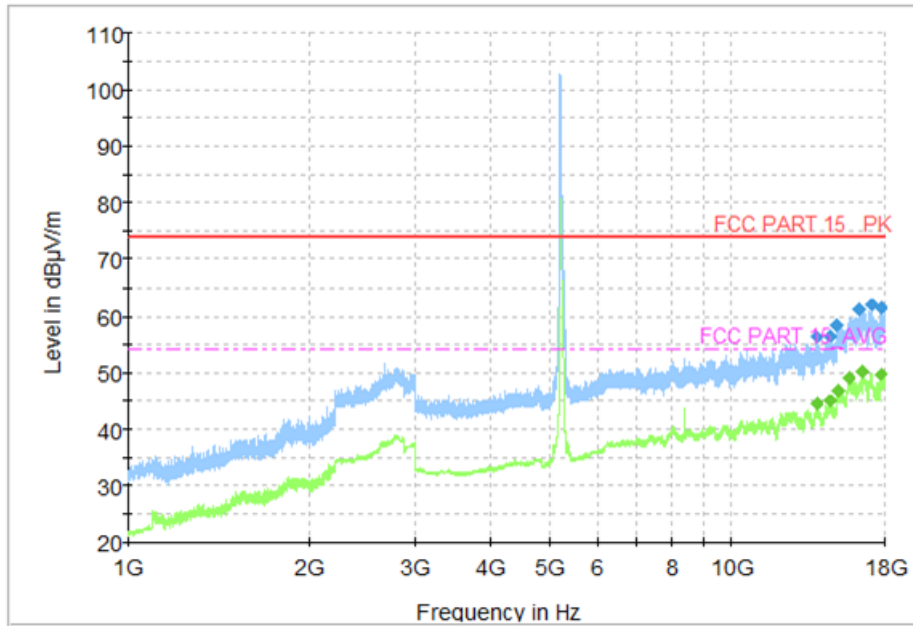


Fig. 57 WIFI-11 n(HT40)-CH46-1G-18G

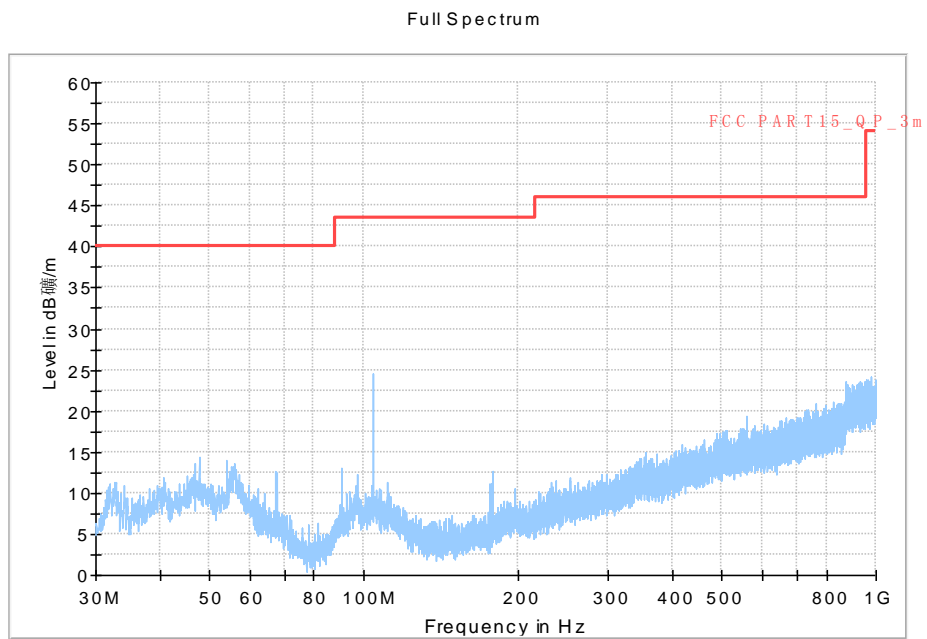


Fig. 58 WIFI-11 n(HT40)-CH54-30M-1G

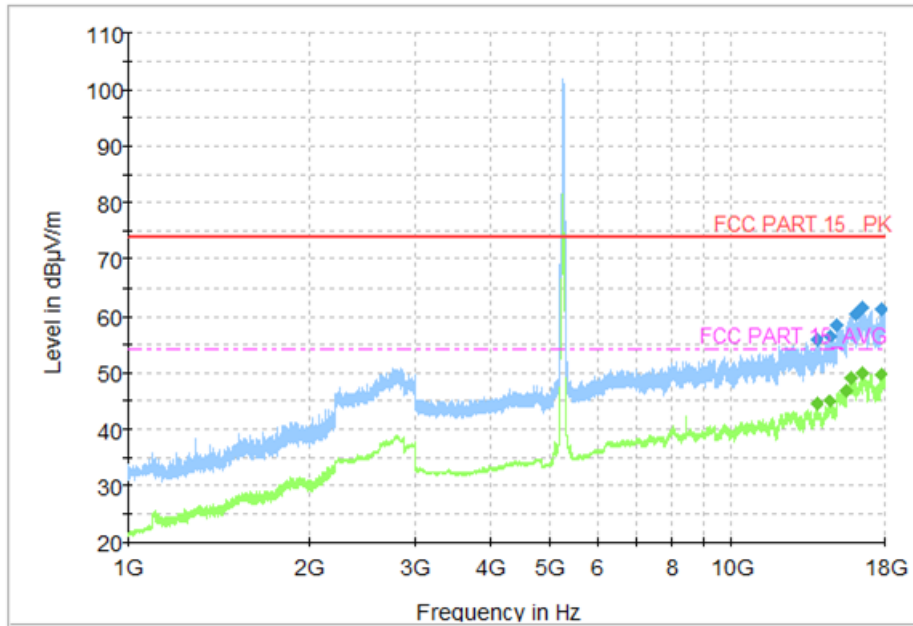


Fig. 59 WIFI-11 n(HT40)-CH54-1G-18G

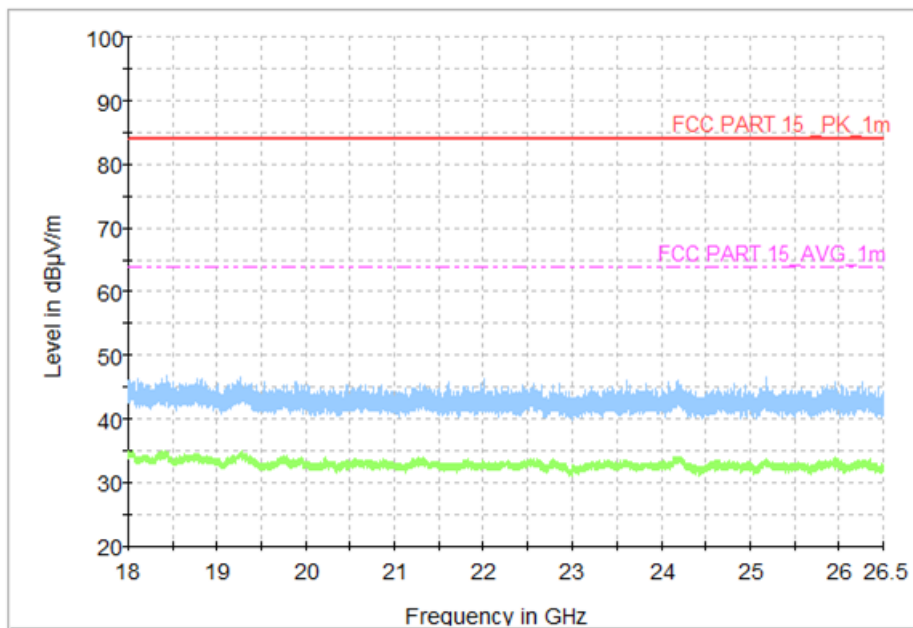


Fig. 60 WIFI-11 n(HT40)-CH54-18G-26.5G

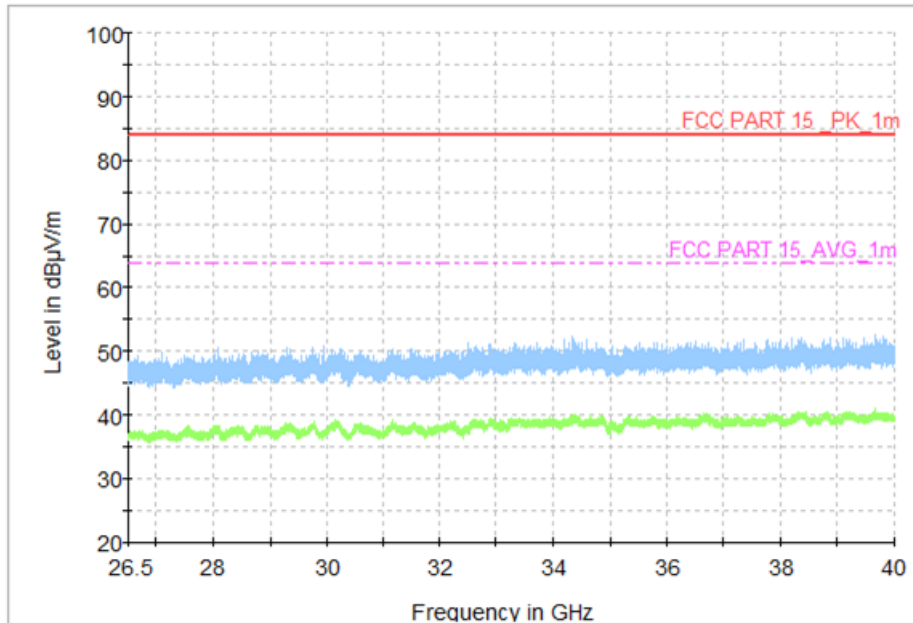


Fig. 61 WIFI-11 n(HT40)-CH54-26.5G-40G



Fig. 62 WIFI-11 n(HT40)-CH62-1G-18G

802.11a CH36 (1-18GHz)

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13920.500000	56.48	74.00	17.52	20.4	V
14690.000000	57.36	74.00	16.64	21.6	V
15551.000000	59.82	74.00	14.18	23.4	V
16072.500000	60.40	74.00	13.60	25.4	V
16601.500000	62.23	74.00	11.77	26.2	V
17693.500000	61.57	74.00	12.43	27.1	H

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13375.000000	44.07	54.00	9.93	19.6	V
13909.000000	44.94	54.00	9.06	21.1	V
14688.000000	45.24	54.00	8.76	21.6	V
15541.000000	47.47	54.00	6.53	22.9	V
16075.000000	48.76	54.00	5.24	25.5	V
17722.000000	50.20	54.00	3.80	27.6	V

802.11a CH 40 (1-18GHz)

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13910.000000	56.03	74.00	17.97	21.2	V
14530.500000	57.14	74.00	16.86	20.8	H
15014.500000	58.65	74.00	15.35	22.4	H
15599.500000	61.58	74.00	12.42	24.2	V
16582.500000	61.89	74.00	12.11	26.4	H
17699.000000	61.59	74.00	12.41	27.4	H

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13328.500000	43.73	54.00	10.27	20.3	V
13909.000000	44.85	54.00	9.15	21.1	V
14690.000000	45.25	54.00	8.75	21.6	V
15603.000000	49.64	54.00	4.36	24.2	V
16597.500000	50.20	54.00	3.80	26.3	V
17697.500000	50.07	54.00	3.93	27.3	V

802.11a CH48 (1-18GHz)

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13869.000000	56.63	74.00	17.37	20.1	H
14623.500000	56.79	74.00	17.21	21.6	V
15153.000000	58.65	74.00	15.35	22.4	V
15713.500000	61.84	74.00	12.16	24.1	V
16582.500000	62.08	74.00	11.92	26.4	V
17722.000000	62.06	74.00	11.94	27.6	V

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13909.000000	44.76	54.00	9.24	21.1	V
14686.000000	45.27	54.00	8.73	21.5	V
15111.500000	47.16	54.00	6.84	22.8	V
15716.500000	51.04	54.00	2.96	24.1	V
17110.000000	50.25	54.00	3.75	26.2	V
17707.000000	50.25	54.00	3.75	27.6	V

802.11a CH 52 (1-18GHz)

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13909.500000	56.32	74.00	17.68	21.1	V
14639.500000	56.19	74.00	17.81	21.4	H
15187.500000	58.57	74.00	15.43	22.7	V
15675.000000	60.99	74.00	13.01	23.7	V
17139.500000	61.74	74.00	12.26	26.7	V
17702.500000	61.08	74.00	12.92	27.5	H

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13909.000000	44.65	54.00	9.35	21.1	H
14693.500000	45.13	54.00	8.87	21.6	H
15577.000000	46.80	54.00	7.20	23.8	V
15782.500000	49.69	54.00	4.31	23.9	V
17110.000000	50.37	54.00	3.63	26.2	V
17705.000000	50.02	54.00	3.98	27.6	H

802.11a CH56 (1-18GHz)

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13909.000000	56.11	74.00	17.89	21.1	H
14694.000000	56.58	74.00	17.42	21.6	V
15082.500000	58.32	74.00	15.68	22.3	V
15839.500000	60.96	74.00	13.04	24.8	V
16603.000000	61.87	74.00	12.13	26.2	V
17677.500000	61.49	74.00	12.51	27.0	V

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13909.000000	44.55	54.00	9.45	21.1	V
14683.500000	45.04	54.00	8.96	21.5	H
15576.000000	46.92	54.00	7.08	23.8	H
15843.000000	50.23	54.00	3.77	24.6	V
16627.000000	49.95	54.00	4.05	26.1	V
17708.500000	50.10	54.00	3.90	27.6	H

802.11a CH 64 (1-18GHz)

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13961.000000	55.81	74.00	18.19	19.9	V
14598.000000	56.51	74.00	17.49	21.6	H
15320.500000	58.73	74.00	15.27	22.6	H
15959.500000	60.35	74.00	13.65	25.4	V
16626.000000	62.07	74.00	11.93	26.1	V
17695.500000	61.90	74.00	12.10	27.2	V

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13909.000000	44.32	54.00	9.68	21.1	V
14683.000000	44.96	54.00	9.04	21.5	V
15576.000000	46.92	54.00	7.08	23.8	H
15961.500000	50.04	54.00	3.96	25.4	V
16592.500000	50.13	54.00	3.87	26.3	V
17700.500000	49.86	54.00	4.14	27.5	V

802.11n (HT20) CH36 (1-18GHz)

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13912.000000	56.49	74.00	17.51	21.0	V
14612.500000	57.07	74.00	16.93	21.5	V
15542.500000	59.24	74.00	14.76	23.0	V
15736.500000	60.02	74.00	13.98	24.3	V
16598.000000	61.82	74.00	12.18	26.3	H
17707.500000	60.57	74.00	13.43	27.6	V

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
8287.500000	45.68	54.00	8.32	14.4	H
14676.000000	45.08	54.00	8.92	21.4	V
15541.000000	47.63	54.00	6.37	22.9	V
15733.500000	48.34	54.00	5.66	24.2	V
17110.000000	50.13	54.00	3.87	26.2	V
17701.500000	49.92	54.00	4.08	27.5	V

802.11n (HT20) CH 40 (1-18GHz)

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13883.000000	55.74	74.00	18.26	20.3	V
14690.500000	56.36	74.00	17.64	21.6	V
15455.500000	58.75	74.00	15.25	22.6	H
15601.000000	60.81	74.00	13.19	24.2	V
16589.500000	62.16	74.00	11.84	26.3	V
17997.000000	60.69	74.00	13.31	27.4	V

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13416.000000	43.61	54.00	10.39	20.3	V
14686.500000	45.12	54.00	8.88	21.6	V
15576.000000	46.91	54.00	7.09	23.8	V
15603.000000	49.16	54.00	4.84	24.2	V
17107.000000	49.99	54.00	4.01	26.0	V
17707.500000	50.06	54.00	3.94	27.6	H

802.11n (HT20) CH48 (1-18GHz)

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13888.500000	55.48	74.00	18.52	20.2	V
14581.000000	56.40	74.00	17.60	21.3	H
15249.000000	58.12	74.00	15.88	23.1	H
15723.000000	60.78	74.00	13.22	24.0	V
17042.000000	61.32	74.00	12.68	25.7	H
17736.000000	61.08	74.00	12.92	26.9	V

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13909.000000	44.43	54.00	9.57	21.1	V
14693.500000	45.11	54.00	8.89	21.6	V
15575.500000	46.67	54.00	7.33	23.8	V
15717.000000	49.79	54.00	4.21	24.1	V
16586.000000	50.00	54.00	4.00	26.3	V
17707.500000	50.04	54.00	3.96	27.6	V

802.11n (HT20) CH 52 (1-18GHz)

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13909.000000	56.40	74.00	17.60	21.1	V
14675.500000	56.80	74.00	17.20	21.4	V
15024.000000	58.71	74.00	15.29	22.3	V
15969.000000	59.98	74.00	14.02	25.6	H
16597.500000	61.62	74.00	12.38	26.3	V
17701.500000	61.21	74.00	12.79	27.5	V

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13910.000000	44.66	54.00	9.34	21.2	V
14683.000000	44.99	54.00	9.01	21.5	H
15576.000000	46.80	54.00	7.20	23.8	V
15782.500000	49.73	54.00	4.27	23.9	H
16587.500000	50.06	54.00	3.94	26.3	V
17707.000000	50.02	54.00	3.98	27.6	V

802.11n (HT20) CH56 (1-18GHz)

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13374.500000	56.25	74.00	17.75	19.6	V
14674.500000	56.90	74.00	17.10	21.3	H
15574.000000	58.13	74.00	15.87	23.7	H
15890.500000	60.55	74.00	13.45	23.7	V
17105.500000	62.24	74.00	11.76	25.8	H
17707.000000	61.72	74.00	12.28	27.6	H

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13909.500000	44.41	54.00	9.59	21.1	H
14680.500000	44.88	54.00	9.12	21.5	V
15575.500000	46.93	54.00	7.07	23.8	V
15902.000000	49.43	54.00	4.57	24.0	V
16630.500000	49.97	54.00	4.03	26.0	V
17705.000000	50.00	54.00	4.00	27.6	V

802.11n (HT20) CH 64 (1-18GHz)

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13904.000000	55.89	74.00	18.11	20.8	V
14673.500000	56.27	74.00	17.73	21.3	V
15576.500000	58.82	74.00	15.18	23.8	V
16055.000000	60.72	74.00	13.28	25.3	H
16629.000000	62.02	74.00	11.98	26.1	V
17705.000000	61.05	74.00	12.95	27.6	H

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13909.500000	44.39	54.00	9.61	21.1	V
14686.500000	45.11	54.00	8.89	21.6	H
15575.500000	46.78	54.00	7.22	23.8	V
15961.500000	49.45	54.00	4.55	25.4	V
17110.000000	49.99	54.00	4.01	26.2	V
17707.500000	49.90	54.00	4.10	27.6	H

802.11n (HT40) CH38 (1-18GHz)

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13931.000000	55.64	74.00	18.36	20.4	V
14629.500000	56.28	74.00	17.72	21.4	V
15055.000000	59.11	74.00	14.89	22.3	V
16035.000000	60.29	74.00	13.71	24.8	V
16589.500000	61.65	74.00	12.35	26.3	V
17694.500000	61.04	74.00	12.96	27.1	V

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13909.500000	44.46	54.00	9.54	21.1	V
14707.500000	45.02	54.00	8.98	21.4	V
15576.500000	48.18	54.00	5.82	23.8	V
15968.500000	48.43	54.00	5.57	25.6	V
16593.000000	49.93	54.00	4.07	26.3	V
17698.000000	49.87	54.00	4.13	27.3	H

802.11n (HT40) CH 46 (1-18GHz)

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13885.500000	56.21	74.00	17.79	20.3	V
14681.000000	56.45	74.00	17.55	21.5	V
15036.000000	58.24	74.00	15.76	22.4	V
16344.000000	61.29	74.00	12.71	25.7	V
17140.500000	61.83	74.00	12.17	26.7	H
17707.500000	61.47	74.00	12.53	27.6	V

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13909.000000	44.42	54.00	9.58	21.1	H
14677.000000	45.03	54.00	8.97	21.4	V
15108.500000	46.86	54.00	7.14	22.7	V
15693.500000	49.01	54.00	4.99	23.7	V
16583.500000	50.18	54.00	3.82	26.4	V
17705.500000	49.73	54.00	4.27	27.6	V

802.11n (HT40) CH54 (1-18GHz)

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13915.500000	55.76	74.00	18.24	20.7	H
14654.500000	56.49	74.00	17.51	21.3	V
15028.000000	58.41	74.00	15.59	22.3	H
16075.000000	60.30	74.00	13.70	25.5	V
16583.000000	61.53	74.00	12.47	26.4	V
17697.000000	61.21	74.00	12.79	27.3	V

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13909.000000	44.43	54.00	9.57	21.1	H
14595.500000	44.84	54.00	9.16	21.5	V
15576.500000	46.78	54.00	7.22	23.8	H
15815.000000	49.10	54.00	4.90	24.0	V
16594.000000	49.99	54.00	4.01	26.3	H
17707.000000	49.74	54.00	4.27	27.6	H

802.11n (HT40) CH 62 (1-18GHz)

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13347.000000	54.50	74.00	19.50	20.0	V
14510.000000	56.31	74.00	17.69	20.9	H
15062.500000	58.29	74.00	15.71	22.2	V
15732.000000	61.40	74.00	12.60	24.1	H
16650.500000	61.38	74.00	12.62	26.0	H
17703.000000	61.79	74.00	12.21	27.5	V

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Corr. (dB)	Pol
13909.500000	44.37	54.00	9.63	21.1	V
14686.000000	44.99	54.00	9.01	21.5	V
15576.000000	46.79	54.00	7.21	23.8	V
15925.500000	49.22	54.00	4.78	24.7	V
16592.500000	50.03	54.00	3.97	26.3	V
17708.000000	49.98	54.00	4.02	27.6	V



Note:

A "reference path loss" is established and the A_{Rpl} is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss. P_{Mea} is the field strength recorded from the instrument.

The measurement results are obtained as described below:

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

A.7. Radiated Spurious Emissions < 30MHz

Measurement Limit (15.209, 9kHz-30MHz):

Frequency (MHz)	Field strength ($\mu\text{V/m}$)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30

The measurement is made according to KDB 789033.

Note: The measurement distance during the test is 3m. The limit used in plots recalculated based on the extrapolation factor of 40 dB/decade.

Measurement Uncertainty:

Expanded measurement uncertainty for this test item is $U = 3.94\text{dB}$, $k=2$.

Measurement Result:

Mode	Frequency Range	Test Results	Conclusion
802.11a	9 kHz ~30 MHz	Fig.63	P

Conclusion: PASS

Test graphs as below:

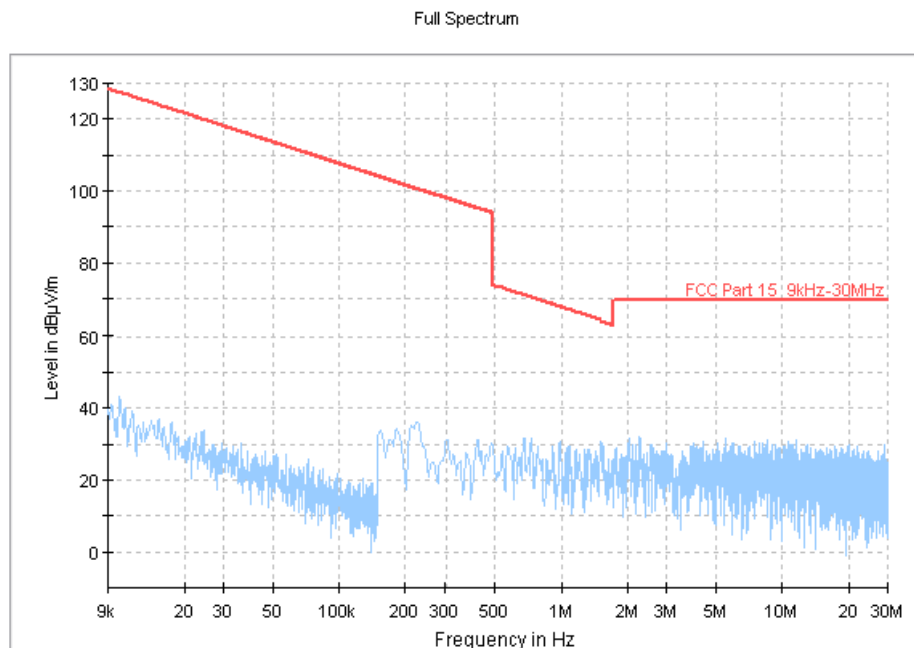


Fig. 63 Radiated Spurious Emission (802.11a, ch40, 9 kHz ~30 MHz)

A.8. AC Powerline Conducted Emission

Test Condition:

Voltage (V)	Frequency (Hz)
120	60

Measurement Uncertainty:

Expanded measurement uncertainty for this test item is U =3.38dB, k=2.

Measurement Result and limit:

WLAN (Quasi-peak Limit)-AE1

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Result (dB μ V)		Conclusion
		11a mode	Idle	
0.15 to 0.5	66 to 56	Fig.64	Fig.65	P
0.5 to 5	56			
5 to 30	60			

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

WLAN (Average Limit)-AE1

Frequency range (MHz)	Average-peak Limit (dB μ V)	Result (dB μ V)		Conclusion
		11a mode	Idle	
0.15 to 0.5	56 to 46	Fig.64	Fig.65	P
0.5 to 5	46			
5 to 30	50			

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

WLAN (Quasi-peak Limit)-AE2

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Result (dB μ V)		Conclusion
		11a mode	Idle	
0.15 to 0.5	66 to 56	Fig.66	Fig.67	P
0.5 to 5	56			
5 to 30	60			

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

WLAN (Average Limit)-AE2

Frequency range (MHz)	Average-peak Limit (dB μ V)	Result (dB μ V)		Conclusion
		11a mode	Idle	
0.15 to 0.5	56 to 46	Fig.66	Fig.67	P
0.5 to 5	46			
5 to 30	50			

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

Test Condition:

Voltage (V)	Frequency (Hz)
240	60

Measurement Uncertainty:

Expanded measurement uncertainty for this test item is $U = 3.38\text{dB}$, $k=2$.

Measurement Result and limit:

WLAN (Quasi-peak Limit)-AE1

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Result (dB μ V)		Conclusion
		11a mode	Idle	
0.16 to 0.5	66 to 56	Fig.68	Fig.69	P
0.5 to 5	56			
5 to 30	60			

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

WLAN (Average Limit)-AE1

Frequency range (MHz)	Average-peak Limit (dB μ V)	Result (dB μ V)		Conclusion
		11a mode	Idle	
0.15 to 0.5	56 to 46	Fig.68	Fig.69	P
0.5 to 5	46			
5 to 30	50			

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

WLAN (Quasi-peak Limit)-AE2

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Result (dB μ V)		Conclusion
		11a mode	Idle	
0.15 to 0.5	66 to 56	Fig.70	Fig.71	P
0.5 to 5	56			
5 to 30	60			

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

WLAN (Average Limit)-AE2

Frequency range (MHz)	Average-peak Limit (dB μ V)	Result (dB μ V)		Conclusion
		11a mode	Idle	
0.15 to 0.5	56 to 46	Fig.70	Fig.71	P
0.5 to 5	46			
5 to 30	50			

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

Conclusion: PASS

Test graphs as below:

ESH2-Z5 Scan-FCC

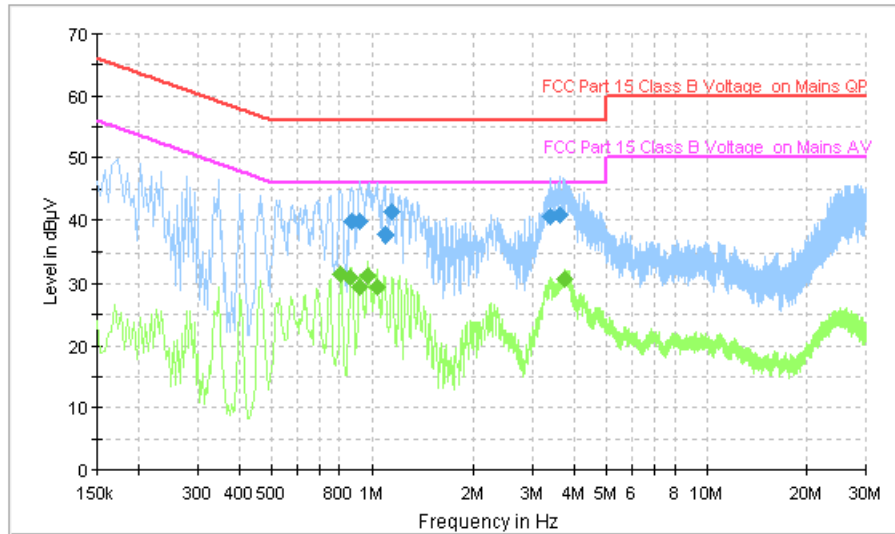


Fig. 64 AC Powerline Conducted Emission (802.11a, AE1, 120V)

MEASUREMENT RESULT: "QuasiPeak"

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.874000	39.8	GND	N	9.6	16.2	56.0
0.922000	39.9	GND	N	9.6	16.1	56.0
1.098000	37.8	GND	N	9.6	18.2	56.0
1.146000	41.3	GND	N	9.6	14.7	56.0
3.410000	40.5	GND	N	9.6	15.5	56.0
3.626000	40.8	GND	N	9.6	15.2	56.0

MEASUREMENT RESULT: "Average"

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.806000	31.4	GND	N	9.6	14.6	46.0
0.862000	31.0	GND	N	9.6	15.0	46.0
0.922000	29.5	GND	N	9.6	16.5	46.0
0.974000	31.3	GND	N	9.6	14.7	46.0
1.034000	29.3	GND	N	9.5	16.7	46.0
3.730000	30.6	GND	N	9.6	15.4	46.0

ESH2-Z5 Scan-FCC

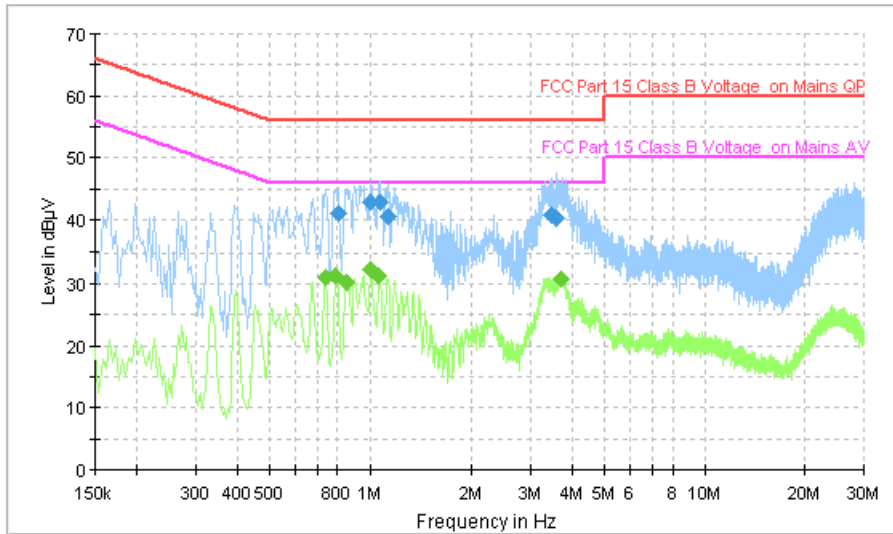


Fig. 65 AC Powerline Conducted Emission (Idle, AE1, 120V)

MEASUREMENT RESULT: "QuasiPeak"

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.802000	41.2	GND	N	9.6	14.8	56.0
1.006000	43.0	GND	N	9.5	13.0	56.0
1.070000	42.8	GND	N	9.6	13.2	56.0
1.130000	40.5	GND	N	9.6	15.5	56.0
3.462000	40.7	GND	N	9.6	15.3	56.0
3.578000	40.4	GND	N	9.6	15.6	56.0

MEASUREMENT RESULT: "Average"

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.734000	31.0	GND	N	9.5	15.0	46.0
0.790000	31.3	GND	N	9.6	14.7	46.0
0.850000	30.1	GND	N	9.5	15.9	46.0
1.006000	32.4	GND	N	9.5	13.6	46.0
1.066000	31.4	GND	N	9.6	14.6	46.0
3.714000	30.8	GND	N	9.6	15.2	46.0

ESH2-Z5 Scan-FCC

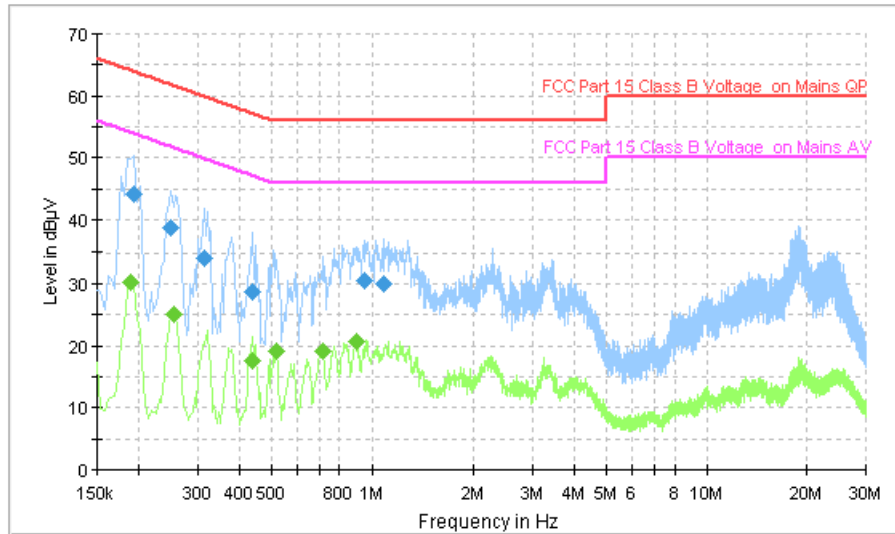


Fig. 66 AC Powerline Conducted Emission (802.11a, AE2, 120V)

MEASUREMENT RESULT: "QuasiPeak"

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.194000	44.2	GND	N	9.6	19.7	63.9
0.250000	38.6	GND	N	9.6	23.1	61.8
0.314000	34.1	GND	N	9.6	25.8	59.9
0.438000	28.7	GND	N	9.7	28.4	57.1
0.950000	30.5	GND	N	9.6	25.5	56.0
1.086000	29.9	GND	N	9.6	26.1	56.0

MEASUREMENT RESULT: "Average"

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.190000	30.2	GND	N	9.6	23.8	54.0
0.254000	25.0	GND	N	9.6	26.7	51.6
0.438000	17.5	GND	N	9.7	29.6	47.1
0.518000	19.2	GND	N	9.7	26.8	46.0
0.714000	19.0	GND	N	9.5	27.0	46.0
0.902000	20.6	GND	N	9.6	25.4	46.0

ESH2-Z5 Scan-FCC

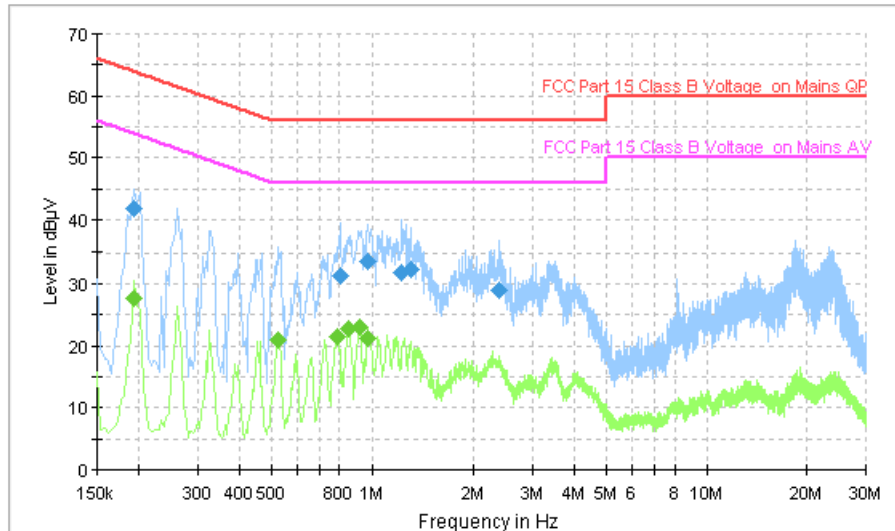


Fig. 67 AC Powerline Conducted Emission (Idle, AE2, 120V)

MEASUREMENT RESULT: "QuasiPeak"

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.194000	41.9	GND	N	9.6	22.0	63.9
0.802000	31.3	GND	N	9.6	24.7	56.0
0.974000	33.6	GND	N	9.6	22.4	56.0
1.230000	31.8	GND	N	9.6	24.2	56.0
1.314000	32.2	GND	N	9.6	23.8	56.0
2.390000	29.0	GND	N	9.6	27.0	56.0

MEASUREMENT RESULT: "Average"

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.194000	27.7	GND	N	9.6	26.1	53.9
0.522000	20.9	GND	N	9.7	25.1	46.0
0.790000	21.5	GND	N	9.6	24.5	46.0
0.850000	22.7	GND	N	9.5	23.3	46.0
0.918000	22.9	GND	N	9.6	23.1	46.0
0.974000	21.1	GND	N	9.6	24.9	46.0

ESH2-Z5 Scan-FCC

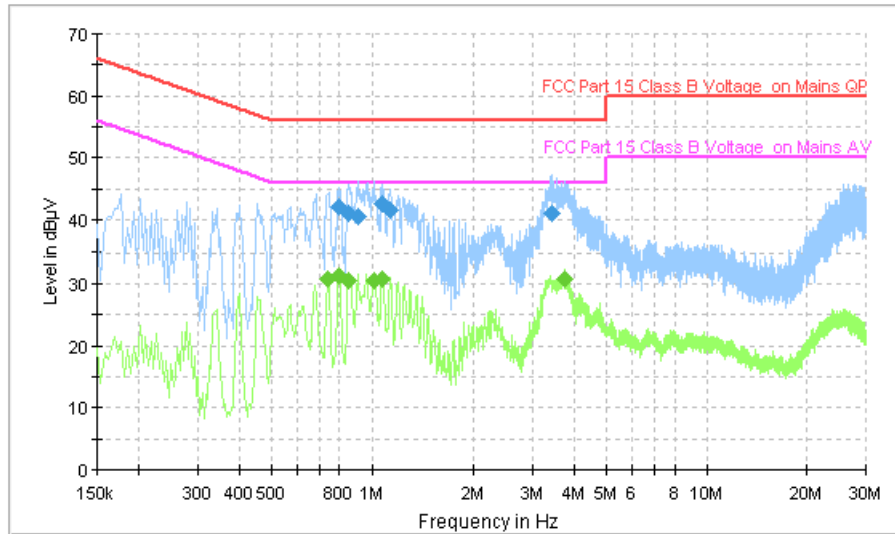


Fig. 68 AC Powerline Conducted Emission (802.11a, AE1, 240V)

MEASUREMENT RESULT: "QuasiPeak"

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.794000	42.0	GND	N	9.6	14.0	56.0
0.854000	41.2	GND	N	9.5	14.8	56.0
0.910000	40.5	GND	N	9.6	15.5	56.0
1.074000	42.6	GND	N	9.6	13.4	56.0
1.130000	41.6	GND	N	9.6	14.4	56.0
3.438000	41.1	GND	N	9.6	14.9	56.0

MEASUREMENT RESULT: "Average"

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.738000	30.8	GND	N	9.5	15.2	46.0
0.794000	31.3	GND	N	9.6	14.7	46.0
0.854000	30.4	GND	N	9.5	15.6	46.0
1.018000	30.6	GND	N	9.5	15.4	46.0
1.078000	30.6	GND	N	9.6	15.4	46.0
3.742000	30.7	GND	N	9.6	15.3	46.0

ESH2-Z5 Scan-FCC

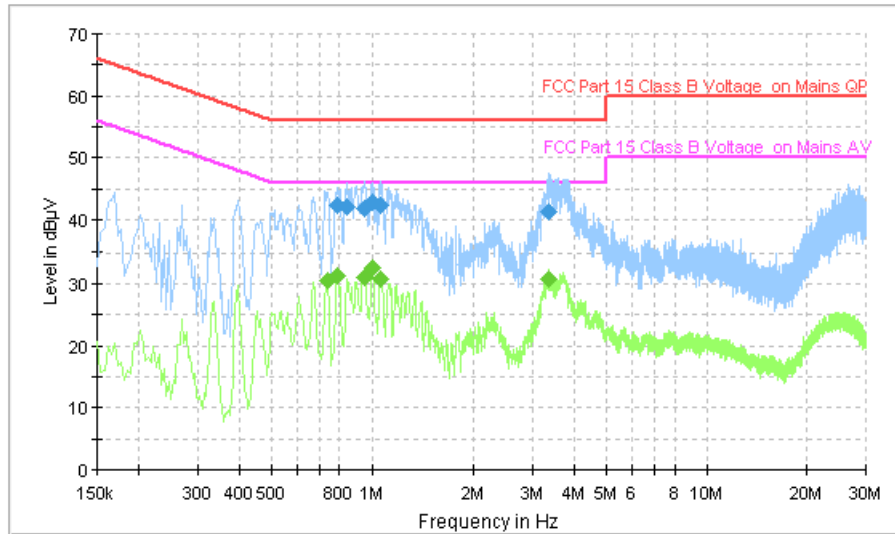


Fig. 69 AC Powerline Conducted Emission (Idle, AE1, 240V)

MEASUREMENT RESULT: "QuasiPeak"

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.786000	42.2	GND	N	9.6	13.8	56.0
0.846000	42.0	GND	N	9.5	14.0	56.0
0.950000	41.9	GND	N	9.6	14.1	56.0
1.006000	43.0	GND	N	9.5	13.0	56.0
1.066000	42.3	GND	N	9.6	13.7	56.0
3.354000	41.3	GND	N	9.6	14.7	56.0

MEASUREMENT RESULT: "Average"

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.734000	30.5	GND	N	9.5	15.5	46.0
0.786000	31.3	GND	N	9.6	14.7	46.0
0.950000	31.0	GND	N	9.6	15.0	46.0
1.006000	32.5	GND	N	9.5	13.5	46.0
1.066000	30.8	GND	N	9.6	15.2	46.0
3.366000	30.8	GND	N	9.6	15.2	46.0

ESH2-Z5 Scan-FCC

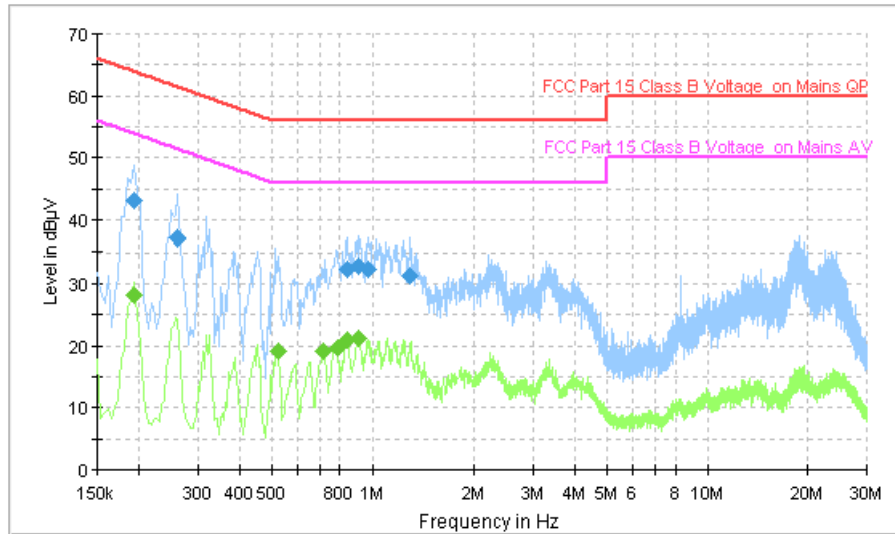


Fig. 70 AC Powerline Conducted Emission (802.11a, AE2, 240V)

MEASUREMENT RESULT: "QuasiPeak"

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.194000	43.1	GND	N	9.6	20.8	63.9
0.262000	37.2	GND	N	9.6	24.1	61.4
0.838000	32.3	GND	N	9.5	23.7	56.0
0.906000	32.8	GND	N	9.6	23.2	56.0
0.974000	32.4	GND	N	9.6	23.6	56.0
1.298000	31.3	GND	N	9.6	24.7	56.0

MEASUREMENT RESULT: "Average"

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.194000	28.2	GND	N	9.6	25.6	53.9
0.522000	19.1	GND	N	9.7	26.9	46.0
0.714000	19.2	GND	N	9.5	26.8	46.0
0.786000	19.6	GND	N	9.6	26.4	46.0
0.838000	20.9	GND	N	9.5	25.1	46.0
0.906000	21.1	GND	N	9.6	24.9	46.0

ESH2-Z5 Scan-FCC

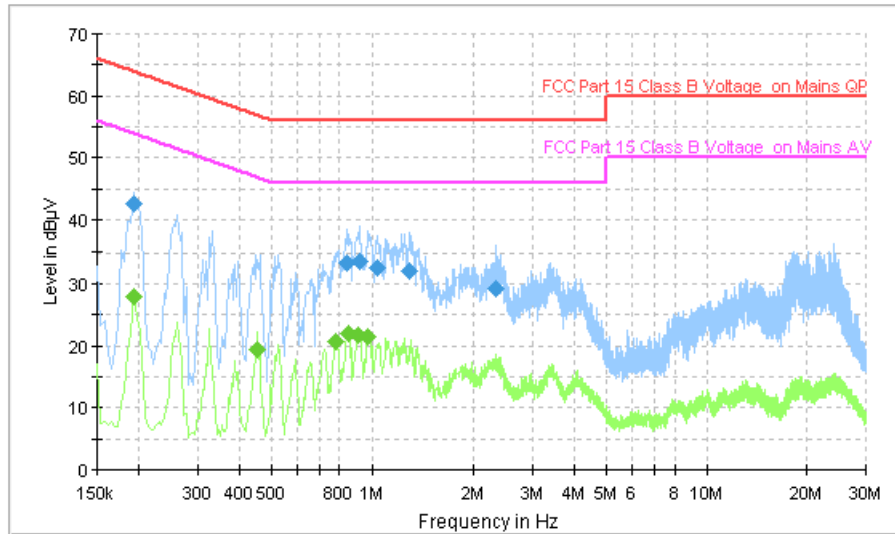


Fig. 71 AC Powerline Conducted Emission (Idle, AE2, 240V)

MEASUREMENT RESULT: "QuasiPeak"

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.194000	42.5	GND	N	9.6	21.3	63.9
0.842000	33.4	GND	N	9.5	22.6	56.0
0.918000	33.7	GND	N	9.6	22.3	56.0
1.042000	32.6	GND	N	9.5	23.4	56.0
1.294000	32.0	GND	N	9.6	24.0	56.0
2.330000	29.1	GND	N	9.6	26.9	56.0

MEASUREMENT RESULT: "Average"

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.194000	27.8	GND	N	9.6	26.1	53.9
0.454000	19.4	GND	N	9.7	27.4	46.8
0.782000	20.6	GND	N	9.6	25.4	46.0
0.850000	21.9	GND	N	9.5	24.1	46.0
0.910000	21.8	GND	N	9.6	24.2	46.0
0.974000	21.5	GND	N	9.6	24.5	46.0

A.9. Frequency Stability

Manufacturers ensured the EUT meet the requirement of frequency stability, such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

Measurement Limit:

Standard	Frequency (MHz)	Limit (dBm/MHz)
FCC CRF Part 15.407(g)	5150MHz~5250MHz	Specified in the user's manual
	5250MHz~5350MHz	

Measurement Condition:

T min = 0°C T nom = 25°C T max = 40°C
V min = 3.6V V nom = 3.8V V max = 4.2V

Measurement Result:

Mode	Channel	Condition		Frequency
		T	V	
802.11a	5180 MHz	nom	nom	5179.9874
		max	nom	5179.9795
		min	nom	5179.9706
		nom	max	5179.9567
		nom	min	5179.9516
802.11a	5260 MHz	nom	nom	5259.9875
		max	nom	5259.9714
		min	nom	5259.9706
		nom	max	5259.9851
		nom	min	5259.9701

A.10. Power Control

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

*** END OF REPORT BODY ***