FCC PART 15E
TEST REPORT
No. I19N02247-RLAN

For

Doro AB

LTE phone

Model Name: DSB-0230

With

Hardware Version: 1031

Software Version:

MAGIC01A-S10A_DSB0230_123_USERDEBUG_190925

FCC ID: WS5DSB0230

Issued Date: 2019-11-19

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:

Shenzhen Academy of Information and Communications Technology

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
I19N02247-RLAN	Rev.0	1st edition	2019-11-19

CONTENTS

1. TEST LATORATORY

1.1. Testing Location

Location: Shenzhen Academy of Information and Communications Technology
Address: Building G, Shenzhen International Innovation Center, No.1006 Shennan Road, Futian District, Shenzhen, Guangdong Province, China
Postal Code: 518026
Telephone: +86(0)755-33322000
Fax: +86(0)755-33322001

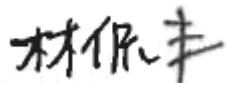
1.2. Testing Environment

Normal Temperature: 15-35℃
Relative Humidity: 20-75%

1.3. Project data

Testing Start Date: 2019-10-08
Testing End Date: 2019-10-25

1.4. Signature



Lin Kanfeng
(Prepared this test report)

Tang Weisheng
(Reviewed this test report)

Zhang Bojun
(Approved this test report)

2. CLIENT INFORMATION

2.1. Applicant Information

Company Name:	Doro AB
Address:	Jörgen Kocksgatan 1B SE-211 20 Malmö Sweden
Contact:	Per Carlenhag
Email:	per.carlenhag@doro.com
Telephone:	+46 46 280 5000
Fax:	+46 46 280 5001

2.2. Manufacturer Information

Company Name:	CK TELECOM LTD.
Address:	Technology Road. High-Tech Development Zone. Heyuan, Guangdong, P.R.China
Contact:	mourong xie
Email:	mourong.xie@ck-telecom.com
Telephone:	0755-26739100 ext.8514
Fax:	0755-26739600

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

3.1. About EUT

Description	LTE phone	
Model Name	DSB-0230	
Brand Name	Doro	
RLAN Frequency Range	ISM Bands:	-5150MHz~5250MHz
		-5250MHz~5350MHz
		-5470MHz~5725MHz
		-5725MHz~5850MHz
RLAN Protocol	IEEE 802.11a, 802.11n-HT20/40	
Type of modulation	OFDM	
Antenna Type	Integrated	
Antenna Gain	-0.5dBi	
Power Supply	3.85V DC by Battery	
FCC ID	WS5DSB0230	
Condition of EUT as received	No abnormality in appearance	

3.2. Internal Identification of EUT

EUT ID*	IMEI	HW Version	SW Version	Receive Date
EUT1	358707100008323	1031	MAGIC01A-S10A_DSB0230_123_USERDEBUG_190925	2019-10-08

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

3.3. Internal Identification of AE

AE ID*	Description	Mode	Manufacturer
AE1	Battery	DBV 3000A	Dongguang HongDe Battery Co.,Ltd
AE2	Charger	UT-133E-5100BY	Shenzhen BaiJunDa Electronic Co., LTD
AE3	Charger	A806A-050100U-UK1	Dongguan Aohai Power Technology Co., LTD

*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 LTE phone with integrated antenna and battery.
It consists of normal options: travel charger, USB cable and Phone.
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 FCC CFR 47,Part 15,Subpart E	2018
ANSI C63.10	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices	2013
KDB789033	GUIDELINES FOR COMPLIANCE TESTING OF UNLICENSED NATIONAL INFORMATION INFRASTRUCTURE (U-NII) DEVICES PART 15, SUBPART E	V02r01

5. SUMMARY OF TEST RESULTS

5.1. Summary of Test Results

No.	Test cases	Sub-clause of Part15E	Verdict
1	Maximum Output Power	15.407	**P**
2	Power Spectral Density	15.407	**P**
3	Occupied 26dB Bandwidth	15.403	**P**
4	Occupied 6dB Bandwidth	15.407	**P**
5	99% Occupied Bandwidth	15.403	**P**
6	Band edge compliance	15.209	**P**
7	Transmitter Spurious Emissions	15.407, 15.205	**P**
8	AC Power line Conducted	15.207	**P**
9	Frequency Stability	15.407	**P**
10	Transmit Power Control	15.407	**NA**

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

5.2. Statements

CTTL has evaluated the test cases requested by the applicant/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

5.4. Laboratory Environment

Semi-anechoic chamber

Temperature	Min. = 15 ˚C, Max. = 35 ˚C
Relative humidity	Min. = 20 %, Max. = 75 %
Shielding effectiveness	0.014 MHz - 1 MHz, > 60 dB; 1 MHz - 1000 MHz, > 90 dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4 Ω
Normalised site attenuation (NSA)	< ±4 dB, 3m/10m distance, from 30 to 1000 MHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 3000 MHz

Shielded room

Temperature	Min. = 15 ˚C, Max. = 35 ˚C
Relative humidity	Min. = 20 %, Max. = 75 %
Shielding effectiveness	0.014 MHz - 1 MHz, > 60 dB; 1 MHz - 1000 MHz, > 90 dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4 Ω

Fully-anechoic chamber

Temperature	Min. = 15 ˚C, Max. = 35 ˚C
Relative humidity	Min. = 20 %, Max. = 75 %
Shielding effectiveness	0.014 MHz - 1MHz, > 60dB; 1 MHz - 1000 MHz, > 90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4 Ω
Voltage Standing Wave Ratio (VSWR)	≤ 6 dB, from 1 to 18 GHz, 3m distance

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	2020-01-16	1 year
2	Power Sensor	U2021XA	MY55430013	Agilent	2020-01-16	1 year
3	Data Acquisiton	U2531A	TW55443507	Agilent	/	/
4	Climate chamber	SU-242	93008165	ESPEC	2020-04-04	1 year
5	DC Power Supply	ZUP60-14	6MY-847Z13-0001	TDK-Lambda	2020-02-27	1 year

Radiated emission test system

NO.	Equipment	Model	Serial Number	Manufacturer	Calibration Due date	Calibration Period
1	LISN	ESH2-Z5	100196	R&S	2020-01-03	1 year
2	Test Receiver	ESCI	100701	R&S	2020-08-06	1 year
3	Loop Antenna	HLA6120	35779	TESEQ	2022-05-01	3 year
4	BiLog Antenna	VULB9163	9163 329	Schwarzbeck	2020-02-17	3 year
5	Horn Antenna	3117	00066585	ETS-Lindgren	2022-03-04	3 year
6	Test Receiver	ESR7	101675	R&S	2020-07-18	1 year
7	Spectrum Analyzer	FSP 40	100378	R&S	2019-12-13	1 year
8	Chamber	FACT5-2.0	4166	ETS-Lindgren	2021-05-12	3 year
9	Antenna	QSH-SL-18-26-S-20	17013	Q-par	2020-01-15	3 year
10	Antenna	QSH-SL-26-40-K-20	17014	Q-par	2020-01-11	3 year

Test software

No.	Equipment	Manufacturer	Version
1	TechMgr Software	CAICT	2.1.1
2	EMC32	Rohde & Schwarz	8.53.0
3	EMC32	Rohde & Schwarz	10.01.00

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

Anechoic chamber

Fully anechoic chamber by ETS-Lindgren

7. Measurement Uncertainty

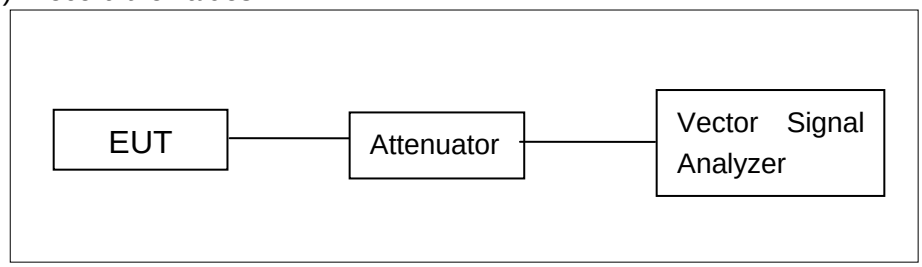
Test Name	Uncertainty	
1. RF Output Power - Conducted	±1.32dB	
2. Power Spectral Density - Conducted	±2.32dB	
3. Occupied channel bandwidth - Conducted	±66Hz	
4. Transmitter Spurious Emission - Conducted	30MHz≤f≤1GHz	±1.41dB
	1GHz≤f≤7GHz	±1.92dB
	7GHz≤f≤13GHz	±2.31dB
	13GHz≤f≤26GHz	±2.61dB
5. Transmitter Spurious Emission - Radiated	9kHz≤f≤30MHz	±1.84dB
	30MHz≤f≤1GHz	±4.90dB
	1GHz≤f≤18GHz	±5.12dB
	18GHz≤f≤40GHz	±4.66dB
6. AC Power line Conducted Emission	150kHz≤f≤30MHz	±3.10dB

ANNEX A: MEASUREMENT RESULTS

A.1. Measurement Method

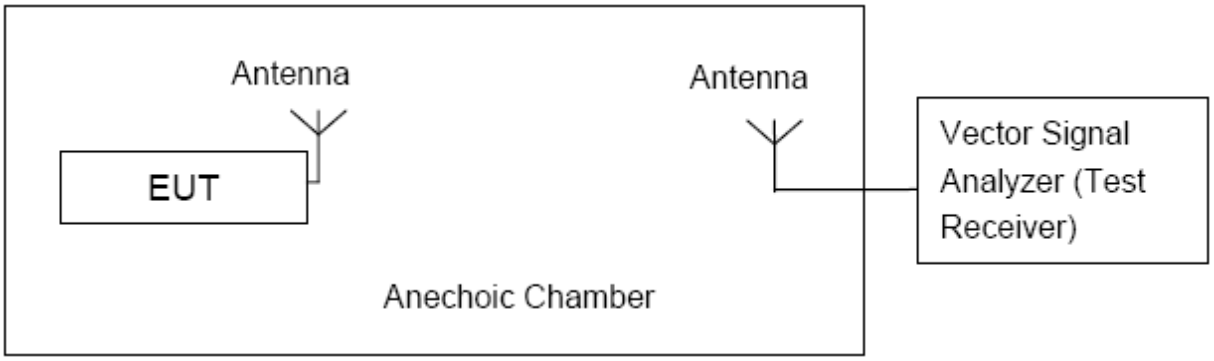
Conducted Measurements

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	24
	5250MHz~5350MHz	24 or 11+10logB
	5470MHz~5725MHz	24 or 11+10logB
	5725MHz~5850MHz	30

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

Measurement of method: See ANSI C63.10-2013-Clause 12.3.3.2

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

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 Results:

Antenna Gain = -0.5dBi

U–NII Band	Mode	Channel	Frequency (MHz)	Average power (dBm)	E.I.R.P (dBm)
5.2GHz Band (UNII-1)	802.11a	CH 36	5180	13.50	13.00
		CH 40	5200	13.44	12.94
		CH 48	5240	13.41	12.91
	802.11n-HT20	CH 36	5180	13.29	12.79
		CH 40	5200	13.16	12.66
		CH 48	5240	13.22	12.72
	802.11n-HT40	CH 38	5190	12.30	11.80
		CH 46	5230	12.35	11.85

U–NII Band	Mode	Channel	Frequency (MHz)	Average power (dBm)	E.I.R.P (dBm)
5.3GHz Band (UNII-2A)	802.11a	CH 52	5260	13.44	12.94
		CH 56	5280	13.33	12.83
		CH 64	5320	13.25	12.75
	802.11n-HT20	CH 52	5260	13.32	12.82
		CH 56	5280	13.24	12.74
		CH 64	5320	13.15	12.65
	802.11n-HT40	CH 54	5270	12.28	11.78
		CH 62	5310	12.14	11.64

U–NII Band	Mode	Channel	Frequency (MHz)	Average power (dBm)	E.I.R.P (dBm)
5.5GHz Band (UNII-2C)	802.11a	CH 100	5500	13.45	12.95
		CH 116	5580	13.60	13.10
		CH 140	5700	13.66	13.16
	802.11n-HT20	CH 100	5500	13.37	12.87
		CH 116	5580	13.47	12.97
		CH 140	5700	13.53	13.03
	802.11n-HT40	CH 102	5510	12.21	11.71
		CH 110	5550	12.23	11.73
		CH 134	5670	12.25	12.75

U–NII Band	Mode	Channel	Frequency (MHz)	Average power (dBm)	E.I.R.P (dBm)
5.8GHz Band (UNII-3)	802.11a	CH 149	5745	13.83	13.33
		CH 157	5785	14.03	13.53
		CH 165	5825	14.15	13.65
	802.11n-HT20	CH 149	5745	13.76	13.26
		CH 157	5785	13.97	13.47
		CH 165	5825	14.11	13.61
	802.11n-HT40	CH 151	5755	12.78	12.28
		CH 159	5795	12.83	12.33

Note: E.I.R.P value = Conducted values (with conducted samples) + Antenna Gain.
Note: Worst case data rates as provided by the client were: 6Mbps (802.11a) and MCS0 (802.11n). 802.11a and 802.11n-HT40 modes are selected as the worst cases. The following cases and test graphs are performed with these conditions. The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.
Conclusion: PASS

A.3. Peak Power Spectral Density

Measurement Limit:

Standard	Frequency (MHz)	Limit
FCC CRF Part 15.407(a)	5150MHz~5250MHz	11dBm/MHz
	5250MHz~5350MHz	11dBm/MHz
	5470MHz~5725MHz	11dBm/MHz
	5725MHz~5850MHz	30dBm/500KHz

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

Measurement Results:

Mode	Channel	Power Spectral Density (dBm/MHz)	Conclusion
802.11a	5180MHz(Ch36)	7.19	P
	5200MHz(Ch40)	6.77	P
	5240MHz(Ch48)	7.03	P
	5260MHz(Ch52)	7.08	P
	5280MHz(Ch56)	7.26	P
	5320MHz(Ch64)	7.08	P
	5500MHz(Ch100)	7.30	P
	5580MHz(Ch116)	7.05	P
	5700MHz(Ch140)	7.38	P
802.11n HT40	5190MHz(Ch38)	3.74	P
	5230MHz(Ch46)	3.65	P
	5270MHz(Ch54)	4.26	P
	5310MHz(Ch62)	3.88	P
	5510MHz(Ch102)	4.49	P
	5550MHz(Ch110)	4.09	P
	5670MHz(Ch134)	4.46	P

5.8GHz Band (UNII-3)

Mode	Channel	Power Spectral Density (dBm/500kHz)	Conclusion
802.11a	5745MHz(CH149)	6.00	P
	5785MHz(CH157)	6.64	P
	5825MHz(CH165)	6.40	P
802.11n HT40	5755MHz(CH151)	3.29	P
	5795MHz(CH159)	3.34	P

Conclusion: PASS

A.4. Occupied 26dB Bandwidth

Measurement Limit:

Standard	Limit (MHz)
FCC 47 CFR Part 15.403	/

The measurement is made according to KDB 789033.

Measurement Result:

Mode	Channel	Occupied 26dB Bandwidth (MHz)	
802.11a	5180MHz(Ch36)	Fig.1	23.35
	5200MHz(Ch40)	Fig.2	23.35
	5240MHz(Ch48)	Fig.3	23.05
	5260MHz(Ch52)	Fig.4	23.25
	5280MHz(Ch56)	Fig.5	23.30
	5320MHz(Ch64)	Fig.6	23.20
	5500MHz(Ch100)	Fig.7	23.10
	5580MHz(Ch116)	Fig.8	23.30
	5700MHz(Ch140)	Fig.9	23.00
802.11n HT40	5190MHz(Ch38)	Fig.10	44.48
	5230MHz(Ch46)	Fig.11	44.40
	5270MHz(Ch54)	Fig.12	43.92
	5310MHz(Ch62)	Fig.13	44.24
	5510MHz(Ch102)	Fig.14	44.08
	5550MHz(Ch110)	Fig.15	44.16
	5670MHz(Ch134)	Fig.16	44.80

Test graphs as below:

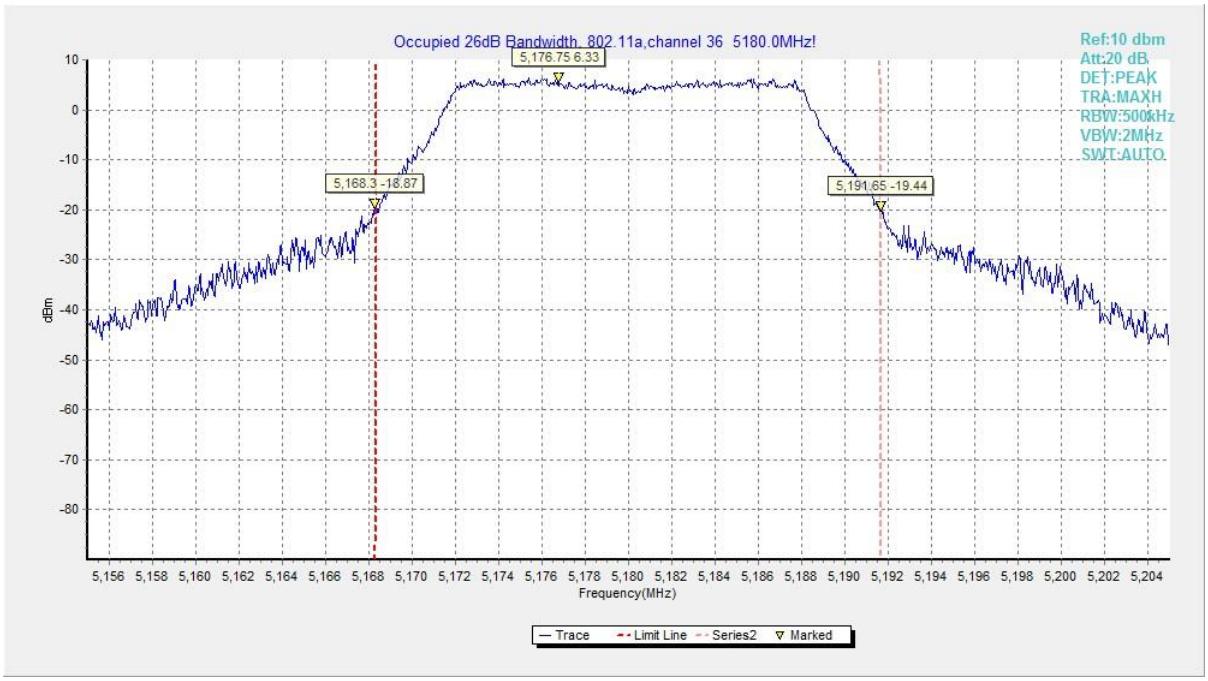


Fig. 1 Occupied 26dB Bandwidth (802.11a, 5180MHz)

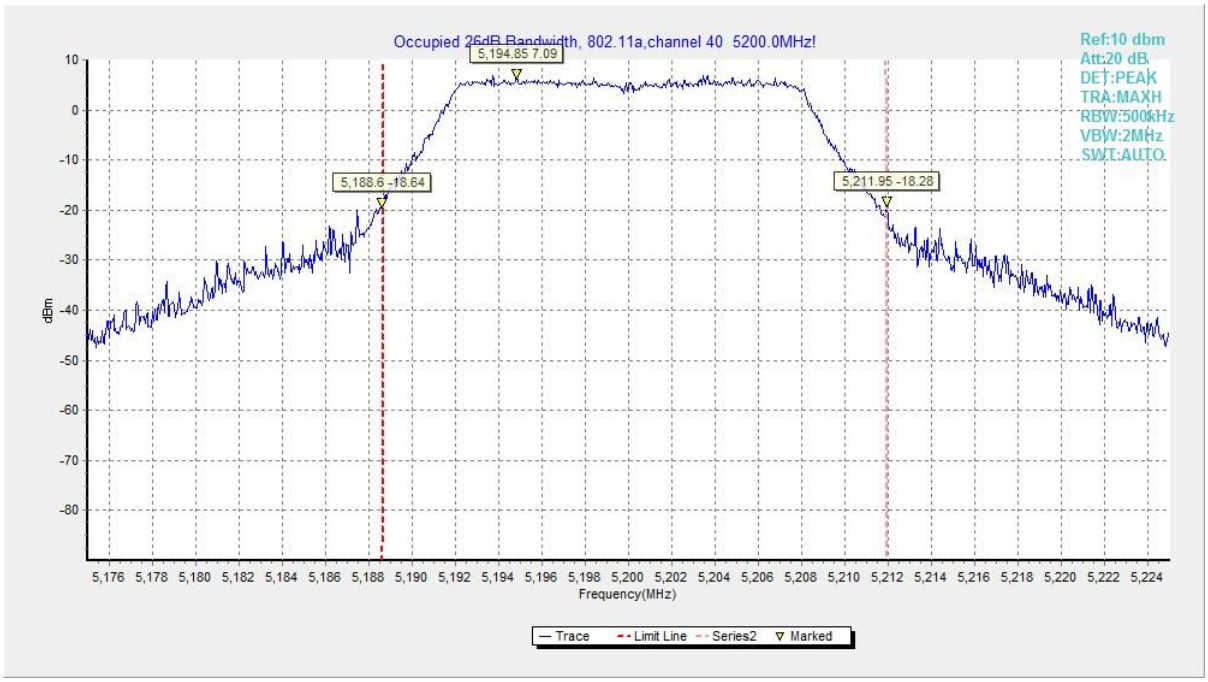


Fig. 2 Occupied 26dB Bandwidth (802.11a, 5200MHz)

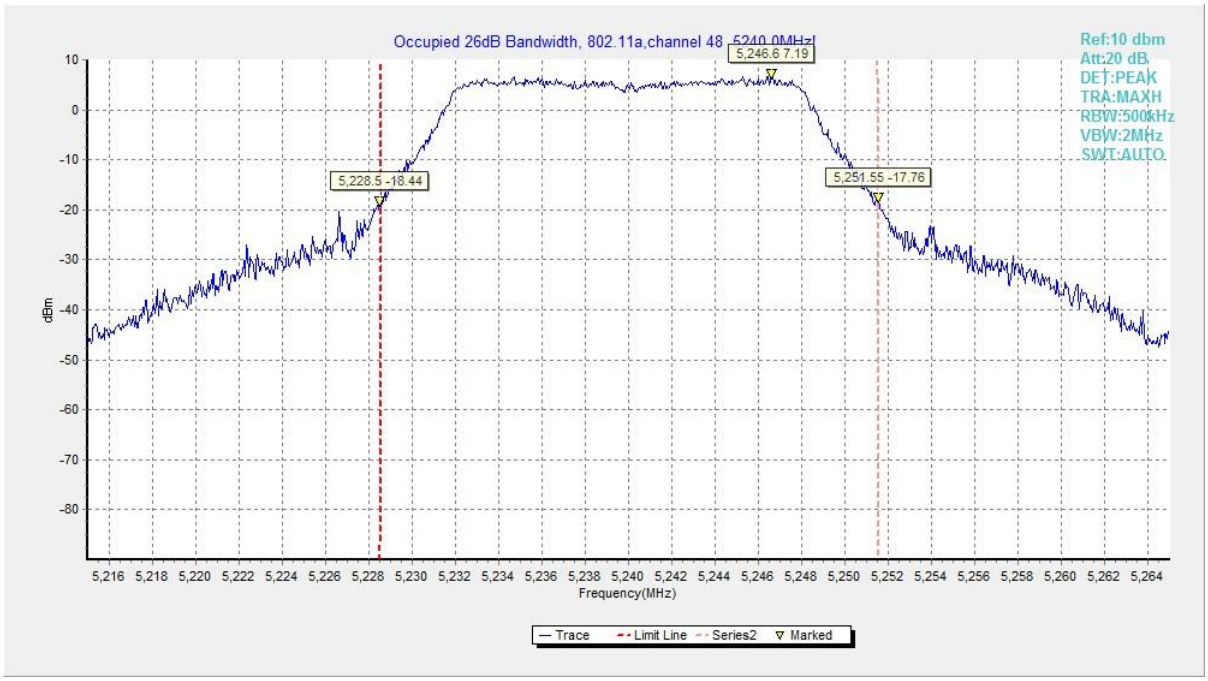


Fig. 3 Occupied 26dB Bandwidth (802.11a, 5240MHz)

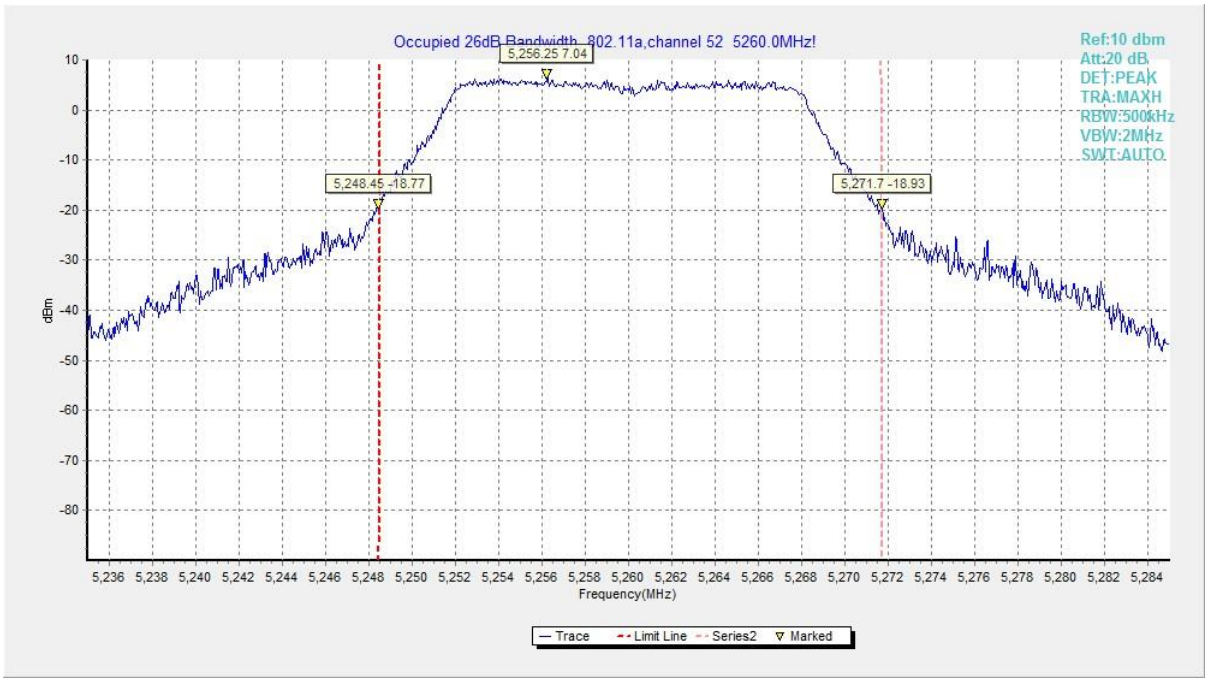


Fig. 4 Occupied 26dB Bandwidth (802.11a, 5260MHz)

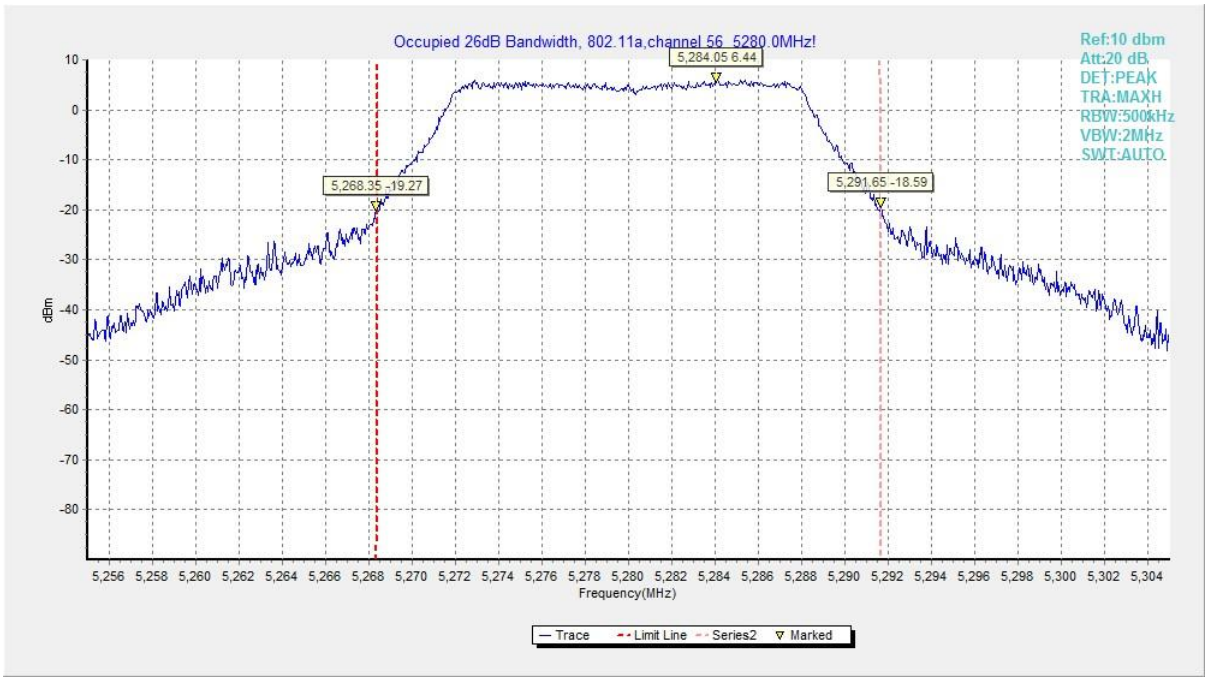


Fig. 5 Occupied 26dB Bandwidth (802.11a, 5280MHz)

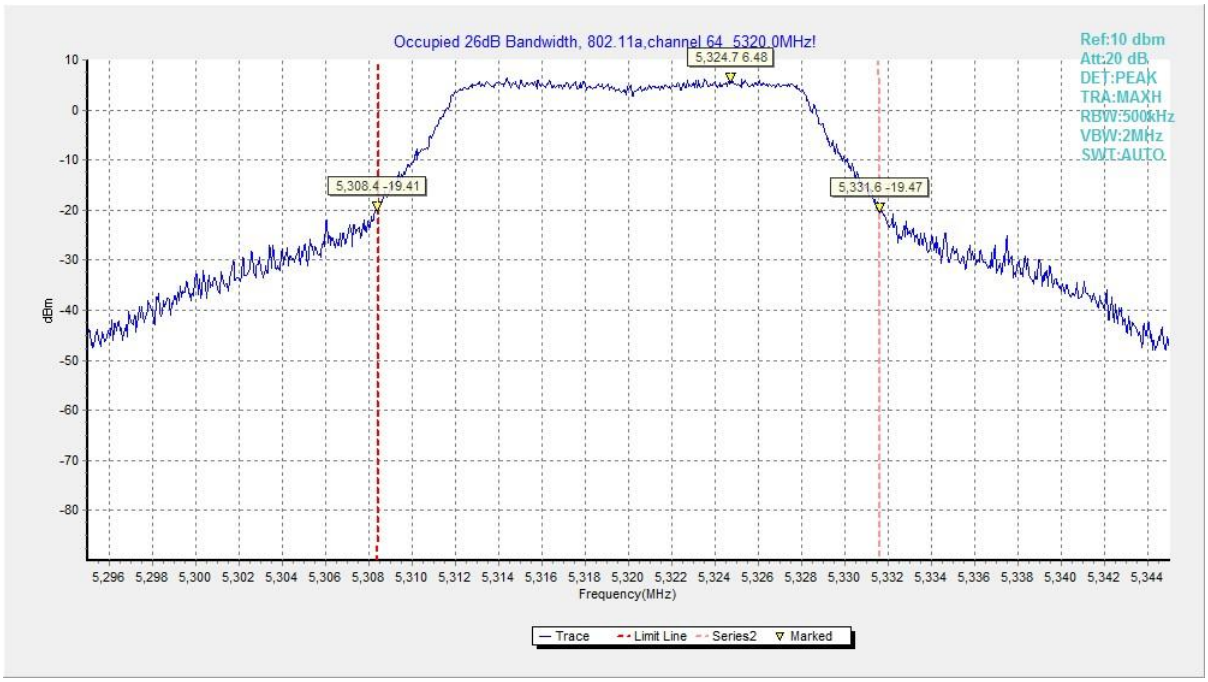


Fig. 6 Occupied 26dB Bandwidth (802.11a, 5320MHz)

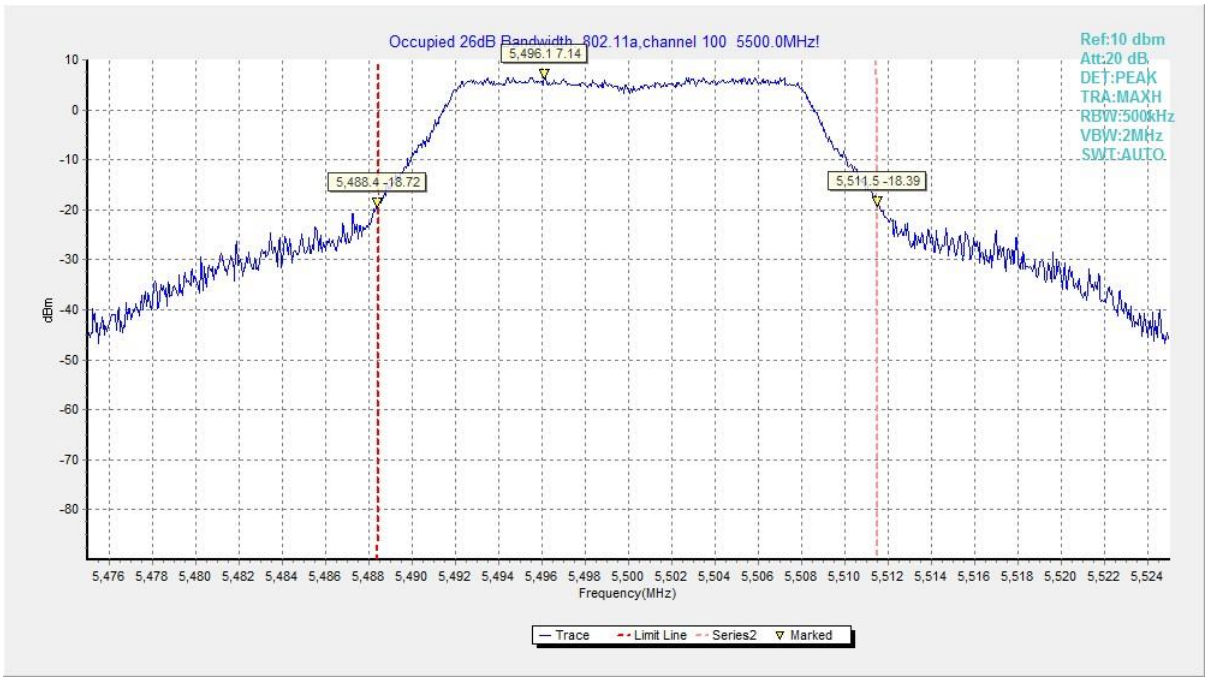


Fig. 7 Occupied 26dB Bandwidth (802. 11a, 5500MHz)

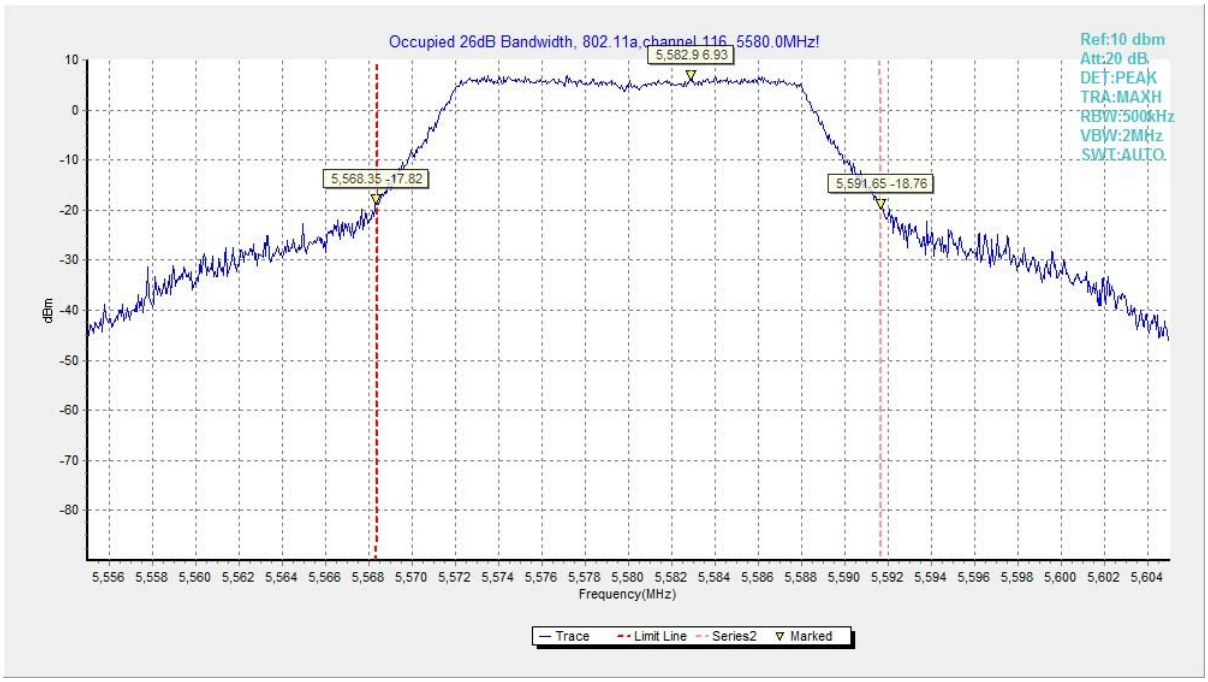


Fig. 8 Occupied 26dB Bandwidth (802. 11a, 5580MHz)

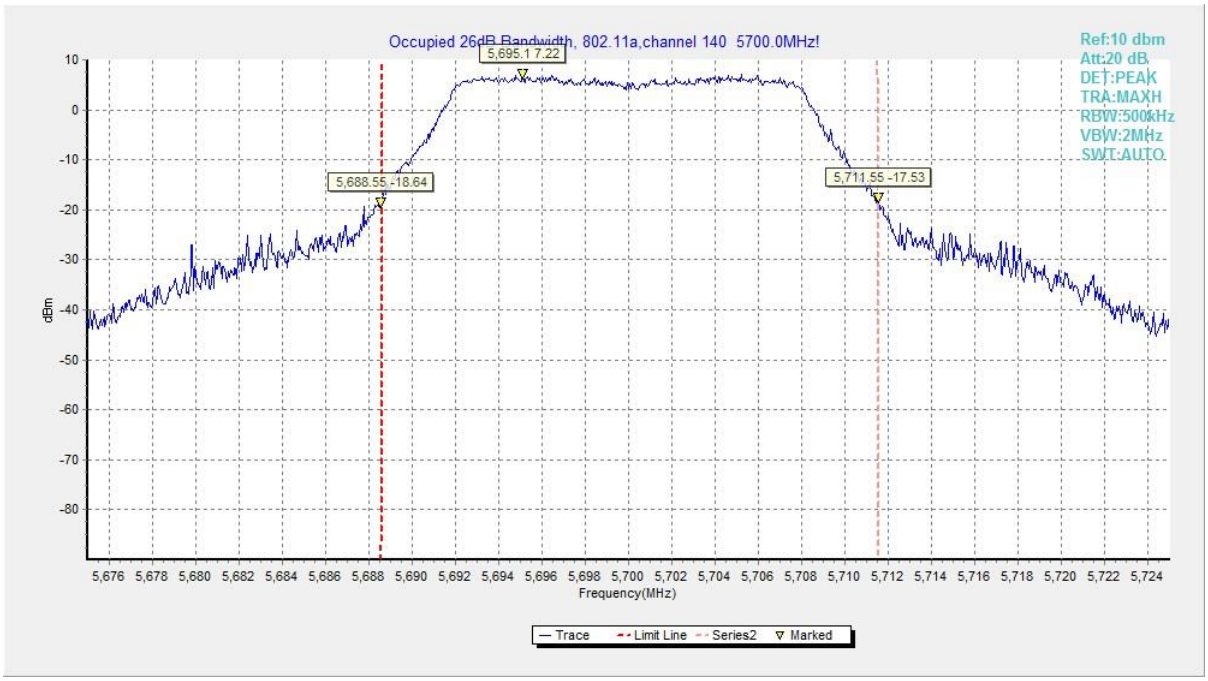


Fig. 9 Occupied 26dB Bandwidth (802. 11a, 5700MHz)

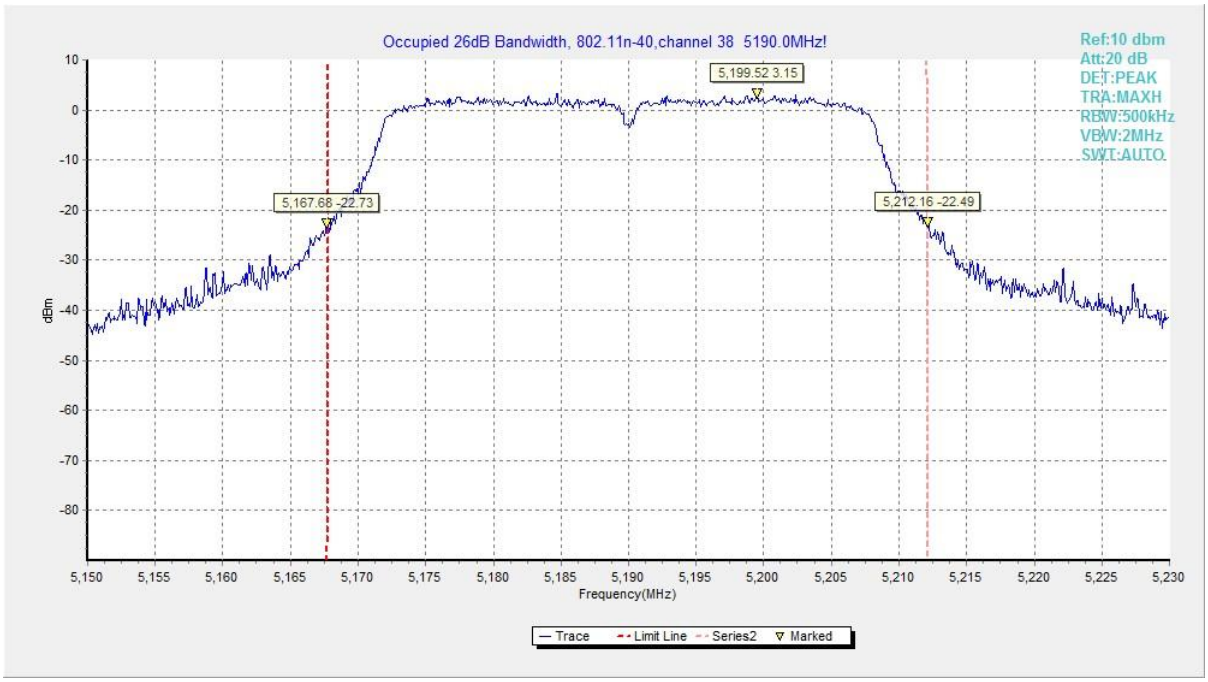


Fig. 10 Occupied 26dB Bandwidth (802.11n-HT40, 5190MHz)

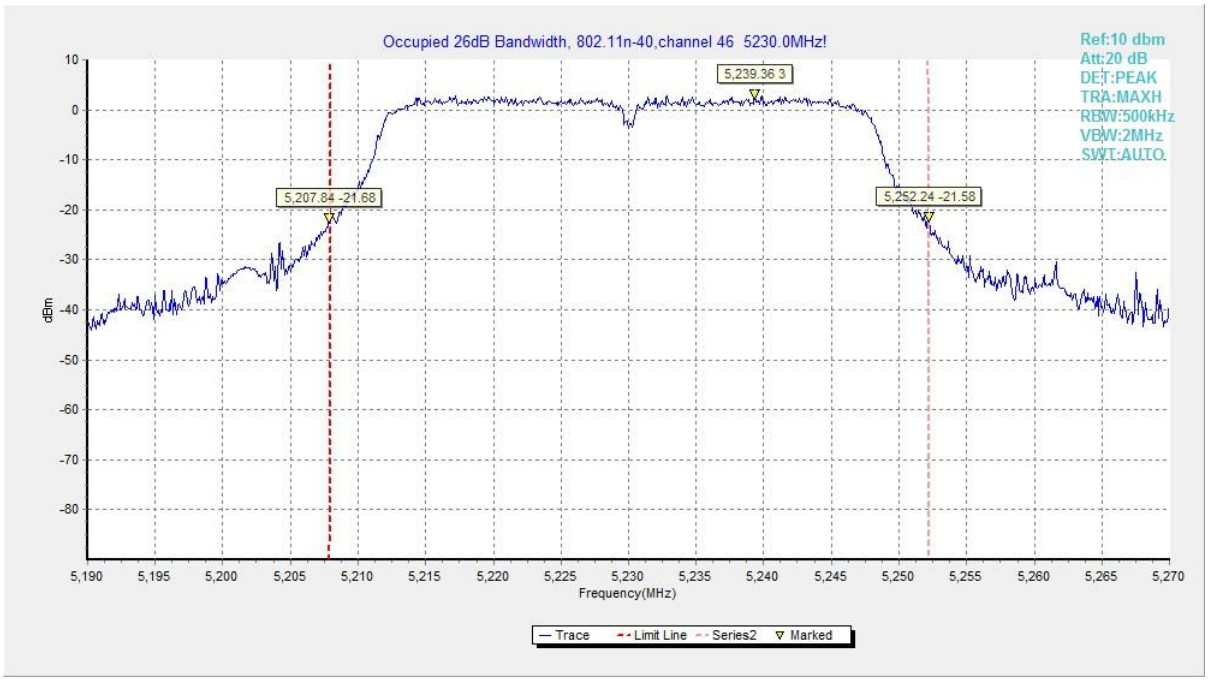


Fig. 11 Occupied 26dB Bandwidth (802.11n-HT40, 5230MHz)

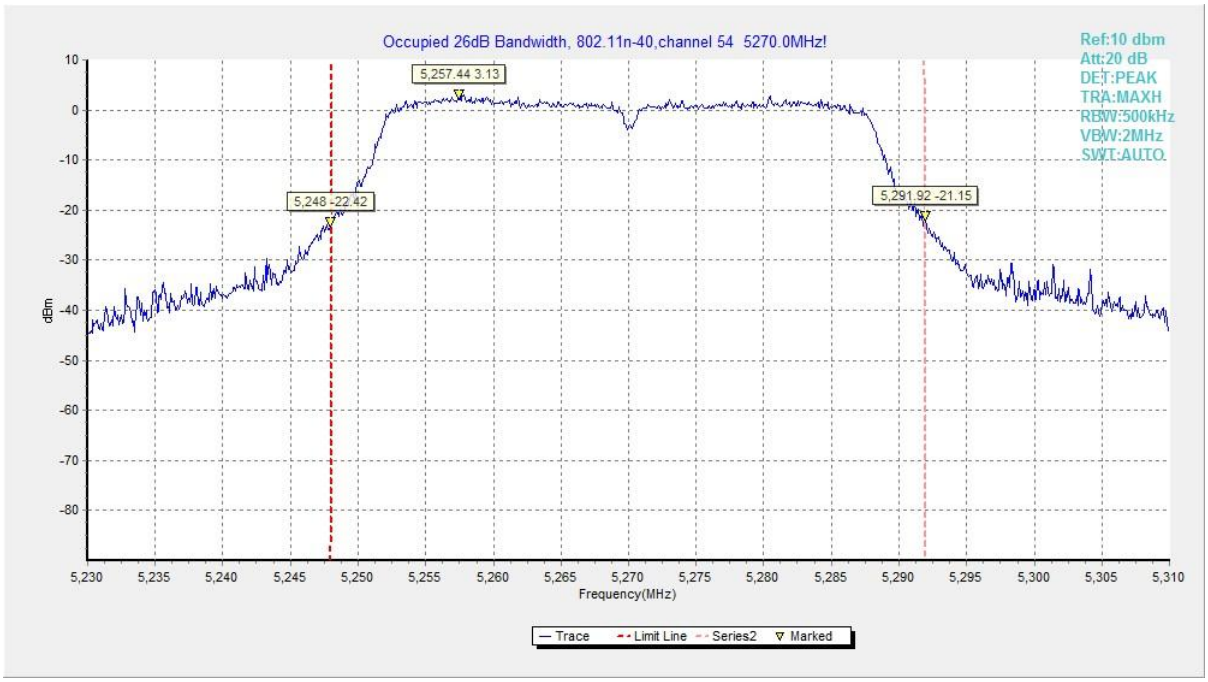


Fig. 12 Occupied 26dB Bandwidth (802.11n-HT40, 5270MHz)

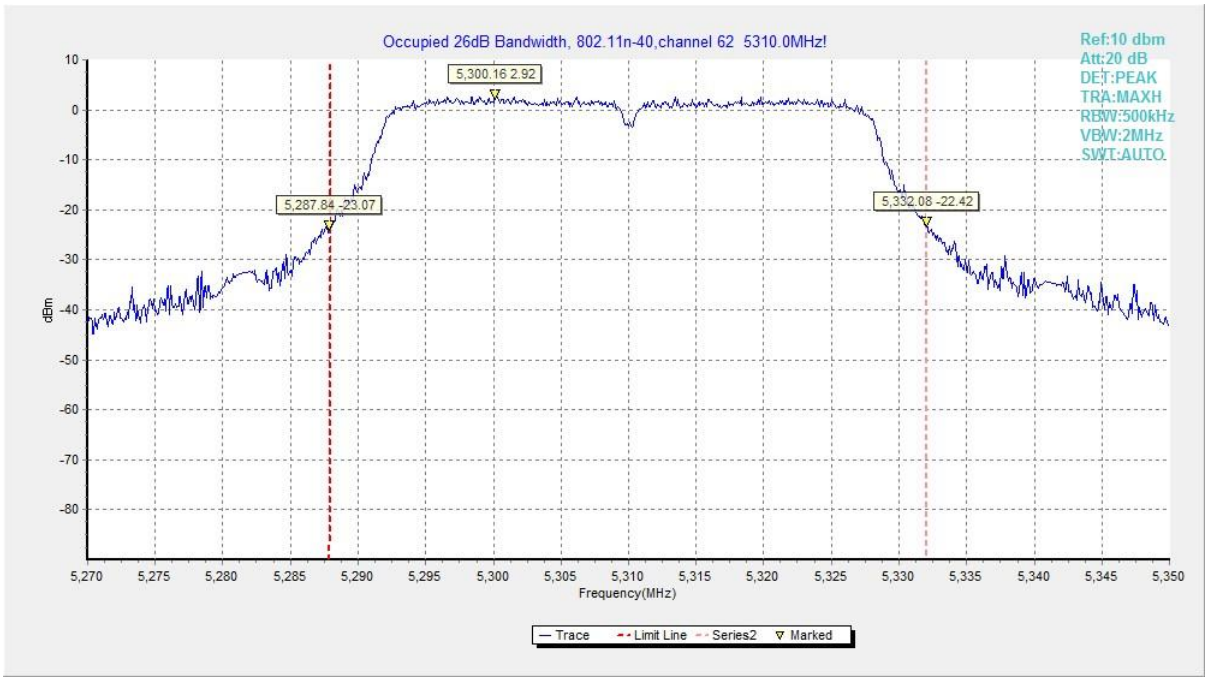


Fig. 13 Occupied 26dB Bandwidth (802.11n-HT40, 5310MHz)

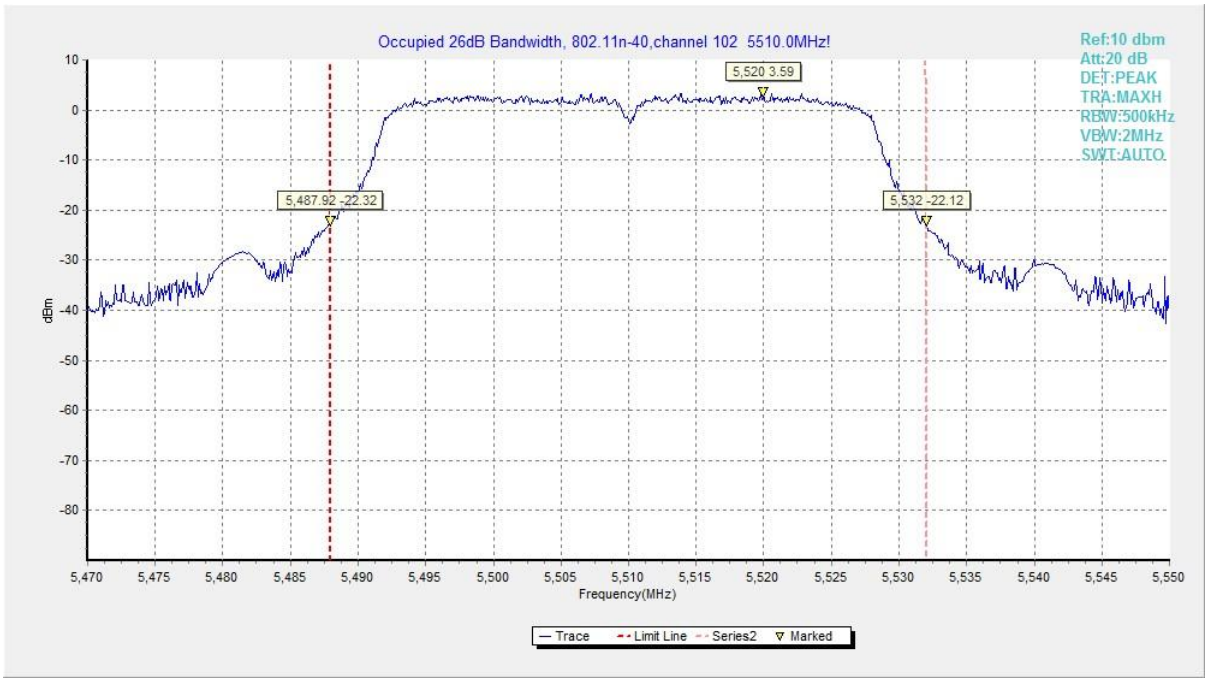


Fig. 14 Occupied 26dB Bandwidth (802. 11n-HT40, 5510MHz)

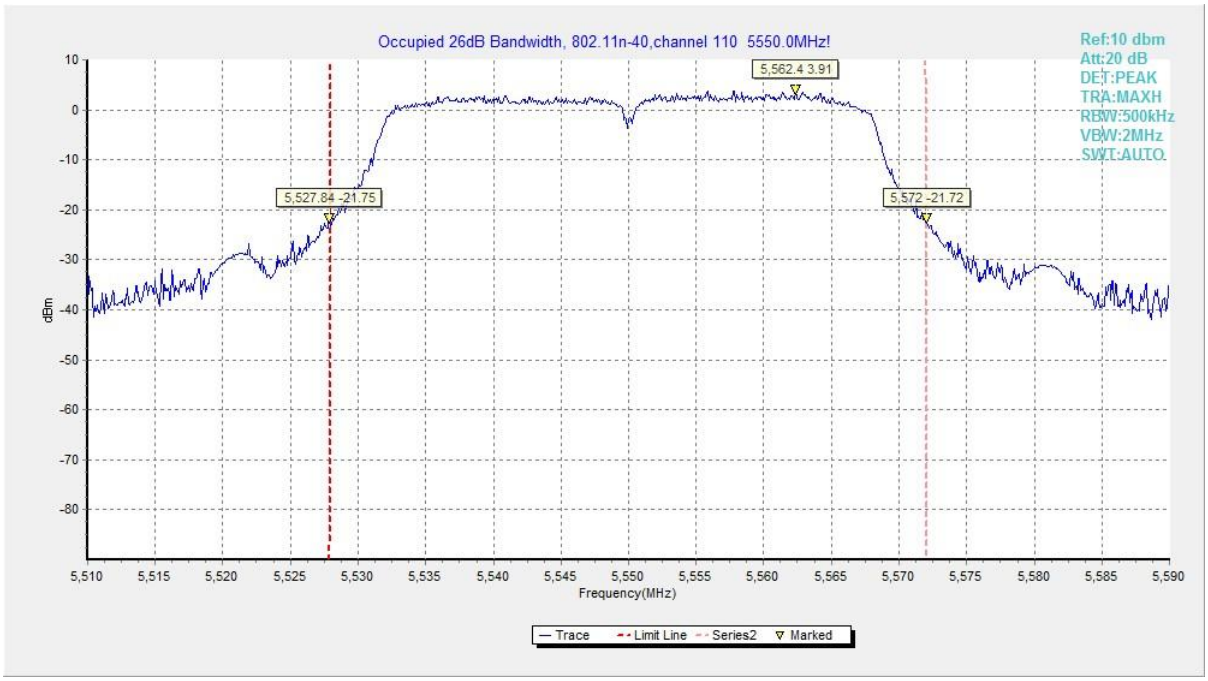


Fig. 15 Occupied 26dB Bandwidth (802. 11n-HT40, 5550MHz)

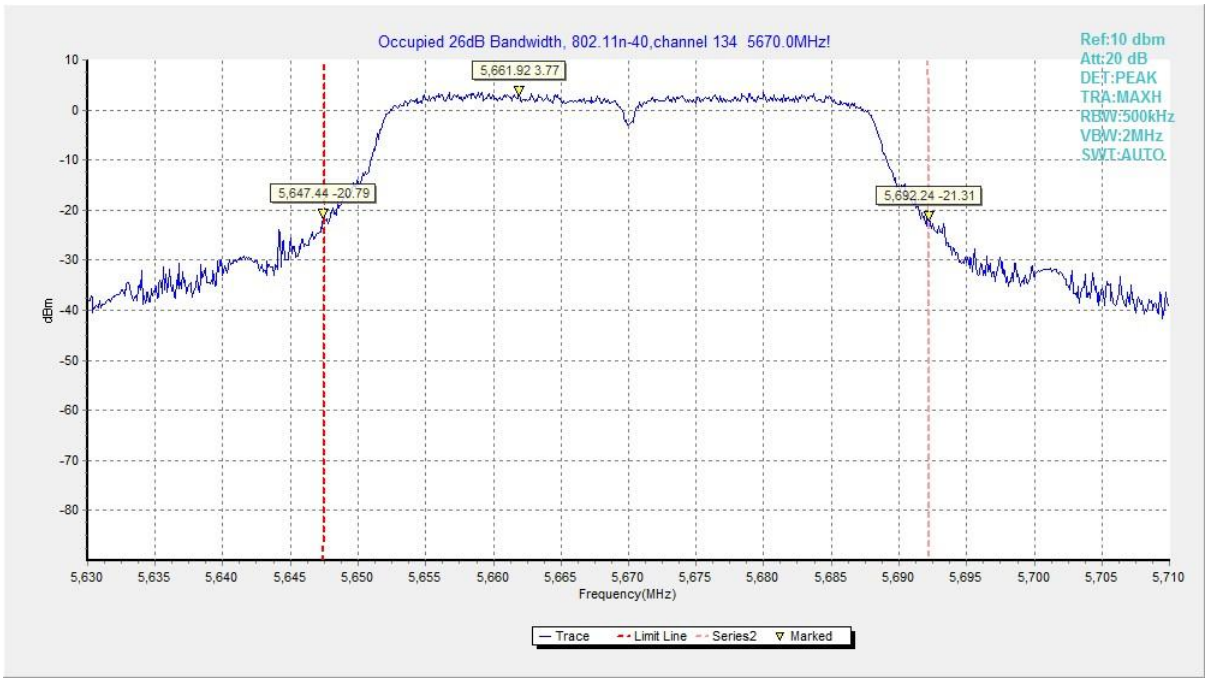


Fig. 16 Occupied 26dB Bandwidth (802. 11n-HT40, 5670MHz)

A.5. Occupied 6dB Bandwidth

Measurement Limit:

Standard	Limit (MHz)
FCC 47 CFR Part 15.407(e)	⩾0.5

The measurement is made according to KDB 789033.

Measurement Result:

Mode	Channel	Occupied 6dB Bandwidth (MHz)		Conclusion
802.11a	5745MHz(Ch149)	Fig.17	16.40	P
	5785MHz(Ch157)	Fig.18	16.35	P
	5825MHz(Ch165)	Fig.19	16.35	P
802.11n HT40	5755MHz(Ch151)	Fig.20	35.84	P
	5795MHz(Ch159)	Fig.21	35.36	P

Conclusion: PASS

Test graphs as below:

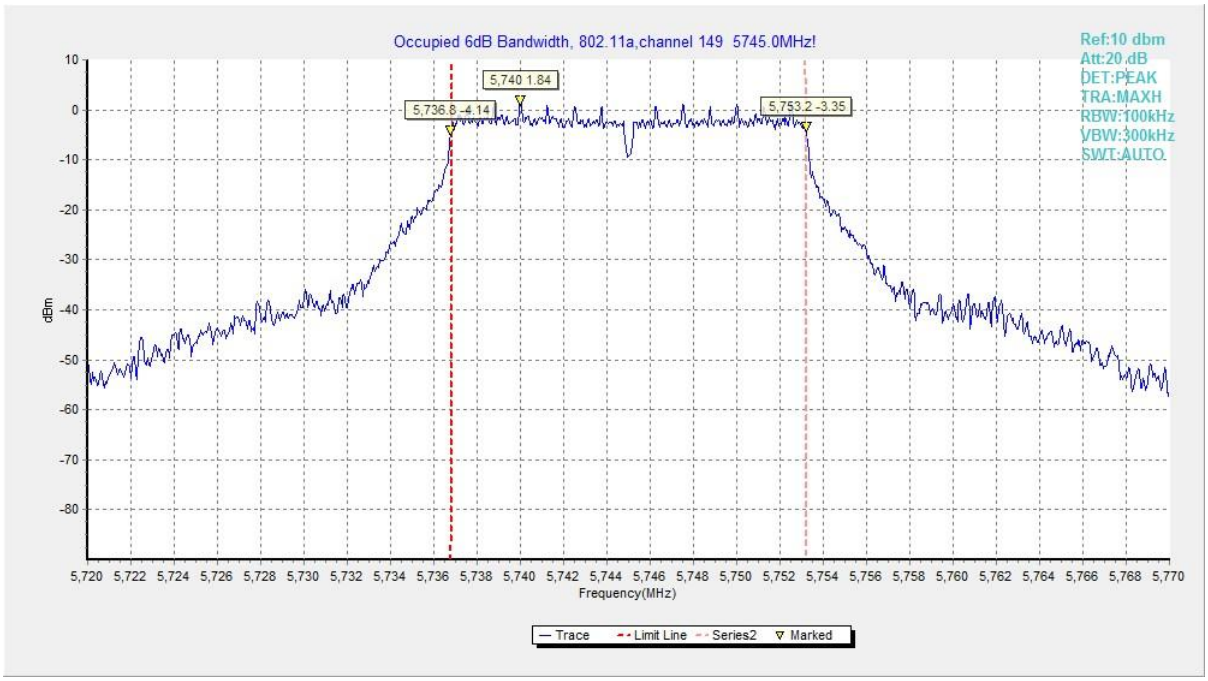


Fig. 17 Occupied 6dB Bandwidth (802.11a, 5745MHz)

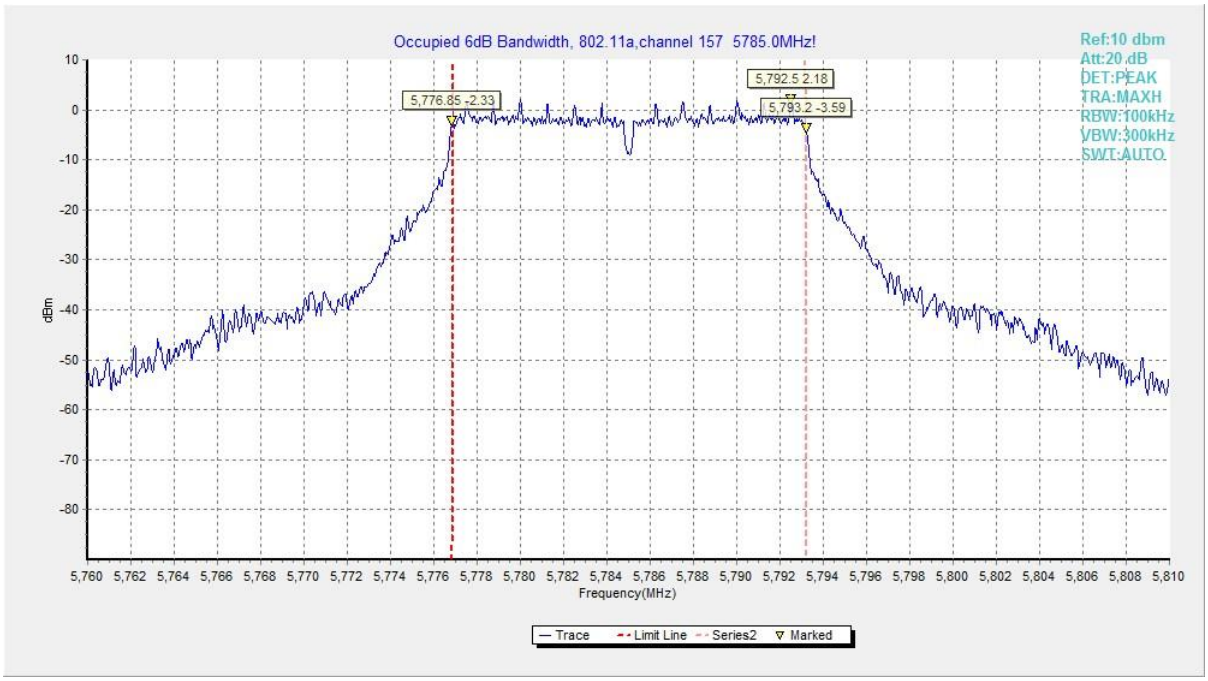


Fig. 18 Occupied 6dB Bandwidth (802.11a, 5785MHz)

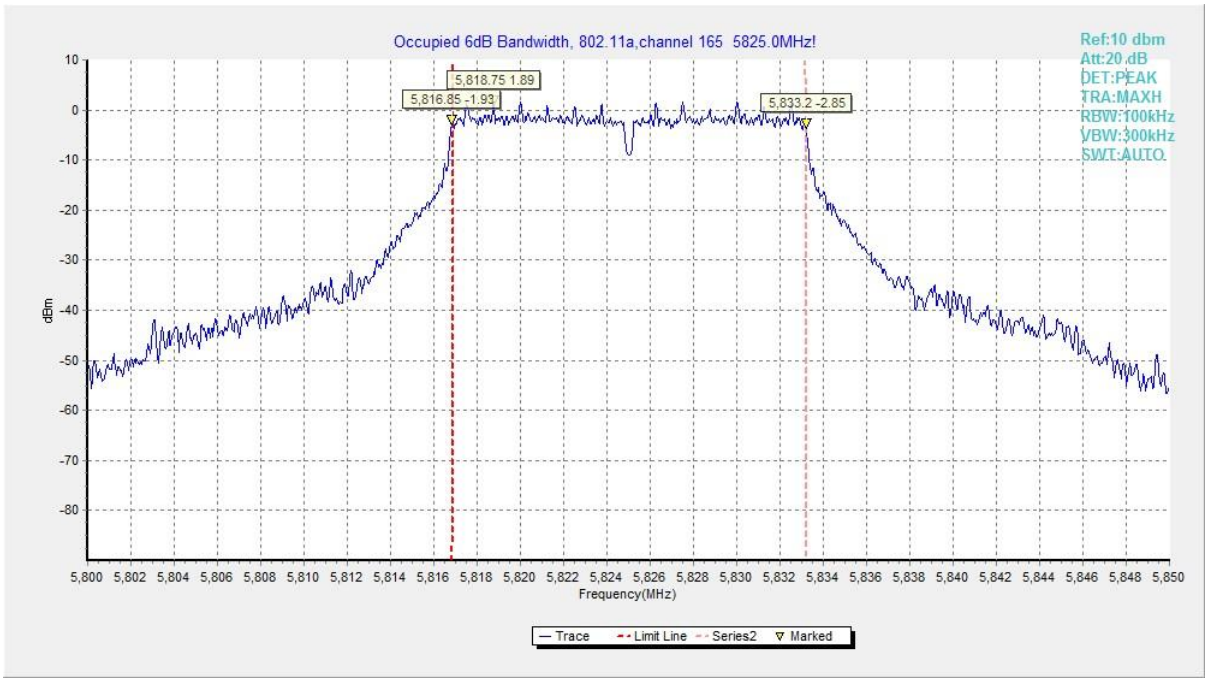


Fig. 19 Occupied 6dB Bandwidth (802.11a, 5825MHz)

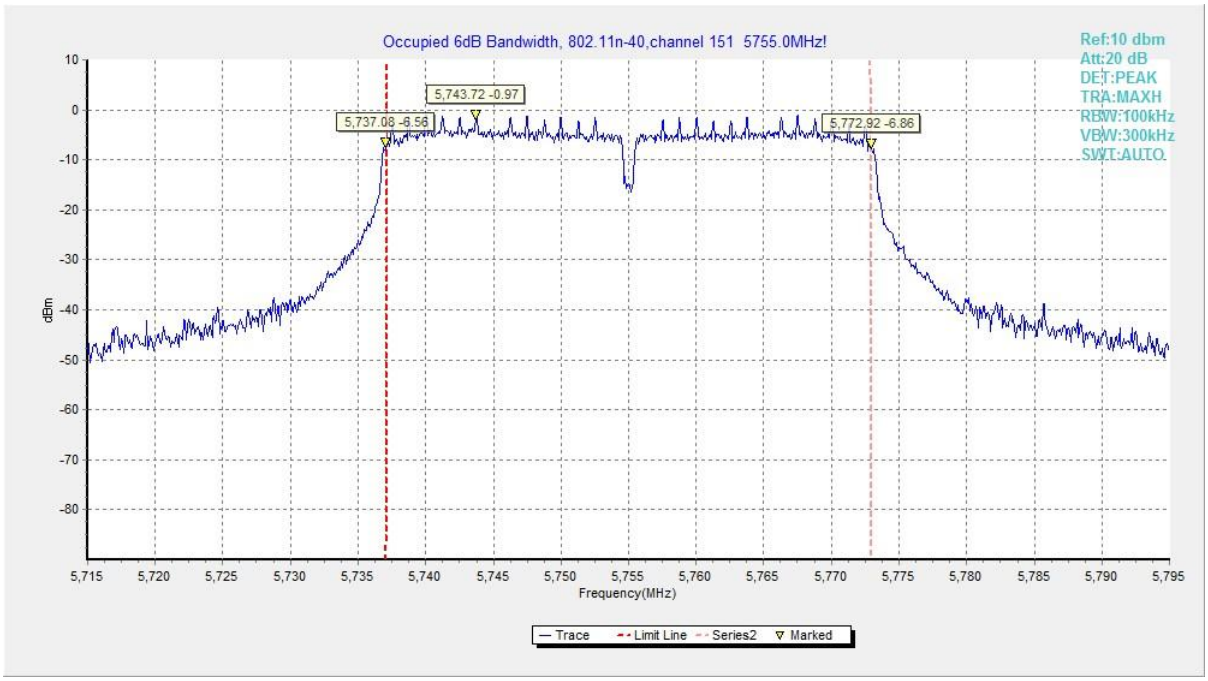


Fig. 20 Occupied 6dB Bandwidth (802.11n-HT40, 5755MHz)

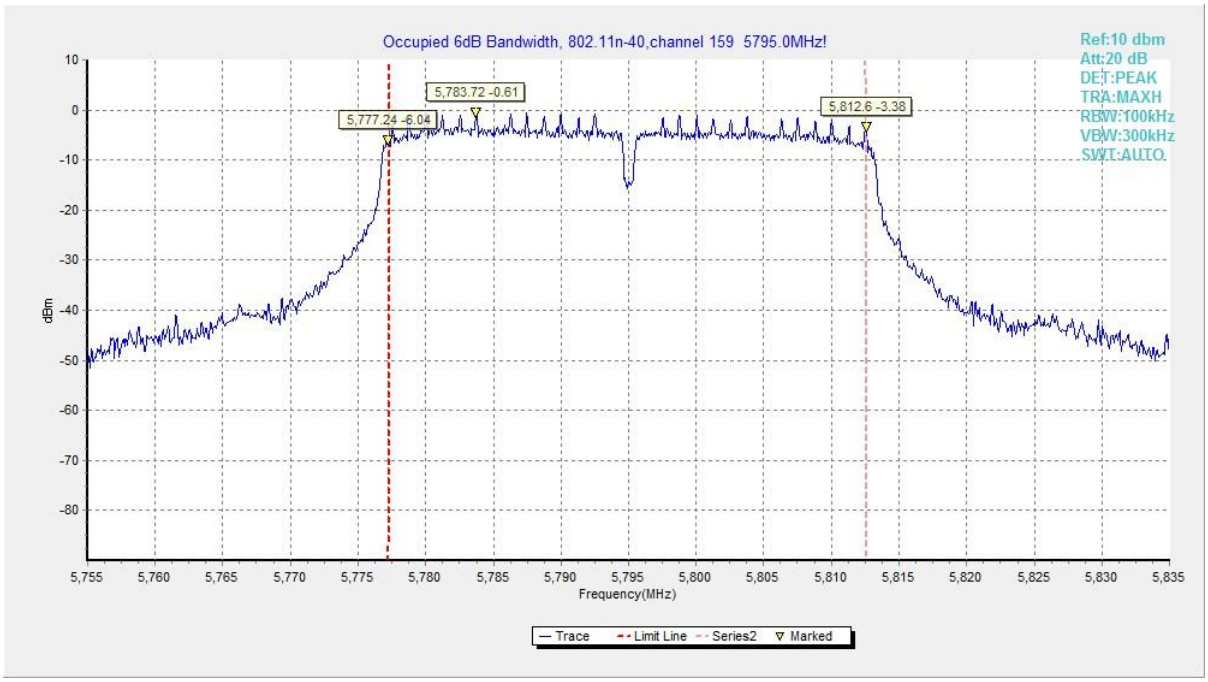


Fig. 21 Occupied 6dB Bandwidth (802.11n-HT40, 5795MHz)

A.6. 99% Occupied Bandwidth

Measurement Limit:

Standard	Limit (MHz)
FCC 47 CFR Part 15.403	/

The measurement is made according to KDB 789033.

Measurement Result:

Mode	Channel	99% Occupied Bandwidth (MHz)	
802.11a	5180MHz(Ch36)	Fig.22	18.10
	5200MHz(Ch40)	Fig.23	18.02
	5240MHz(Ch48)	Fig.24	17.98
	5260MHz(Ch52)	Fig.25	18.02
	5280MHz(Ch56)	Fig.26	17.98
	5320MHz(Ch64)	Fig.27	18.06
	5500MHz(Ch100)	Fig.28	18.14
	5580MHz(Ch116)	Fig.29	18.10
	5700MHz(Ch140)	Fig.30	18.02
802.11n HT40	5190MHz(Ch38)	Fig.31	36.44
	5230MHz(Ch46)	Fig.32	36.44
	5270MHz(Ch54)	Fig.33	36.44
	5310MHz(Ch62)	Fig.34	36.44
	5510MHz(Ch102)	Fig.35	36.44
	5550MHz(Ch110)	Fig.36	36.44
	5670MHz(Ch134)	Fig.37	36.52

Test graphs as below:

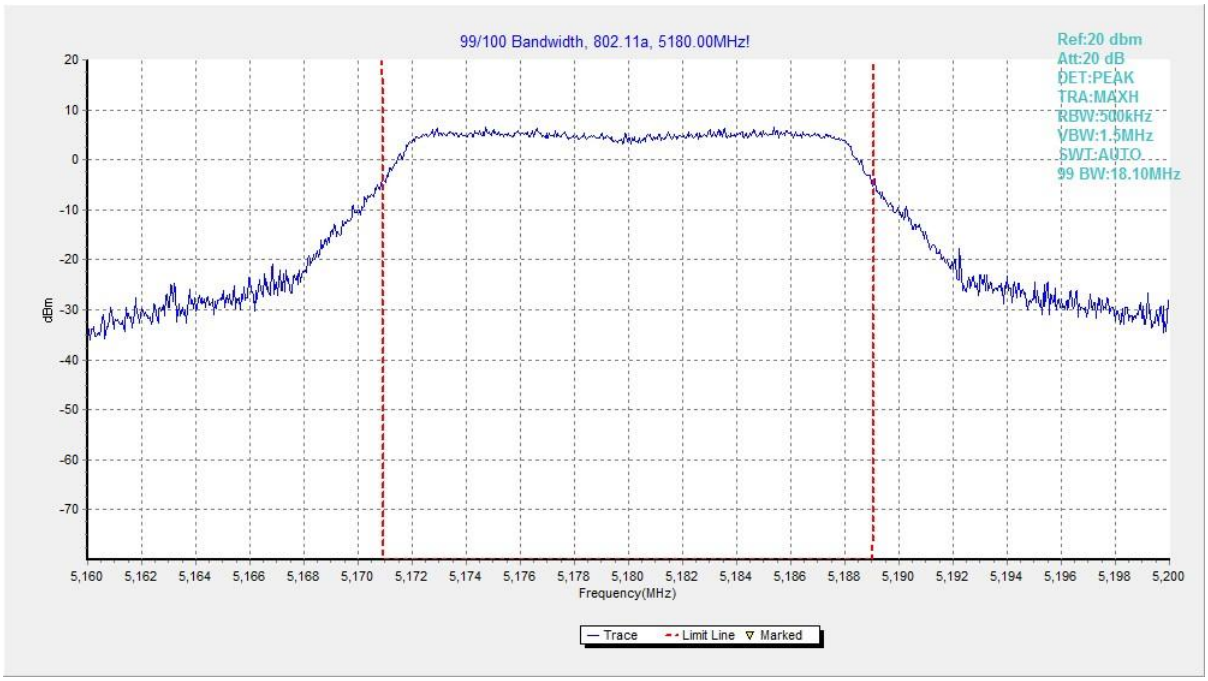


Fig. 22 99% Occupied Bandwidth (802.11a, 5180MHz)

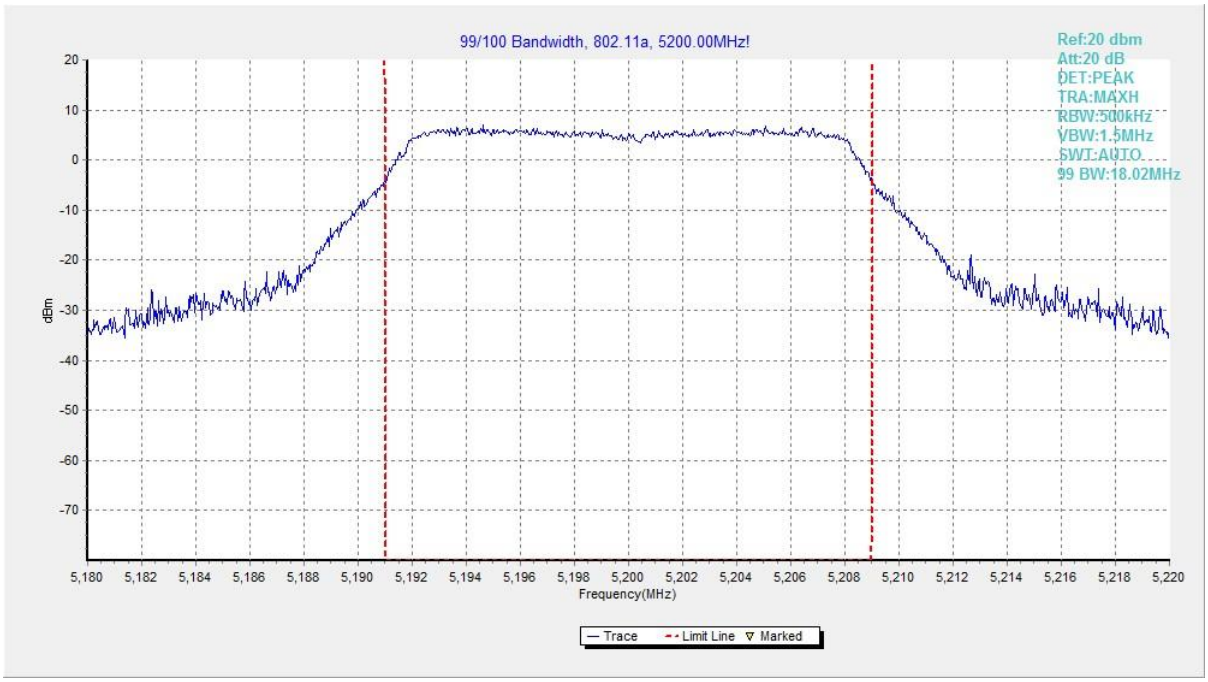


Fig. 23 99% Occupied Bandwidth (802.11a, 5200MHz)

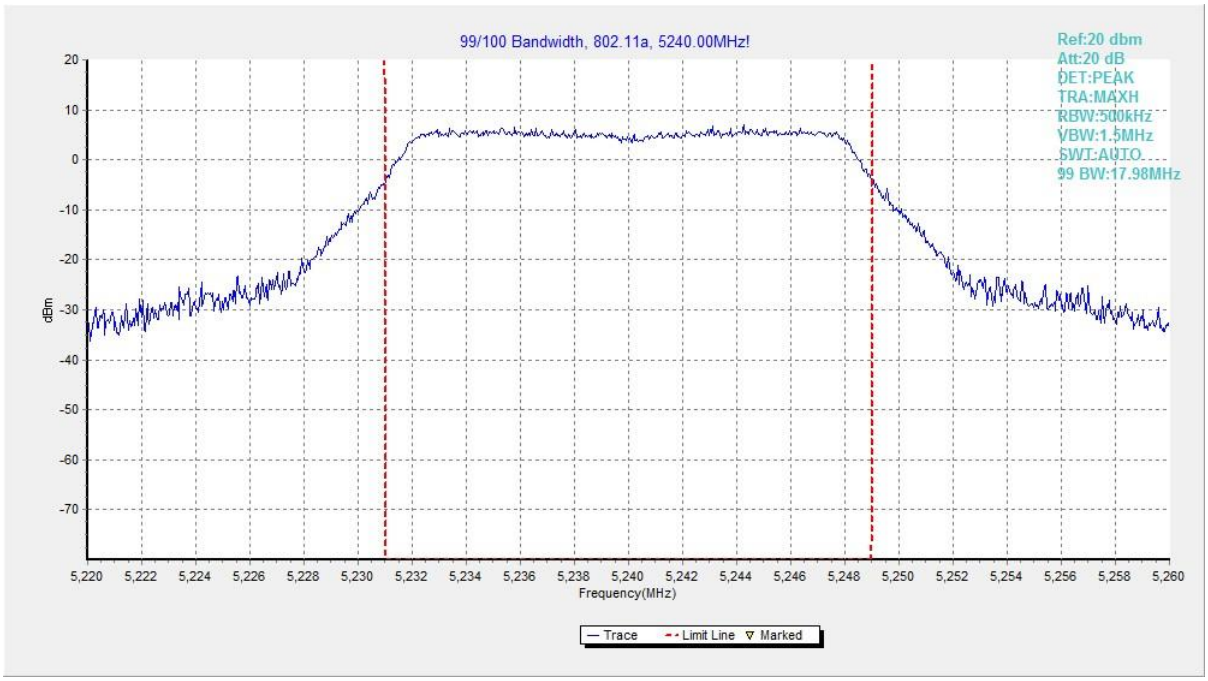


Fig. 24 99% Occupied Bandwidth (802.11a, 5240MHz)

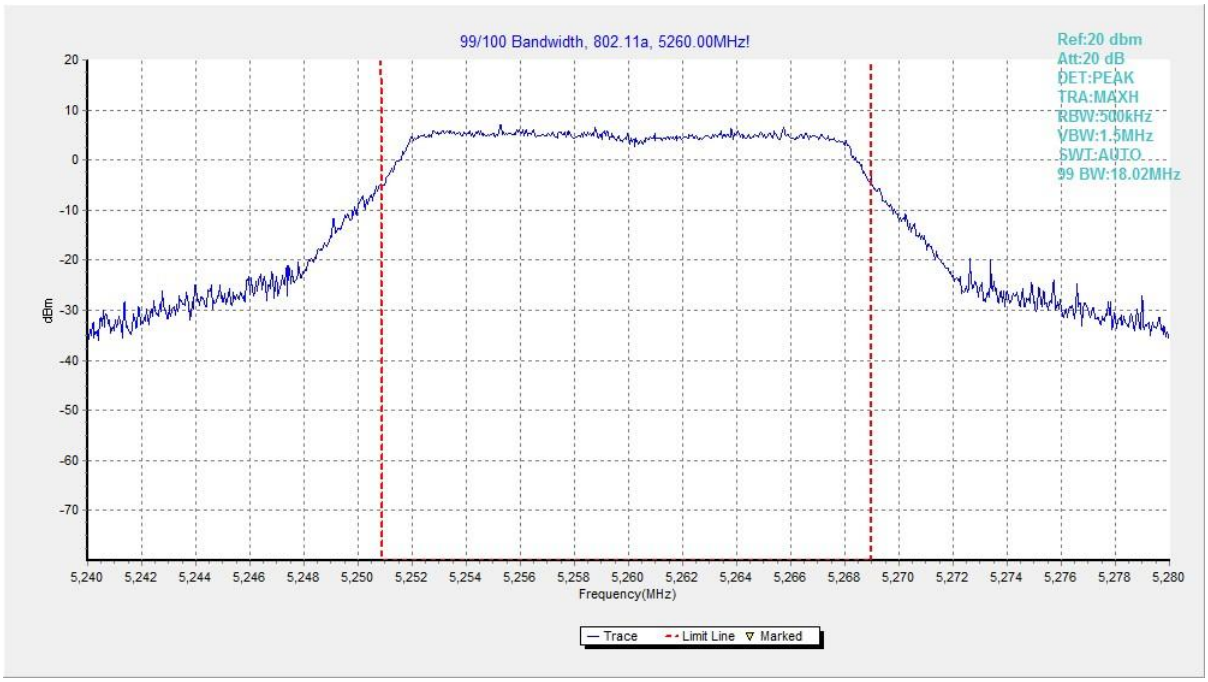


Fig. 25 99% Occupied Bandwidth (802.11a, 5260MHz)

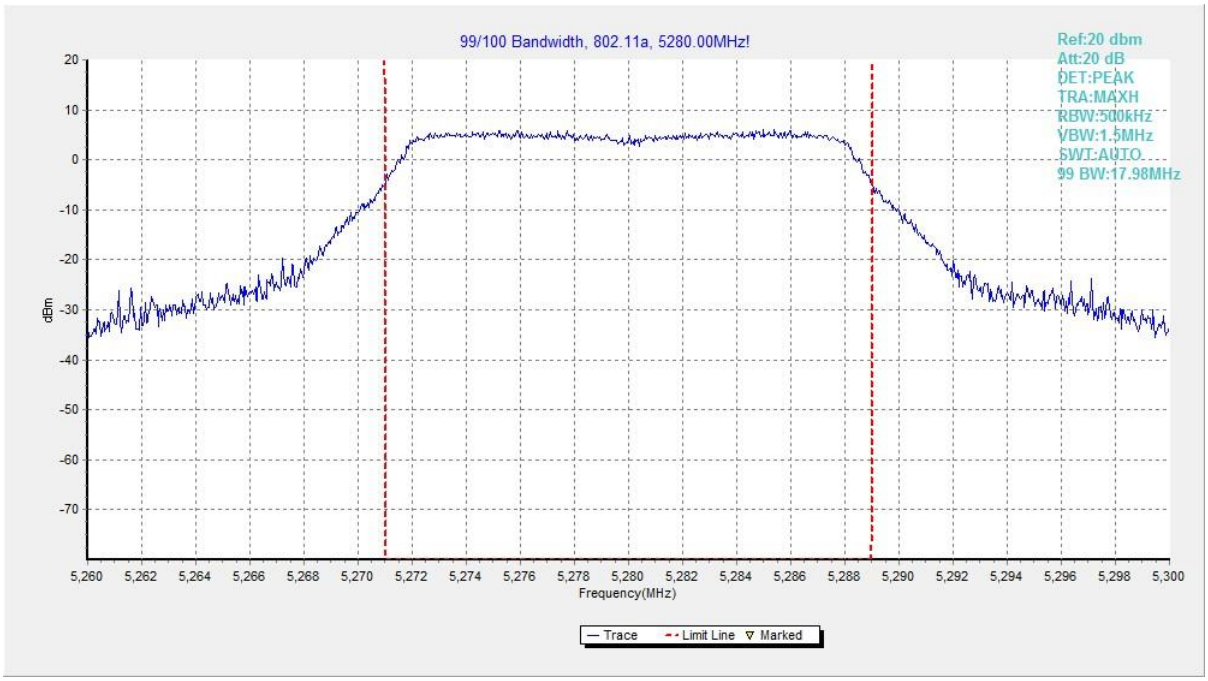


Fig. 26 99% Occupied Bandwidth (802.11a, 5280MHz)

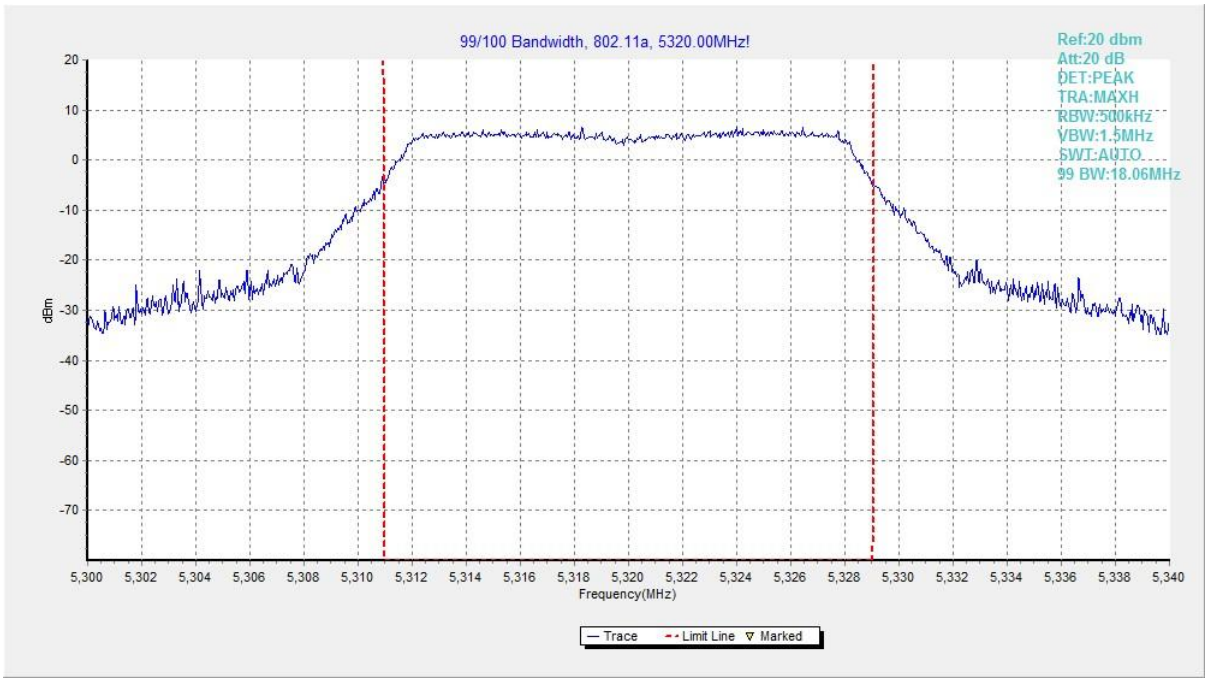


Fig. 27 99% Occupied Bandwidth (802.11a, 5320MHz)

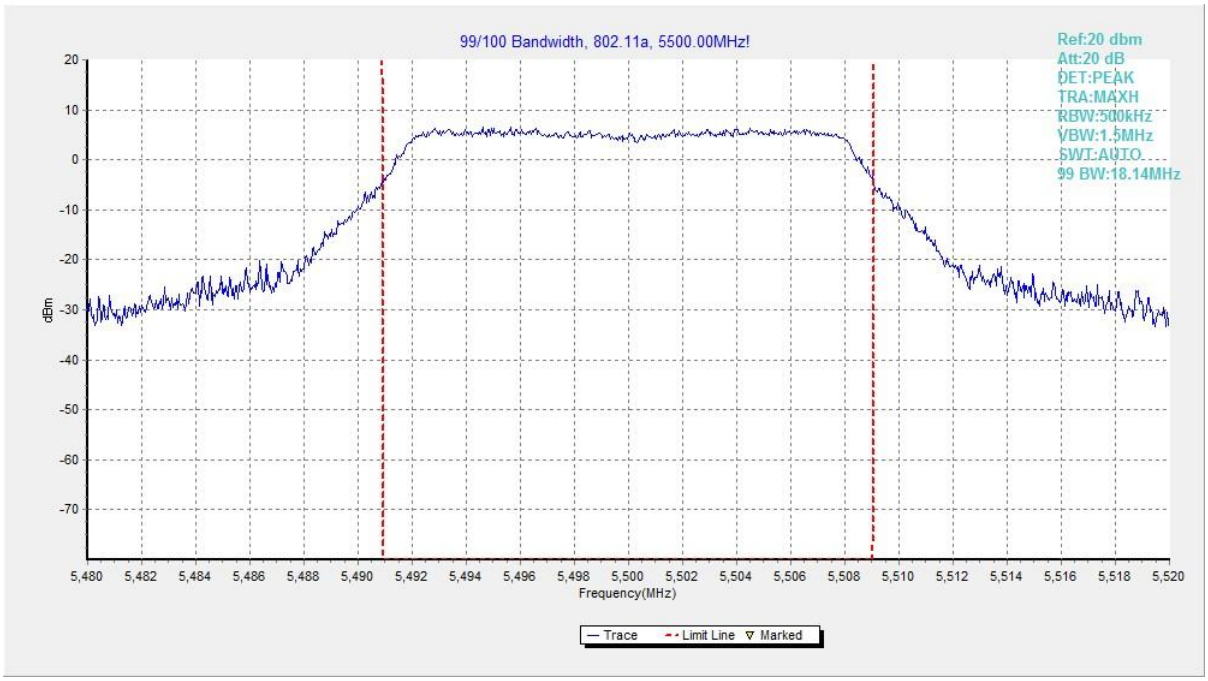


Fig. 28 99% Occupied Bandwidth (802. 11a, 5500MHz)

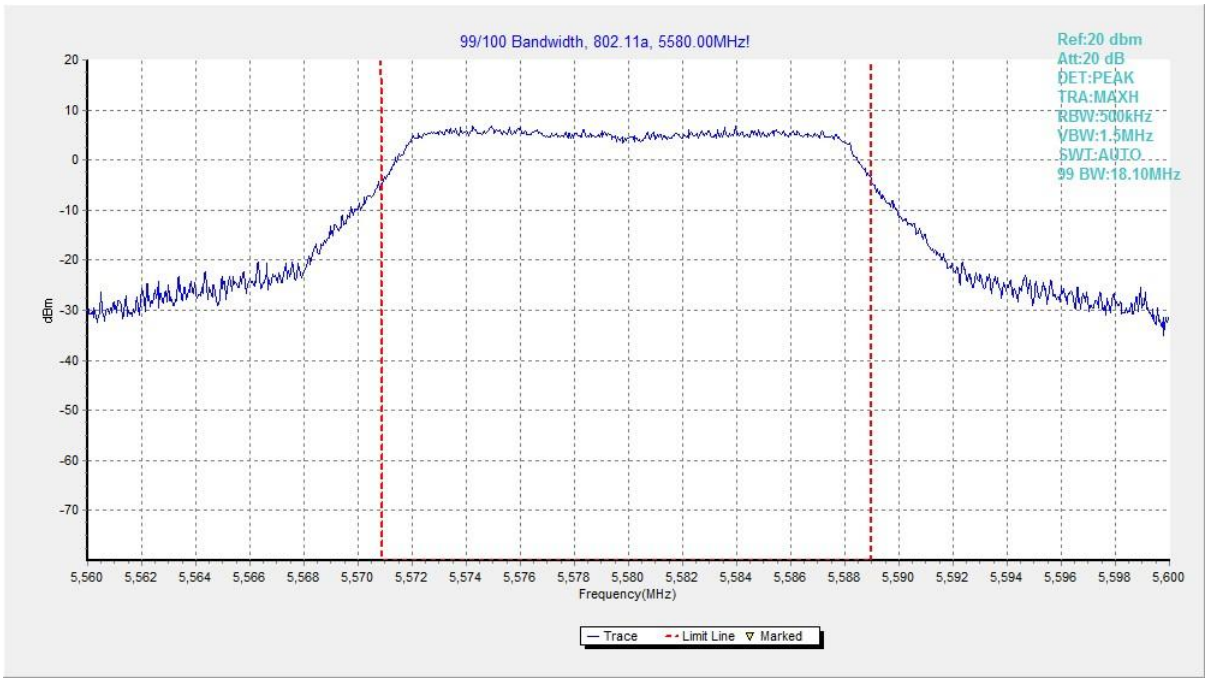


Fig. 29 99% Occupied Bandwidth (802. 11a, 5580MHz)

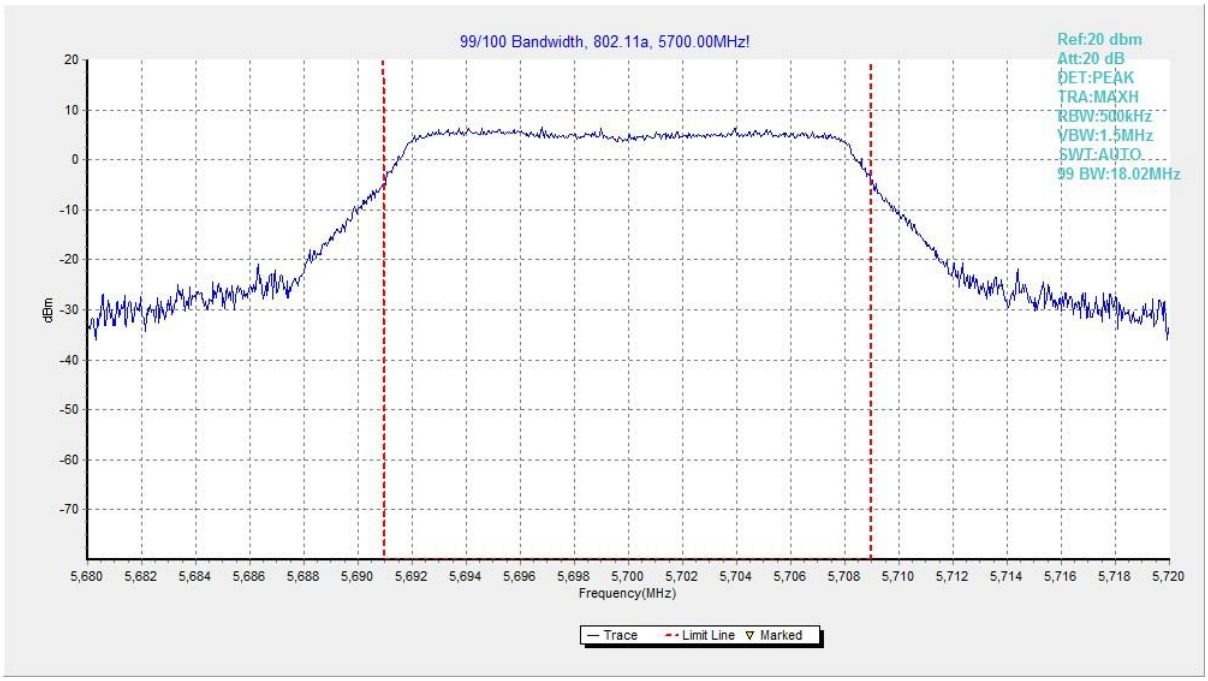


Fig. 30 99% Occupied Bandwidth (802. 11a, 5700MHz)

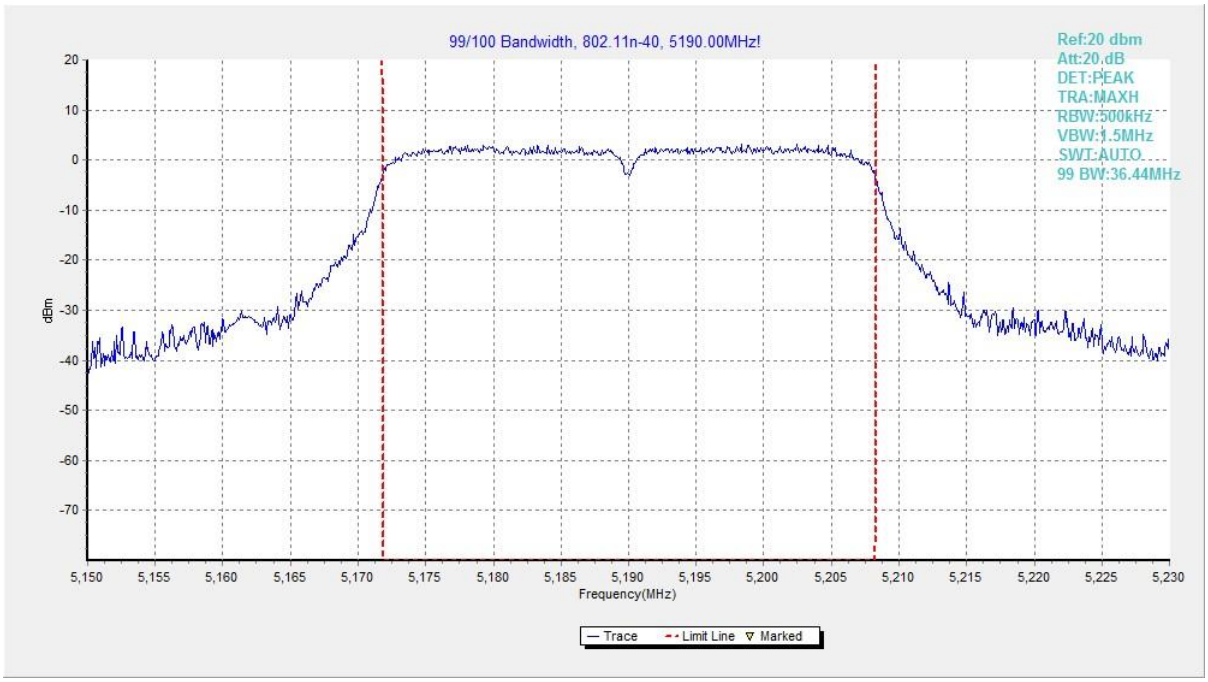


Fig. 31 99% Occupied Bandwidth (802.11n-HT40, 5190MHz)

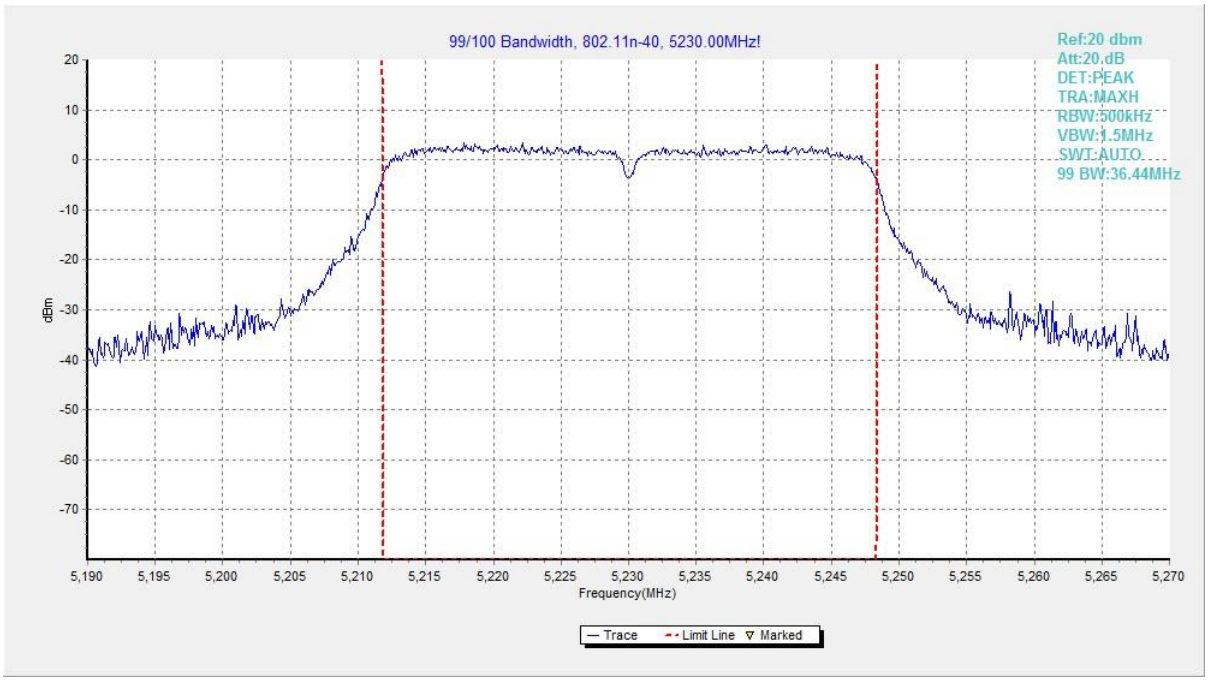


Fig. 32 99% Occupied Bandwidth (802.11n-HT40, 5230MHz)

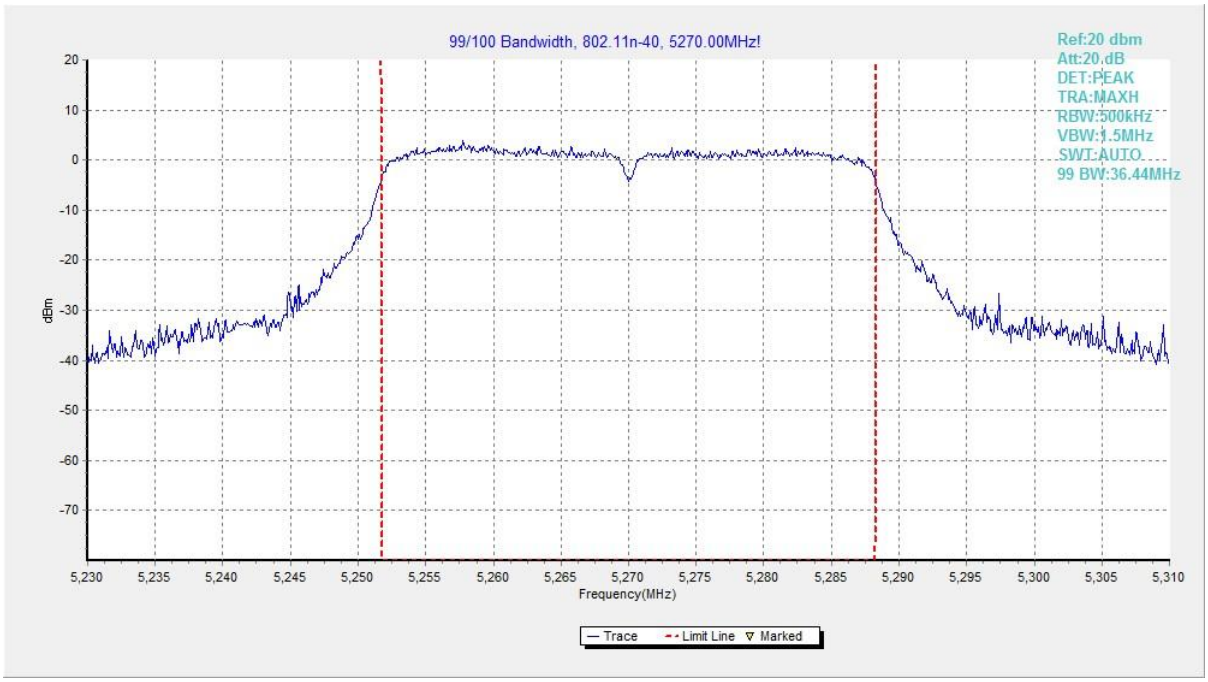


Fig. 33 99% Occupied Bandwidth (802.11n-HT40, 5270MHz)

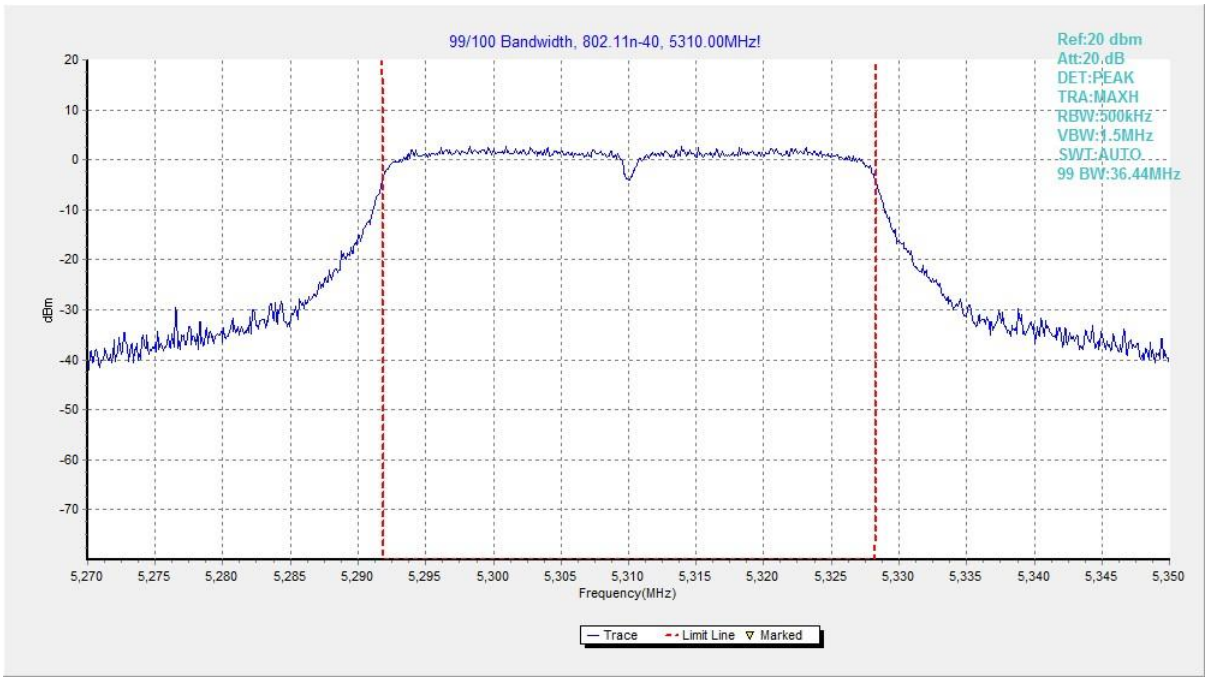


Fig. 34 99% Occupied Bandwidth (802.11n-HT40, 5310MHz)

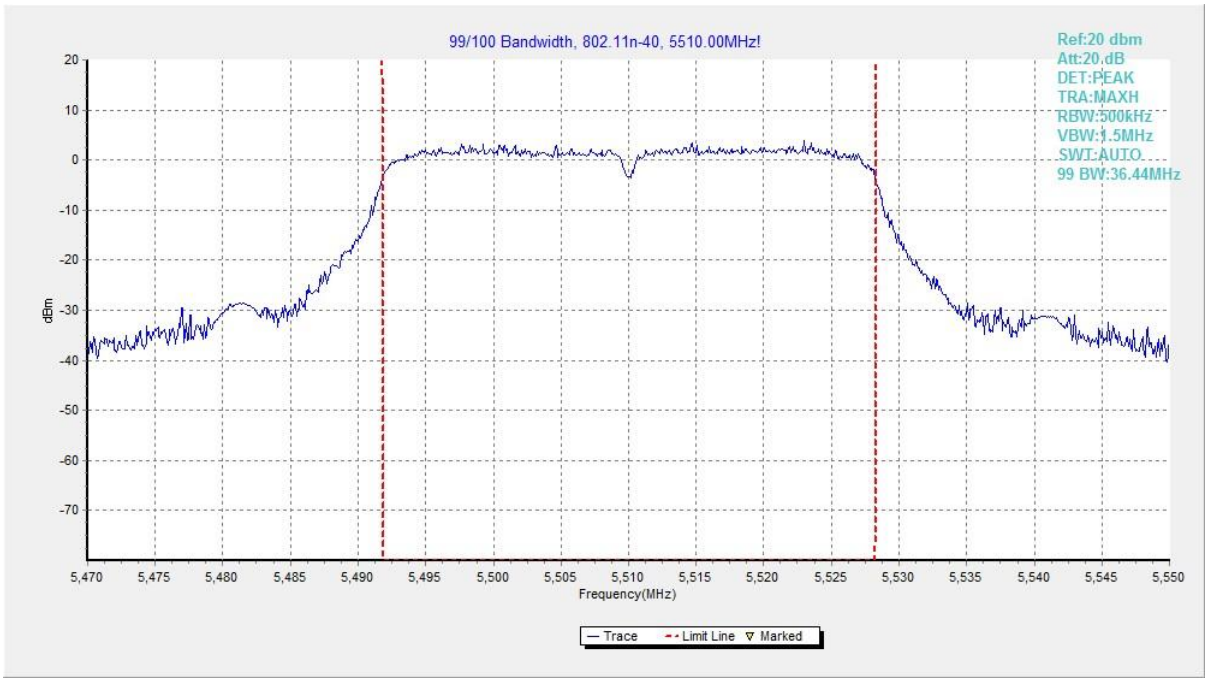


Fig. 35 99% Occupied Bandwidth (802. 11n-HT40, 5510MHz)

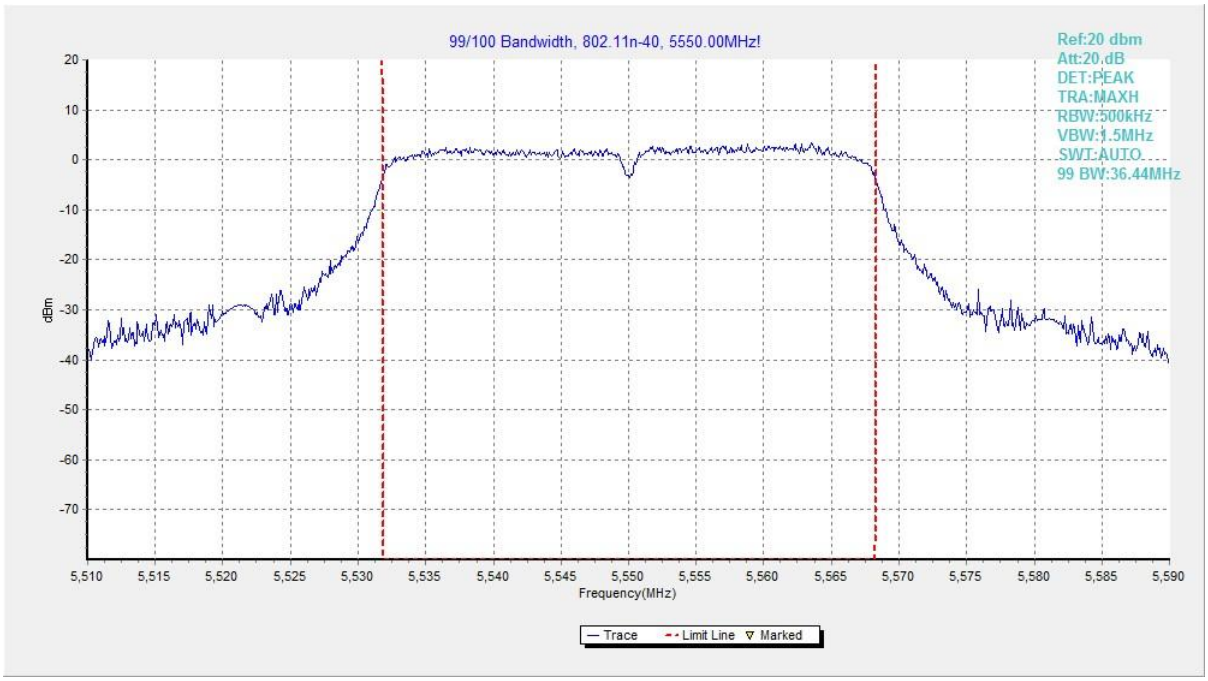


Fig. 36 99% Occupied Bandwidth (802. 11n-HT40, 5550MHz)

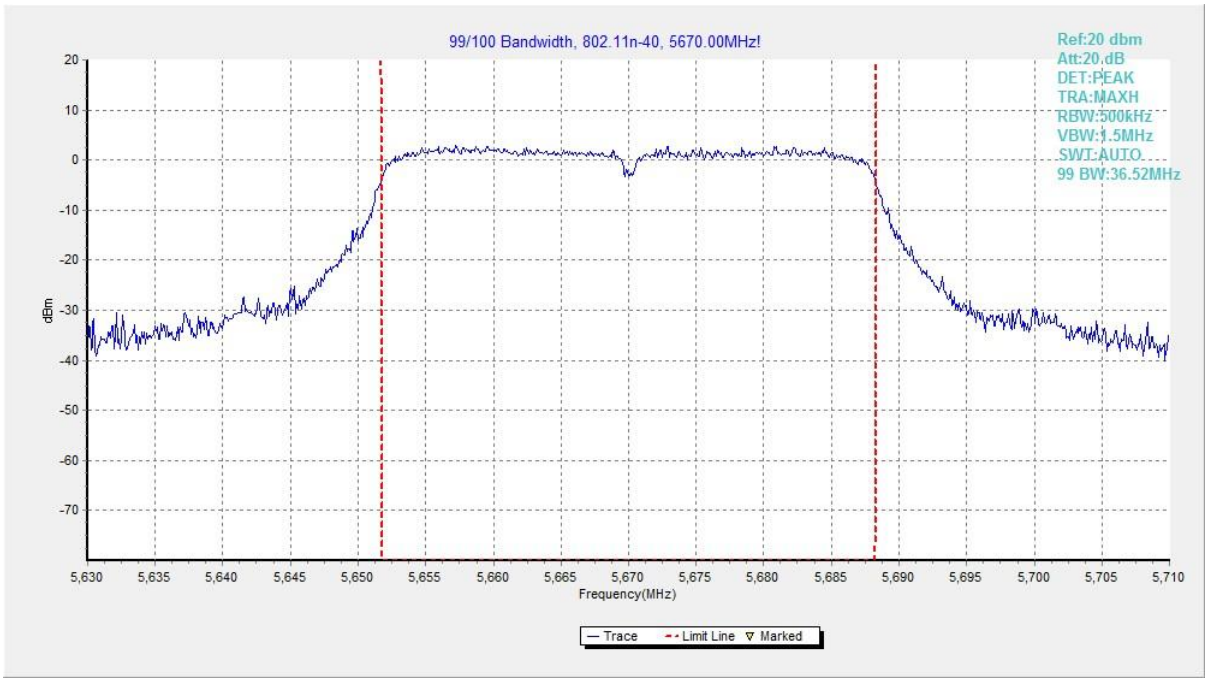


Fig. 37 99% Occupied Bandwidth (802. 11n-HT40, 5670MHz)

A.7. Band Edges Compliance

Measurement Limit:

Standard	Limit (dBuV/m)	
FCC 47 CFR Part 15.209	Peak	74
	Average	54

The measurement is made according to KDB 789033.

Measurement Result:

Mode	Channel	Test Results	Conclusion
802.11a	5180 MHz(CH36)	Fig.38	P
	5320 MHz(CH64)	Fig.39	P
	5500 MHz(CH100)	Fig.40	P
	5700 MHz(CH140)	Fig.41	P
	5745 MHz(CH149)	Fig.42	P
	5825 MHz(CH165)	Fig.43	P
802.11n HT40	5190 MHz(CH38)	Fig.44	P
	5310 MHz(CH62)	Fig.45	P
	5510 MHz(CH102)	Fig.46	P
	5670 MHz(CH134)	Fig.47	P
	5755 MHz(CH151)	Fig.48	P
	5795 MHz(CH159)	Fig.49	P

Conclusion: PASS

Test graphs as below:

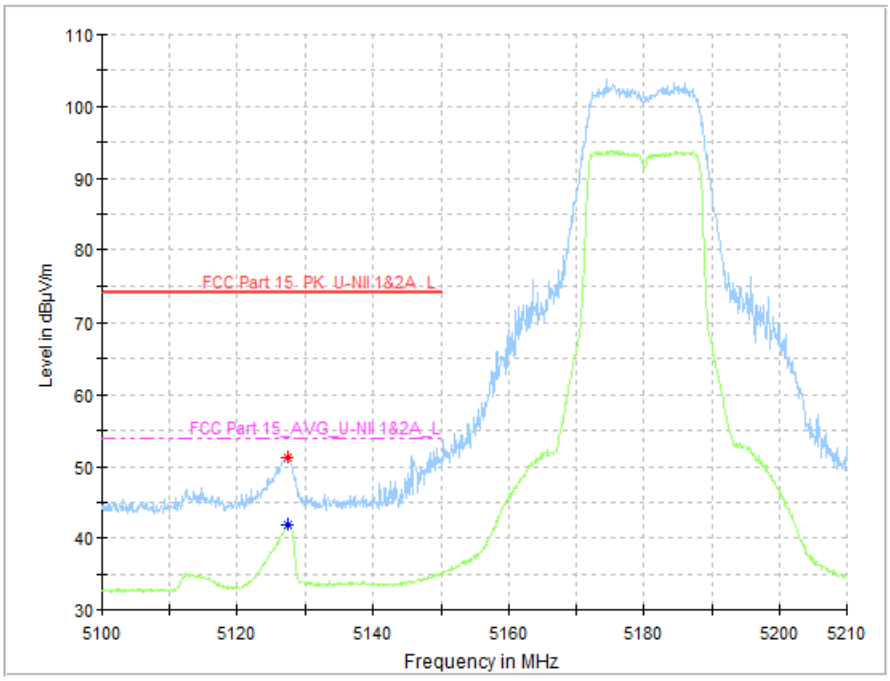


Fig. 38 Band Edges (802.11a, CH36 5180MHz)

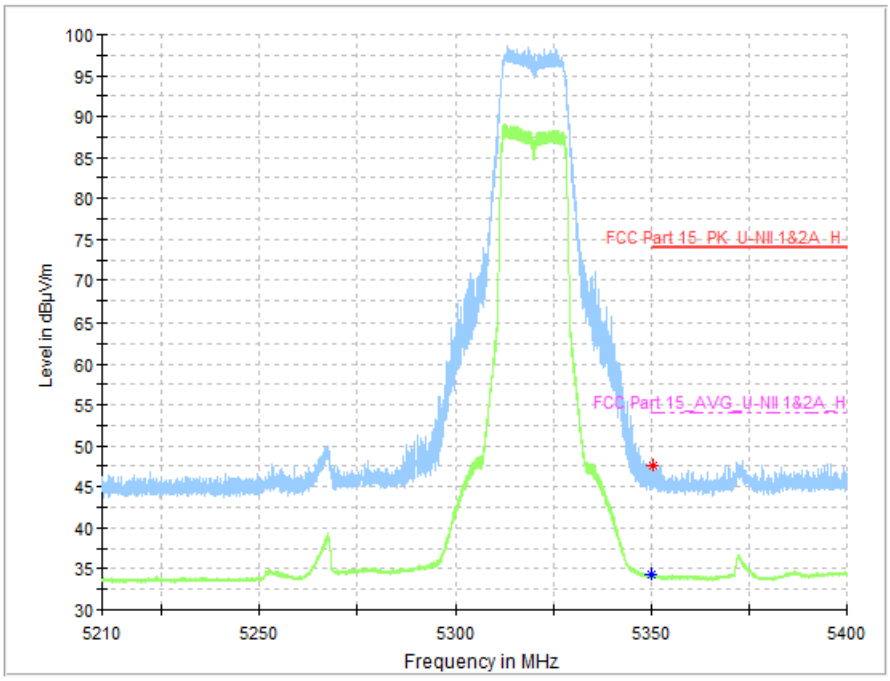


Fig. 39 Band Edges (802.11a, CH64 5320MHz)

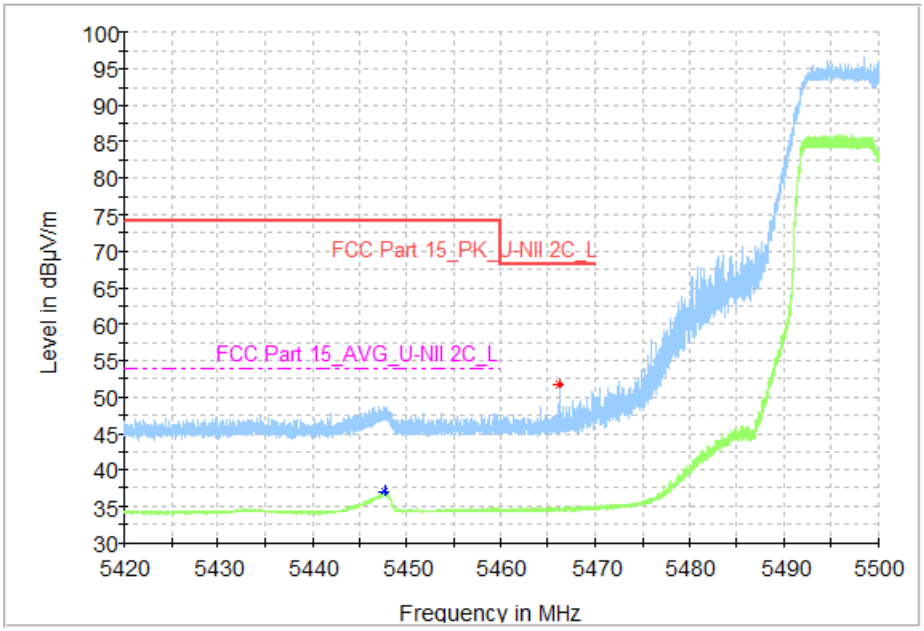


Fig. 40 Band Edges (802.11a, CH100 5500MHz)

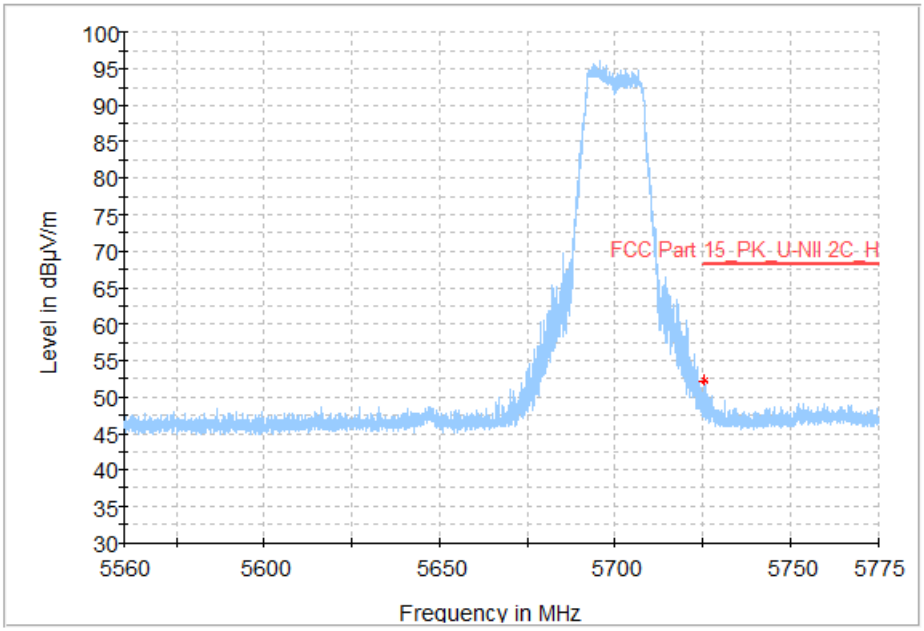


Fig. 41 Band Edges (802.11a, CH140 5700MHz)

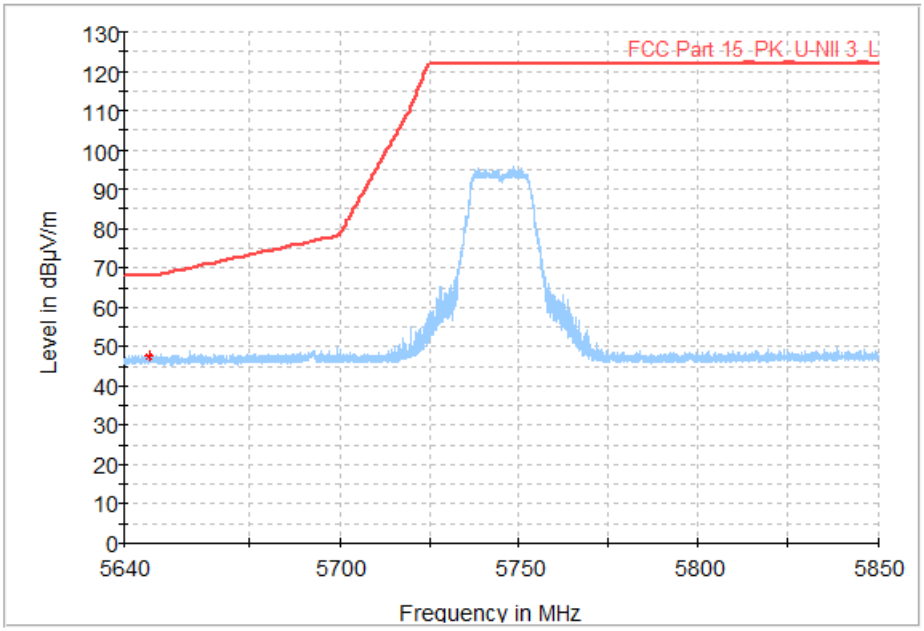


Fig. 42 Band Edges (802.11a, CH149 5745MHz)

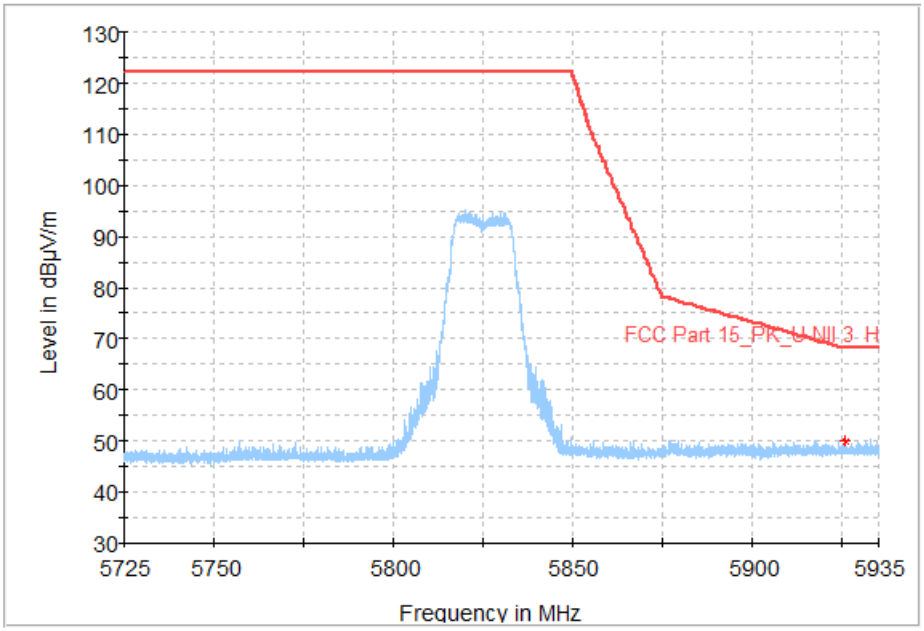


Fig. 43 Band Edges (802.11a, CH165 5825MHz)

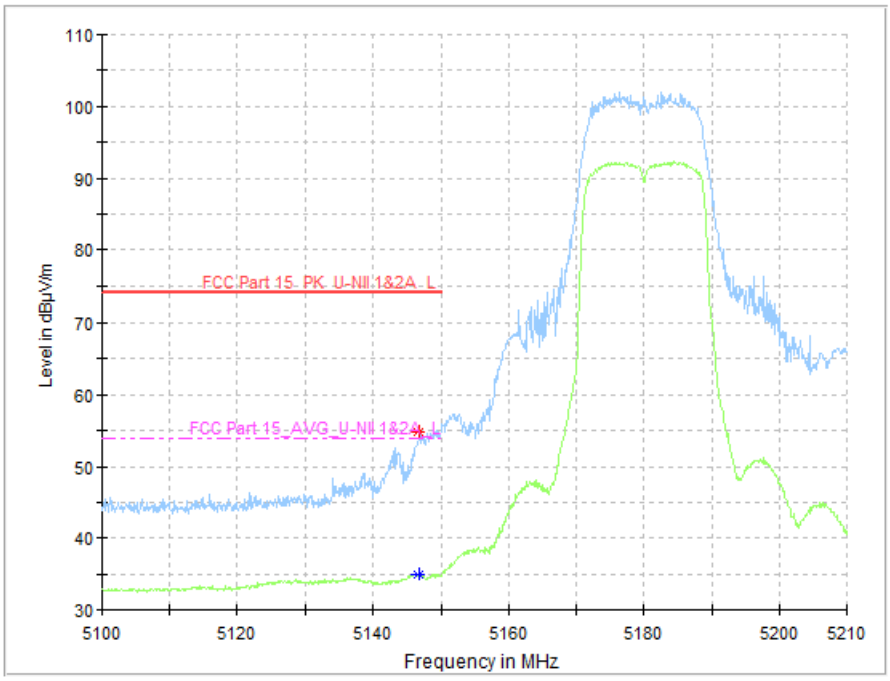


Fig. 44 Band Edges (802.11n-HT40, CH38 5190MHz)

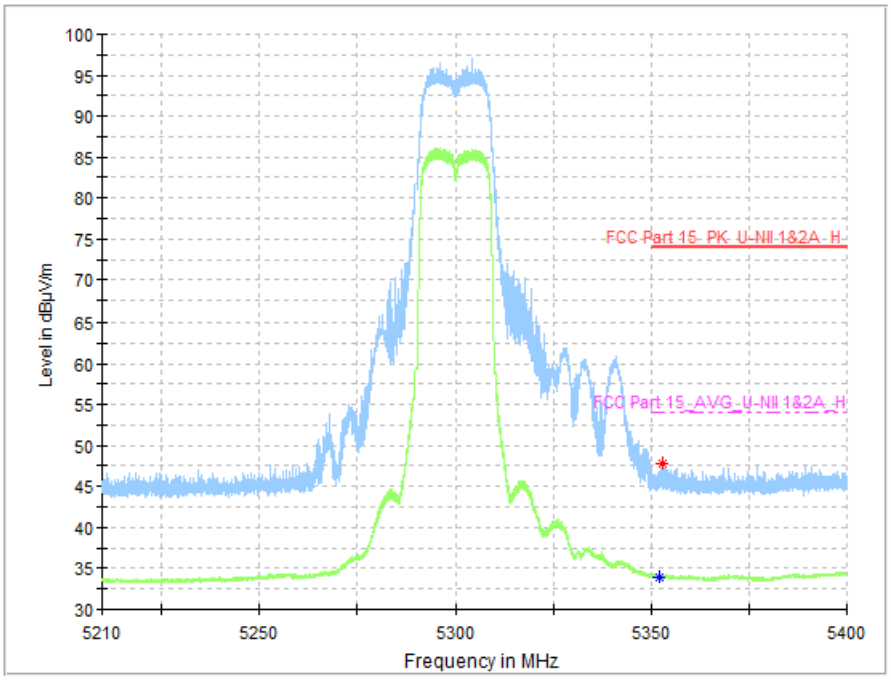


Fig. 45 Band Edges (802.11n-HT40, CH62 5310MHz)

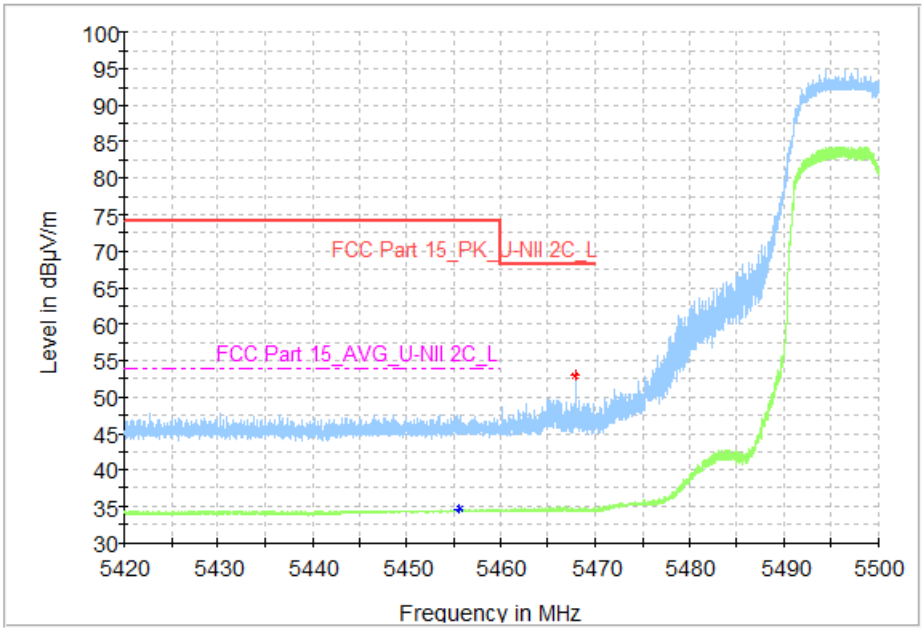


Fig. 46 Band Edges (802.11n-HT40, CH102 5510MHz)

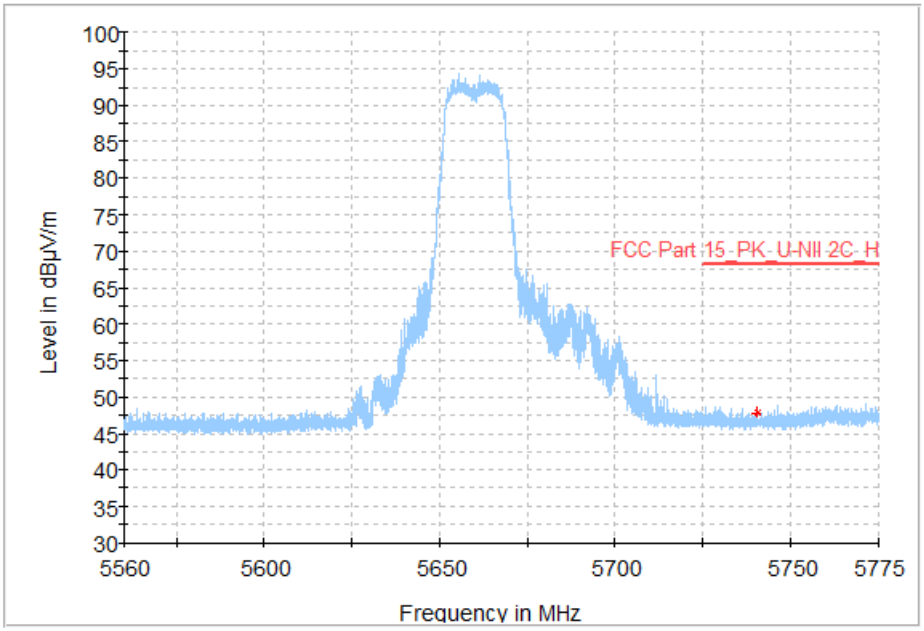


Fig. 47 Band Edges (802.11n-HT40, CH134 5670MHz)

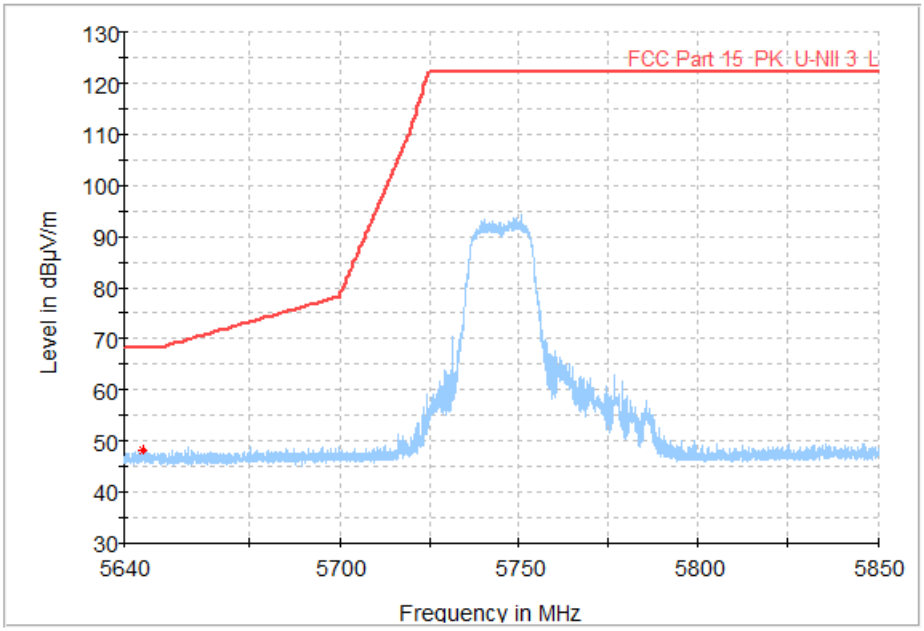


Fig. 48 Band Edges (802.11n-HT40, CH151 5755MHz)

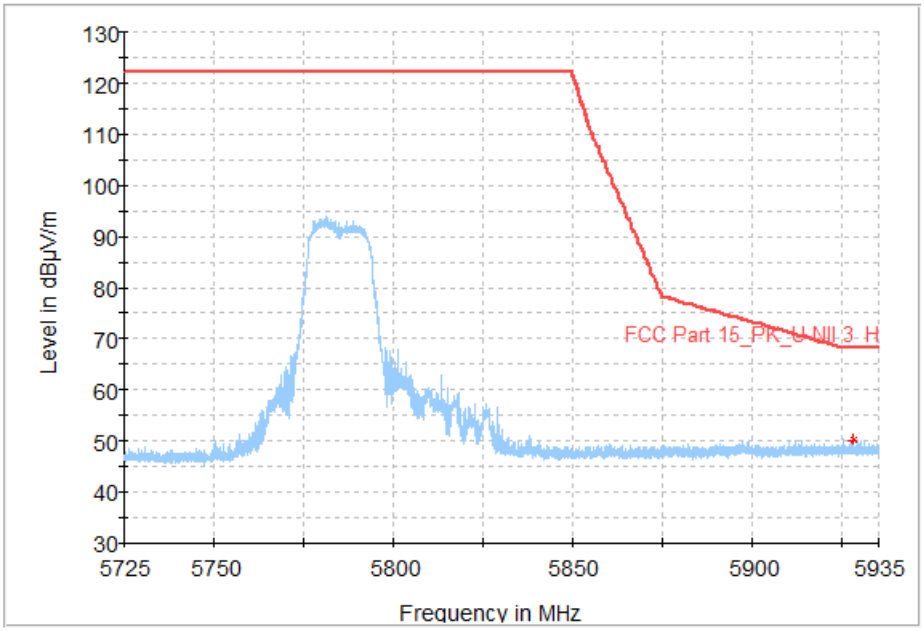


Fig. 49 Band Edges (802.11n-HT40, CH159 5795MHz)

A.8. Transmitter Spurious Emission

Measurement Limit:

Standard	Limit (dBm/MHz)
FCC 47 CFR Part 15.407, 15.205	< -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 Result:

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11a	5180MHz(Ch36)	1 GHz ~ 18 GHz	Fig.50	P
	5200MHz(Ch40)	1 GHz ~ 18 GHz	Fig.51	P
	5240MHz(Ch48)	1 GHz ~ 18 GHz	Fig.52	P
	5260MHz(Ch52)	1 GHz ~ 18 GHz	Fig.53	P
	5280MHz(Ch56)	1 GHz ~ 18 GHz	Fig.54	P
	5320MHz(Ch64)	1 GHz ~ 18 GHz	Fig.55	P
	5500MHz(Ch100)	1 GHz ~ 18 GHz	Fig.56	P
	5600MHz(Ch120)	1 GHz ~ 18 GHz	Fig.57	P
	5700MHz(Ch140)	1 GHz ~ 18 GHz	Fig.58	P
	5745MHz(Ch149)	1 GHz ~ 18 GHz	Fig.59	P
	5785MHz(Ch157)	1 GHz ~ 18 GHz	Fig.60	P
	5825MHz(Ch165)	1 GHz ~ 18 GHz	Fig.61	P
802.11n HT40	5190MHz(Ch38)	1 GHz ~ 18 GHz	Fig.62	P
	5230MHz(Ch46)	1 GHz ~ 18 GHz	Fig.63	P
	5270MHz(Ch54)	1 GHz ~ 18 GHz	Fig.64	P
	5310MHz(Ch62)	1 GHz ~ 18 GHz	Fig.65	P
	5510MHz(Ch102)	1 GHz ~ 18 GHz	Fig.66	P
	5550MHz(Ch110)	1 GHz ~ 18 GHz	Fig.67	P
	5670MHz(Ch134)	1 GHz ~ 18 GHz	Fig.68	P
	5755MHz(Ch151)	1 GHz ~ 18 GHz	Fig.69	P
	5795MHz(Ch159)	1 GHz ~ 18 GHz	Fig.70	P

All channels	30 MHz ~ 1 GHz	Fig.71	P
	18 GHz ~ 26.5 GHz	Fig.72	P
	26.5 GHz ~ 40 GHz	Fig.73	P

Conclusion: PASS

Test graphs as below:

Note: Peak above the limit line is the carrier frequency.

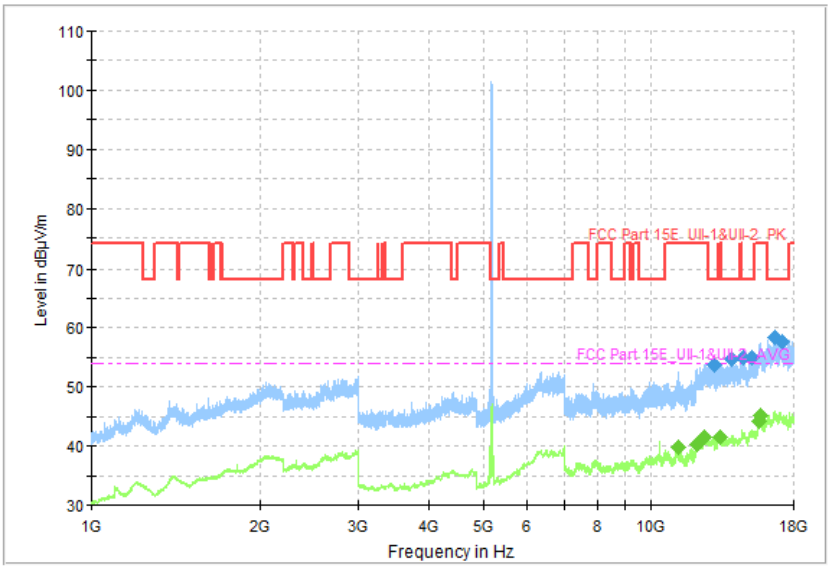


Fig. 50 Transmitter Spurious Emission (802.11a, CH36 5180MHz)

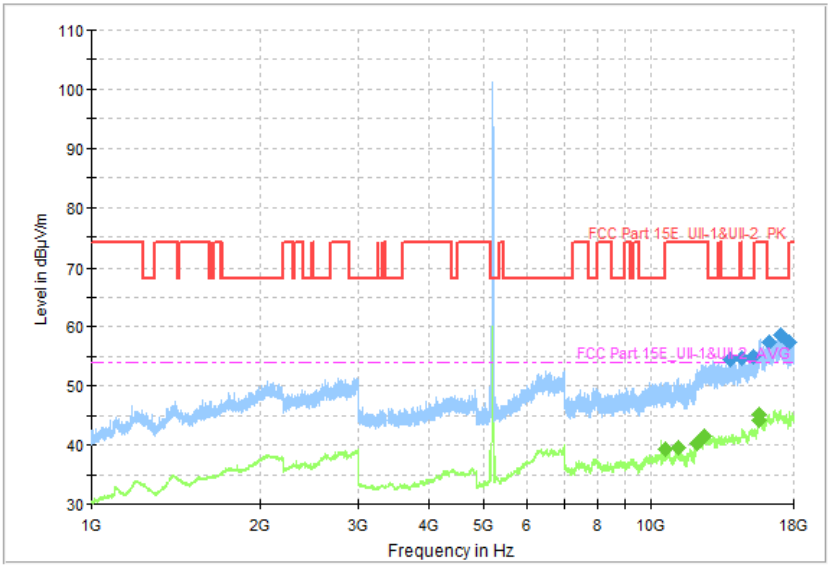


Fig. 51 Transmitter Spurious Emission (802.11a, CH40 5200MHz)

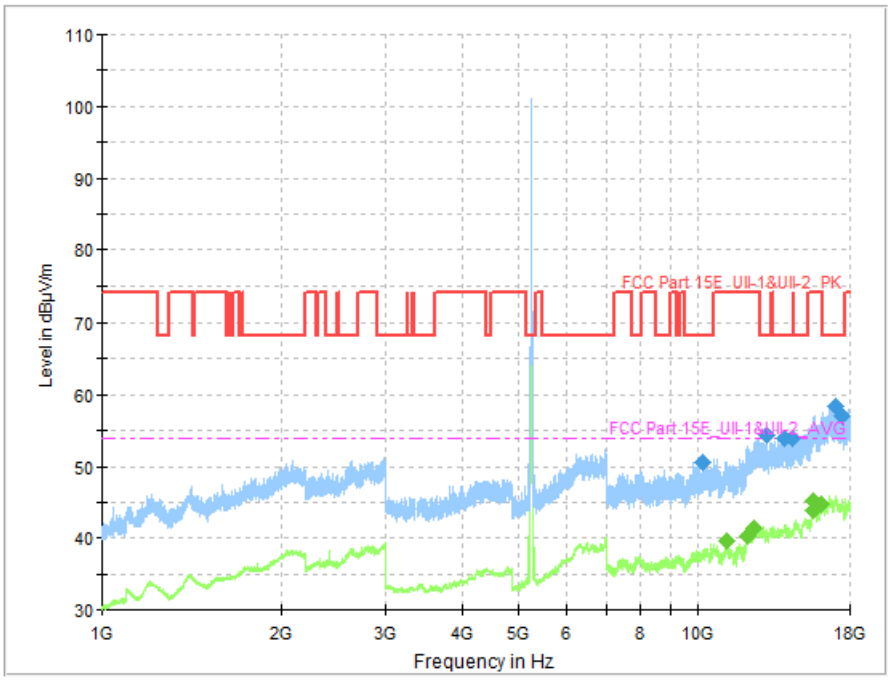


Fig. 52 Transmitter Spurious Emission (802.11a, CH48 5240MHz)

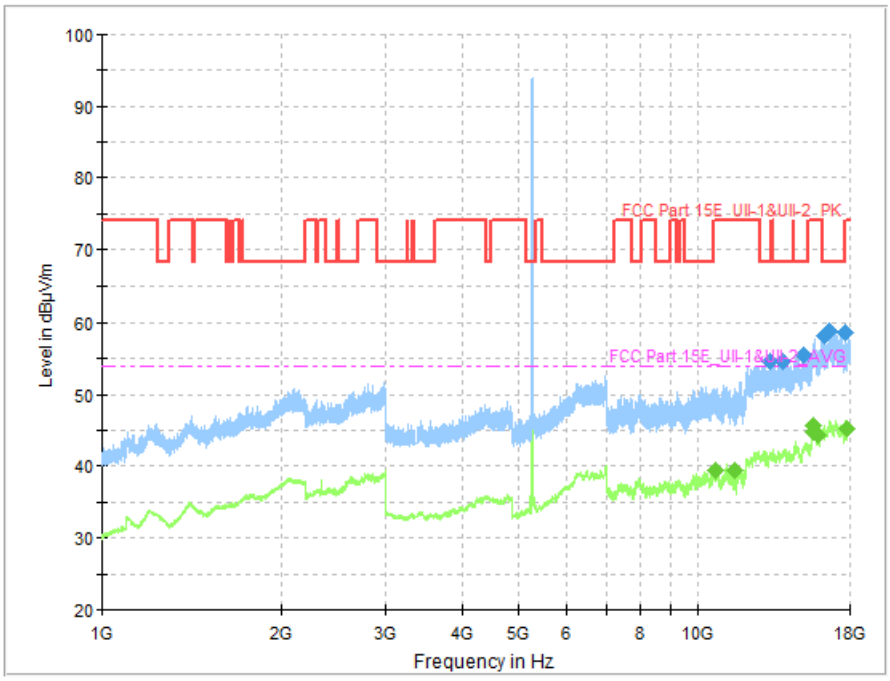


Fig. 53 Transmitter Spurious Emission (802.11a, CH52 5260MHz)

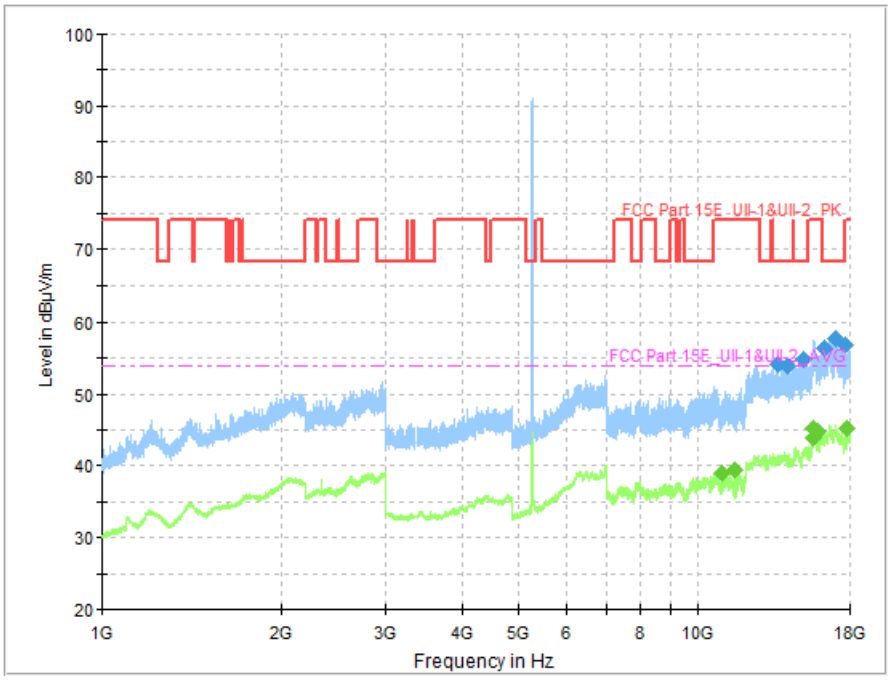


Fig. 54 Transmitter Spurious Emission (802.11a, CH56 5280MHz)

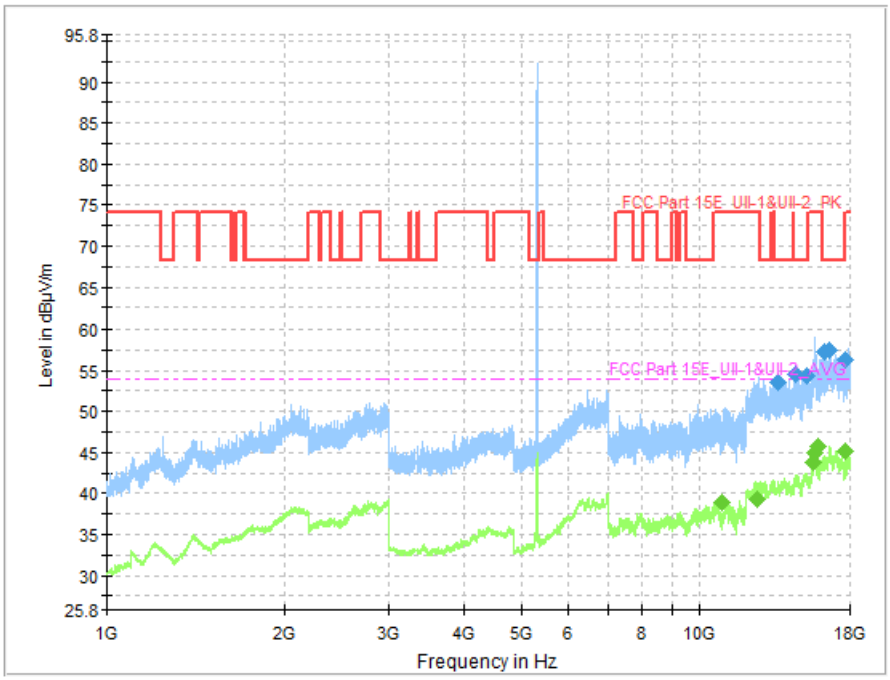


Fig. 55 Transmitter Spurious Emission (802.11a, CH64 5320MHz)

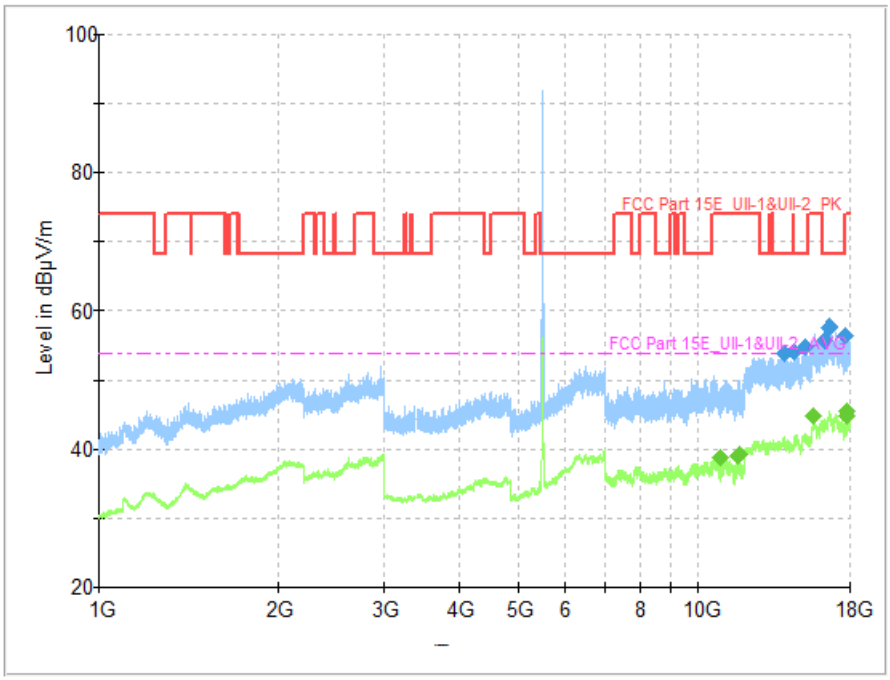


Fig. 56 Transmitter Spurious Emission (802. 11a, CH100 5500MHz)

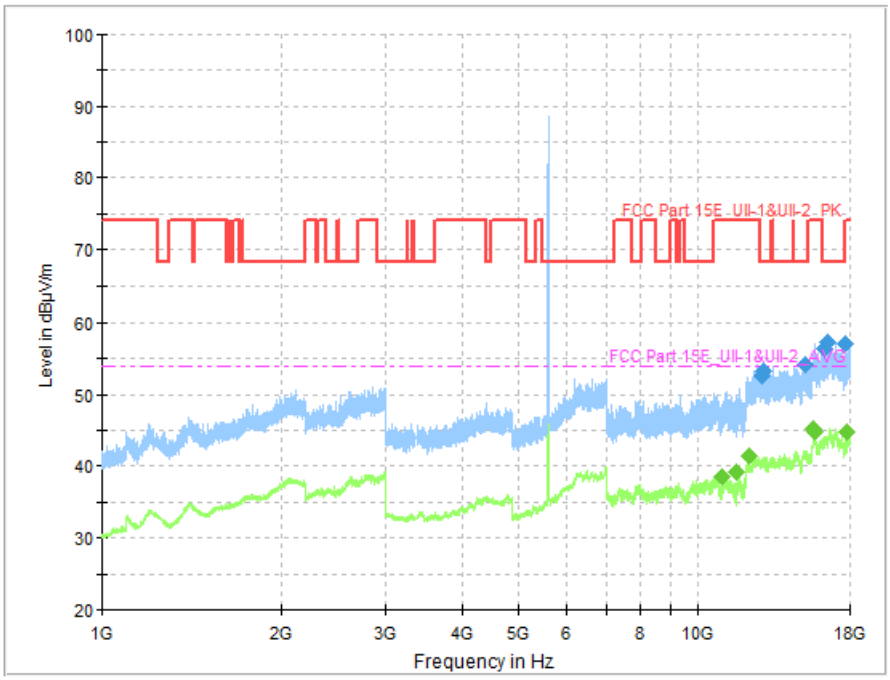


Fig. 57 Transmitter Spurious Emission (802. 11a, CH120 5600MHz)

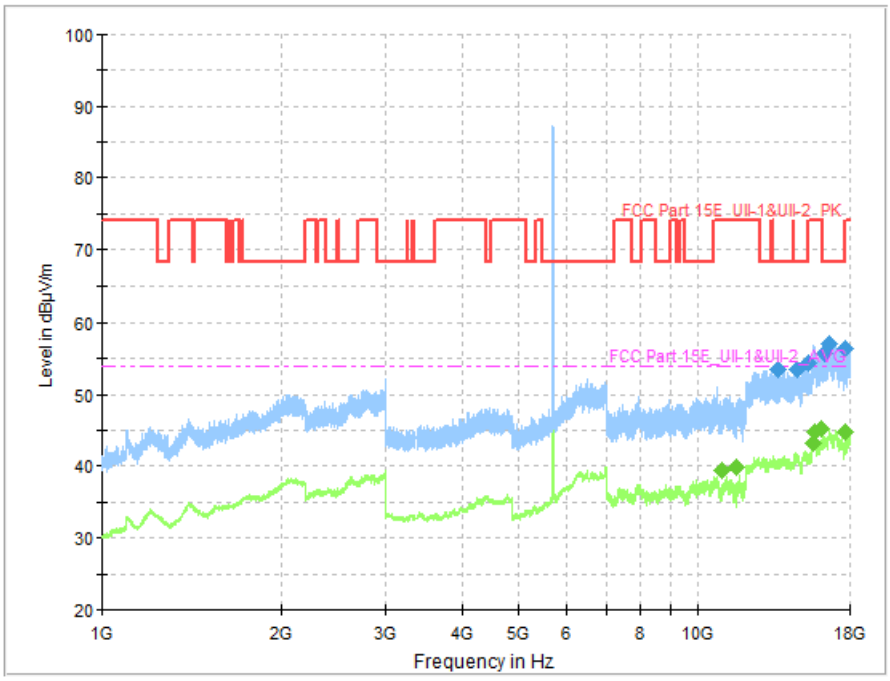


Fig. 58 Transmitter Spurious Emission (802. 11a, CH140 5700MHz)

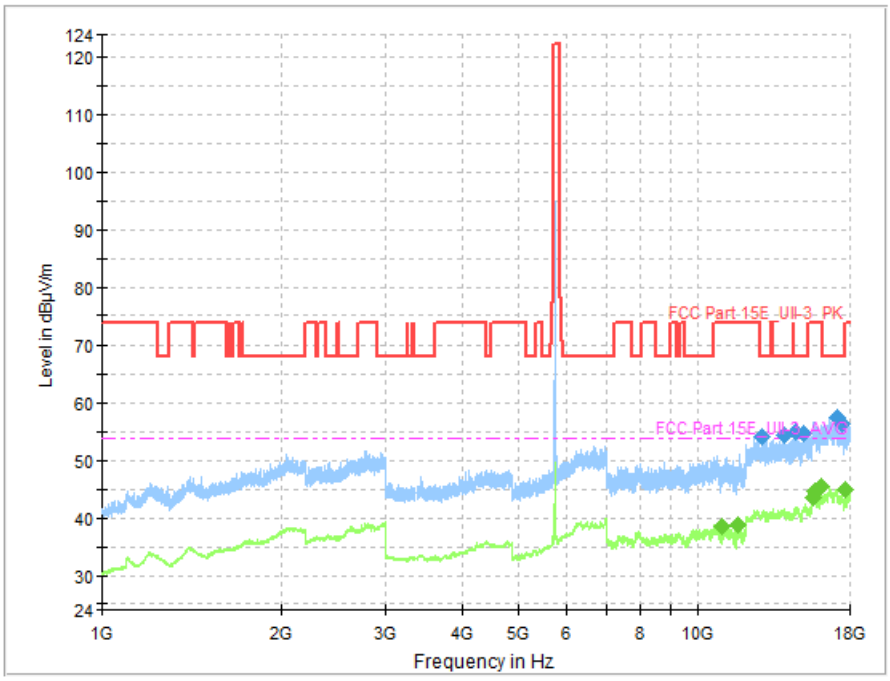


Fig. 59 Transmitter Spurious Emission (802. 11a, CH149 5745MHz)

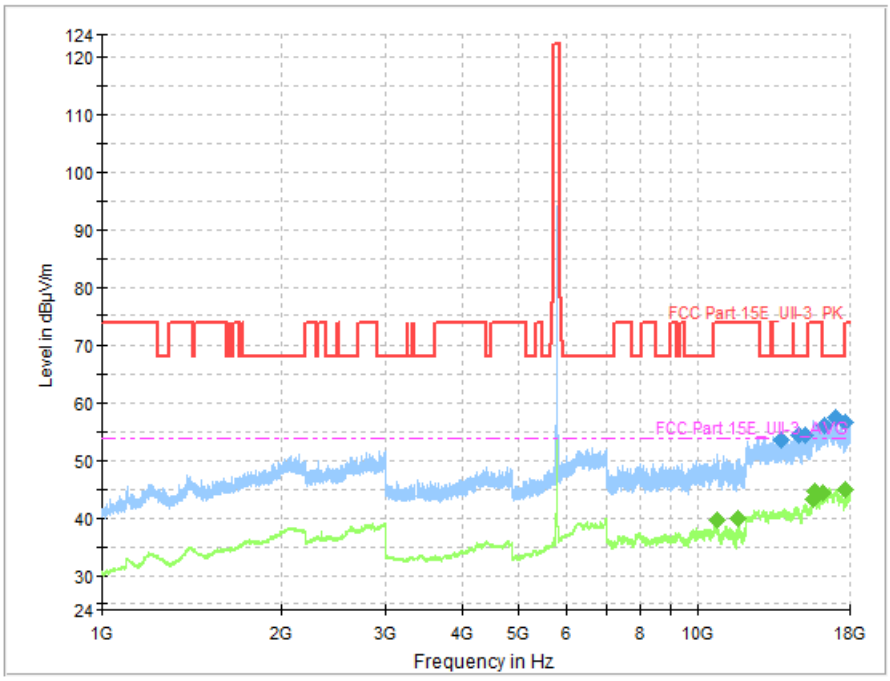


Fig. 60 Transmitter Spurious Emission (802. 11a, CH157 5785MHz)

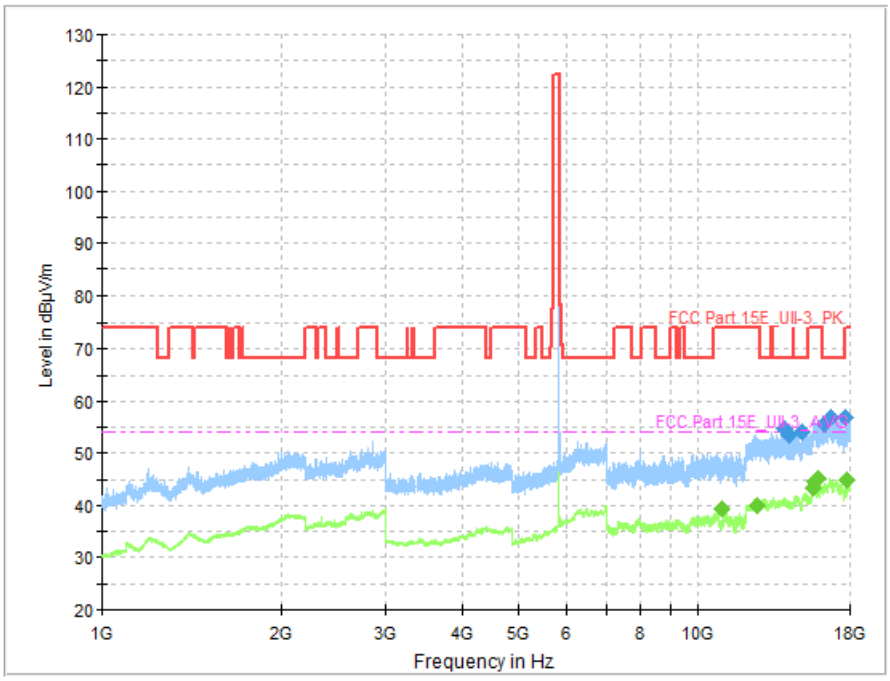


Fig. 61 Transmitter Spurious Emission (802. 11a, CH165 5825MHz)

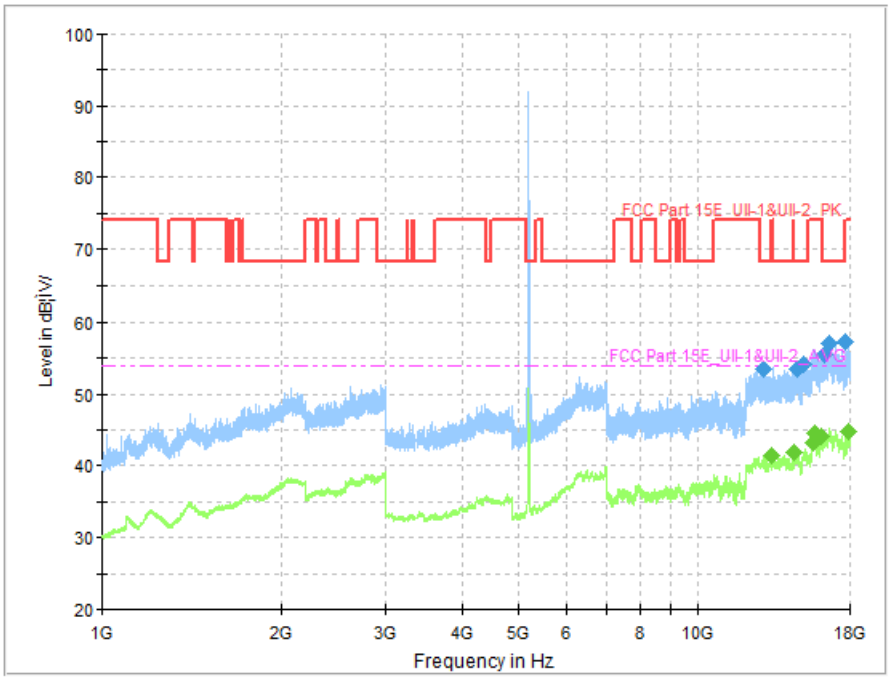


Fig. 62 Transmitter Spurious Emission (802.11n-HT40, CH38 5190MHz)

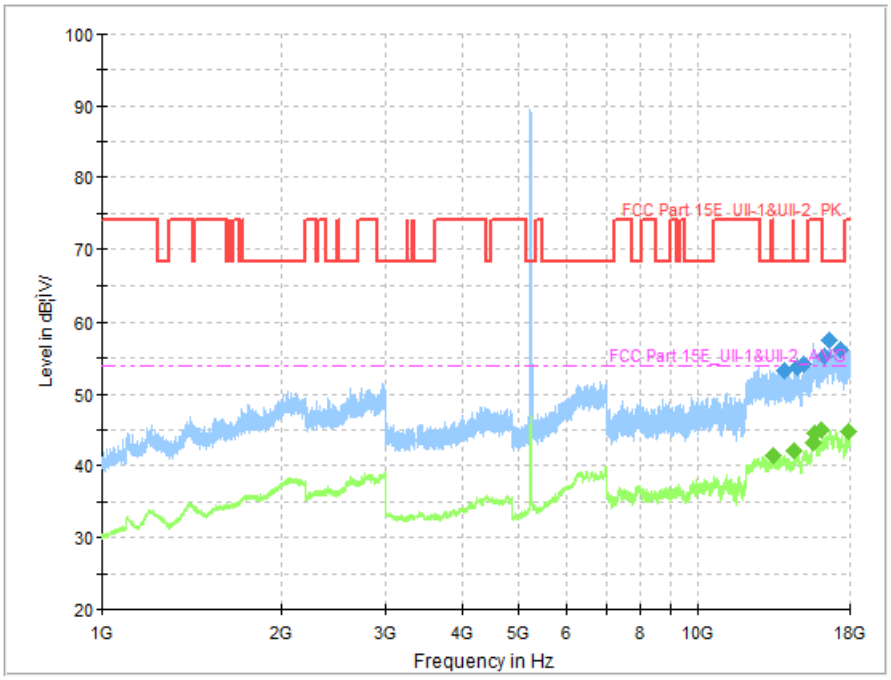


Fig. 63 Transmitter Spurious Emission (802.11n-HT40, CH46 5230MHz)

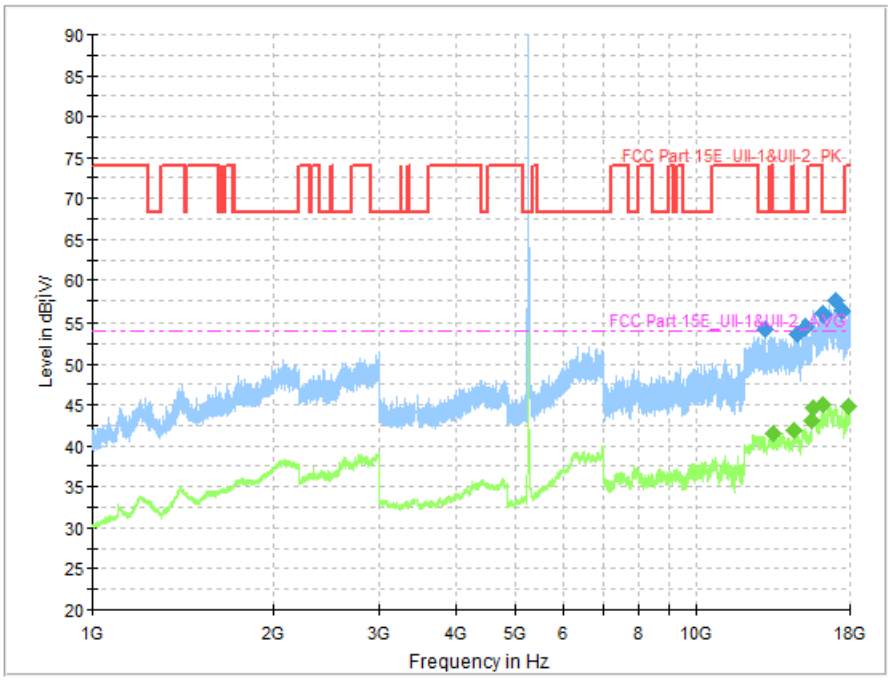


Fig. 64 Transmitter Spurious Emission (802.11n-HT40, CH54 5270MHz)

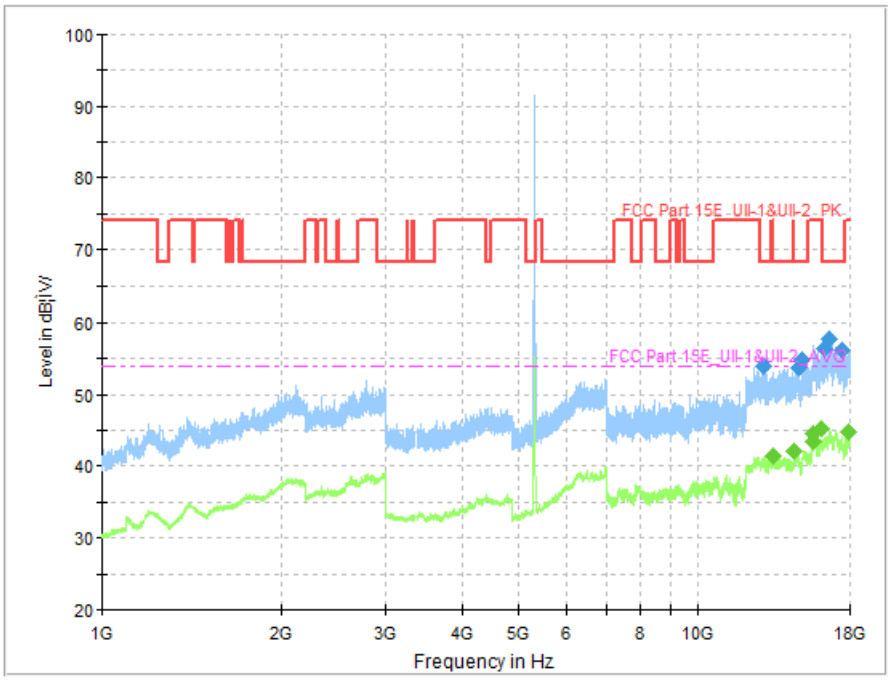


Fig. 65 Transmitter Spurious Emission (802.11n-HT40, CH62 5310MHz)

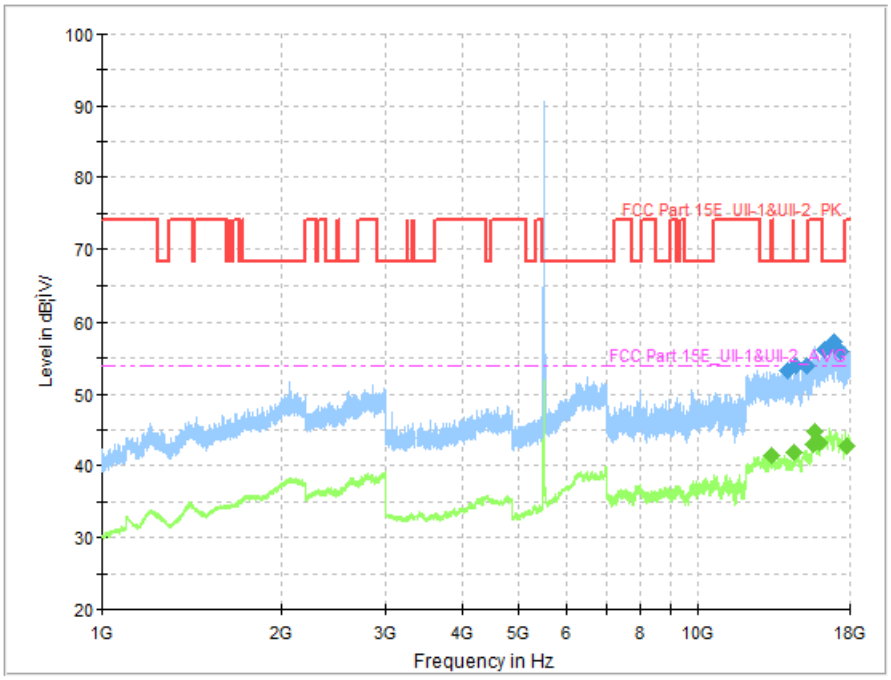


Fig. 66 Transmitter Spurious Emission (802. 11n-HT40, CH102 5510MHz)

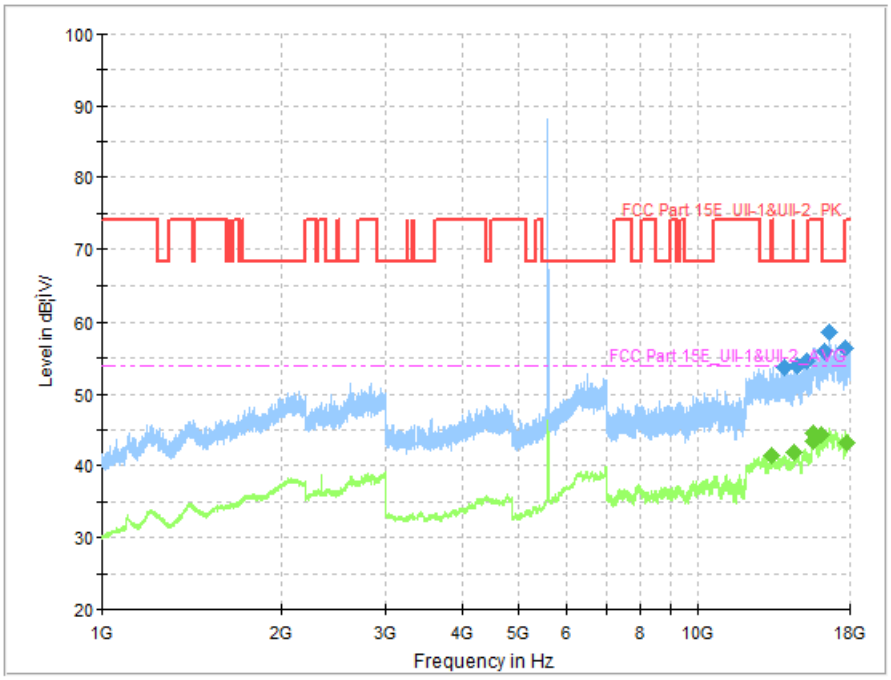


Fig. 67 Transmitter Spurious Emission (802. 11n-HT40, CH118 5590MHz)

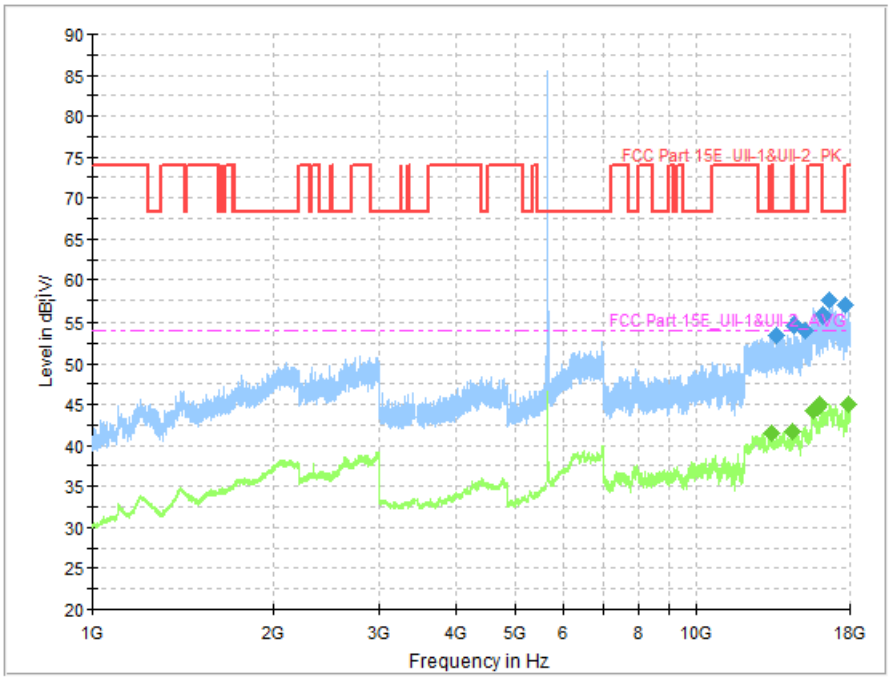


Fig. 68 Transmitter Spurious Emission (802. 11n-HT40, CH134 5670MHz)

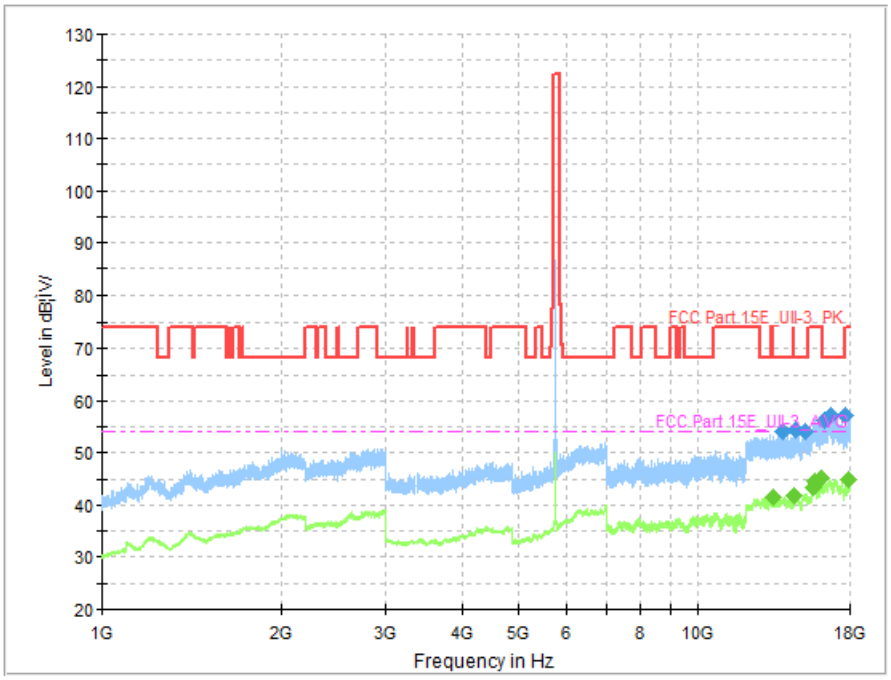


Fig. 69 Transmitter Spurious Emission (802. 11n-HT40, CH151 5755MHz)

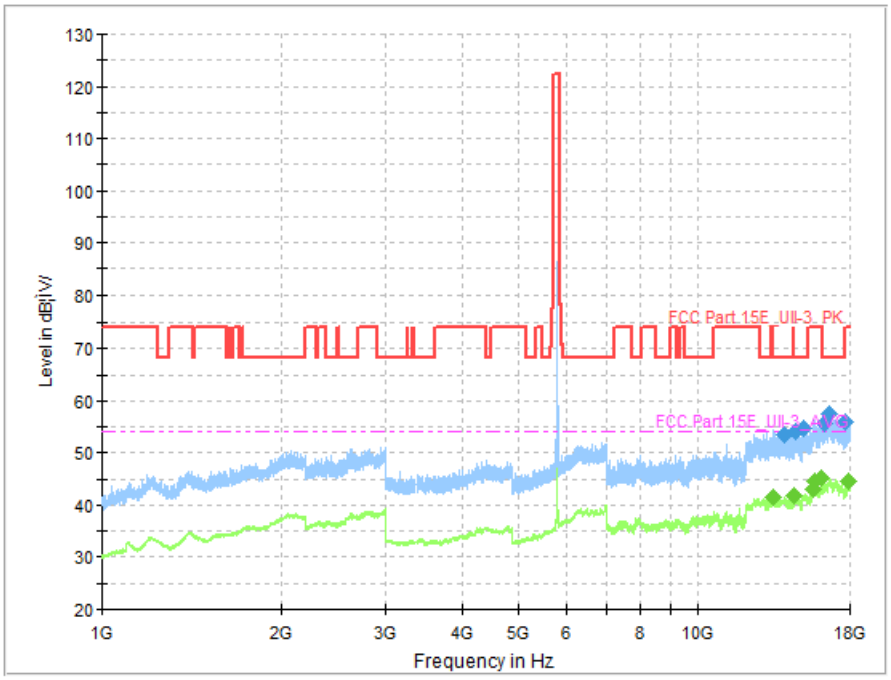


Fig. 70 Transmitter Spurious Emission (802. 11n-HT40, CH159 5795MHz)

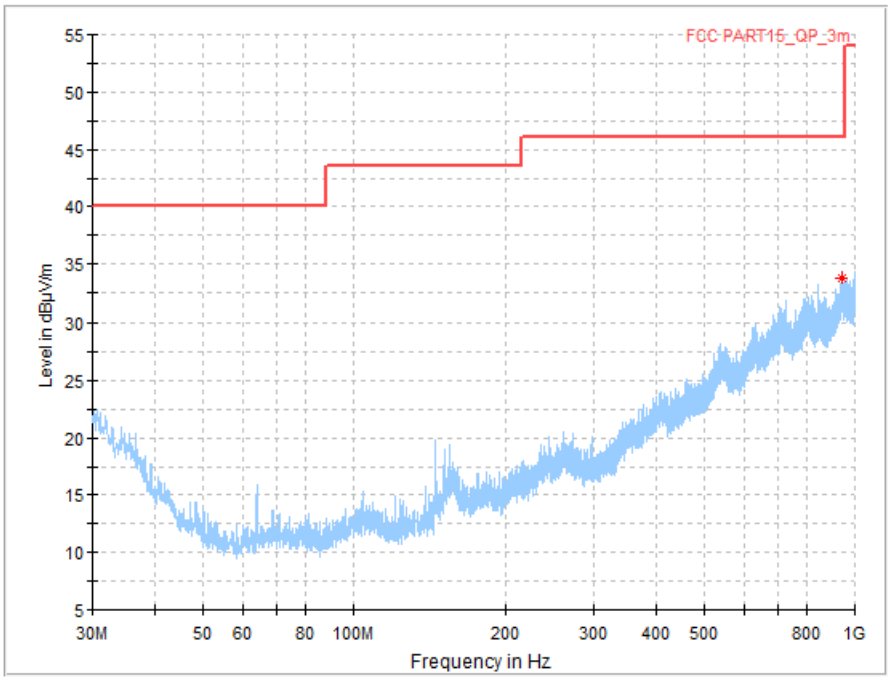


Fig. 71 Transmitter Spurious Emission (All channel, 30MHz~1GHz)

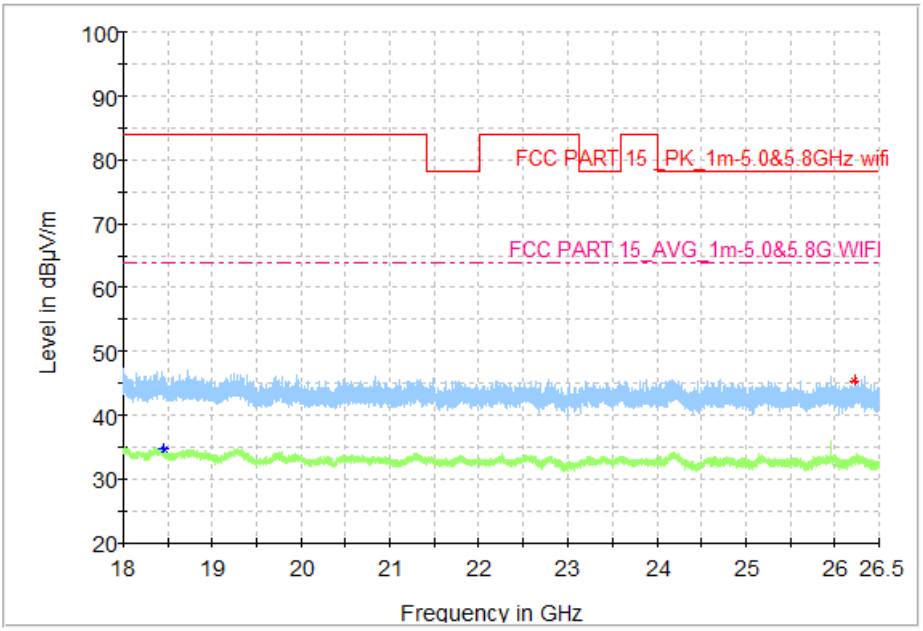


Fig. 72 Transmitter Spurious Emission (All channel, 18GHz~26.5GHz)

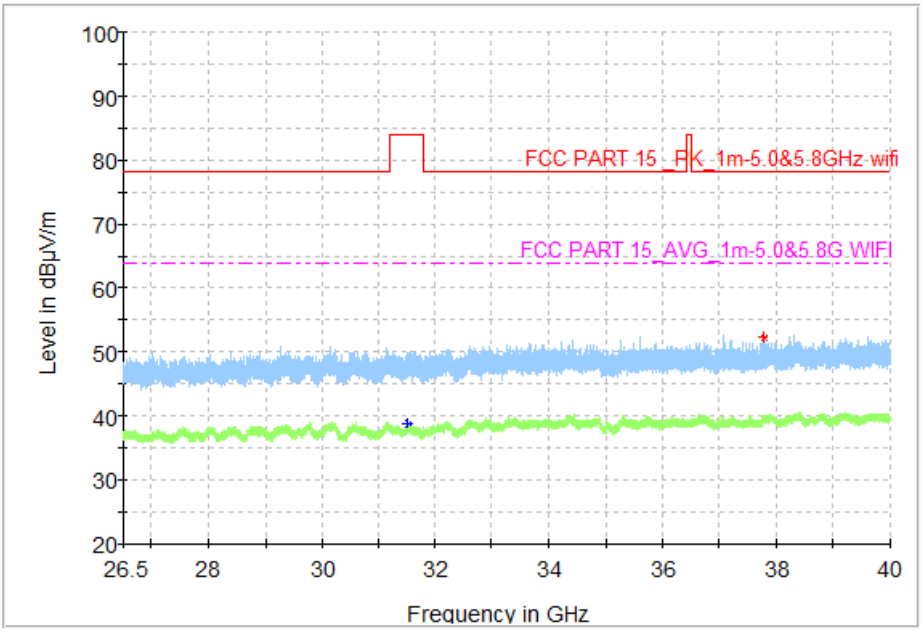


Fig. 73 Transmitter Spurious Emission (All channel, 26.5GHz~40GHz)

Worst Case Result

802.11a CH36

Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
13000.000000	53.66	68.20	14.54	H	17.5
13951.000000	54.72	68.20	13.48	H	17.2
14586.000000	54.88	68.20	13.32	V	17.9
15113.500000	55.07	68.20	13.13	H	18.3
16615.000000	58.29	68.20	9.91	V	22.2
17194.000000	57.73	68.20	10.47	H	21.5

Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
11165.816327	39.74	54.00	14.26	V	14.8
12065.500000	40.33	54.00	13.67	H	16.1
12430.500000	41.41	54.00	12.59	V	16.8
13255.000000	41.62	54.00	12.38	V	17.3
15577.500000	44.11	54.00	9.89	V	19.7
15671.500000	45.24	54.00	8.76	V	20.1

802.11a CH52

Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
13215.000000	54.57	68.20	13.63	H	17.5
13868.000000	54.57	68.20	13.63	V	17.2
15073.000000	55.51	68.20	12.69	V	18.1
16286.500000	58.14	68.20	10.06	H	20.8
16642.000000	58.88	68.20	9.32	V	21.9
17698.500000	58.74	68.20	9.46	V	23.1

Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
10715.500000	39.41	54.00	14.59	H	16.9
11545.500000	39.36	54.00	14.64	V	17.9
15574.000000	44.76	54.00	9.24	V	19.6
15650.000000	45.74	54.00	8.26	V	20.0
15942.000000	44.43	54.00	9.57	V	21.9
17738.500000	45.31	54.00	8.69	V	23.1

802.11a CH140

Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
13591.500000	53.51	68.20	14.69	H	16.7
14641.500000	53.57	68.20	14.63	H	17.8
15337.500000	54.49	68.20	13.71	V	18.7
16269.500000	55.74	68.20	12.46	H	20.9
16652.000000	57.08	68.20	11.12	V	21.8
17689.000000	56.44	68.20	11.76	H	23.0

Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
10958.000000	39.53	54.00	14.47	V	17.1
11572.500000	39.85	54.00	14.15	V	17.9
15577.000000	43.31	54.00	10.69	V	19.6
15658.000000	44.72	54.00	9.28	V	20.1
16127.000000	45.16	54.00	8.84	V	22.1
17707.500000	44.89	54.00	9.11	H	23.1

802.11a CH165

Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
13977.500000	54.68	68.20	13.52	V	17.0
14193.000000	53.51	68.20	14.69	H	16.7
14990.000000	54.20	68.20	14.00	H	17.9
16253.500000	55.74	68.20	12.46	V	21.0
16745.500000	56.72	68.20	11.48	H	21.5
17680.000000	56.90	68.20	11.30	H	22.9

Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
10937.500000	39.50	54.00	14.50	H	17.2
12546.000000	39.89	54.00	12.11	V	17.9
15576.500000	43.20	54.00	10.80	V	19.6
15667.500000	44.60	54.00	9.40	H	20.1
15944.500000	45.26	54.00	8.74	H	21.9
17729.500000	44.81	54.00	9.19	V	23.1

802.11n HT40 CH46

Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
13938.500000	53.38	68.20	14.82	V	17.2
14675.500000	53.79	68.20	14.41	H	17.8
15078.500000	54.29	68.20	13.91	H	18.2
16260.000000	55.21	68.20	12.99	V	21.0
16630.500000	57.48	68.20	10.72	V	22.0
17365.000000	56.11	68.20	12.09	V	22.2

Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
13384.000000	41.38	54.00	12.62	H	17.0
14535.000000	42.16	54.00	11.84	V	17.9
15574.000000	43.25	54.00	10.75	V	19.6
15664.500000	44.67	54.00	9.33	H	20.1
16593.500000	45.13	54.00	8.87	H	22.3
17699.500000	44.86	54.00	9.14	V	23.1

802.11n HT40 CH54

Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
13029.500000	54.14	68.20	14.06	V	17.4
14687.000000	53.71	68.20	14.49	V	17.8
15118.500000	54.38	68.20	13.82	H	18.3
16242.000000	56.04	68.20	12.16	H	21.1
17043.500000	57.54	68.20	10.66	H	22.3
17495.000000	56.30	68.20	11.90	V	22.4

Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
13940.000000	41.48	54.00	12.52	V	17.2
14559.000000	41.84	54.00	12.16	V	17.9
15566.000000	43.16	54.00	10.84	V	19.5
15660.500000	44.62	54.00	9.38	H	20.1
16645.000000	45.11	54.00	8.89	V	21.9
17697.000000	44.75	54.00	9.25	H	23.1

802.11n HT40 CH134

Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
13928.000000	53.46	68.20	14.74	V	17.3
14543.500000	54.52	68.20	13.68	V	17.9
15147.000000	54.01	68.20	14.19	H	18.4
16253.000000	55.77	68.20	12.43	H	21.0
16612.500000	57.57	68.20	10.63	H	22.2
17691.500000	56.92	68.20	11.28	V	23.0

Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
13961.000000	41.58	54.00	12.42	H	17.1
14536.000000	41.78	54.00	12.22	H	17.9
15576.500000	43.19	54.00	10.81	H	19.6
15657.500000	44.70	54.00	9.30	V	20.1
16637.500000	45.12	54.00	8.88	V	21.9
17700.000000	44.96	54.00	9.04	H	23.2

802.11n HT40 CH159

Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
13978.000000	53.53	68.20	14.67	H	17.0
14532.500000	54.16	68.20	14.04	V	17.9
15044.500000	54.65	68.20	13.55	V	18.1
16259.000000	55.73	68.20	12.47	V	21.0
16611.500000	57.42	68.20	10.78	H	22.2
17684.500000	55.97	68.20	12.23	V	22.9

Frequency (MHz)	Max Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
13957.000000	41.36	54.00	12.64	V	17.1
14532.000000	41.78	54.00	12.22	V	17.9
15565.500000	43.17	54.00	10.83	V	19.5
15660.500000	44.73	54.00	9.27	V	20.1
16644.500000	45.32	54.00	8.68	V	21.9
17700.000000	44.72	54.00	9.28	H	23.2

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} + Cable Loss + Antenna Factor

A.9. Radiated Spurious Emissions < 30MHz

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

Frequency (MHz)	Field strength (μV/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 Result:

Channel	Frequency Range	Test Results	Conclusion
All Channel	9 kHz ~ 30 MHz	Fig.74	P

Conclusion: PASS

Test graphs as below:

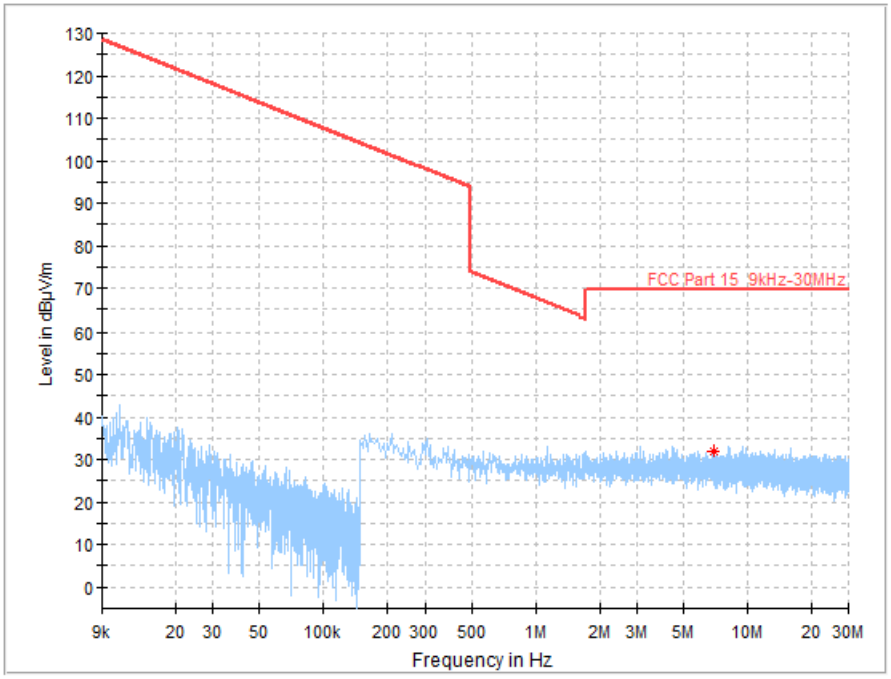


Fig. 74 Radiated Spurious Emission (All Channel, 9 kHz ~ 30 MHz)

A.10. AC Power Line Conducted Emission

Test Condition:

Voltage(V)	Frequency(Hz)
120	60

Measurement Result and limit:

RLAN (Quasi-peak Limit) - AE2

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		Traffic	Idle	
0.15 to 0.5	66 to 56	Fig.75	Fig.76	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.				

RLAN (Average Limit) - AE2

Frequency range (MHz)	Average-peak Limit (dBμV)	Result (dBμV)		Conclusion
		Traffic	Idle	
0.15 to 0.5	56 to 46	Fig.75	Fig.76	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.				

RLAN (Quasi-peak Limit) - AE3

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		Traffic	Idle	
0.15 to 0.5	66 to 56	Fig.77	Fig.78	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.				

RLAN (Average Limit) - AE3

Frequency range (MHz)	Average-peak Limit (dBμV)	Result (dBμV)		Conclusion
		Traffic	Idle	
0.15 to 0.5	56 to 46	Fig.77	Fig.78	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 Result and limit:

RLAN (Quasi-peak Limit) - AE2

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		Traffic	Idle	
0.15 to 0.5	66 to 56	Fig.79	Fig.80	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.				

RLAN (Average Limit) - AE2

Frequency range (MHz)	Average-peak Limit (dBμV)	Result (dBμV)		Conclusion
		Traffic	Idle	
0.15 to 0.5	56 to 46	Fig.79	Fig.80	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.				

RLAN (Quasi-peak Limit) - AE3

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		Traffic	Idle	
0.15 to 0.5	66 to 56	Fig.81	Fig.82	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.				

RLAN (Average Limit) - AE3

Frequency range (MHz)	Average-peak Limit (dBμV)	Result (dBμV)		Conclusion
		Traffic	Idle	
0.15 to 0.5	56 to 46	Fig.81	Fig.82	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.				

Note: The measurement results include the L1 and N measurements.

Conclusion: PASS

Test graphs as below:

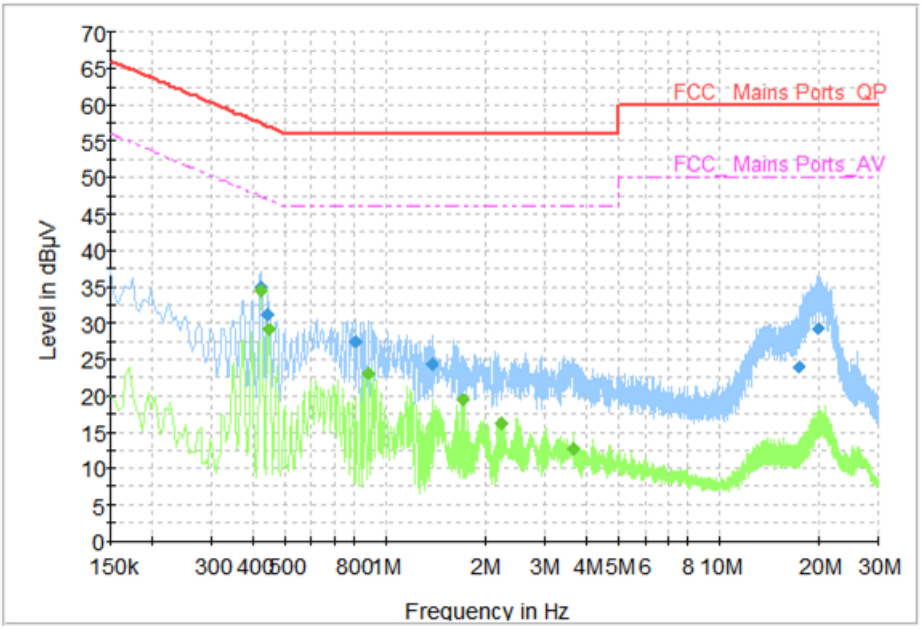


Fig. 75 AC Power line Conducted Emission (Traffic, AE2, 120V)

Measurement Result: Quasi Peak

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.422000	34.83	57.41	22.58	L1	ON	9.7
0.442000	31.23	57.02	25.79	L1	ON	9.7
0.814000	27.55	56.00	28.45	N	ON	9.7
1.378000	24.38	56.00	31.62	L1	ON	9.7
17.370000	24.03	60.00	35.97	N	ON	10.2
19.806000	29.31	60.00	30.69	N	ON	10.4

Measurement Result: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.422000	34.33	47.41	13.08	L1	ON	9.7
0.446000	29.15	46.95	17.80	L1	ON	9.7
0.890000	23.16	46.00	22.84	L1	ON	9.7
1.706000	19.37	46.00	26.63	L1	ON	9.7
2.222000	16.30	46.00	29.70	L1	ON	9.7
3.650000	12.68	46.00	33.32	N	ON	9.7

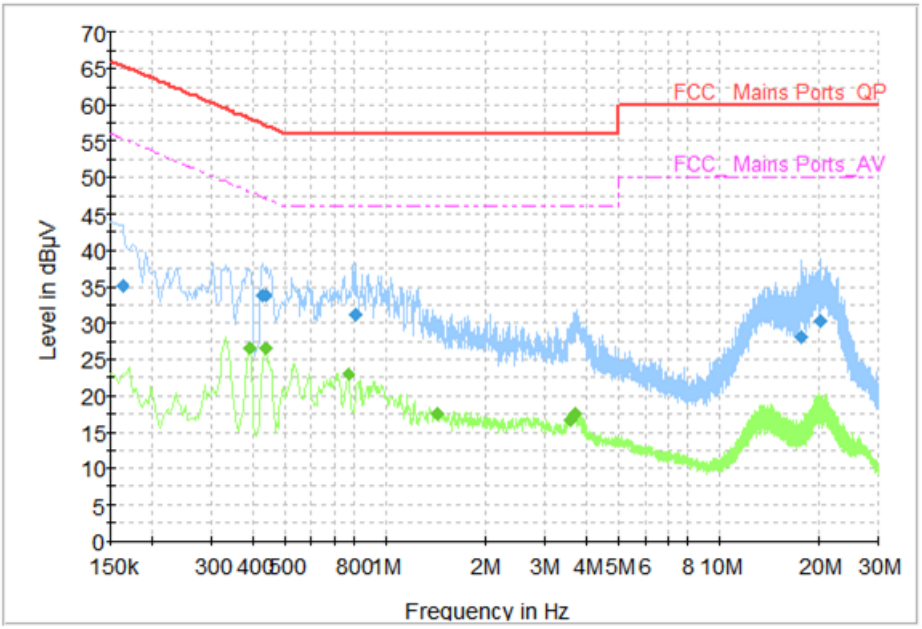


Fig. 76 AC Power line Conducted Emission (Idle, AE2, 120V)

Measurement Result: Quasi Peak

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.162000	35.16	65.36	30.20	N	ON	9.6
0.426000	33.79	57.33	23.54	N	ON	9.7
0.434000	33.87	57.18	23.30	N	ON	9.7
0.814000	31.19	56.00	24.81	N	ON	9.7
17.606000	28.02	60.00	31.98	N	ON	10.2
20.154000	30.30	60.00	29.70	N	ON	10.4

Measurement Result: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.390000	26.67	48.06	21.39	L1	ON	9.7
0.438000	26.38	47.10	20.72	N	ON	9.7
0.774000	22.99	46.00	23.01	N	ON	9.7
1.418000	17.53	46.00	28.47	L1	ON	9.7
3.578000	16.60	46.00	29.40	N	ON	9.7
3.698000	17.52	46.00	28.48	N	ON	9.7

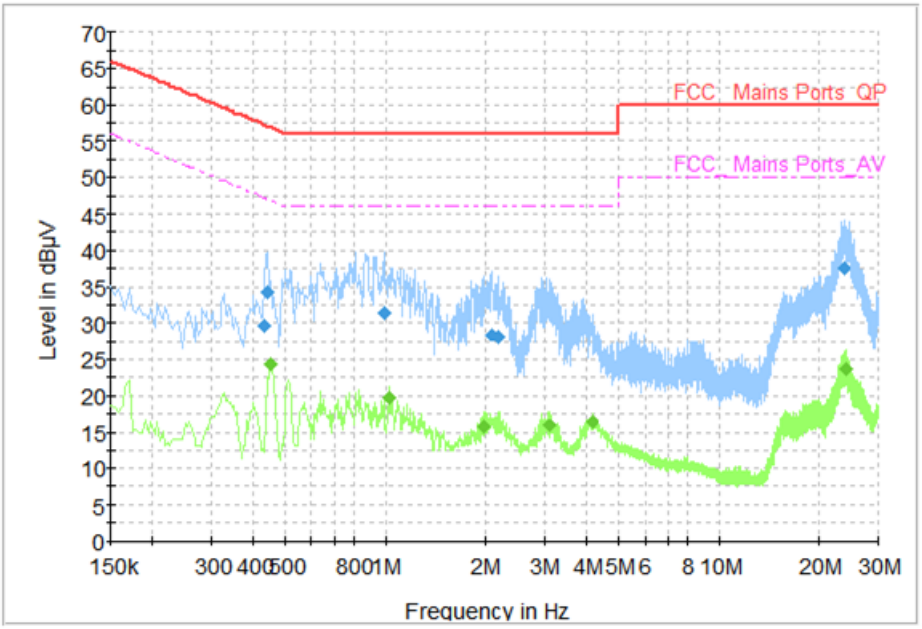


Fig. 77 AC Power line Conducted Emission (Traffic, AE3, 120V)

Measurement Result: Quasi Peak

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.430000	29.55	57.25	27.71	N	ON	9.7
0.442000	34.15	57.02	22.87	N	ON	9.7
0.990000	31.38	56.00	24.62	N	ON	9.7
2.086000	28.46	56.00	27.54	N	ON	9.7
2.174000	28.04	56.00	27.96	N	ON	9.7
23.682000	37.51	60.00	22.49	N	ON	10.3

Measurement Result: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.450000	24.33	46.88	22.54	L1	ON	9.7
1.026000	19.66	46.00	26.34	N	ON	9.7
1.970000	15.78	46.00	30.22	N	ON	9.7
3.110000	15.90	46.00	30.10	N	ON	9.7
4.146000	16.37	46.00	29.63	L1	ON	9.7
24.122000	23.66	50.00	26.34	N	ON	10.3

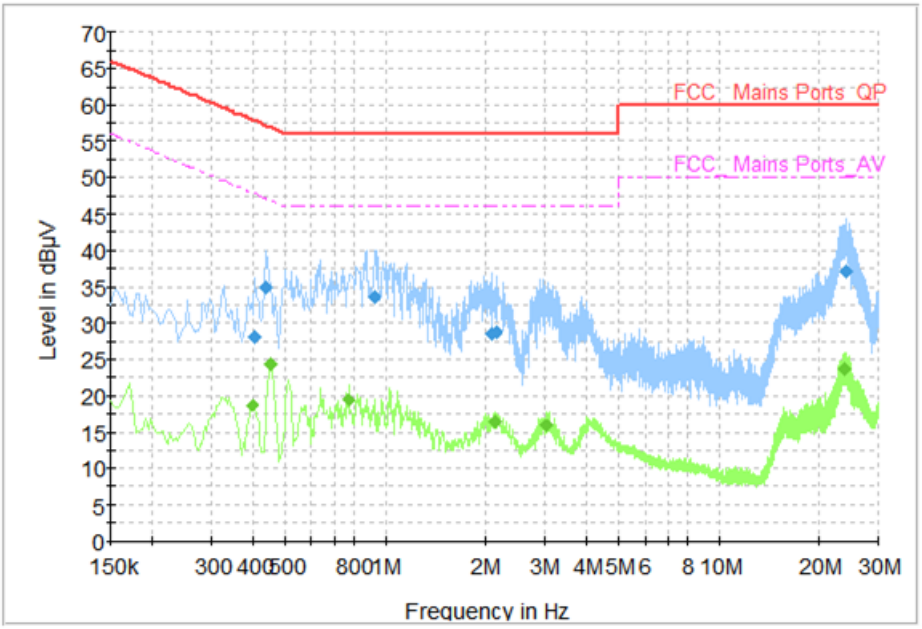


Fig. 78 AC Power line Conducted Emission (Idle, AE3, 120V)

Measurement Result: Quasi Peak

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.406000	28.10	57.73	29.63	N	ON	9.7
0.438000	34.93	57.10	22.17	N	ON	9.7
0.922000	33.45	56.00	22.55	N	ON	9.7
2.086000	28.57	56.00	27.43	N	ON	9.7
2.142000	28.73	56.00	27.27	N	ON	9.7
24.146000	37.00	60.00	23.00	N	ON	10.3

Measurement Result: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.398000	18.70	47.90	29.20	L1	ON	9.7
0.450000	24.37	46.88	22.51	L1	ON	9.7
0.770000	19.41	46.00	26.59	N	ON	9.7
2.114000	16.48	46.00	29.52	N	ON	9.7
3.030000	15.89	46.00	30.11	N	ON	9.7
23.802000	23.71	50.00	26.29	N	ON	10.3

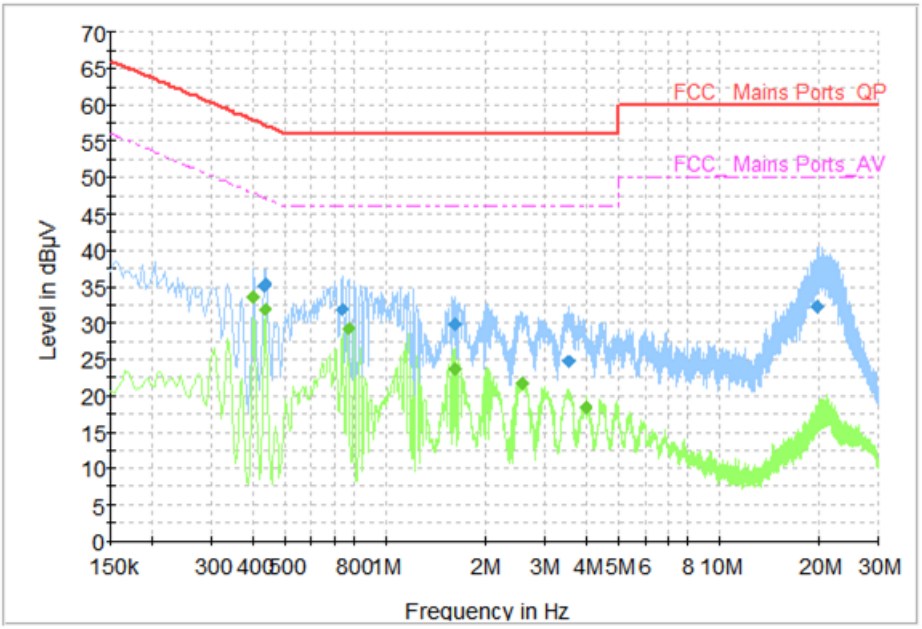


Fig. 79 AC Power line Conducted Emission (Traffic, AE2, 240V)

Measurement Result: Quasi Peak

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.430000	35.14	57.25	22.11	L1	ON	9.7
0.434000	35.19	57.18	21.99	L1	ON	9.7
0.738000	31.85	56.00	24.15	L1	ON	9.7
1.606000	29.86	56.00	26.14	L1	ON	9.7
3.558000	24.74	56.00	31.26	N	ON	9.7
19.690000	32.33	60.00	27.67	N	ON	10.4

Measurement Result: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.402000	33.58	47.81	14.23	L1	ON	9.7
0.434000	31.91	47.18	15.26	L1	ON	9.7
0.770000	29.21	46.00	16.79	L1	ON	9.7
1.606000	23.56	46.00	22.44	L1	ON	9.7
2.586000	21.70	46.00	24.30	L1	ON	9.7
3.978000	18.38	46.00	27.62	L1	ON	9.7

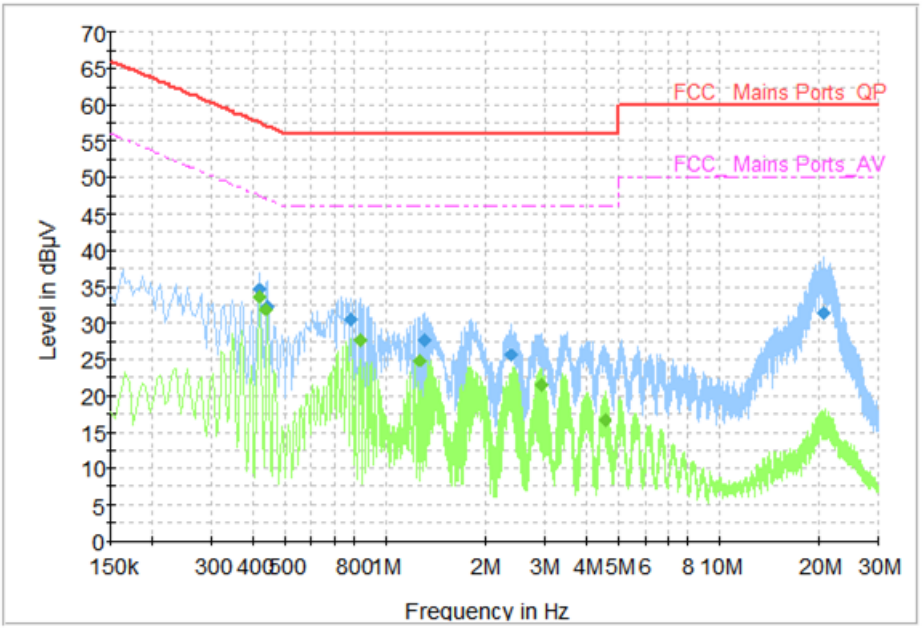


Fig. 80 AC Power line Conducted Emission (Idle, AE2, 240V)

Measurement Result: Quasi Peak

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.418000	34.54	57.49	22.94	L1	ON	9.7
0.442000	32.28	57.02	24.75	L1	ON	9.7
0.786000	30.59	56.00	25.41	L1	ON	9.7
1.298000	27.72	56.00	28.28	L1	ON	9.7
2.382000	25.53	56.00	30.47	L1	ON	9.7
20.422000	31.33	60.00	28.67	N	ON	10.4

Measurement Result: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.418000	33.62	47.49	13.87	L1	ON	9.7
0.438000	31.88	47.10	15.22	L1	ON	9.7
0.834000	27.76	46.00	18.24	L1	ON	9.7
1.274000	24.93	46.00	21.07	L1	ON	9.7
2.938000	21.53	46.00	24.47	L1	ON	9.7
4.558000	16.54	46.00	29.46	L1	ON	9.8

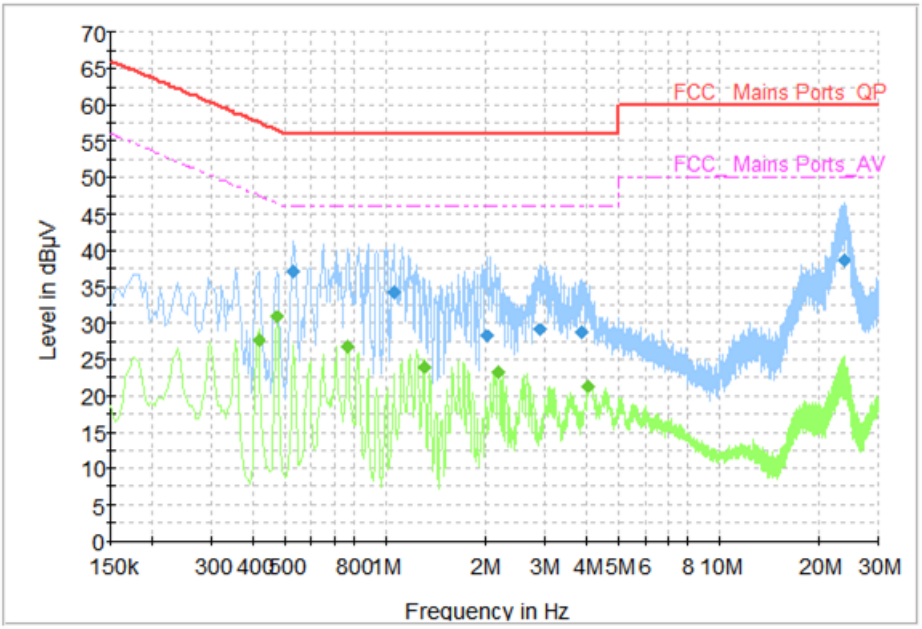


Fig. 81 AC Power line Conducted Emission (Traffic, AE3, 240V)

Measurement Result: Quasi Peak

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.530000	37.03	56.00	18.97	N	ON	9.7
1.062000	34.22	56.00	21.78	N	ON	9.7
2.014000	28.15	56.00	27.85	N	ON	9.7
2.894000	29.13	56.00	26.87	N	ON	9.7
3.882000	28.81	56.00	27.19	N	ON	9.7
23.594000	38.68	60.00	21.32	N	ON	10.3

Measurement Result: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.414000	27.64	47.57	19.92	L1	ON	9.7
0.470000	30.79	46.51	15.73	L1	ON	9.7
0.766000	26.84	46.00	19.16	L1	ON	9.7
1.298000	24.04	46.00	21.96	L1	ON	9.7
2.178000	23.36	46.00	22.64	L1	ON	9.7
4.054000	21.29	46.00	24.71	L1	ON	9.7

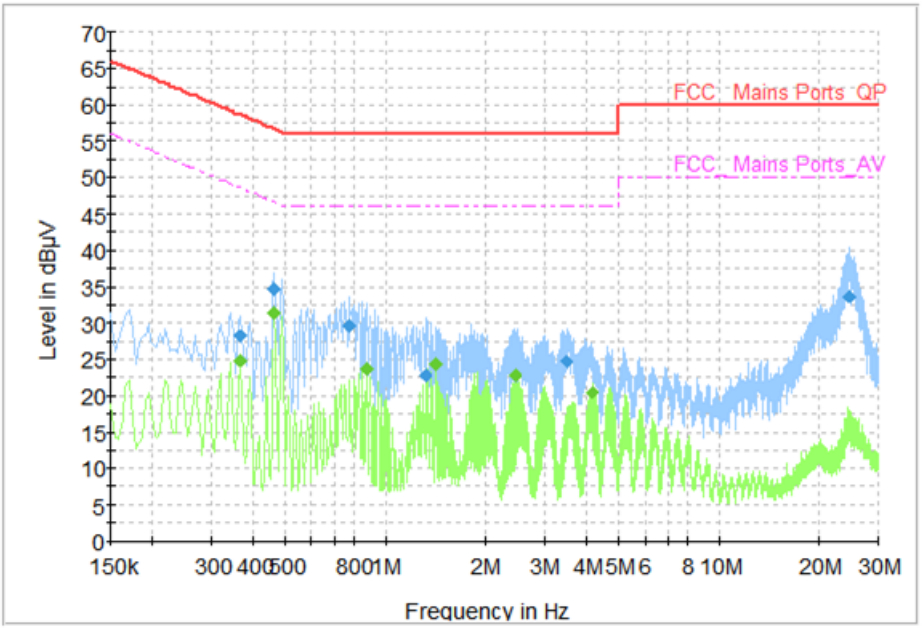


Fig. 82 AC Power line Conducted Emission (Idle, AE3, 240V)

Measurement Result: Quasi Peak

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.366000	28.26	58.59	30.33	N	ON	9.6
0.462000	34.71	56.66	21.94	N	ON	9.7
0.778000	29.68	56.00	26.32	N	ON	9.7
1.318000	22.73	56.00	33.27	N	ON	9.7
3.494000	24.76	56.00	31.24	N	ON	9.7
24.382000	33.65	60.00	26.35	N	ON	10.3

Measurement Result: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.366000	24.87	48.59	23.72	L1	ON	9.7
0.462000	31.38	46.66	15.28	L1	ON	9.7
0.874000	23.63	46.00	22.37	L1	ON	9.7
1.410000	24.29	46.00	21.71	L1	ON	9.7
2.454000	22.75	46.00	23.25	L1	ON	9.7
4.178000	20.44	46.00	25.56	L1	ON	9.7

A.11. 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 Condition:

T min = -18˚C T nom = 25˚C T max = 60˚C
V min = 3.4V V nom = 3.85V V max = 4.4V

Measurement Result:

Mode	Channel	Condition		Frequency	Conclusion
802.11a	5180 MHz (CH36)	T nom	V nom	5179.9831	P
		T max	V nom	5179.9853	P
		T min	V nom	5179.9845	P
		T nom	V max	5179.9831	P
		T nom	V min	5179.9773	P
802.11n HT40	5190 MHz (CH38)	T nom	V nom	5189.9131	P
		T max	V nom	5189.9638	P
		T min	V nom	5189.9684	P
		T nom	V max	5189.9658	P
		T nom	V min	5189.9652	P

A.12. 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** ***