



FCC PART 15C TEST REPORT No.I19Z61344-IOT04

for

Client name:OnePlus Technology (Shenzhen) Co., Ltd.

Product name:Smart Phone

Model name:HD1925

With

FCC ID: 2ABZ2-EE143

Hardware Version: 46

Software Version: Oxygen OS 10.0.HD61CB

Issued Date: 2019-11-03

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.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S.Government.

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
I19Z61344-IOT04	Rev.0	1st edition	2019-10-24
I19Z61344-IOT04	Rev.1	Update About EUT in page 7; Update Reference Documents for testing in page 8; Update Voltage; Add the results of 11a(Ant0+Ant1).	2019-11-03

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1. TEST LABORATORY

1.1. Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2005 accredited test laboratory under NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NVLAP) with lab code 600118-0, and is also an FCC accredited test laboratory (CN5017), and ISED accredited test laboratory (CN0066). The detail accreditation scope can be found on NVLAP website.

1.2. Testing Location

Conducted testing Location: CTTL(huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing,
P. R. China100191

Radiated testing Location: CTTL(huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing,
P. R. China100191

Radiated testing Location: CTTL(BDA)

Address: No.18A, Kangding Street, Beijing Economic-Technology
Development Area, Beijing, P. R. China 100176

1.3. Testing Environment

Normal Temperature: 15-35°C

Relative Humidity: 20-75%

1.4. Project date

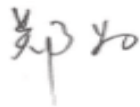
Testing Start Date: 2019-09-15

Testing End Date: 2019-10-24

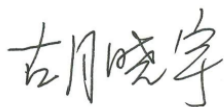
1.5. Signature



Xie Fangfang
(Prepared this test report)



Zheng Wei
(Reviewed this test report)



Hu Xiaoyu
(Approved this test report)



2. Client Information

2.1.Applicant Information

Company Name: OnePlus Technology (shenzhen) Co., Ltd
Address: 18C02, 18C03, 18C04 and 18C05, Shum Yip Terra Building, Binhe Avenue North, Futian District, Shenzhen
City: Shenzhen
Postal Code: /
Country: China
Telephone: 13823398081
Fax: /

2.2.Manufacturer Information

Company Name: OnePlus Technology (shenzhen) Co., Ltd
Address: 18C02, 18C03, 18C04 and 18C05, Shum Yip Terra Building, Binhe Avenue North, Futian District, Shenzhen
City: Shenzhen
Postal Code: /
Country: China
Telephone: 13823398081
Fax: /

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

3.1. About EUT

Description	Smart Phone		
Model name	HD1925		
FCC ID	2ABZ2-EE143		
WLAN Frequency Range	ISM Band: 5725MHz~5850MHz		
Antenna type	PIFA		
Antenna0 Gain	-4.00dBi		
Antenna1 Gain	-4.00dBi		
Type of modulation	OFDM		
Voltage	3.87V		
Antenna Function Description	802.11a/n/ac MIMO	Ant0	Ant1

Note:The 5.8G WLAN can transmit in MIMO antenna mode only and it has no SISO antenna mode.

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
EUT3	990013820049927	46	Oxygen OS 10.0.HD61CB
EUT2	990013820050545	46	Oxygen OS 10.0.HD61CB

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

3.3. Internal Identification of AE used during the test

AE ID*	Description	Type	SN
AE1	Battery	/	Inbuilt
AE2	Charger	/	CH007/008
AE3	USB Cable	/	/
AE4	Charger	/	CH019/021

AE1

Model	BLP745
Manufacturer	Sunwoda Electronic Co.,Ltd.
Capacitance	4010mAh
Nominal voltage	3.87V

AE2

Model	WC0506A5HK
Manufacturer	SHENZHEN HUNTKEY ELECTRIC CO.,LTD.
Length of cable	/

AE3

Model	/
Manufacturer	/



Length of cable	/
AE4	
Model	WC0506A52GB
Manufacturer	/
Length of cable	/

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

3.4. EUT set-ups

EUT set-up No.	Combination of EUT and AE	Remarks
Set.11	EUT3+ AE1+ AE2+ AE3	BT & WIFI
Set.12	EUT3+ AE1+ AE3+ AE4	ADD Charger

3.5. General Description

Equipment Under Test (EUT) is a model of Smart Phone with integrated antenna. It consists of normal options: Battery and Charger.

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

Samples undergoing test were 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.

	FCC CFR 47, Part 15, Subpart C and E:	
FCC Part15	15.205 Restricted bands of operation; 15.209 Radiated emission limits, general requirements; 15.407 General technical requirements	2018
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	2013
UNII: KDB 789033 D02	General U-NII Test Procedures New Rules v02r01	2017-12
KDB 662911	Federal Communications Commission Office of Engineering and Technology Laboratory Division Emissions Testing of Transmitters with Multiple Outputs in the Same Band	2013
KDB 558074 D01	Federal Communications Commission Office of Engineering and Technology Laboratory Division GUIDANCE FOR COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEM, FREQUENCY HOPPING SPREAD SPECTRUM SYSTEM, AND HYBRID SYSTEM DEVICES OPERATING UNDER SECTION 15.247 OF THE FCC RULES	2019

5. LABORATORY ENVIRONMENT

Conducted RF performance testing is performed in shielding room.

EMC performance testing is performed in Semi-anechoic chamber.

6. SUMMARY OF TEST RESULTS

6.1. Summary of Test Results

SUMMARY OF MEASUREMENT RESULTS	Sub-clause of Part15C	Sub-clause of IC	Verdict
Maximum Peak Output Power	15.407 (a)	/	P
Peak Power Spectral Density	15.407 (a)	/	P
Occupied 6dB Bandwidth	15.407 (e)	/	P
Band Edges Compliance	15.407 (b)	/	P
Transmitter Spurious Emission - Conducted	15.407	/	P
Transmitter Spurious Emission - Radiated	15.407, 15.205, 15.209	/	P
AC Powerline Conducted Emission	15.107, 15.207	/	P
Transmitter Spurious Emission - Radiated < 30MHz	15.407, 15.209	/	P

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

Terms used in Verdict column

P	Pass, The EUT complies with the essential requirements in the standard.
NM	Not measured, The test was not measured by CTTL
NA	Not Applicable, The test was not applicable
F	Fail, The EUT does not comply with the essential requirements in the standard

6.2. Statements

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

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

6.3. Test Conditions

For this report, all the test cases are tested under normal temperature and normal voltage, and also under norm humidity, the specific condition is shown as follows:

Temperature	26°C
Voltage	3.87V
Humidity	44%

7. TEST EQUIPMENTS UTILIZED

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Vector Signal Analyzer	FSQ40	200089	Rohde & Schwarz	1 year	2020-05-15
2	LISN	ENV216	101200	Rohde & Schwarz	1 year	2020-03-14
3	Test Receiver	ESCI	100344	Rohde & Schwarz	1 year	2020-02-14
4	Shielding Room	S81	/	ETS-Lindgren	/	/

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Test Receiver	ESU26	100235	Rohde & Schwarz	1 year	2020-03-01
2	BiLog Antenna	VULB9163	9163-1222	Schwarzbeck	1 year	2020-03-14
3	Dual-Ridge Waveguide Horn Antenna	3115	6914	ETS-Lindgren	1year	2020-01-03
4	EMI Antenna	3116	2661	ETS-Lindgren	1 Year	2020-10-14
5	Vector Signal Analyzer	FSV40	101047	Rohde & Schwarz	1 year	2020-05-16

8. Measurement Uncertainty

8.1. Transmitter Output Power

Measurement Uncertainty: 0.387dB,k=1.96

8.2. Peak Power Spectral Density

Measurement Uncertainty: 0.705dB,k=1.96

8.3. Occupied 6dB Bandwidth

Measurement Uncertainty: 60.80Hz,k=1.96

8.4. Band Edges Compliance

Measurement Uncertainty : 0.62dB,k=1.96

8.5. Spurious Emissions

Conducted (k=1.96)

Frequency Range	Uncertainty(dB)
$30\text{MHz} \leq f \leq 2\text{GHz}$	1.22
$2\text{GHz} \leq f \leq 3.6\text{GHz}$	1.22
$3.6\text{GHz} \leq f \leq 8\text{GHz}$	1.22
$8\text{GHz} \leq f \leq 12.75\text{GHz}$	1.51
$12.75\text{GHz} \leq f \leq 26\text{GHz}$	1.51
$26\text{GHz} \leq f \leq 40\text{GHz}$	1.59

Radiated (k=2)

Frequency Range	Uncertainty(dB)
9kHz-30MHz	/
$30\text{MHz} \leq f \leq 1\text{GHz}$	5.40
$1\text{GHz} \leq f \leq 18\text{GHz}$	4.32
$18\text{GHz} \leq f \leq 40\text{GHz}$	5.26

8.6. AC Power-line Conducted Emission

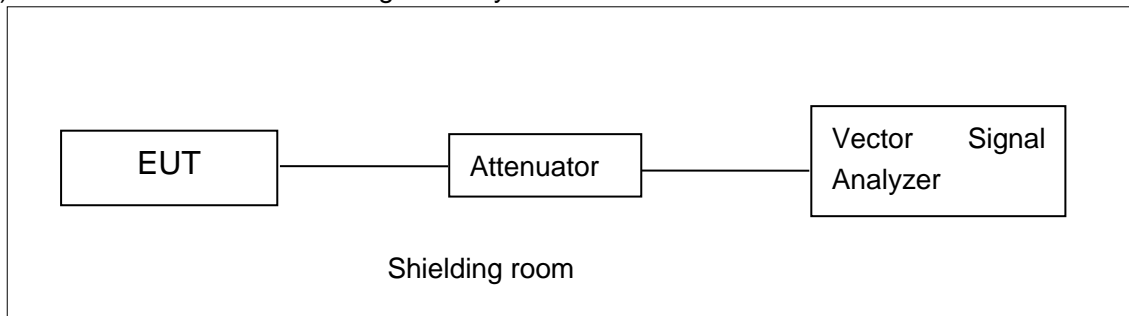
Measurement Uncertainty : 3.08dB,k=2

ANNEX A: MEASUREMENT RESULTS

A.1. Measurement Method

A.1.1. Conducted Measurements

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

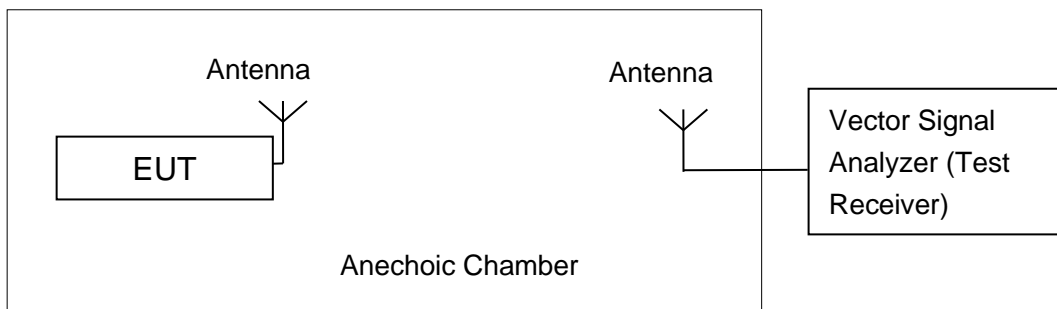


A.1.2. Radiated Emission Measurements

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

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

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



The measurement is made according to ANSI C63.10.

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 Peak Output Power

Measurement Limit and Method:

Standard	Limit (dBm)
FCC CRF Part 15.407(a)	< 30

A.2.2. Maximum Peak Output Power-conducted

Measurement Results:

Ant0+Ant1:

Mode	Data Rate (Mbps)	Test Result (dBm)		
		5745MHz (Ch149)	5785MHz (Ch157)	5825MHz (Ch165)
802.11a	6	26.65	/	/
	9	26.68	/	/
	12	25.78	/	/
	18	26.44	/	/
	24	26.40	/	/
	36	26.89	27.10	26.58
	48	26.31	/	/
	54	26.45	/	/

The data rate 36Mbps is selected as worse condition, and the following cases are performed with this condition.

Mode	Data Rate (Index)	Test Result (dBm)		
		5745MHz (Ch149)	5785MHz (Ch157)	5825MHz (Ch165)
802.11n (20MHz)	MCS8	28.60	/	/
	MCS9	28.71	28.76	28.27
	MCS10	28.28	/	/
	MCS11	28.54	/	/
	MCS12	28.70	/	/
	MCS13	26.70	/	/
	MCS14	26.07	/	/
	MCS15	24.80	/	/

The data rate MCS9 is selected as worse condition, and the following cases are performed with this condition.

Mode	Data Rate (Index)	Test Result (dBm)		
		5745MHz (Ch149)	5785MHz (Ch157)	5825MHz (Ch165)
802.11ac (20MHz)	MCS9	28.65	28.60	28.14
	MCS10	28.42	/	/
	MCS11	28.35	/	/
	MCS12	28.57	/	/

	MCS13	28.56	/	/
	MCS14	26.53	/	/
	MCS15	25.60	/	/
	MCS16	24.74	/	/
	MCS17	24.30	/	/

The data rate MCS9 is selected as worse condition, and the following cases are performed with this condition.

Mode	Data Rate (Index)	Test Result (dBm)	
		5755MHz (Ch151)	5795MHz (Ch159)
802.11n (40MHz)	MCS8	28.29	/
	MCS9	28.24	/
	MCS10	28.24	/
	MCS11	28.50	/
	MCS12	28.52	28.60
	MCS13	26.34	/
	MCS14	25.91	/
	MCS15	24.32	/

The data rate MCS12 is selected as worse condition, and the following cases are performed with this condition.

Mode	Data Rate (Index)	Test Result (dBm)	
		5755MHz (Ch151)	5795MHz (Ch159)
802.11ac (40MHz)	MCS10	28.52	28.50
	MCS11	28.24	/
	MCS12	28.27	/
	MCS13	28.32	/
	MCS14	28.45	/
	MCS15	26.48	/
	MCS16	25.40	/
	MCS17	24.62	/
	MCS18	24.69	/
	MCS19	23.29	/

The data rate MCS10 is selected as worse condition, and the following cases are performed with this condition.

Mode	Data Rate (Index)	Test Result (dBm)
		5775MHz (Ch155)
802.11ac (80MHz)	MCS10	27.57
	MCS11	27.48

	MCS12	27.32
	MCS13	26.44
	MCS14	26.09
	MCS15	26.37
	MCS16	25.67
	MCS17	24.48
	MCS18	24.47
	MCS19	23.35

The data rate MCS10 is selected as worse condition, and the following cases are performed with this condition.

5GHz Band									
Mode	Date Rate	Chnanel	Freq.(MHz)	Peak Conducted Power (dBm)			Peak Conducted Power Limit (dBm)		Pass/Fail
				Ant0	Ant1	SUM	Ant0	Ant1	
11a	36Mbps	149	5745 MHz	23.67	24.08	26.89	30.00		Pass
11a	36Mbps	157	5785 MHz	24.02	24.16	27.10	30.00		Pass
11a	36Mbps	165	5825 MHz	23.83	23.29	26.58	30.00		Pass
11n-20	MCS9	149	5745 MHz	24.69	26.52	28.71	30.00		Pass
11n-20	MCS9	157	5785 MHz	24.59	26.66	28.76	30.00		Pass
11n-20	MCS9	165	5825 MHz	24.39	25.98	28.27	30.00		Pass
11ac-20	MCS9	149	5745 MHz	24.83	26.32	28.65	30.00		Pass
11ac-20	MCS9	157	5785 MHz	24.67	26.35	28.60	30.00		Pass
11ac-20	MCS9	165	5825 MHz	24.75	25.48	28.14	30.00		Pass
11n-40	MCS12	151	5755 MHz	24.95	26.01	28.52	30.00		Pass
11n-40	MCS12	159	5795 MHz	24.62	26.38	28.60	30.00		Pass
11ac-40	MCS10	151	5825 MHz	25.03	25.94	28.52	30.00		Pass
11ac-40	MCS10	159	5745 MHz	25.01	25.92	28.50	30.00		Pass
11ac-80	MCS10	159	5775 MHz	25.38	23.55	27.57	30.00		Pass

Conclusion: PASS

A.2.3. Maximum Average Output Power-Conducted

Method of Measurement: See ANSI C63.10-clause 12.3.2.2 Method SA-1

Duty Cycle:

11a	6	9	12	18	24	36	48	54		
	98.00%	97.39%	97.03%	96.57%	95.41%	94.00%	91.00%	88.46%		
11n-20	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7		
	98.17%	96.46%	94.62%	93.41%	90.72%	88.31%	87.32%	85.71%		
11n-40	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7		
	96.34%	93.17%	90.19%	88.04%	83.93%	80.85%	79.55%	78.05%		
11ac-20	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	
	97.92%	96.49%	94.66%	93.49%	90.84%	88.61%	87.50%	86.57%	84.75%	
11ac-40	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
	96.36%	93.25%	90.55%	88.16%	84.21%	81.25%	80.00%	78.57%	76.32%	75.68%
11ac-80	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
	92.79%	87.46%	83.18%	80.00%	75.68%	73.48%	70.97%	70.00%	67.86%	66.67%

Ant0+Ant1:

5GHz Band						
Mode	Channel	Freq.(MHz)	Average Conducted Power (dBm)			Pass/Fail
			Ant0	Ant1	SUM	
11a	149	5745 MHz	15.31	15.65	18.50	Pass
11a	157	5785 MHz	15.51	16.00	18.77	Pass
11a	165	5825 MHz	15.33	15.19	18.27	Pass
11n-20	149	5745 MHz	16.52	15.85	19.21	Pass
11n-20	157	5785 MHz	16.21	15.40	18.84	Pass
11n-20	165	5825 MHz	16.42	15.34	18.93	Pass
11ac-20	149	5745 MHz	16.59	15.97	19.30	Pass
11ac-20	157	5785 MHz	16.39	16.15	19.28	Pass
11ac-20	165	5825 MHz	16.23	15.55	18.91	Pass
11n-40	151	5755 MHz	16.42	15.63	19.06	Pass
11n-40	159	5795 MHz	16.29	15.46	18.91	Pass
11ac-40	151	5825 MHz	16.82	15.59	19.26	Pass
11ac-40	159	5745 MHz	16.52	15.74	19.16	Pass
11ac-80	159	5775 MHz	15.75	15.53	18.65	Pass

Conclusion: PASS

A.3. Peak Power Spectral Density

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.407(a)	< 30 dBm/500 kHz

The measurement is made according to ANSI C63.10 and KDB789033 D02

Measurement Uncertainty:

Measurement Uncertainty	0.75dB
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Measurement Results:

Ant0+Ant1:

5GHz Band									
Mode	Data Rate	Channel	Freq.(MHz)	Peak Power Spectral Density (dBm/500 kHz)			Peak Power Spectral Density Limit (dBm/500 kHz)		Pass/Fail
				Ant0	Ant1	SUM	Ant0	Ant1	
11a	36Mbps	149	5745 MHz	4.51	5.08	7.81	30.00		Pass
11a	36Mbps	157	5785 MHz	5.02	5.46	8.26	30.00		Pass
11a	36Mbps	165	5825 MHz	4.65	4.50	7.59	30.00		Pass
11n-20	MCS9	149	5745 MHz	6.21	6.53	9.38	30.00		Pass
11n-20	MCS9	157	5785 MHz	6.19	6.52	9.37	30.00		Pass
11n-20	MCS9	165	5825 MHz	5.94	5.77	8.87	30.00		Pass
11ac-20	MCS9	149	5745 MHz	6.32	5.83	9.40	30.00		Pass
11ac-20	MCS9	157	5785 MHz	5.98	5.14	8.92	30.00		Pass
11ac-20	MCS9	165	5825 MHz	6.04	5.83	8.62	30.00		Pass
11n-40	MCS12	151	5755 MHz	2.27	2.73	5.52	30.00		Pass
11n-40	MCS12	159	5795 MHz	2.54	2.58	5.57	30.00		Pass
11ac-40	MCS10	151	5825 MHz	2.06	2.50	5.30	30.00		Pass
11ac-40	MCS10	159	5745 MHz	2.49	2.51	5.51	30.00		Pass
11ac-80	MCS10	159	5775 MHz	-0.77	-1.05	2.10	30.00		Pass

Conclusion: PASS

A.4. Occupied 6dB Bandwidth

Measurement Limit:

Standard	Limit (kHz)
FCC 47 CFR Part 15.407 (e)	≥ 500

The measurement is made according to KDB789033 D02 .

Measurement Uncertainty:

Measurement Uncertainty	60.80Hz
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Measurement Result:

The Ant0 is selected as worse condition of Ant0+Ant1.

Mode	Channel	Occupied 6dB Bandwidth (MHz)		conclusion
		Fig.	Value	
802.11a	149	Fig.1	15.90	P
	157	Fig.2	15.45	P
	165	Fig.3	15.35	P
802.11n HT20	149	Fig.4	17.30	P
	157	Fig.5	17.25	P
	165	Fig.6	17.00	P
802.11ac HT20	149	Fig.7	17.55	P
	157	Fig.8	17.25	P
	165	Fig.9	17.35	P
802.11n HT40	151	Fig.10	35.68	P
	159	Fig.11	35.32	P
802.11ac HT40	151	Fig.12	35.68	P
	159	Fig.13	36.32	P
802.11ac HT80	155	Fig.14	75.20	P

Conclusion: PASS

Test graphs as below:

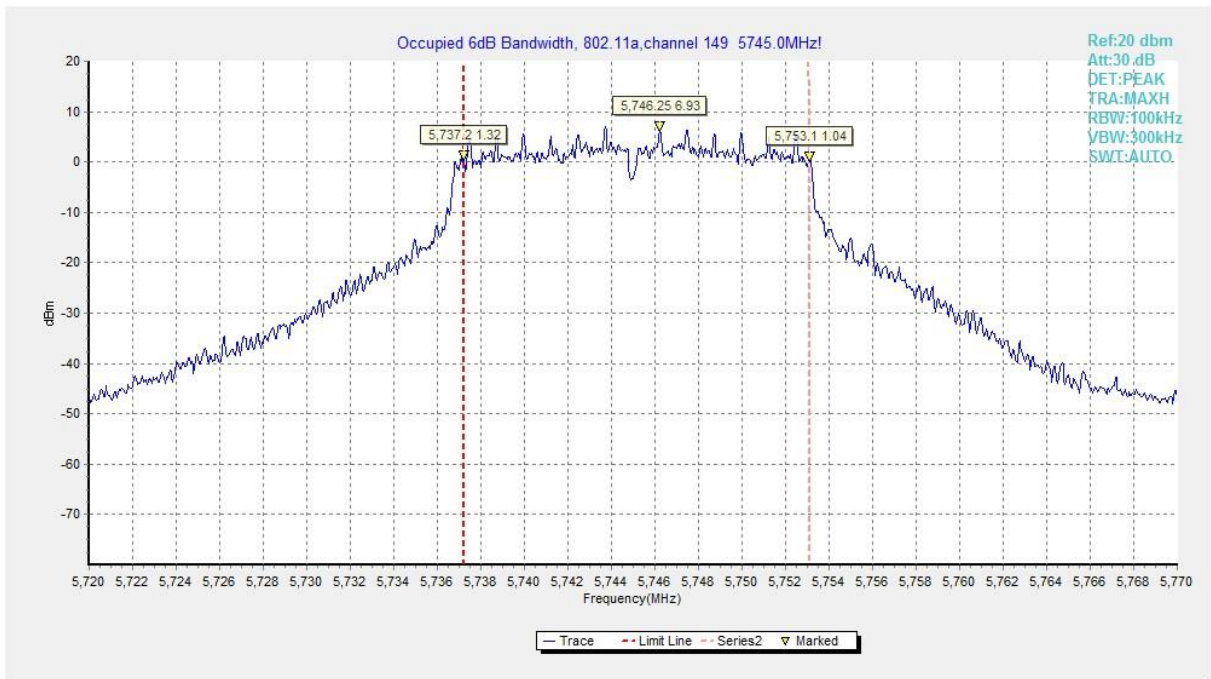


Fig. 1 Occupied 6dB Bandwidth (802.11a, Ch 149)

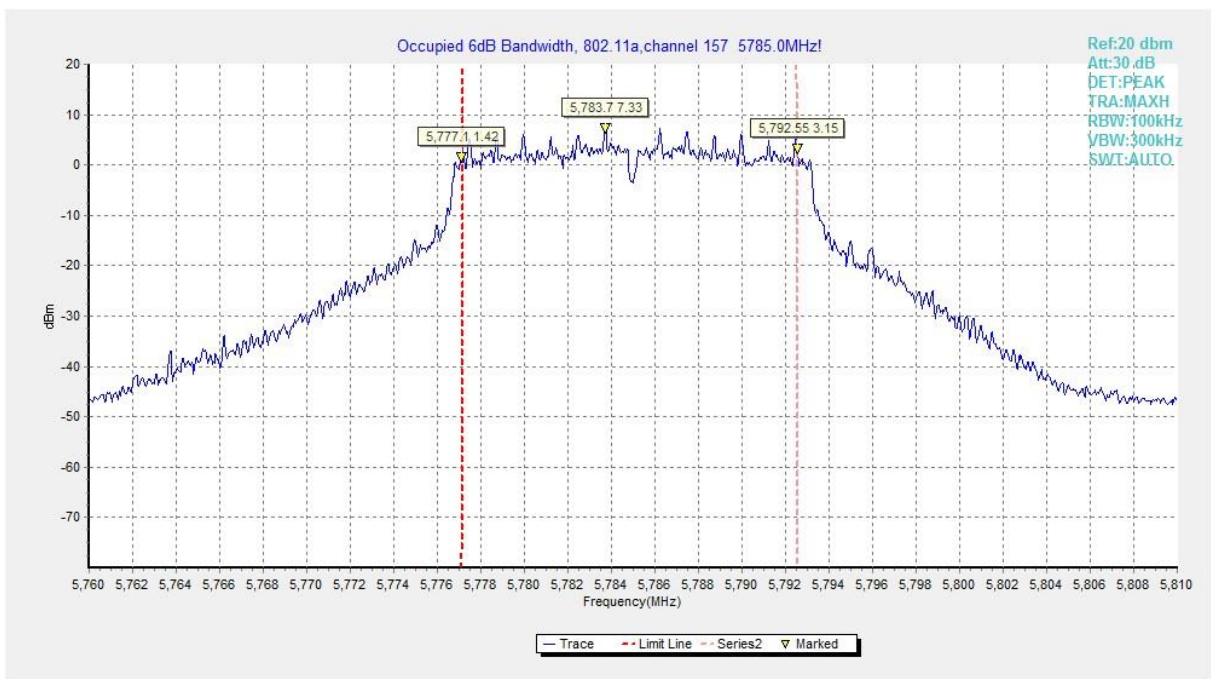


Fig. 2 Occupied 6dB Bandwidth (802.11a, Ch 157)

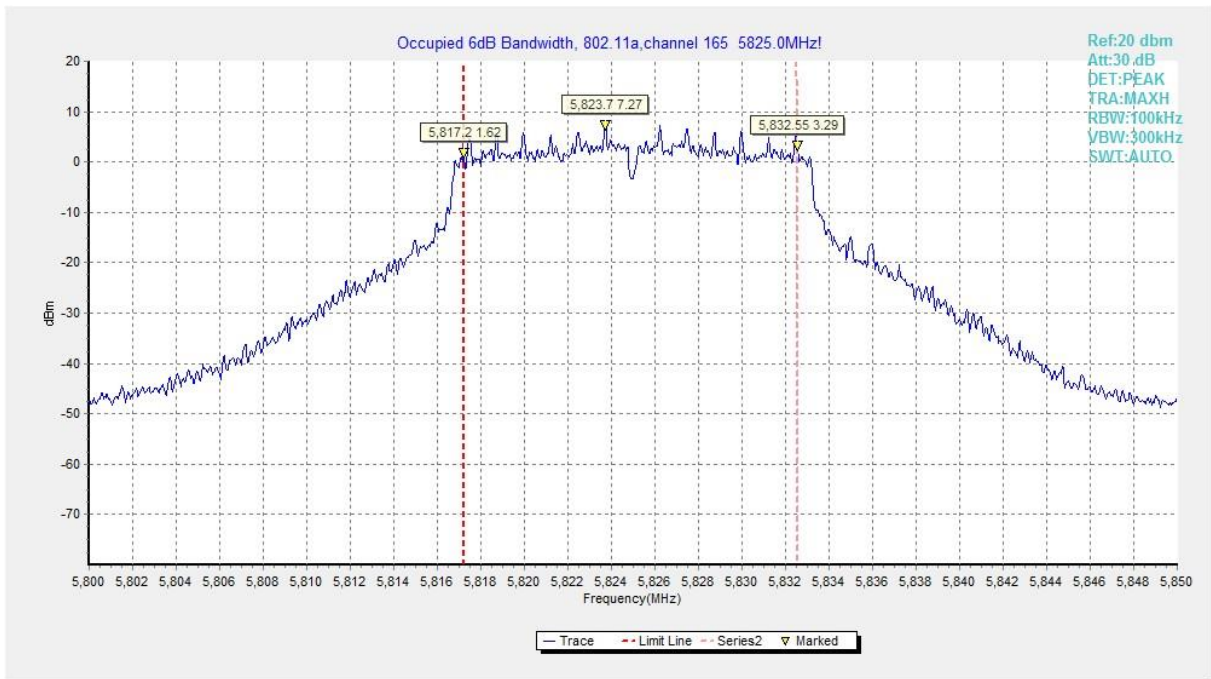


Fig. 3 Occupied 6dB Bandwidth (802.11a, Ch 165)

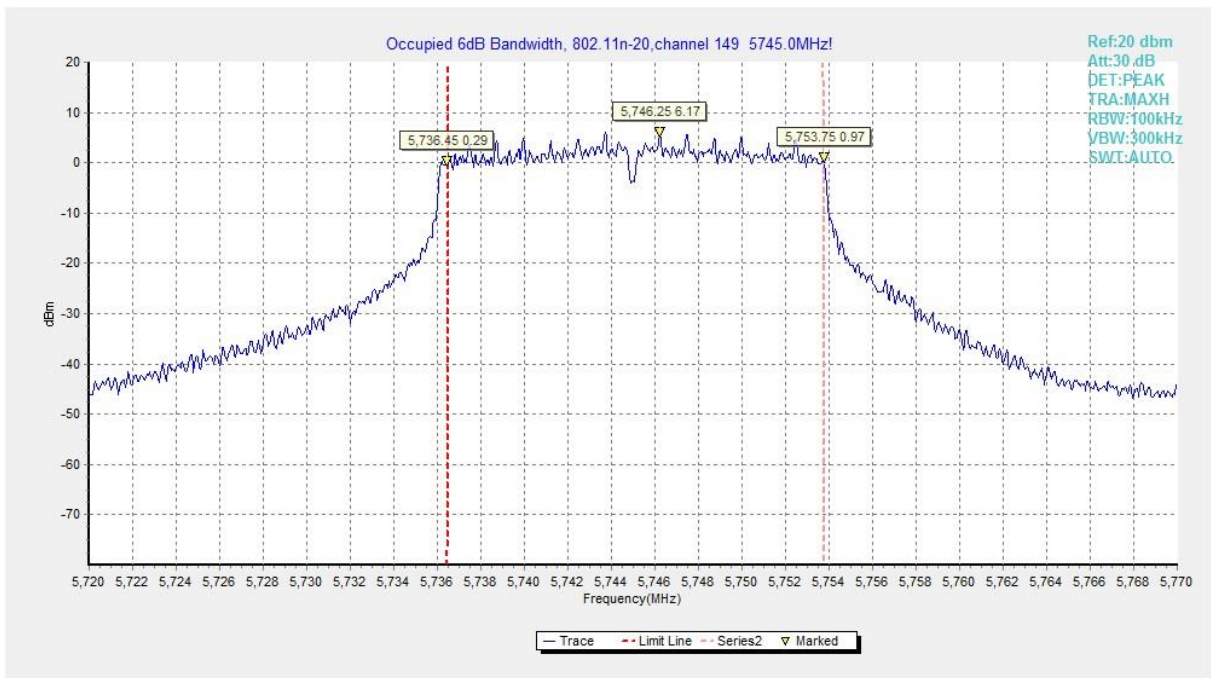


Fig. 4 Occupied 6dB Bandwidth (802.11n-HT20, Ch 149)

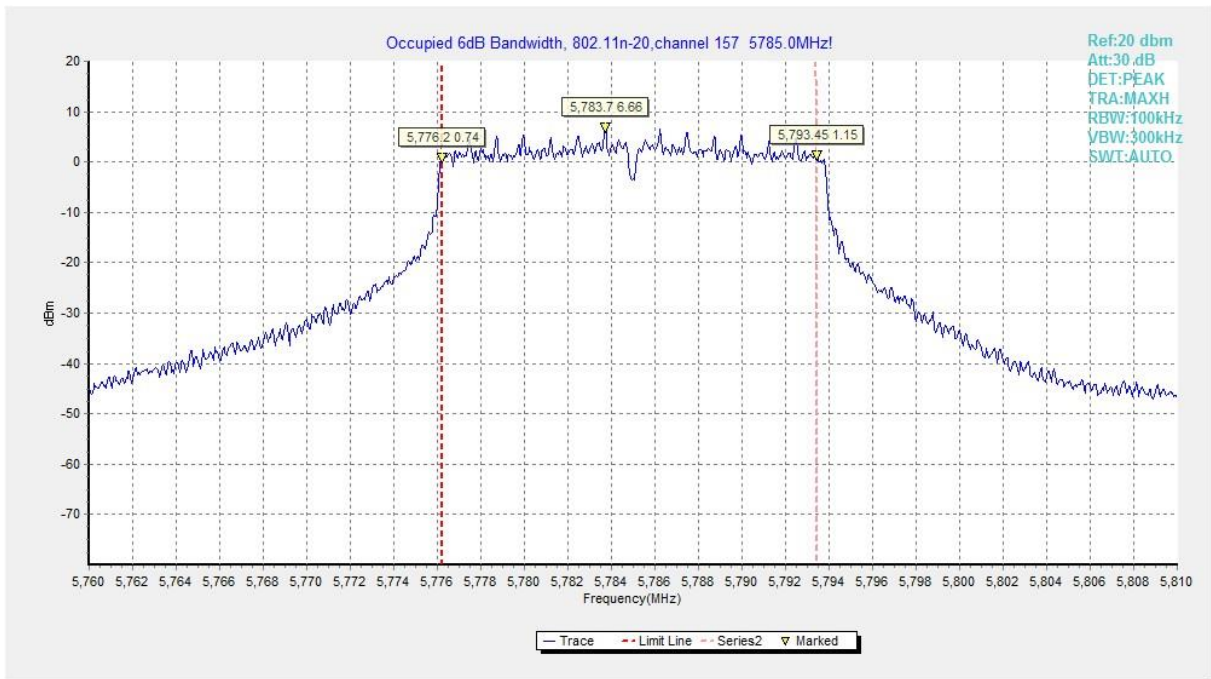


Fig. 5 Occupied 6dB Bandwidth (802.11n-HT20, Ch 157)

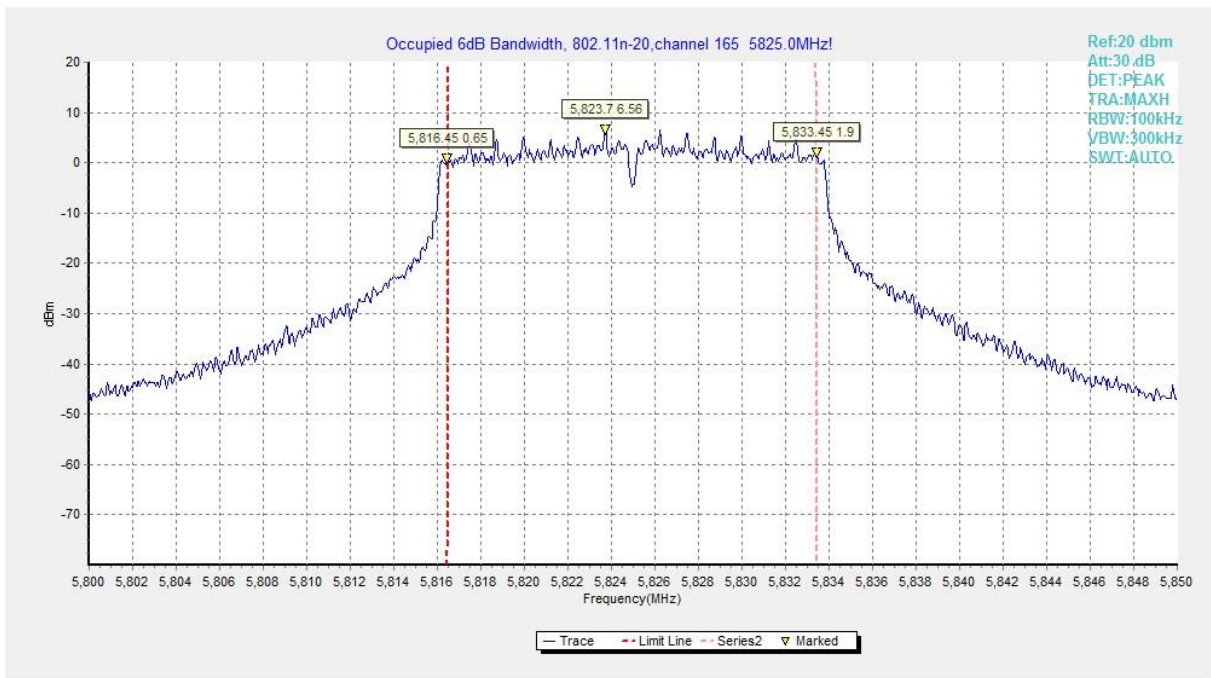


Fig. 6 Occupied 6dB Bandwidth (802.11n-HT20, Ch 165)

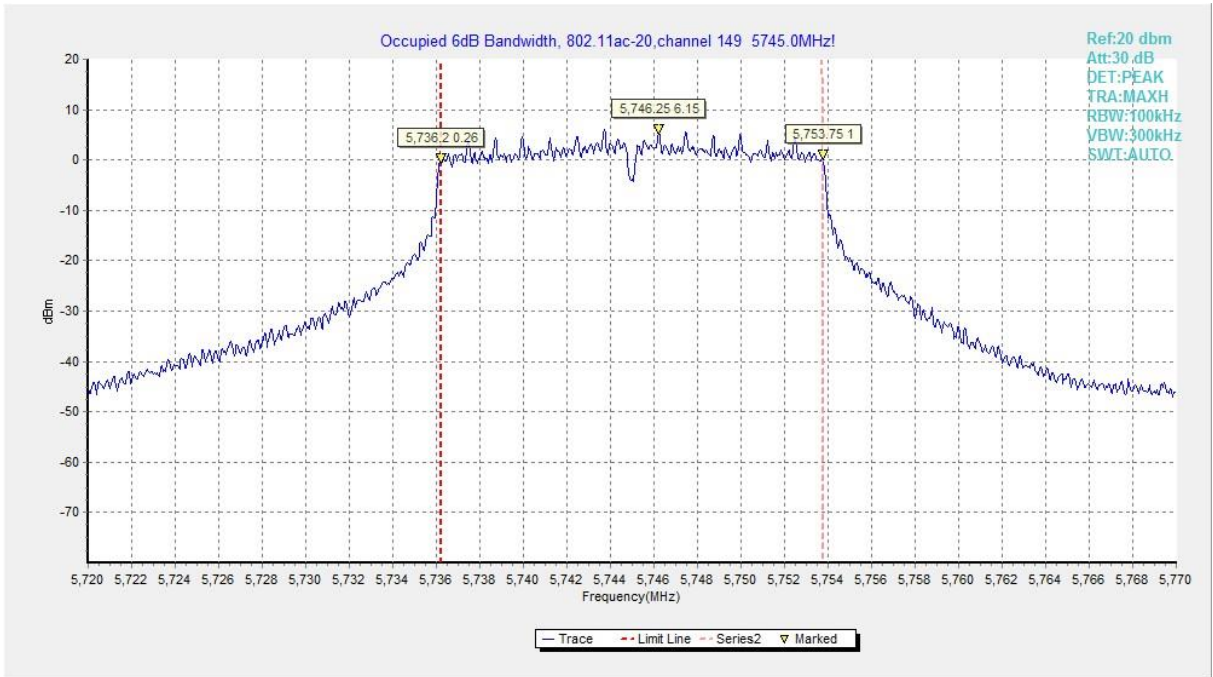


Fig. 7 Occupied 6dB Bandwidth (802.11ac-HT20, Ch 149)

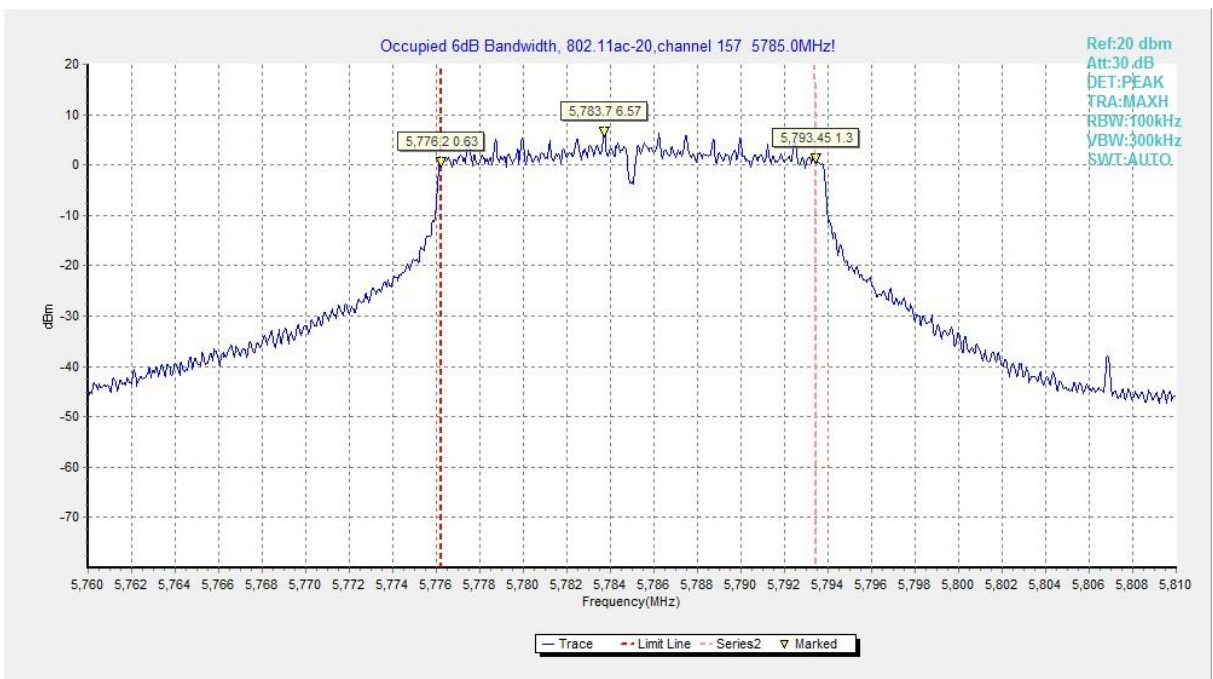


Fig. 8 Occupied 6dB Bandwidth (802.11ac-HT20, Ch 157)

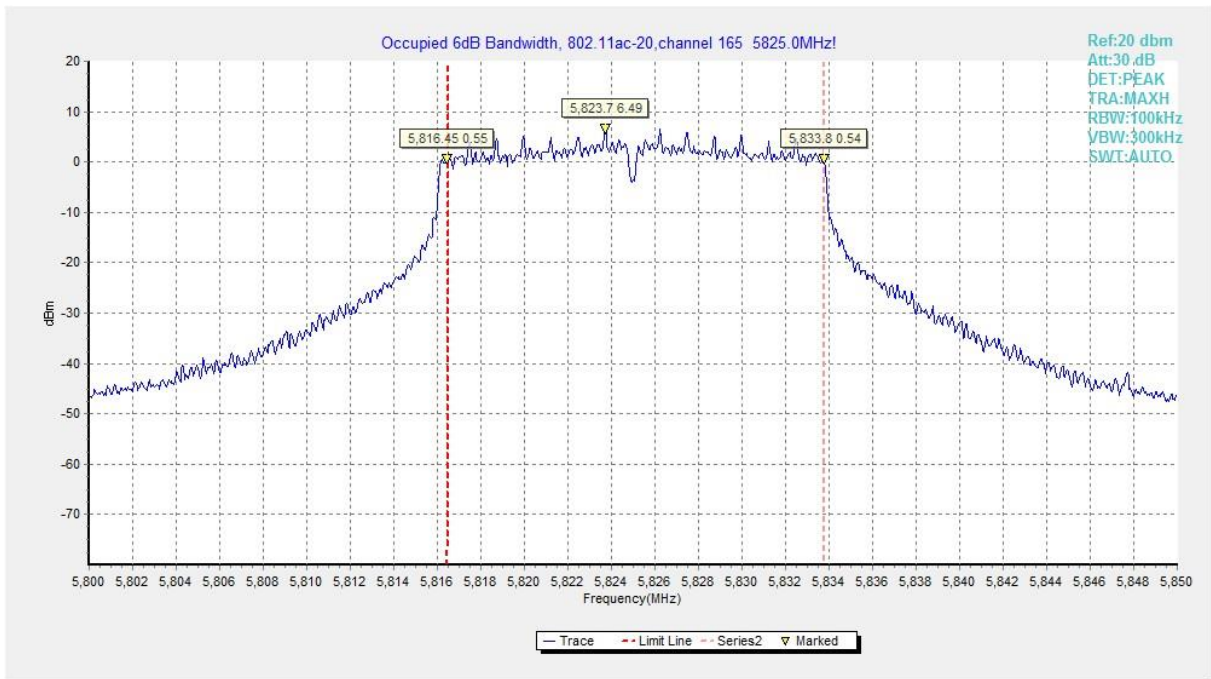


Fig. 9 Occupied 6dB Bandwidth (802.11ac-HT20, Ch 165)

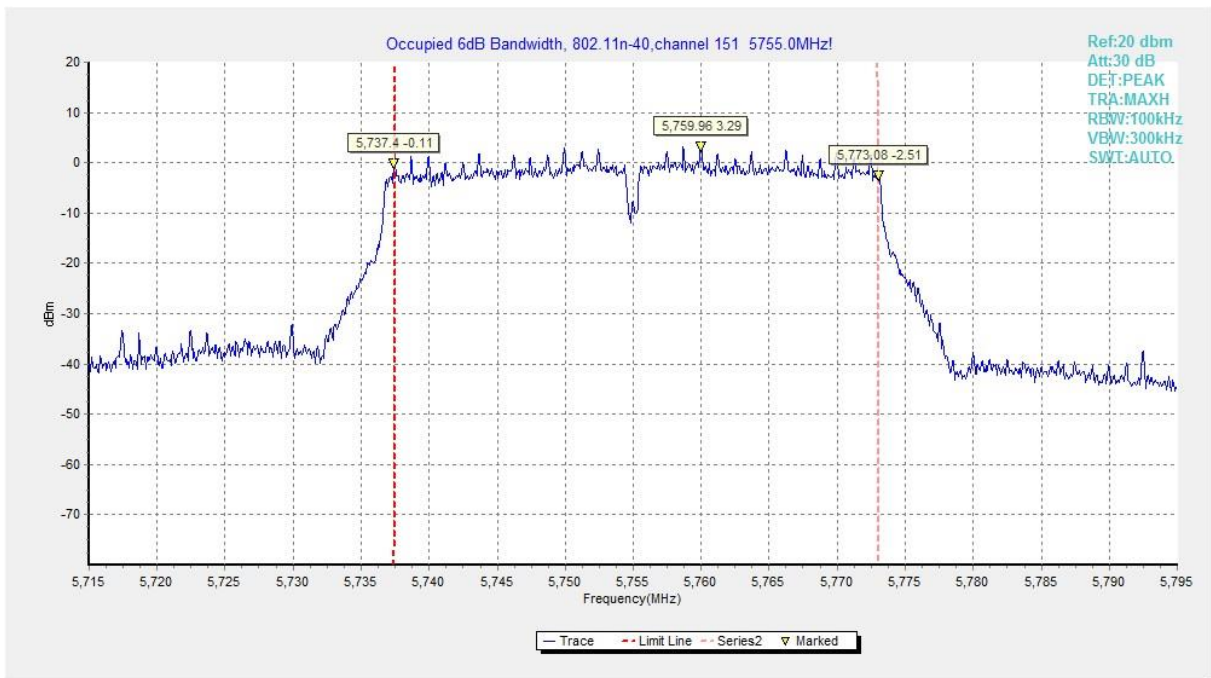


Fig. 10 Occupied 6dB Bandwidth (802.11n-HT40, Ch 151)

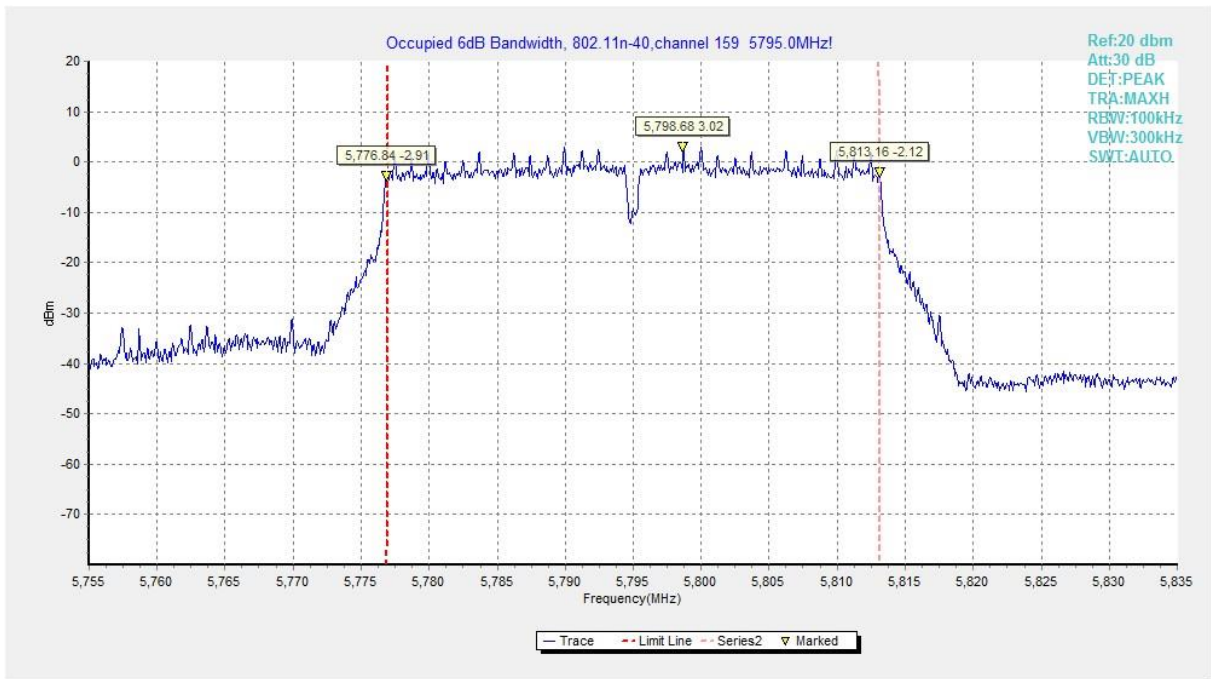


Fig. 11 Occupied 6dB Bandwidth (802.11n-HT40, Ch 159)

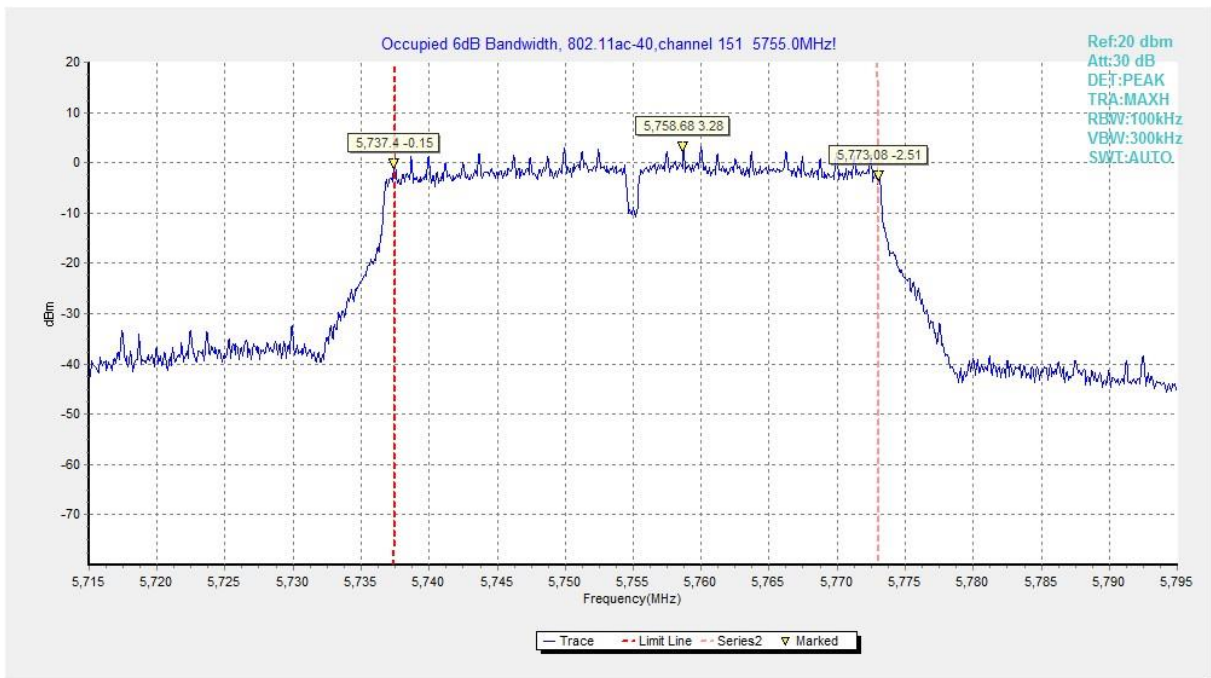


Fig. 12 Occupied 6dB Bandwidth (802.11ac-HT40, Ch 151)

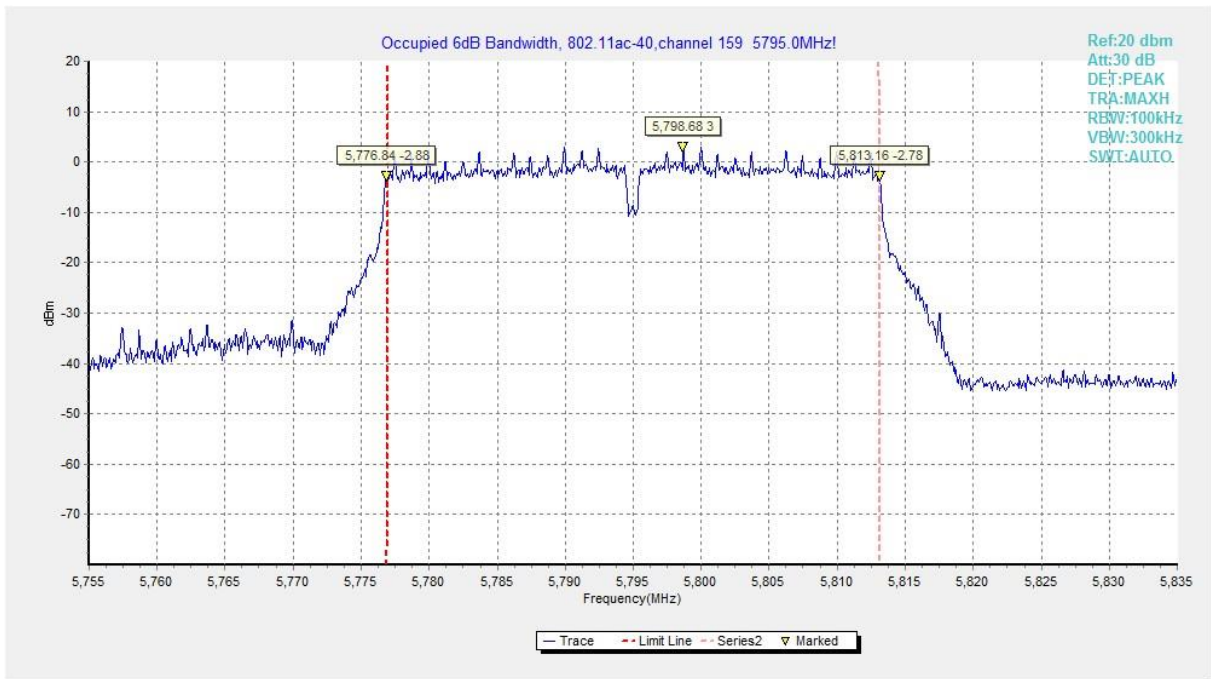


Fig. 13 Occupied 6dB Bandwidth (802.11ac-HT40, Ch 159)

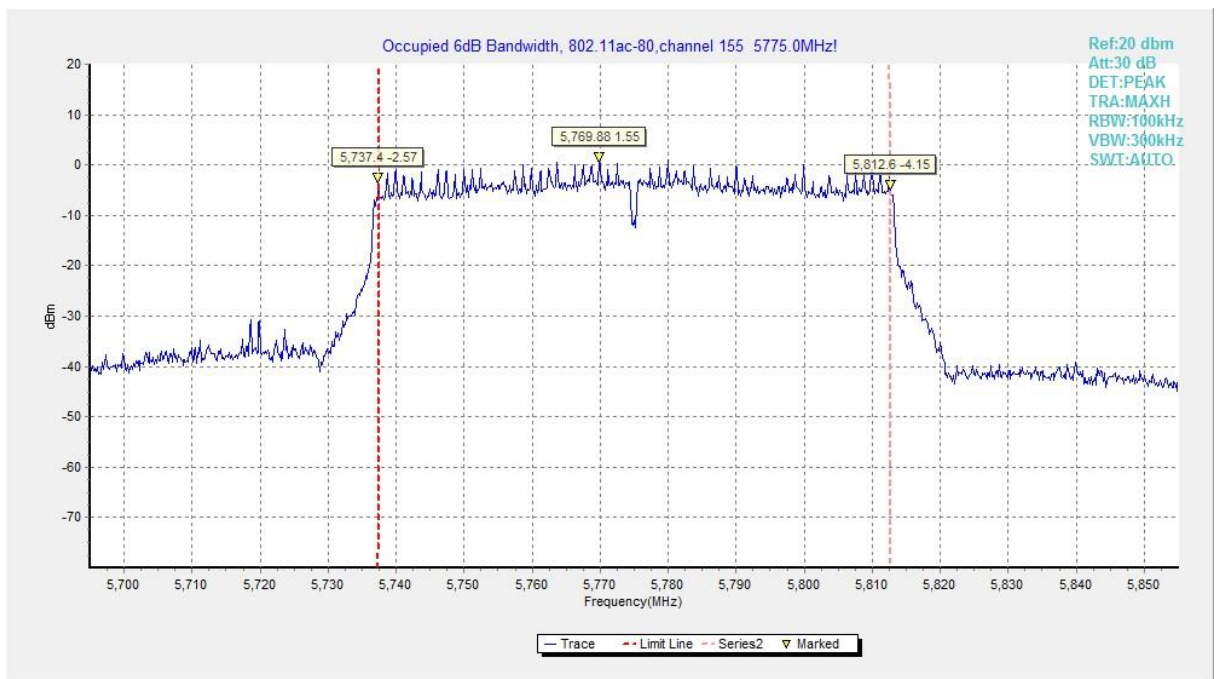


Fig. 14 Occupied 6dB Bandwidth (802.11ac-HT80, Ch 155)

A.5. Transmitter Spurious Emission

Measurement Limit:

Standard	Frequency (MHz)	Limit (dBm/MHz)
FCC 47 CFR Part 15.407	5725MHz~5850MHz	< -27

The measurement is made according to ANSI C63.10 .

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)).

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

Measurement Uncertainty:

Frequency Range	Uncertainty(dB)
30MHz ≤ f ≤ 2GHz	0.63
2GHz ≤ f ≤ 3.6GHz	0.82
3.6GHz ≤ f ≤ 8GHz	1.55
8GHz ≤ f ≤ 20GHz	1.86
20GHz ≤ f ≤ 22GHz	1.90
22GHz ≤ f ≤ 26GHz	2.20

A.5.1 Transmitter Spurious Emission - Conducted

Measurement Results:

The Ant0 is selected as worse condition of Ant0+Ant1.

Ant0+Ant1

MODE	Channel	Frequency Range	Test Results	Conclusion
802.11a	149	30 MHz ~ 1 GHz	Fig.15	P
		1 GHz ~ 12 GHz	Fig.16	P
		12 GHz ~ 25 GHz	Fig.17	P
		25 GHz ~ 40 GHz	Fig.18	P
	157	30 MHz ~ 1 GHz	Fig.19	P
		1 GHz ~ 12 GHz	Fig.20	P
		12 GHz ~ 25 GHz	Fig.21	P
		25 GHz ~ 40 GHz	Fig.22	P
	165	30 MHz ~ 1 GHz	Fig.23	P
		1 GHz ~ 12 GHz	Fig.24	P
		12 GHz ~ 25 GHz	Fig.25	P
		25 GHz ~ 40 GHz	Fig.26	P

802.11n HT20	149	30 MHz ~ 1 GHz	Fig.27	P
		1 GHz ~ 12 GHz	Fig.28	P
		12 GHz ~ 25 GHz	Fig.29	P
		25 GHz ~ 40 GHz	Fig.30	P
	157	30 MHz ~ 1 GHz	Fig.31	P
		1 GHz ~ 12 GHz	Fig.32	P
		12 GHz ~ 25 GHz	Fig.33	P
		25 GHz ~ 40 GHz	Fig.34	P
	165	30 MHz ~ 1 GHz	Fig.35	P
		1 GHz ~ 12 GHz	Fig.36	P
		12 GHz ~ 25 GHz	Fig.37	P
		25 GHz ~ 40 GHz	Fig.38	P
802.11ac HT20	149	30 MHz ~ 1 GHz	Fig.39	P
		1 GHz ~ 12 GHz	Fig.40	P
		12 GHz ~ 25 GHz	Fig.41	P
		25 GHz ~ 40 GHz	Fig.42	P
	157	30 MHz ~ 1 GHz	Fig.43	P
		1 GHz ~ 12 GHz	Fig.44	P
		12 GHz ~ 25 GHz	Fig.45	P
		25 GHz ~ 40 GHz	Fig.46	P
	165	30 MHz ~ 1 GHz	Fig.47	P
		1 GHz ~ 12 GHz	Fig.48	P
		12 GHz ~ 25 GHz	Fig.49	P
		25 GHz ~ 40 GHz	Fig.50	P
802.11n HT40	151	30 MHz ~ 1 GHz	Fig.51	P
		1 GHz ~ 12 GHz	Fig.52	P
		12 GHz ~ 25 GHz	Fig.53	P
		25 GHz ~ 40 GHz	Fig.54	P
	159	30 MHz ~ 1 GHz	Fig.55	P
		1 GHz ~ 12 GHz	Fig.56	P
		12 GHz ~ 25 GHz	Fig.57	P
		25 GHz ~ 40 GHz	Fig.58	P
802.11ac HT40	151	30 MHz ~ 1 GHz	Fig.59	P
		1 GHz ~ 12 GHz	Fig.60	P
		12 GHz ~ 25 GHz	Fig.61	P
		25 GHz ~ 40 GHz	Fig.62	P
	159	30 MHz ~ 1 GHz	Fig.63	P
		1 GHz ~ 12 GHz	Fig.64	P
		12 GHz ~ 25 GHz	Fig.65	P
		25 GHz ~ 40 GHz	Fig.66	P
802.11ac HT80	155	30 MHz ~ 1 GHz	Fig.67	P
		1 GHz ~ 12 GHz	Fig.68	P

		12 GHz ~ 25 GHz	Fig.69	P
		25 GHz ~ 40 GHz	Fig.70	P

Conclusion: PASS

Test graphs as below:

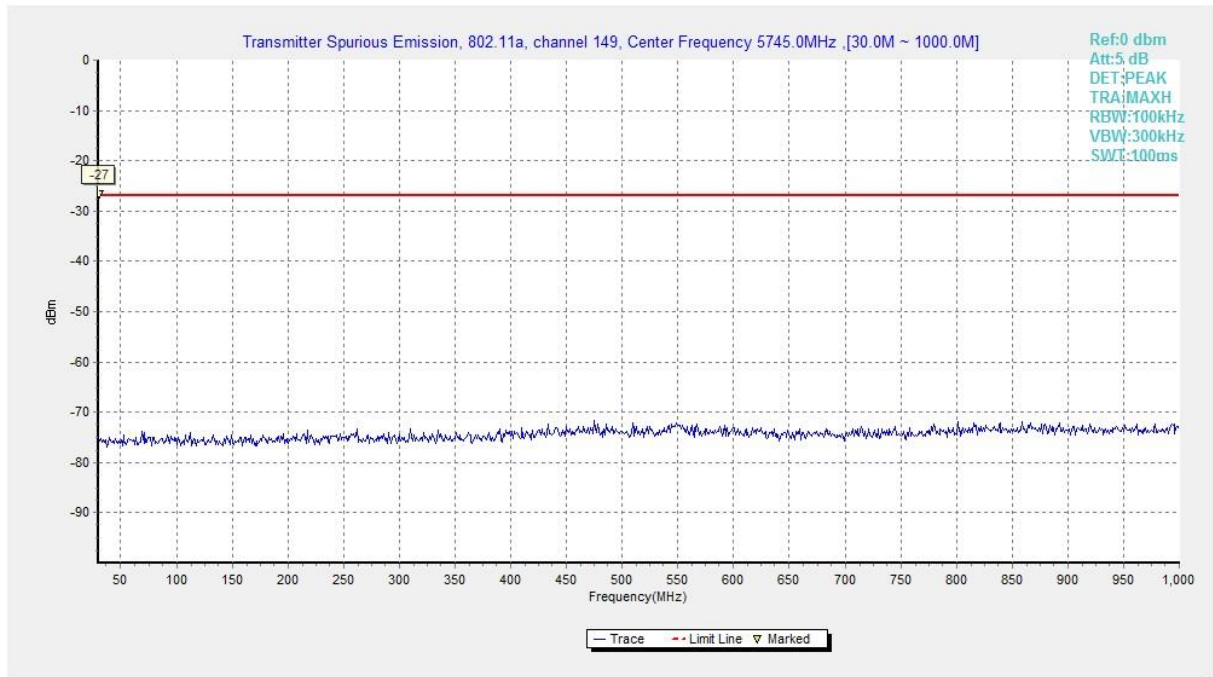


Fig. 15 Conducted Spurious Emission (802.11a, Ch149, 30 MHz-1 GHz)

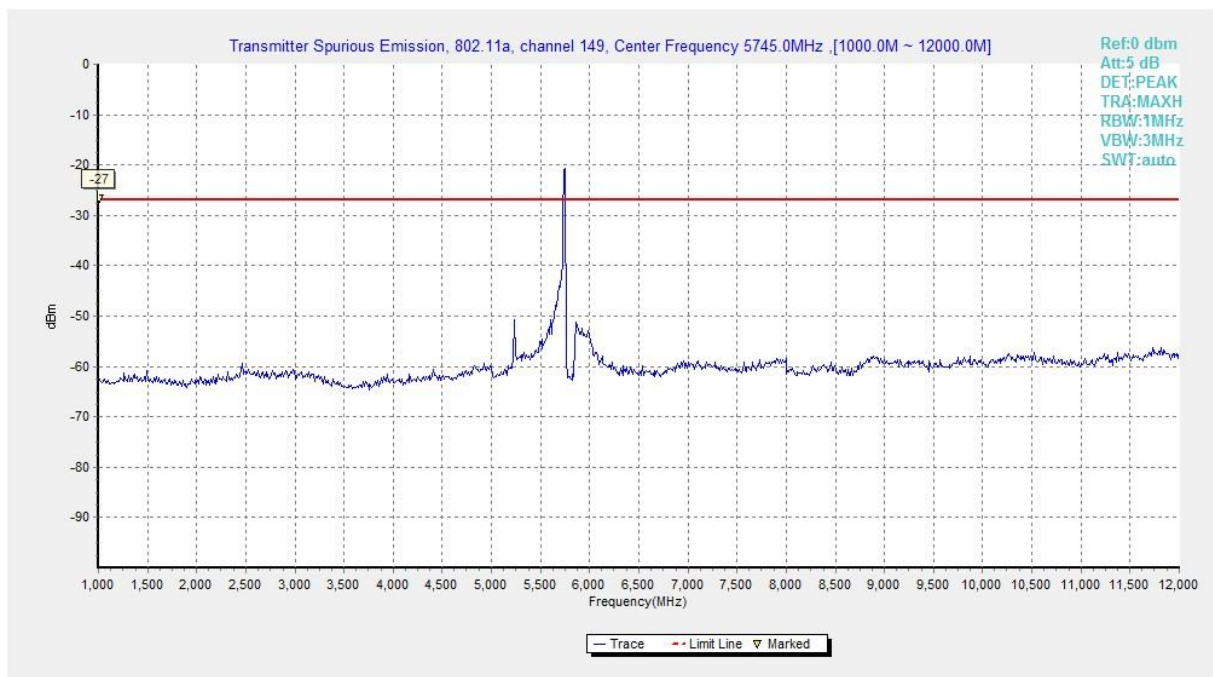


Fig. 16 Conducted Spurious Emission (802.11a, Ch149, 1 GHz -12 GHz)

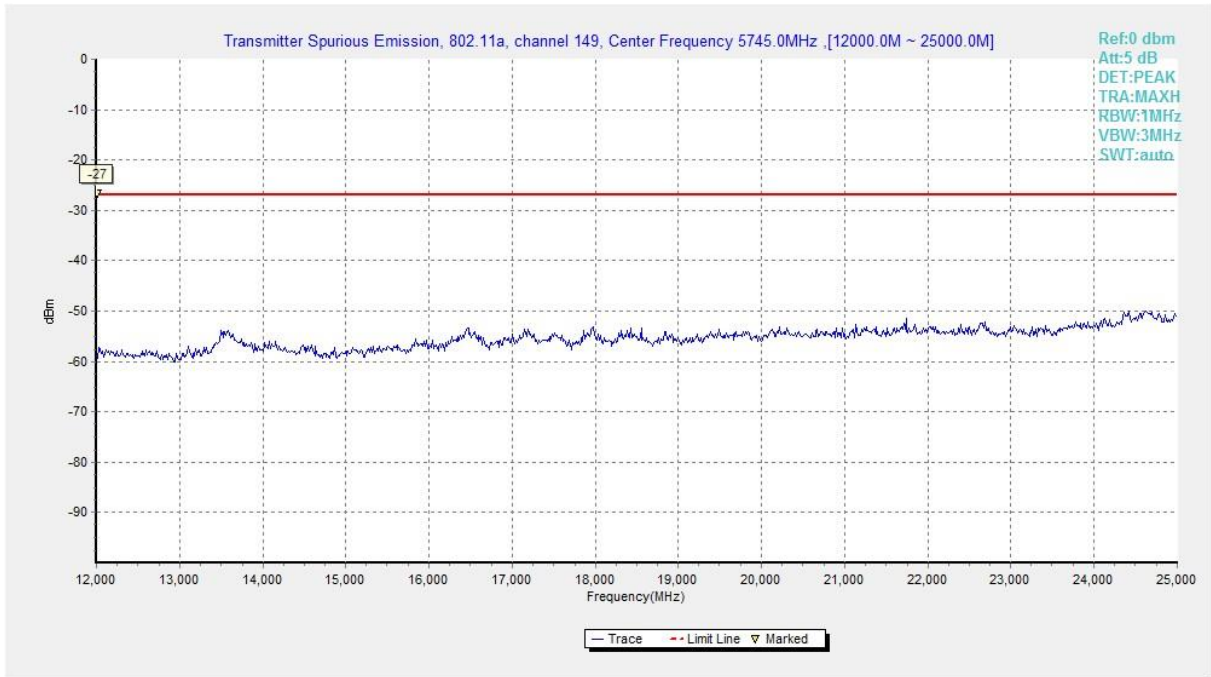


Fig. 17 Conducted Spurious Emission (802.11a, Ch149, 12 GHz-25 GHz)

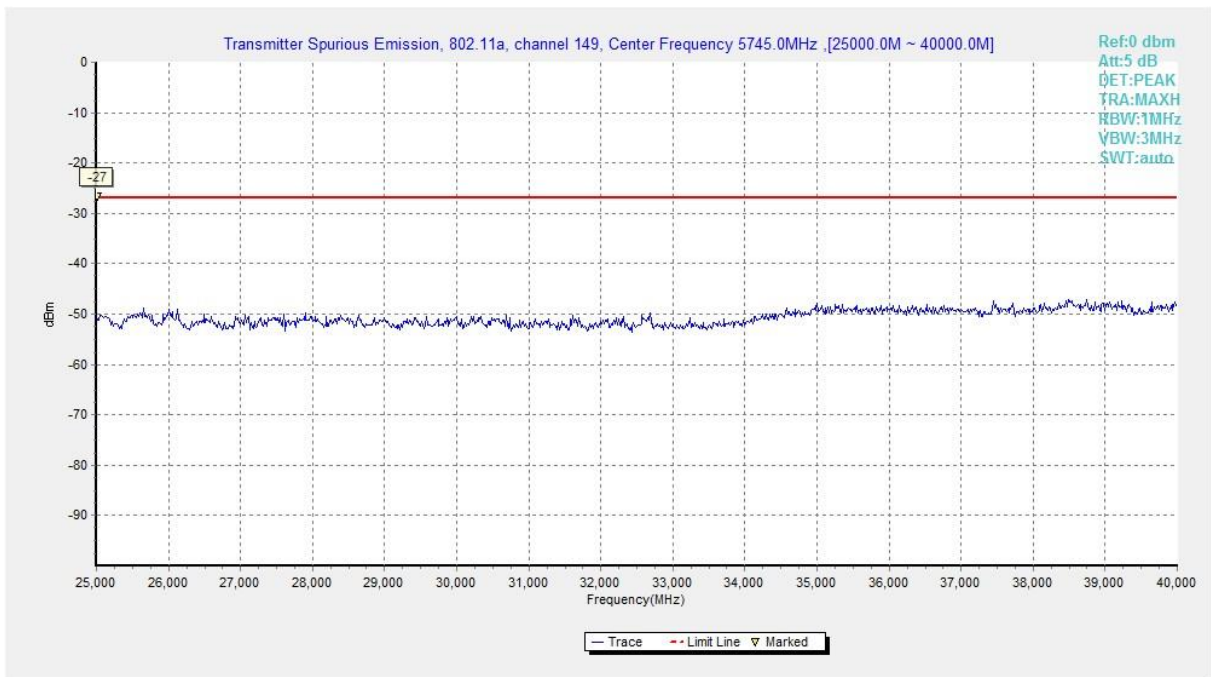


Fig. 18 Conducted Spurious Emission (802.11a, Ch149, 25 GHz-40 GHz)

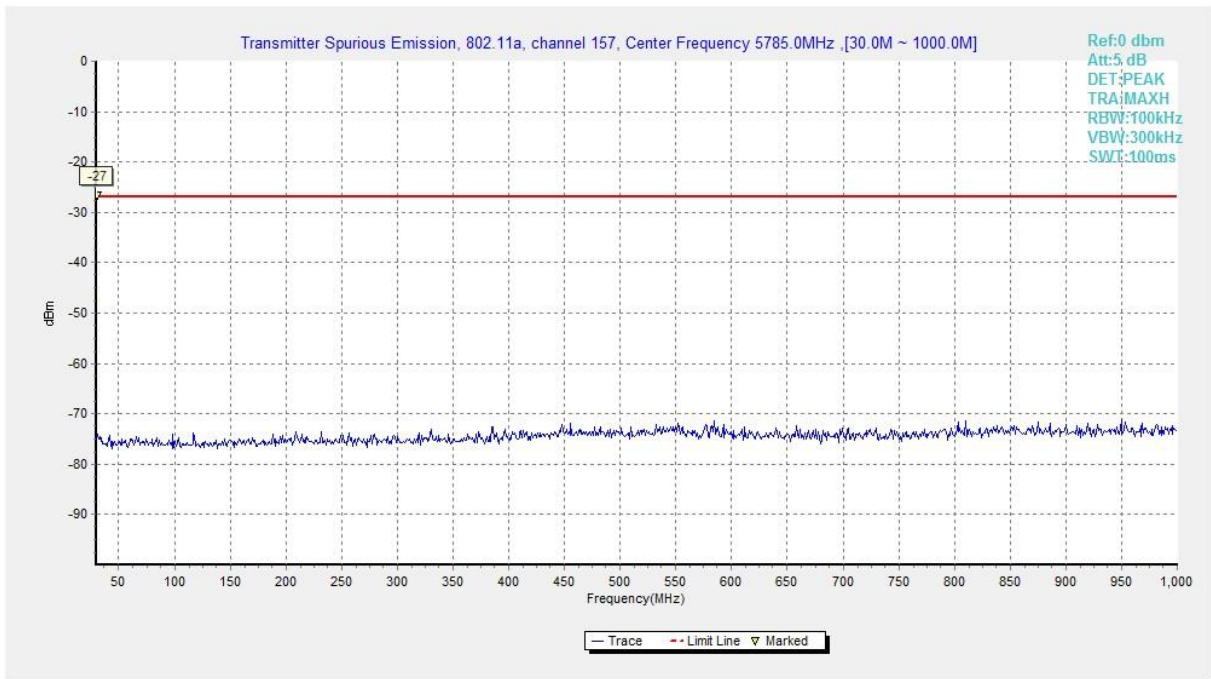


Fig. 19 Conducted Spurious Emission (802.11a, Ch157, 30 MHz-1 GHz)

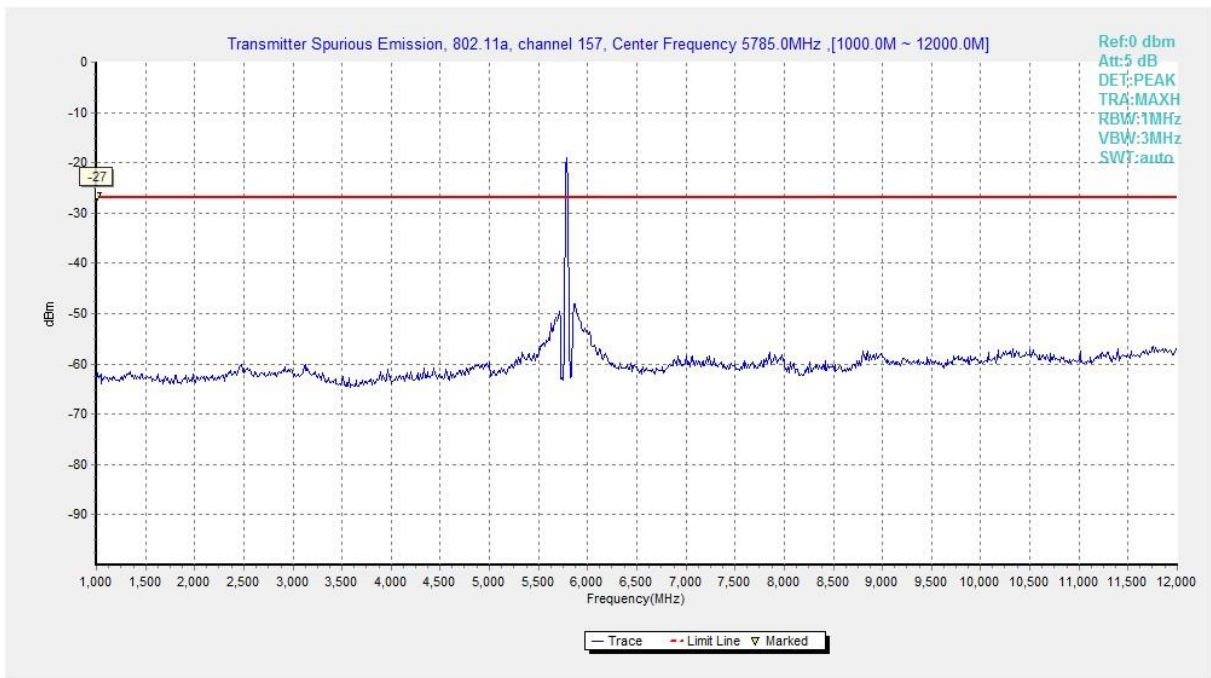


Fig. 20 Conducted Spurious Emission (802.11a, Ch157, 1 GHz -12 GHz)

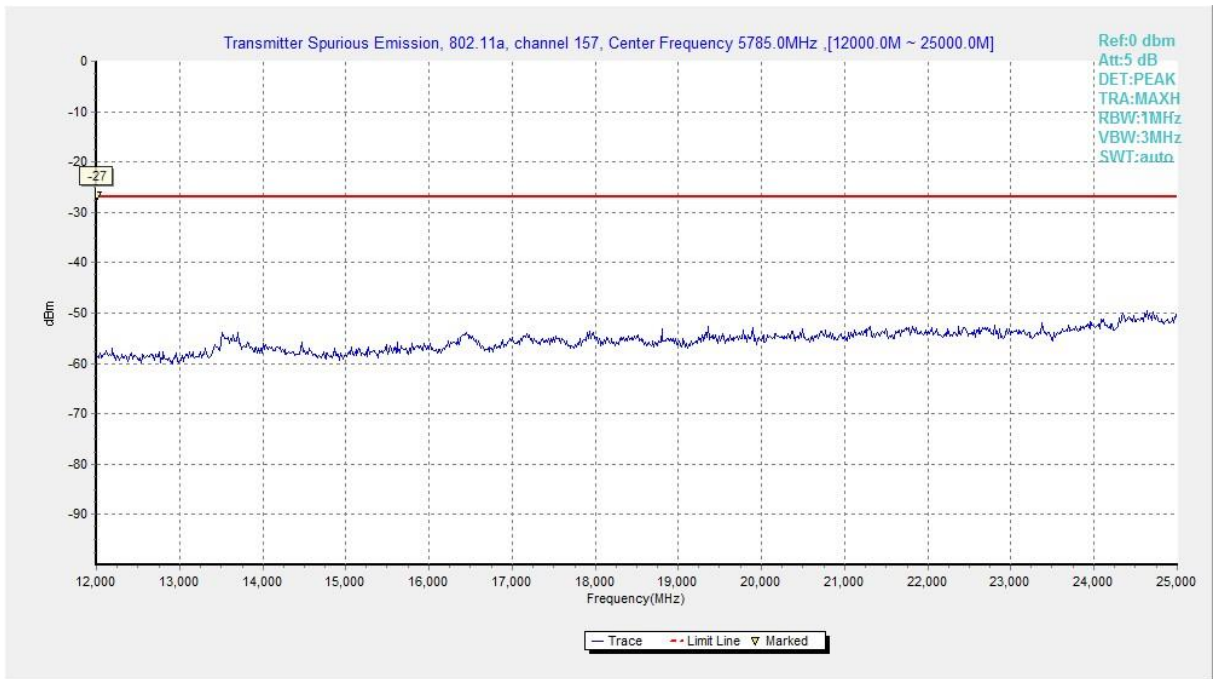


Fig. 21 Conducted Spurious Emission (802.11a, Ch157, 12 GHz-25 GHz)

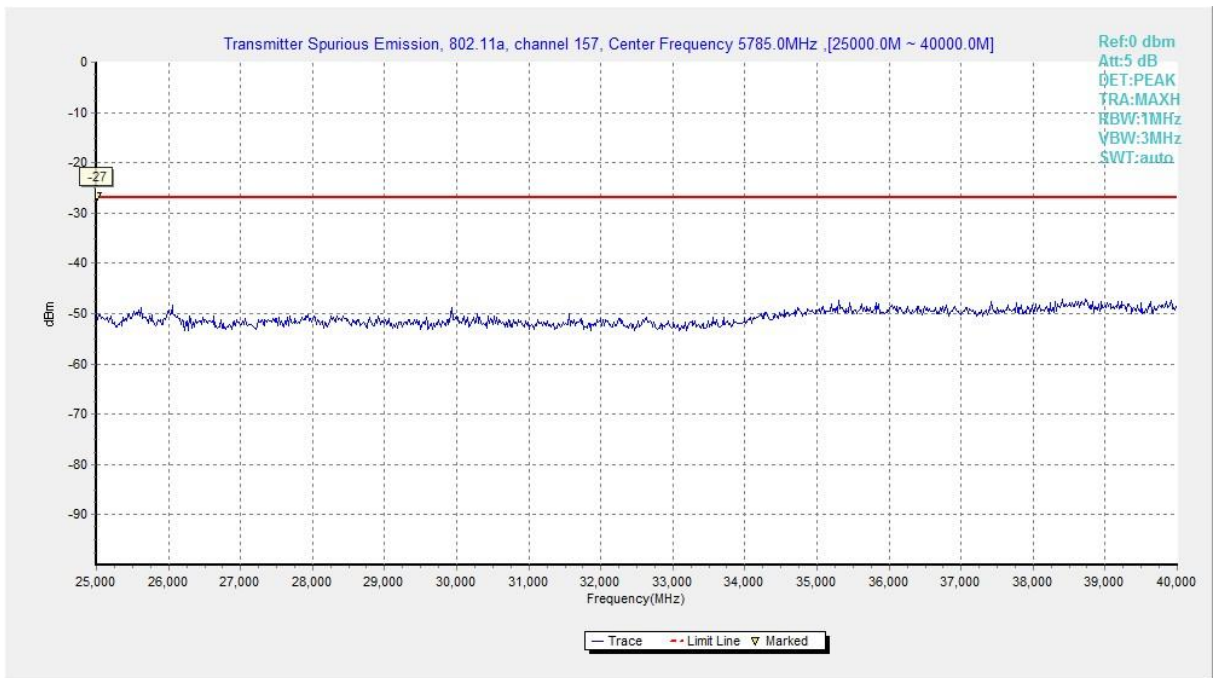


Fig. 22 Conducted Spurious Emission (802.11a, Ch157, 25 GHz-40 GHz)

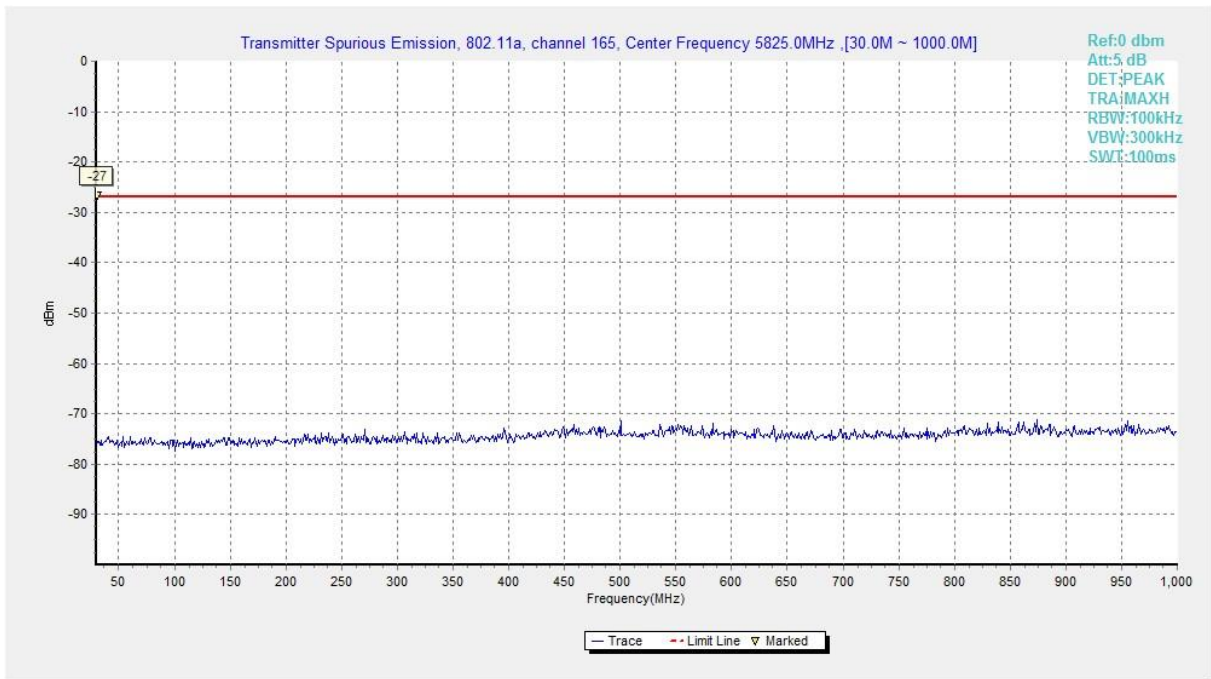


Fig. 23 Conducted Spurious Emission (802.11a, Ch165, 30 MHz-1 GHz)

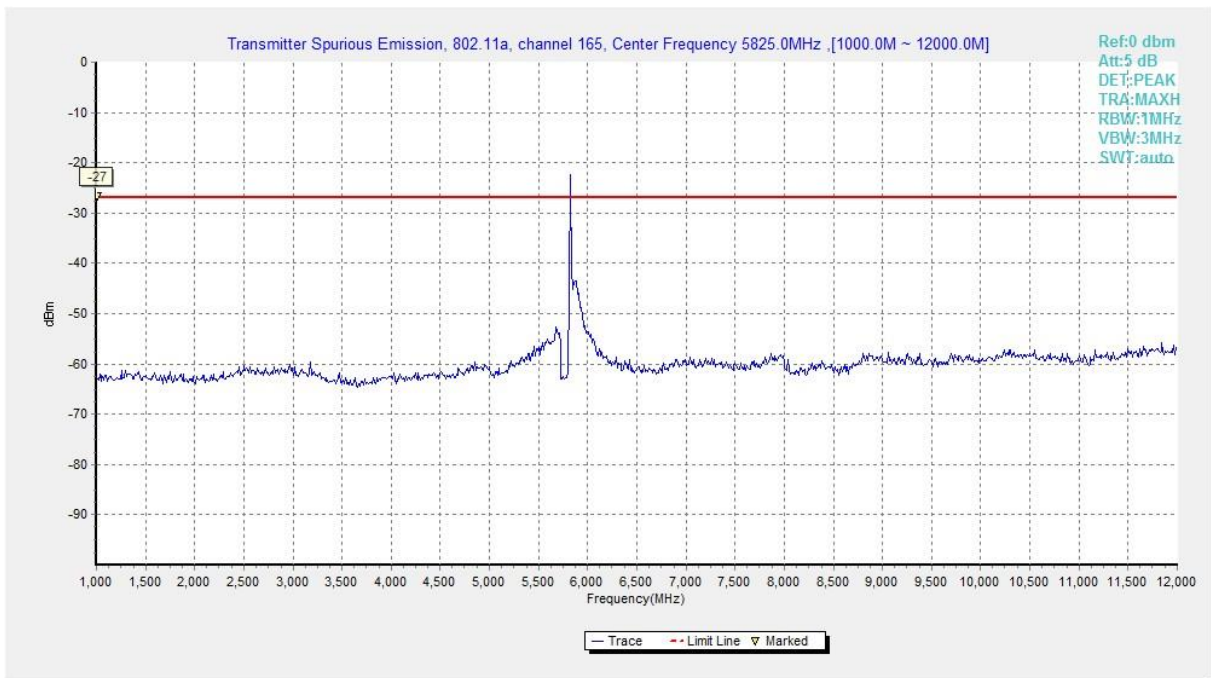


Fig. 24 Conducted Spurious Emission (802.11a, Ch165, 1 GHz -12 GHz)

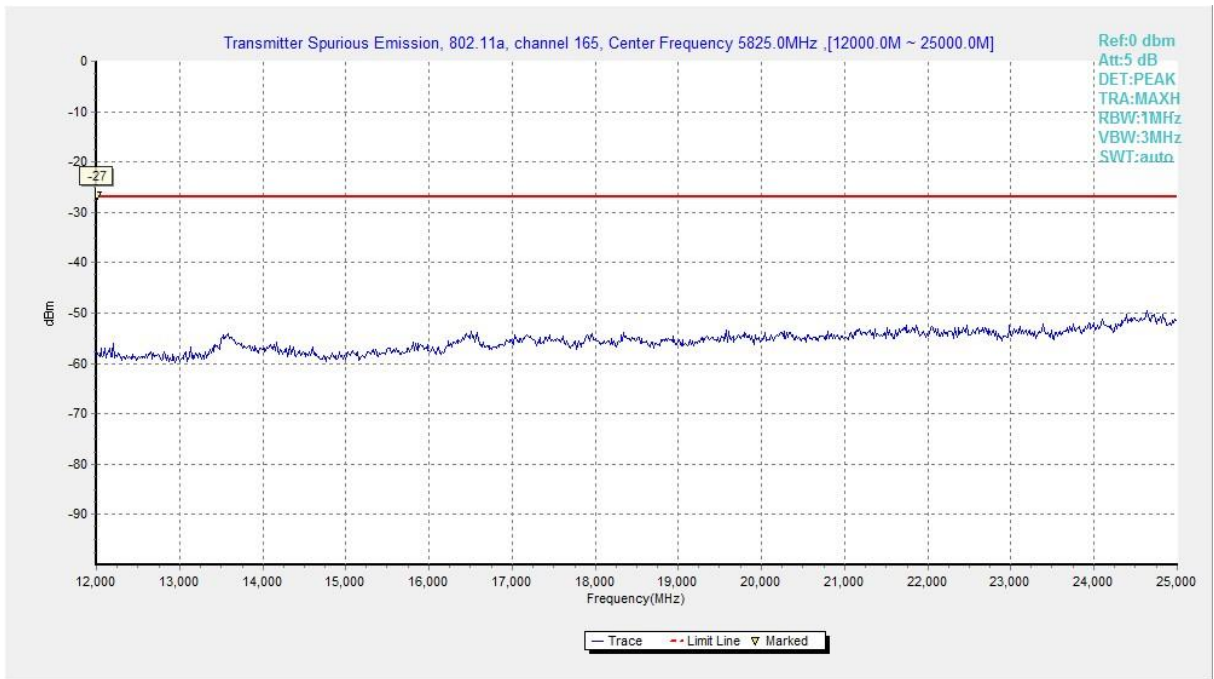


Fig. 25 Conducted Spurious Emission (802.11a, Ch165, 12 GHz-25 GHz)

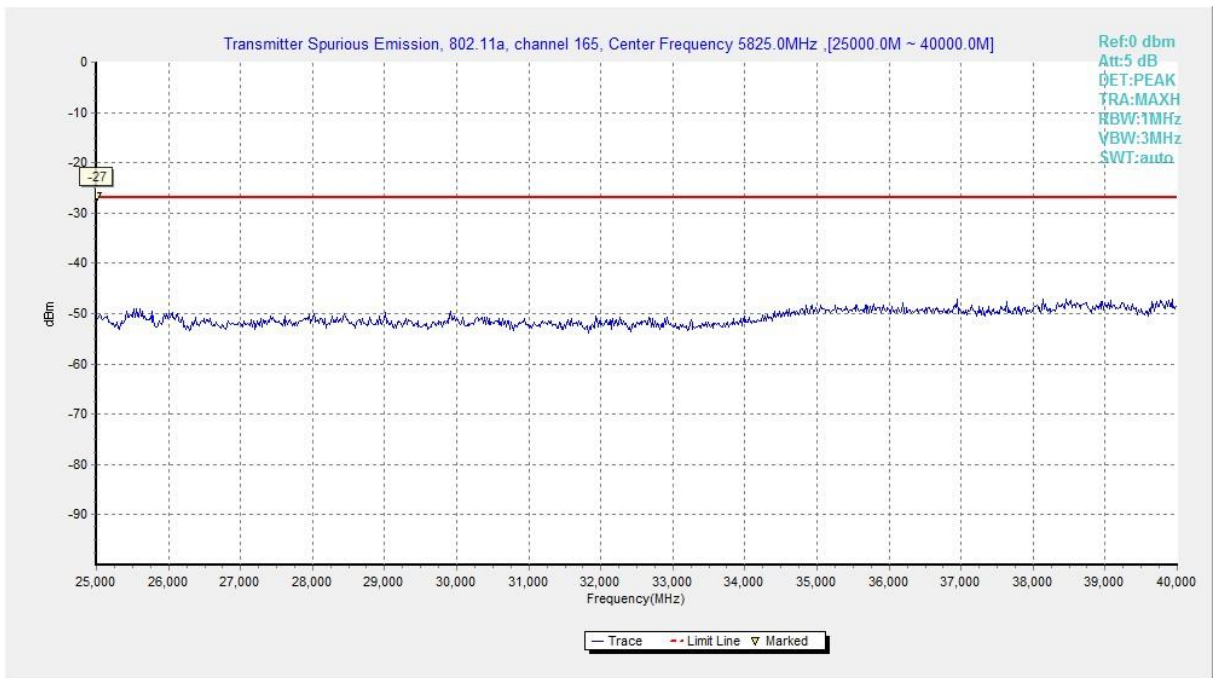


Fig. 26 Conducted Spurious Emission (802.11a, Ch165, 25 GHz-40 GHz)

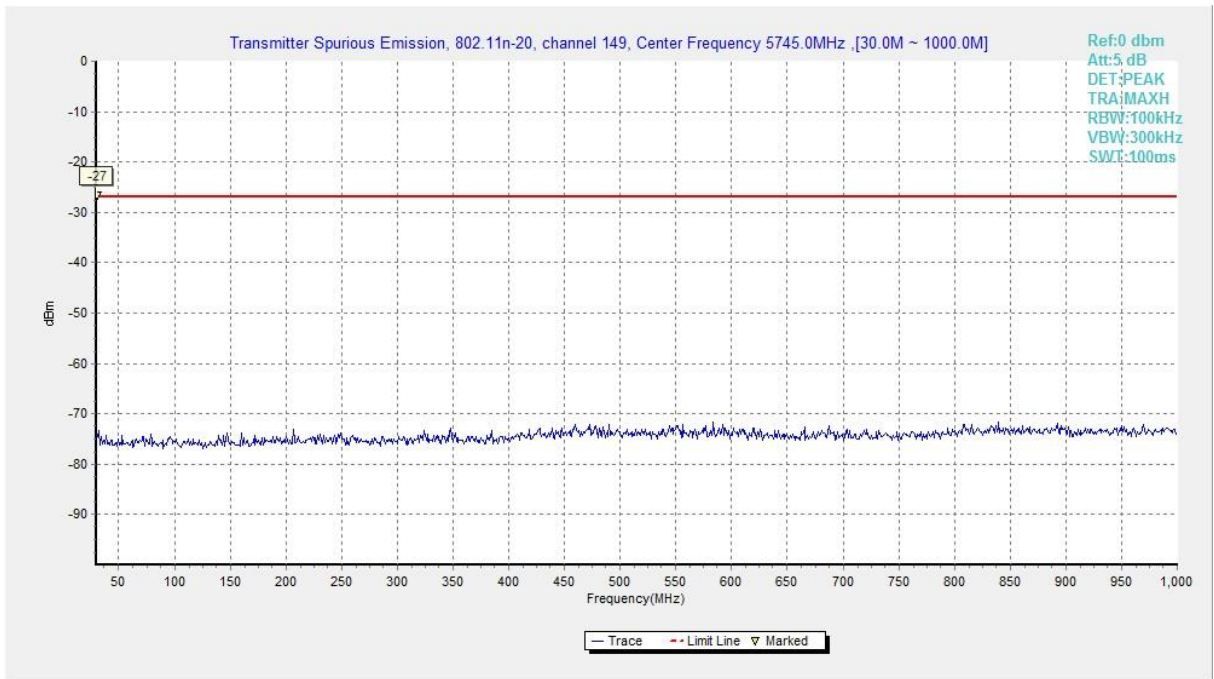


Fig. 27 Conducted Spurious Emission (802.11n-HT20, Ch149, 30 MHz-1 GHz)

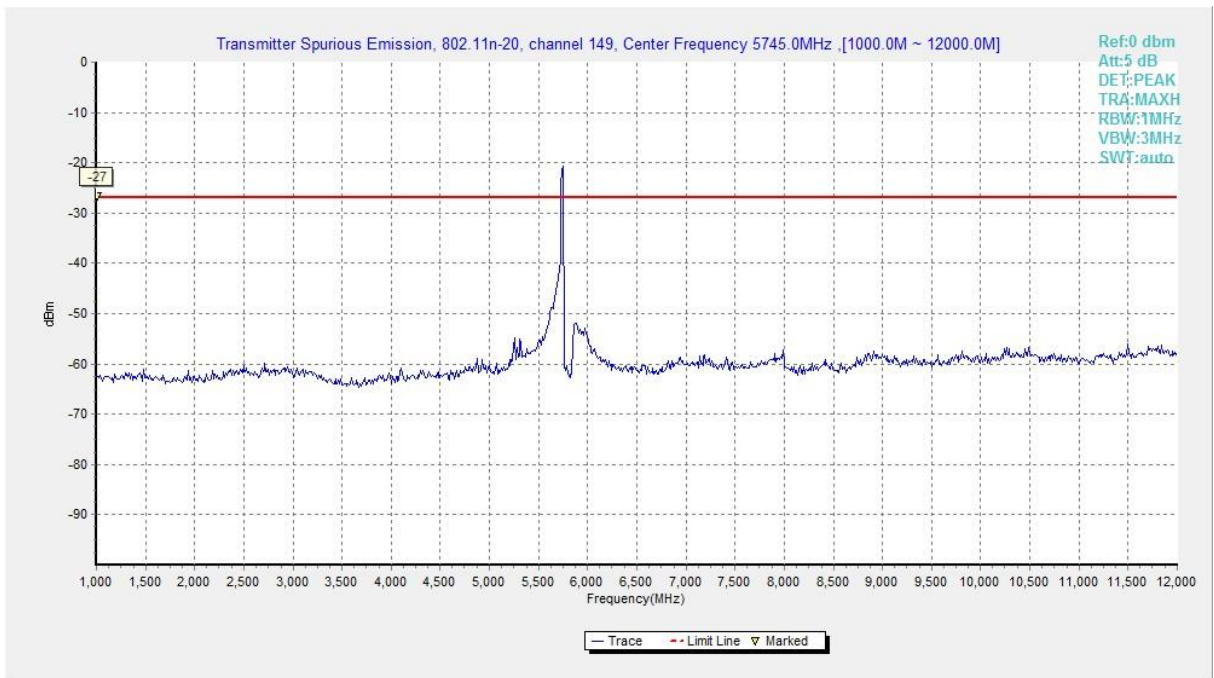


Fig. 28 Conducted Spurious Emission (802.11n-HT20, Ch149, 1 GHz -12 GHz)

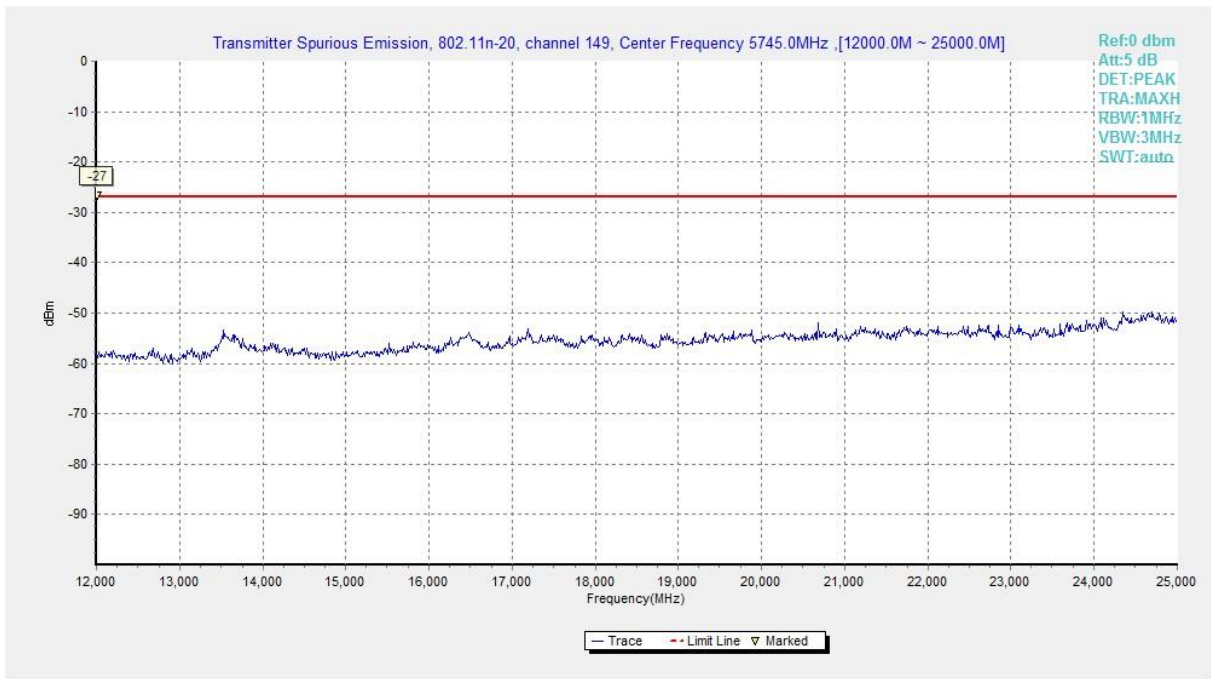


Fig. 29 Conducted Spurious Emission (802.11n-HT20, Ch149, 12 GHz-25 GHz)

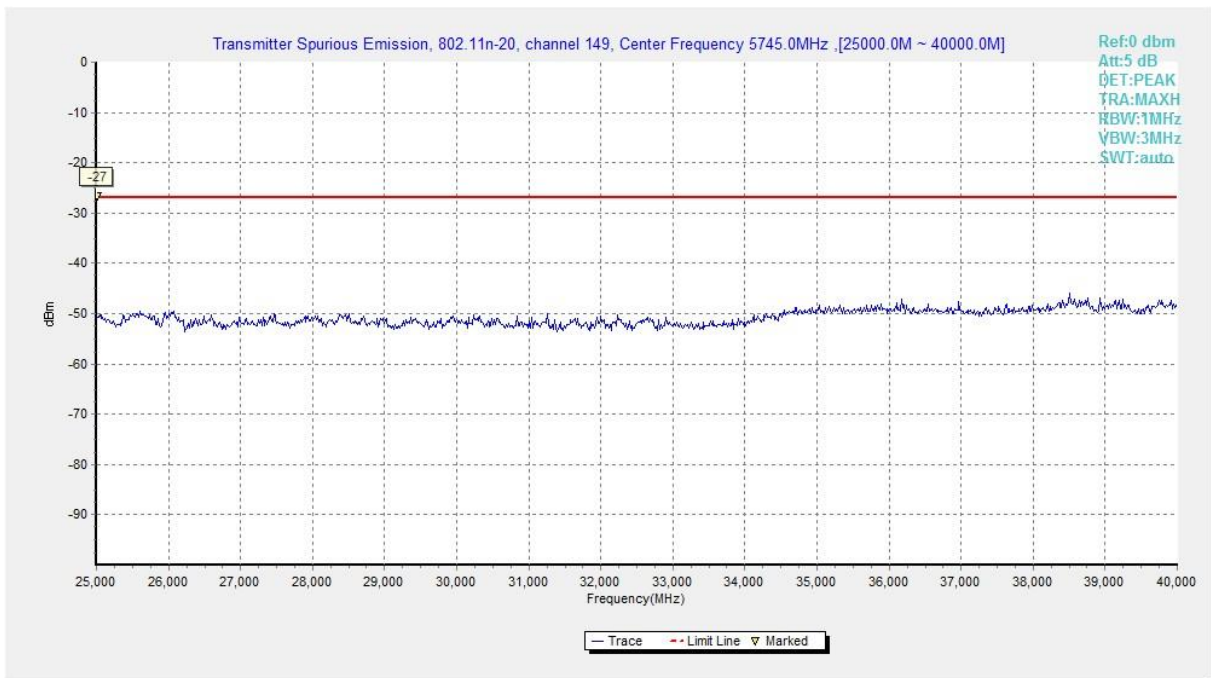


Fig. 30 Conducted Spurious Emission (802.11n-HT20, Ch149, 25 GHz-40 GHz)

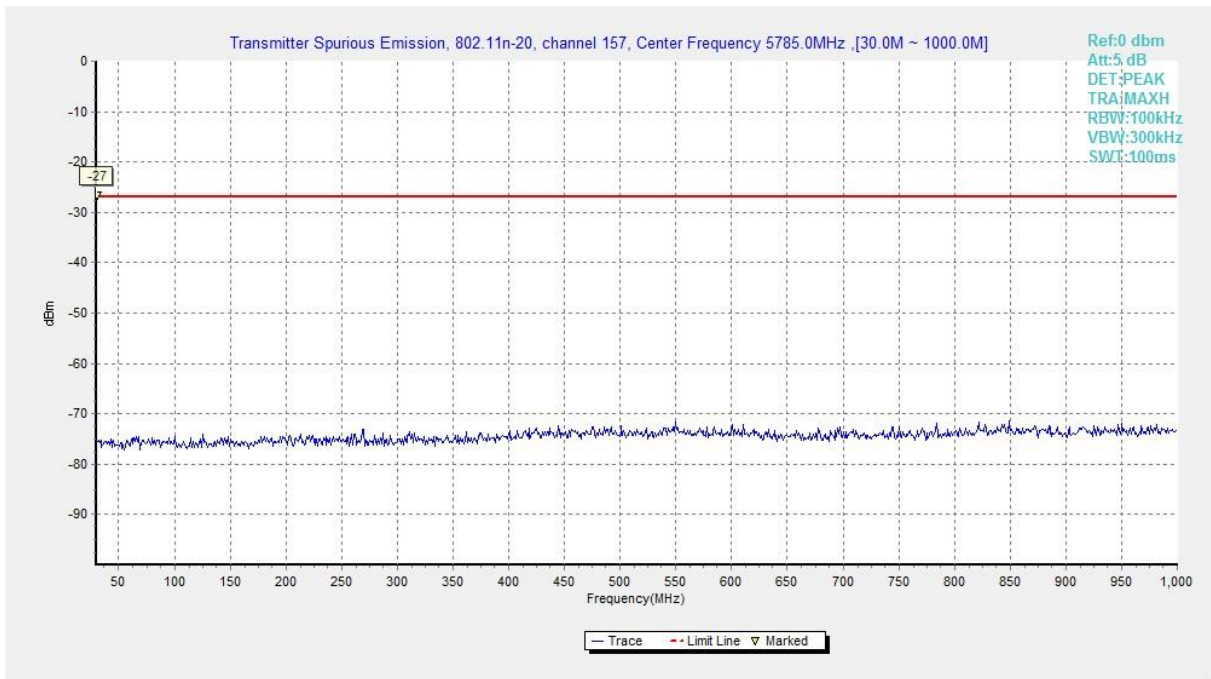


Fig. 31 Conducted Spurious Emission (802.11n-HT20, Ch157, 30 MHz-1 GHz)

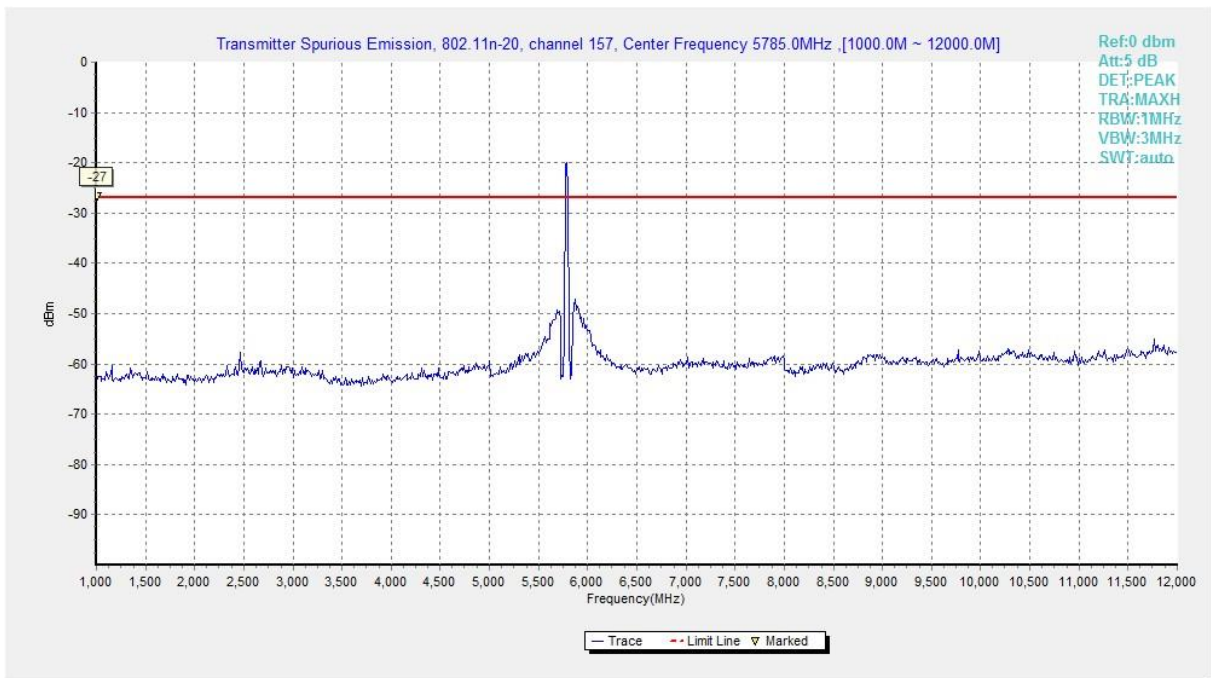


Fig. 32 Conducted Spurious Emission (802.11n-HT20, Ch157, 1 GHz -12 GHz)

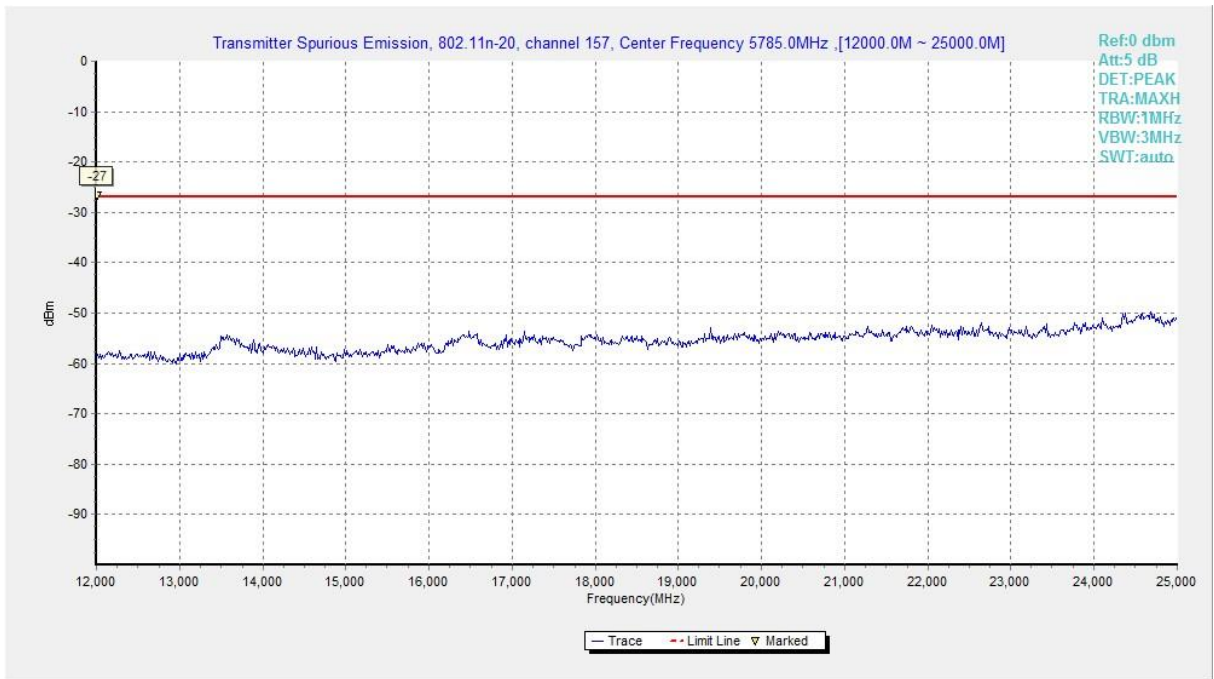


Fig. 33 Conducted Spurious Emission (802.11n-HT20, Ch157, 12 GHz-25 GHz)

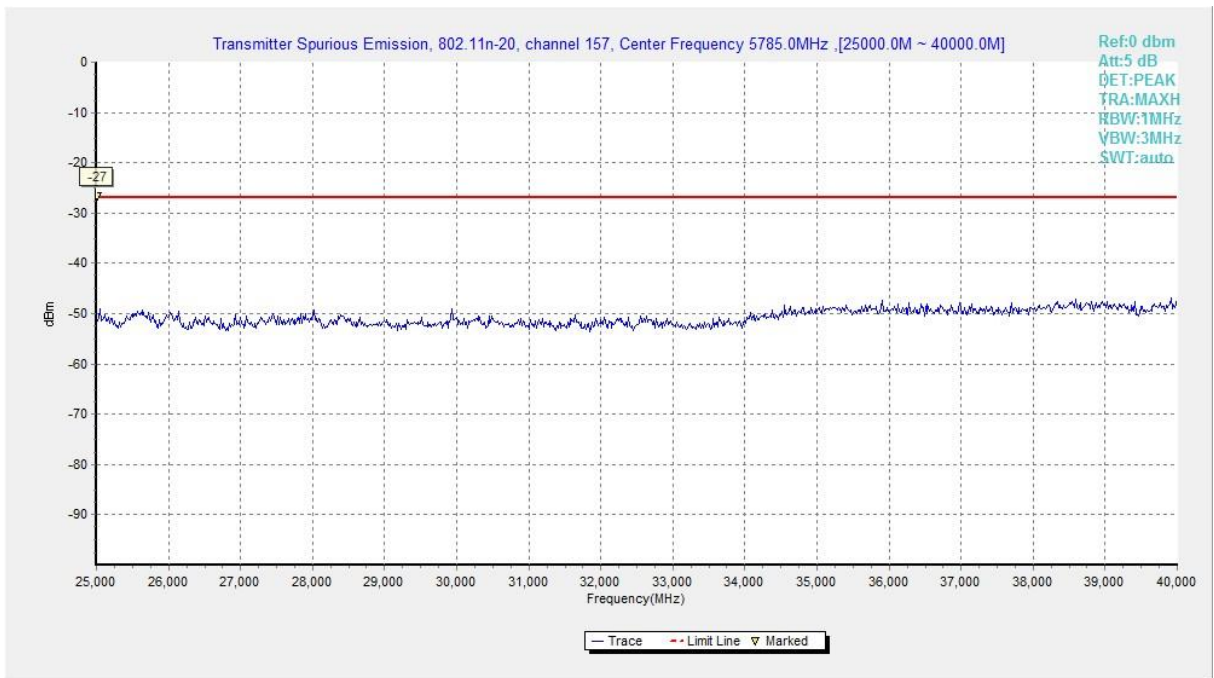


Fig. 34 Conducted Spurious Emission (802.11n-HT20, Ch157, 25 GHz-40 GHz)

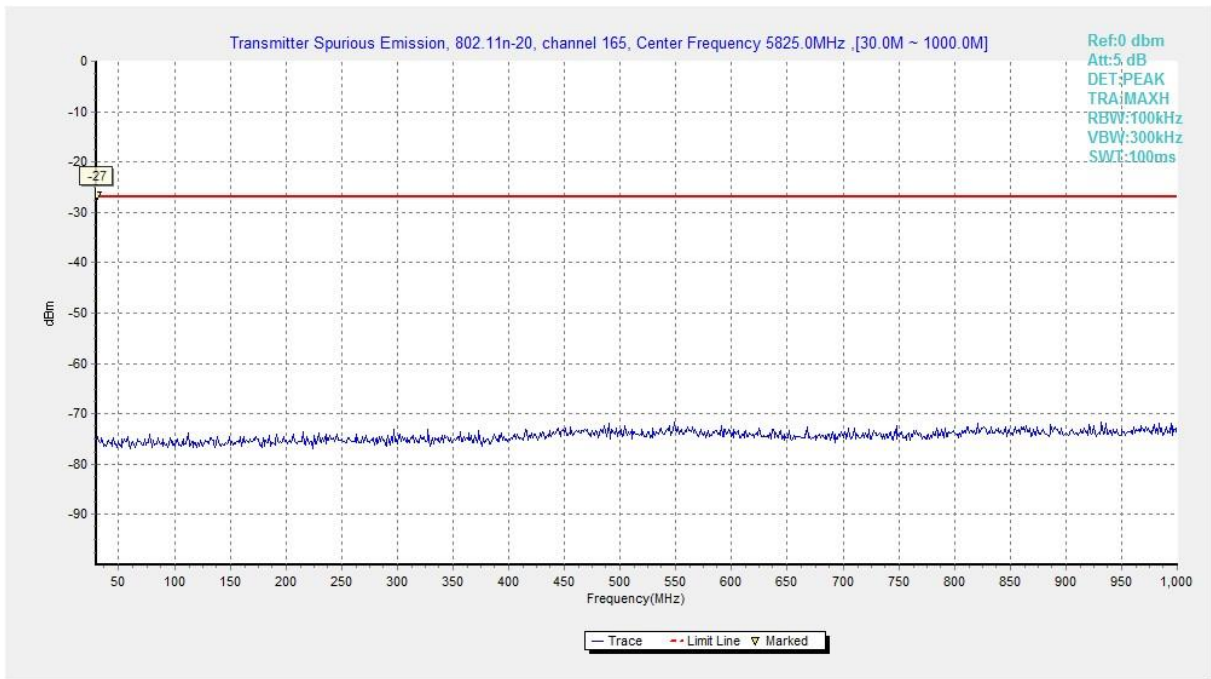


Fig. 35 Conducted Spurious Emission (802.11n-HT20, Ch165, 30 MHz-1 GHz)

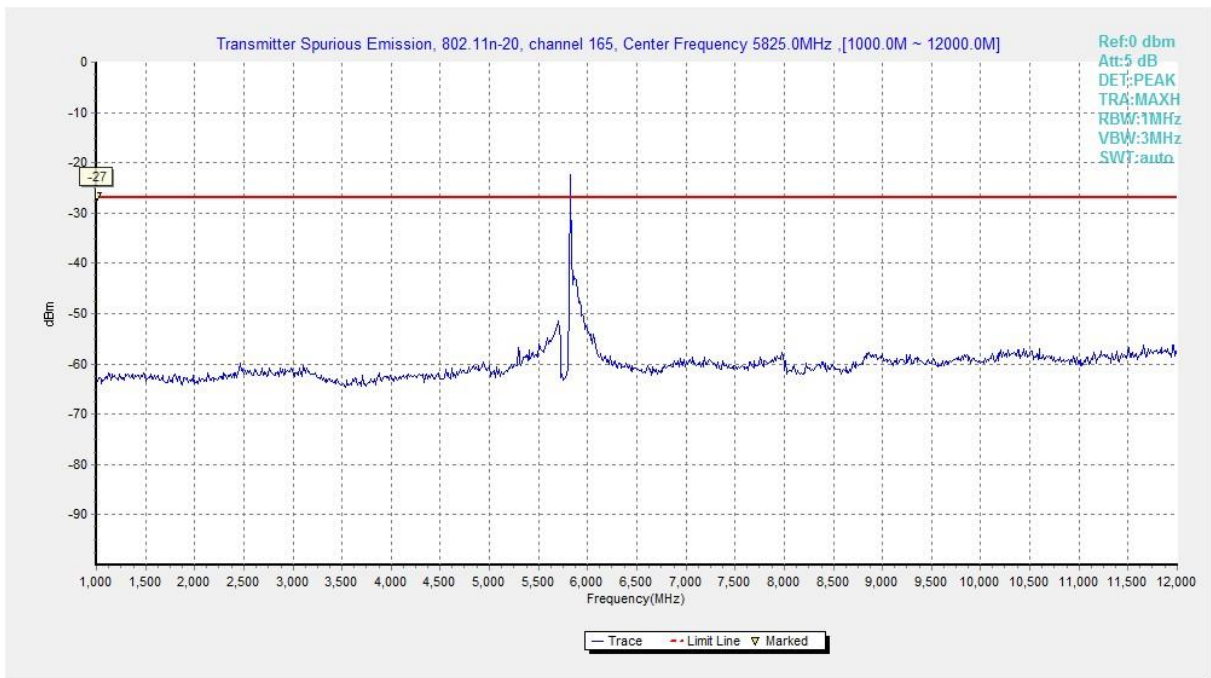


Fig. 36 Conducted Spurious Emission (802.11n-HT20, Ch165, 1 GHz -12 GHz)

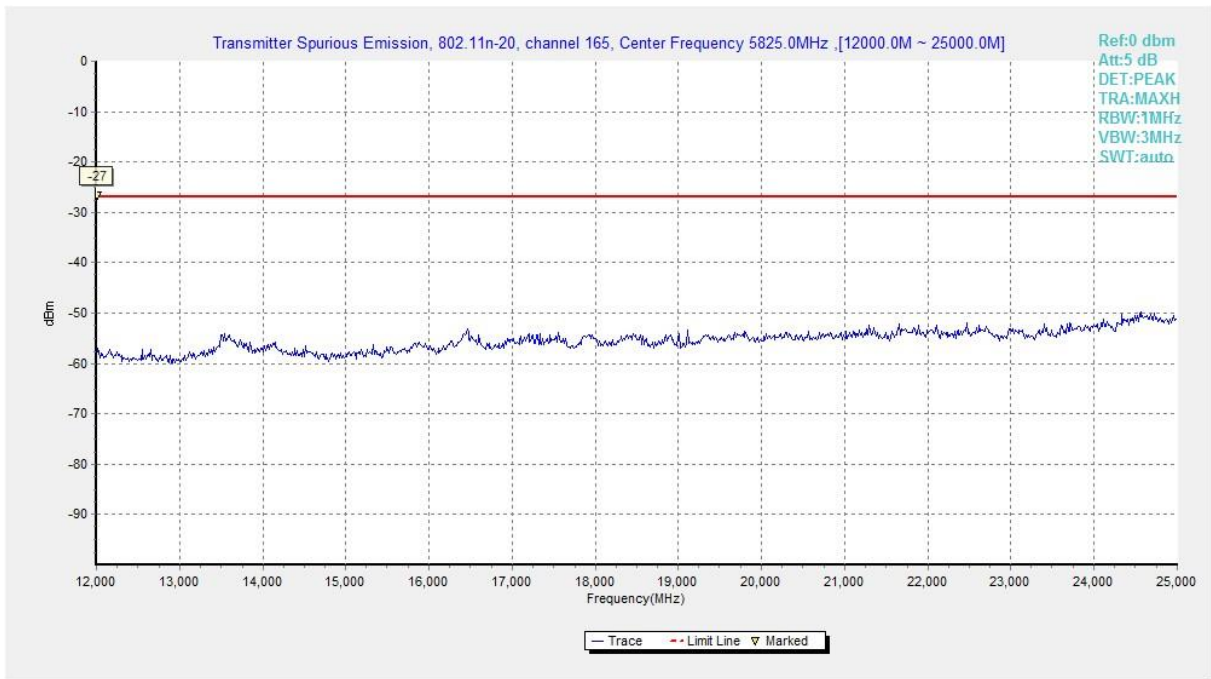


Fig. 37 Conducted Spurious Emission (802.11n-HT20, Ch165, 12 GHz-25 GHz)

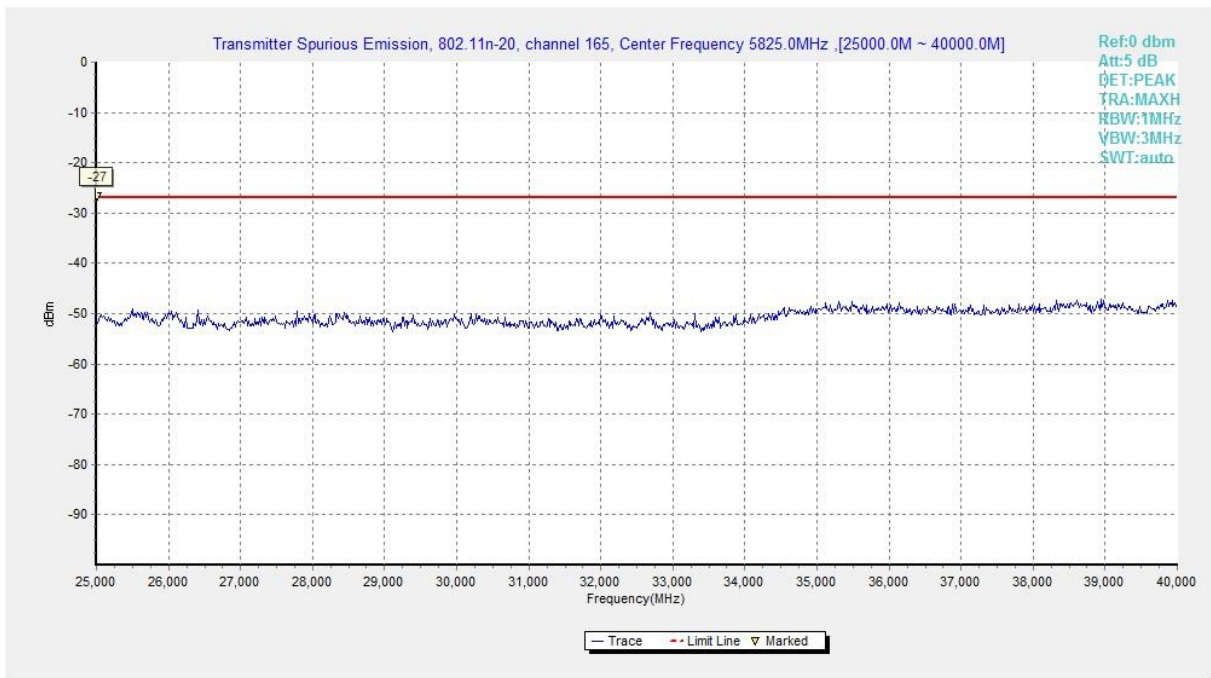


Fig. 38 Conducted Spurious Emission (802.11n-HT20, Ch165, 25 GHz-40 GHz)

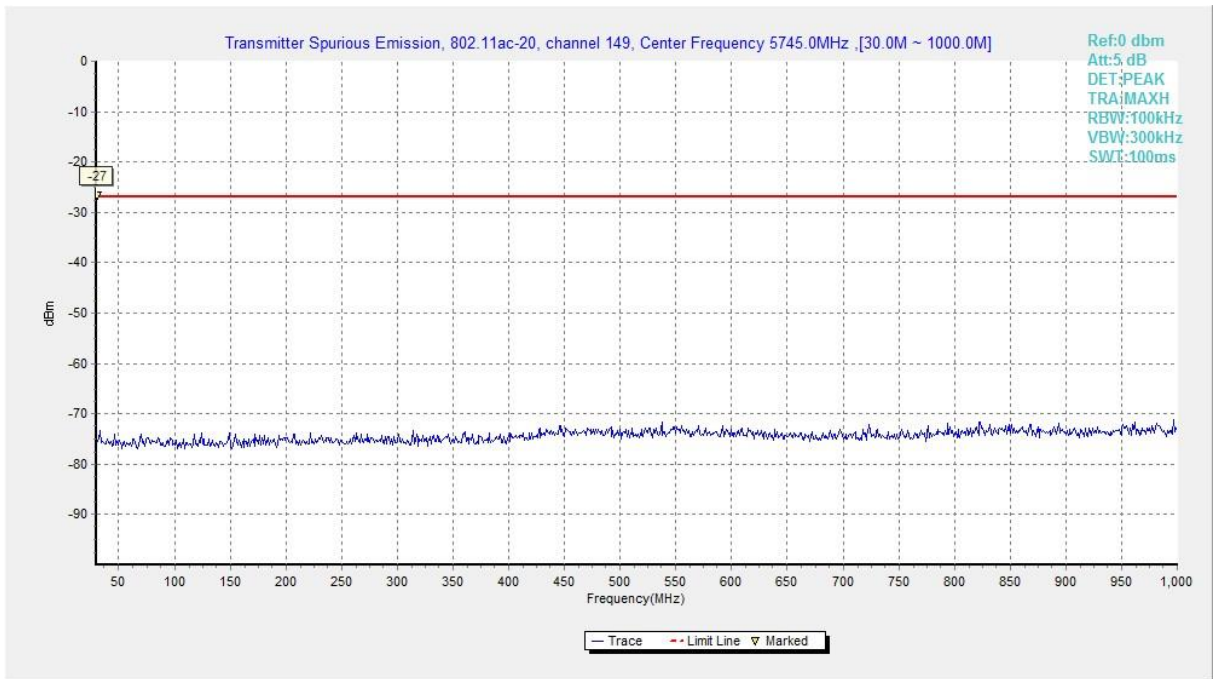


Fig. 39 Conducted Spurious Emission (802.11ac-HT20, Ch149, 30 MHz-1 GHz)

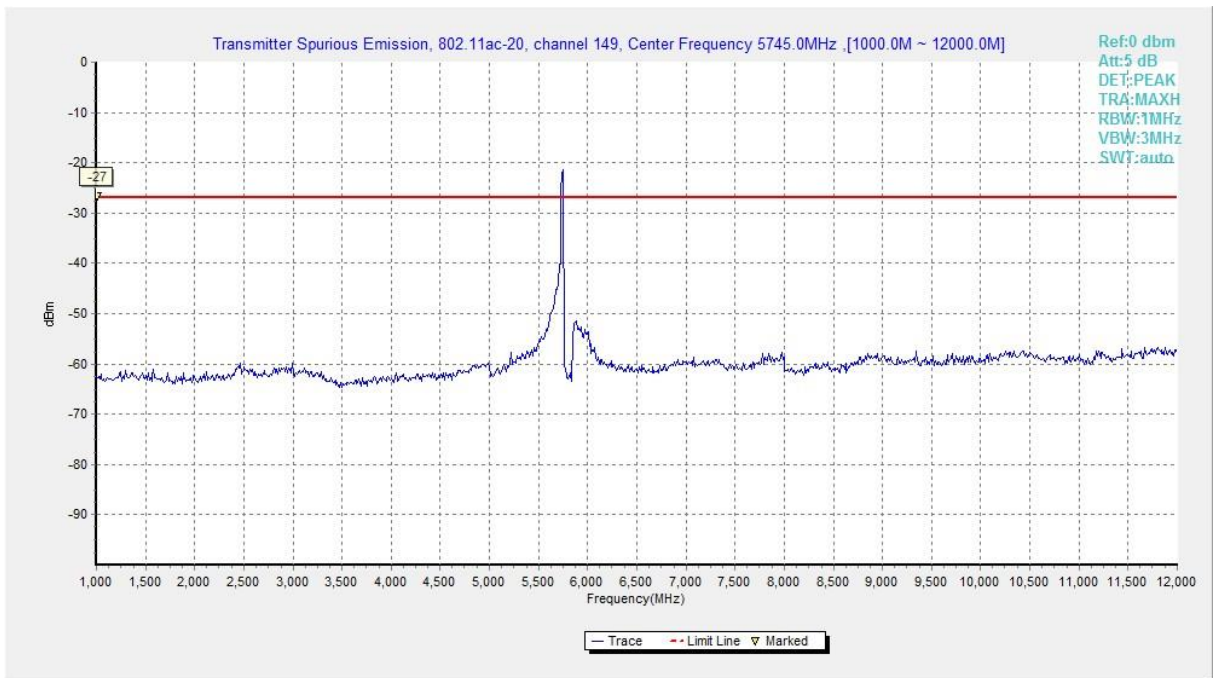


Fig. 40 Conducted Spurious Emission (802.11ac-HT20, Ch149, 1 GHz -12 GHz)

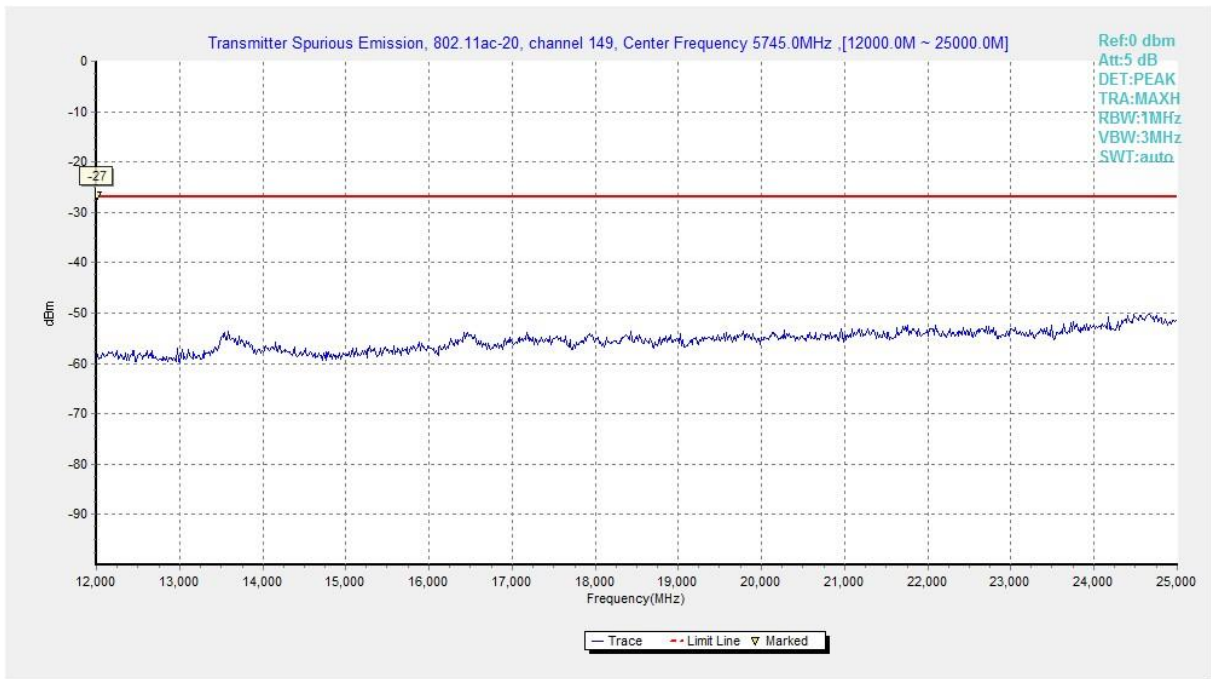


Fig. 41 Conducted Spurious Emission (802.11ac-HT20, Ch149, 12 GHz-25 GHz)

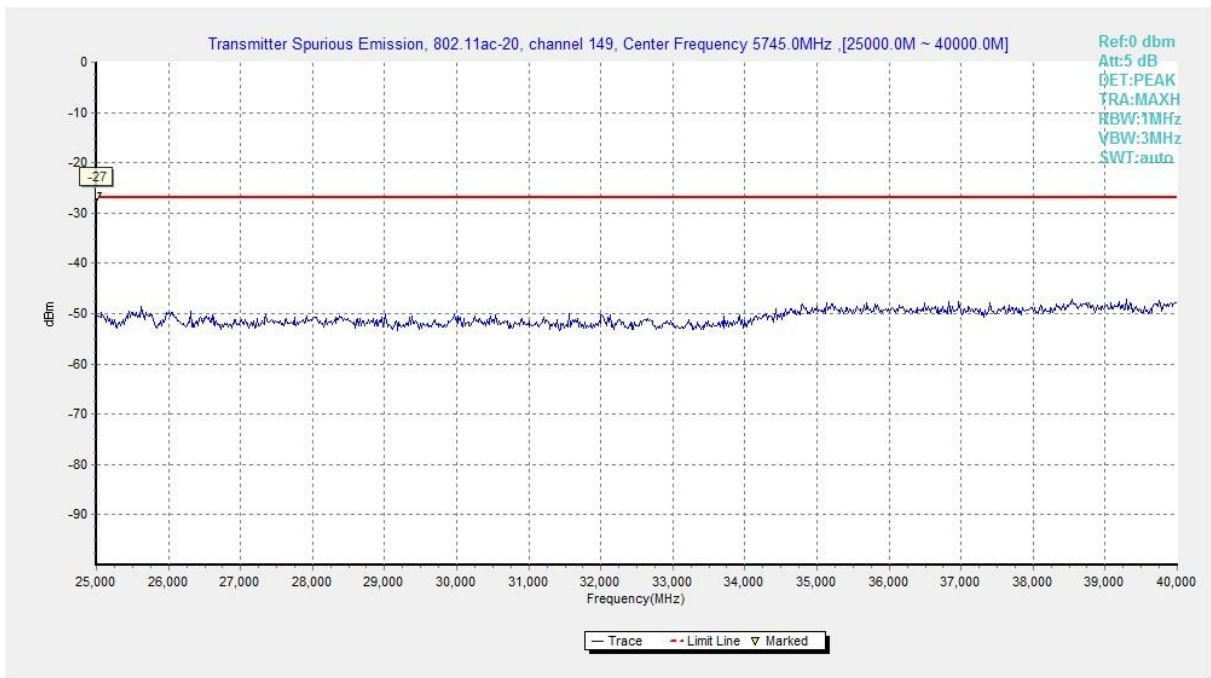


Fig. 42 Conducted Spurious Emission (802.11ac-HT20, Ch149, 25 GHz-40 GHz)

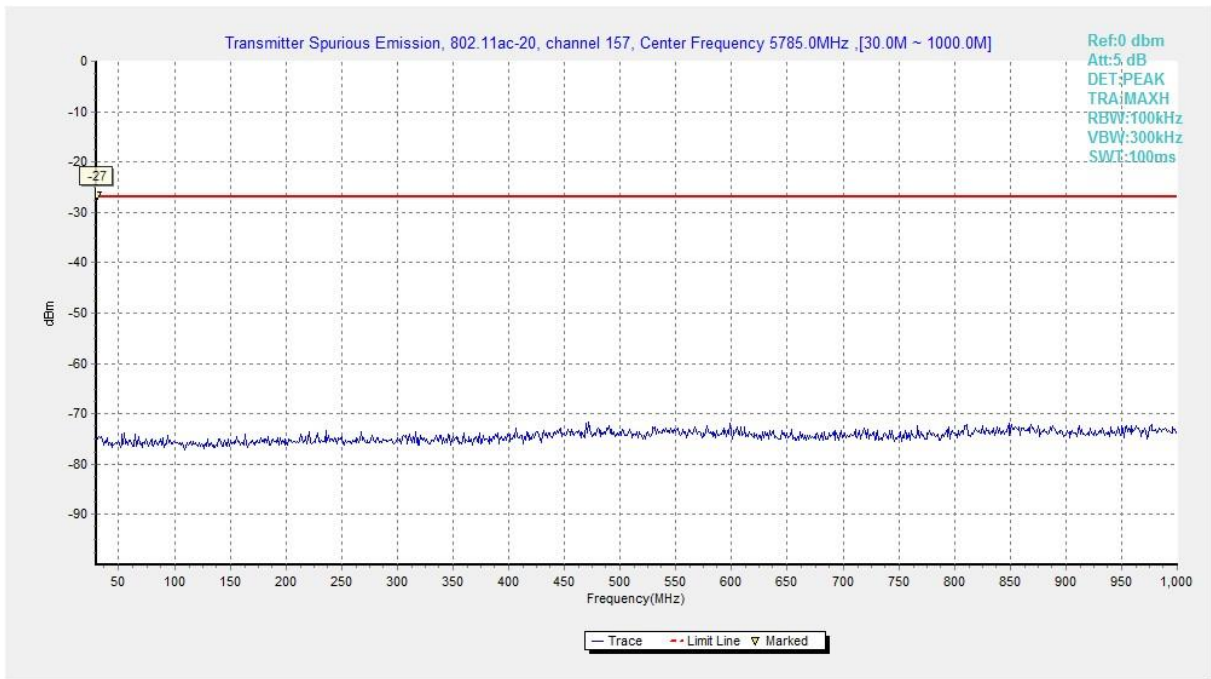


Fig. 43 Conducted Spurious Emission (802.11ac-HT20, Ch157, 30 MHz-1 GHz)

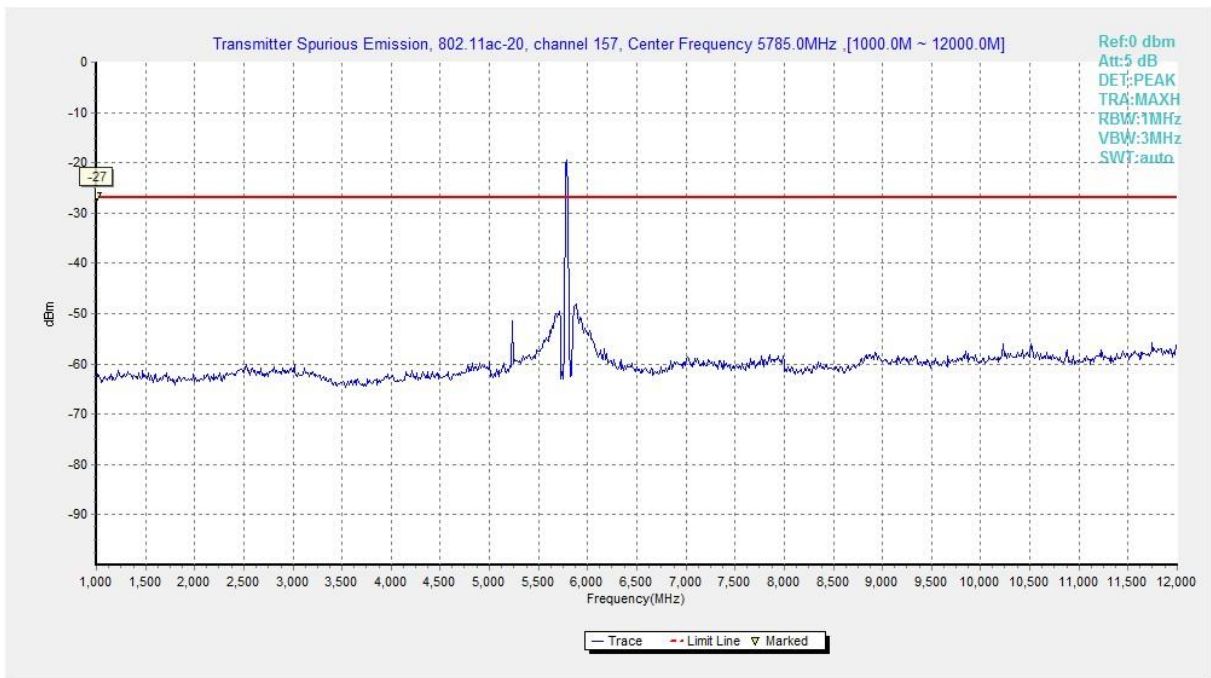


Fig. 44 Conducted Spurious Emission (802.11ac-HT20, Ch157, 1 GHz -12 GHz)

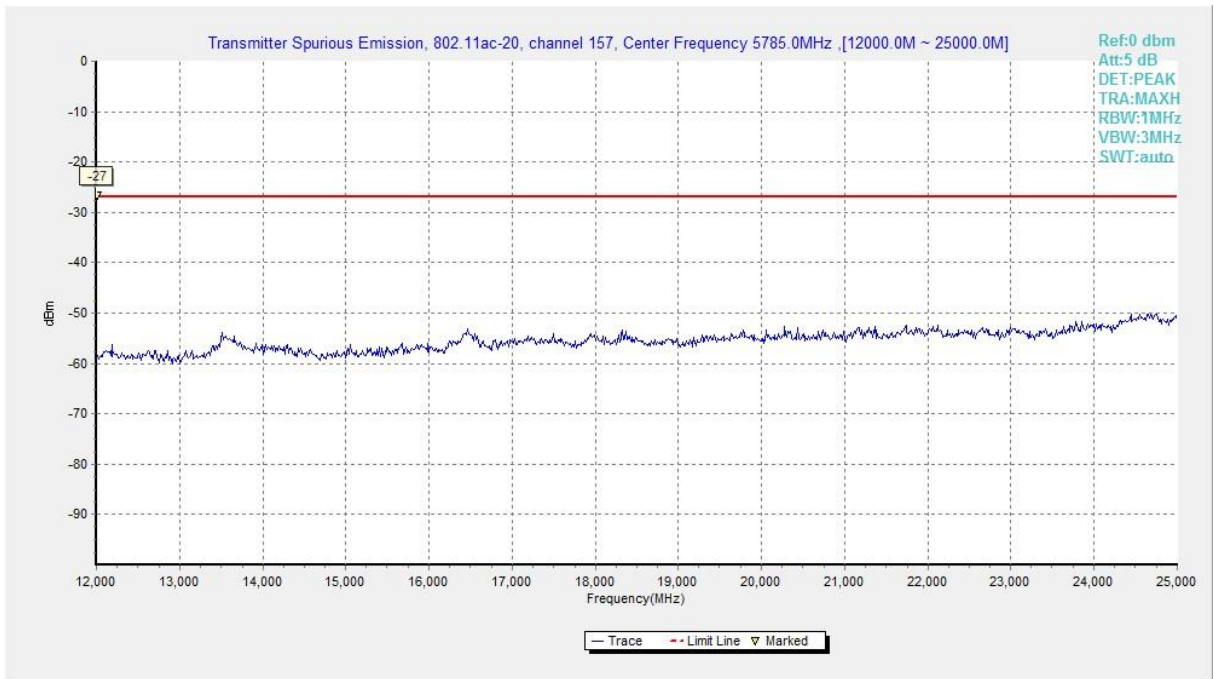


Fig. 45 Conducted Spurious Emission (802.11ac-HT20, Ch157, 12 GHz-25 GHz)

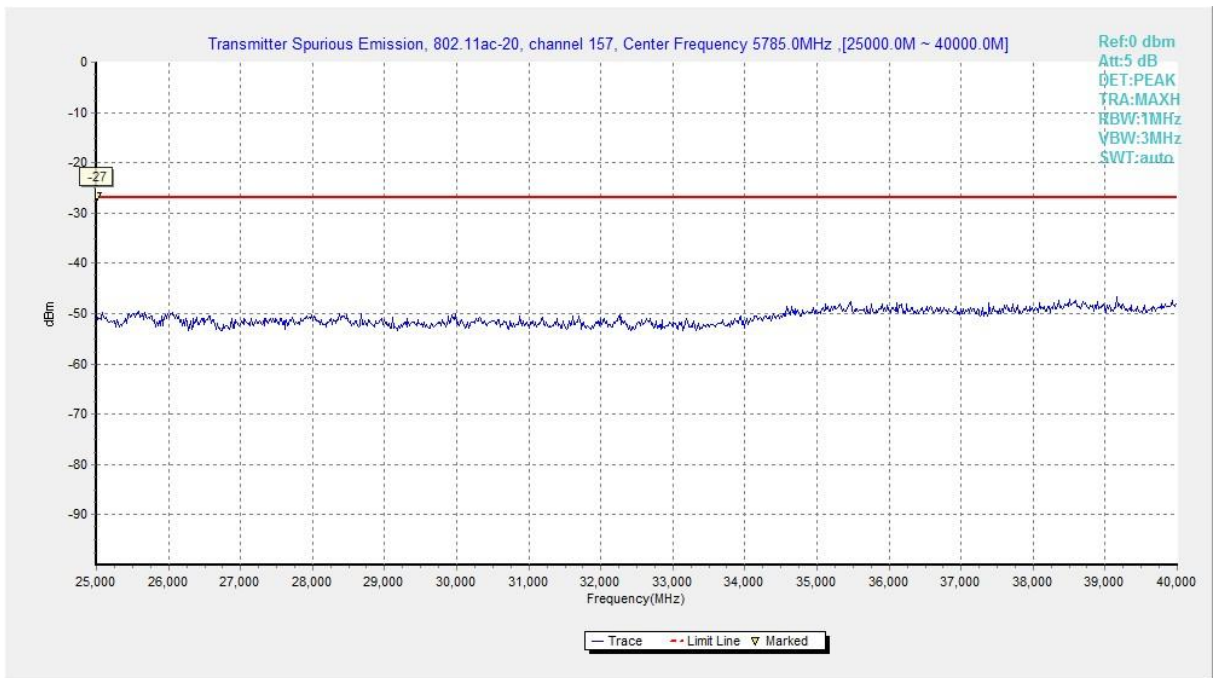


Fig. 46 Conducted Spurious Emission (802.11ac-HT20, Ch157, 25 GHz-40 GHz)