FCC PART 15
TEST REPORT
No. 2013WLN0833

for

Sony Mobile Communications AB

GSM/WCDMA Mobile Phone

Type: PM-0760-BV

FCC ID: PY7PM-0760

With

Hardware Version: A

Software Version: 19.0.D.0.109

Issued Date: 2014-01-06

Test Laboratory:
TMC Beijing, Telecommunication Metrology Center of Ministry of Industry and Information Technology
No. 52, Huayuan Bei Road, Haidian District, Beijing, P.R.China 100191
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CONTENTS

1. TEST LATORATORY

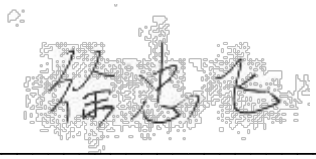
1.1. Testing Location

Company Name:	TMC Beijing, Telecommunication Metrology Center of MIIT
Address:	No 52 Hua Yuanbei Road, Haidian District, Beijing, P.R.China
Postal Code:	100191
Telephone:	008610623046332561
Fax:	008610623046332504

1.2. Project data

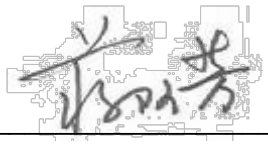
Testing Start Date:	2013-12-22
Testing End Date:	2014-01-02

1.3. Signature



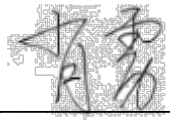
Xu Zhongfei

(Prepared this test report)



Jiang Afang

(Reviewed this test report)



Xiao Li

Deputy Director of the laboratory

(Approved this test report)

2. CLIENT INFORMATION

2.1. Applicant Information

Company Name:	Sony Mobile Communications AB
Address /Post:	Sony Mobile R&D Center, No. 16, Guangshun South Street, Chaoyang District
City:	Beijing
Postal Code:	100102
Country:	China
Contact	Ma, Gang
Telephone:	+86-10-58656312
Fax:	+86-10-58659049

2.2. Manufacturer Information

Company Name:	Sony Mobile Communications AB
Address /Post:	Sony Mobile R&D Center, No. 16, Guangshun South Street, Chaoyang District
City:	Beijing
Postal Code:	100102
Country:	China
Contact	Ma, Gang
Telephone:	+86-10-58656312
Fax:	+86-10-58659049

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

3.1. About EUT

Description	GSM 850/900/1800/1900 quad bands, GPRS, EDGE, WCDMA FDD bands 1/2/5/8, HSDPA, HSUPA, Bluetooth (EDR and 4.0), ANT+, WLAN (802.11 a/b/g/n), NFC, FM, GPS mobile phone
Type	PM-0760-BV
FCC ID	PY7PM-0760
WLAN Frequency Range	ISM Bands: -5150MHz~5250MHz -5250MHz~5350MHz -5470MHz~5725MHz
Type of modulation	OFDM
Antenna	Integral Antenna
MAX Conducted Power	12.50dBm(OFDM)
MAX Radiated Power	17.43dBm(OFDM)
Extreme Temperature	-20/+55°C
Extreme vol. Limits	3.5VDC to 4.1VDC (nominal: 3.7VDC)

Note: Photographs of EUT are shown in ANNEX C of this test report. Components list, please refer to documents of the manufacturer; it is also included in the original test record of Telecommunication Metrology Center of MIIT of People's Republic of China.

3.2. Internal Identification of EUT used during the test

EUT ID*	S/N	IMEI	HW Version	SW Version
EUT1	CB5126835K	004402147212546	AP1	19.0.D.0.109
EUT2	CB512684ER	004402147214286	AP1	19.0.D.0.109

*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	Travel Charger	AC-0400-EU	8512W19 100198
AE2	USB Cable	AI-0401	123307DE00365F2

*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 GSM/WCDMA Mobile Phone with integrated antenna and inbuilt battery.

The EUT supports GSM 850/900/1800/1900MHz bands and WCDMA FDD bands 1/2/5/8. It supports GPRS service with multi-slots class 33 and EGPRS service with multi-slots class 33. The HSDPA and HSUPA (Cat 6) features are also supported.

It has MP3, camera, USB memory, Mobile High-Definition Link (MHL), FM radio, GPS receiver, NFC, Bluetooth (EDR and Bluetooth 4.0), ANT+, WLAN (802.11 a/b/g/n) and Wi-Fi hotspot functions. For WLAN 802.11n, it supports 20MHz and 40MHz bandwidths on both 2.4GHz band and 5GHz/5.8GHz band.

It consists of normal options: USB cable and travel 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 Part15	Title 47 of the Code of Federal Regulations; Chapter I Part 15 - Radio frequency devices	Oct, 2012
UNII: KDB 789033	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E	April, 2013

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 Part15E	Sub-clause of IC	Verdict
Maximum Output Power	15.407	/	**P**
Power Spectral Density	15.407	/	**P**
Occupied 26dB Bandwidth	15.403	/	**P**
Band edge compliance	15.407	/	**P**
Transmitter spurious emissions radiated	15.407	/	**P**
Spurious emissions radiated < 30 MHz	15.407	/	**P**
Spurious emissions conducted < 30 MHz	15.407	/	**P**
Peak Excursion	15.407	/	**P**
Frequency Stability	15.407	/	**NA**
Transmit Power Control	15.407	/	**NA**

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 TMC
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

TMC 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℃
Voltage	3.7V
Humidity	44%

7. TEST EQUIPMENTS UTILIZED

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration date	Calibration Due date
1	Vector Signal Analyzer	FSQ40	200089	Rohde & Schwarz	2013-07-08	2014-07-07
2	Test Receiver	ESS	847151/015	Rohde & Schwarz	2013-10-29	2014-10-28
3	LISN	ESH2-Z5	829991/012	Rohde & Schwarz	2013-4-15	2014-08-12
4	Shielding Room	S81	/	ETS-Lindgren	/	/

Radiated emission test system

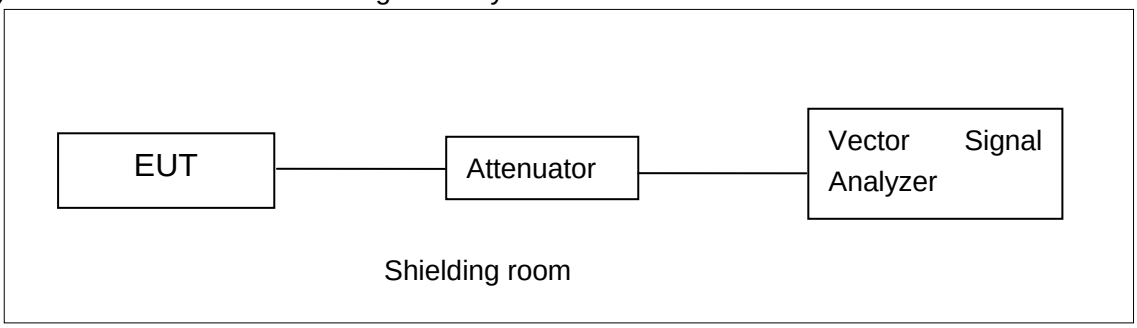
No.	Equipment	Model	Serial Number	Manufacturer	Calibration date	Calibration Due date
1	Test Receiver	ESCI	100344	Rohde & Schwarz	2013-11-8	2014-11-7
2	Test Receiver	ESCI 7	100948	Rohde & Schwarz	2013-07-19	2014-07-18
3	BiLog Antenna	VULB9163	9163-514	Schwarzbeck	2011-11-11	2014-11-10
4	Dual-Ridge Waveguide Horn Antenna	3117	00119024	ETS-Lindgren	2011-2-2	2014-2-1
5	Dual-Ridge Waveguide Horn Antenna	3116	2661	EMCO	2011-7-1	2014-06-30
6	Loop antenna	HFH2-Z2	829324/007	Rohde & Schwarz	2011-12-21	2014-12-20
7	Semi-anechoic chamber	/	CT000332-1074	Frankonia German	/	/

ANNEX A: MEASUREMENT RESULTS

A.1. Measurement Method

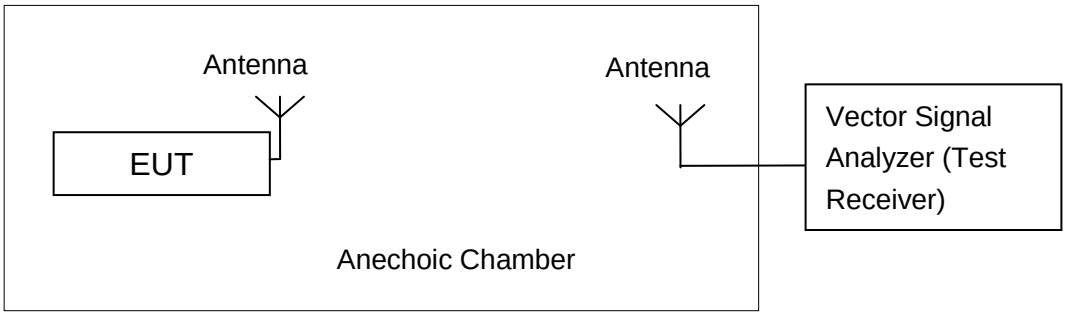
A.1.1. Conducted Measurements

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 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	17dBm or 4+10logB
	5250MHz~5350MHz	24dBm or 11+10logB
	5470MHz~5725MHz	24dBm or 11+10logB

Limit use the less value, and B is the 26dB bandwidth.
The measurement method SA-1 is made according to KDB 789033

Measurement Uncertainty:

Measurement Uncertainty	0.75dB

A.2.1. Output Power Verification

This test is only for mode verification, and the selected mode will be used for the future measurement.

Measurement Results:

OFDM/a mode	Maximum Conducted Power (dBm)							
data rate (Mbps)	6	9	12	18	24	36	48	54
36 (5180 MHz)	11.85	11.75	11.68	11.55	11.40	11.20	10.99	10.92

OFDM/n-HT20 mode	Maximum Conducted Power (dBm)							
data rate (Mbps)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
36 (5180 MHz)	11.88	11.70	11.58	11.46	11.25	11.10	10.98	10.50

OFDM/n-HT40 mode	Maximum Conducted Power (dBm)							
data rate (Index)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
38 (5190 MHz)	7.36	7.13	6.92	6.71	6.44	6.22	6.10	6.01

Selected data rate for all measurement:

OFDM /a-mode: 6Mbps

OFDM /n-HT20 mode: MCS0

OFDM /n-HT40 mode: MCS0

A.2.2. Antenna Gain

The antenna gain of the complete system is calculated by the difference of radiated power and the conducted power of the EUT.

Band 5150MHz to 5350MHz,

Test	Channel					
Tnom,Vnom	Low (5180MHz)	Middle (5200MHz)	High (5240MHz)	Low (5260MHz)	Middle (5280MHz)	High (5320MHz)
Conducted Power(dBm)	15.52	15.95	15.84	15.45	14.27	15.40
Radiated Power(dBm)	19.48	19.38	18.99	19.19	19.12	19.07
Gain(dBi)	3.96	3.43	3.15	3.74	4.85	3.67

Band 5470MHz to 5725MHz,

Test	Channel		
Tnom,Vnom	Low(5500MHz)	Middle(5580MHz)	High(5700MHz)
Conducted Power(dBm)	15.35	16.06	14.39
Radiated Power(dBm)	19.45	19.81	19.49
Gain(dBi)	4.10	3.75	5.10

Antenna Gain = Radiated value (with radiated sample) - Conducted values (with conducted samples)

A.2.3. Maximum Output Power

Measurement Results:

802.11a mode

Type	Test Result					
	5180MHz (Ch36)	**5200MHz (Ch40)**	**5240MHz (Ch48)**	**5260MHz (Ch52)**	**5280MHz (Ch56)**	**5320 MHz (Ch64)**
Conducted(dBm)	11.85	11.99	12.24	12.38	12.50	12.46
radiated(dBm)	15.81	15.42	15.39	16.12	17.35	16.13

Type	Test Result		
	5500MHz (Ch100)	**5580MHz (Ch116)**	**5700MHz (Ch140)**
conducted(dBm)	12.31	12.34	12.31
radiated(dBm)	16.41	16.09	17.41

802.11n-HT20 mode

Type	Test Result					
	5180MHz (Ch36)	5200MHz (Ch40)	5240MHz (Ch48)	5260MHz (Ch52)	5280MHz (Ch56)	5320 MHz (Ch64)
conducted(dBm)	11.88	12.01	12.27	12.40	12.50	12.48
radiated(dBm)	15.84	15.44	15.42	16.14	17.35	16.15

Type	Test Result		
	5500MHz (Ch100)	5580MHz (Ch116)	5700MHz (Ch140)
conducted(dBm)	12.33	12.36	12.33
radiated(dBm)	16.43	16.11	17.43

802.11n-HT40 mode

Type	Test Result			
	5190MHz (Ch38)	5230MHz (Ch46)	5270MHz (Ch55)	5310 MHz (Ch63)
conducted(dBm)	7.34	7.71	8.27	8.97
radiated(dBm)	11.30	10.86	12.01	12.64

Type	Test Result		
	5510MHz (Ch102)	5550MHz (Ch110)	5670MHz (Ch134)
conducted(dBm)	8.28	8.99	9.14
radiated(dBm)	12.38	12.74	14.24

Conclusion: PASS

A.3. Peak Power Spectral Density (conducted)

Measurement Limit:

Standard	Frequency (MHz)	Limit (dBm/MHz)
FCC CRF Part 15.407(a)	5150MHz~5250MHz	4
	5250MHz~5350MHz	11
	5470MHz~5725MHz	11

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

Measurement Uncertainty:

Measurement Uncertainty	0.75dB

Measurement Results:

Mode	Channel	Power Spectral Density (dBm/MHz)	Conclusion
802.11a	5180 MHz	-2.83	P
	5200 MHz	-2.89	P
	5240 MHz	-1.99	P
	5260 MHz	-1.99	P
	5280 MHz	-2.04	P
	5320 MHz	-1.21	P
	5500 MHz	-2.19	P
	5580 MHz	-1.46	P
	5700 MHz	-2.10	P
802.11n HT20	5180 MHz	-3.04	P
	5200 MHz	-3.06	P
	5240 MHz	-2.33	P
	5260 MHz	-2.13	P
	5280 MHz	-2.15	P
	5320 MHz	-1.28	P
	5580 MHz	-2.51	P
	5600 MHz	-1.67	P
	5700 MHz	-2.27	P
802.11n HT40	5190 MHz	-6.34	P
	5230 MHz	-5.36	P
	5270 MHz	-5.21	P
	5310 MHz	-4.48	P
	5510 MHz	-5.19	P
	5550 MHz	-4.46	P
	5670 MHz	-4.60	P

Conclusion: PASS

A.4. Occupied 26dB Bandwidth(conducted)

Measurement Limit:

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

The measurement is made according to KDB 789033

Measurement Uncertainty:

Measurement Uncertainty	60.80Hz

Measurement Result:

Mode	Channel	Occupied 26dB Bandwidth (kHz)		conclusion
802.11a	5180 MHz	Fig.1	22580	P
	5200 MHz	Fig.2	22388	P
	5240 MHz	Fig.3	22596	P
	5260 MHz	Fig.4	22468	P
	5280 MHz	Fig.5	22740	P
	5320 MHz	Fig.6	22516	P
	5500 MHz	Fig.7	22596	P
	5580 MHz	Fig.8	22676	P
	5700 MHz	Fig.9	22516	P
802.11n HT20	5180 MHz	Fig.10	22596	P
	5200 MHz	Fig.11	22949	P
	5240 MHz	Fig.12	22756	P
	5260 MHz	Fig.13	22708	P
	5280 MHz	Fig.14	22500	P
	5320 MHz	Fig.15	22356	P
	5500 MHz	Fig.16	22436	P
	5580 MHz	Fig.17	22596	P
	5700 MHz	Fig.18	22596	P
802.11n HT40	5190 MHz	Fig.19	44615	P
	5230 MHz	Fig.20	45000	P
	5270 MHz	Fig.21	46154	P
	5310 MHz	Fig.22	45000	P
	5510 MHz	Fig.23	45256	P
	5550 MHz	Fig.24	45641	P
	5670 MHz	Fig.25	45897	P

Conclusion: PASS

Test graphs as below:

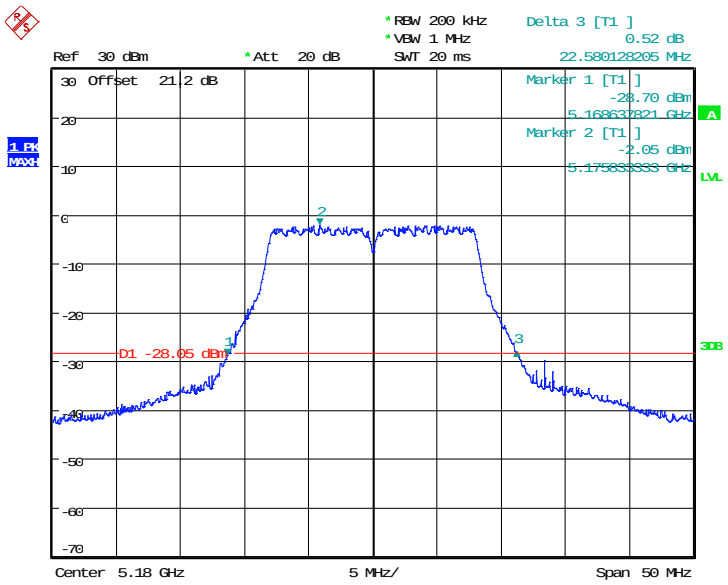


Fig. 1 Occupied 26dB Bandwidth (802.11a, 5180MHz)

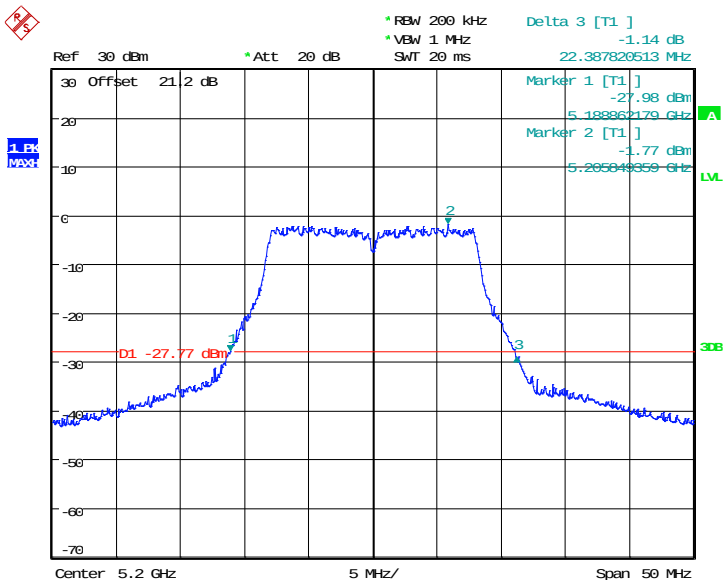


Fig. 2 Occupied 26dB Bandwidth (802.11a, 5200MHz)

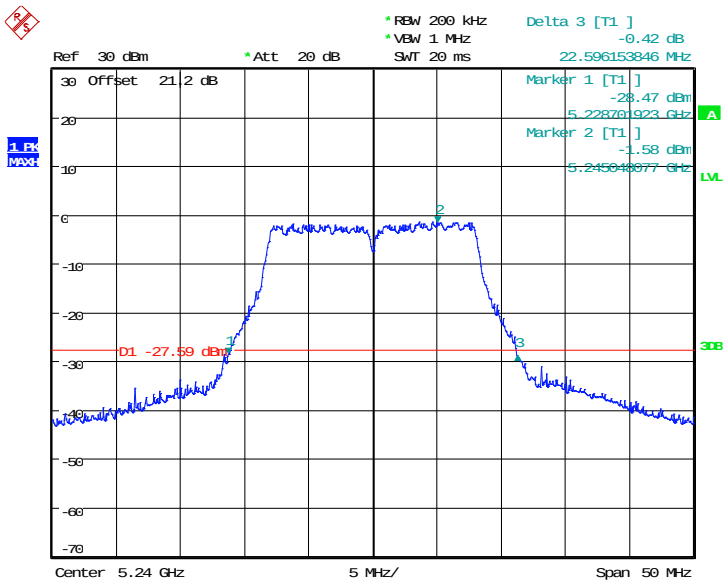


Fig. 3 Occupied 26dB Bandwidth (802.11a, 5240MHz)

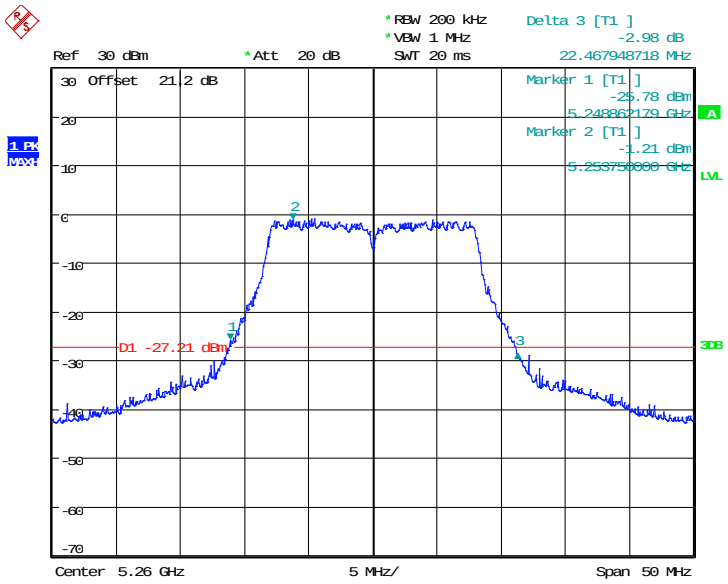


Fig. 4 Occupied 26dB Bandwidth (802.11a, 5260MHz)

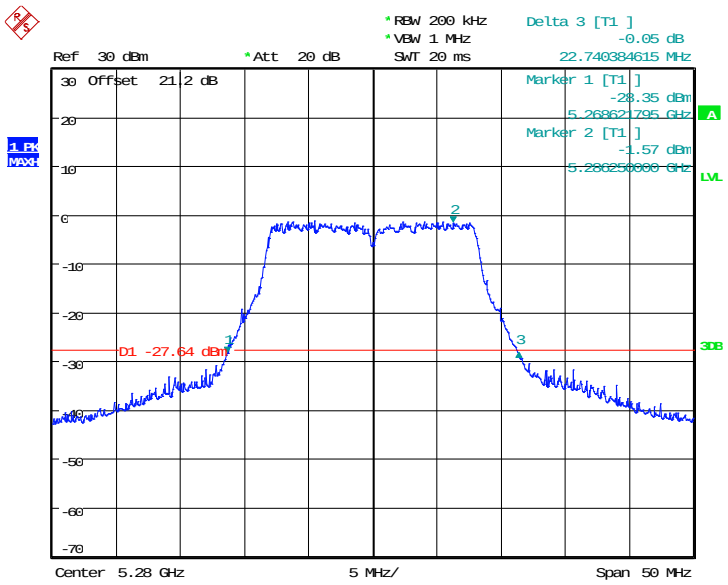


Fig. 5 Occupied 26dB Bandwidth (802.11a, 5280MHz)

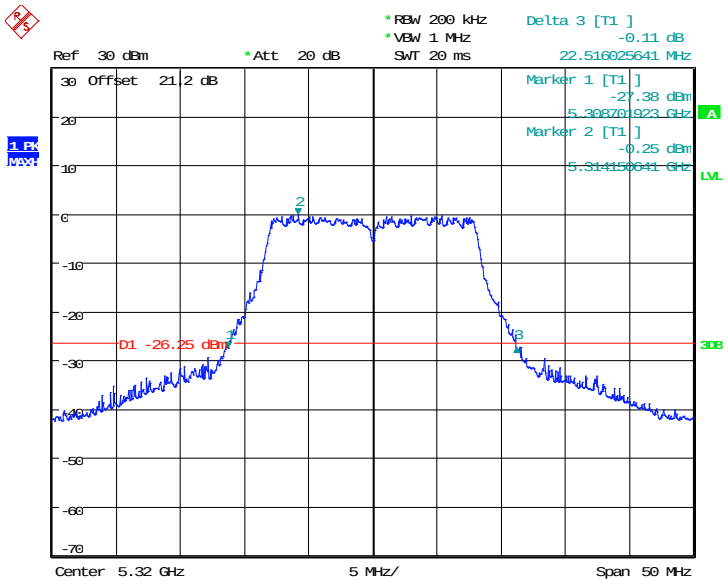


Fig. 6 Occupied 26dB Bandwidth (802.11a, 5320MHz)

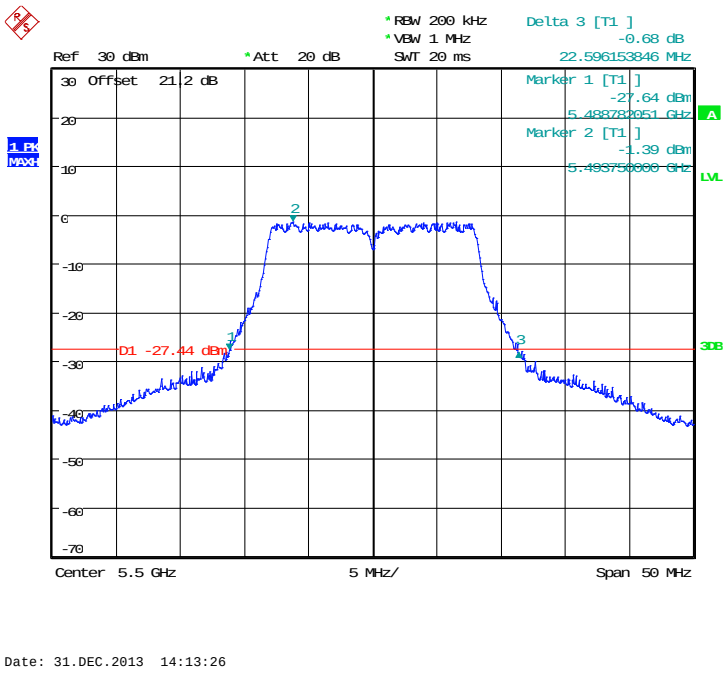


Fig. 7 Occupied 26dB Bandwidth (802.11a, 5500MHz)

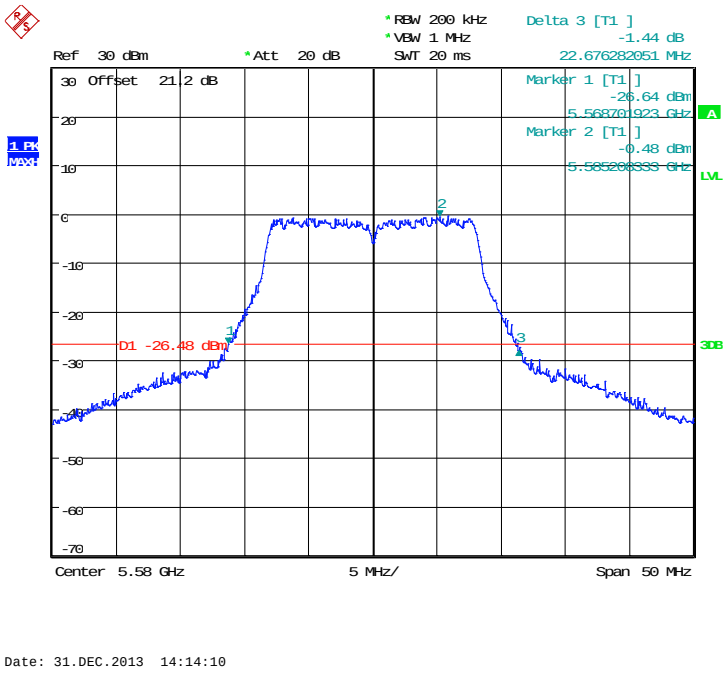


Fig. 8 Occupied 26dB Bandwidth (802.11a, 5580MHz)

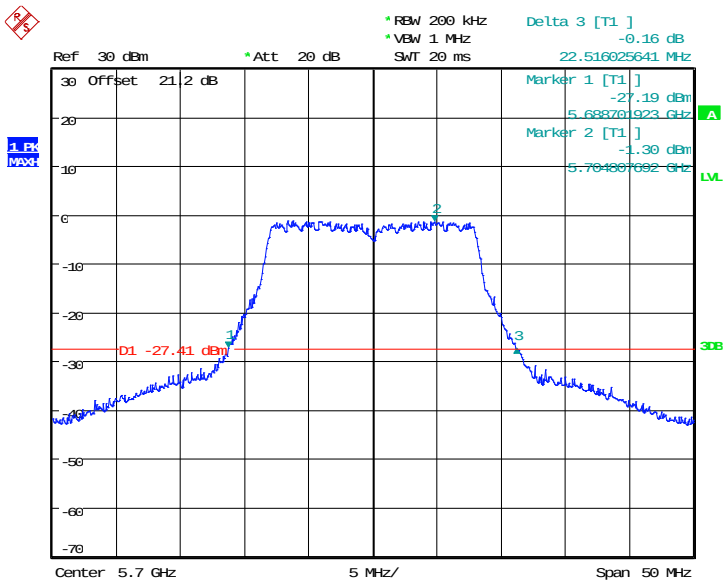


Fig. 9 Occupied 26dB Bandwidth (802.11a, 5700MHz)

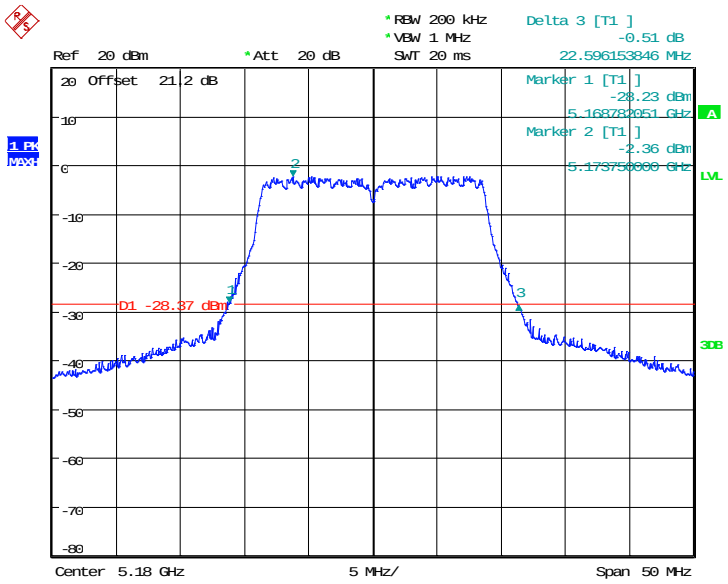


Fig. 10 Occupied 26dB Bandwidth (802.11n-HT20, 5180MHz)

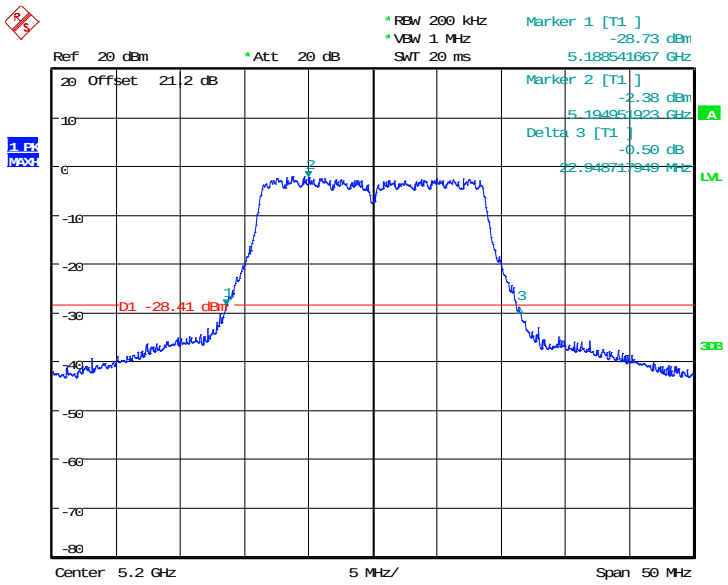


Fig. 11 Occupied 26dB Bandwidth (802.11n-HT20, 5200MHz)

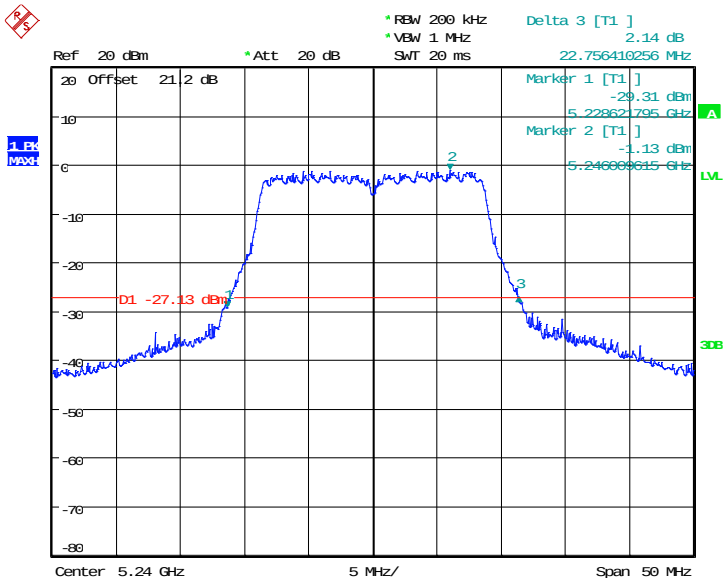


Fig. 12 Occupied 26dB Bandwidth (802.11n-HT20, 5240MHz)

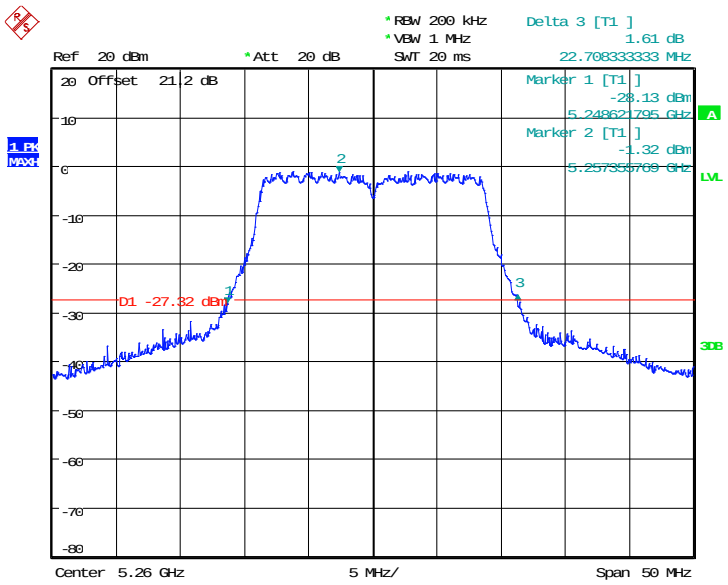


Fig. 13 Occupied 26dB Bandwidth (802.11n-HT20, 5260MHz)

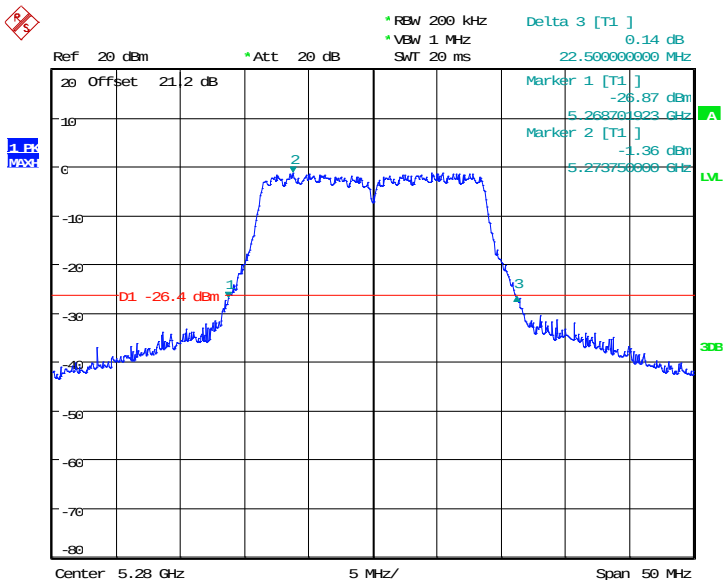


Fig. 14 Occupied 26dB Bandwidth (802.11n-HT20, 5280MHz)

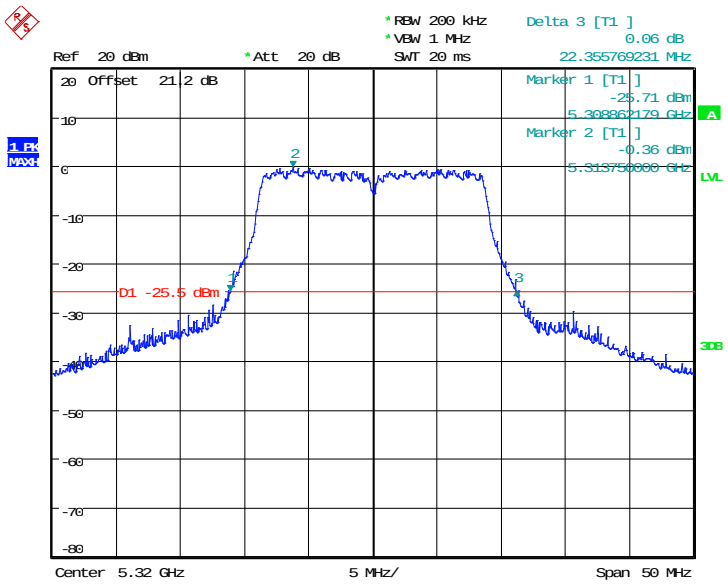


Fig. 15 Occupied 26dB Bandwidth (802.11n-HT20, 5320MHz)

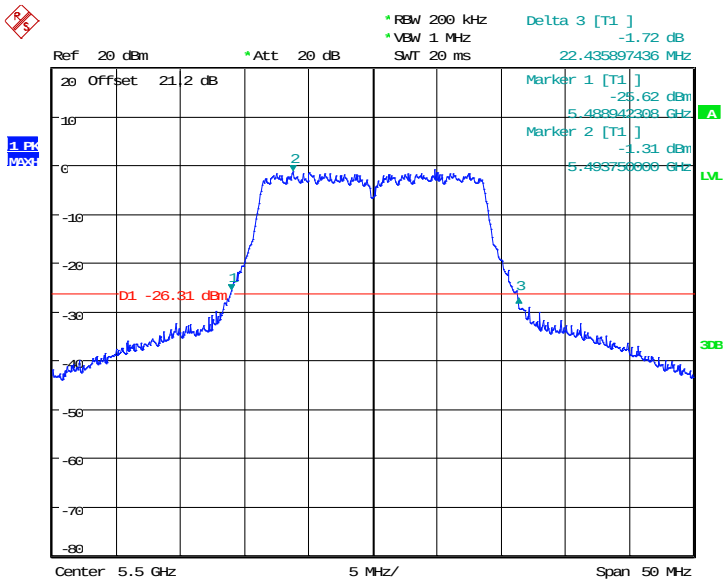


Fig. 16 Occupied 26dB Bandwidth (802. 11n-HT20, 5500MHz)

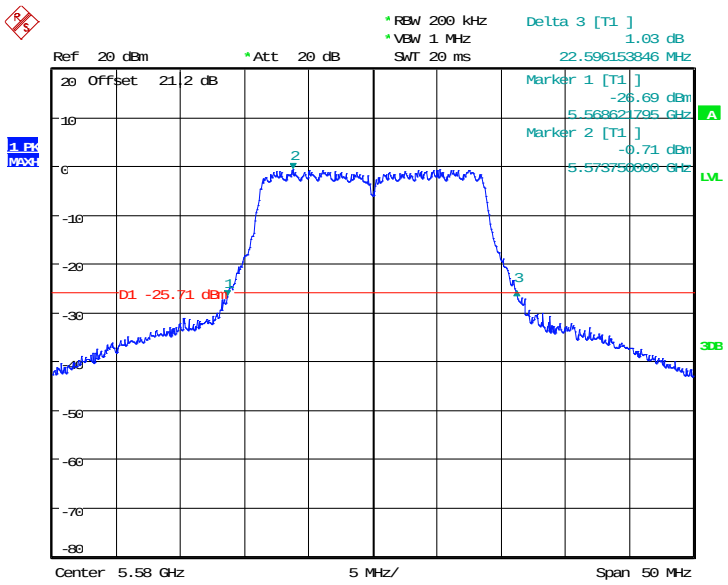


Fig. 17 Occupied 26dB Bandwidth (802. 11n-HT20, 5580MHz)

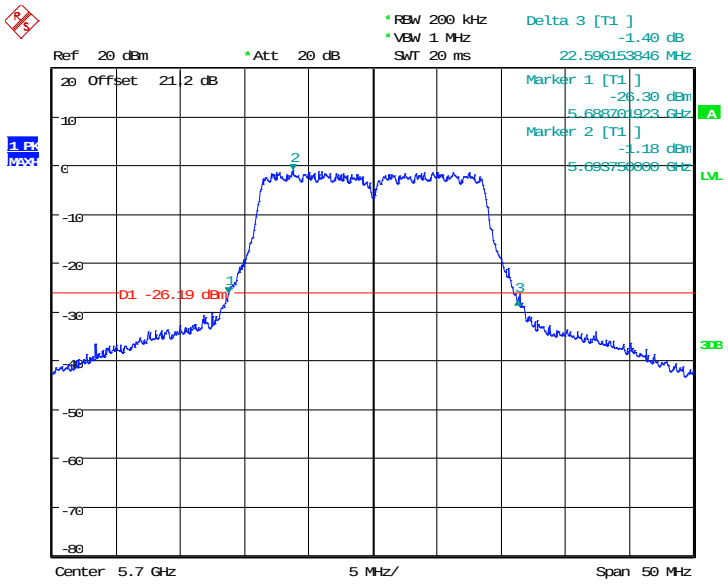


Fig. 18 Occupied 26dB Bandwidth (802. 11n-HT20, 5700MHz)

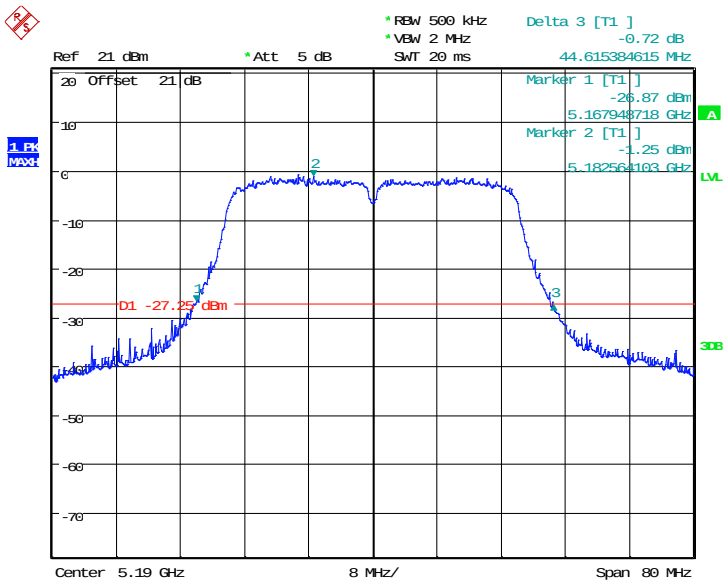


Fig. 19 Occupied 26dB Bandwidth (802.11n-HT40, 5190MHz)

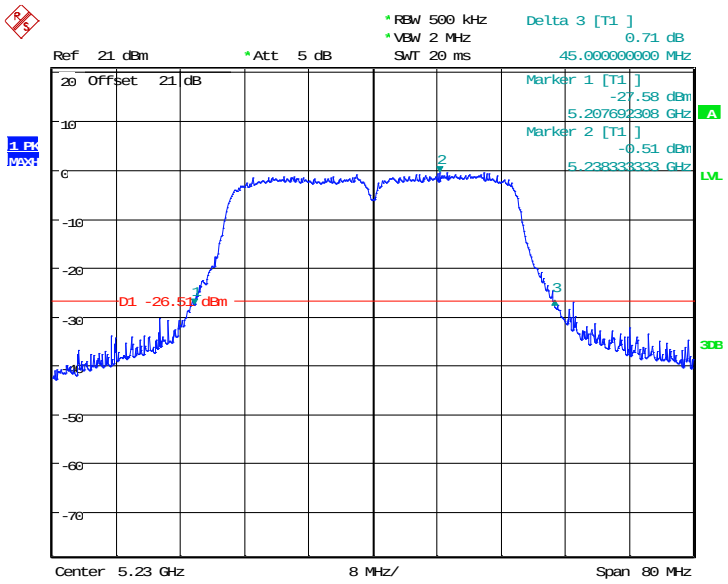


Fig. 20 Occupied 26dB Bandwidth (802.11n-HT40, 5230MHz)

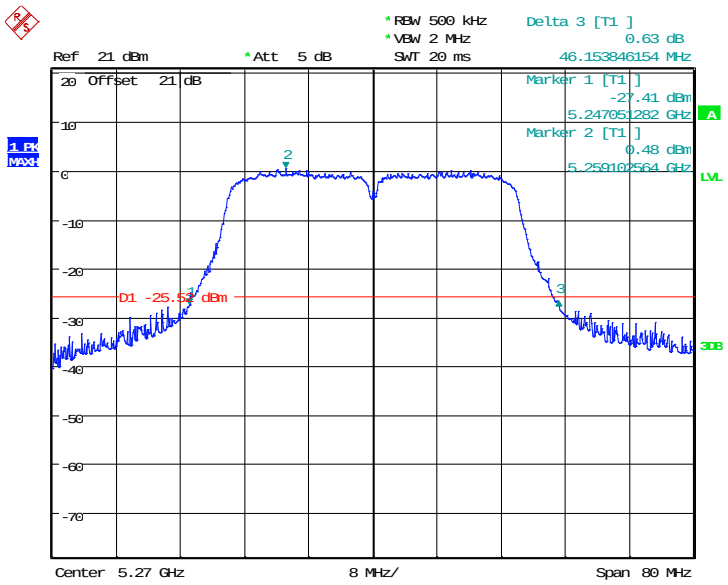


Fig. 21 Occupied 26dB Bandwidth (802.11n-HT40, 5270MHz)

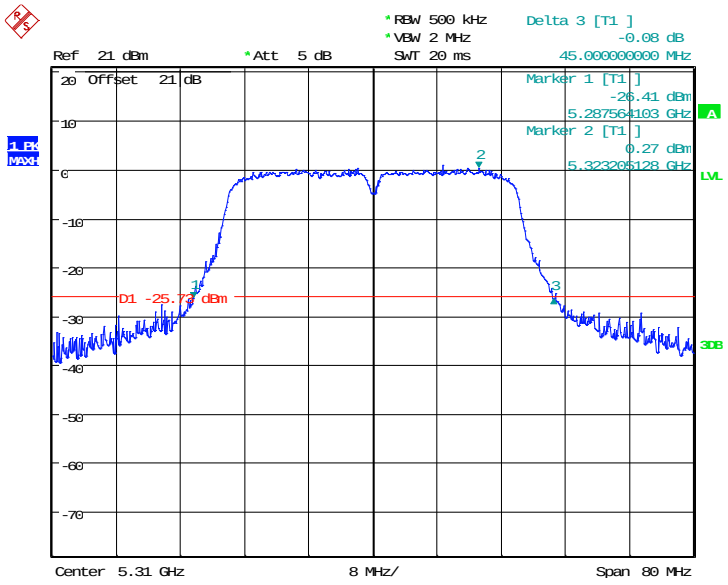


Fig. 22 Occupied 26dB Bandwidth (802.11n-HT40, 5310MHz)

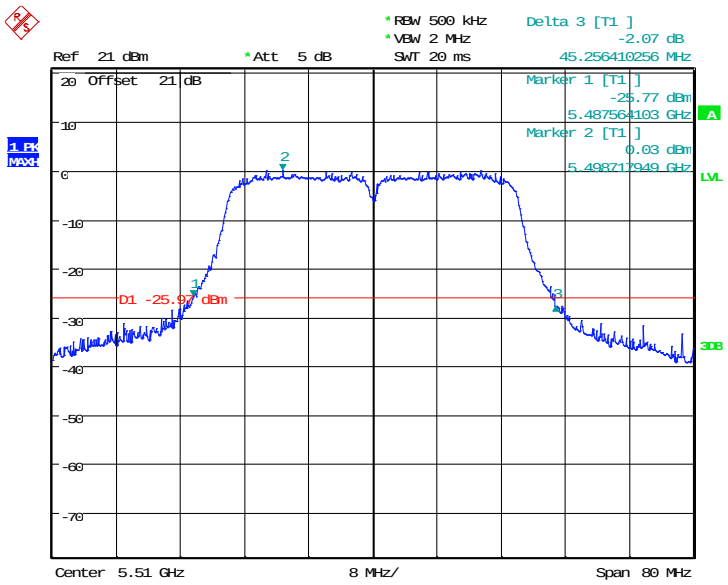


Fig. 23 Occupied 26dB Bandwidth (802. 11n-HT40, 5510MHz)

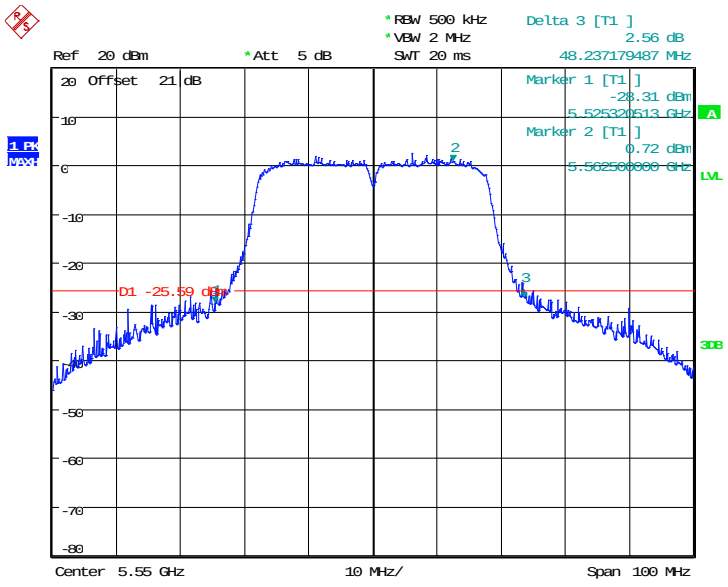


Fig. 24 Occupied 26dB Bandwidth (802. 11n-HT40, 5550MHz)

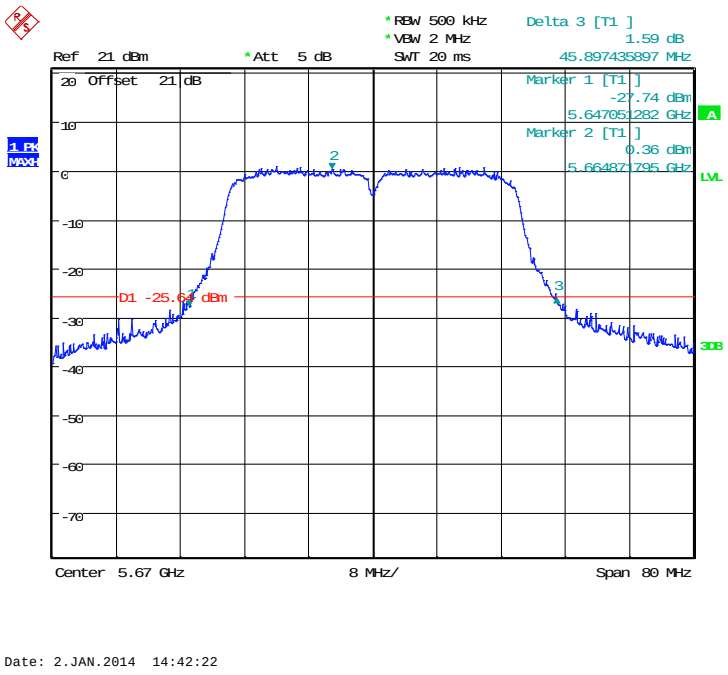


Fig. 25 Occupied 26dB Bandwidth (802. 11n-HT40, 5670MHz)

A.5. Band Edges Compliance

A5.1 Band Edges - conducted

Measurement Limit:

Standard	Limit (dBc)
FCC 47 CFR Part 15.407	> 20

The measurement is made according to KDB 789033

Measurement Uncertainty:

Measurement Uncertainty	0.75dB

Measurement Result:

Mode	Channel	Test Results	Conclusion
802.11a	5180 MHz	Fig.26	P
	5320 MHz	Fig.27	P
	5500 MHz	Fig.28	P
802.11n HT20	5180 MHz	Fig.29	P
	5320 MHz	Fig.30	P
	5500 MHz	Fig.31	P
802.11n HT40	5190 MHz	Fig.32	P
	5310 MHz	Fig.33	P
	5510 MHz	Fig.34	P

Conclusion: PASS

Test graphs as below:

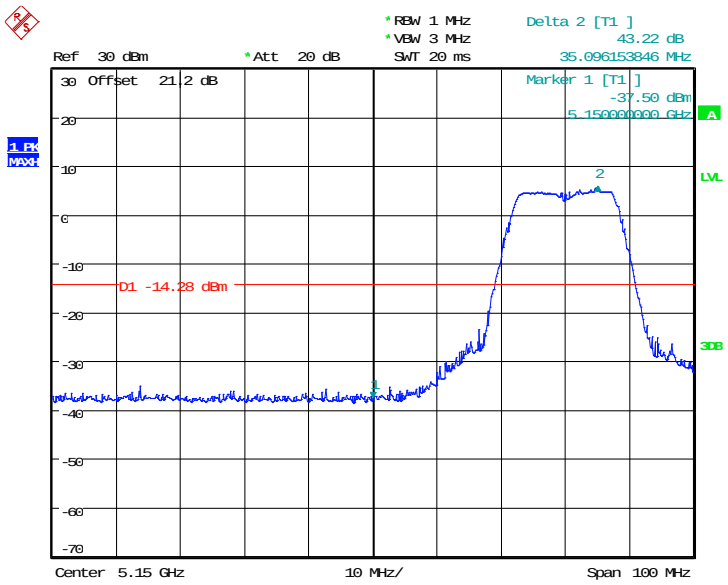


Fig. 26 Band Edges (802.11a, 5180MHz)

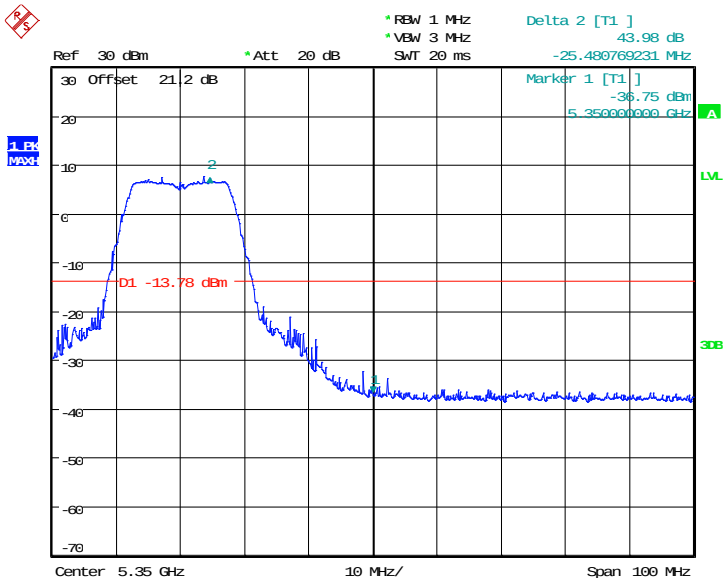


Fig. 27 Band Edges (802.11a, 5320MHz)

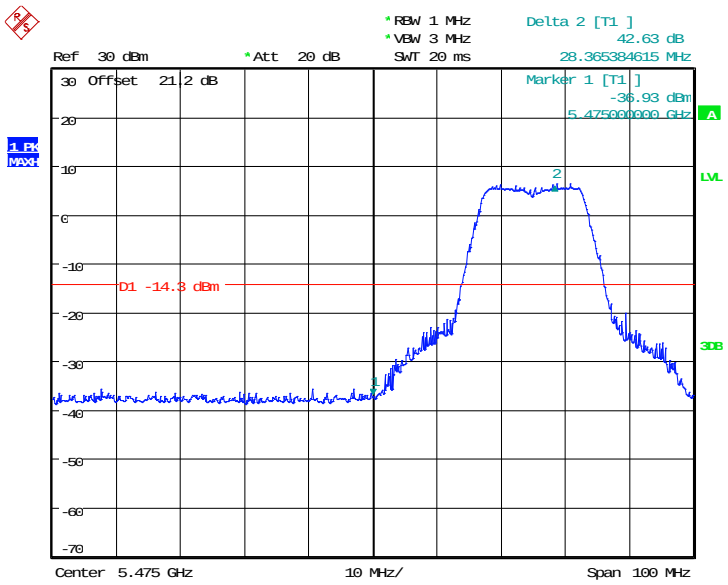


Fig. 28 Band Edges (802.11a, 5500MHz)

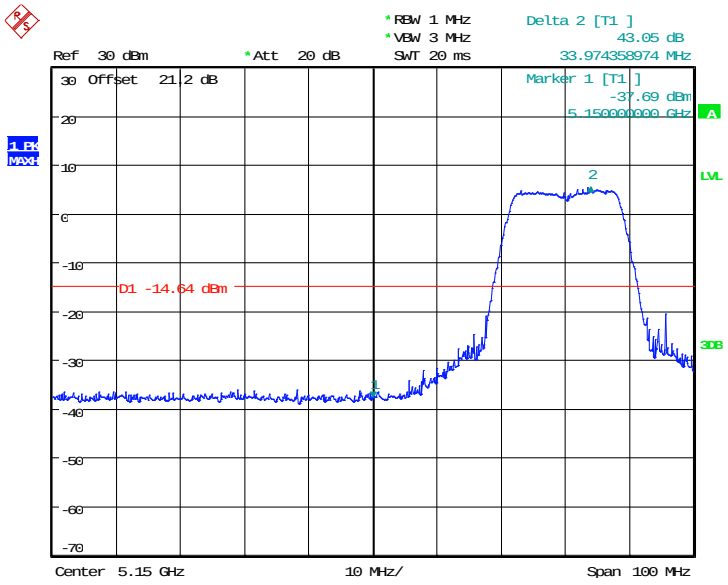


Fig. 29 Band Edges (802.11n-HT20, 5180MHz)

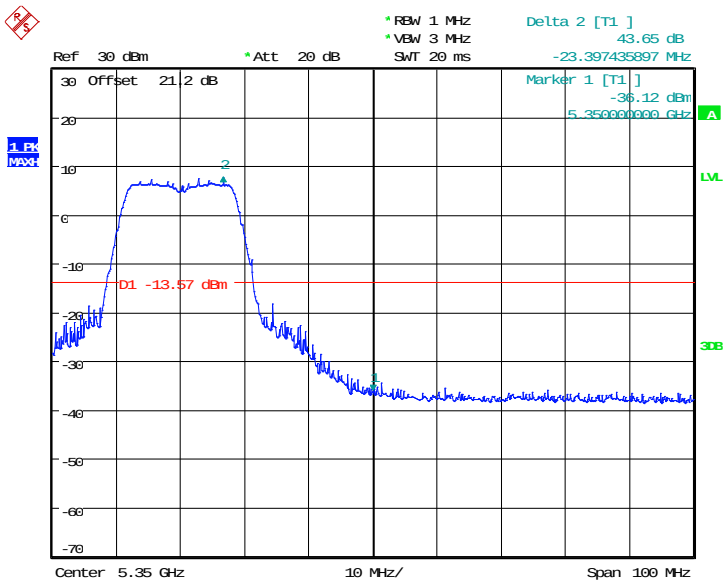


Fig. 30 Band Edges (802.11n-HT20, 5320MHz)

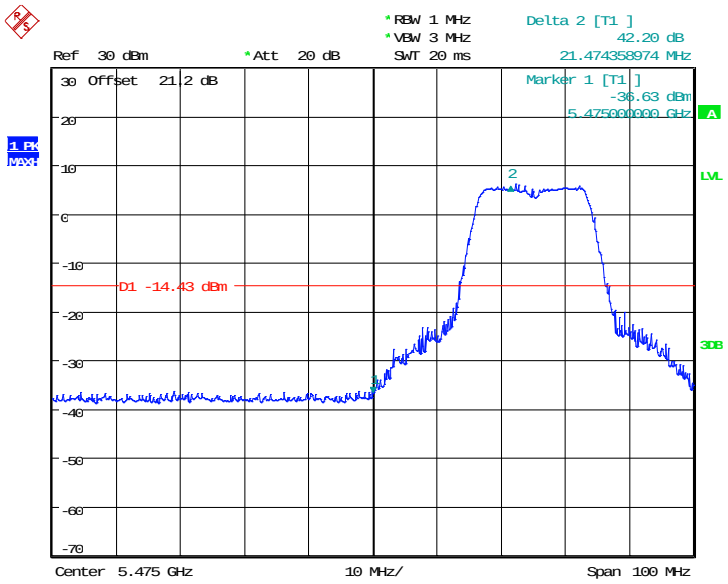


Fig. 31 Band Edges (802.11n-HT20, 5500MHz)

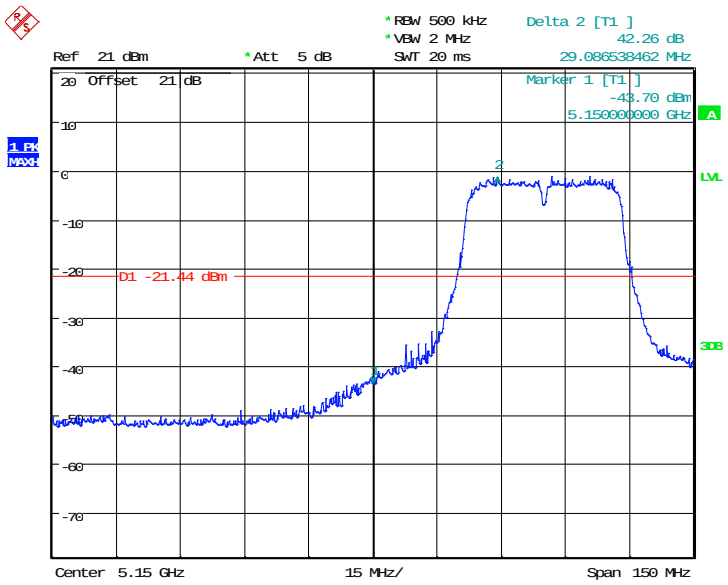


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Fig. 32 Band Edges (802.11n-HT40, 5190MHz)

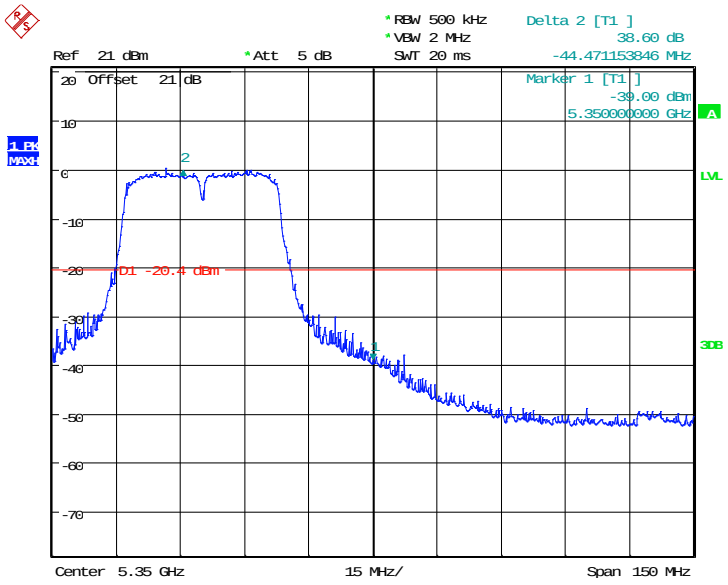

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Fig. 33 Band Edges (802.11n-HT40, 5310MHz)

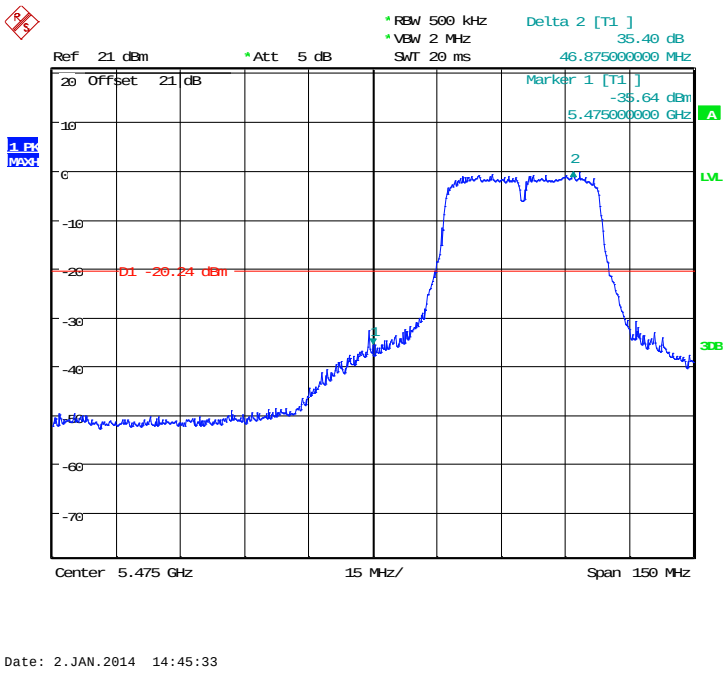

Fig. 34 Band Edges (802.11n-HT40, 5510MHz)

A5.2 Band Edges - Radiated

Measurement Limit:

Standard	Limit (dBc)
FCC 47 CFR Part 15.407	> 20

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)).

Measurement Uncertainty:

Measurement Uncertainty	0.75dB

Measurement Result:

Mode	Channel	Test Results	Conclusion
802.11a	5180 MHz	Fig.35	P
	5320 MHz	Fig.36	P
	5500 MHz	Fig.37	P
802.11n HT20	5180 MHz	Fig.38	P
	5320 MHz	Fig.39	P
	5500 MHz	Fig.40	P
802.11n HT40	5190 MHz	Fig.41	P
	5310 MHz	Fig.42	P
	5510 MHz	Fig.43	P

Conclusion: PASS

Test graphs as below:

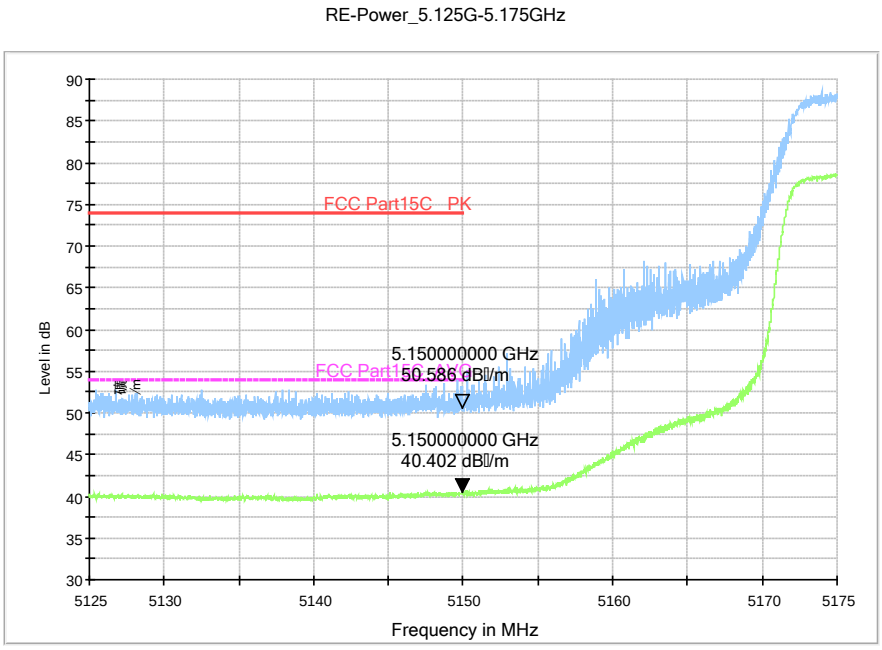

Fig. 35 Band Edges (802.11a, 5180MHz)

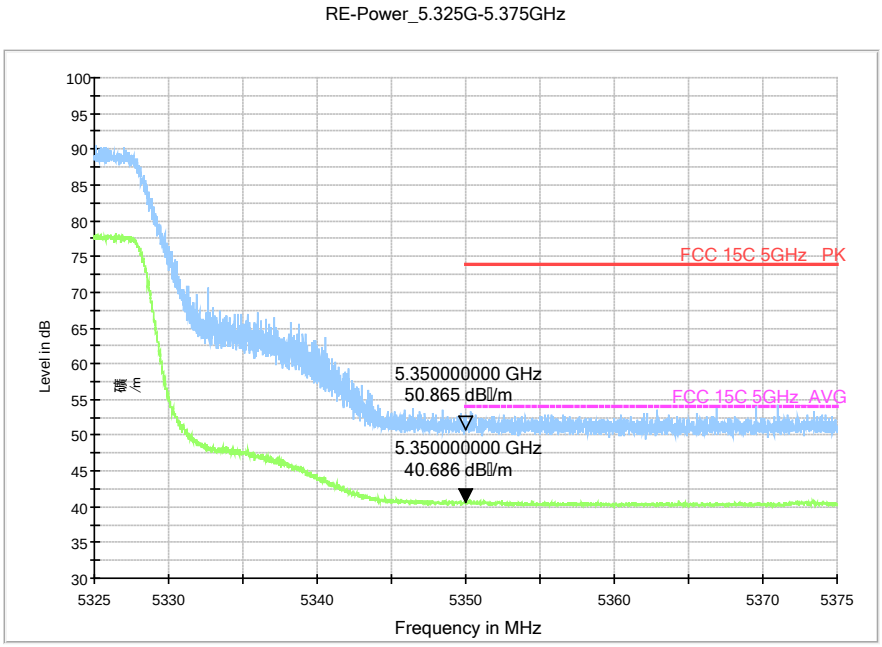

Fig. 36 Band Edges (802.11a, 5320MHz)

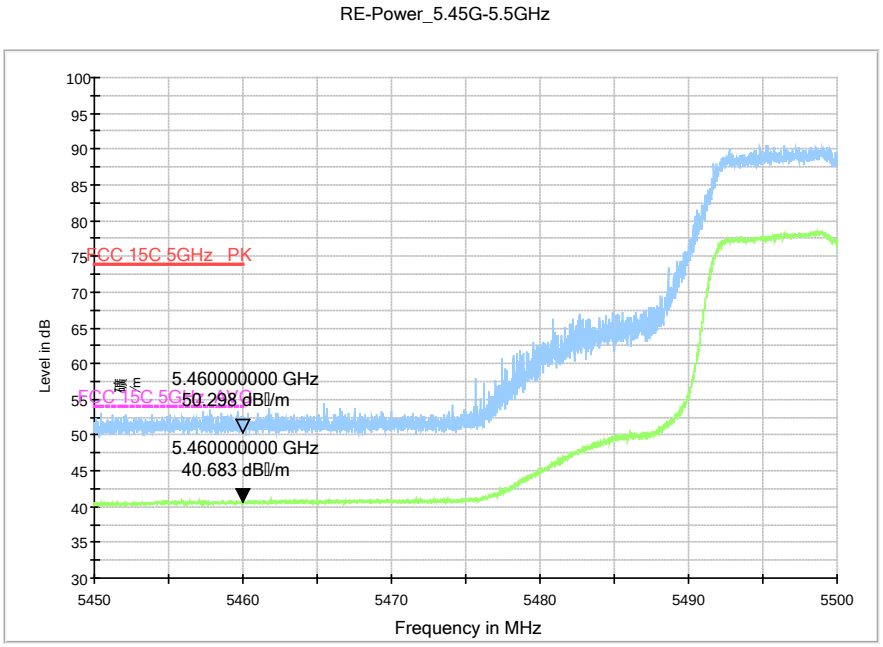

Fig. 37 Band Edges (802.11a, 5500MHz)

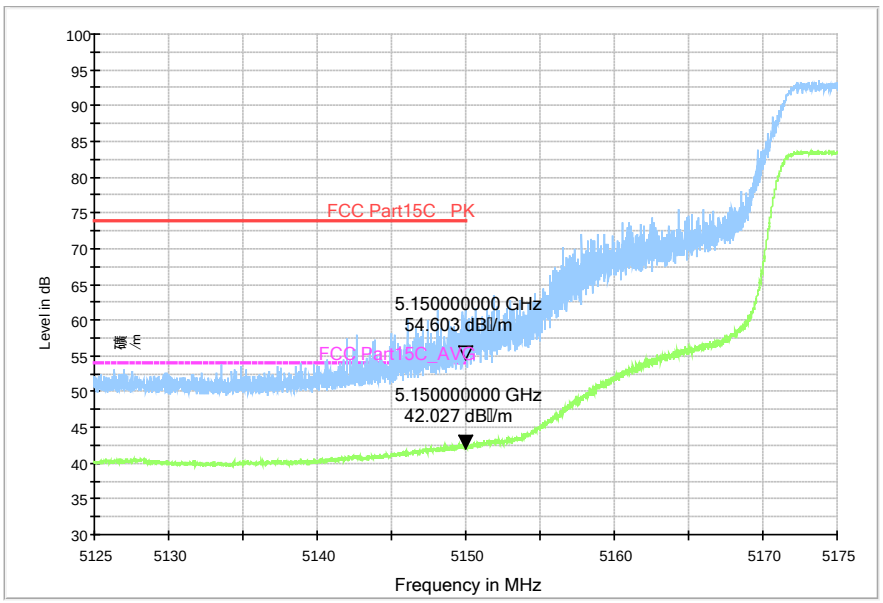

Fig. 38 Band Edges (802.11n-HT20, 5180MHz)

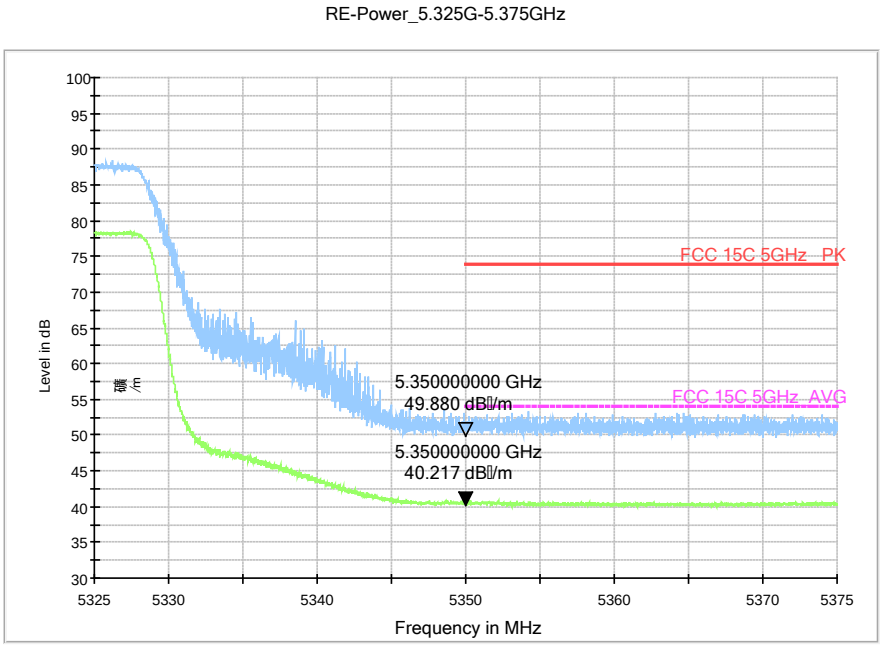

Fig. 39 Band Edges (802.11n-HT20, 5320MHz)

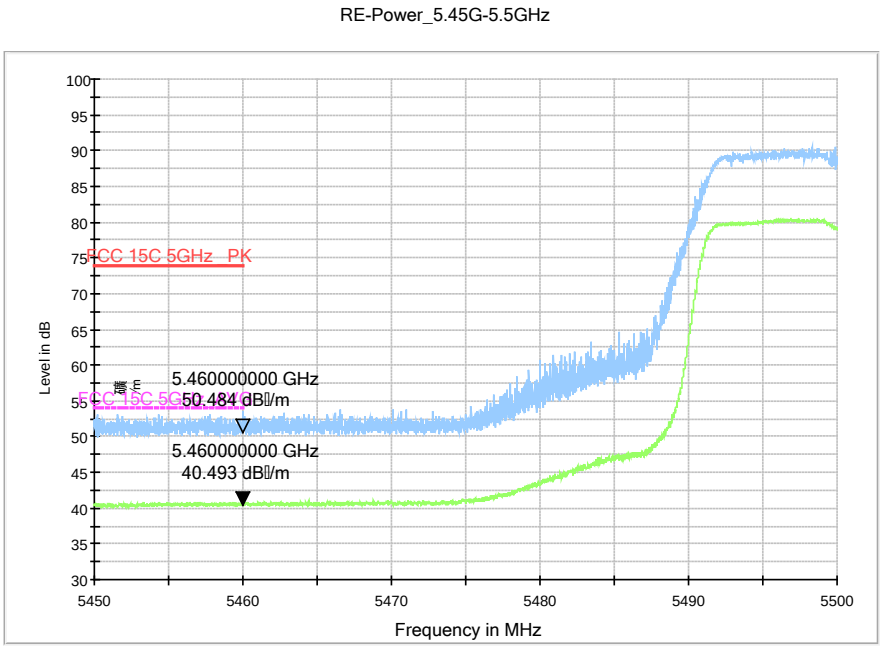

Fig. 40 Band Edges (802.11n-HT20, 5500MHz)

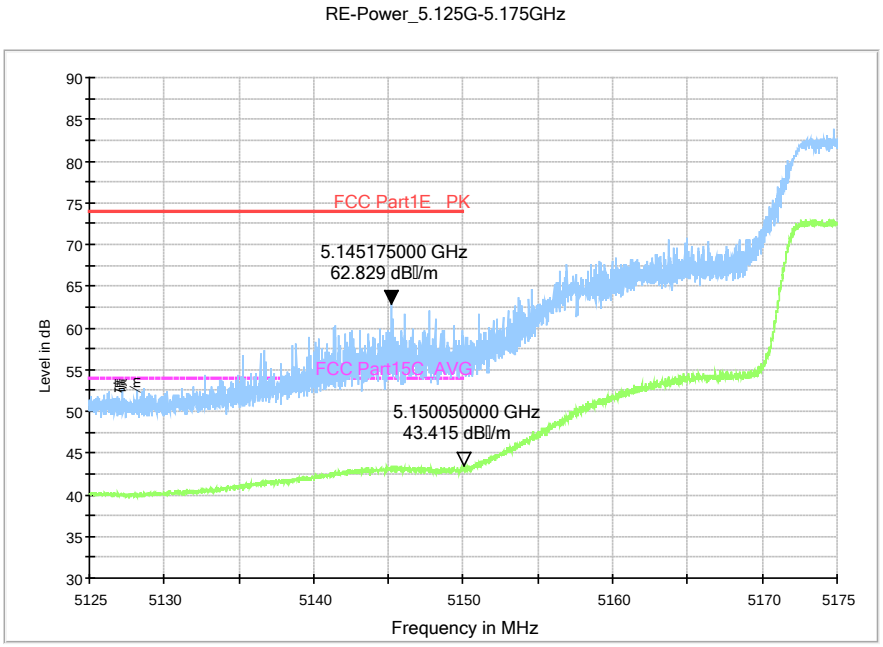

Fig. 41 Band Edges (802.11n-HT40, 5190MHz)

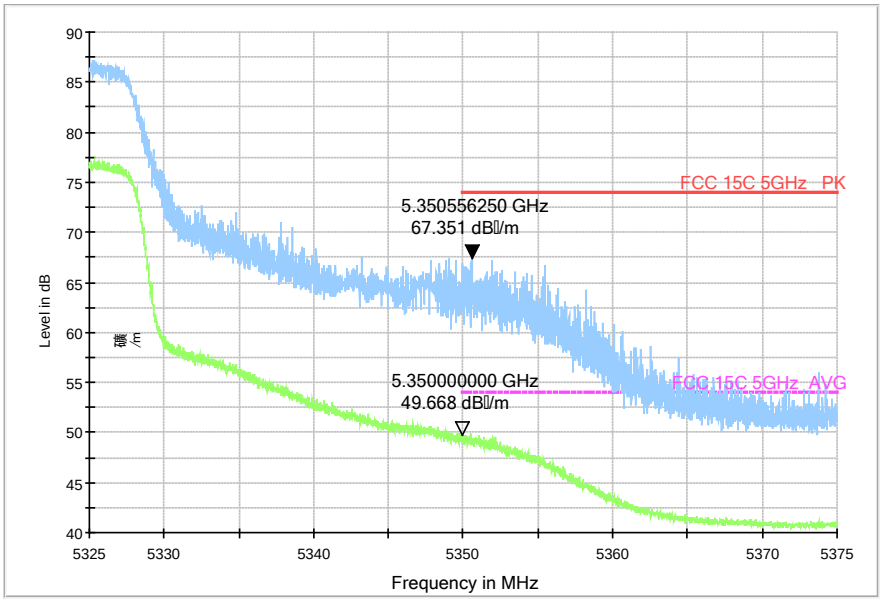

Fig. 42 Band Edges (802.11n-HT40, 5310MHz)

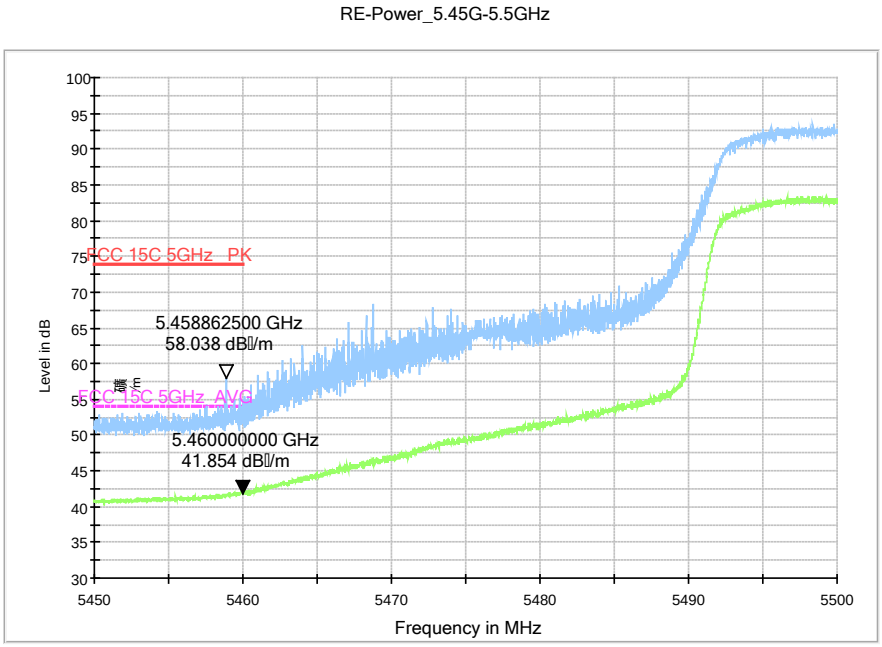

Fig. 43 Band Edges (802.11n-HT40, 5510MHz)

A.6. Transmitter Spurious Emission

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.407	-27 dBm/MHz

The measurement is made according to KDB 789033

In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

Limit in restricted band:

Frequency of emission (MHz)	Field strength(dBμV/m)	Measurement distance(m)
30-88	40.0	3
88-216	43.5	3
216-960	46.0	3
Above 960	54.0	3

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

Measurement uncertainty:

Expanded measurement uncertainty for this test item is U =3.9 dB, k=2.

Measurement Results:

802.11a mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11a	36(5180MHz)	30 MHz ~1 GHz	Fig.44	P
		1 GHz ~ 6 GHz	Fig.45	P
		6 GHz ~ 18 GHz	Fig.46	P
	40(5200MHz)	30 MHz ~1 GHz	Fig.47	P
		1 GHz ~ 6 GHz	Fig.48	P
		6 GHz ~ 18 GHz	Fig.49	P
	48(5240MHz)	30 MHz ~1 GHz	Fig.50	P
		1 GHz ~ 6 GHz	Fig.51	P
		6 GHz ~ 18 GHz	Fig.52	P
	All Channels	18 GHz ~ 26.5 GHz	Fig.53	P
		26.5 GHz ~ 40 GHz	Fig.54	P
	52(5260MHz)	30 MHz ~1 GHz	Fig.55	P
		1 GHz ~ 6 GHz	Fig.56	P
		6 GHz ~ 18 GHz	Fig.57	P
	56(5280MHz)	30 MHz ~1 GHz	Fig.58	P
		1 GHz ~ 6 GHz	Fig.59	P
		6 GHz ~ 18 GHz	Fig.60	P
	64(5320MHz)	30 MHz ~1 GHz	Fig.61	P
		1 GHz ~ 6 GHz	Fig.62	P
		6 GHz ~ 18 GHz	Fig.63	P
	All Channels	18 GHz ~ 26.5 GHz	Fig.64	P
		26.5 GHz ~ 40 GHz	Fig.65	P

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11a	100(5500MHz)	30 MHz ~1 GHz	Fig.66	P
		1 GHz ~ 6 GHz	Fig.67	P
		6 GHz ~ 18 GHz	Fig.68	P
	116(5580MHz)	30 MHz ~1 GHz	Fig.69	P
		1 GHz ~ 6 GHz	Fig.70	P
		6 GHz ~ 18 GHz	Fig.71	P
	140(5700MHz)	30 MHz ~1 GHz	Fig.72	P
		1 GHz ~ 6 GHz	Fig.73	P
		6 GHz ~ 18 GHz	Fig.74	P
	All Channels	18 GHz ~ 26.5 GHz	Fig.75	P
		26.5 GHz ~ 40 GHz	Fig.76	P

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n-HT20	36(5180MHz)	30 MHz ~1 GHz	Fig.77	P
		1 GHz ~ 6 GHz	Fig.78	P
		6 GHz ~ 18 GHz	Fig.79	P
	40(5200MHz)	30 MHz ~1 GHz	Fig.80	P
		1 GHz ~ 6 GHz	Fig.81	P
		6 GHz ~ 18 GHz	Fig.82	P
	48(5240MHz)	30 MHz ~1 GHz	Fig.83	P
		1 GHz ~ 6 GHz	Fig.84	P
		6 GHz ~ 18 GHz	Fig.85	P
	All Channels	18 GHz ~ 26.5 GHz	Fig.86	P
		26.5 GHz ~ 40 GHz	Fig.87	P
	52(5260MHz)	30 MHz ~1 GHz	Fig.88	P
		1 GHz ~ 6 GHz	Fig.89	P
		6 GHz ~ 18 GHz	Fig.90	P
	56(5280MHz)	30 MHz ~1 GHz	Fig.91	P
		1 GHz ~ 6 GHz	Fig.92	P
		6 GHz ~ 18 GHz	Fig.93	P
	64(5320MHz)	30 MHz ~1 GHz	Fig.94	P
		1 GHz ~ 6 GHz	Fig.95	P
		6 GHz ~ 18 GHz	Fig.96	P
	All Channels	18 GHz ~ 26.5 GHz	Fig.97	P
		26.5 GHz ~ 40 GHz	Fig.98	P

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n-HT20	100(5500MHz)	30 MHz ~1 GHz	Fig.99	P
		1 GHz ~ 6 GHz	Fig.100	P
		6 GHz ~ 18 GHz	Fig.101	P
	116(5580MHz)	30 MHz ~1 GHz	Fig.102	P
		1 GHz ~ 6 GHz	Fig.103	P
		6 GHz ~ 18 GHz	Fig.104	P
	140(5700MHz)	30 MHz ~1 GHz	Fig.105	P
		1 GHz ~ 6 GHz	Fig.106	P
		6 GHz ~ 18 GHz	Fig.107	P
	All Channels	18 GHz ~ 26.5 GHz	Fig.108	P
		26.5 GHz ~ 40 GHz	Fig.109	P

802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n-HT40	38(5190MHz)	30 MHz ~1 GHz	Fig.110	P
		1 GHz ~ 6 GHz	Fig.111	P
		6 GHz ~ 18 GHz	Fig.112	P
	46(5230MHz)	30 MHz ~1 GHz	Fig.113	P
		1 GHz ~ 6 GHz	Fig.114	P
		6 GHz ~ 18 GHz	Fig.115	P
	All Channels	18 GHz ~ 26.5 GHz	Fig.116	P
		26.5 GHz ~ 40 GHz	Fig.117	P
	54(5270MHz)	30 MHz ~1 GHz	Fig.118	P
		1 GHz ~ 6 GHz	Fig.119	P
		6 GHz ~ 18 GHz	Fig.120	P
	62(5310MHz)	30 MHz ~1 GHz	Fig.121	P
		1 GHz ~ 6 GHz	Fig.122	P
		6 GHz ~ 18 GHz	Fig.123	P
	All Channels	18 GHz ~ 26.5 GHz	Fig.124	P
		26.5 GHz ~ 40 GHz	Fig.125	P

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n HT40	102(5510MHz)	30 MHz ~1 GHz	Fig.126	P
		1 GHz ~ 6 GHz	Fig.127	P
		6 GHz ~ 18 GHz	Fig.128	P
	110(5550MHz)	30 MHz ~1 GHz	Fig.129	P
		1 GHz ~ 6 GHz	Fig.130	P
		6 GHz ~ 18 GHz	Fig.131	P
	134(5670MHz)	30 MHz ~1 GHz	Fig.132	P
		1 GHz ~ 6 GHz	Fig.133	P
		6 GHz ~ 18 GHz	Fig.134	P
	All Channels	18 GHz ~ 26.5 GHz	Fig.135	P
		26.5 GHz ~ 40 GHz	Fig.136	P

Conclusion: PASS

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

802.11a

Channel 36

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5149.580	53.9	-35.1	34.6	54.400	HORIZONTAL
18000.000	52.5	-45.6	44.5	53.566	HORIZONTAL
17877.600	51.3	-18.5	45.6	24.200	VERTICAL
17820.000	50.4	-18.5	45.6	23.300	HORIZONTAL
17821.200	50.4	-18.5	45.6	23.300	VERTICAL
17701.200	50.4	-18.9	45.6	23.700	HORIZONTAL

Channel 40

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17998.800	53.4	-17.7	45.6	25.500	HORIZONTAL
17996.400	50.3	-17.7	45.6	22.400	VERTICAL
17826.000	49.5	-18.5	45.6	22.400	HORIZONTAL
17973.600	49.5	-17.7	45.6	21.600	VERTICAL
17746.800	49.5	-18.5	45.6	22.400	VERTICAL
17842.800	49.5	-18.5	45.6	22.400	HORIZONTAL

Channel 48

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17998.800	50.1	-17.7	45.6	22.200	HORIZONTAL
17996.400	49.4	-17.7	45.6	21.500	VERTICAL
17905.200	49.3	-18.5	45.6	22.200	HORIZONTAL
17928.000	49.3	-17.7	45.6	21.400	HORIZONTAL
17724.000	49.2	-18.9	45.6	22.500	HORIZONTAL
17708.400	49.2	-18.9	45.6	22.500	VERTICAL

Channel 52

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17998.800	53.6	-17.7	45.6	25.7	VERTICAL
17997.600	50.9	-17.7	45.6	23.0	HORIZONTAL
17751.600	50.4	-18.5	45.6	23.3	VERTICAL
17674.800	49.1	-18.9	45.6	22.4	HORIZONTAL
17824.800	48.9	-18.5	45.6	21.8	VERTICAL
17899.200	48.8	-18.5	45.6	21.7	HORIZONTAL

Channel 56

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
18000.000	53.0	-45.6	44.5	54.1	HORIZONTAL
17996.400	49.4	-17.7	45.6	21.5	HORIZONTAL
17892.000	48.7	-18.5	45.6	21.6	VERTICAL
17754.000	48.3	-18.5	45.6	21.2	HORIZONTAL
17895.600	48.1	-18.5	45.6	21.0	HORIZONTAL
17990.400	47.9	-17.7	45.6	20.0	VERTICAL

Channel 64

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5350.000	50.9	-34.8	34.6	51.1	HORIZONTAL
17998.800	51.2	-17.7	45.6	23.3	VERTICAL
17996.400	50.8	-17.7	45.6	22.9	VERTICAL
17707.200	48.4	-18.9	45.6	21.7	VERTICAL
17806.800	48.2	-18.5	45.6	21.1	HORIZONTAL
17829.600	48.1	-18.5	45.6	21.0	VERTICAL

Channel 100

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5460.000	50.3	-34.9	34.6	50.6	VERTICAL
17996.400	53.0	-17.7	45.6	25.1	VERTICAL
18000.000	52.5	-45.6	44.5	53.6	VERTICAL
17905.200	51.5	-18.5	45.6	24.4	VERTICAL
17924.400	51.3	-17.7	45.6	23.4	HORIZONTAL
17961.600	50.2	-17.7	45.6	22.3	VERTICAL

Channel 116

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17998.800	53.9	-17.7	45.6	26.0	HORIZONTAL
17997.600	53.0	-17.7	45.6	25.1	VERTICAL
17965.200	51.6	-17.7	45.6	23.7	VERTICAL
17718.000	51.2	-18.9	45.6	24.5	VERTICAL
17811.600	49.8	-18.5	45.6	22.7	HORIZONTAL
17935.200	49.7	-17.7	45.6	21.8	HORIZONTAL

Channel 140

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17751.600	50.7	-18.5	45.6	23.6	VERTICAL
17997.600	50.5	-17.7	45.6	22.6	VERTICAL
17998.800	50.3	-17.7	45.6	22.4	HORIZONTAL
17966.400	49.7	-17.7	45.6	21.8	VERTICAL
17816.400	49.7	-18.5	45.6	22.6	HORIZONTAL
17970.000	49.6	-17.7	45.6	21.7	VERTICAL

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Channel 36

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5148.140	61.3	-35.1	34.6	61.800	VERTICAL
17997.600	51.7	-17.7	45.6	23.800	VERTICAL
17998.800	50.1	-17.7	45.6	22.200	HORIZONTAL
17710.800	49.1	-18.9	45.6	22.400	VERTICAL
17872.800	49.0	-18.5	45.6	21.900	HORIZONTAL
17781.600	48.5	-18.5	45.6	21.400	HORIZONTAL

Channel 40

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17998.800	49.9	-17.7	45.6	22.000	VERTICAL
17704.800	49.6	-18.9	45.6	22.900	VERTICAL
17758.800	49.1	-18.5	45.6	22.000	HORIZONTAL
17852.400	49.0	-18.5	45.6	21.900	HORIZONTAL
17985.600	48.6	-17.7	45.6	20.700	VERTICAL
17835.600	48.6	-18.5	45.6	21.500	VERTICAL

Channel 48

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
18000.000	50.3	-45.6	44.5	51.366	VERTICAL
17862.000	50.2	-18.5	45.6	23.100	HORIZONTAL
17996.400	49.0	-17.7	45.6	21.100	HORIZONTAL
17899.200	48.4	-18.5	45.6	21.300	VERTICAL
17838.000	47.8	-18.5	45.6	20.700	VERTICAL
17817.600	47.7	-18.5	45.6	20.600	VERTICAL

Channel 52

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17998.800	51.7	-17.7	45.6	23.8	VERTICAL
17997.600	50.9	-17.7	45.6	23.0	VERTICAL
17900.400	49.6	-18.5	45.6	22.5	VERTICAL
17871.600	49.5	-18.5	45.6	22.4	HORIZONTAL
17701.200	49.3	-18.9	45.6	22.6	HORIZONTAL
17923.200	48.9	-17.7	45.6	21.0	HORIZONTAL

Channel 56

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
18000.000	53.9	-45.6	44.5	55.0	VERTICAL
17997.600	51.3	-17.7	45.6	23.4	VERTICAL
17785.200	49.9	-18.5	45.6	22.8	HORIZONTAL
17984.400	49.3	-17.7	45.6	21.4	VERTICAL
17977.200	48.7	-17.7	45.6	20.8	VERTICAL
17781.600	48.6	-18.5	45.6	21.5	HORIZONTAL

Channel 64

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5350.000	49.9	-34.8	34.6	50.1	VERTICAL
17998.800	53.3	-17.7	45.6	25.4	VERTICAL
17898.000	50.0	-18.5	45.6	22.9	VERTICAL
17876.400	49.3	-18.5	45.6	22.2	HORIZONTAL
17709.600	48.9	-18.9	45.6	22.2	VERTICAL
17772.000	48.9	-18.5	45.6	21.8	VERTICAL

Channel 100

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5460.000	50.5	-34.9	34.6	50.8	VERTICAL
17996.400	51.9	-17.7	45.6	24.0	VERTICAL
18000.000	50.8	-45.6	44.5	51.9	HORIZONTAL
17919.600	50.5	-17.7	45.6	22.6	VERTICAL
17776.800	49.6	-18.5	45.6	22.5	VERTICAL
17721.600	49.5	-18.9	45.6	22.8	HORIZONTAL

Channel 116

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17904.000	49.8	-18.5	45.6	22.7	HORIZONTAL
17740.800	49.5	-18.5	45.6	22.4	VERTICAL
17629.200	49.1	-18.9	45.6	22.4	HORIZONTAL
17914.800	48.8	-17.7	45.6	20.9	VERTICAL
17930.400	48.8	-17.7	45.6	20.9	VERTICAL
18000.000	48.7	-45.6	44.5	49.8	VERTICAL

Channel 140

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17996.400	52.3	-17.7	45.6	24.4	HORIZONTAL
17900.400	50.8	-18.5	45.6	23.7	VERTICAL
18000.000	50.7	-45.6	44.5	51.8	HORIZONTAL
17869.200	49.9	-18.5	45.6	22.8	VERTICAL
17895.600	49.8	-18.5	45.6	22.7	HORIZONTAL
17890.800	49.8	-18.5	45.6	22.7	VERTICAL

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Channel 38

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5149.175	67.3	-35.1	34.6	67.800	HORIZONTAL
18000.000	53.0	-45.6	44.5	54.066	HORIZONTAL
17830.800	50.0	-18.5	45.6	22.900	HORIZONTAL
17887.200	49.9	-18.5	45.6	22.800	VERTICAL
17889.600	48.6	-18.5	45.6	21.500	VERTICAL
17823.600	48.3	-18.5	45.6	21.200	HORIZONTAL

Channel 46

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17998.800	52.0	-17.7	45.6	24.100	VERTICAL
17886.000	50.0	-18.5	45.6	22.900	VERTICAL
17997.600	49.9	-17.7	45.6	22.000	VERTICAL
17914.800	49.4	-17.7	45.6	21.500	HORIZONTAL
17696.400	49.3	-18.9	45.6	22.600	VERTICAL
17880.000	49.0	-18.5	45.6	21.900	HORIZONTAL

Channel 54

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
18000.000	52.1	-45.6	44.5	53.2	HORIZONTAL
17820.000	49.8	-18.5	45.6	22.7	VERTICAL
17884.800	49.8	-18.5	45.6	22.7	HORIZONTAL
17997.600	49.7	-17.7	45.6	21.8	HORIZONTAL
17895.600	49.4	-18.5	45.6	22.3	VERTICAL
17917.200	49.1	-17.7	45.6	21.2	HORIZONTAL

Channel 62

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5350.635	68.2	-34.8	34.6	68.4	VERTICAL
17998.800	52.3	-17.7	45.6	24.4	HORIZONTAL
17910.000	52.1	-18.5	45.6	25.0	HORIZONTAL
17828.400	50.6	-18.5	45.6	23.5	VERTICAL
17824.800	50.6	-18.5	45.6	23.5	VERTICAL
17778.000	50.6	-18.5	45.6	23.5	HORIZONTAL

Channel 102

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5460.000	49.8	-34.9	34.6	50.1	HORIZONTAL
17892.000	52.1	-18.5	45.6	25.0	VERTICAL
17996.400	51.6	-17.7	45.6	23.7	VERTICAL
17872.800	51.4	-18.5	45.6	24.3	HORIZONTAL
17998.800	51.3	-17.7	45.6	23.4	VERTICAL
17901.600	51.3	-18.5	45.6	24.2	VERTICAL

Channel 110

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17998.800	53.1	-17.7	45.6	25.2	HORIZONTAL
17898.000	50.8	-18.5	45.6	23.7	HORIZONTAL
17931.600	50.7	-17.7	45.6	22.8	VERTICAL
17992.800	50.4	-17.7	45.6	22.5	VERTICAL
17889.600	50.4	-18.5	45.6	23.3	VERTICAL
17958.000	50.4	-17.7	45.6	22.5	VERTICAL

Channel 134

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17998.800	54.6	-17.7	45.6	26.7	HORIZONTAL
17824.800	50.3	-18.5	45.6	23.2	VERTICAL
17751.600	49.9	-18.5	45.6	22.8	VERTICAL
17977.200	49.6	-17.7	45.6	21.7	VERTICAL
17851.200	49.5	-18.5	45.6	22.4	HORIZONTAL
17836.800	49.5	-18.5	45.6	22.4	HORIZONTAL

Test graphs as below:

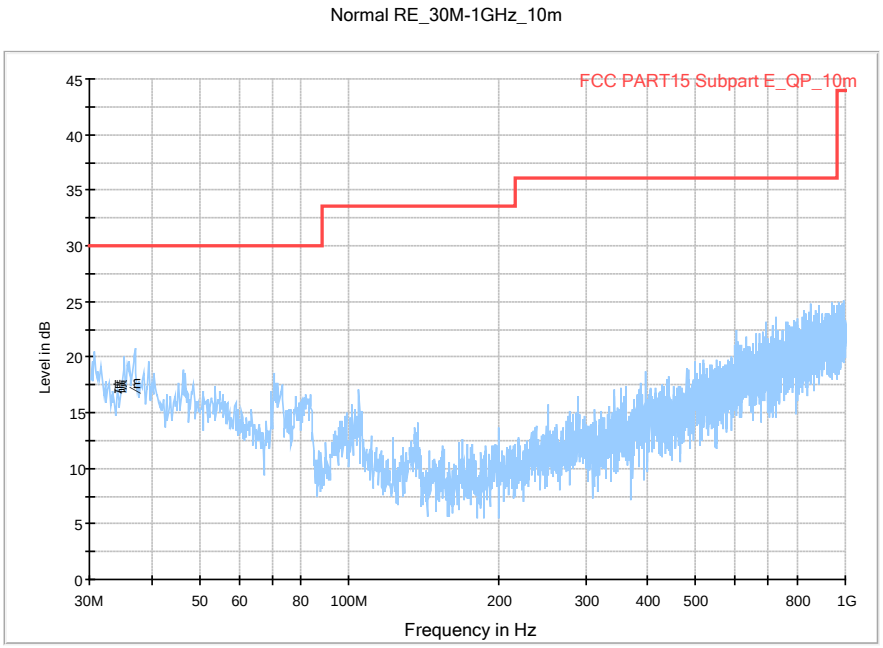

Fig. 44 Radiated Spurious Emission (802.11a, ch36, 30 MHz-1 GHz)

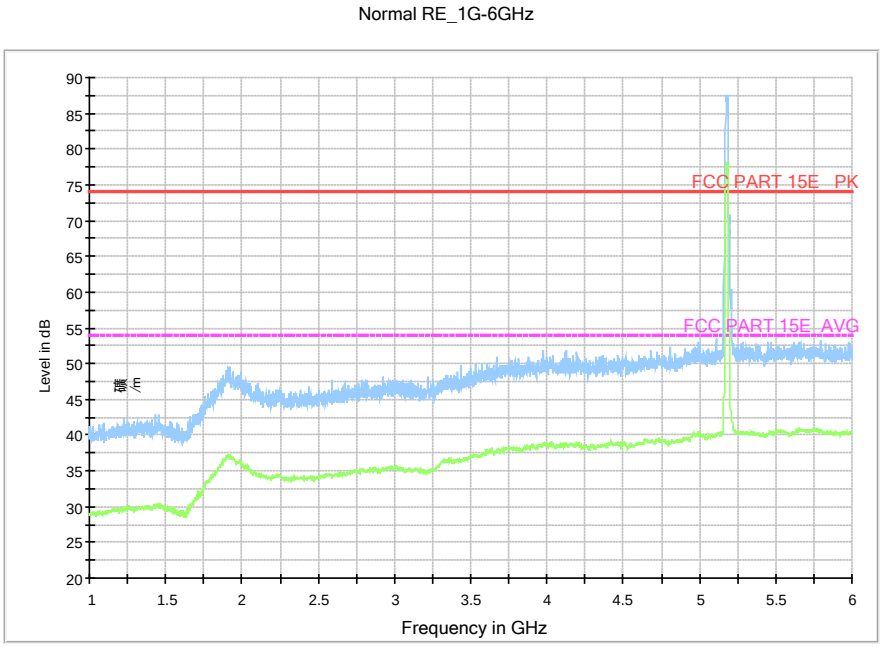

Fig. 45 Radiated Spurious Emission (802.11a, ch36, 1 GHz-6 GHz)

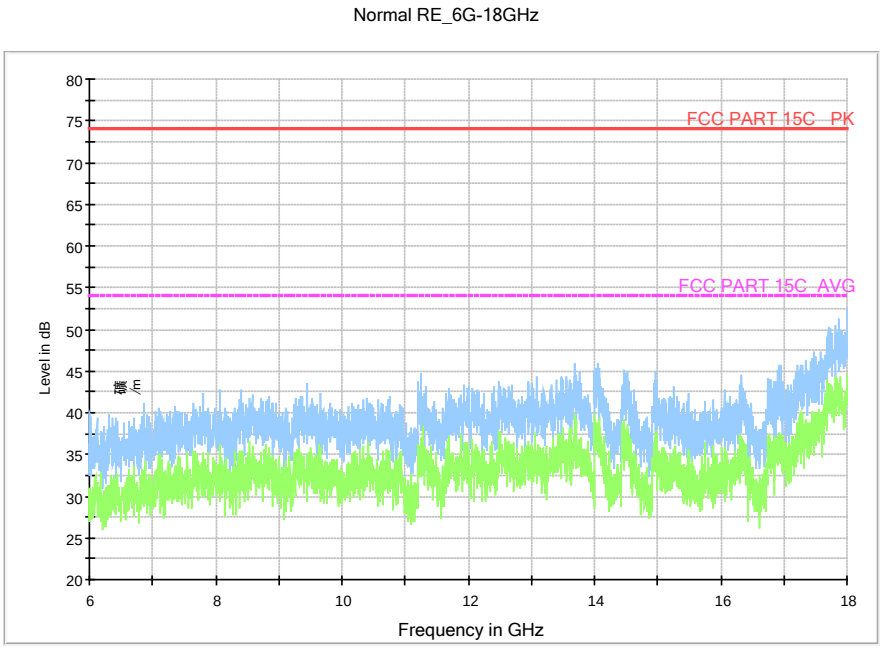

Fig. 46 Radiated Spurious Emission (802.11a, ch36, 6 GHz-18 GHz)

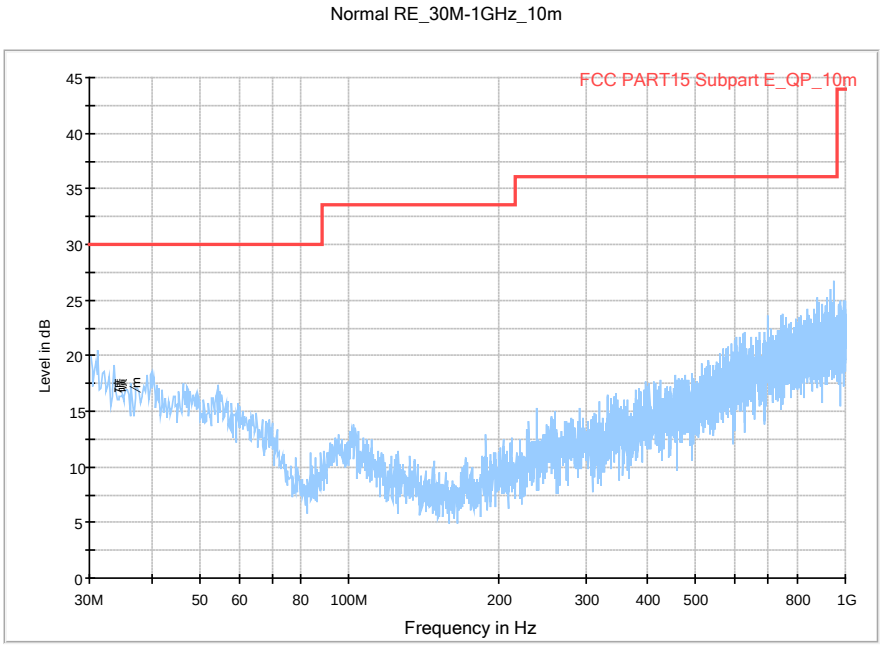

Fig. 47 Radiated Spurious Emission (802.11a, ch40, 30 MHz-1 GHz)

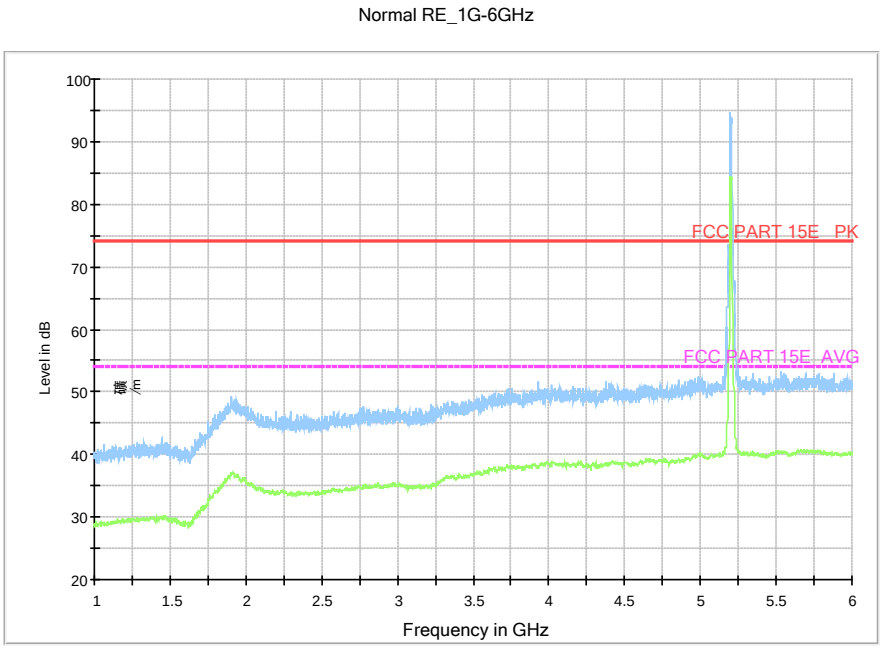

Fig. 48 Radiated Spurious Emission (802.11a, ch40, 1 GHz-6 GHz)

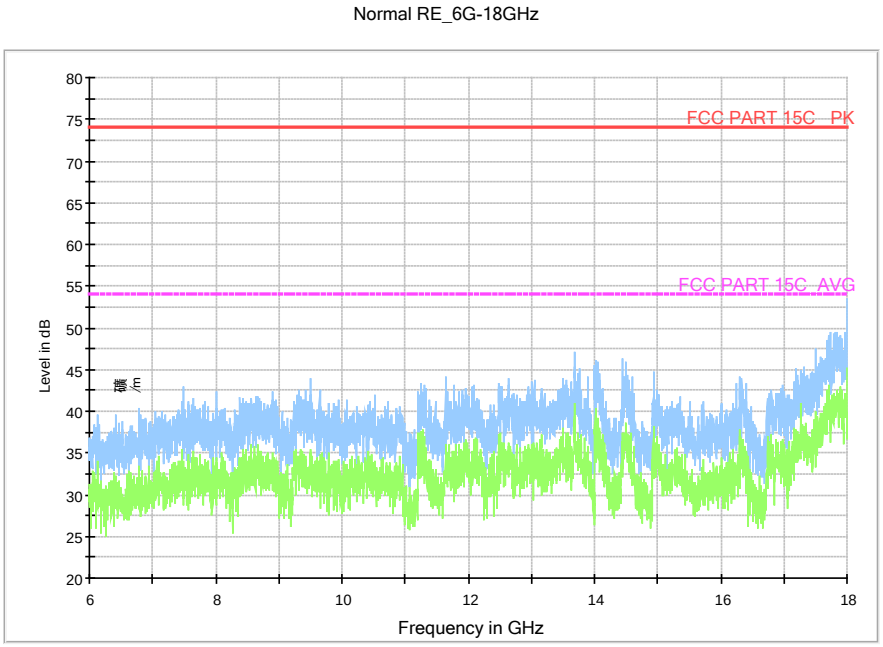

Fig. 49 Radiated Spurious Emission (802.11a, ch40, 6 GHz-18 GHz)

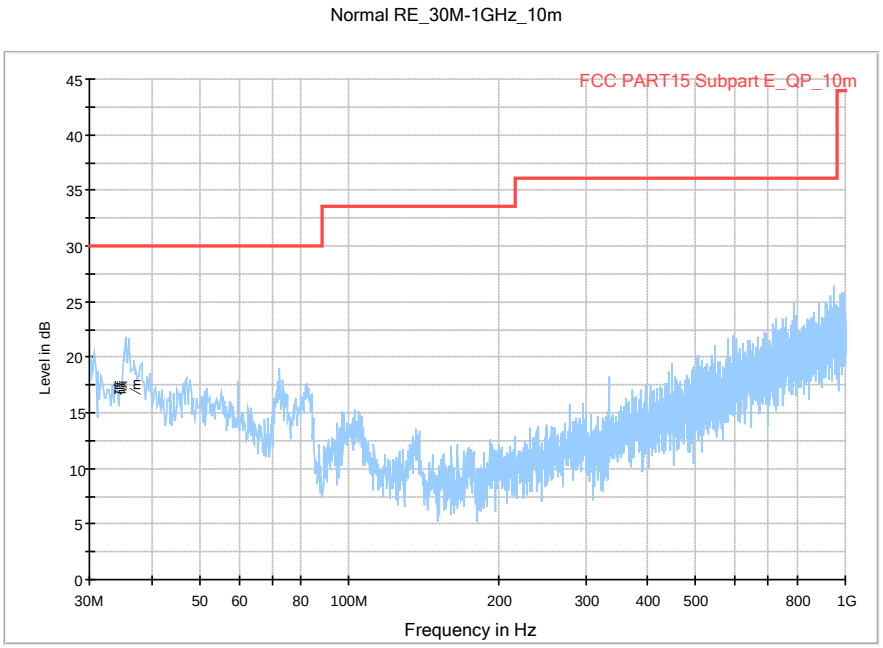

Fig. 50 Radiated Spurious Emission (802.11a, ch48, 30 MHz-1 GHz)

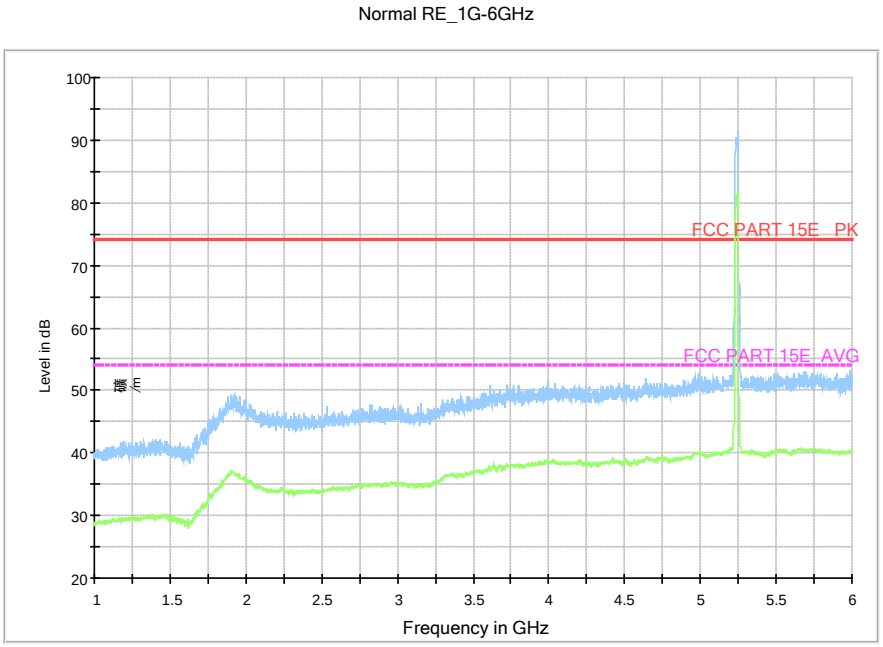

Fig. 51 Radiated Spurious Emission (802.11a, ch48, 1 GHz-6 GHz)

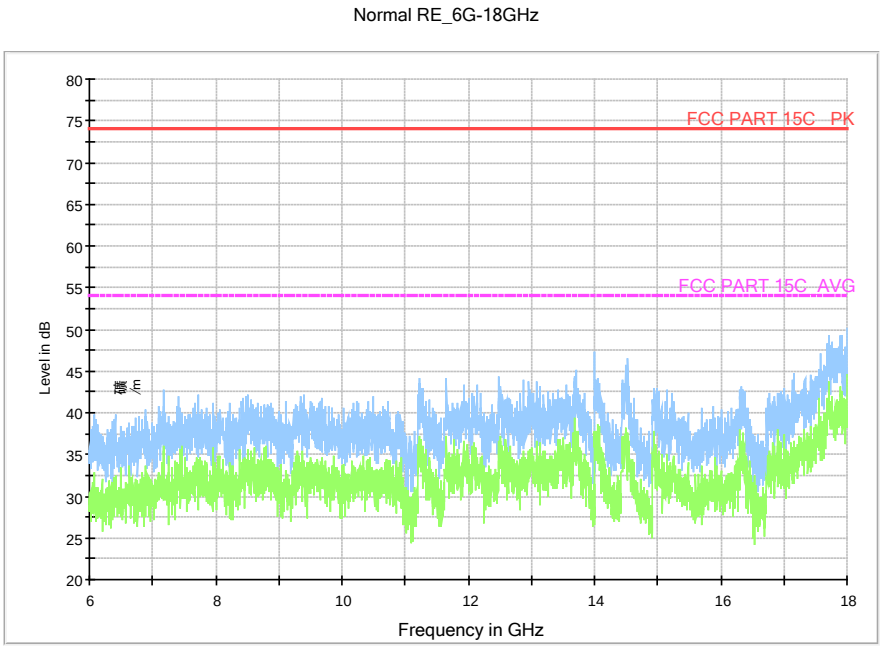

Fig. 52 Radiated Spurious Emission (802.11a, ch48, 6 GHz-18 GHz)

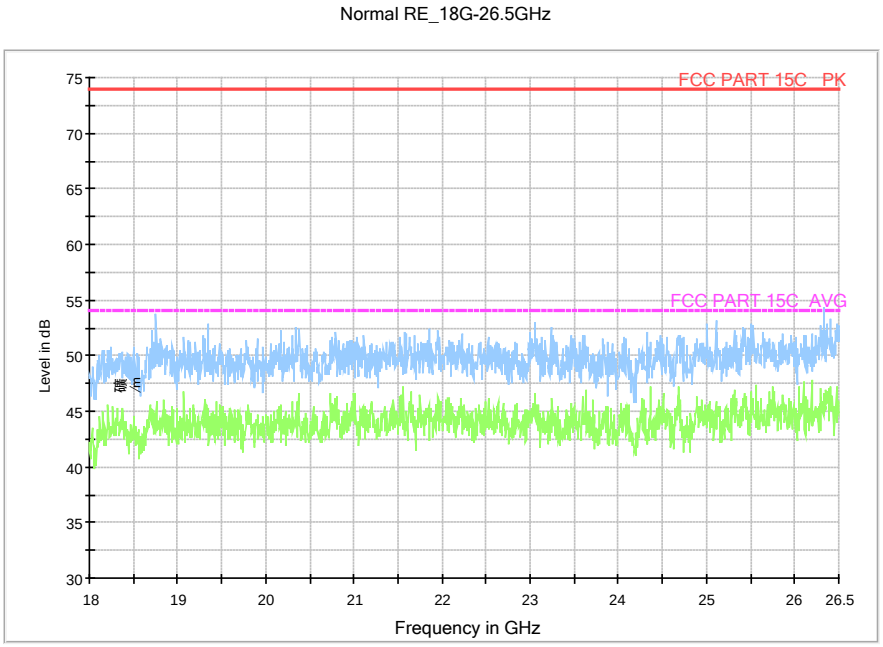

Fig. 53 Radiated Spurious Emission (802.11a, U-NII 1, 18 GHz-26.5 GHz)

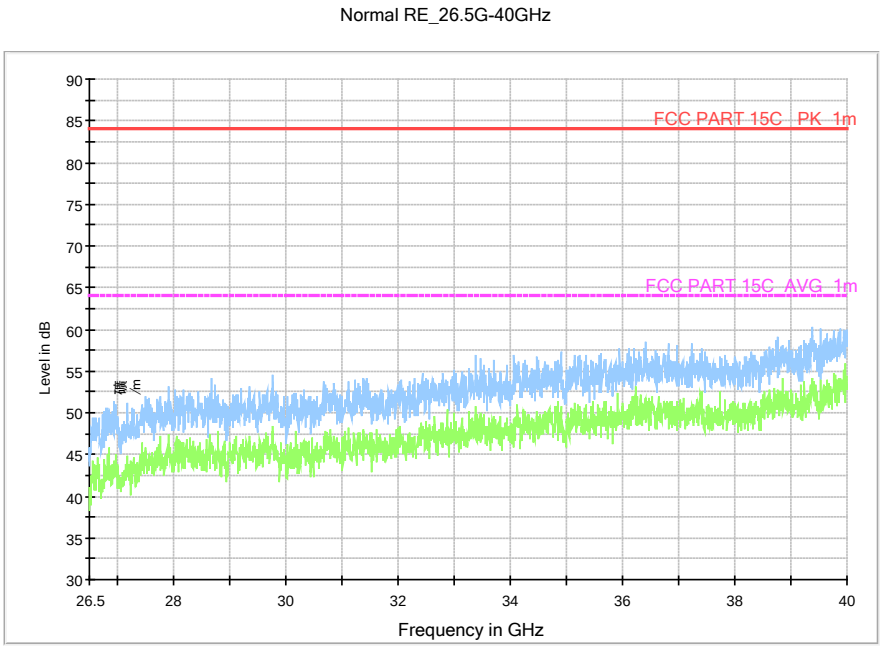

Fig. 54 Radiated Spurious Emission (802.11a, U-NII 1, 26.5 GHz-40 GHz)

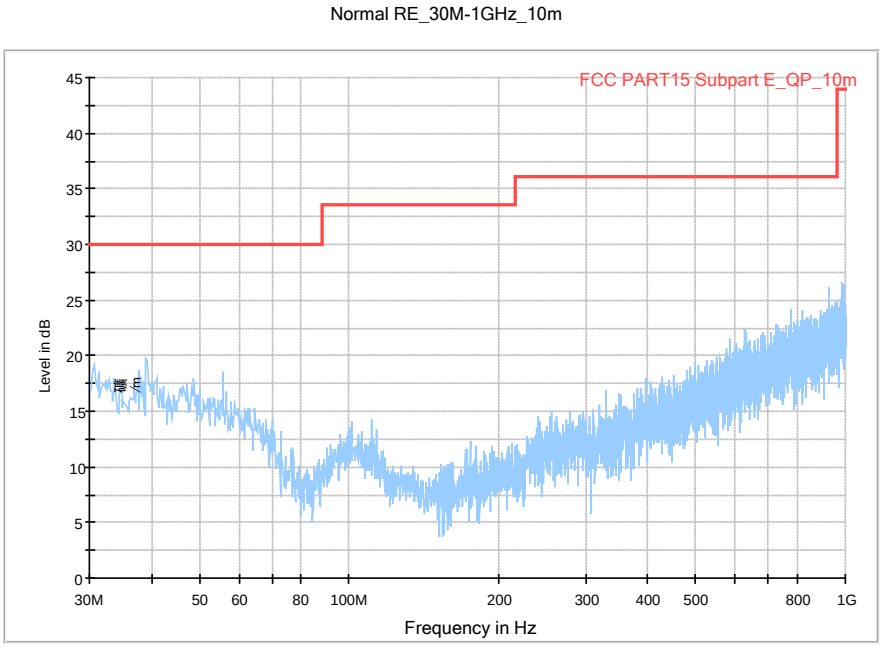

Fig. 55 Radiated Spurious Emission (802.11a, ch52, 30 MHz-1 GHz)

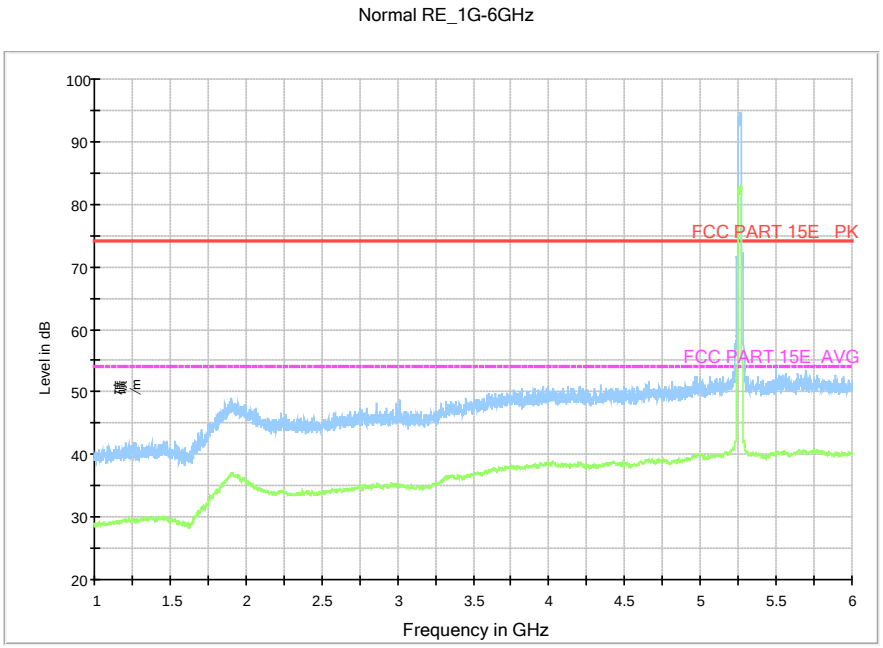

Fig. 56 Radiated Spurious Emission (802.11a, ch52, 1 GHz-6 GHz)

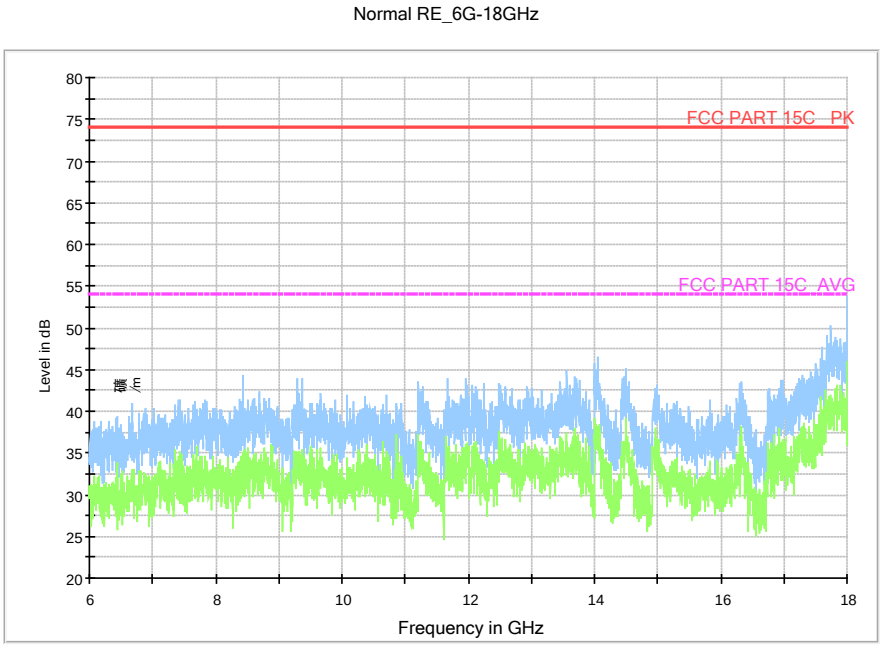

Fig. 57 Radiated Spurious Emission (802.11a, ch52, 6 GHz-18 GHz)

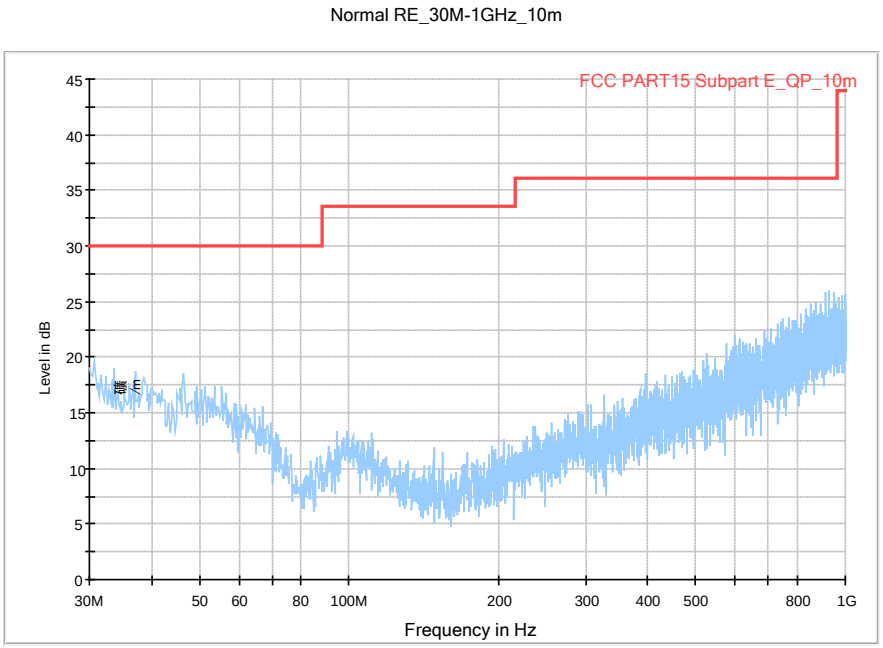

Fig. 58 Radiated Spurious Emission (802.11a, ch56, 30 MHz-1 GHz)

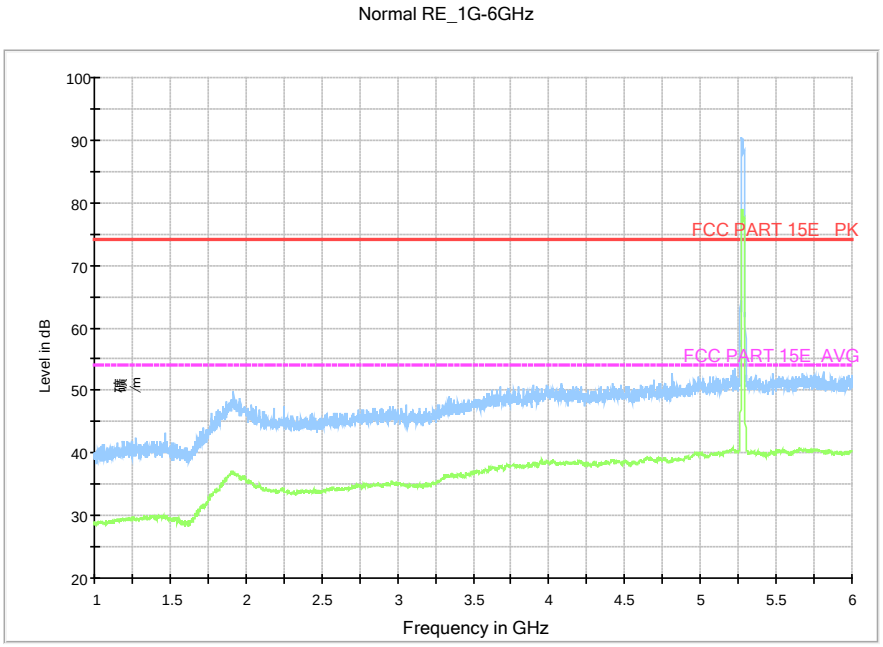

Fig. 59 Radiated Spurious Emission (802.11a, ch56, 1 GHz-6 GHz)

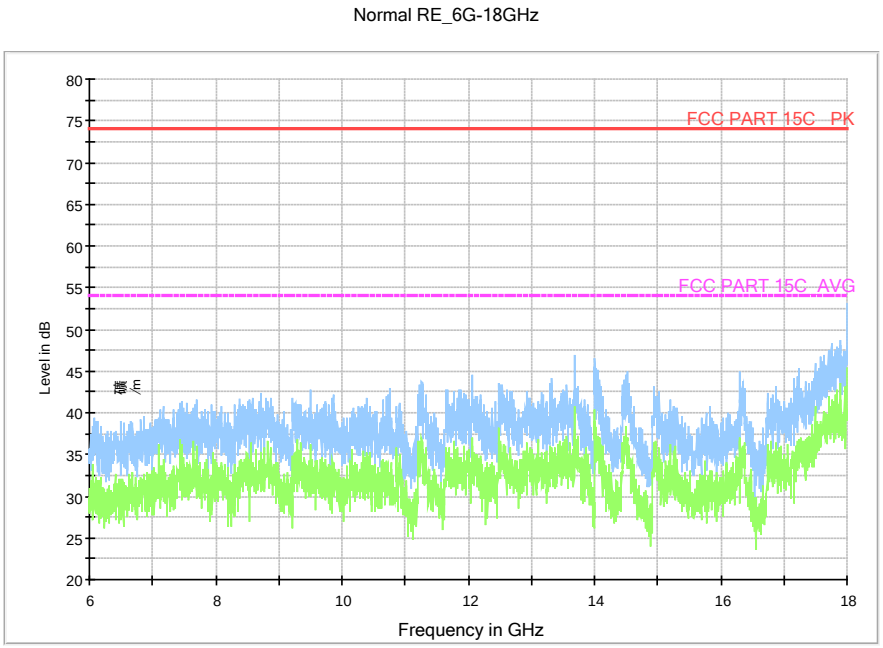

Fig. 60 Radiated Spurious Emission (802.11a, ch56, 6 GHz-18 GHz)

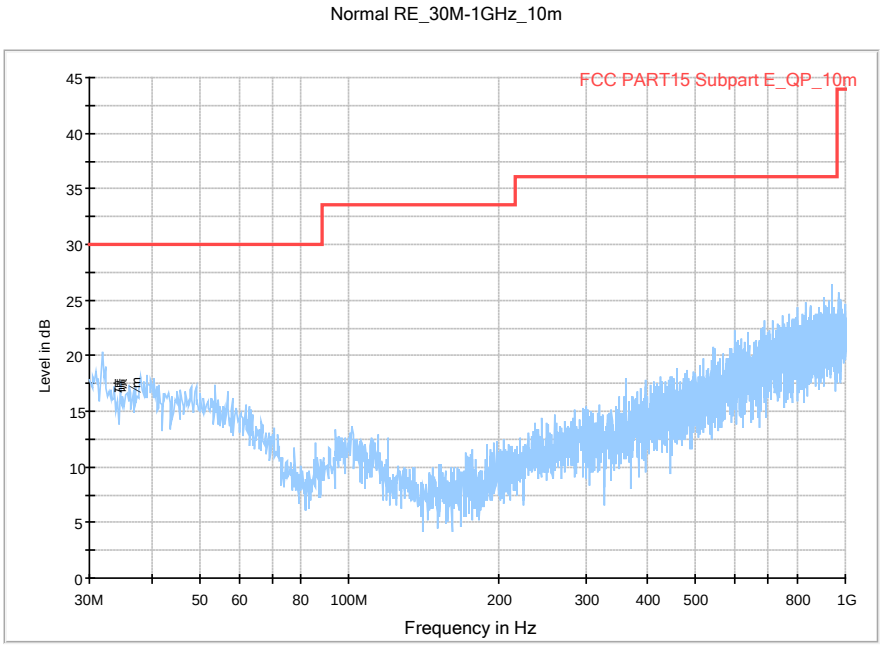

Fig. 61 Radiated Spurious Emission (802.11a, ch64, 30 MHz-1 GHz)

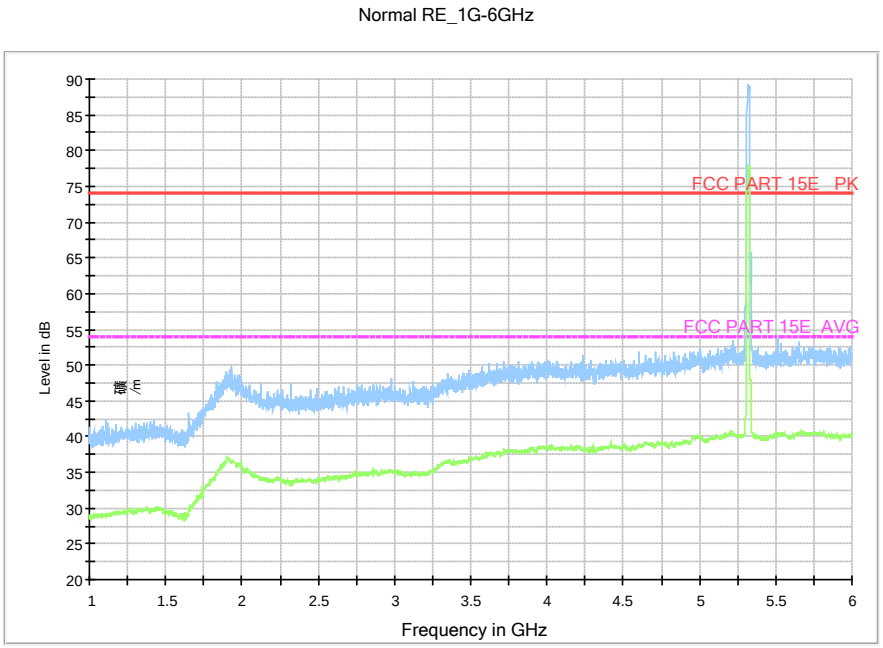

Fig. 62 Radiated Spurious Emission (802.11a, ch64, 1 GHz-6 GHz)

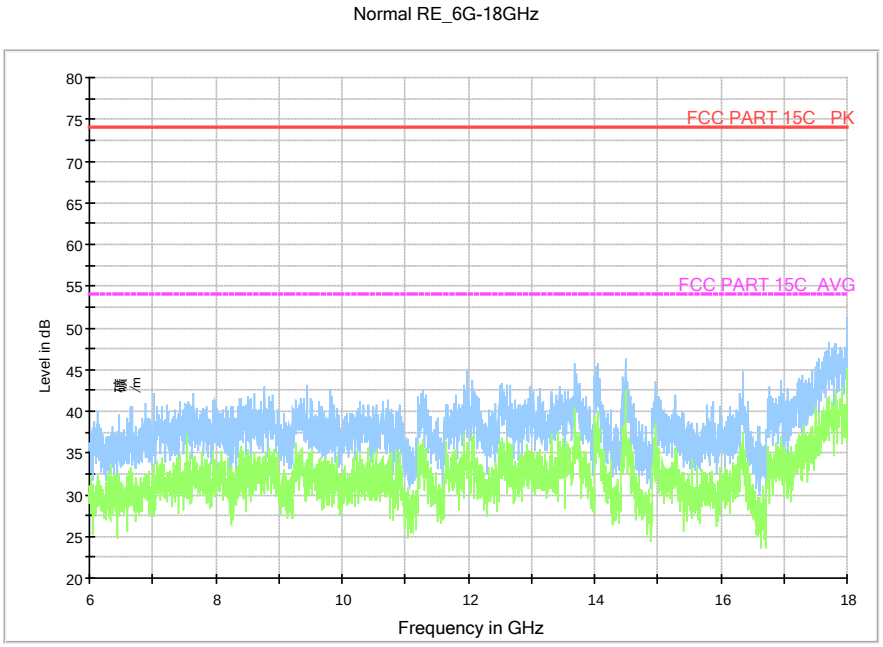

Fig. 63 Radiated Spurious Emission (802.11a, ch64, 6 GHz-18 GHz)

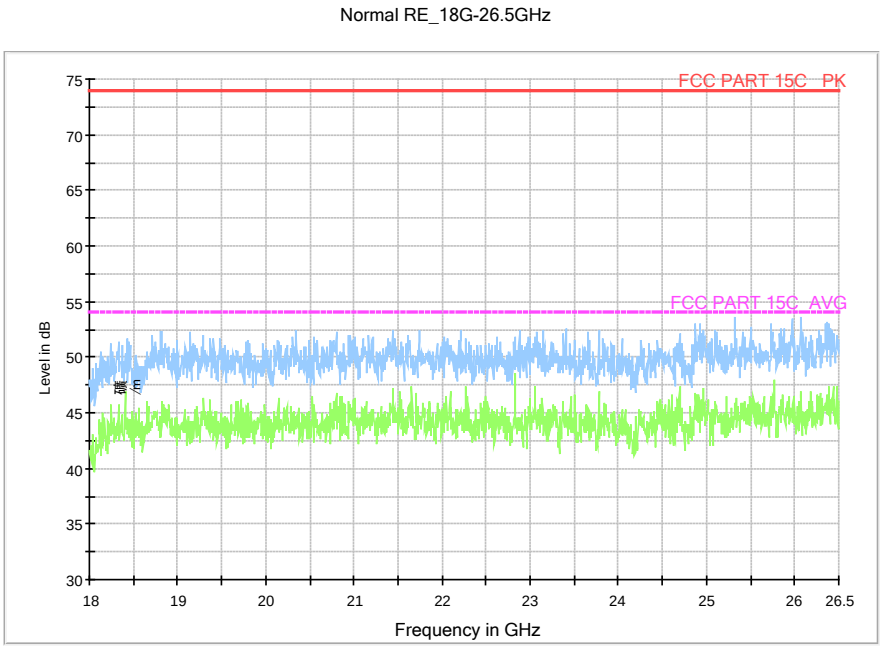

Fig. 64 Radiated Spurious Emission (802.11a, U-NII 2, 18 GHz-26.5 GHz)

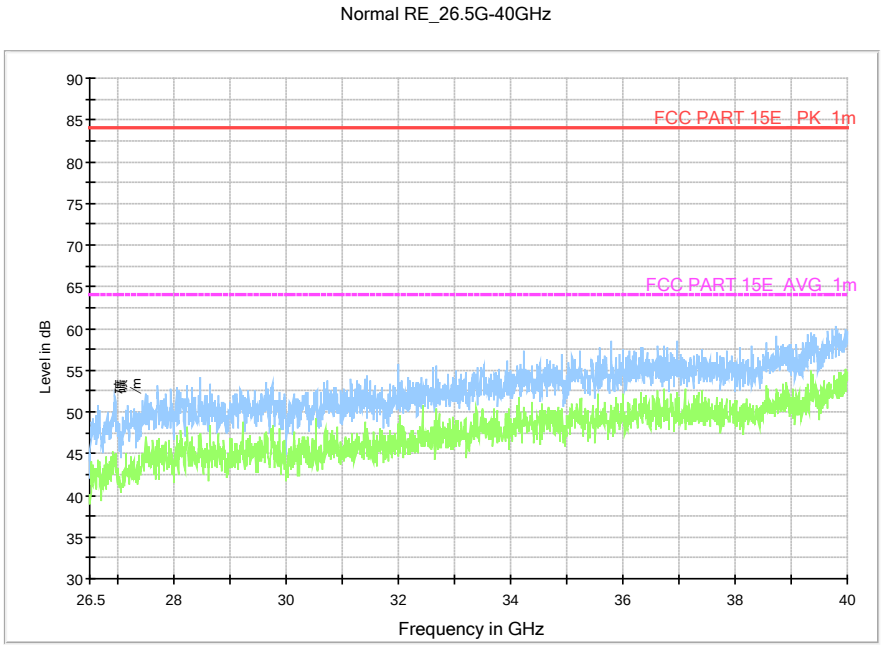

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Fig. 65 Radiated Spurious Emission (802.11a, U-NII 2, 26.5 GHz-40 GHz)

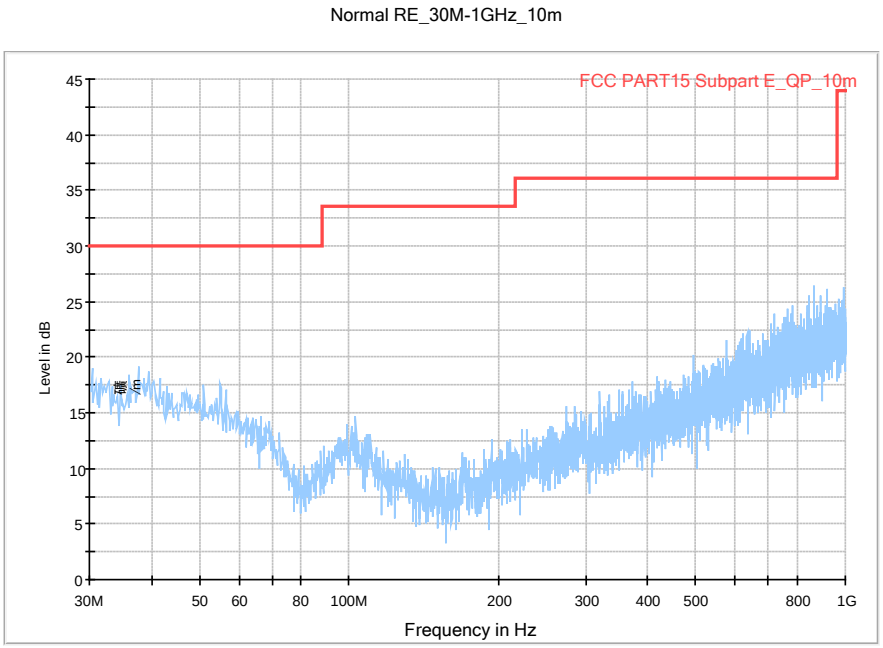

Fig. 66 Radiated Spurious Emission (802.11a, ch100, 30 MHz-1 GHz)

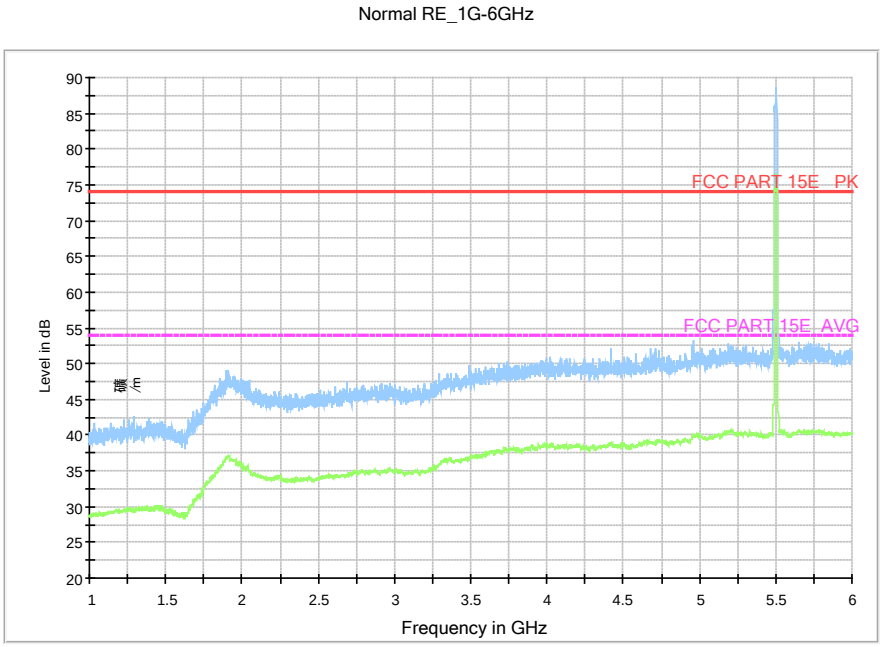

Fig. 67 Radiated Spurious Emission (802.11a, ch100, 1 GHz-6 GHz)

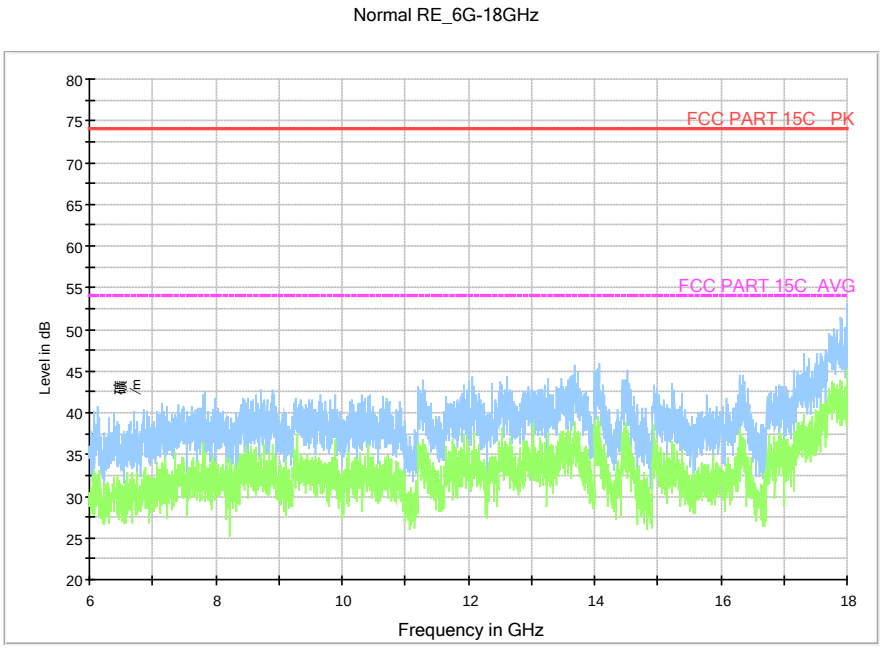

Fig. 68 Radiated Spurious Emission (802.11a, ch100, 6 GHz-18 GHz)

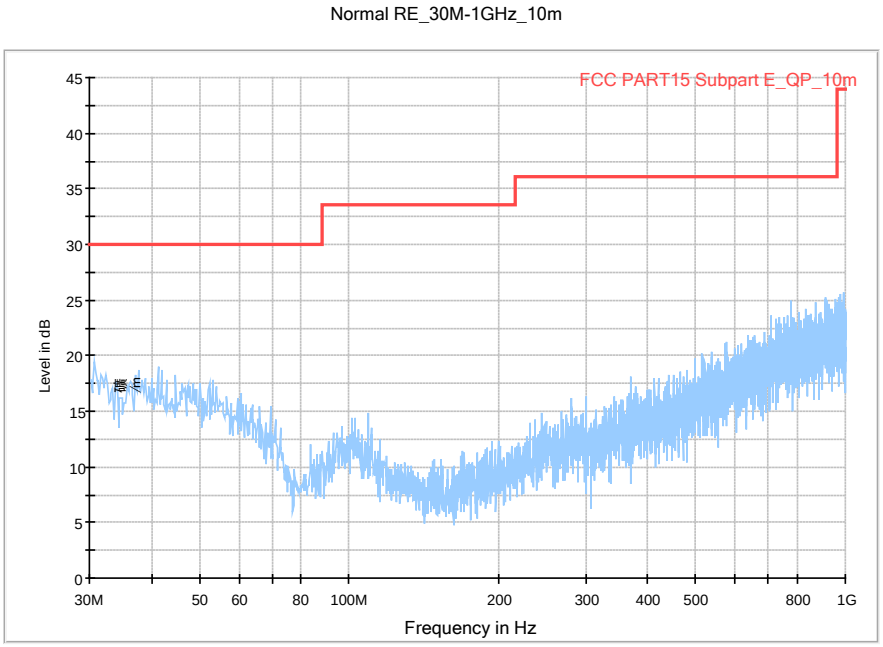

Fig. 69 Radiated Spurious Emission (802.11a, ch116, 30 MHz-1 GHz)

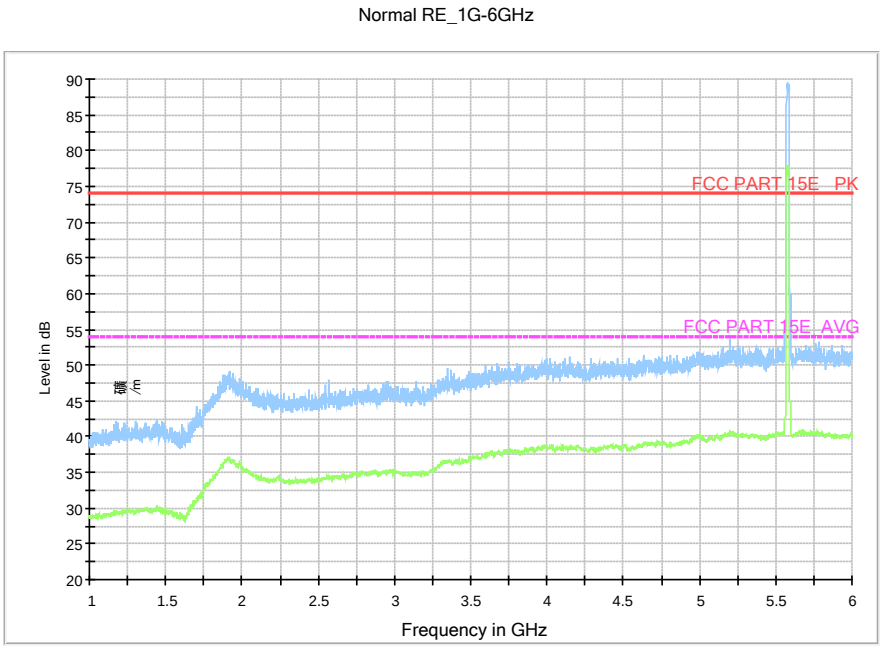

Fig. 70 Radiated Spurious Emission (802.11a, ch116, 1 GHz-6 GHz)

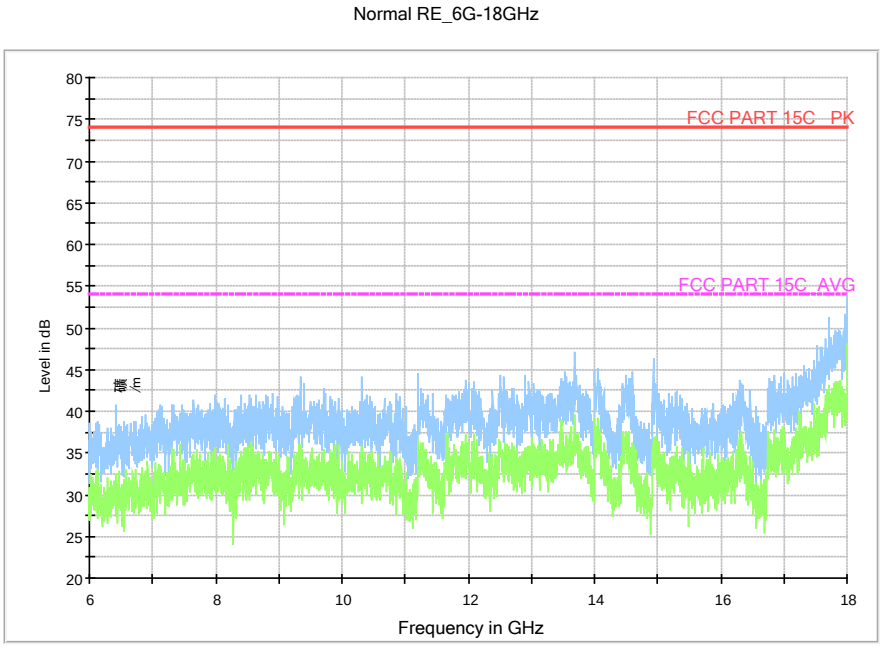

Fig. 71 Radiated Spurious Emission (802.11a, ch116, 6 GHz-18 GHz)

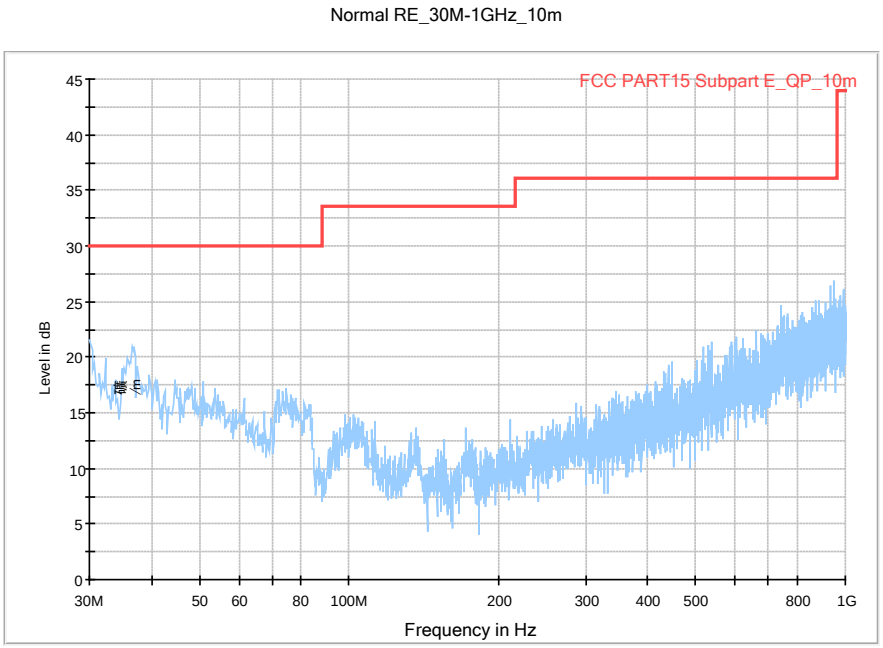

Fig. 72 Radiated Spurious Emission (802.11a, ch140, 30 MHz-1 GHz)

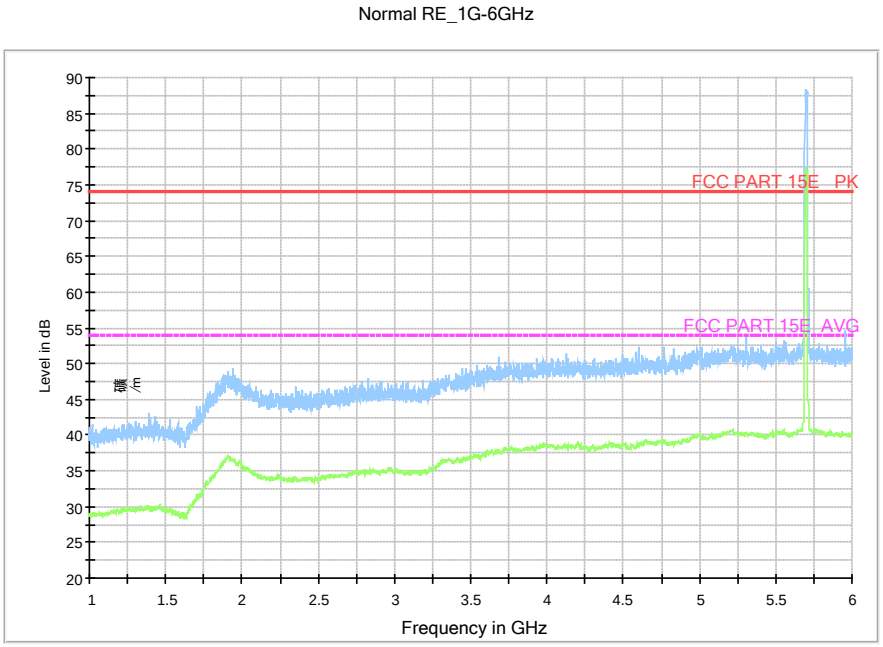

Fig. 73 Radiated Spurious Emission (802.11a, ch140, 1 GHz-6 GHz)

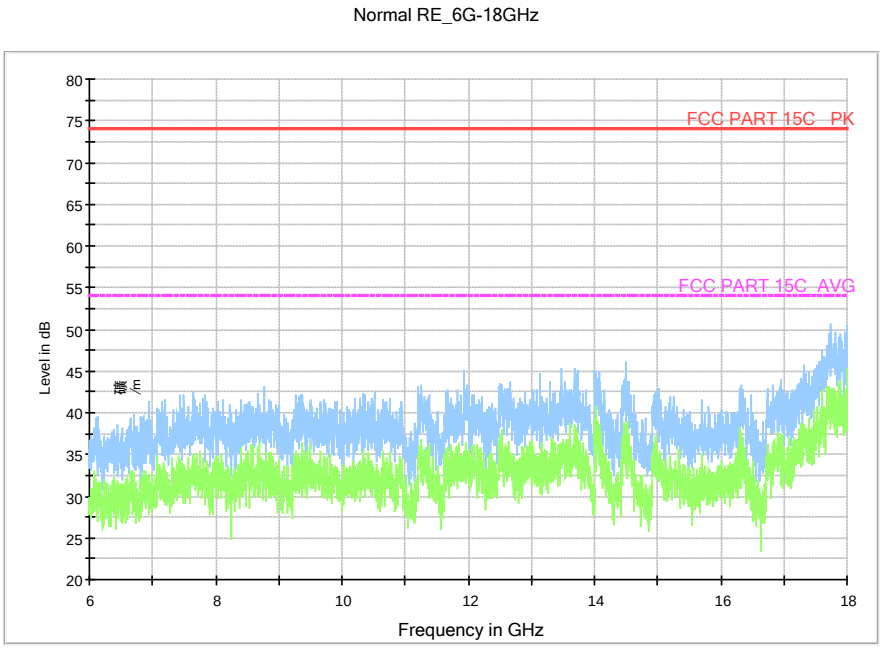

Fig. 74 Radiated Spurious Emission (802.11a, ch140, 6 GHz-18 GHz)

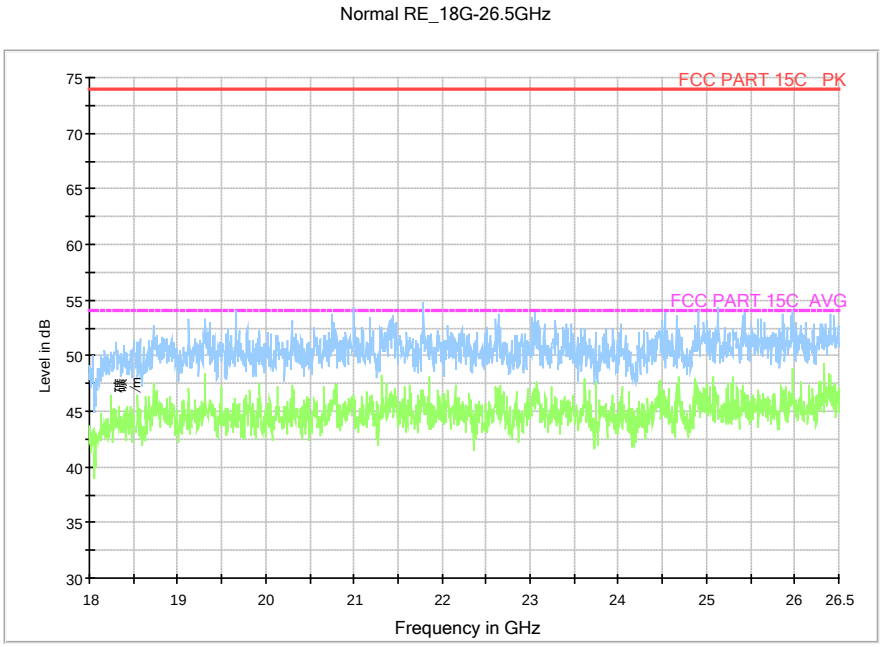

Fig. 75 Radiated Spurious Emission (802.11a, U-NII 3, 18 GHz-26.5 GHz)

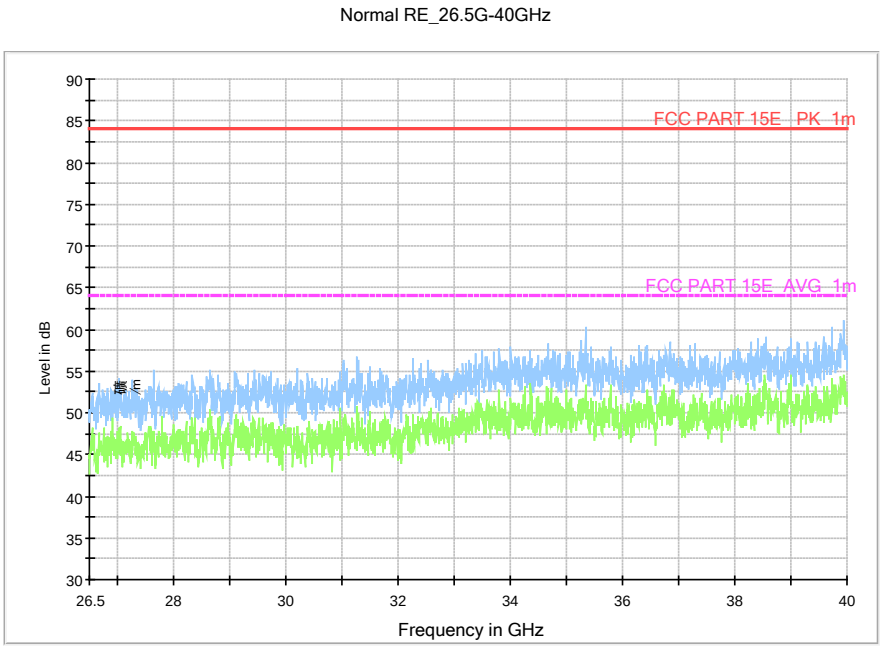

Fig. 76 Radiated Spurious Emission (802.11a, U-NII 3, 26.5 GHz-40 GHz)

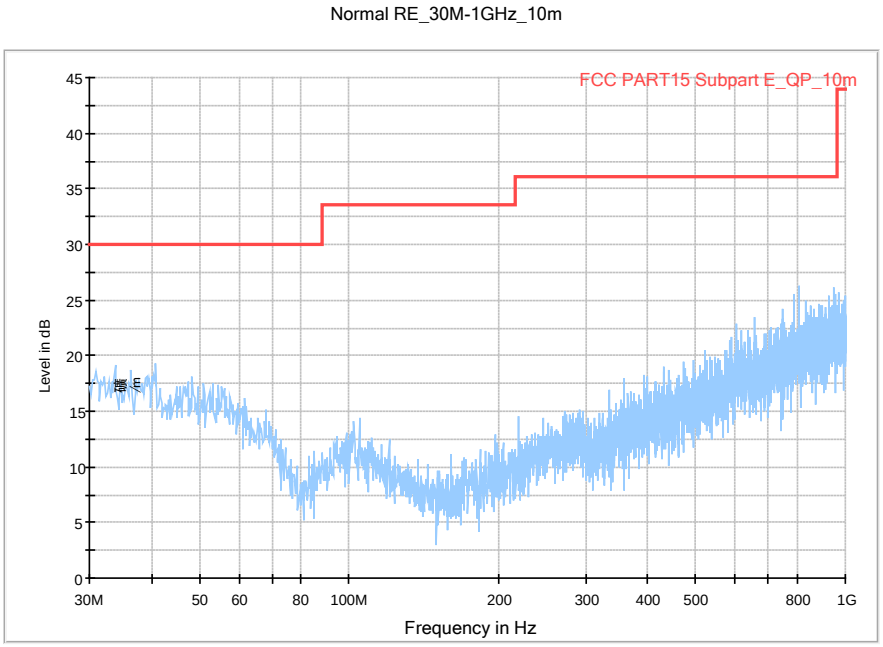

Fig. 77 Radiated Spurious Emission (802.11n-HT20, ch36, 30 MHz-1 GHz)

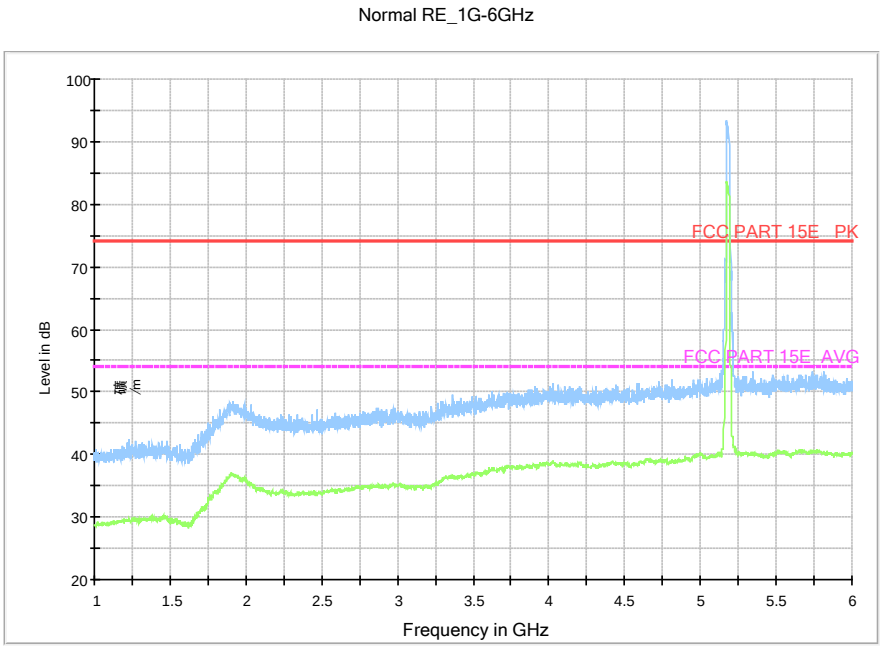

Fig. 78 Radiated Spurious Emission (802.11n-HT20, ch36, 1 GHz-6 GHz)

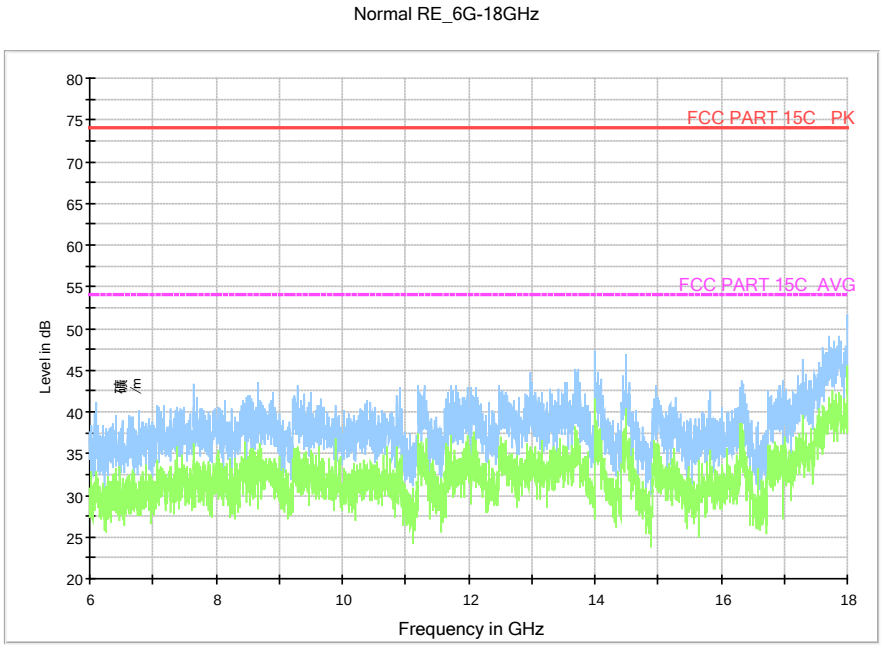

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Fig. 79 Radiated Spurious Emission (802.11n-HT20, ch36, 6 GHz-18 GHz)

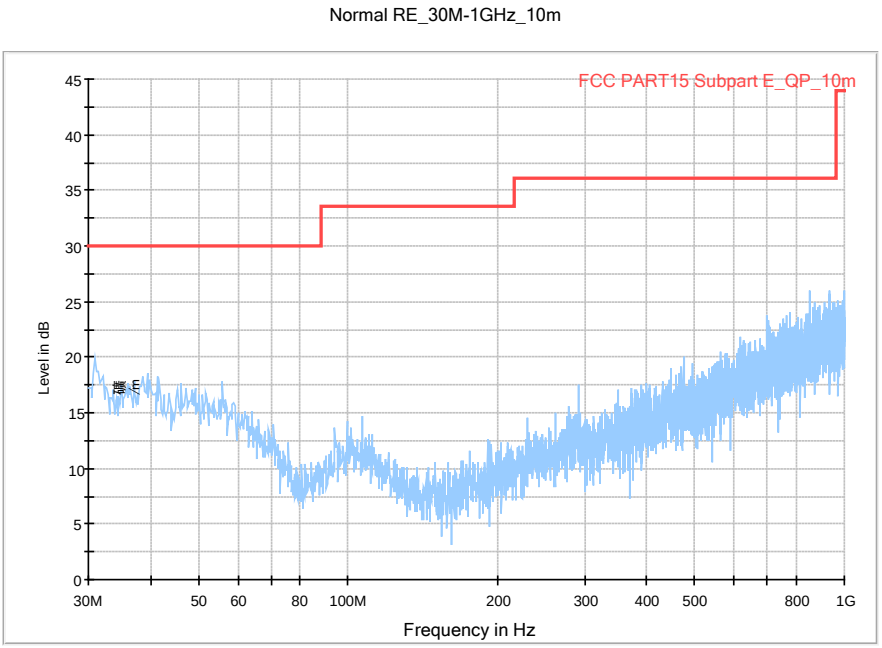

Fig. 80 Radiated Spurious Emission (802.11n-HT20, ch40, 30 MHz-1 GHz)

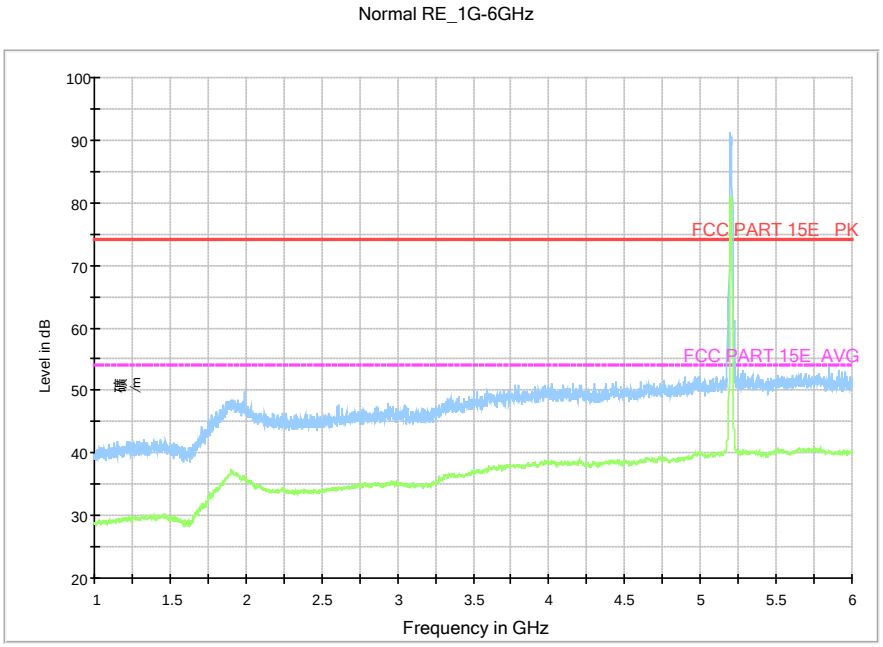

Fig. 81 Radiated Spurious Emission (802.11n-HT20, ch40, 1 GHz-6 GHz)

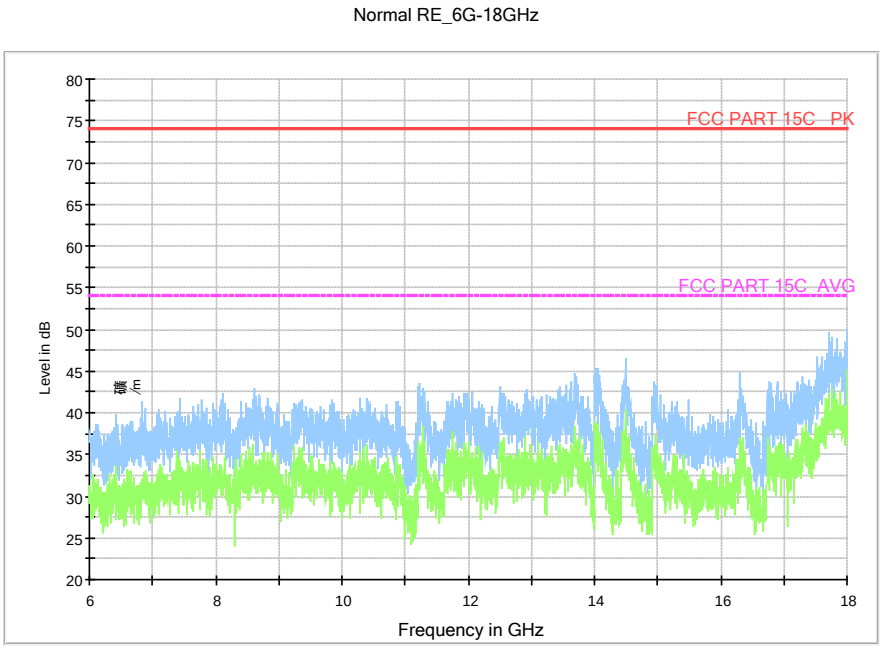

Fig. 82 Radiated Spurious Emission (802.11n-HT20, ch40, 6 GHz-18 GHz)

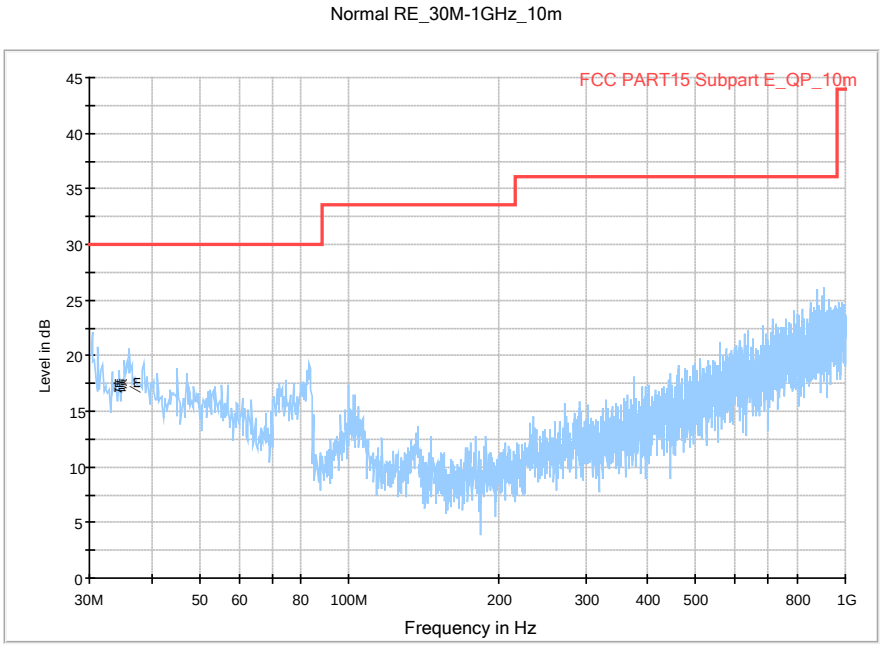

Fig. 83 Radiated Spurious Emission (802.11n-HT20, ch48, 30 MHz-1 GHz)

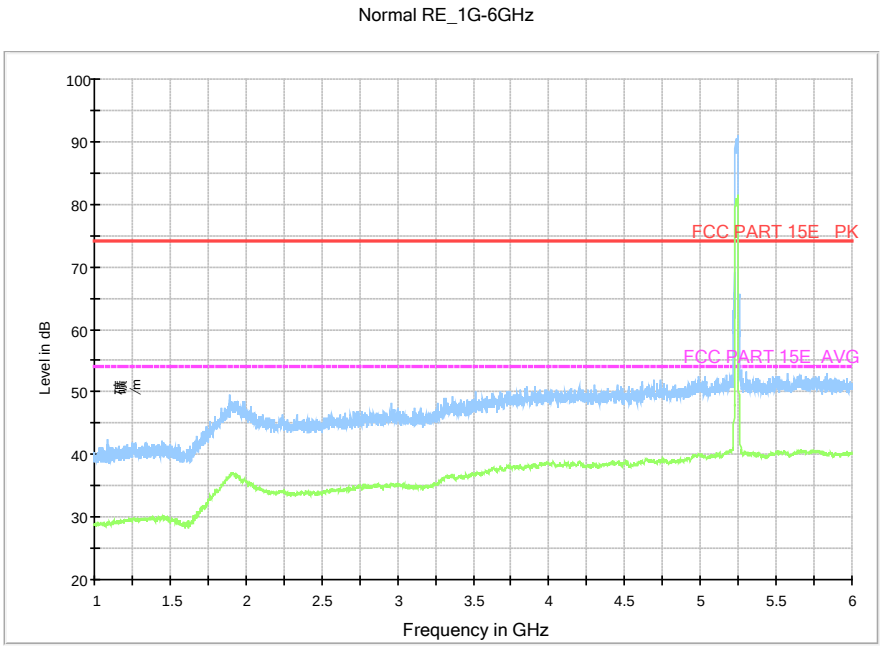

Fig. 84 Radiated Spurious Emission (802.11n-HT20, ch48, 1 GHz-6 GHz)

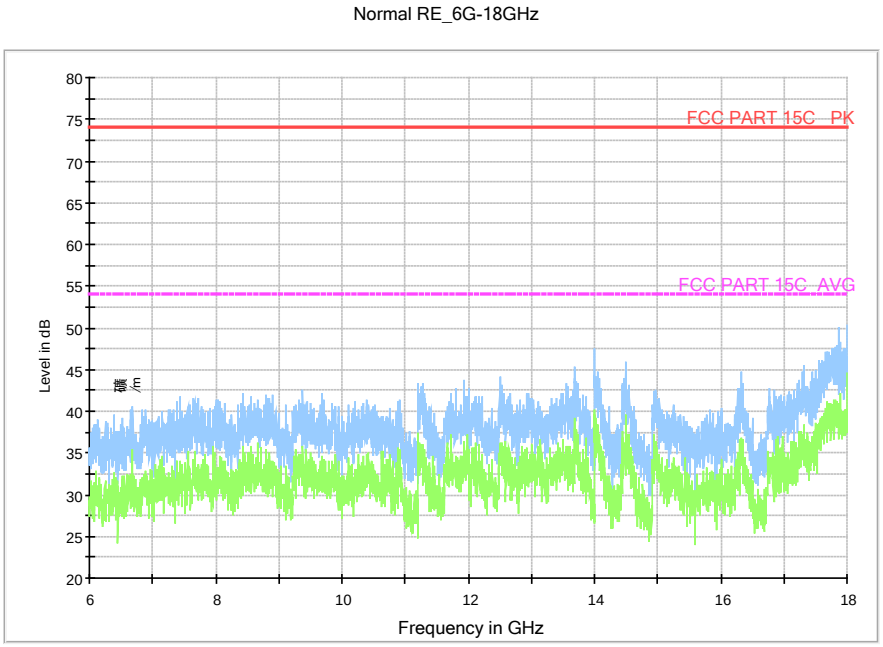

Fig. 85 Radiated Spurious Emission (802.11n-HT20, ch48, 6 GHz-18 GHz)

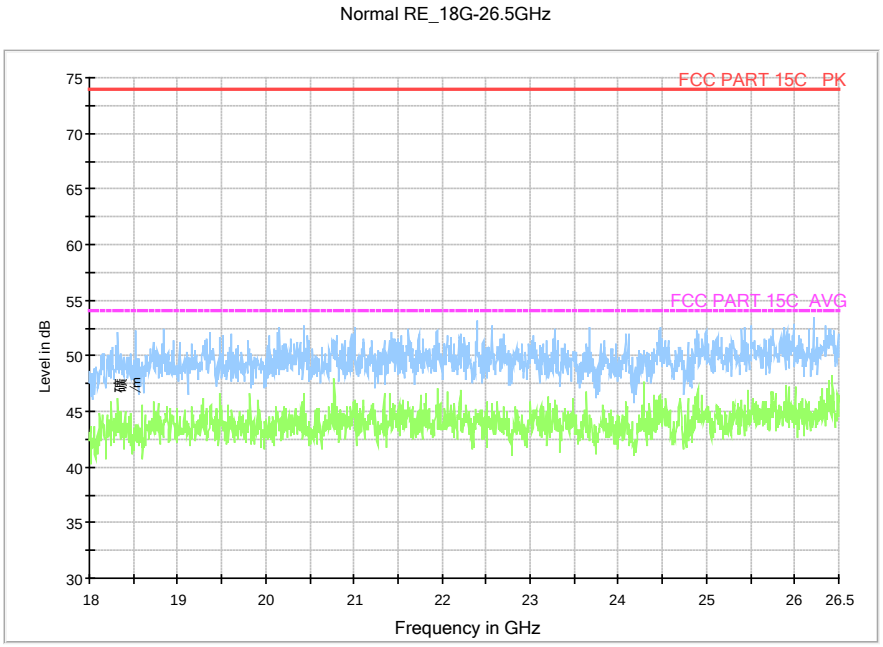

Fig. 86 Radiated Spurious Emission (802.11n-HT20, U-NII 1, 18 GHz-26.5 GHz)

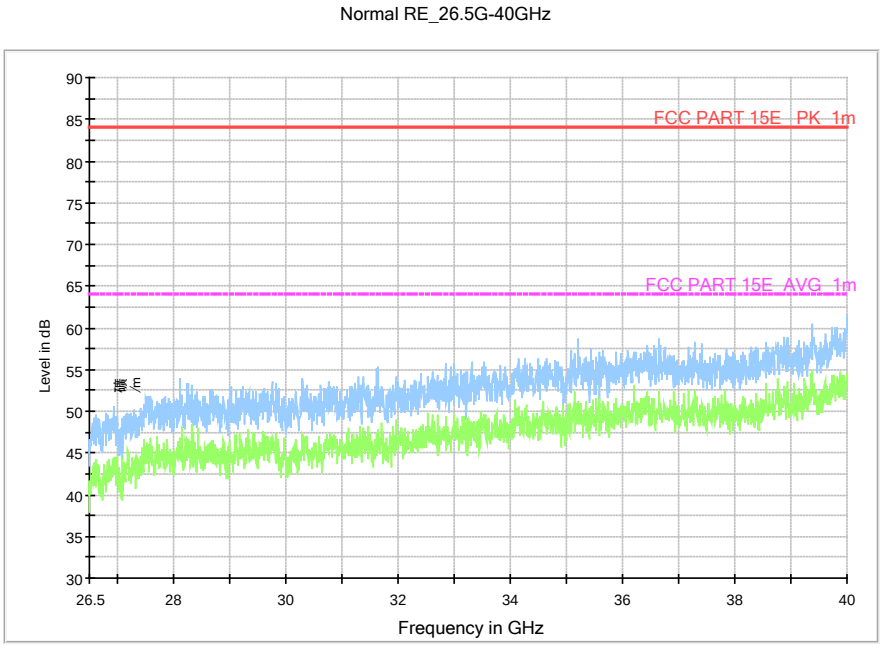

Fig. 87 Radiated Spurious Emission (802.11n-HT20, U-NII 1, 26.5 GHz-40 GHz)

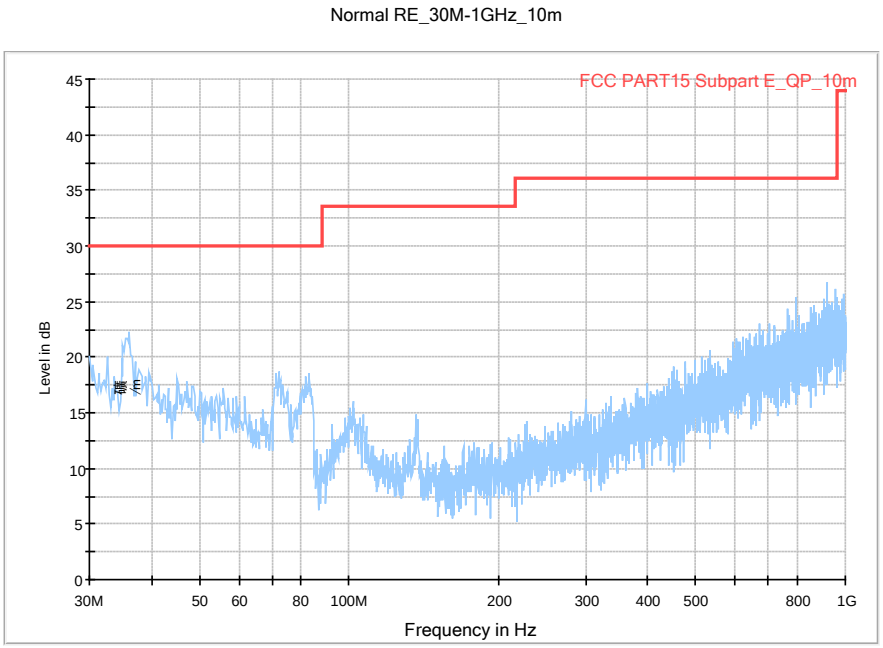

Fig. 88 Radiated Spurious Emission (802.11n-HT20, ch52, 30 MHz-1 GHz)

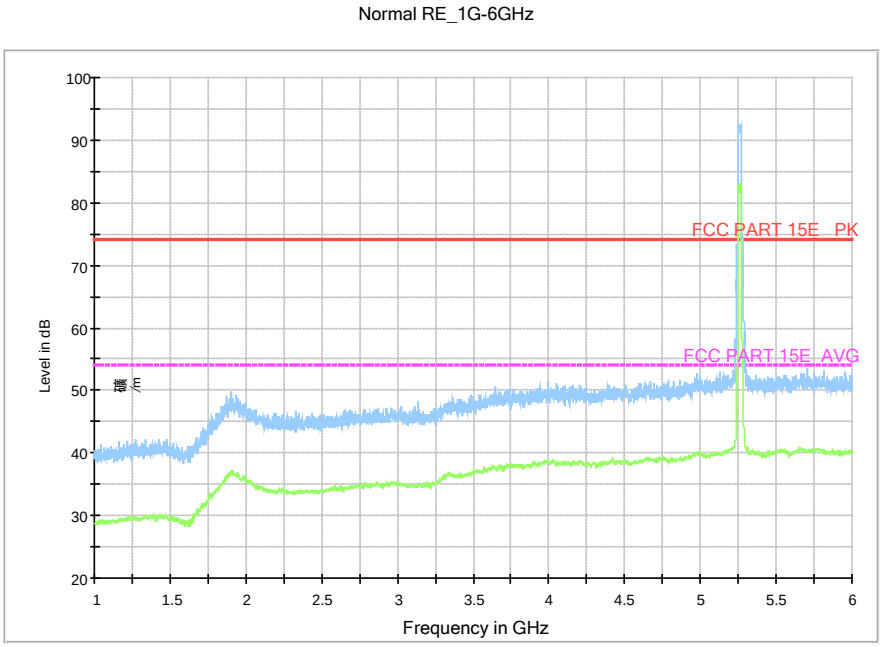

Fig. 89 Radiated Spurious Emission (802.11n-HT20, ch52, 1 GHz-6 GHz)

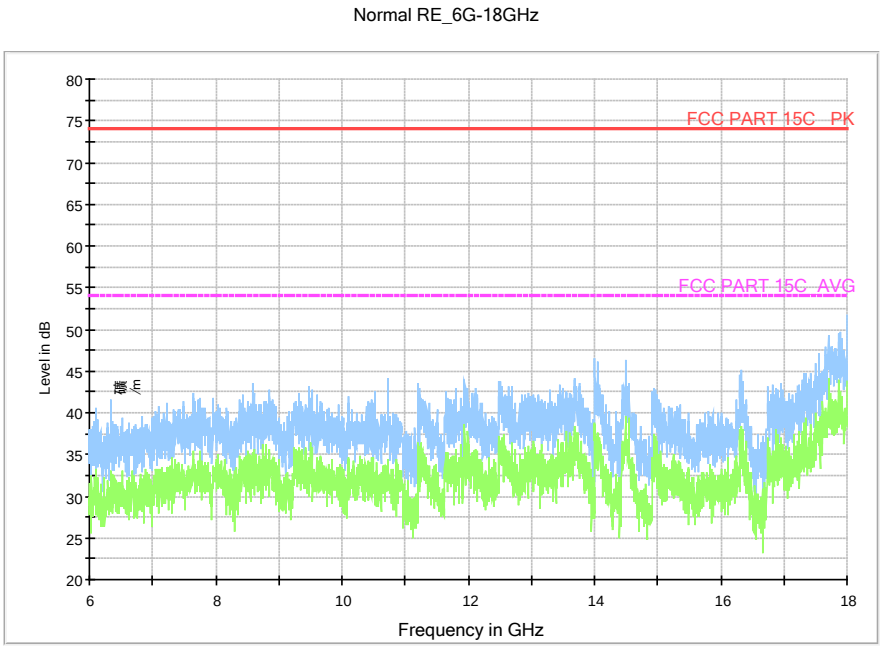

Fig. 90 Radiated Spurious Emission (802.11n-HT20, ch52, 6 GHz-18 GHz)

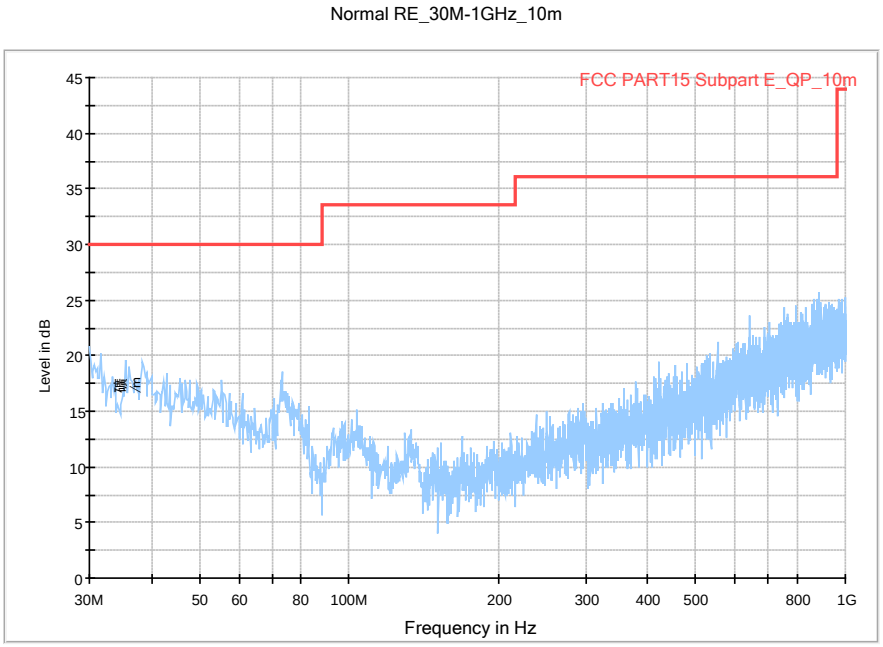

Fig. 91 Radiated Spurious Emission (802.11n-HT20 ch56, 30 MHz-1 GHz)

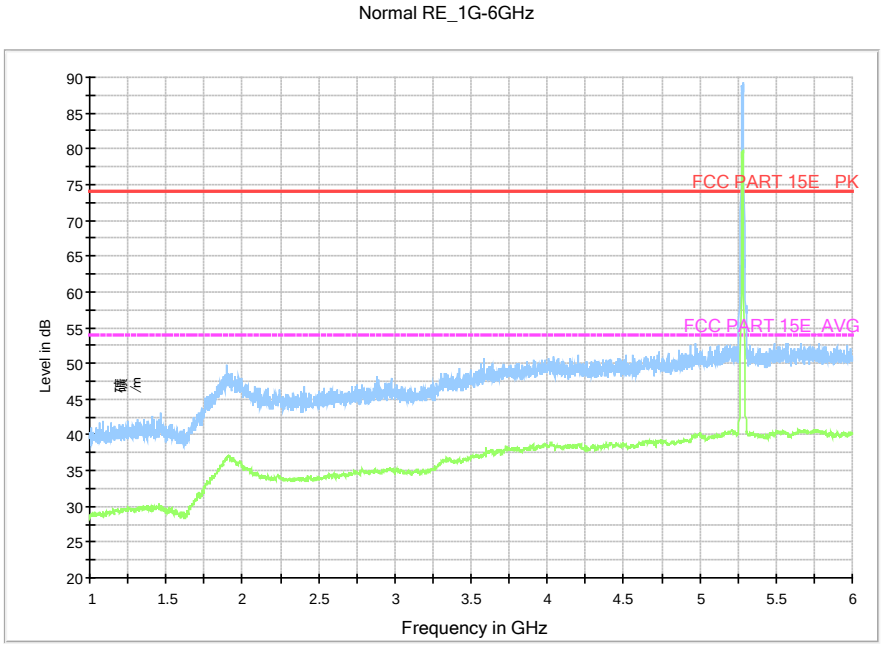

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Fig. 92 Radiated Spurious Emission (802.11n-HT20, ch56, 1 GHz-6 GHz)

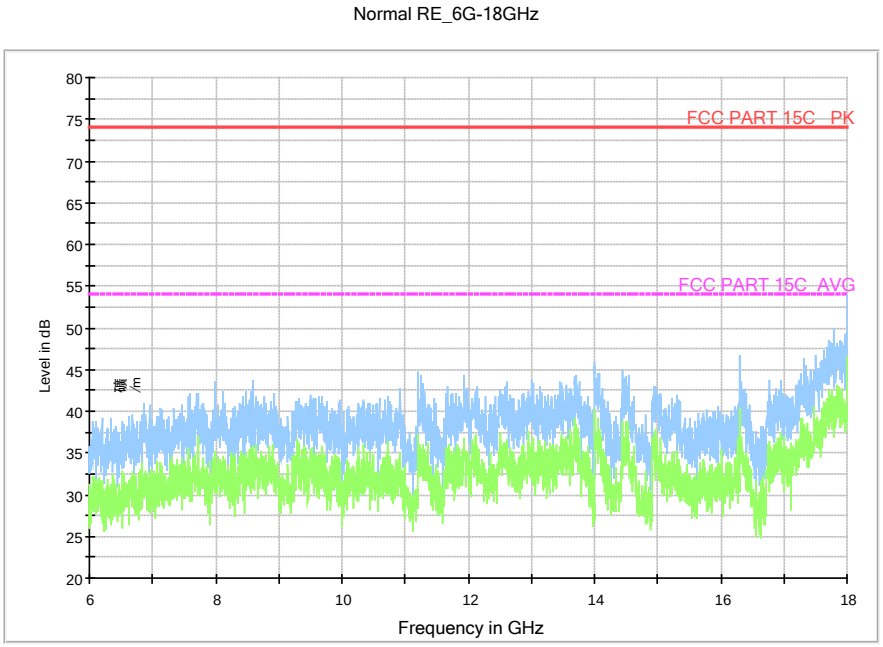


Fig. 93 Radiated Spurious Emission (802.11n-HT20, ch56, 6 GHz-18 GHz)

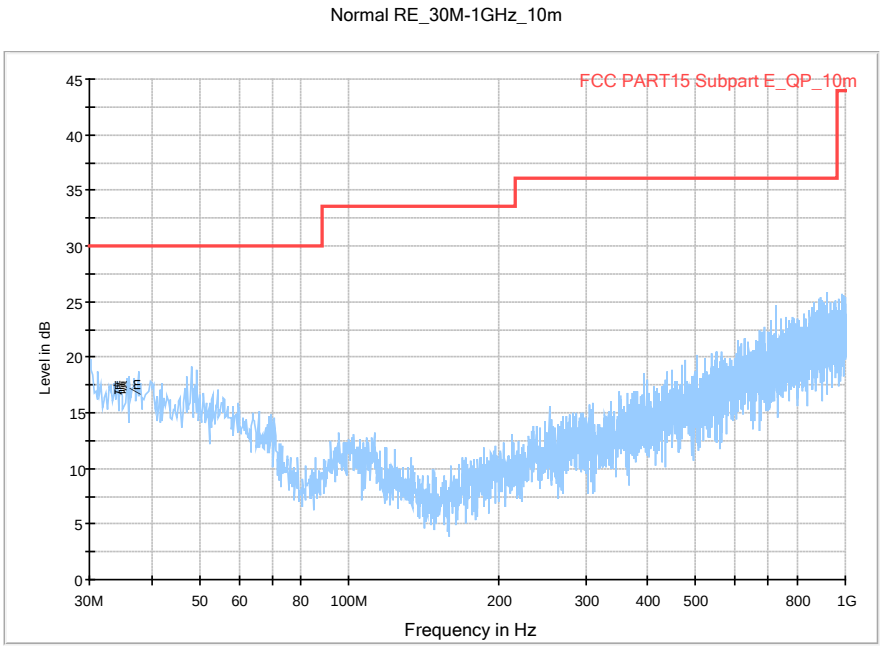


Fig. 94 Radiated Spurious Emission (802.11n-HT20, ch64, 30 MHz-1 GHz)

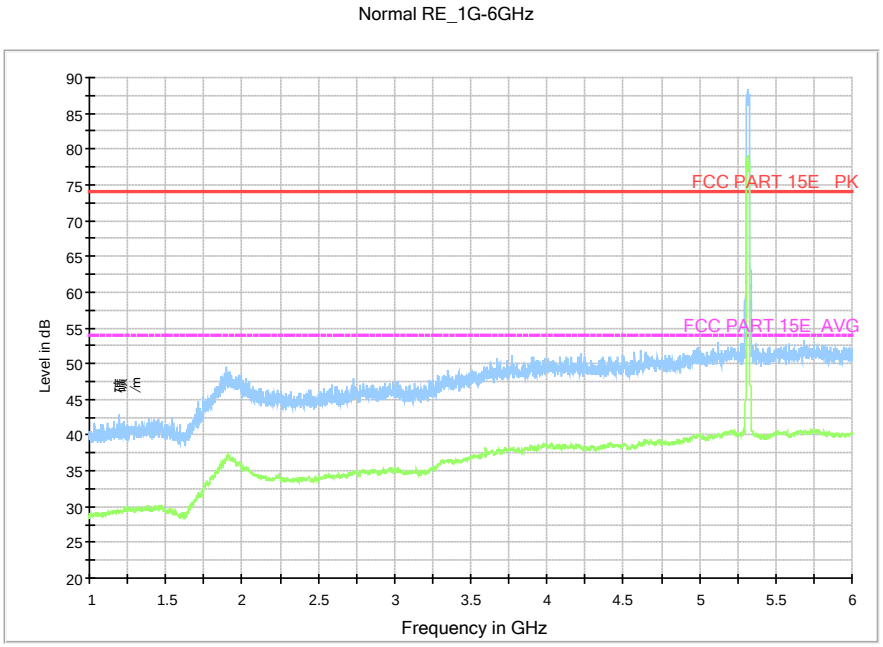


Fig. 95 Radiated Spurious Emission (802.11n-HT20, ch64, 1 GHz-6 GHz)

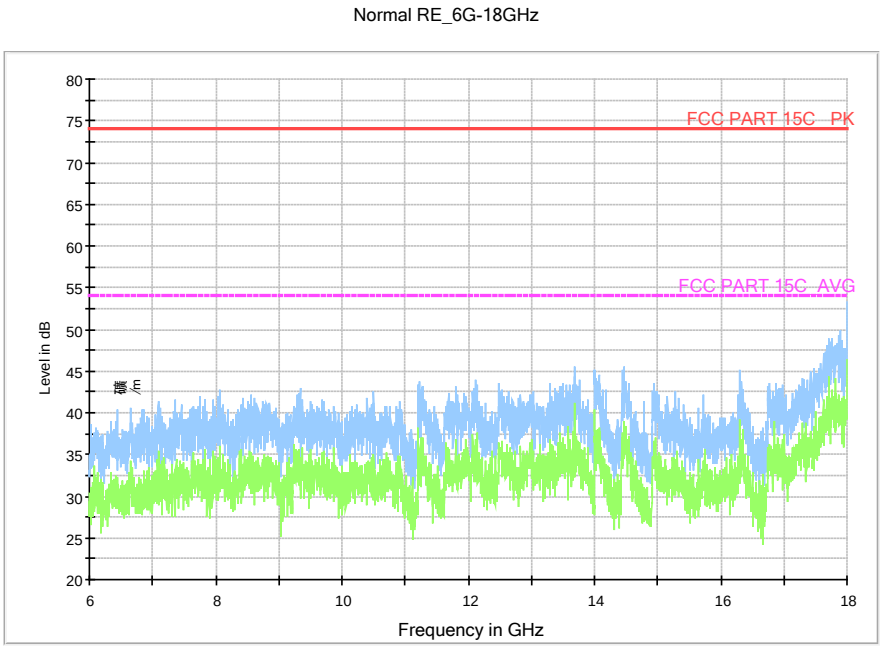


Fig. 96 Radiated Spurious Emission (802.11n-HT20, ch64, 6 GHz-18 GHz)

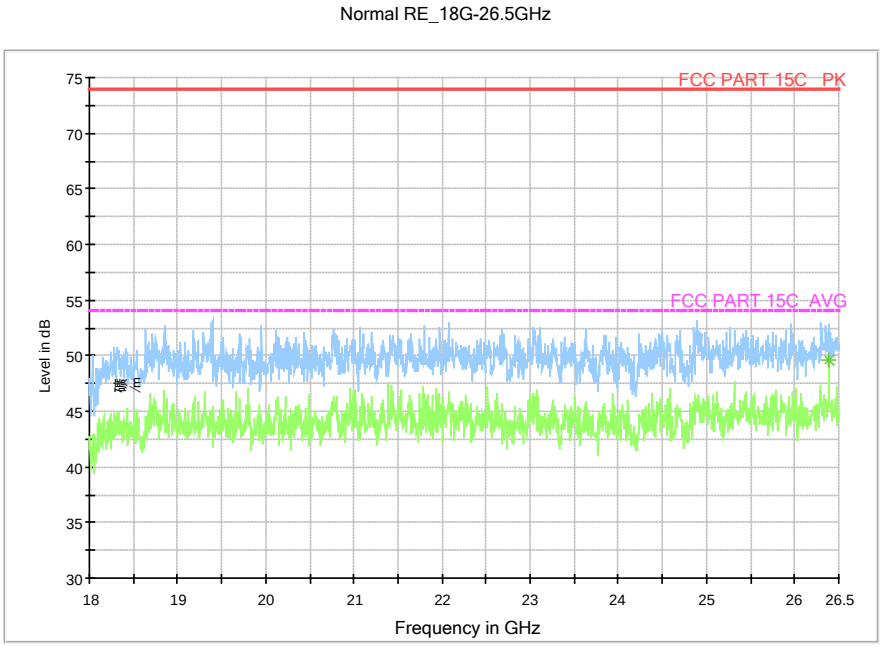


Fig. 97 Radiated Spurious Emission (802.11n-HT20, U-NII 2, 18 GHz-26.5 GHz)

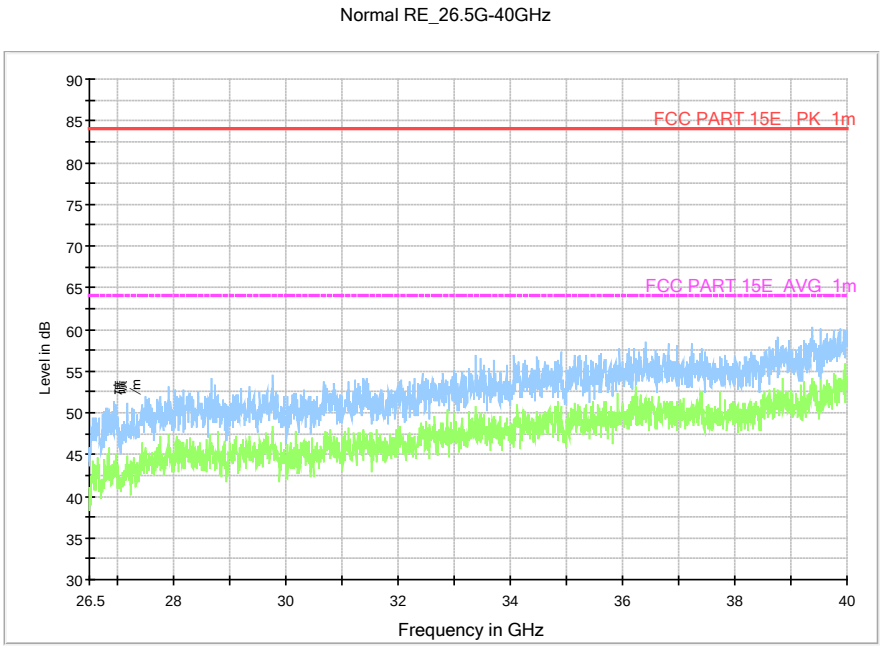


Fig. 98 Radiated Spurious Emission (802.11n-HT20, U-NII 2, 26.5 GHz-40 GHz)

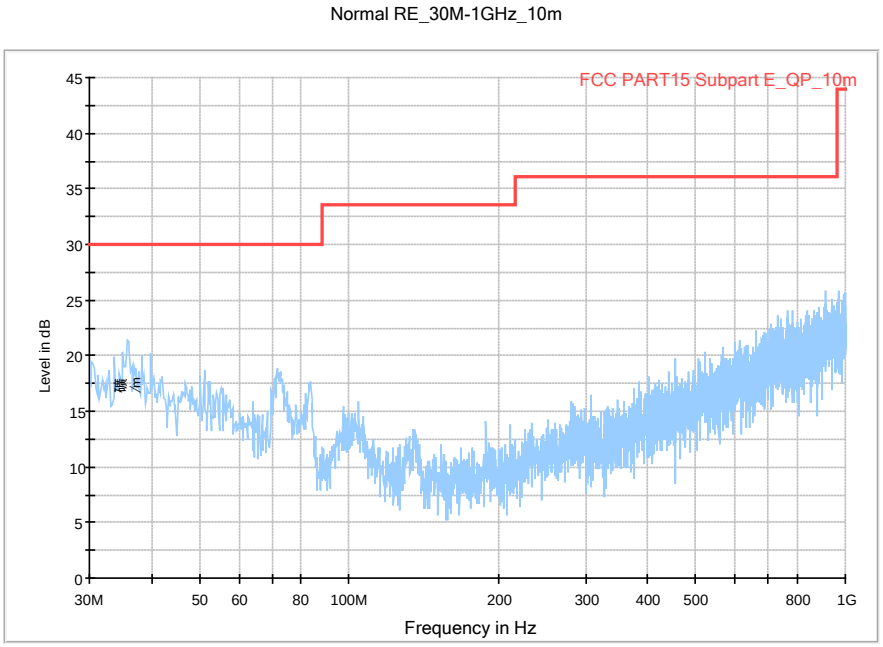


Fig. 99 Radiated Spurious Emission (802.11n-HT20, ch100, 30 MHz-1 GHz)

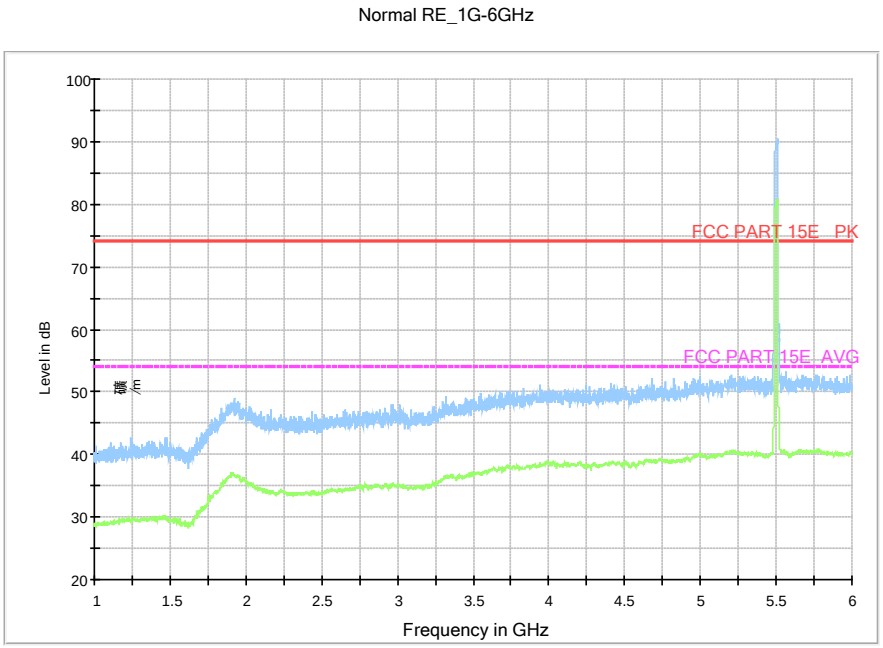


Fig. 100 Radiated Spurious Emission (802.11n-HT20, ch100, 1 GHz-6 GHz)

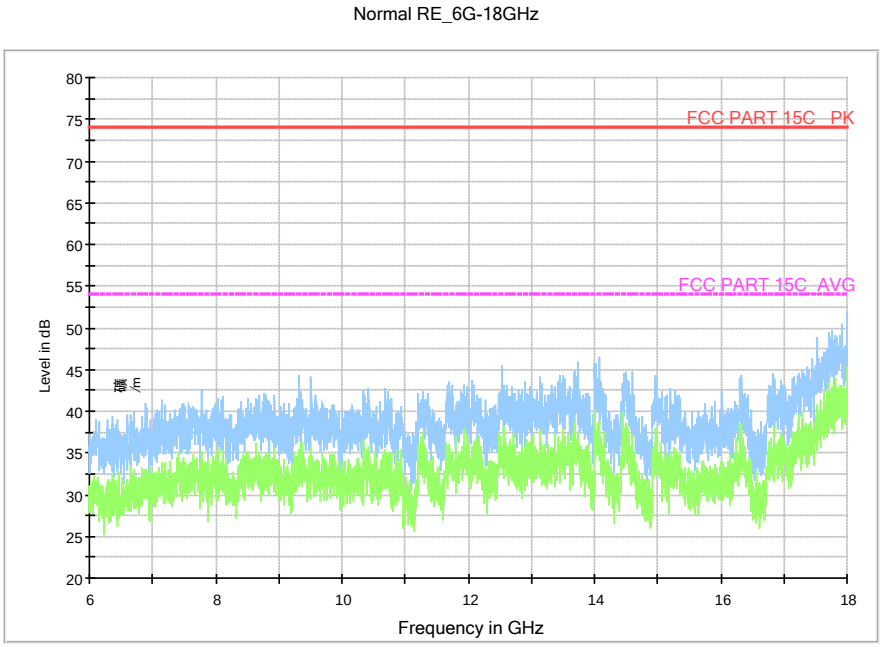


Fig. 101 Radiated Spurious Emission (802.11n-HT20, ch100, 6 GHz-18 GHz)

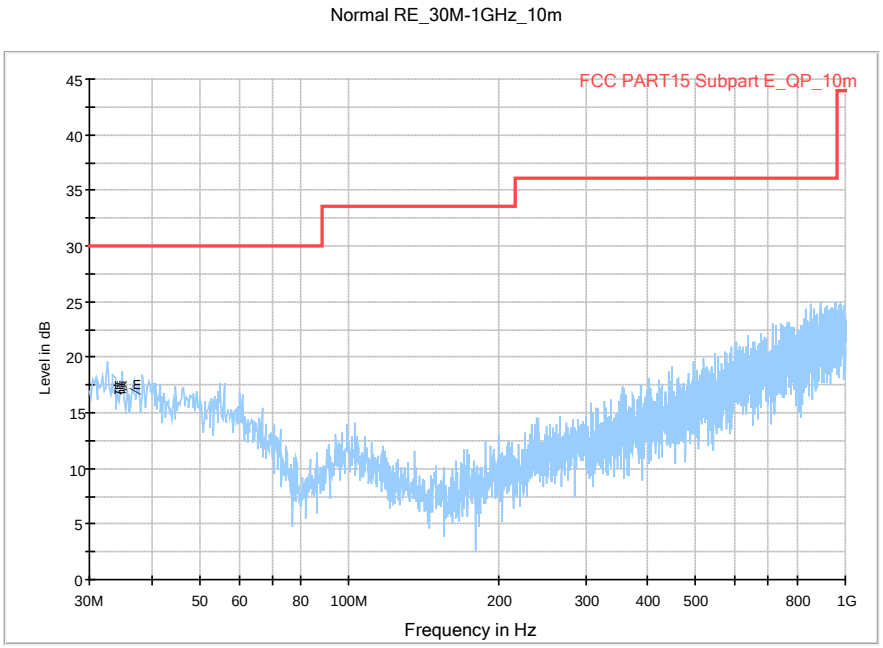


Fig. 102 Radiated Spurious Emission (802.11n-HT20, ch116, 30 MHz-1 GHz)

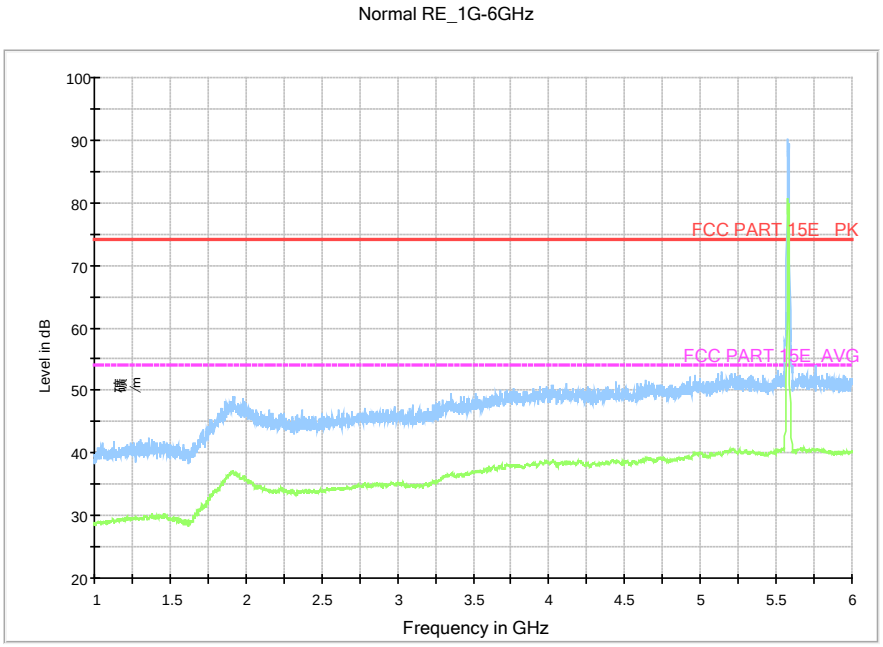


Fig. 103 Radiated Spurious Emission (802.11n-HT20, ch116, 1 GHz-6 GHz)

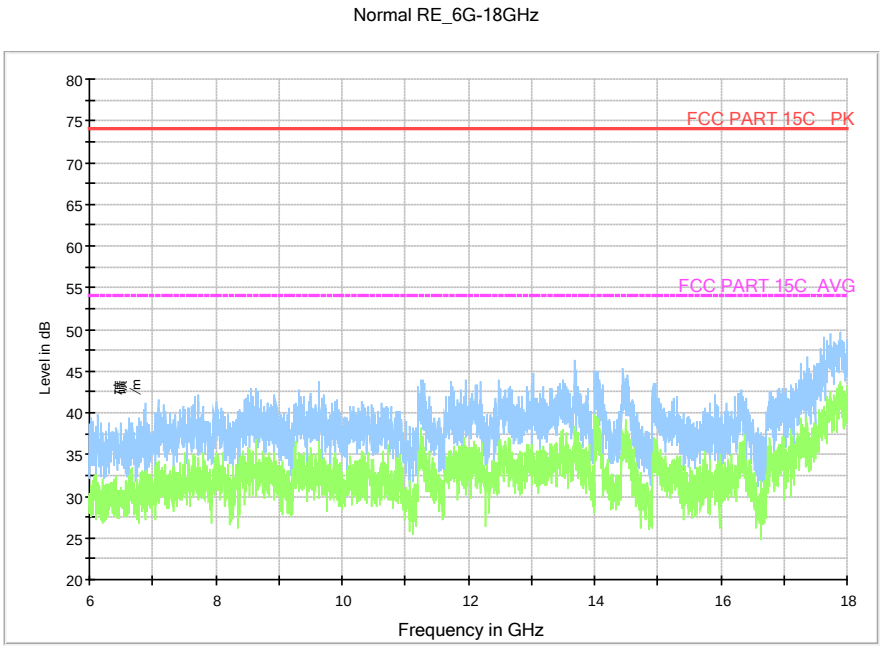


Fig. 104 Radiated Spurious Emission (802.11n-HT20, ch116, 6 GHz-18 GHz)

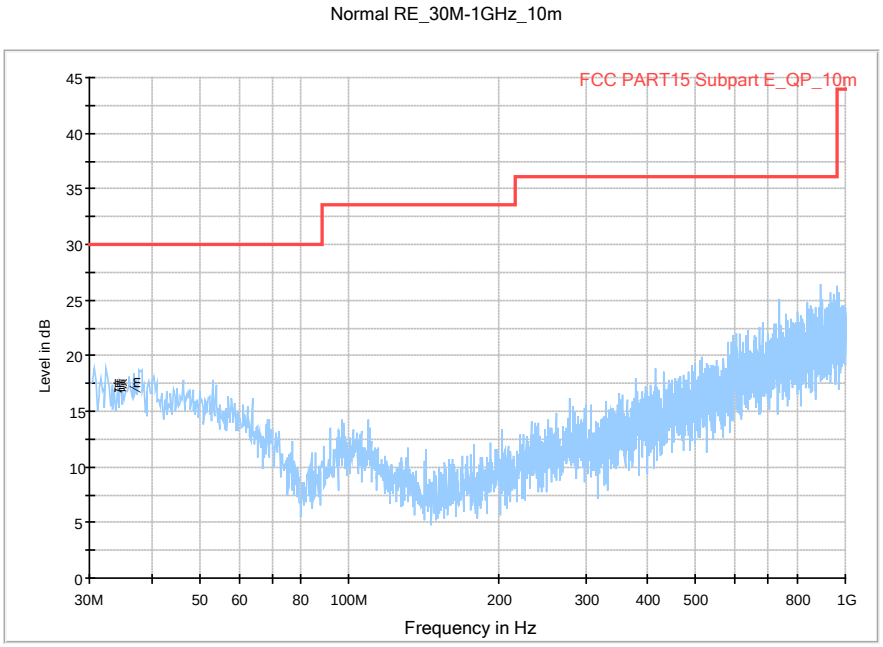


Fig. 105 Radiated Spurious Emission (802.11n-HT20, ch140, 30 MHz-1 GHz)

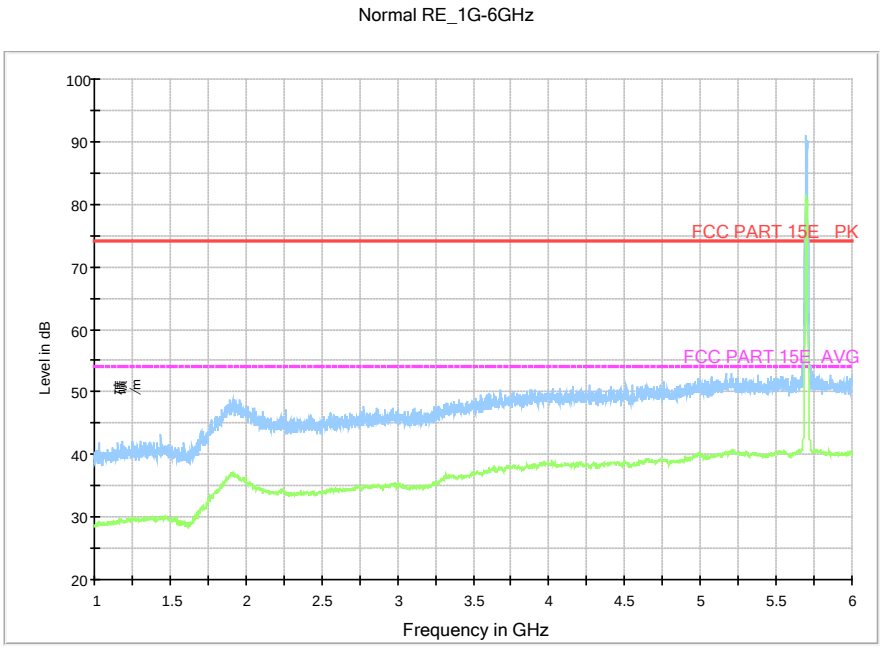


Fig. 106 Radiated Spurious Emission (802.11n-HT20, ch140, 1 GHz-6 GHz)

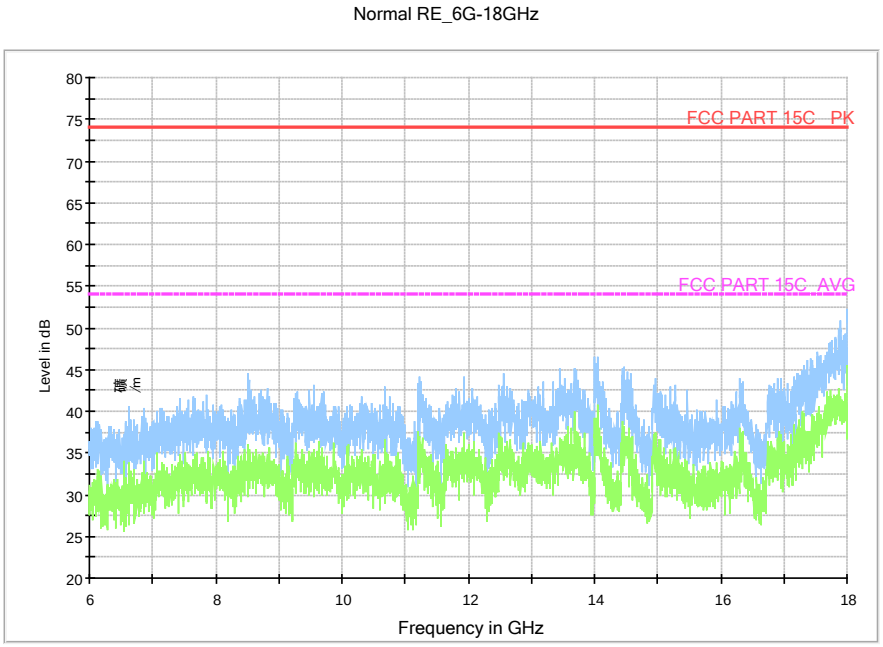


Fig. 107 Radiated Spurious Emission (802.11n-HT20, ch140, 6 GHz-18 GHz)

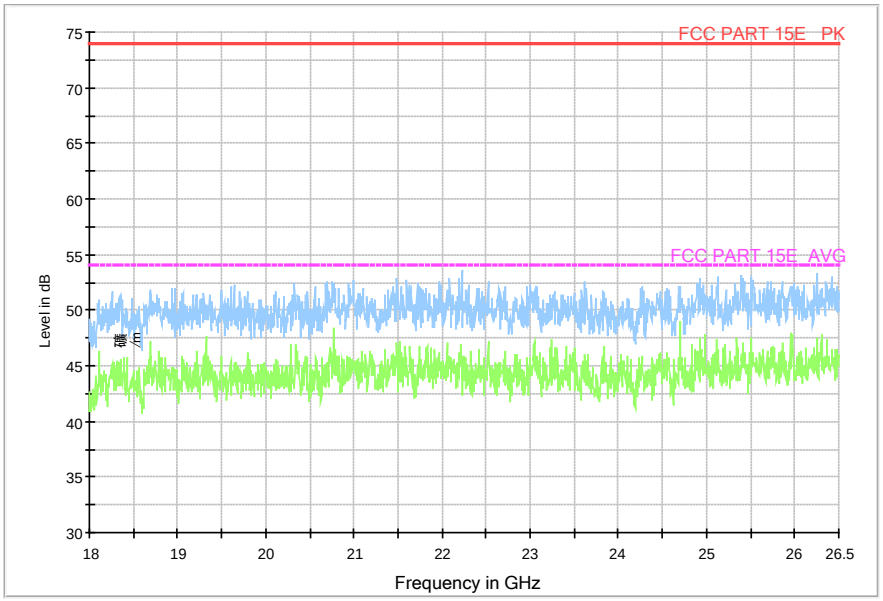


Fig. 108 Radiated Spurious Emission (802.11n-HT20, U-NII 3, 18 GHz-26.5 GHz)

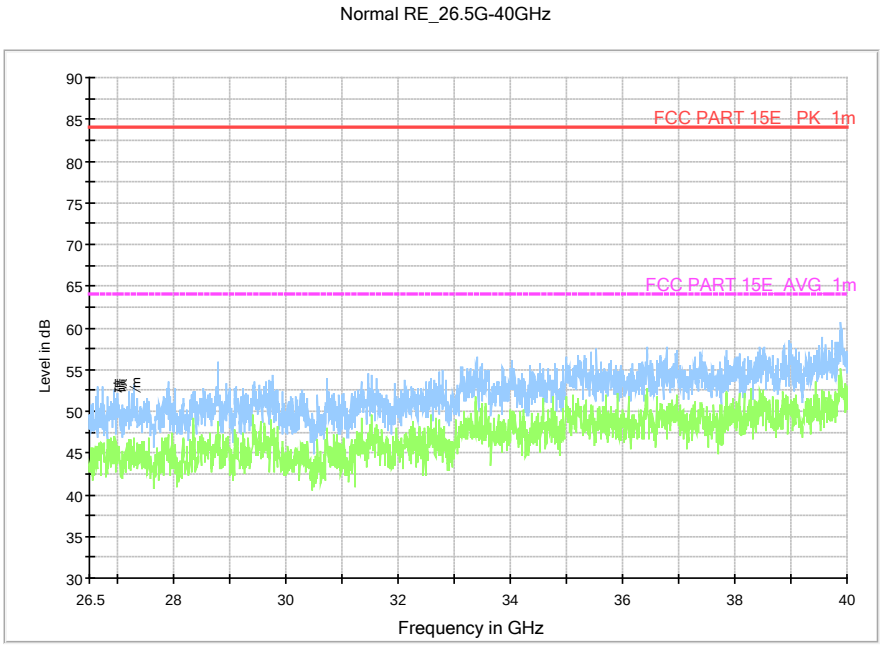


Fig. 109 Radiated Spurious Emission (802.11n-HT20, U-NII 3, 26.5 GHz-40 GHz)

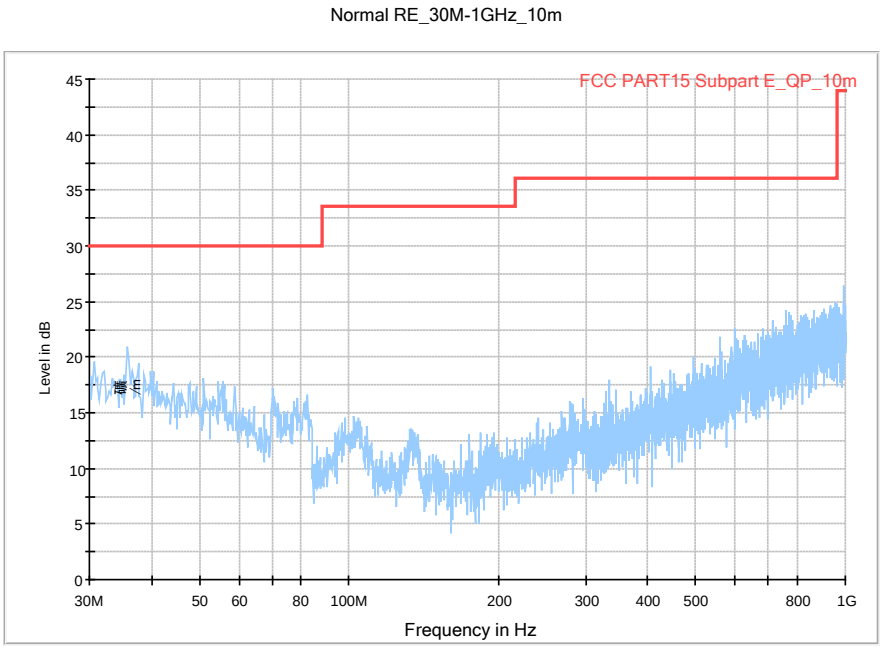


Fig. 110 Radiated Spurious Emission (802.11n-HT40, ch38, 30 MHz-1 GHz)

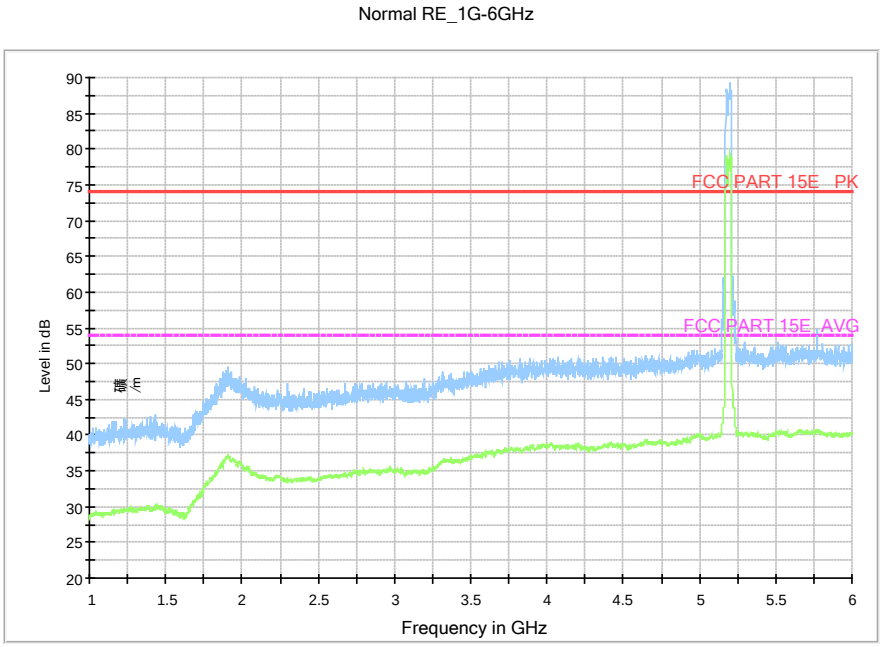


Fig. 111 Radiated Spurious Emission (802.11n-HT40, ch38, 1 GHz-6 GHz)

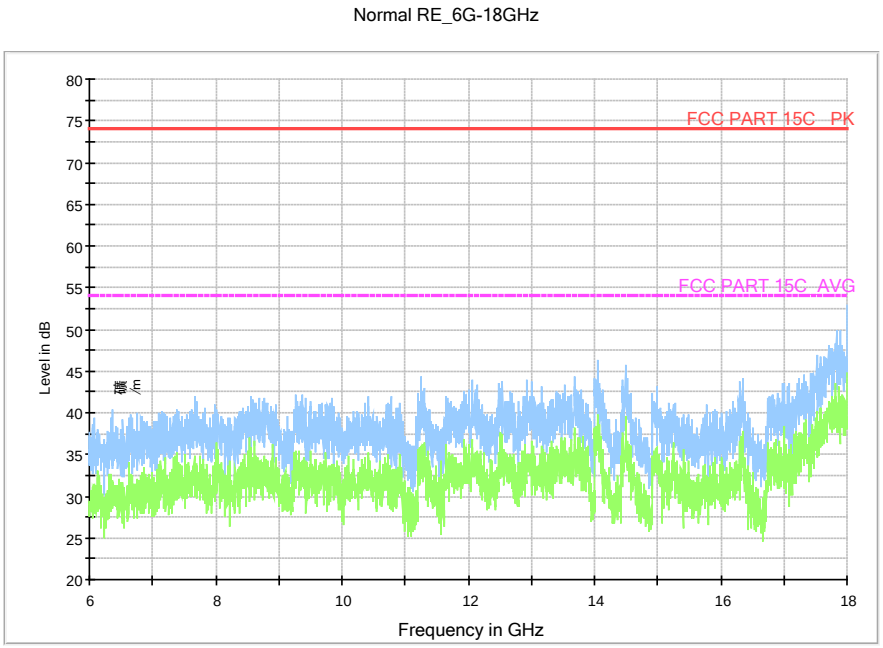


Fig. 112 Radiated Spurious Emission (802.11n-HT40, ch38, 6 GHz-18 GHz)

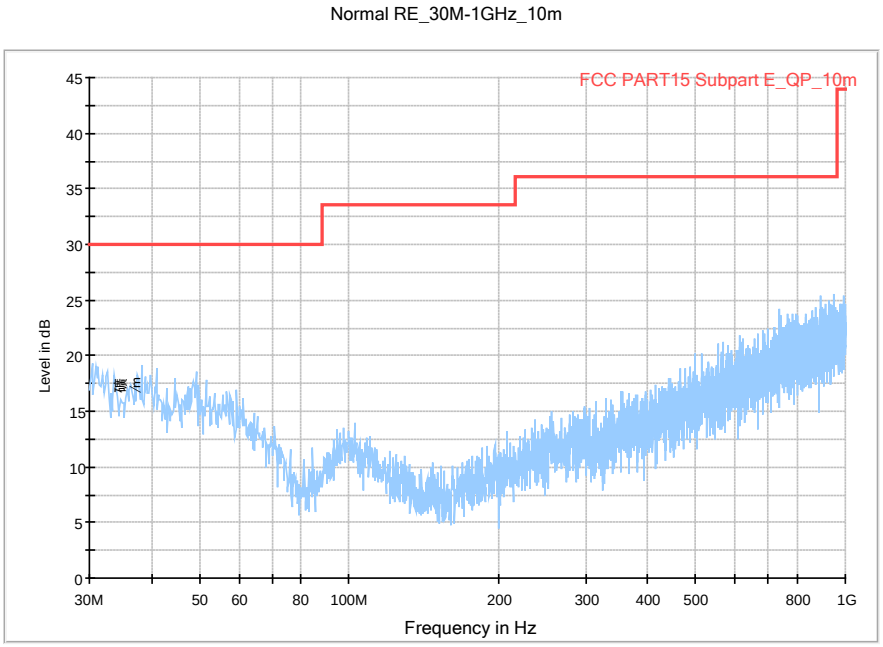


Fig. 113 Radiated Spurious Emission (802.11n-HT40, ch46, 30 MHz-1 GHz)

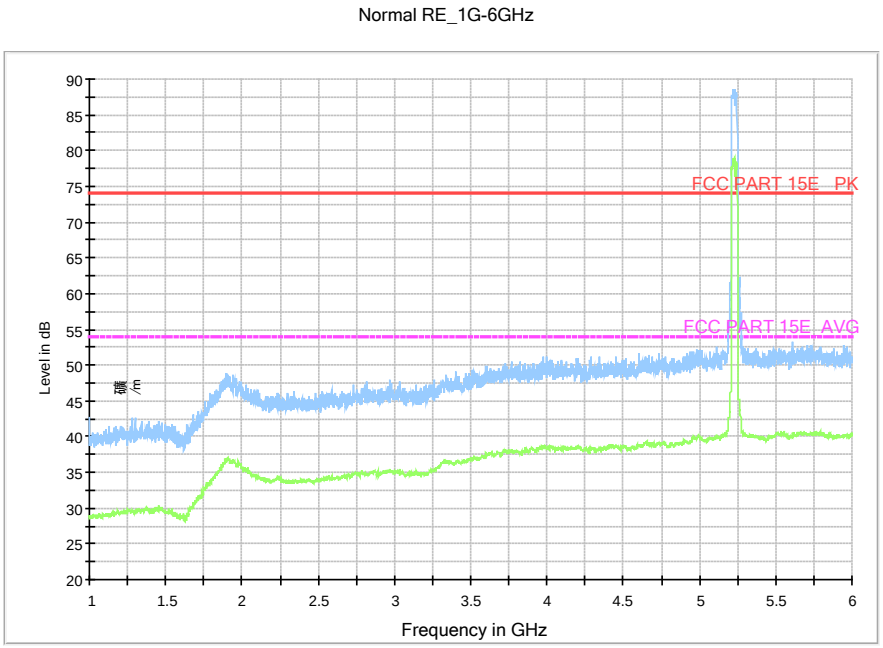


Fig. 114 Radiated Spurious Emission (802.11n-HT40, ch46, 1 GHz-6 GHz)

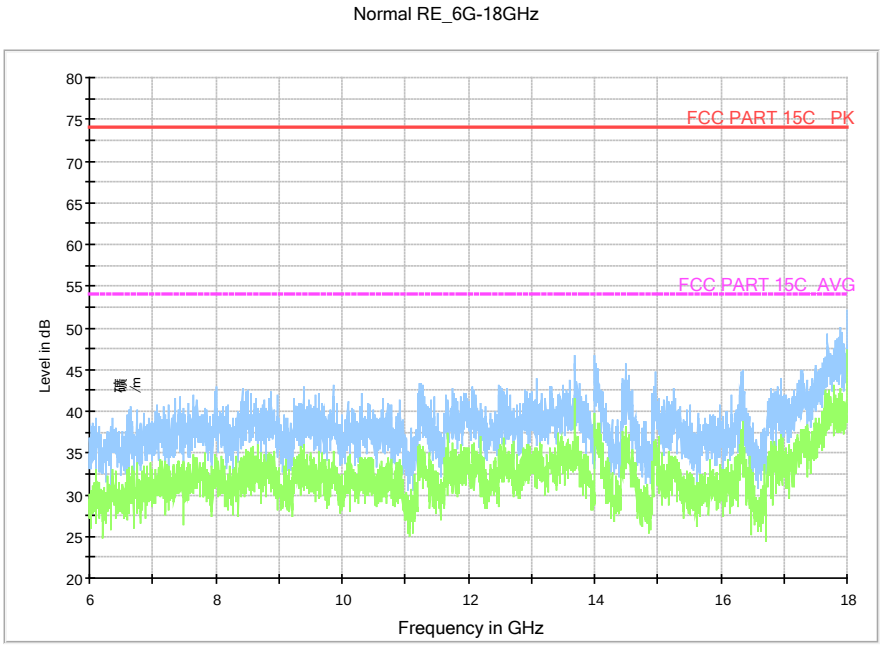


Fig. 115 Radiated Spurious Emission (802.11n-HT40, ch46, 6 GHz-18 GHz)

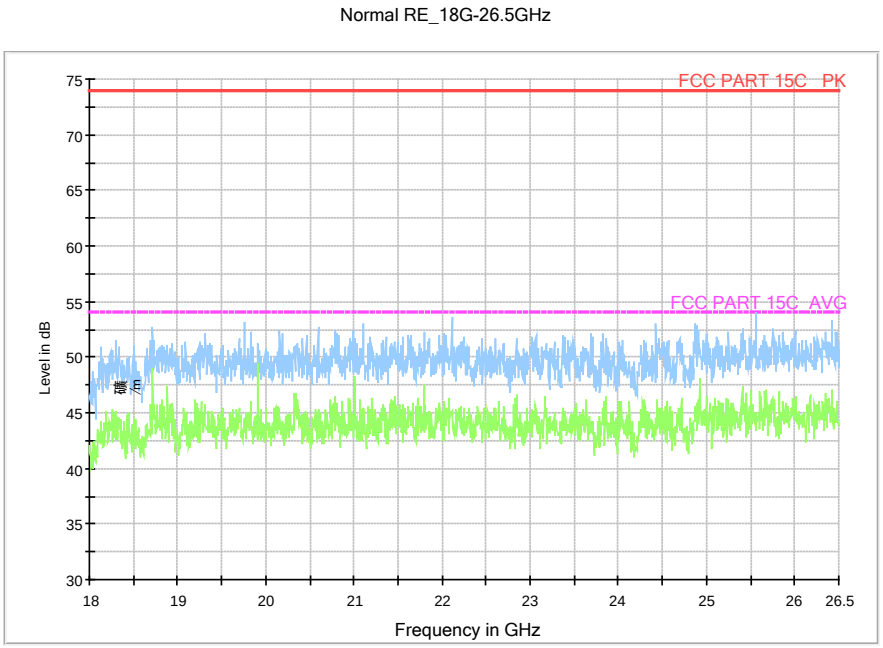


Fig. 116 Radiated Spurious Emission (802.11n-HT40, U-NII 1, 18 GHz-26.5 GHz)

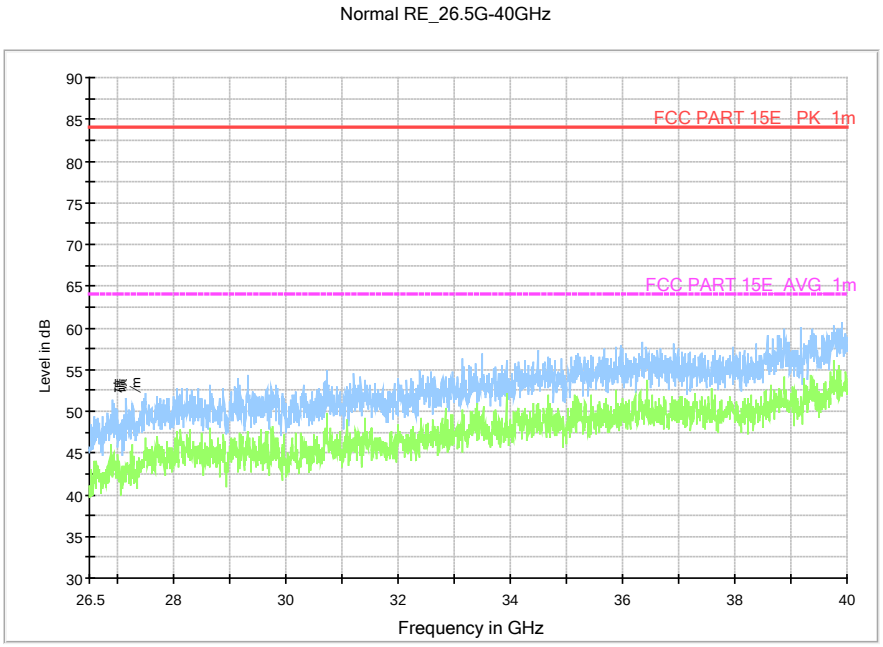


Fig. 117 Radiated Spurious Emission (802.11n-HT40, U-NII 1, 26.5 GHz-40 GHz)

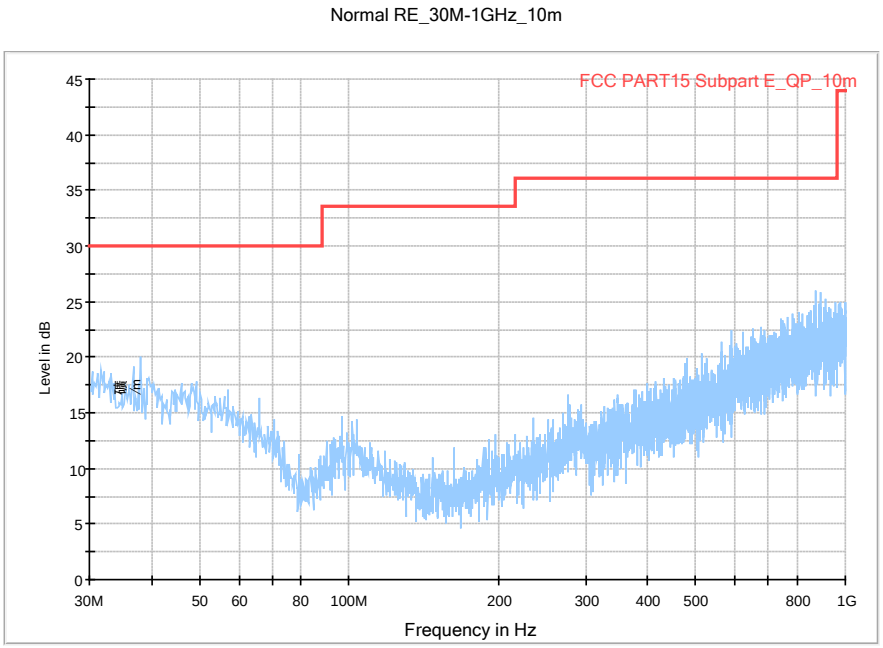


Fig. 118 Radiated Spurious Emission (802.11n-HT40, ch54, 30 MHz-1 GHz)

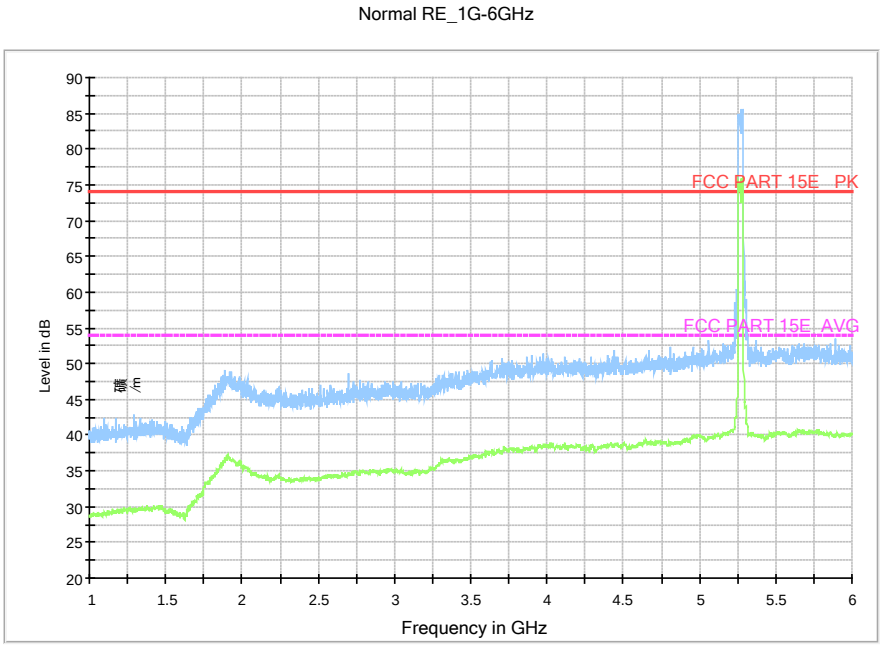


Fig. 119 Radiated Spurious Emission (802.11n-HT40, ch54, 1 GHz-6 GHz)

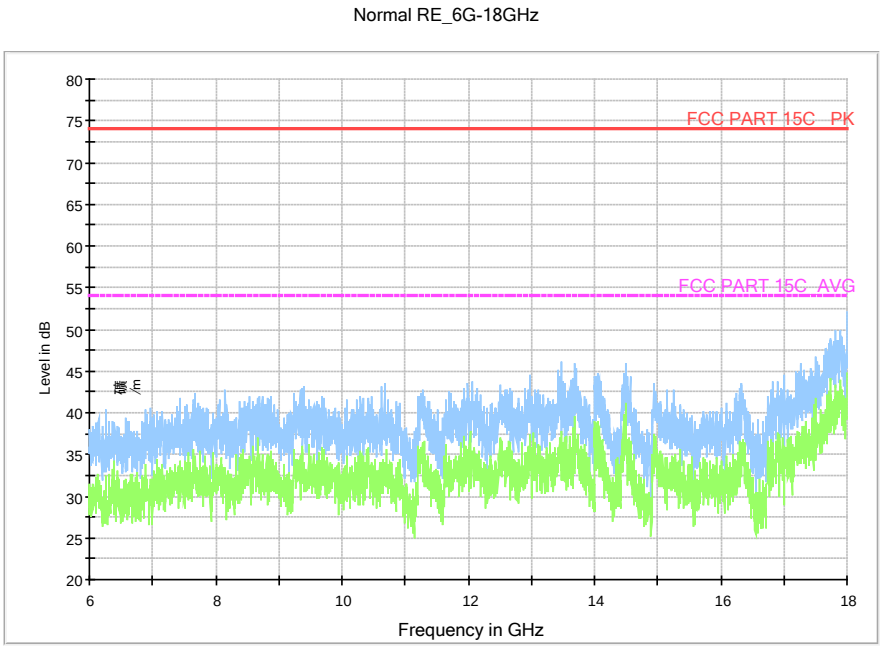


Fig. 120 Radiated Spurious Emission (802.11n-HT40, ch54, 6 GHz-18 GHz)

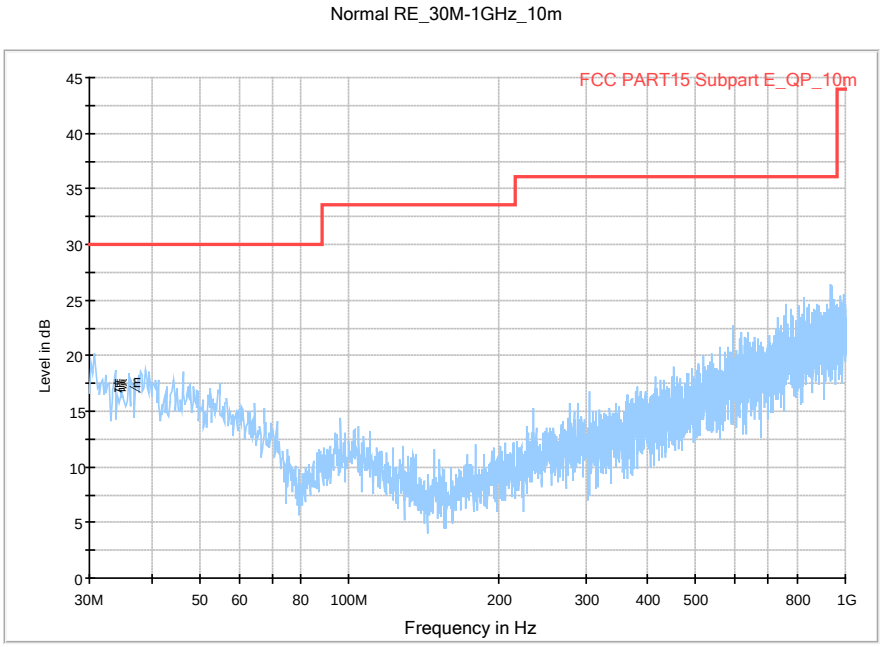


Fig. 121 Radiated Spurious Emission (802.11n-HT40, ch62, 30 MHz-1 GHz)

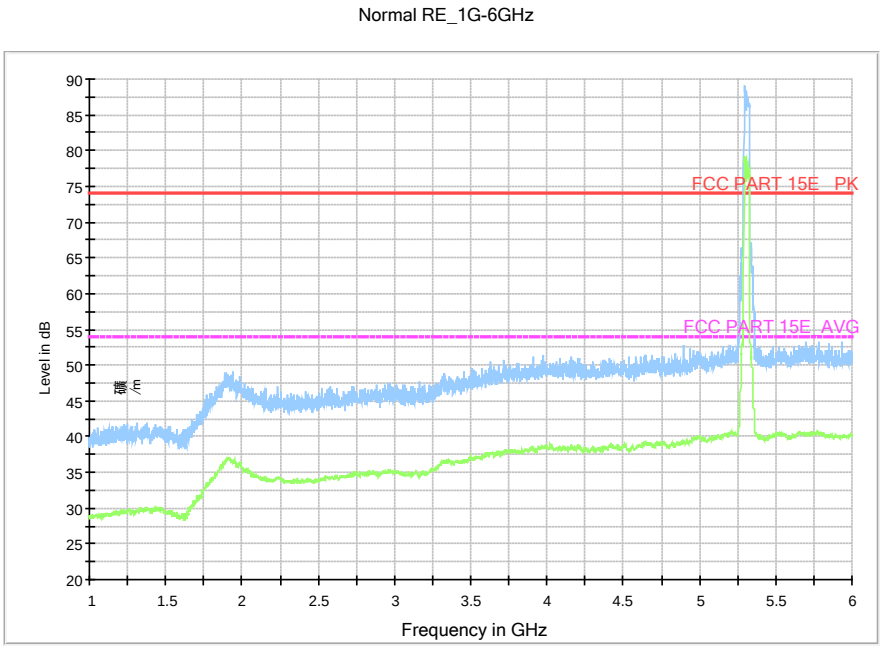


Fig. 122 Radiated Spurious Emission (802.11n-HT40, ch62, 1 GHz-6 GHz)

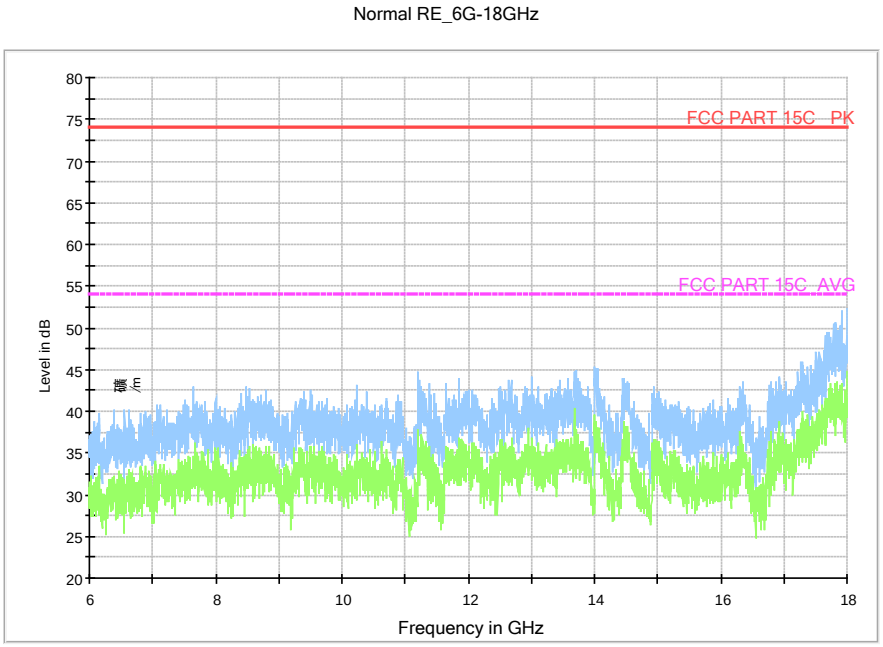


Fig. 123 Radiated Spurious Emission (802.11n-HT40, ch62, 6 GHz-18 GHz)

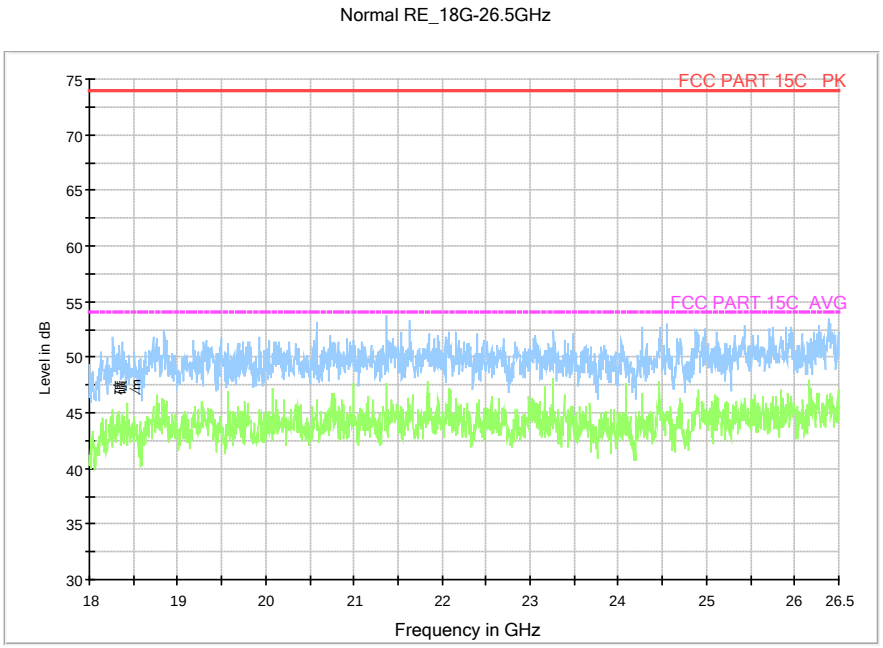


Fig. 124 Radiated Spurious Emission (802.11n-HT40, U-NII 2, 18 GHz-26.5 GHz)

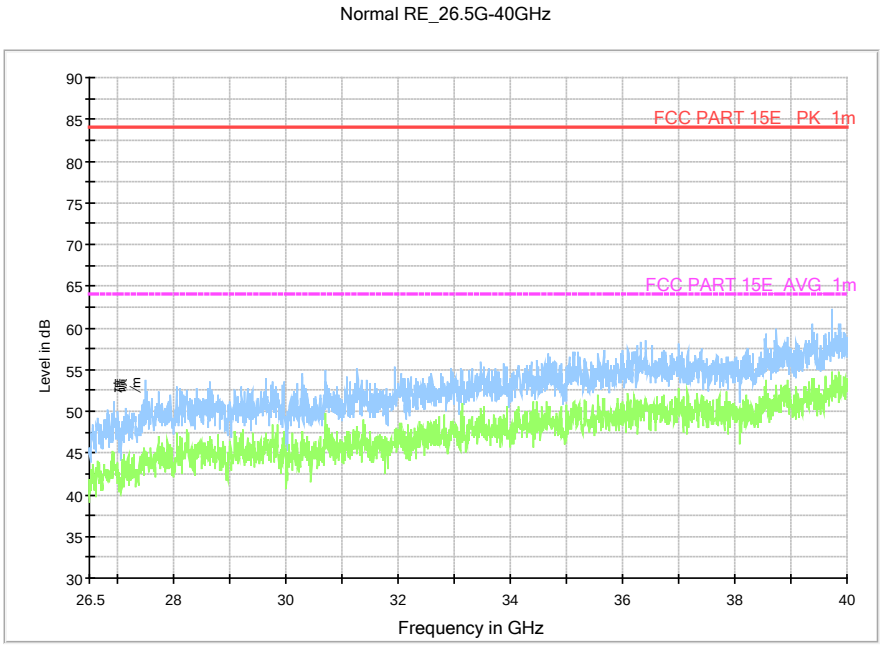


Fig. 125 Radiated Spurious Emission (802.11n-HT40, U-NII 2, 26.5 GHz-40 GHz)

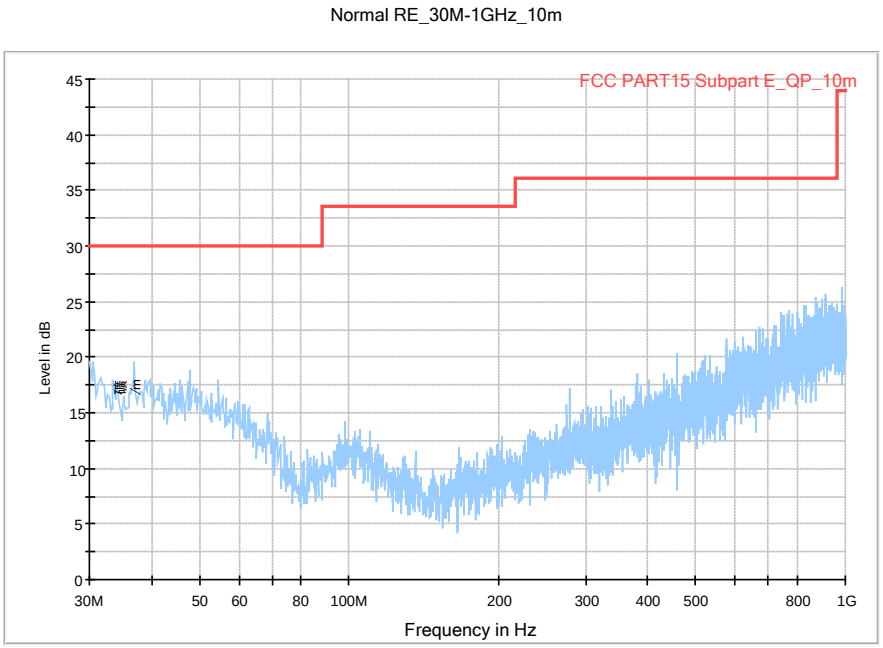


Fig. 126 Radiated Spurious Emission (802.11n-HT40, ch102, 30 MHz-1 GHz)

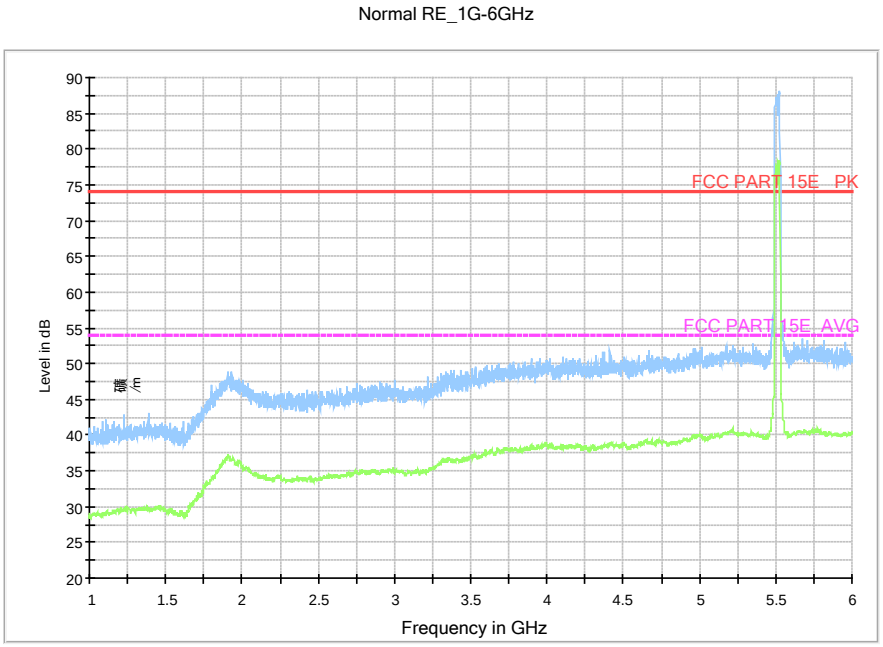


Fig. 127 Radiated Spurious Emission (802.11n-HT40, ch102, 1 GHz-6 GHz)

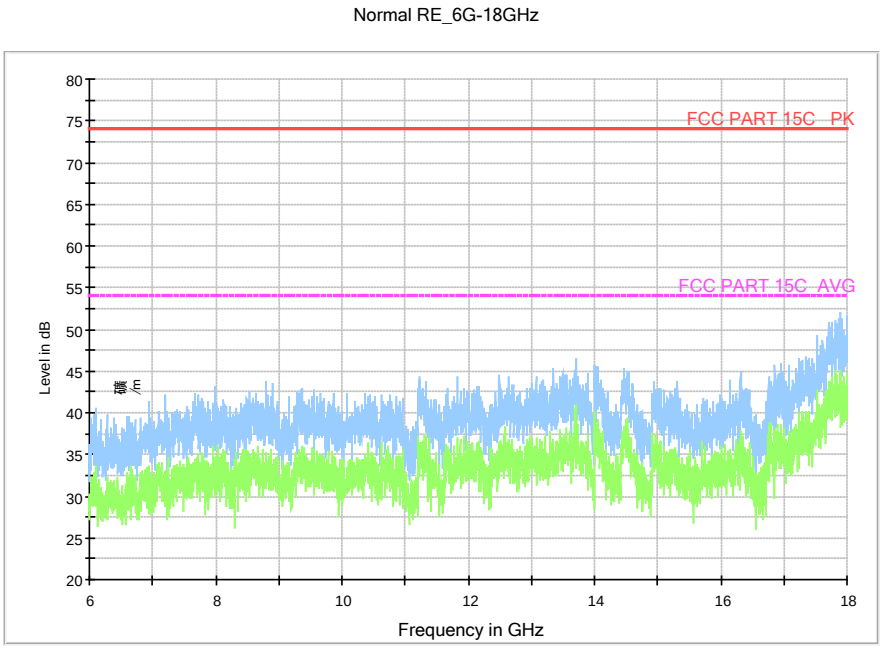


Fig. 128 Radiated Spurious Emission (802.11n-HT40, ch102, 6 GHz-18 GHz)

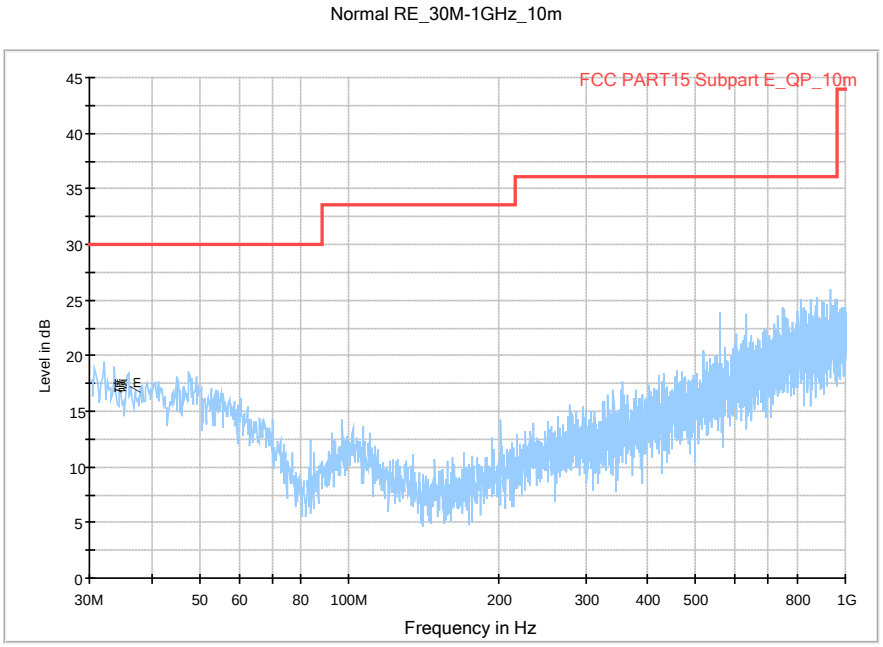


Fig. 129 Radiated Spurious Emission (802.11n-HT40, ch110, 30 MHz-1 GHz)

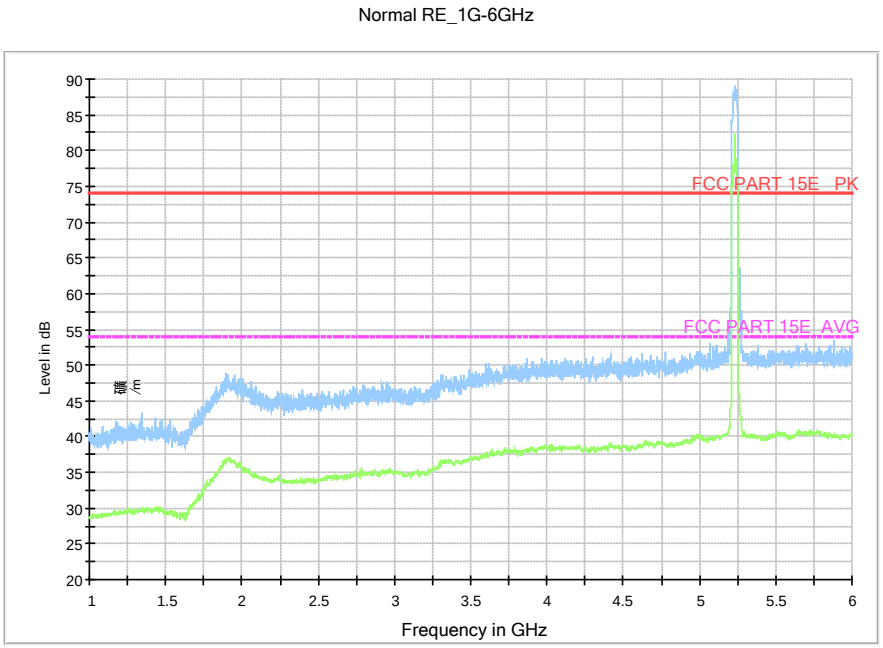


Fig. 130 Radiated Spurious Emission (802.11n-HT40, ch110, 1 GHz-6 GHz)

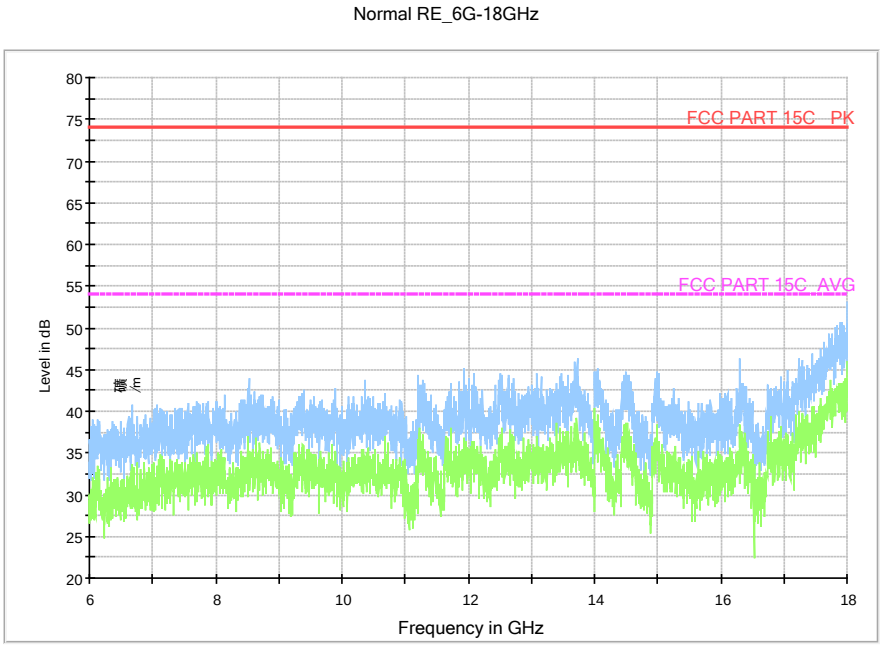


Fig. 131 Radiated Spurious Emission (802.11n-HT40, ch110, 6 GHz-18 GHz)

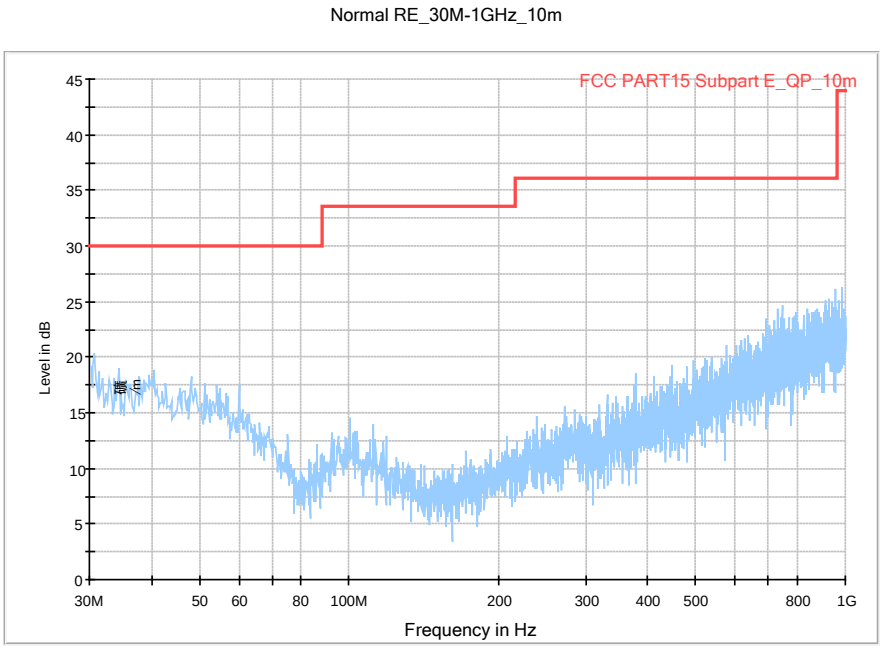


Fig. 132 Radiated Spurious Emission (802.11n-HT40, ch134, 30 MHz-1 GHz)

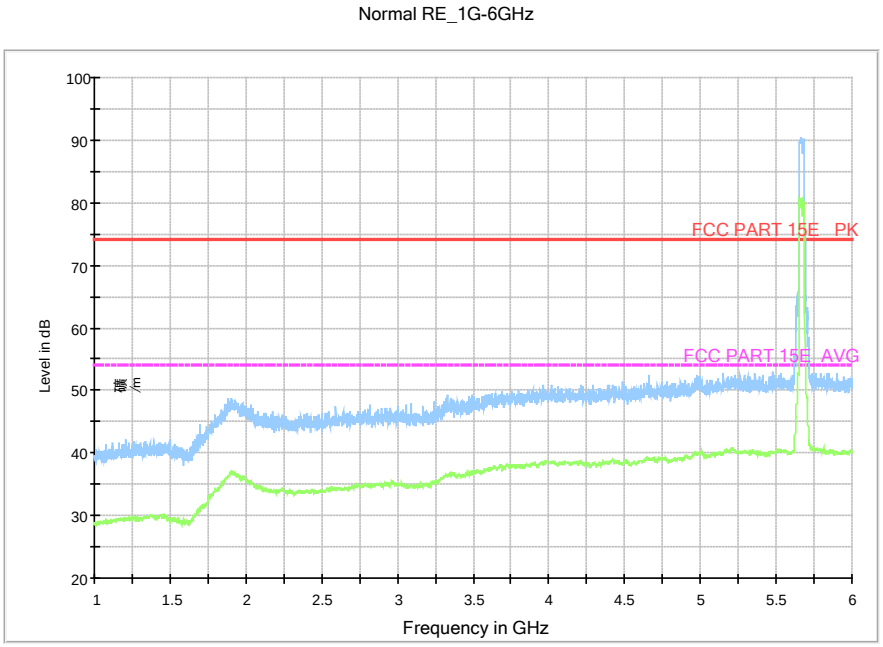


Fig. 133 Radiated Spurious Emission (802.11n-HT40, ch134, 1 GHz-6 GHz)

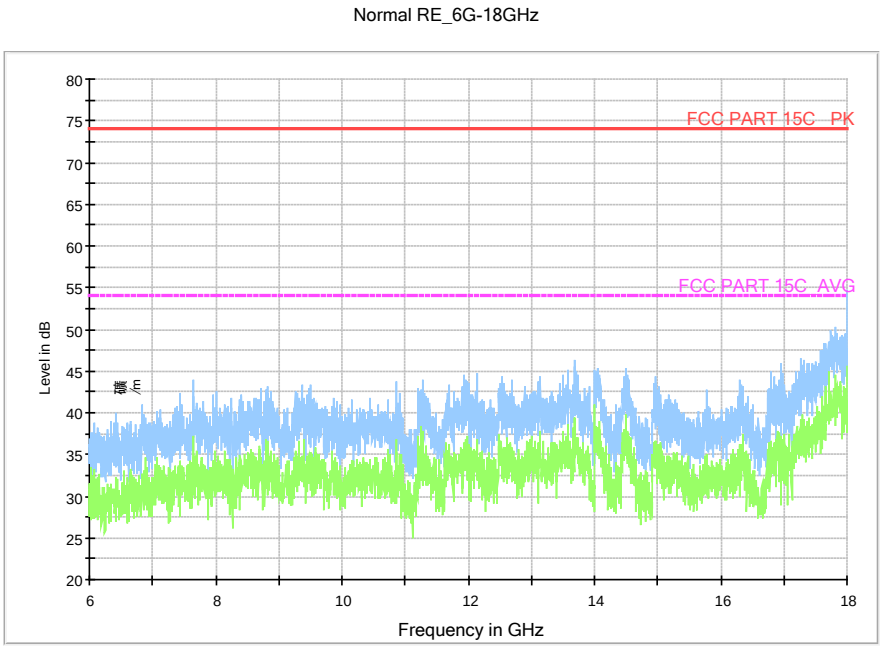


Fig. 134 Radiated Spurious Emission (802.11n-HT40, ch134, 6 GHz-18 GHz)

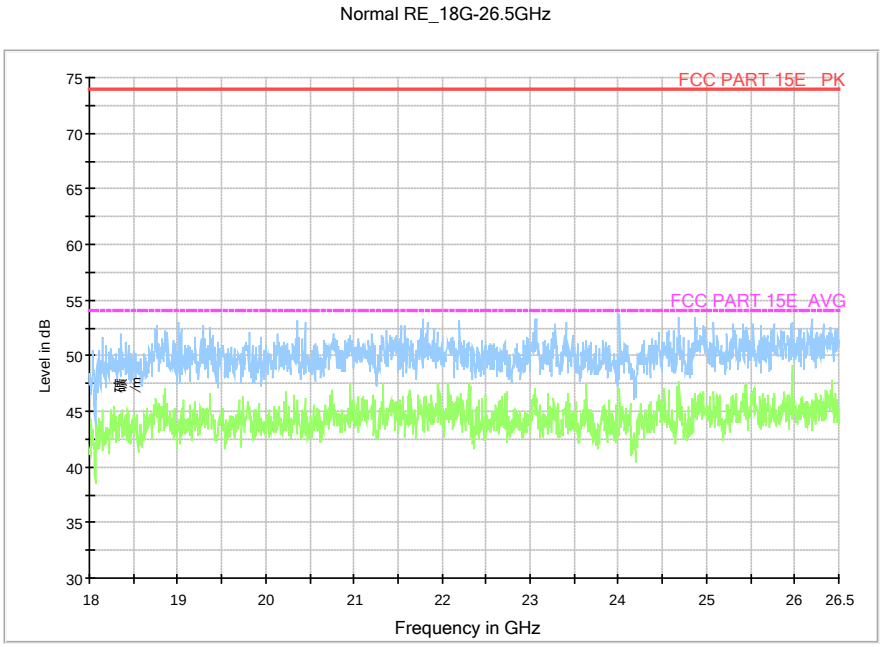


Fig. 135 Radiated Spurious Emission (802.11n-HT40, U-NII 3, 18 GHz-26.5 GHz)

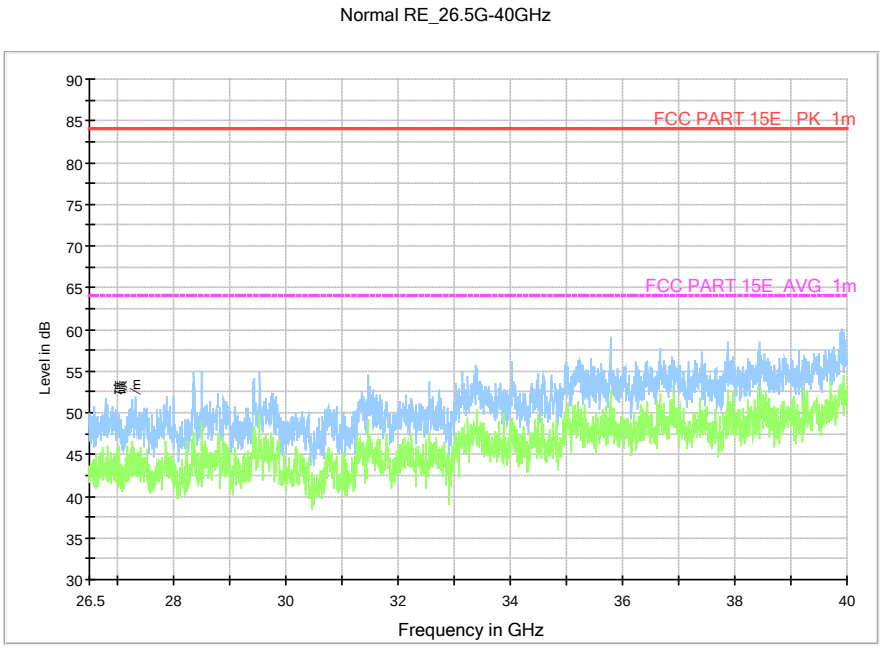


Fig. 136 Radiated Spurious Emission (802.11n-HT40, U-NII 3, 26.5 GHz-40 GHz)

A.7. Spurious Emissions Radiated < 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 is recalculated based on the extrapolation factor of 40 dB/decade.

Measurement uncertainty:
Expanded measurement uncertainty for this test item is U =2.6dB, k=2.

Measurement Results:

Mode	Frequency Range	Test Results	Conclusion
802.11a	9 kHz ~30 MHz	Fig.137	P

Conclusion: PASS
Test graphs as below:

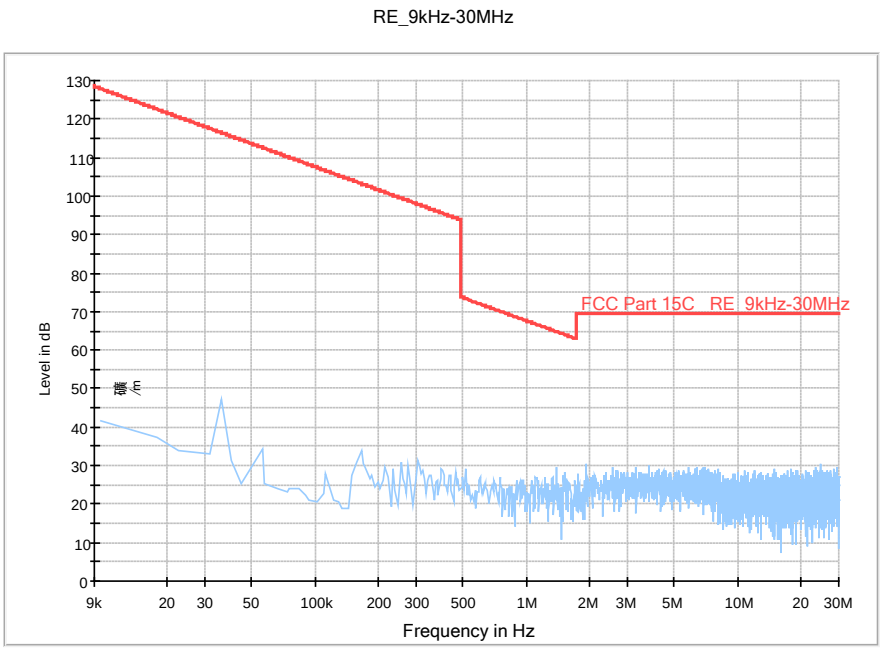


Fig. 137 Radiated Spurious Emission (802.11a, ch40, 9 kHz ~30 MHz)

A.8. Conducted Emission (150kHz- 30MHz)

Test Condition:

Voltage（V）	Frequency（Hz）
110	60

Measurement uncertainty:
Expanded measurement uncertainty for this test item is U =3.2dB, k=2.

Measurement Result and limit:

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		11a mode	Idle	
0.15 to 0.5	66 to 56	Fig. 138	Fig. 139	P
0.5 to 5	56			
5 to 30	60			
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.				

WLAN (Average Limit)

Frequency range (MHz)	Average Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		11a mode	Idle	
0.15 to 0.5	56 to 46	Fig.138	Fig.139	P
0.5 to 5	46			
5 to 30	50			
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.				

Conclusion: PASS

Test graphs as below:

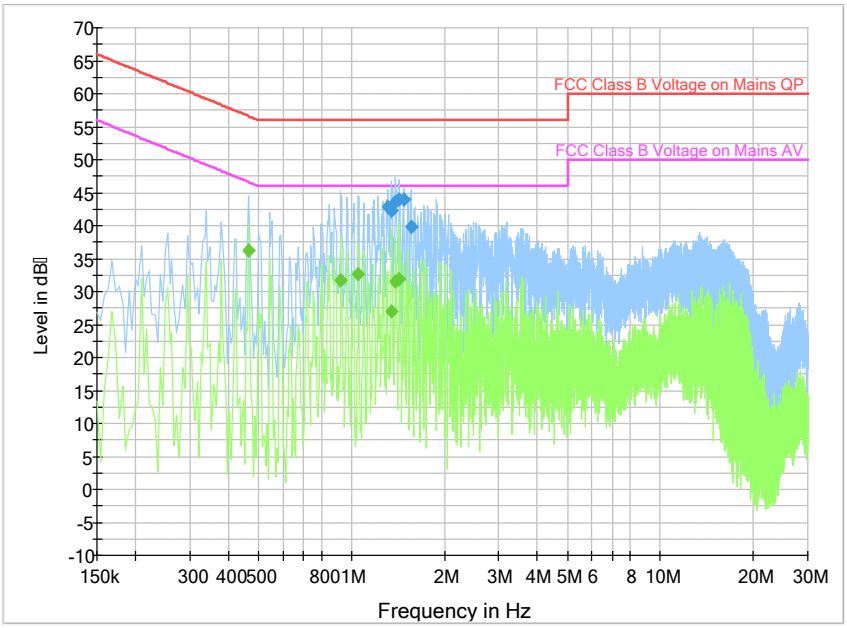


Fig. 138 Conducted Emission(802.11a, Ch40, TX)

Measurement Result:

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.311000	42.9	GND	L1	9.7	13.1	56.0
1.342500	42.3	GND	L1	9.7	13.7	56.0
1.387500	43.6	GND	L1	9.7	12.4	56.0
1.428000	44.0	GND	L1	9.7	12.0	56.0
1.473000	44.0	GND	L1	9.7	12.0	56.0
1.558500	39.8	GND	N	9.7	16.2	56.0

Measurement Result:

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.465000	36.1	GND	L1	9.8	10.5	46.6
0.924000	31.7	GND	L1	9.7	14.3	46.0
1.050000	32.6	GND	L1	9.7	13.4	46.0
1.342500	27.1	GND	L1	9.7	18.9	46.0
1.387500	31.6	GND	L1	9.7	14.4	46.0
1.428000	31.8	GND	L1	9.7	14.2	46.0

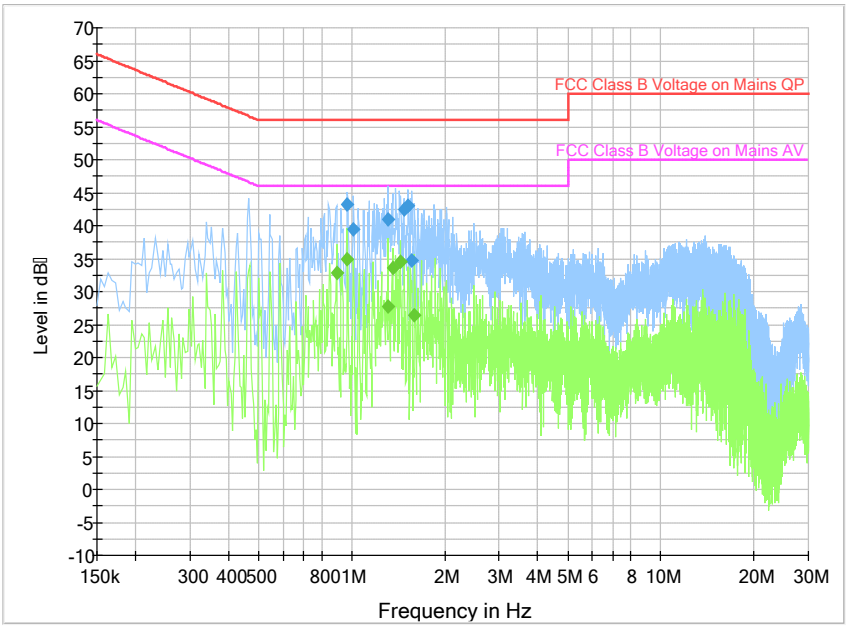


Fig. 139 Conducted Emission(802.11a, IDLE)

Measurement Result:

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.969000	43.3	GND	L1	9.7	12.7	56.0
1.014000	39.5	GND	N	9.7	16.5	56.0
1.311000	40.9	GND	L1	9.7	15.1	56.0
1.477500	42.4	GND	L1	9.7	13.6	56.0
1.522500	43.0	GND	L1	9.7	13.0	56.0
1.567500	34.8	GND	L1	9.7	21.2	56.0

Measurement Result:

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.892500	32.8	GND	L1	9.7	13.2	46.0
0.969000	34.9	GND	L1	9.7	11.1	46.0
1.311000	27.8	GND	L1	9.7	18.2	46.0
1.356000	33.6	GND	L1	9.7	12.4	46.0
1.437000	34.4	GND	L1	9.7	11.6	46.0
1.599000	26.5	GND	L1	9.7	19.5	46.0

A.9.Peak Excursion

Measurement Limit:

Standard	Limit (dB)
FCC 47 CFR Part 15.407	13

The measurement is made according to KDB 789033, the method SA-1 is used for PPSD measurement.

Measurement Uncertainty:

Measurement Uncertainty	0.75 dB

Measurement Result:

11a mode

Type	Peak Excursion					
	5180MHz (Ch36)		5200MHz (Ch40)		5240MHz (Ch48)	
Peak (dBm)	Fig.140	6.31	Fig.141	5.57	Fig.142	6.17
Average(dBm)	Fig.143	-3.10	Fig.144	-3.07	Fig.145	-2.23
Result (dB)	9.41		8.64		8.40	

Type	Test Result (dBm)					
	5260MHz (Ch52)		5280 MHz (Ch56)		5320 MHz (Ch64)	
Peak (dBm)	Fig.146	6.55	Fig.147	6.32	Fig.148	7.47
Average(dBm)	Fig.149	-2.01	Fig.150	-2.07	Fig.151	-1.13
Result (dB)	8.56		8.39		8.60	

Type	Test Result (dBm)					
	5500MHz (Ch100)		5580MHz (Ch116)		5700MHz (Ch140)	
Peak (dBm)	Fig.152	6.62	Fig.153	7.20	Fig.154	6.34
Average(dBm)	Fig.155	-2.21	Fig.156	-1.53	Fig.157	-2.03
Result (dB)	8.83		8.73		8.37	

11n-HT20 mode

Type	Peak Excursion					
	5180MHz (Ch36)		5200MHz (Ch40)		5240MHz (Ch48)	
Peak (dBm)	Fig.158	5.11	Fig.159	4.75	Fig.160	6.64
Average(dBm)	Fig.161	-3.28	Fig.162	-3.35	Fig.163	-2.45
Result (dB)	8.29		8.10		9.09	

Type	Test Result (dBm)					
	5260MHz (Ch52)		5280 MHz (Ch56)		5320 MHz (Ch64)	
Peak (dBm)	Fig.164	6.27	Fig.165	5.70	Fig.166	7.36
Average(dBm)	Fig.167	-2.35	Fig.168	-2.33	Fig.169	-1.54
Result (dB)	8.62		8.03		8.90	

Type	Test Result (dBm)					
	5500MHz (Ch100)		5580MHz (Ch116)		5700MHz (Ch140)	
Peak (dBm)	Fig.170	5.79	Fig.171	7.35	Fig.172	5.83
Average(dBm)	Fig.173	-2.48	Fig.174	-1.76	Fig.175	-2.31
Result (dB)	8.27		9.11		8.14	

11n-HT40 mode

Type	Peak Excursion							
	5190MHz (Ch38)		5230MHz (Ch46)		5270MHz (Ch54)		5310 MHz (Ch62)	
Peak (dBm)	Fig.176	3.37	Fig.177	2.54	Fig.178	3.53	Fig.179	3.78
Average(dBm)	Fig.180	-6.42	Fig.181	-5.41	Fig.182	-5.39	Fig.183	-4.63
Result (dB)	9.79		7.95		8.92		8.41	

Type	Test Result (dBm)					
	5510MHz (Ch102)		5550MHz (Ch110)		5670MHz (Ch134)	
Peak (dBm)	Fig.184	3.68	Fig.185	4.43	Fig.186	3.98
Average(dBm)	Fig.187	-5.46	Fig.188	-3.24	Fig.189	-4.67
Result (dB)	9.14		7.67		8.65	

Conclusion: PASS

Test graphs as below:

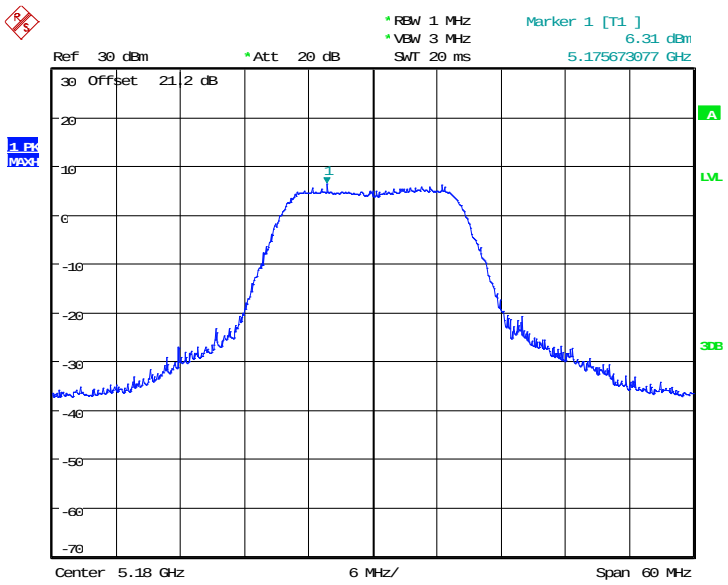


Fig. 140 Peak Excursions (802.11a, ch36, peak)

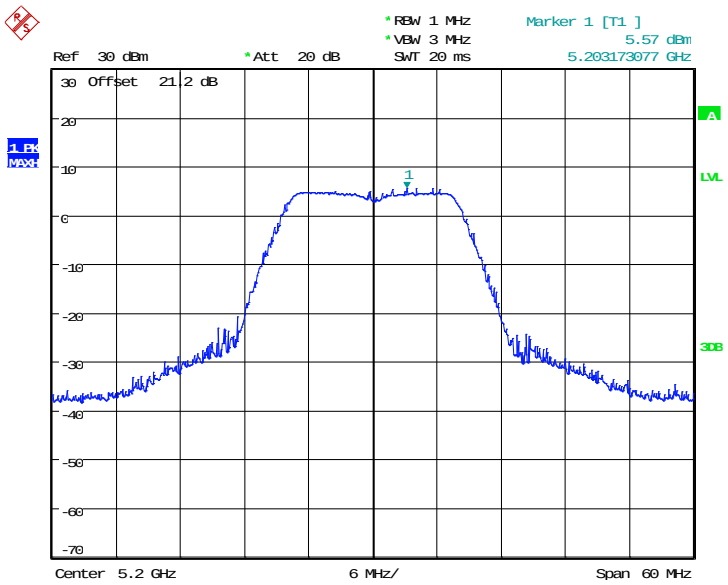


Fig. 141 Peak Excursions (802.11a, ch40, peak)

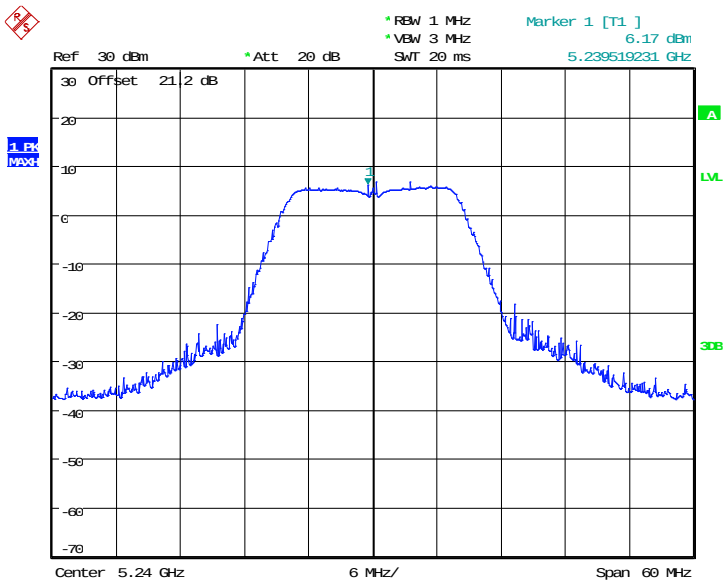


Fig. 142 Peak Excursions (802.11a, ch48, peak)

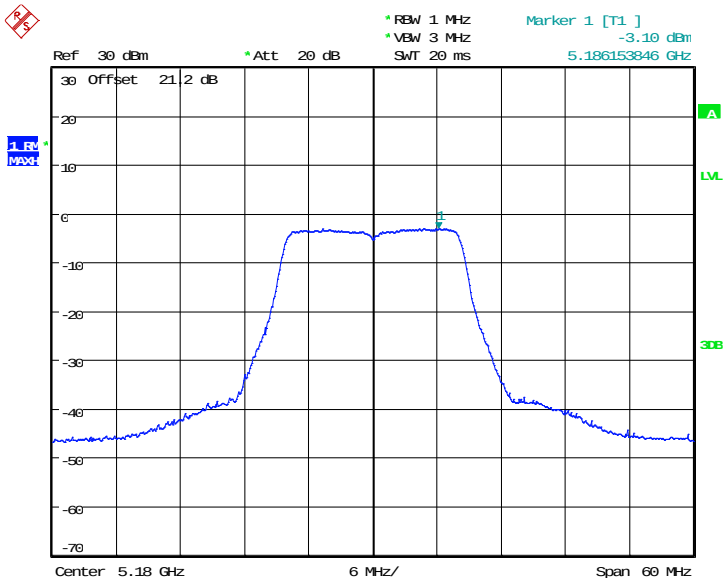


Fig. 143 Peak Excursions (802.11a, ch36, average)

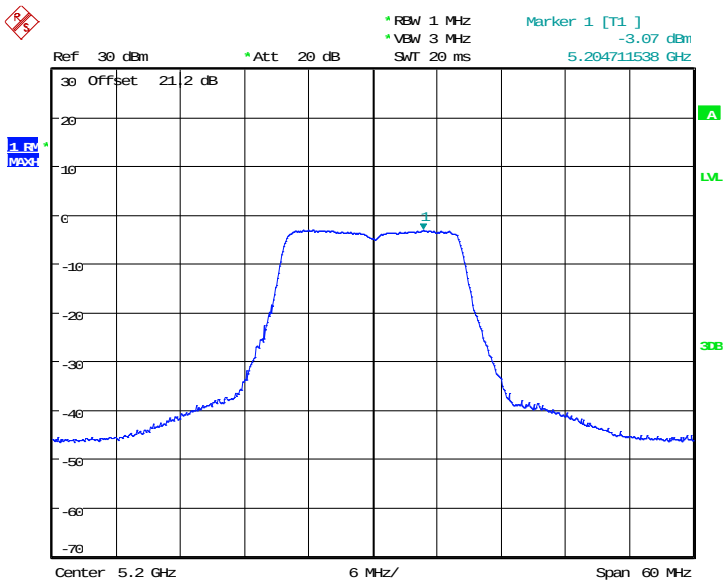


Fig. 144 Peak Excursions (802.11a, ch40, average)

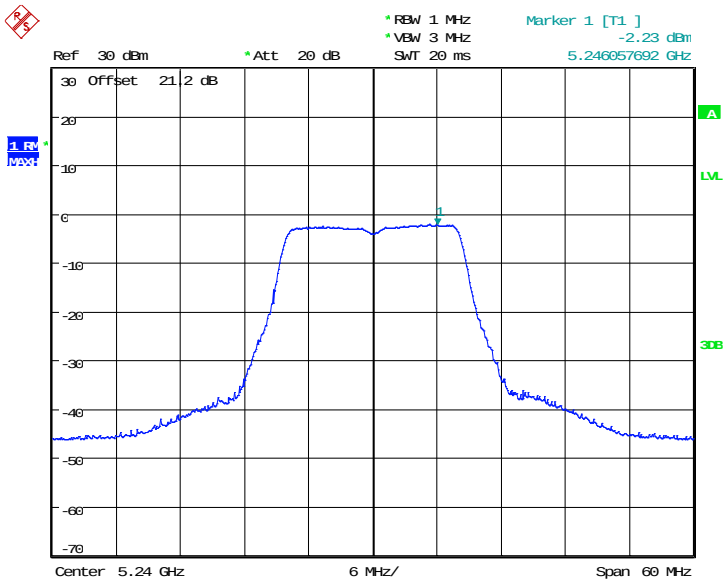
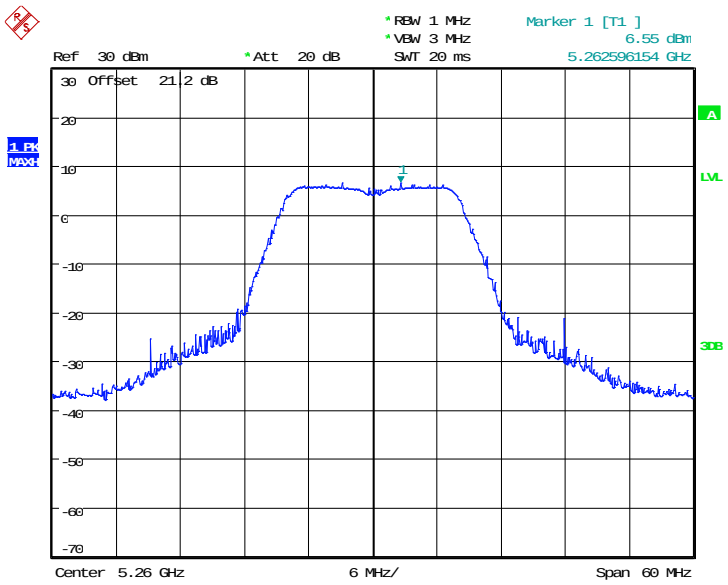
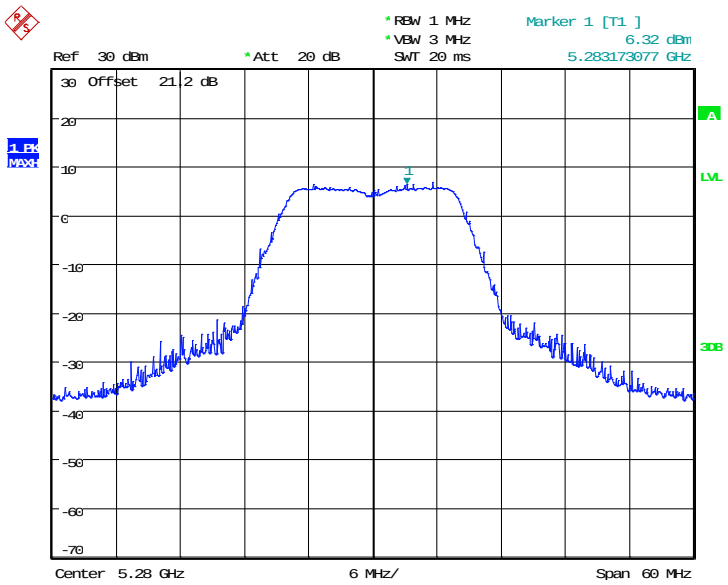


Fig. 145 Peak Excursions (802.11a, ch48, average)



Date: 31.DEC.2013 14:43:43

Fig. 146 Peak Excursions (802.11a, ch52, peak)



Date: 31.DEC.2013 14:44:40

Fig. 147 Peak Excursions (802.11a, ch56, peak)

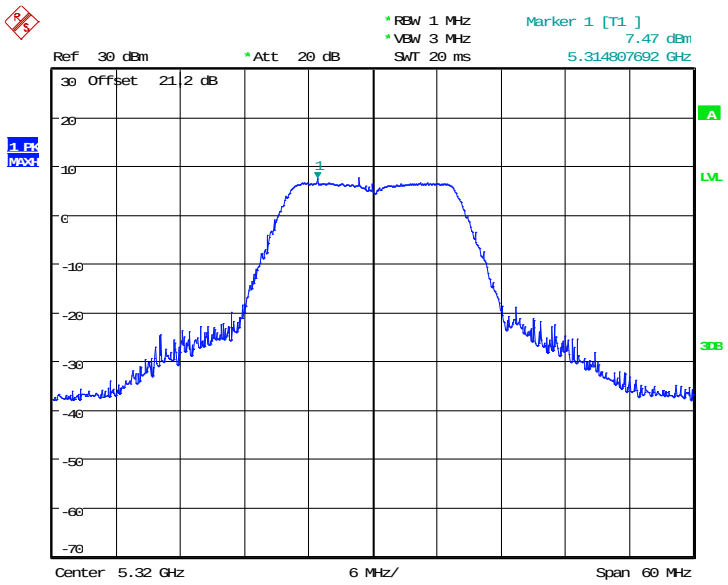


Fig. 148 Peak Excursions (802.11a, ch64, peak)

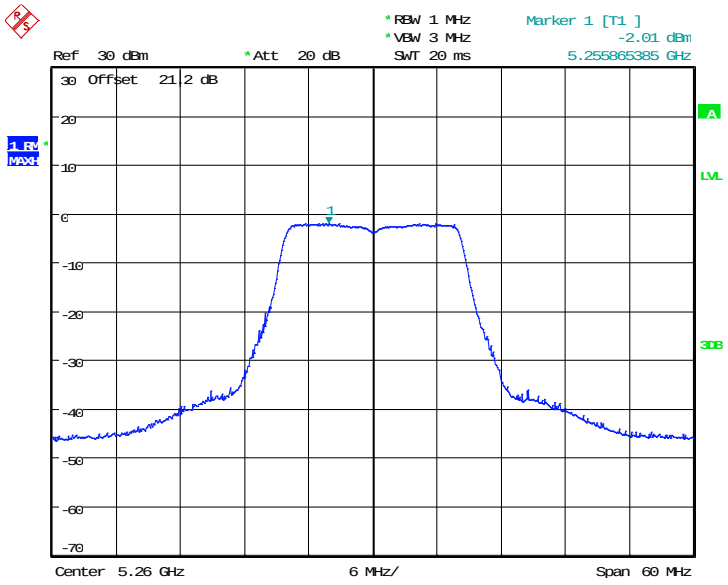


Fig. 149 Peak Excursions (802.11a, ch52, average)

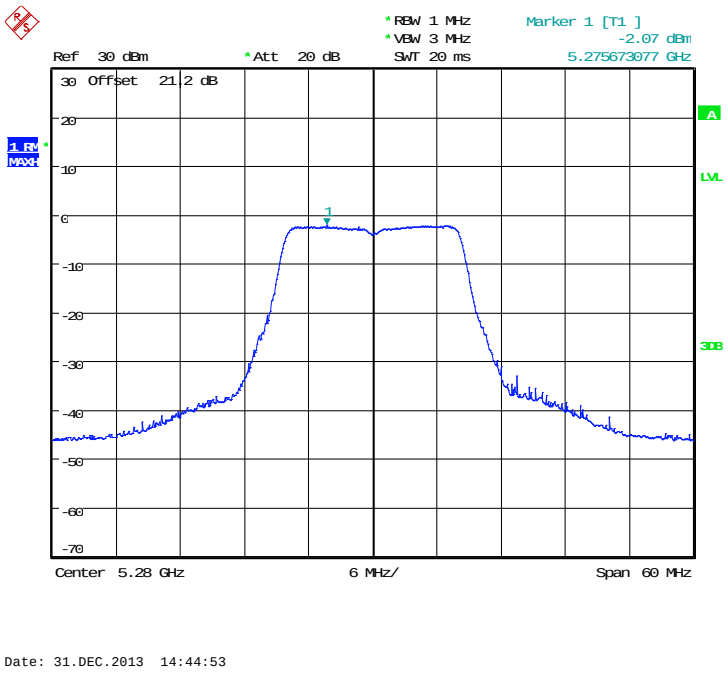


Fig. 150 Peak Excursions (802.11a, ch56, average)

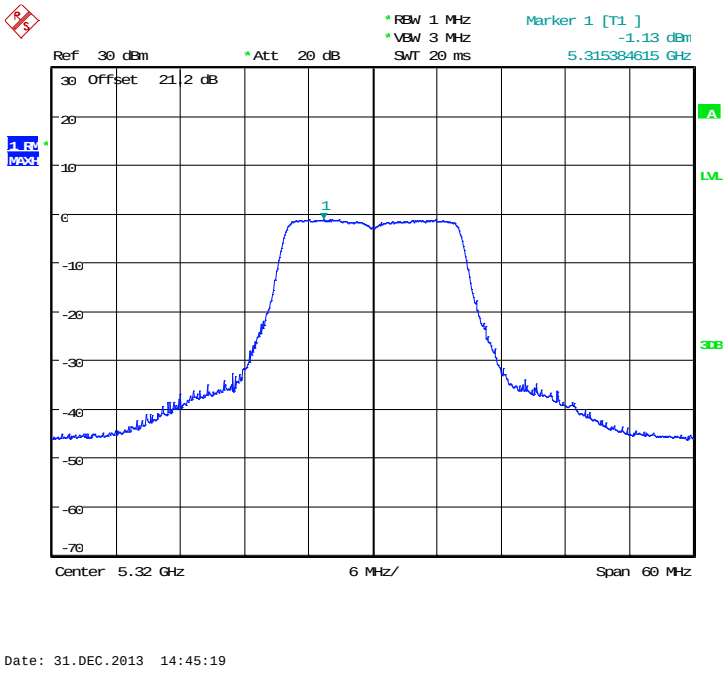


Fig. 151 Peak Excursions (802.11a, ch64, average)

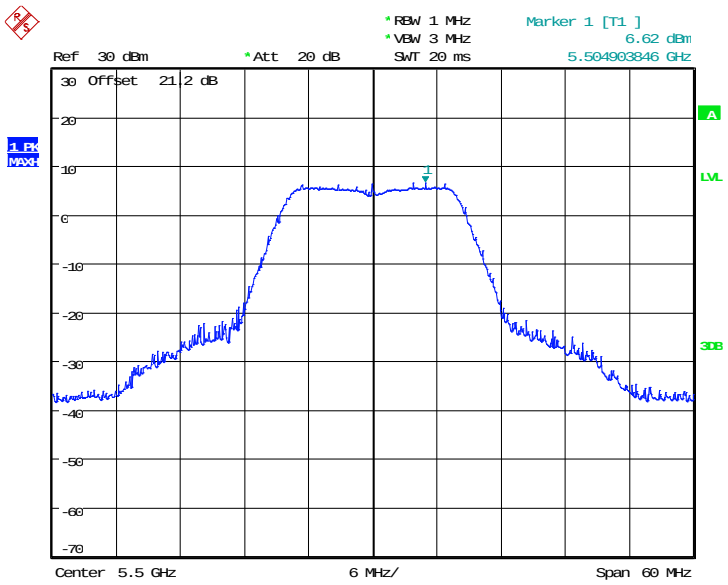


Fig. 152 Peak Excursions (802.11a, ch100, peak)

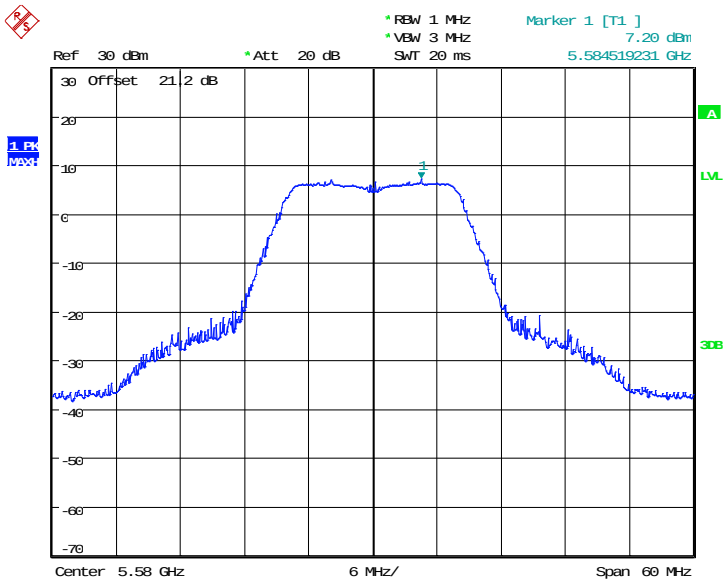


Fig. 153 Peak Excursions (802.11a, ch116, peak)

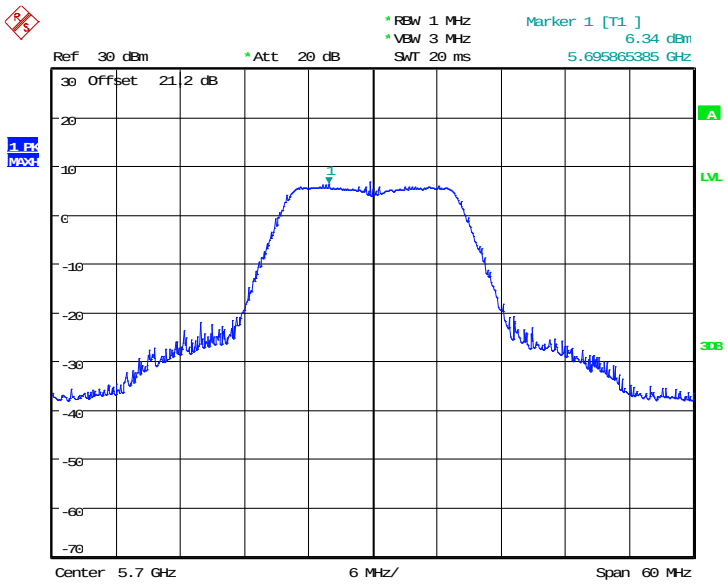


Fig. 154 Peak Excursions (802.11a, ch140, peak)

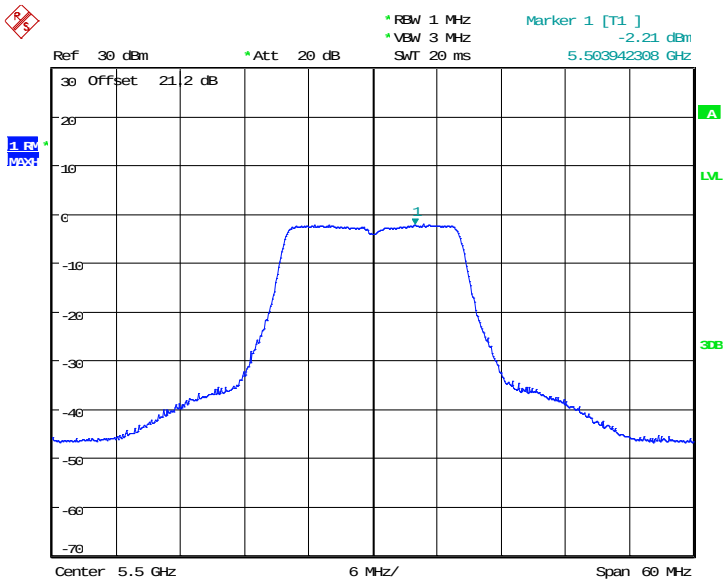


Fig. 155 Peak Excursions (802.11a, ch100, average)

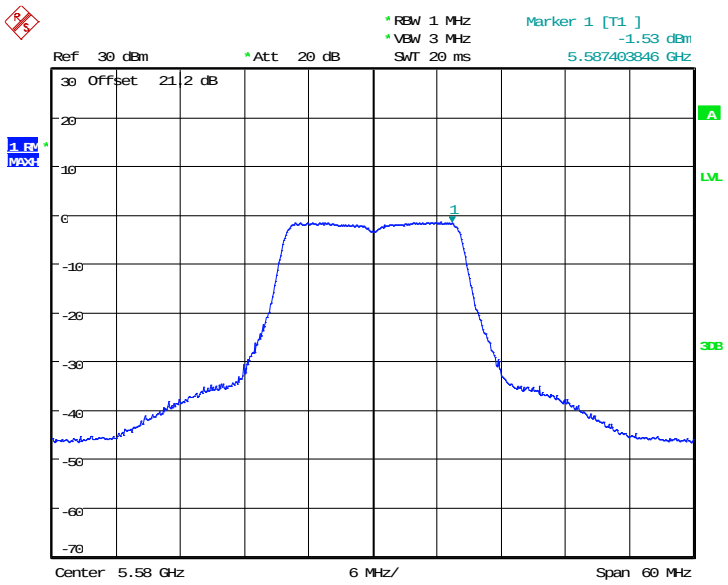


Fig. 156 Peak Excursions (802.11a, ch116, average)

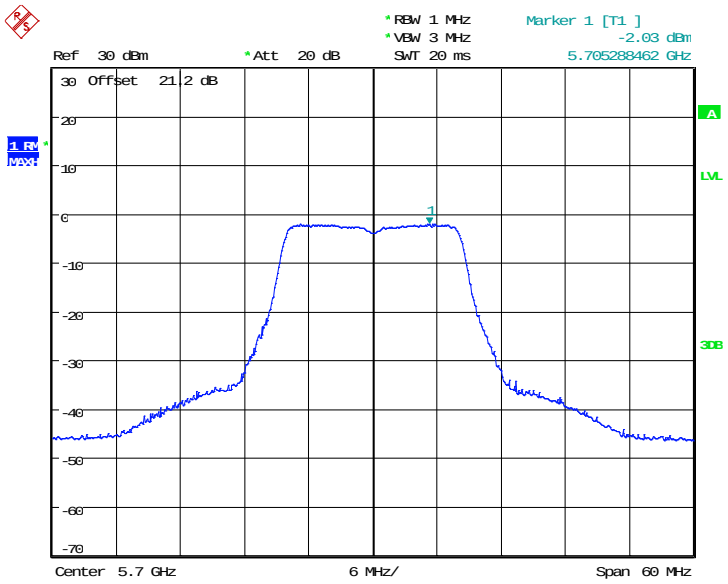


Fig. 157 Peak Excursions (802.11a, ch140, average)

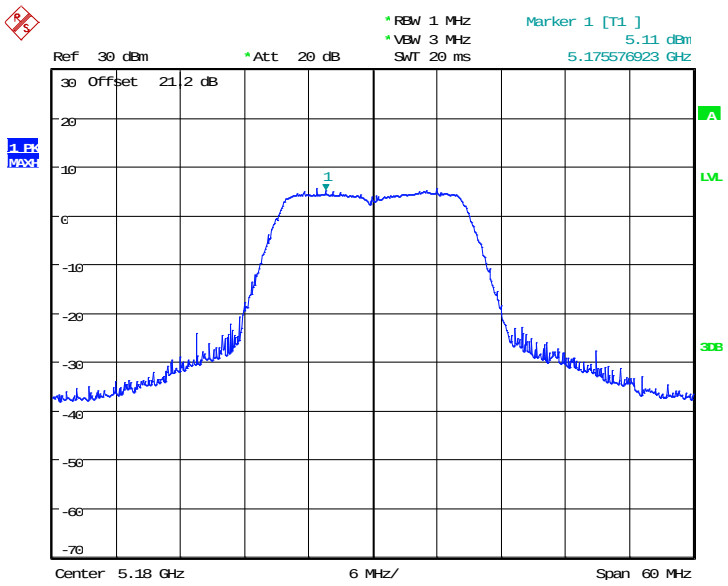


Fig. 158 Peak Excursions (802.11n-HT20, ch36, peak)

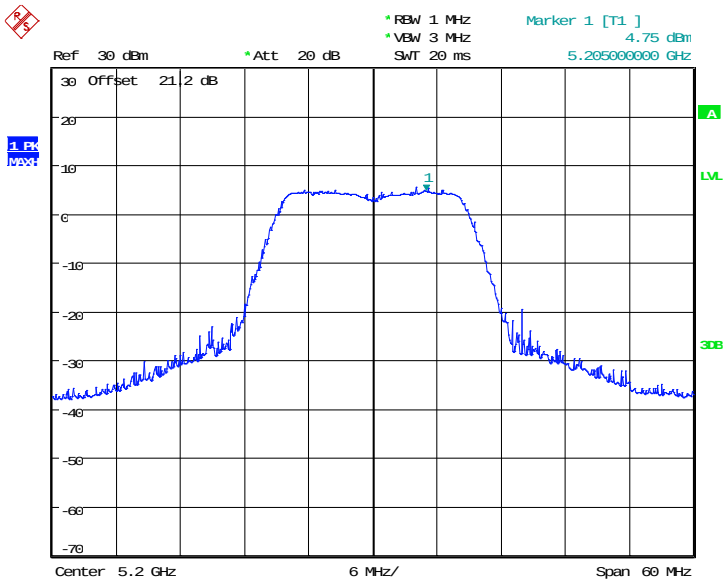


Fig. 159 Peak Excursions (802.11n-HT20, ch40, peak)

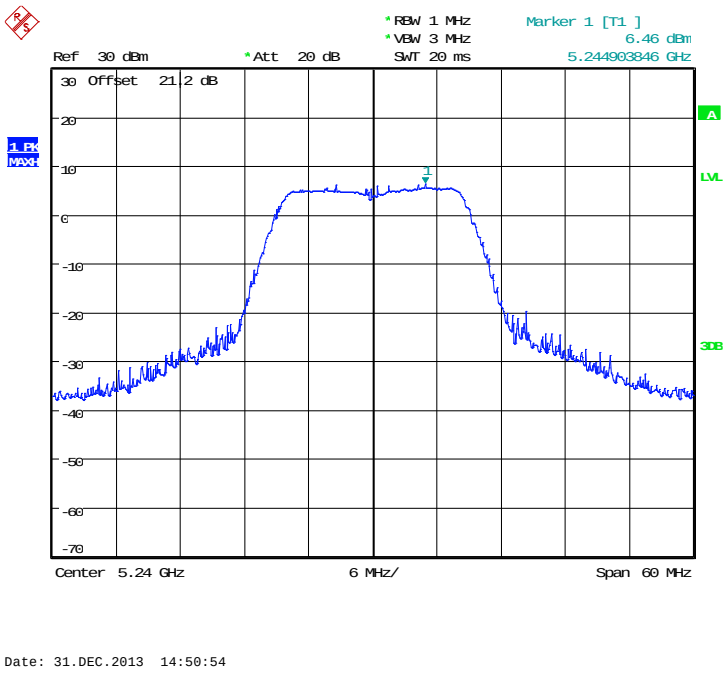


Fig. 160 Peak Excursions (802.11n-HT20, ch48, peak)

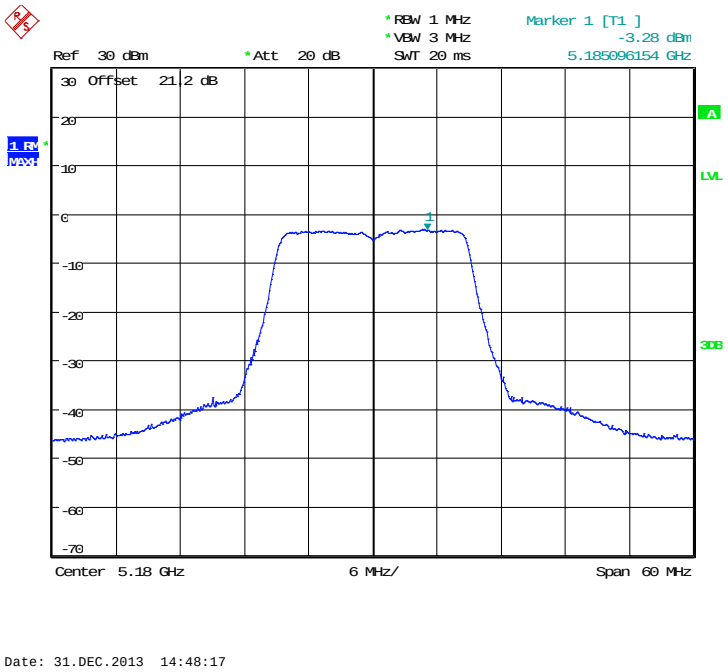


Fig. 161 Peak Excursions (802.11n-HT20, ch36, average)

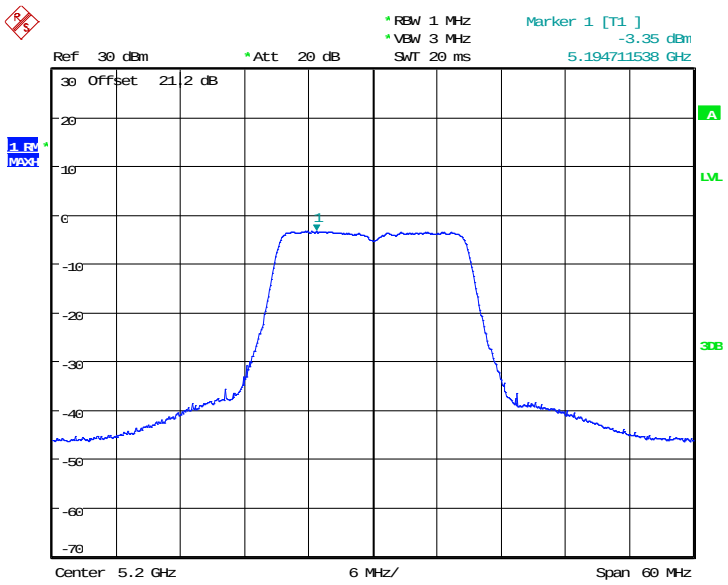


Fig. 162 Peak Excursions (802.11n-HT20, ch40, average)

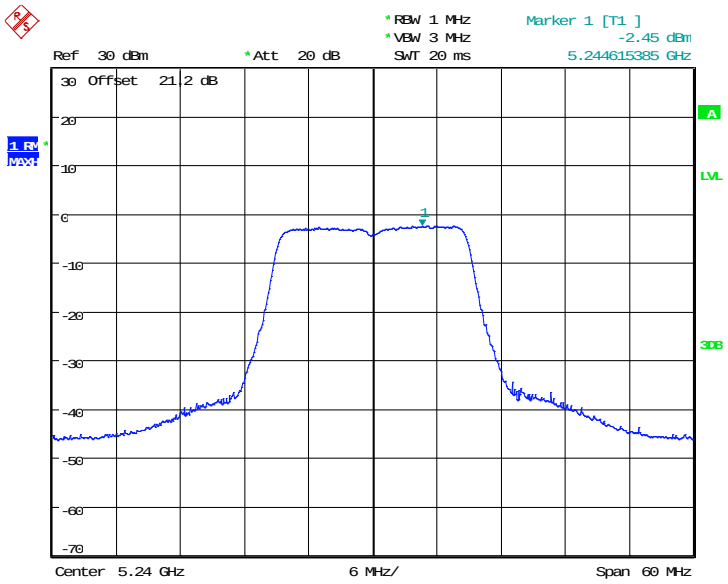


Fig. 163 Peak Excursions (802.11n-HT20, ch48, average)

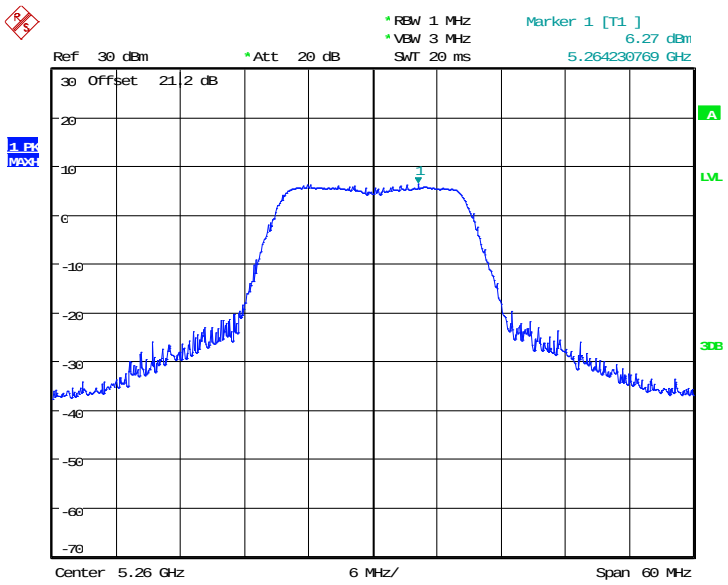


Fig. 164 Peak Excursions (802.11n-HT20, ch52, peak)

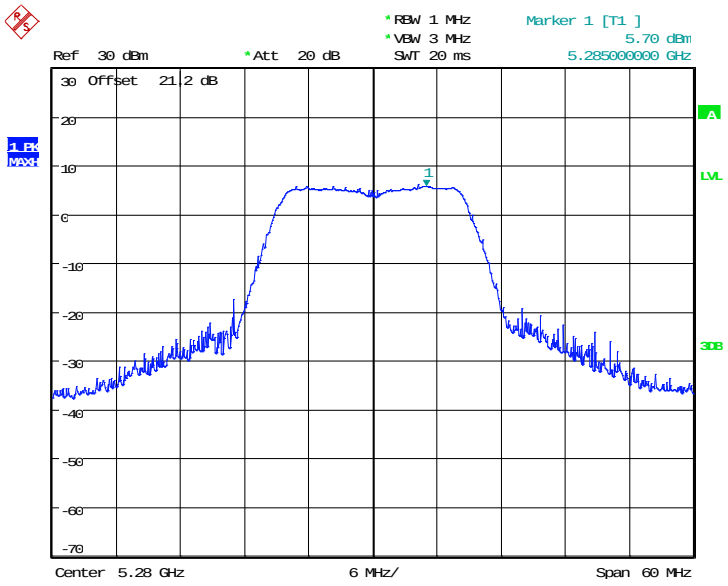


Fig. 165 Peak Excursions (802.11n-HT20, ch56, peak)

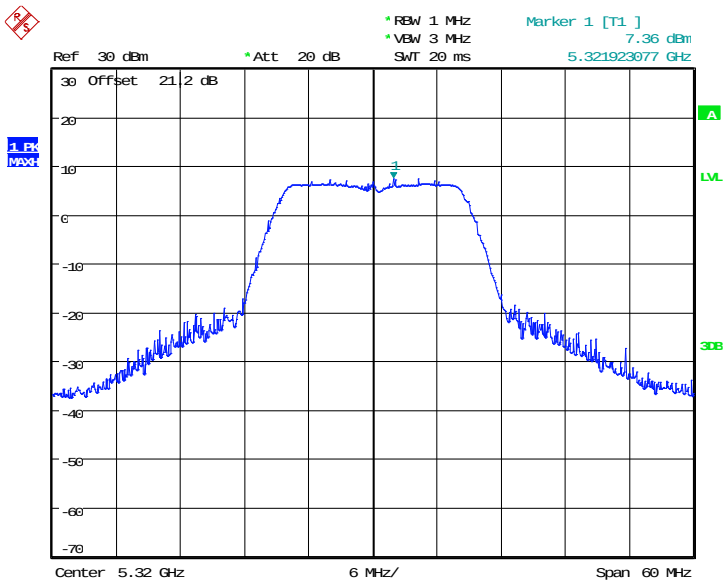


Fig. 166 Peak Excursions (802.11n-HT20, ch64, peak)

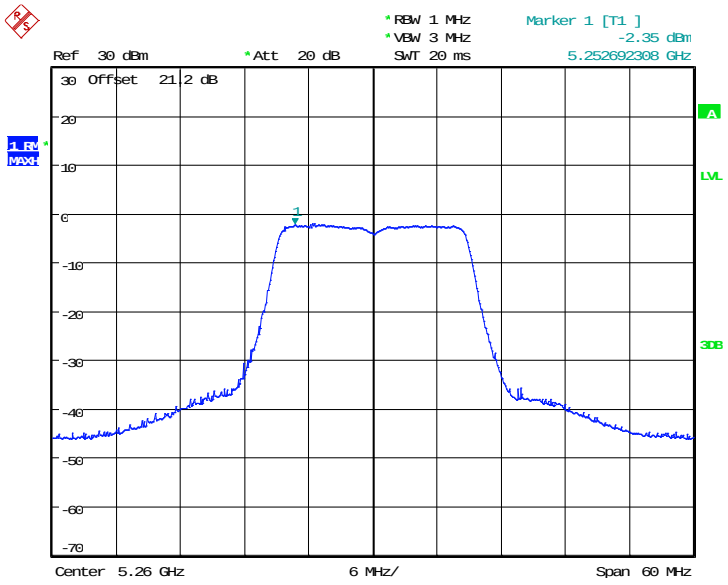


Fig. 167 Peak Excursions (802.11n-HT20, ch52, average)

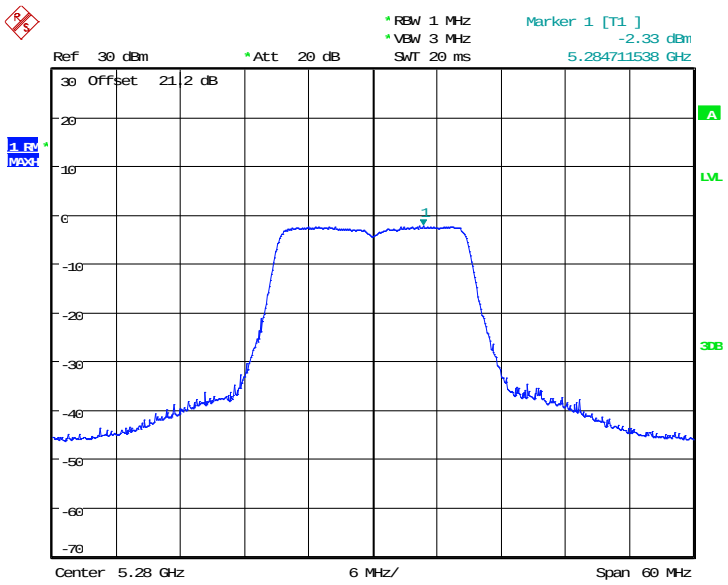


Fig. 168 Peak Excursions (802.11n-HT20, ch56, average)

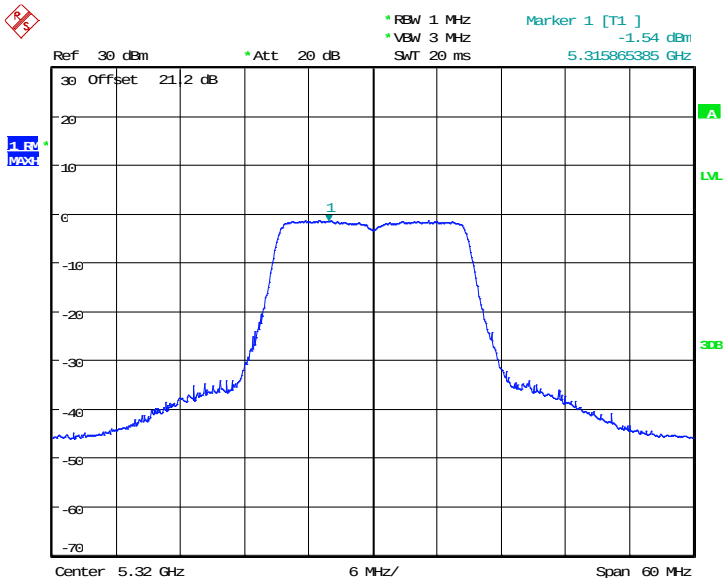


Fig. 169 Peak Excursions (802.11n-HT20, ch64, average)

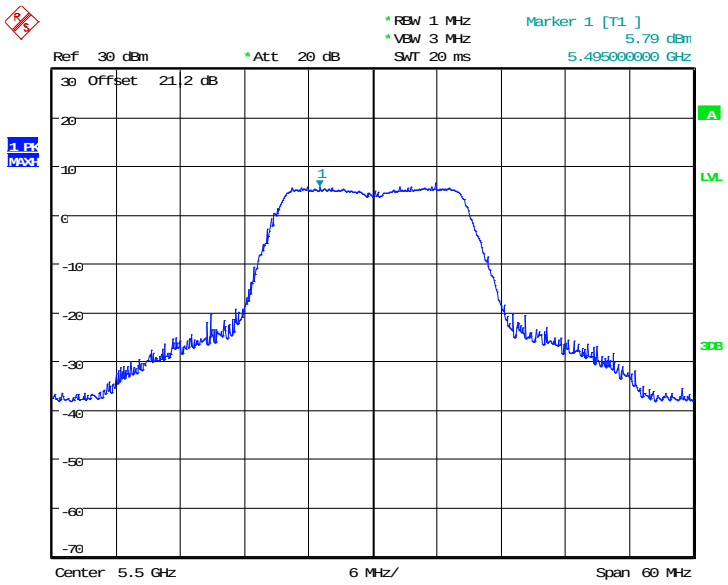


Fig. 170 Peak Excursions (802.11n-HT20, ch100, peak)

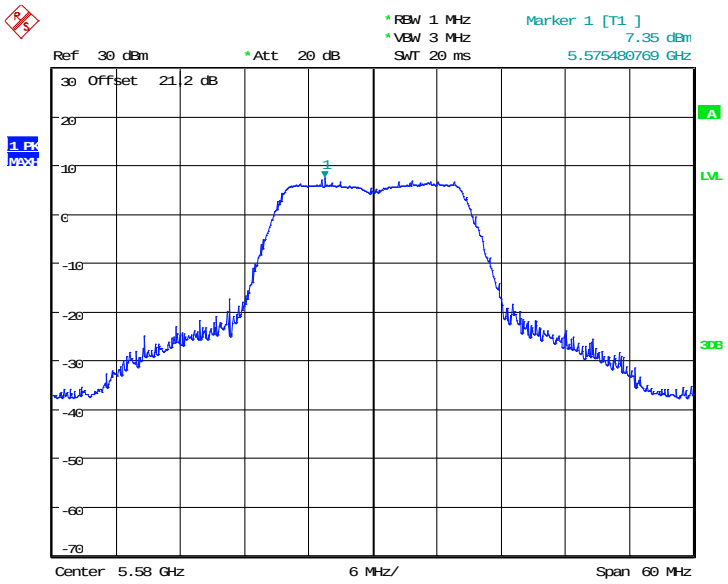


Fig. 171 Peak Excursions (802.11n-HT20, ch116, peak)

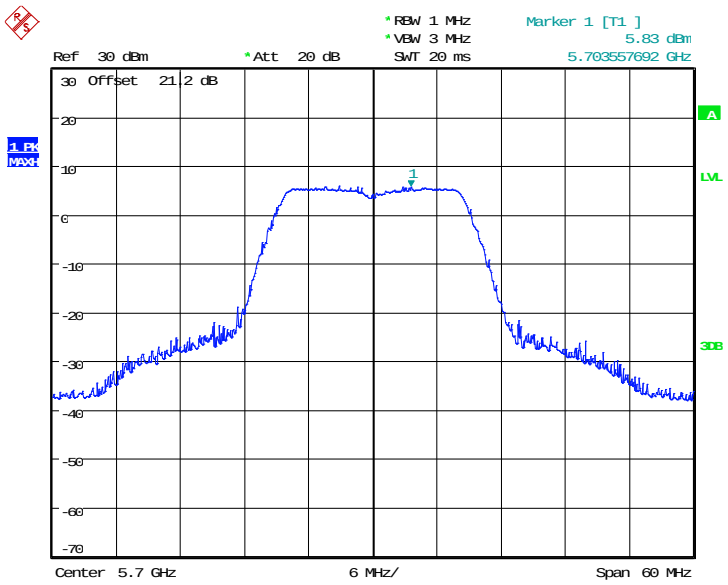


Fig. 172 Peak Excursions (802.11n-HT20, ch140, peak)

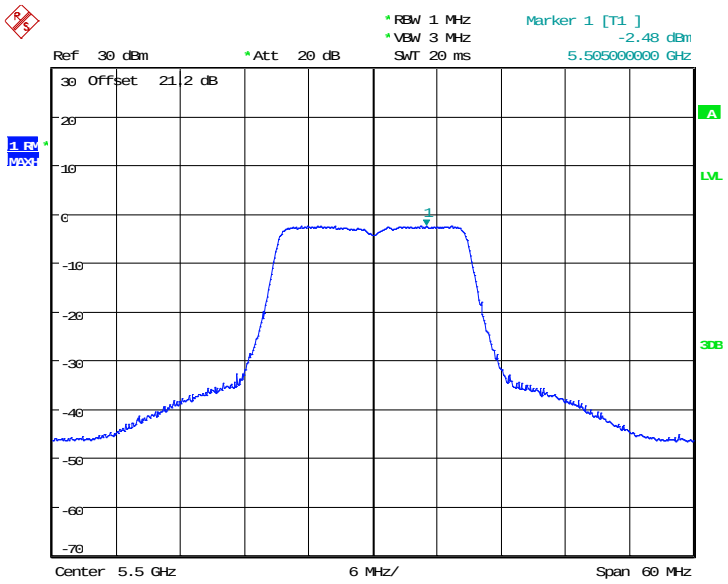


Fig. 173 Peak Excursions (802.11n-HT20, ch100, average)

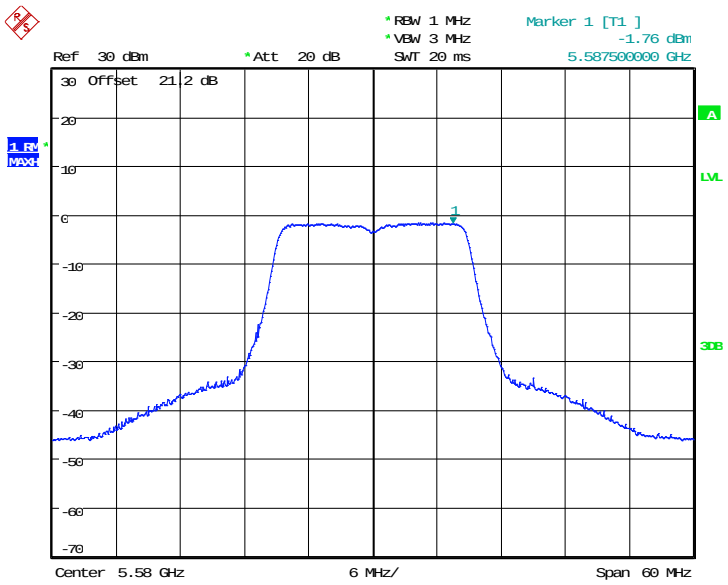


Fig. 174 Peak Excursions (802.11n-HT20, ch116, average)

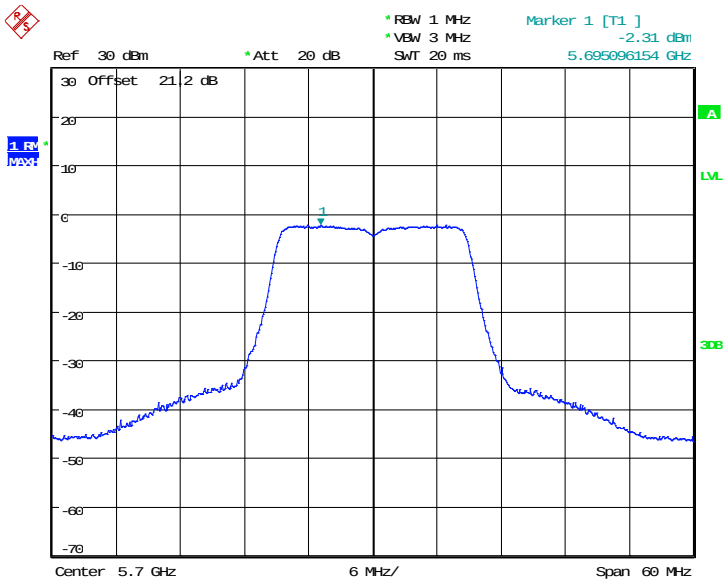


Fig. 175 Peak Excursions (802.11n-HT20, ch140, average)

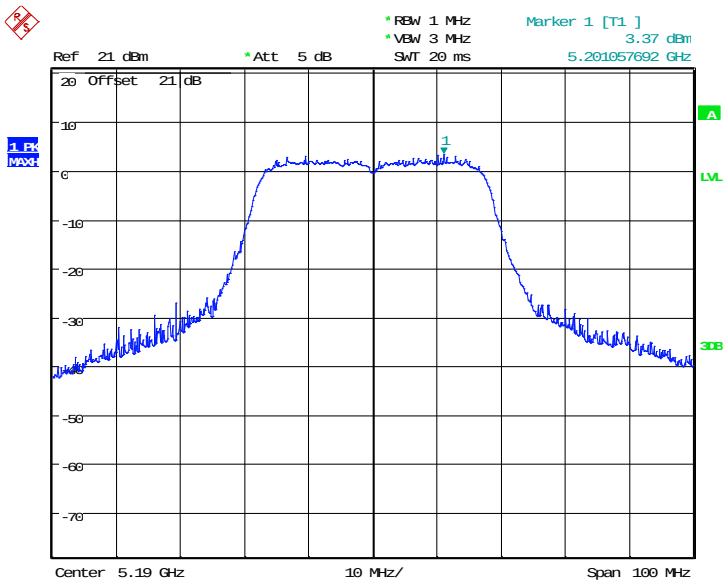


Fig. 176 Peak Excursions (802.11n-HT40, ch38, peak)

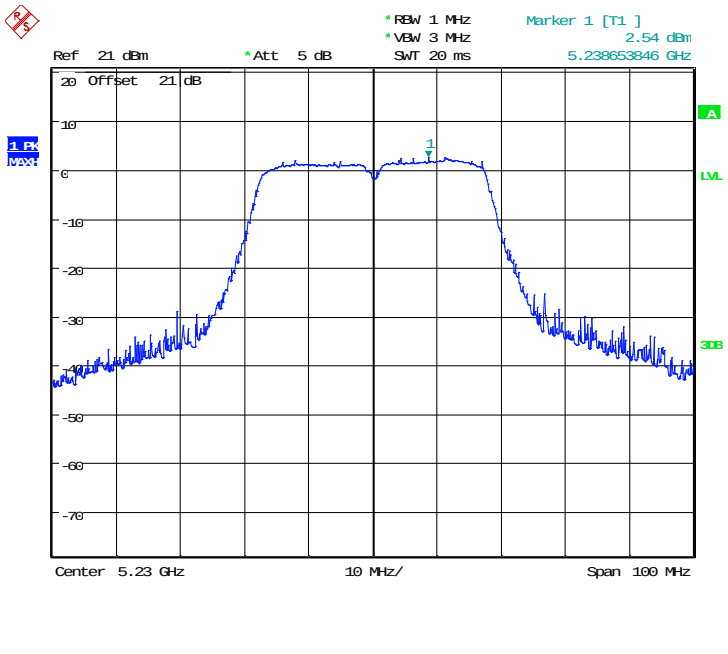


Fig. 177 Peak Excursions (802.11n-HT40, ch46, peak)

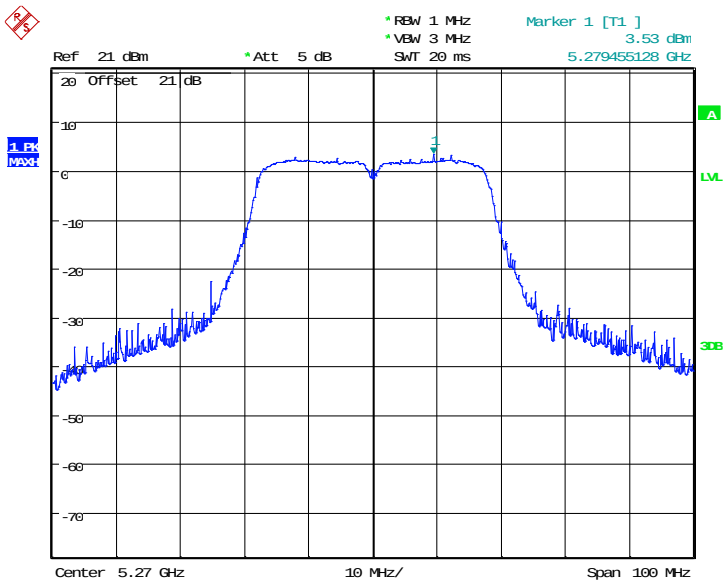


Fig. 178 Peak Excursions (802.11n-HT40, ch54, peak)

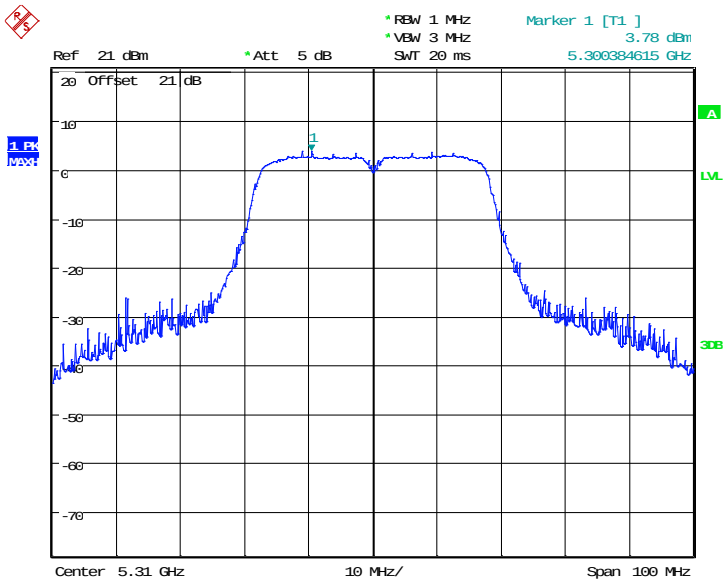


Fig. 179 Peak Excursions (802.11n-HT40, ch62, peak)

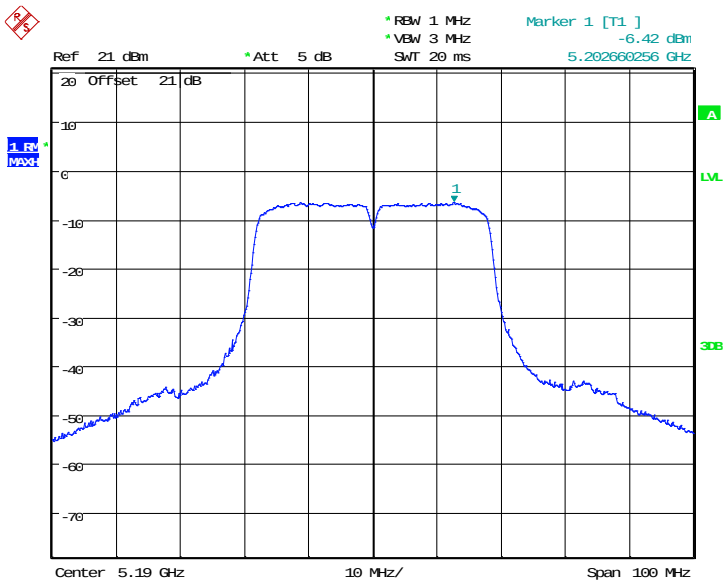


Fig. 180 Peak Excursions (802.11n-HT40, ch38, average)

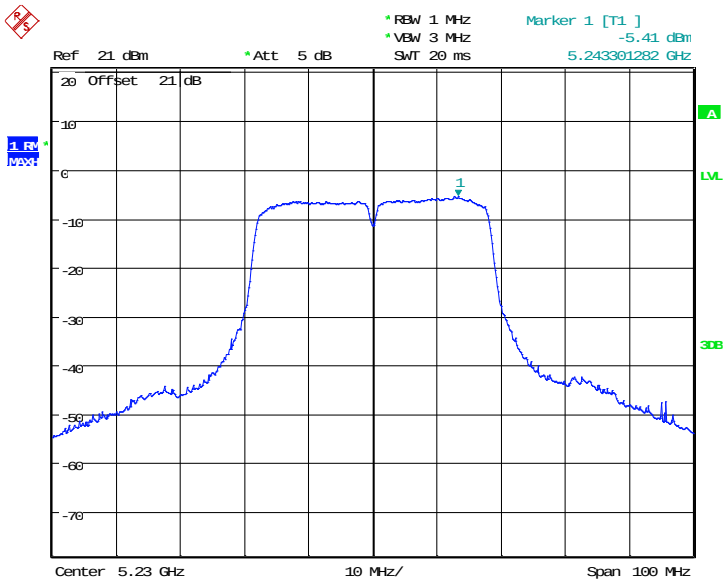


Fig. 181 Peak Excursions (802.11n-HT40, ch46, average)

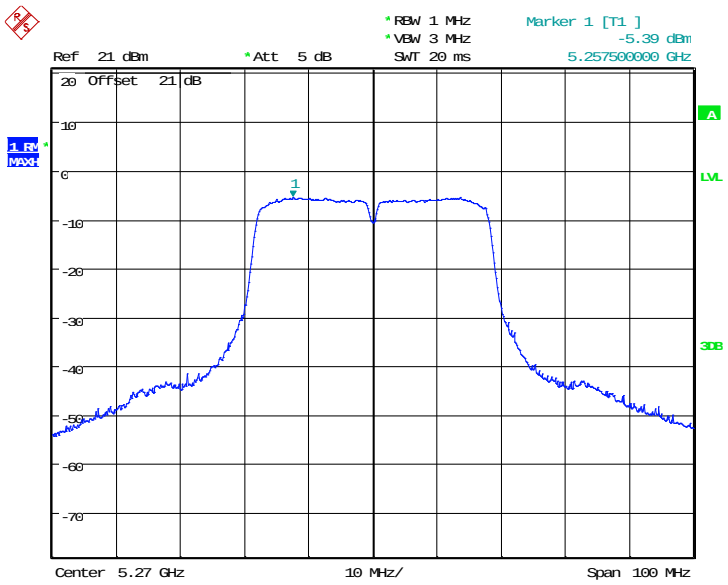


Fig. 182 Peak Excursions (802.11n-HT40, ch54, average)

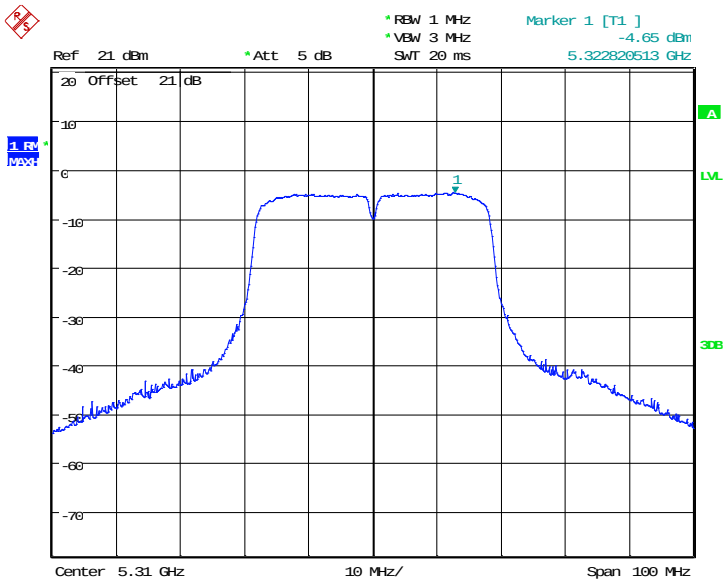


Fig. 183 Peak Excursions (802.11n-HT40, ch62, average)

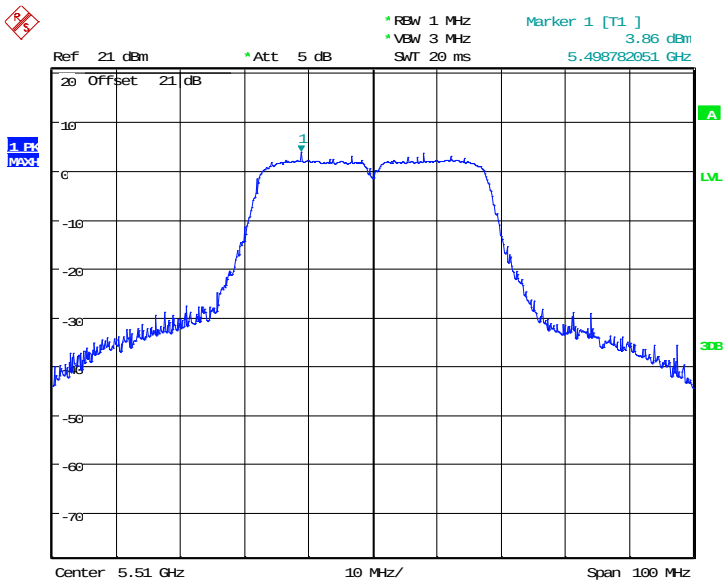


Fig. 184 Peak Excursions (802.11n-HT40, ch102, peak)

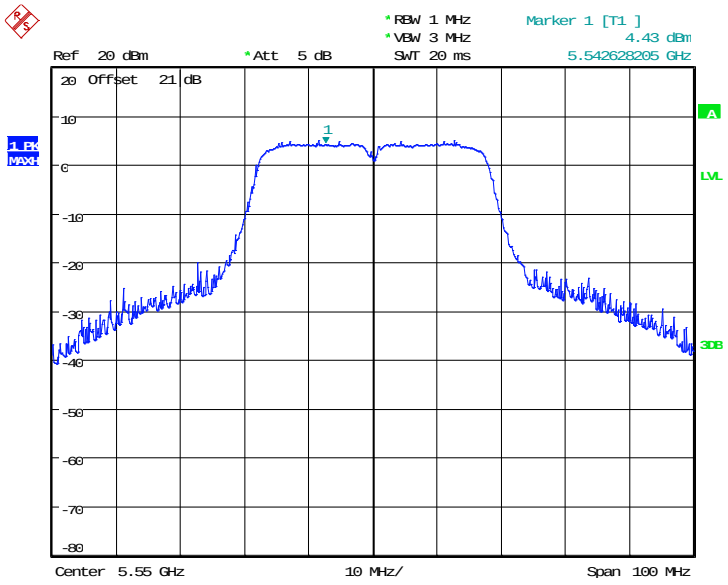


Fig. 185 Peak Excursions (802.11n-HT40, ch110, peak)

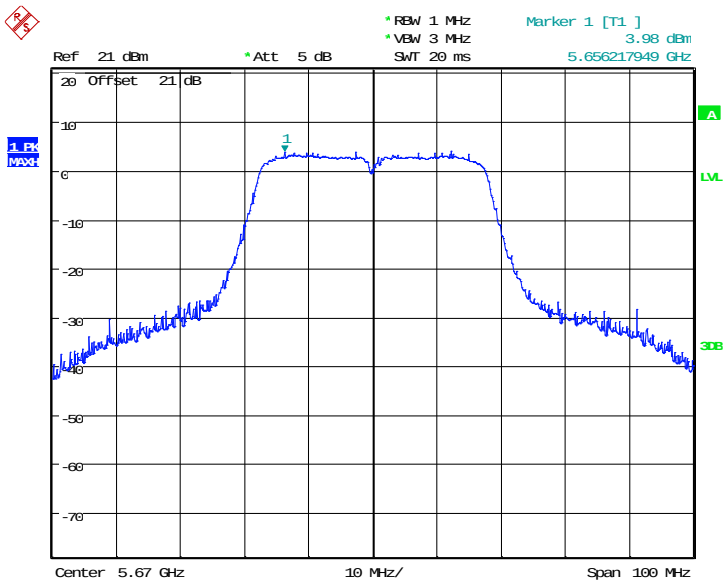


Fig. 186 Peak Excursions (802.11n-HT40, ch134, peak)

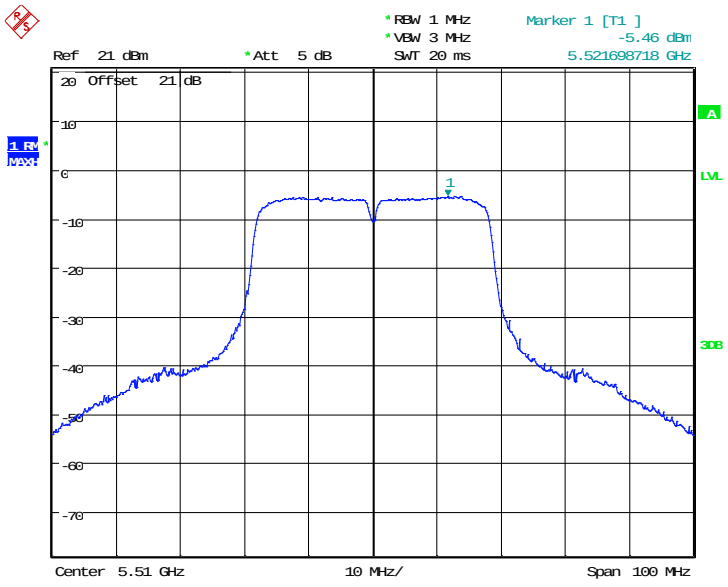


Fig. 187 Peak Excursions (802.11n-HT40, ch102, average)

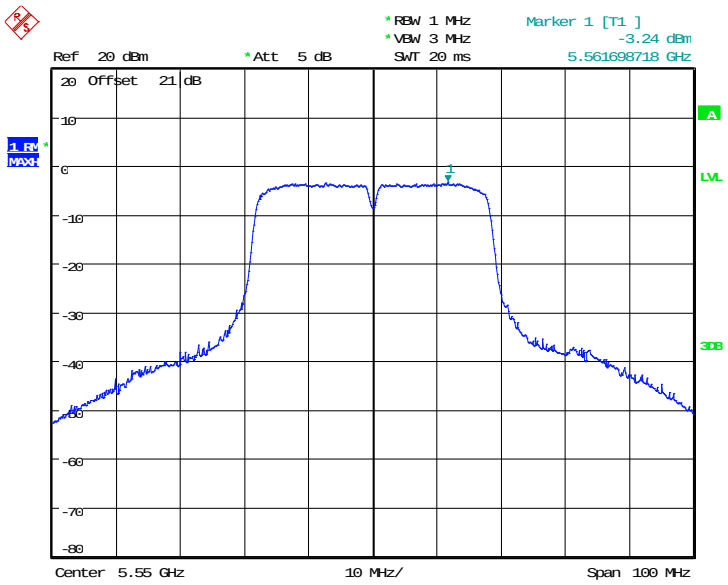


Fig. 188 Peak Excursions (802.11n-HT40, ch110, average)

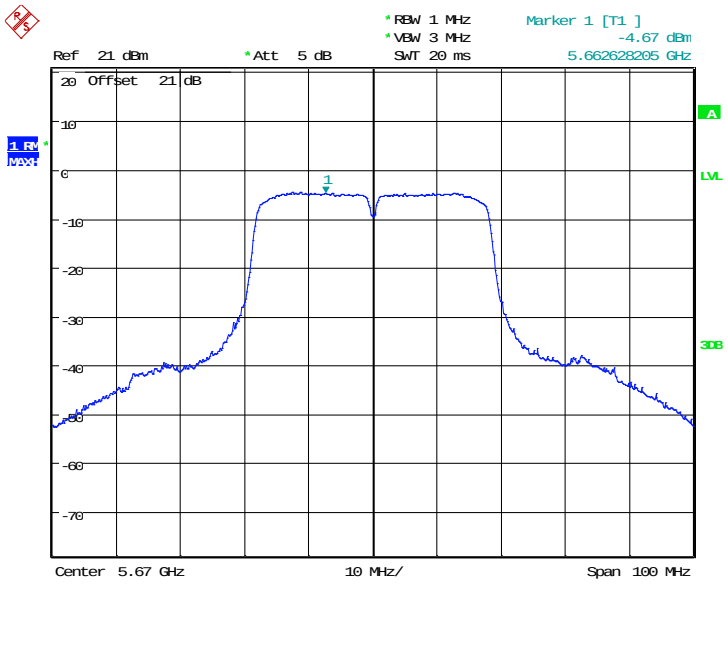


Fig. 189 Peak Excursions (802.11n-HT40, ch134, average)

A.10. 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.

A.11. Power control

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

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