



4.5 Frequency Stability

Test Procedures

The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between 0°C and +45°C (Declaration by the Manufacturer). The temperature was incremented by 10°C (5°C) intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded.

Data for the worst case channel is shown below.

Temperature (°C)	0	10	20	30	40	45
Frequency	Measured Frequency Error (kHz)					
5 260 MHz	9.379	0.634	-13.341	-29.537	-40.567	-40.386
5 300 MHz	9.449	0.676	-13.677	-29.915	-40.820	-40.645
5 320 MHz	9.466	0.672	-13.990	-30.179	-41.023	-40.824
5 500 MHz	9.842	0.653	-14.426	-31.304	-42.391	-42.161
5 600 MHz	10.003	0.694	-14.914	-31.874	-43.168	-42.958
5 720 MHz	10.229	0.701	-15.374	-32.654	-44.117	-43.851

Note :

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature range as tested.



4.6 Unwanted Emissions

Test Location

- 10 m SAC (test distance : 10 m, 3 m)
 3 m SAC (test distance : 3 m)

Test Procedures

- 1) In the frequency range of 9 kHz to 30 MHz, magnetic field is measured with Loop Antenna. The Test Antenna is positioned with its plane vertical at 1m distance from the EUT. The center of the Loop Test Antenna is 1m above the ground. During the measurement the Loop Test Antenna rotates about its vertical axis for maximum response at each azimuth about the EUT.
- 2) In the frequency range above 30 MHz, Bi-Log Test Antenna(30 MHz to 1 GHz) and Horn Test Antenna(above 1 GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is carried from 1m to 4m above the ground to determine the maximum value of the field strength. The emissions levels at both horizontal and vertical polarizations should be tested.

Test Settings:

Frequency Range = 9 kHz ~ 40 GHz

- a) RBW = 1 MHz for $f \geq 1$ GHz, 120 kHz for $f < 1$ GHz, 9 kHz for $f < 30$ MHz
- b) VBW \geq RBW
- c) Sweep time = auto

Limit

- 15.209(a)

Frequency(MHz)	Field Strength uV/m@3m	Field Strength dBuV/m@3m	Deasurement Distance (meters)
0.009-0.490	2400/F(kHz)	-	300
0.490-1.705	24000/F(kHz)	-	30
1.705-30	30	-	30
30-88	100**	40	3
88-216	150**	43.5	3
216-960	200**	46	3
Above 960	500	54	3

** Except as provided in 15.209(g).fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72MHz, 76-88MHz, 174-216MHz, 470-806MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g.15.231 and 15.241.

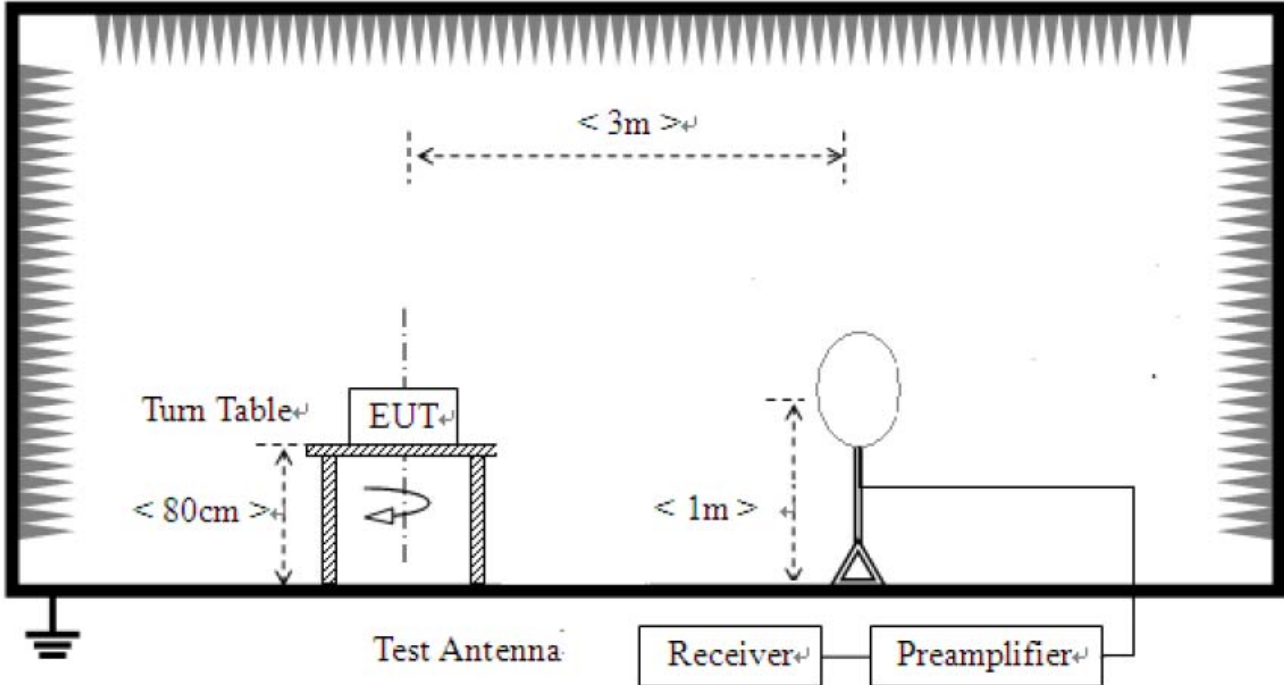
- 15.407, KDB 789033

E.I.R.P -27 dBm/MHz

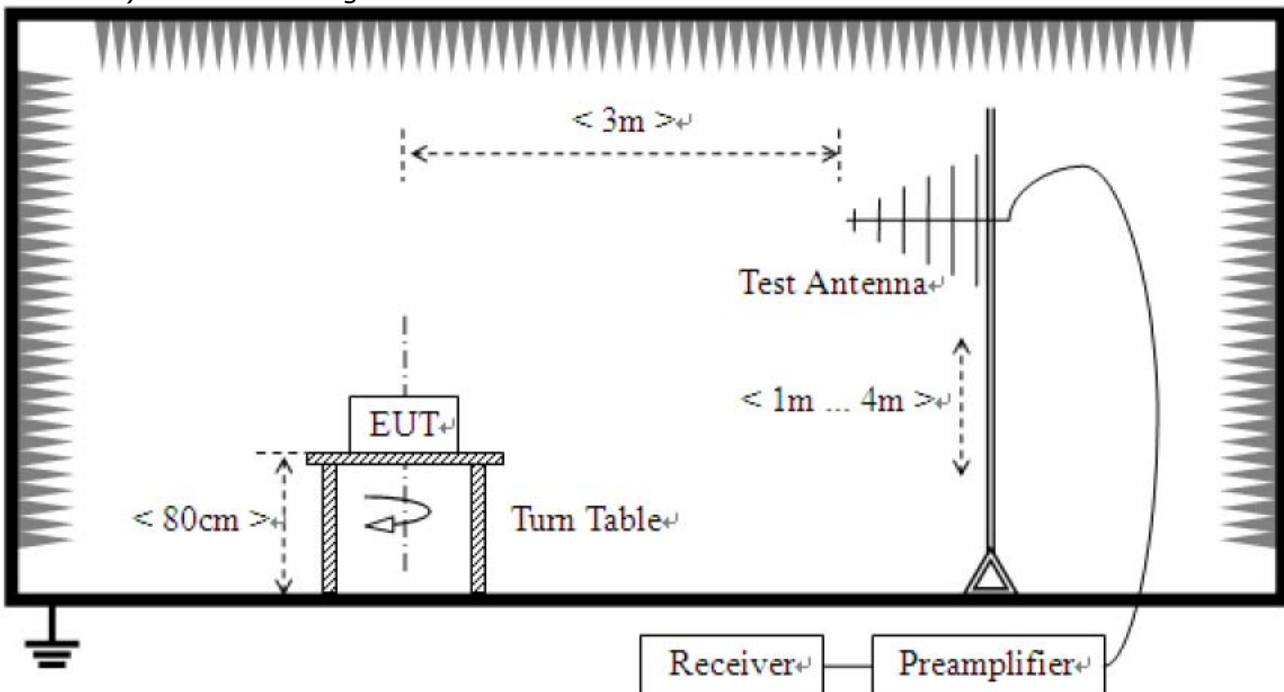
$E[\text{dBuV/m}] = \text{EIRP}[\text{dBm}] + 95.2$, for $d = 3\text{m}$

Test Setup:

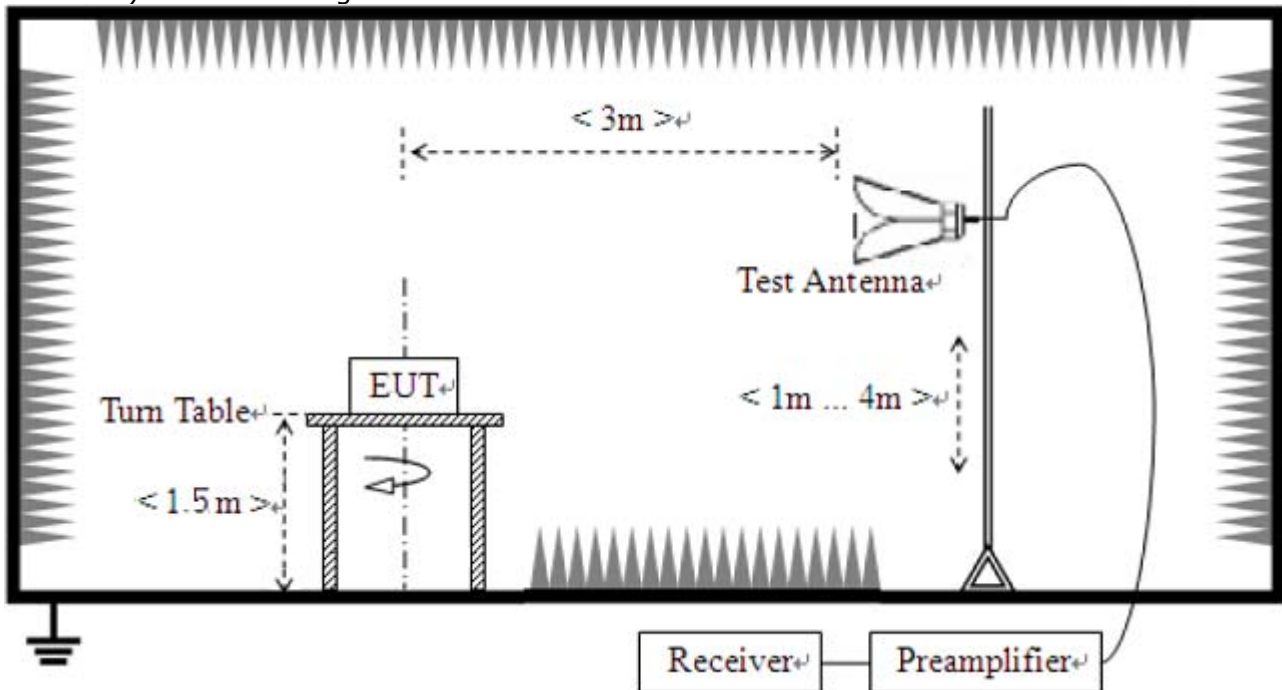
- 1) For field strength of emissions from 9 kHz to 30 MHz



- 2) For field strength of emissions from 30 MHz to 1 GHz



3) For field strength of emissions above 1 GHz



Test Mode

We have done all test mode.

The worst-case antenna configuration are determined to be as follows for each mode.

802.11a mode : ANT0 + ANT1 + ANT2 + ANT3

802.11n mode : ANT0 + ANT1 + ANT2 + ANT3

802.11ac mode : ANT0 + ANT1 + ANT2 + ANT3

This EUT is supported the AC/DC Adapter and PoE. We have done all test mode. Worst case is PoE. So the worst data of PoE are shown.



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Report No.:
CTK-2017-01299-1
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Test Results

1) 9 kHz to 30 MHz

EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	9 kHz - 30 MHz
Test mode	802.11a,802.11n, 802.11ac (Worst case)	Detector function	Quasi-Peak

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
-	-	-	See note

Note :

The amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB)

2) 30 MHz to 1 GHz

Test mode : 802.11a(Worst Case)

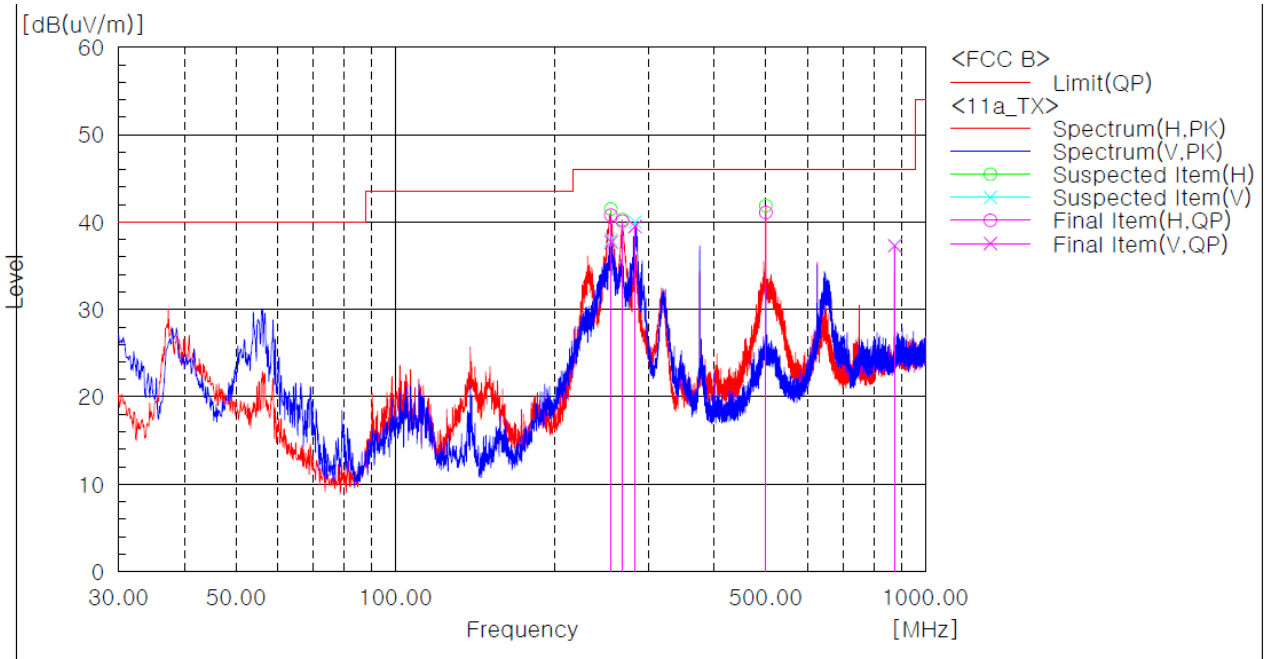
EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	Below 1 000 MHz
Configuration	ANT0 + ANT1 + ANT2 + ANT3	Detector function	Quasi-Peak

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
254.947	40.8	5.2	Quasi-peak

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Angle [deg]	Remark
1	254.947	H	53.7	-12.9	40.8	46.0	5.2	32.5	
2	255.068	V	50.6	-12.9	37.7	46.0	8.3	313.7	
3	268.044	H	52.8	-12.7	40.1	46.0	5.9	356.9	
4	282.959	V	52.0	-12.5	39.5	46.0	6.5	224.9	
5	500.024	H	50.9	-9.8	41.1	46.0	4.9	306.5	
6	874.976	V	42.1	-4.8	37.3	46.0	8.7	332.6	

Remark :

1. The field strength of spurious emission was measured in the following position: EUT and antenna stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.



Test mode : 802.11n_HT20(Worst Case)

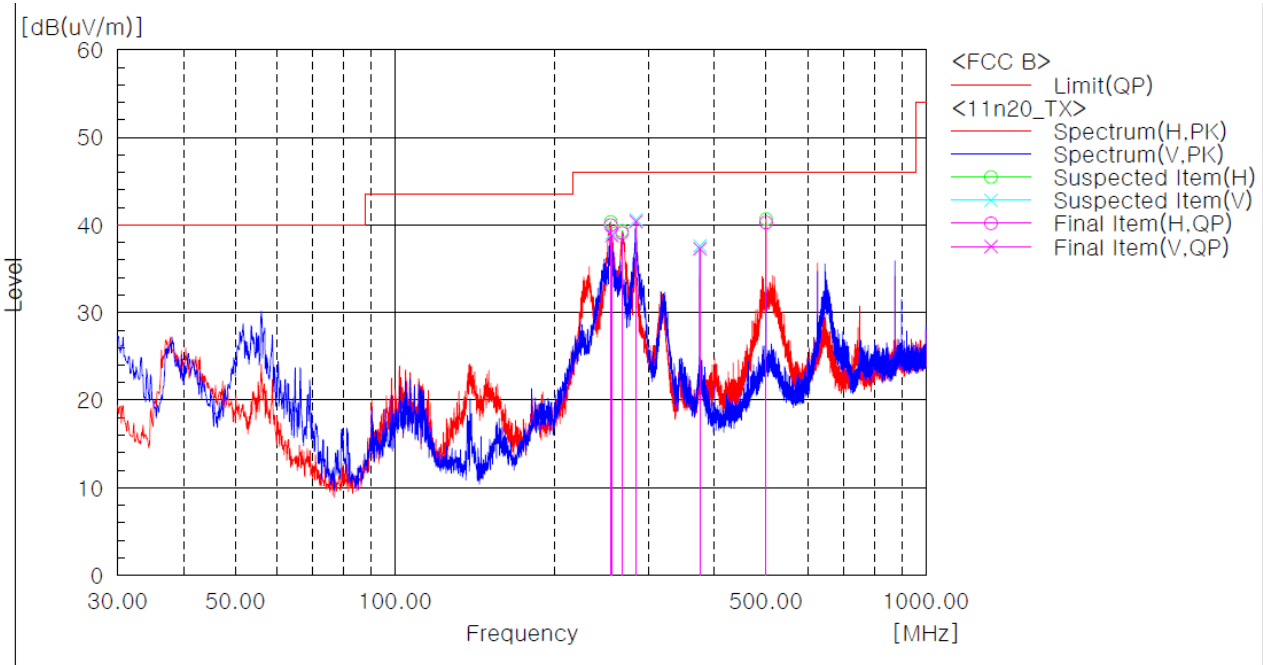
EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	Below 1 000 MHz
Configuration	ANT0 + ANT1 + ANT2 + ANT3	Detector function	Quasi-Peak

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
500.024	40.3	5.7	Quasi-peak

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Angle [deg]	Remark
1	254.947	H	52.9	-12.9	40.0	46.0	6.0	354.7	
2	256.038	V	51.7	-12.9	38.8	46.0	7.2	323.4	
3	267.801	H	51.8	-12.7	39.1	46.0	6.9	340.0	
4	284.536	V	52.8	-12.4	40.4	46.0	5.6	255.3	
5	374.999	V	48.5	-11.2	37.3	46.0	8.7	198.4	
6	500.024	H	50.1	-9.8	40.3	46.0	5.7	326.2	

Remark :

1. The field strength of spurious emission was measured in the following position: EUT and antenna stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.



Test mode : 802.11n_HT40(Worst Case)

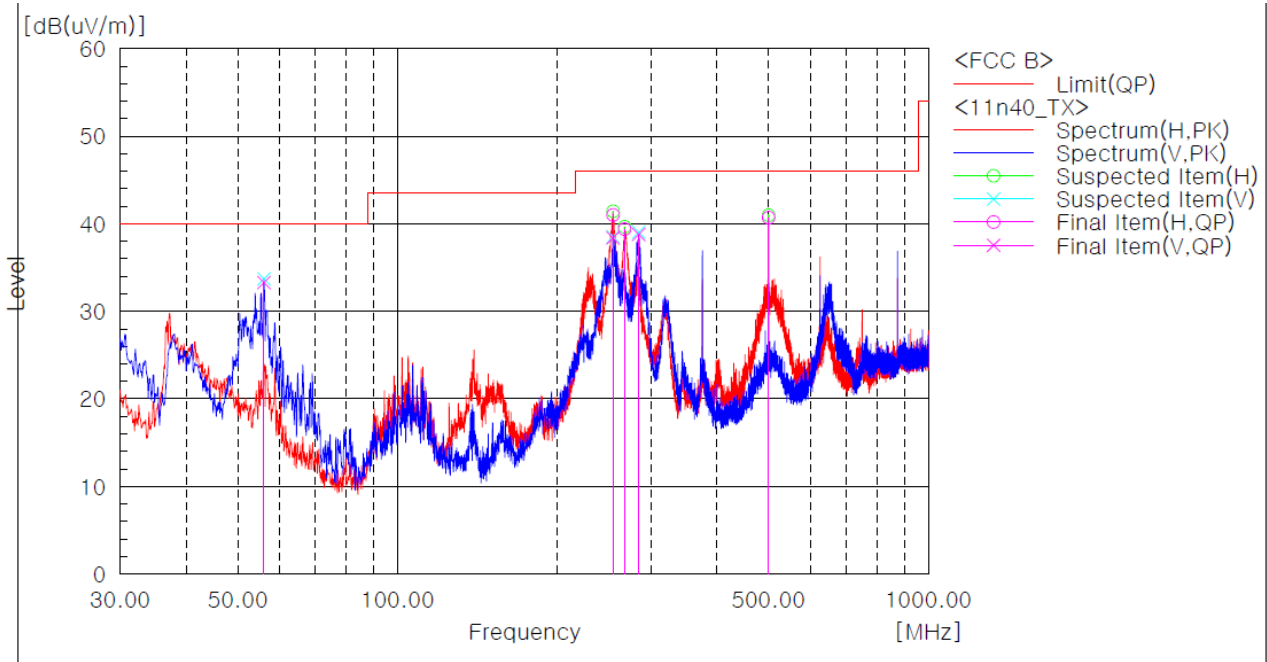
EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	Below 1 000 MHz
Configuration	ANT0 + ANT1 + ANT2 + ANT3	Detector function	Quasi-Peak

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
254.583	41.0	5.0	Quasi-peak

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Angle [deg]	Remark
1	55.951	V	46.4	-13.1	33.3	40.0	6.7	134.9	
2	254.341	V	51.4	-13.0	38.4	46.0	7.6	312.6	
3	254.583	H	53.9	-12.9	41.0	46.0	5.0	17.9	
4	267.680	H	52.1	-12.7	39.4	46.0	6.6	357.2	
5	284.414	V	51.2	-12.4	38.8	46.0	7.2	241.8	
6	500.024	H	50.5	-9.8	40.7	46.0	5.3	325.9	

Remark :

1. The field strength of spurious emission was measured in the following position: EUT and antenna stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.



Test mode : 802.11ac_VHT20(Worst Case)

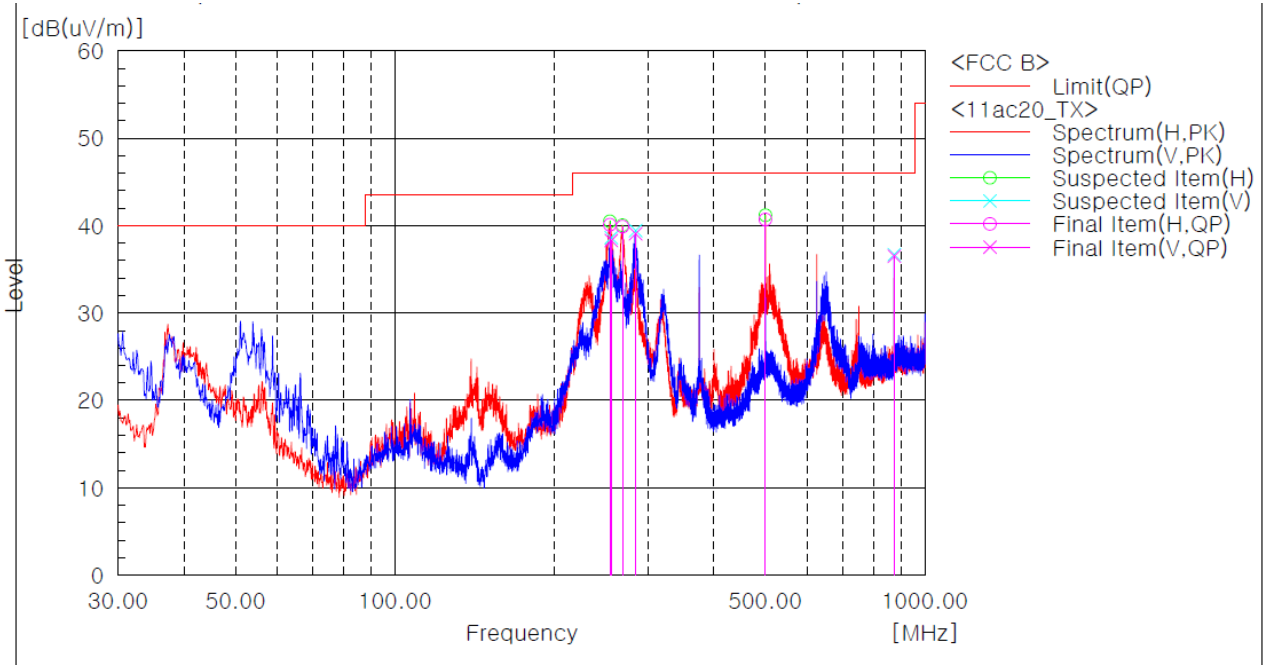
EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	Below 1 000 MHz
Configuration	ANT0 + ANT1 + ANT2 + ANT3	Detector function	Quasi-Peak

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
500.024	40.7	5.3	Quasi-peak

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Angle [deg]	Remark
1	254.219	H	53.1	-13.0	40.1	46.0	5.9	357.4	
2	255.674	V	51.2	-12.9	38.3	46.0	7.7	309.8	
3	268.650	H	52.6	-12.7	39.9	46.0	6.1	16.7	
4	284.293	V	51.5	-12.4	39.1	46.0	6.9	220.5	
5	500.024	H	50.5	-9.8	40.7	46.0	5.3	291.6	
6	874.976	V	41.3	-4.8	36.5	46.0	9.5	309.8	

Remark :

1. The field strength of spurious emission was measured in the following position: EUT and antenna stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.



Test mode : 802.11ac_VHT40(Worst Case)

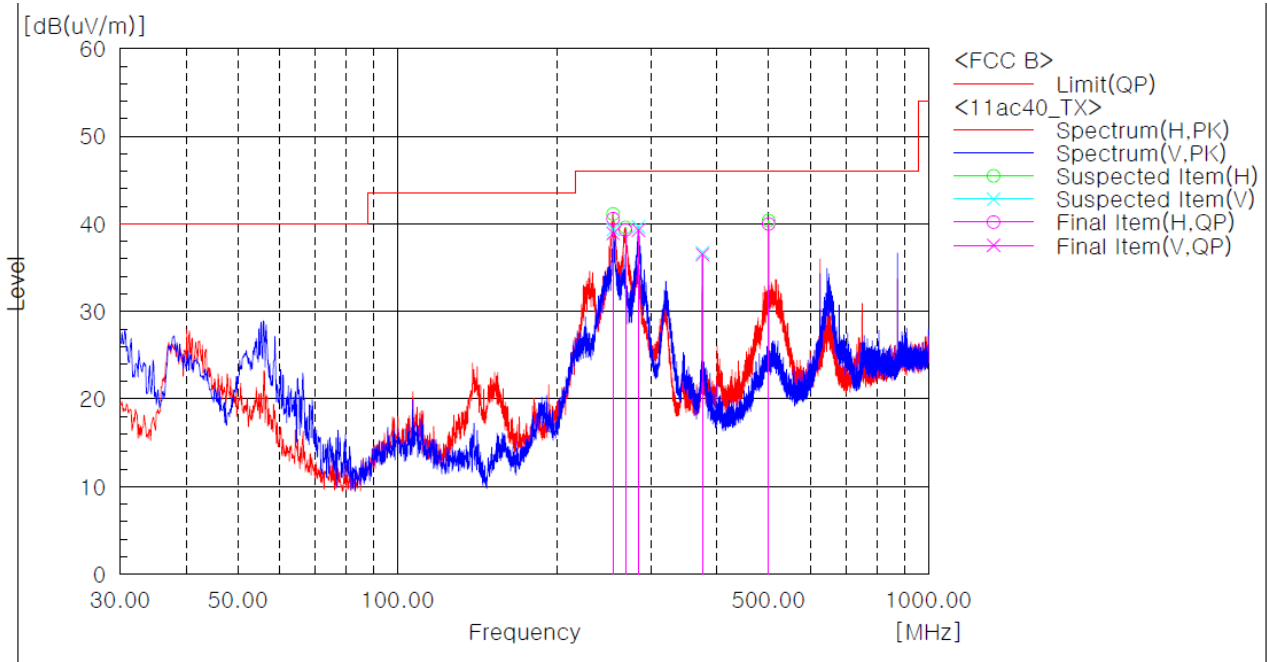
EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	Below 1 000 MHz
Configuration	ANT0 + ANT1 + ANT2 + ANT3	Detector function	Quasi-Peak

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
254.704	40.6	5.4	Quasi-peak

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Angle [deg]	Remark
1	254.583	V	51.8	-12.9	38.9	46.0	7.1	267.2	
2	254.704	H	53.5	-12.9	40.6	46.0	5.4	48.6	
3	268.529	H	52.0	-12.7	39.3	46.0	6.7	0.7	
4	284.172	V	51.7	-12.4	39.3	46.0	6.7	164.8	
5	374.999	V	47.7	-11.2	36.5	46.0	9.5	179.4	
6	500.024	H	49.8	-9.8	40.0	46.0	6.0	344.1	

Remark :

1. The field strength of spurious emission was measured in the following position: EUT and antenna stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.



Test mode : 802.11ac_VHT80(Worst Case)

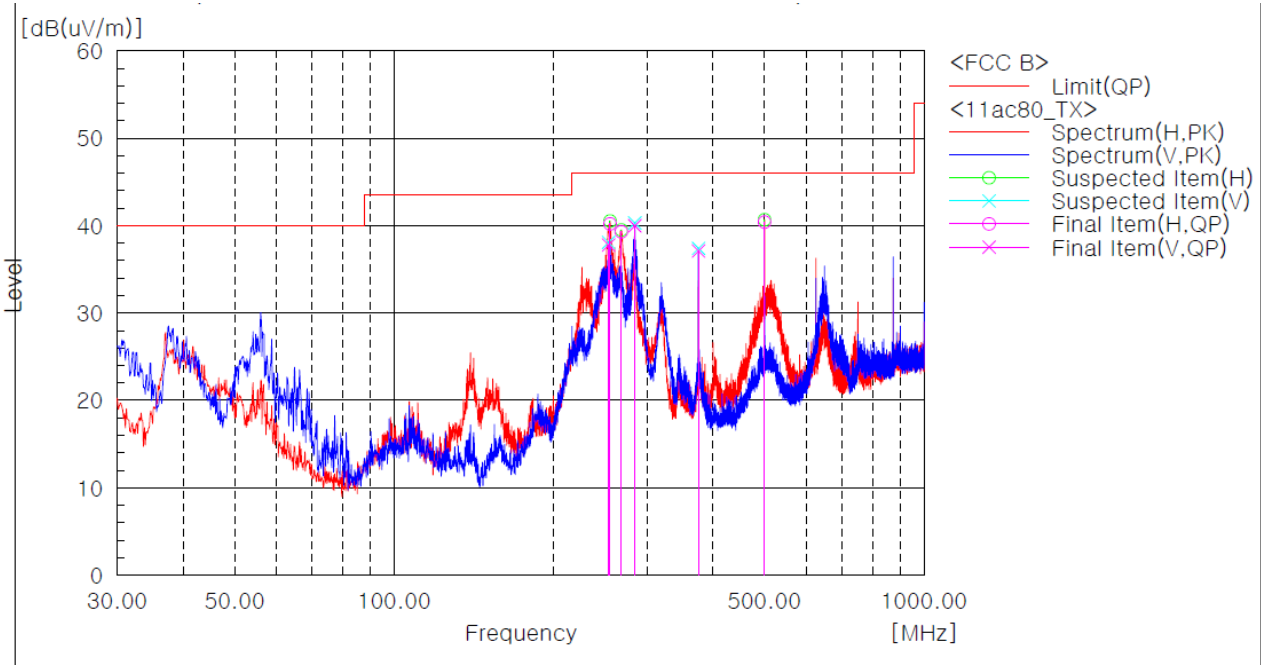
EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	Below 1 000 MHz
Configuration	ANT0 + ANT1 + ANT2 + ANT3	Detector function	Quasi-Peak

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
500.024	40.4	5.6	Quasi-peak

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Angle [deg]	Remark
1	253.855	V	50.8	-13.0	37.8	46.0	8.2	272.0	
2	255.432	H	53.1	-12.9	40.2	46.0	5.8	51.0	
3	268.407	H	52.0	-12.7	39.3	46.0	6.7	1.8	
4	284.414	V	52.4	-12.4	40.0	46.0	6.0	246.1	
5	374.999	V	48.3	-11.2	37.1	46.0	8.9	186.3	
6	500.024	H	50.2	-9.8	40.4	46.0	5.6	337.1	

Remark :

1. The field strength of spurious emission was measured in the following position: EUT and antenna stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.



Test mode : 802.11ac_VHT160(Worst Case)

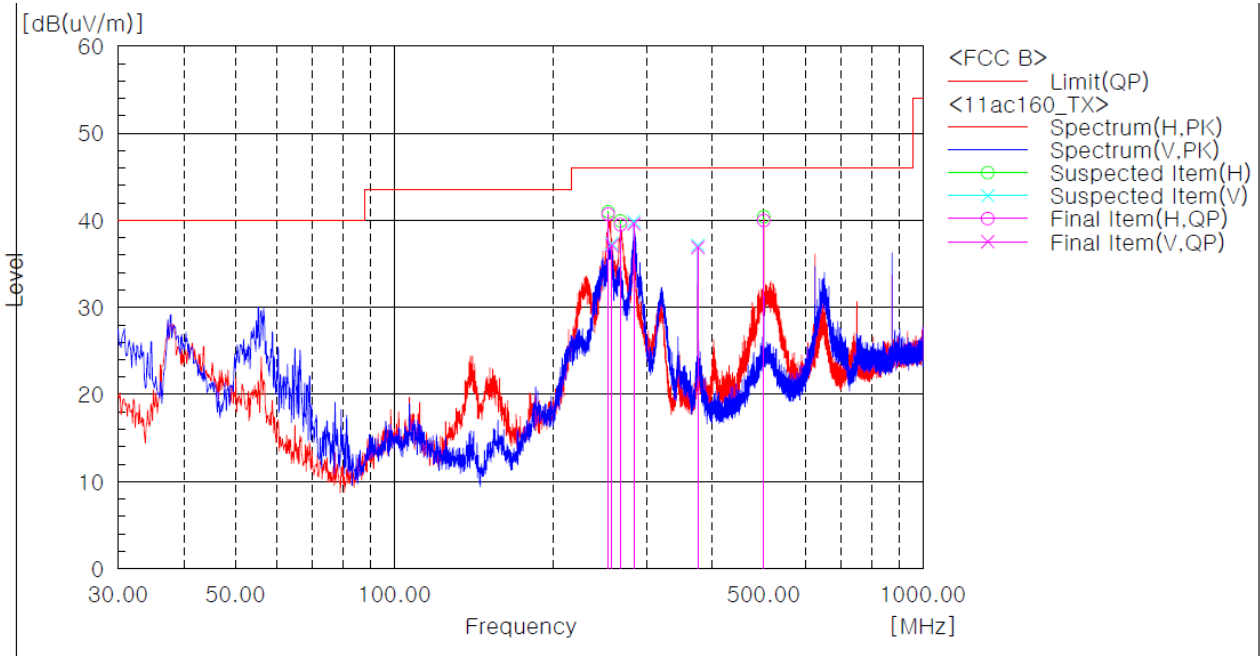
EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	Below 1 000 MHz
Configuration	ANT0 + ANT1 + ANT2 + ANT3	Detector function	Quasi-Peak

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
253.855	40.7	5.3	Quasi-peak

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Angle [deg]	Remark
1	253.855	H	53.7	-13.0	40.7	46.0	5.3	45.3	
2	257.978	V	50.0	-12.9	37.1	46.0	8.9	298.9	
3	267.801	H	52.2	-12.7	39.5	46.0	6.5	6.2	
4	283.687	V	52.1	-12.5	39.6	46.0	6.4	154.5	
5	374.999	V	48.1	-11.2	36.9	46.0	9.1	184.3	
6	500.024	H	49.8	-9.8	40.0	46.0	6.0	351.5	

Remark :

1. The field strength of spurious emission was measured in the following position: EUT and antenna stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.



Test mode : Receiver_802.11a(Worst Case)

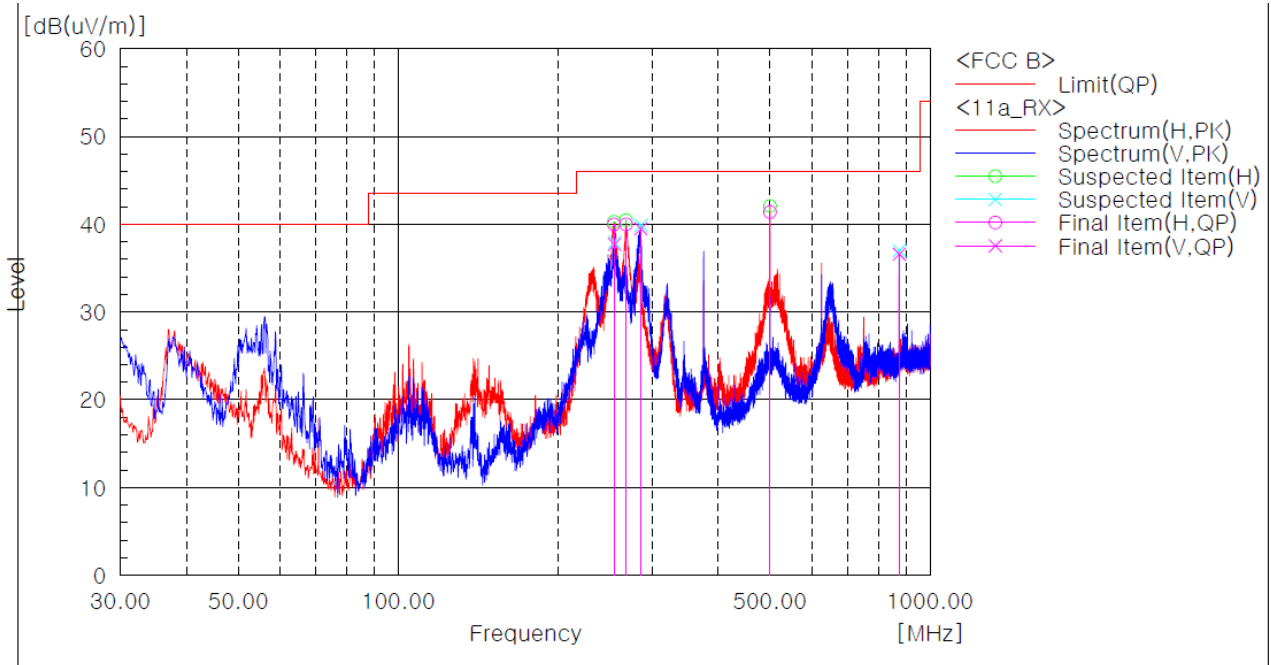
EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	Below 1 000 MHz
Configuration	ANT0 + ANT1 + ANT2 + ANT3	Detector function	Quasi-Peak

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBUV/m)	Margin (dB)	Remark
500.024	41.4	4.6	Quasi-peak

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Angle [deg]	Remark
1	254.341	H	53.0	-13.0	40.0	46.0	6.0	25.4	
2	254.826	V	50.6	-12.9	37.7	46.0	8.3	295.2	
3	268.165	H	52.7	-12.7	40.0	46.0	6.0	357.0	
4	285.748	V	51.9	-12.4	39.5	46.0	6.5	225.2	
5	500.024	H	51.2	-9.8	41.4	46.0	4.6	339.5	
6	874.976	V	41.4	-4.8	36.6	46.0	9.4	331.3	

Remark :

1. The field strength of spurious emission was measured in the following position: EUT and antenna stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.



Test mode : Receiver_802.11n_HT20(Worst Case)

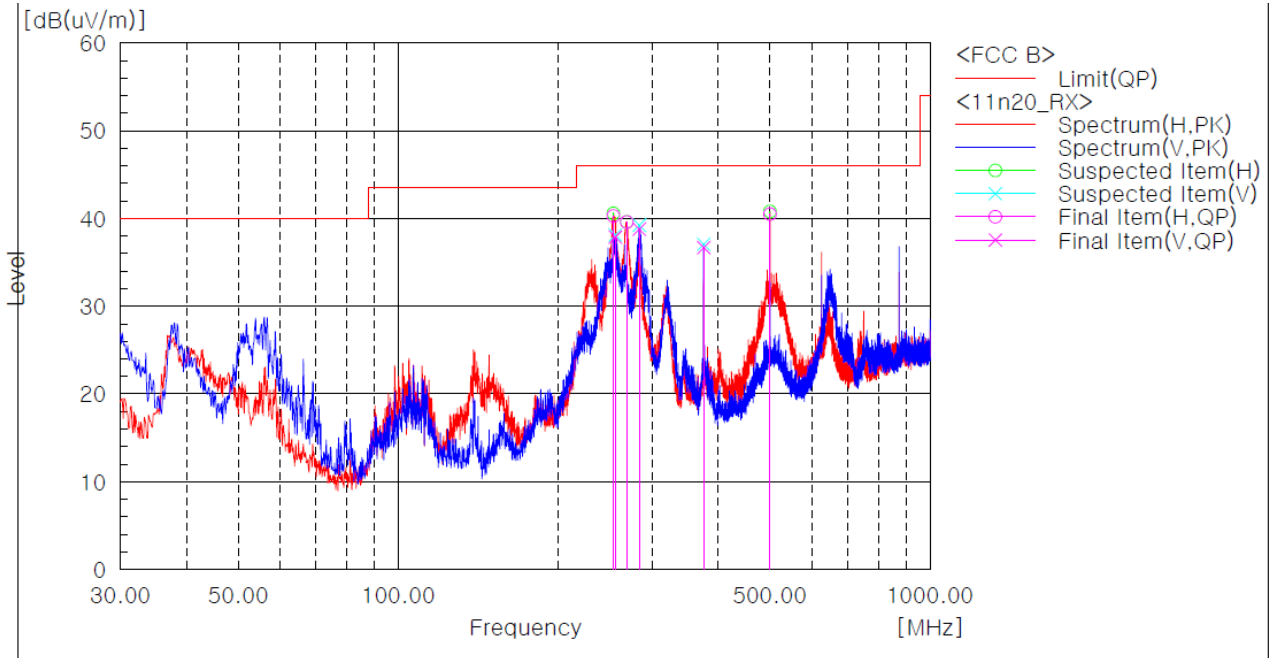
EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	Below 1 000 MHz
Configuration	ANT0 + ANT1 + ANT2 + ANT3	Detector function	Quasi-Peak

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
500.024	40.5	5.5	Quasi-peak

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Angle [deg]	Remark
1	253.855	H	53.3	-13.0	40.3	46.0	5.7	357.1	
2	255.674	V	50.8	-12.9	37.9	46.0	8.1	333.6	
3	268.892	H	52.3	-12.7	39.6	46.0	6.4	357.1	
4	283.687	V	51.3	-12.5	38.8	46.0	7.2	199.9	
5	374.999	V	47.9	-11.2	36.7	46.0	9.3	199.9	
6	500.024	H	50.3	-9.8	40.5	46.0	5.5	324.9	

Remark :

1. The field strength of spurious emission was measured in the following position: EUT and antenna stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.



Test mode : Receiver_802.11n_HT40(Worst Case)

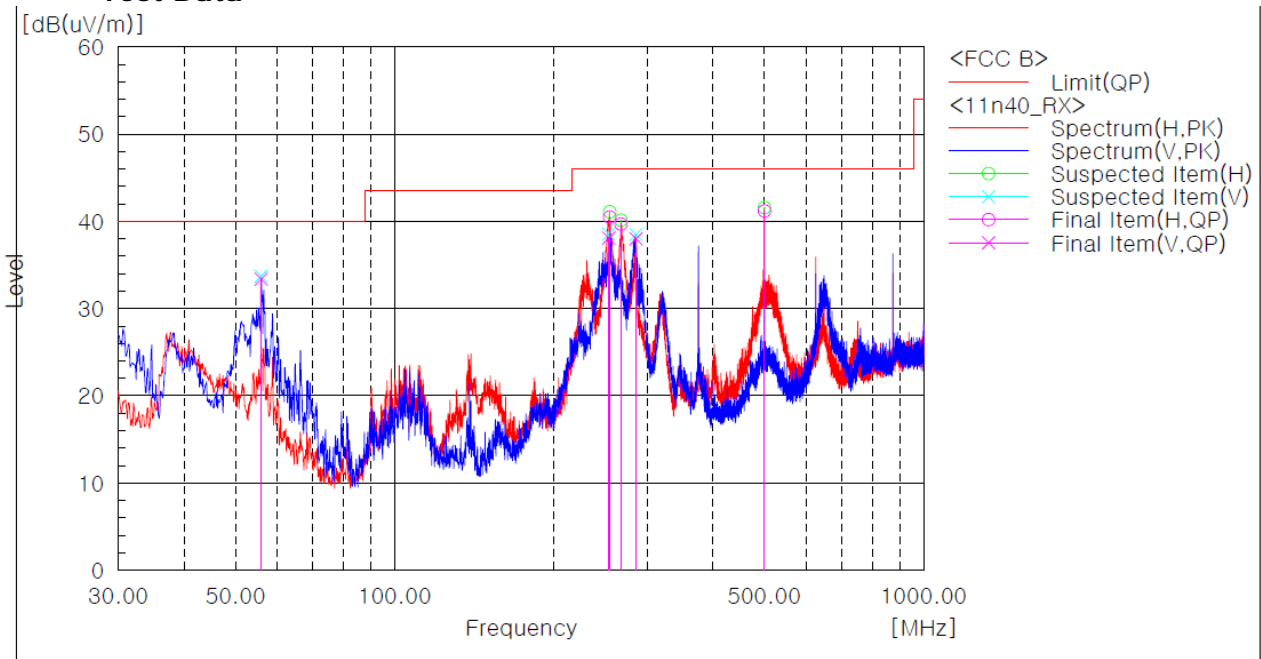
EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	Below 1 000 MHz
Configuration	ANT0 + ANT1 + ANT2 + ANT3	Detector function	Quasi-Peak

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
500.024	41.2	4.8	Quasi-peak

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Angle [deg]	Remark
1	55.829	V	46.5	-13.1	33.4	40.0	6.6	163.0	
2	253.734	V	51.1	-13.0	38.1	46.0	7.9	312.4	
3	254.826	H	53.4	-12.9	40.5	46.0	5.5	340.1	
4	267.680	H	52.4	-12.7	39.7	46.0	6.3	358.5	
5	285.627	V	50.4	-12.4	38.0	46.0	8.0	270.8	
6	500.024	H	51.0	-9.8	41.2	46.0	4.8	297.6	

Remark :

1. The field strength of spurious emission was measured in the following position: EUT and antenna stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.



Test mode : Receiver_802.11ac_VHT20(Worst Case)

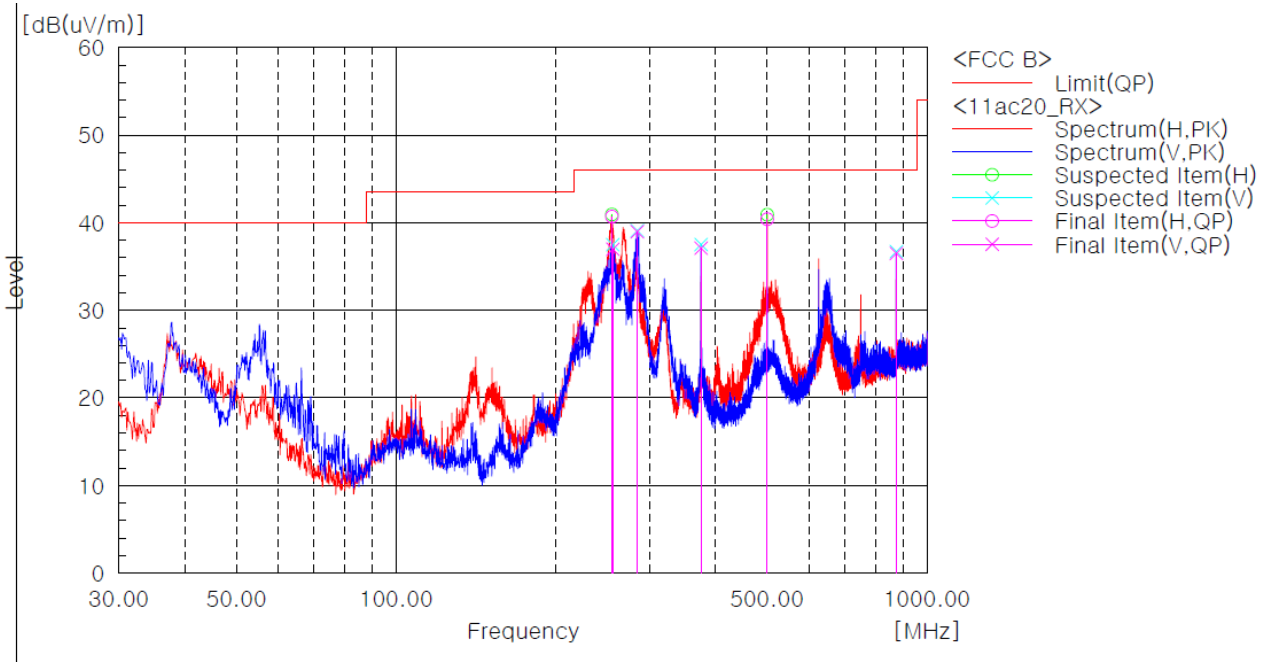
EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	Below 1 000 MHz
Configuration	ANT0 + ANT1 + ANT2 + ANT3	Detector function	Quasi-Peak

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
254.826	40.7	5.3	Quasi-peak

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Angle [deg]	Remark
1	254.826	H	53.6	-12.9	40.7	46.0	5.3	58.0	
2	255.796	V	49.9	-12.9	37.0	46.0	9.0	278.2	
3	284.414	V	51.4	-12.4	39.0	46.0	7.0	160.2	
4	374.999	V	48.3	-11.2	37.1	46.0	8.9	175.2	
5	500.024	H	50.2	-9.8	40.4	46.0	5.6	354.5	
6	874.976	V	41.3	-4.8	36.5	46.0	9.5	278.2	

Remark :

1. The field strength of spurious emission was measured in the following position: EUT and antenna stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.



Test mode : Receiver_802.11ac_VHT40(Worst Case)

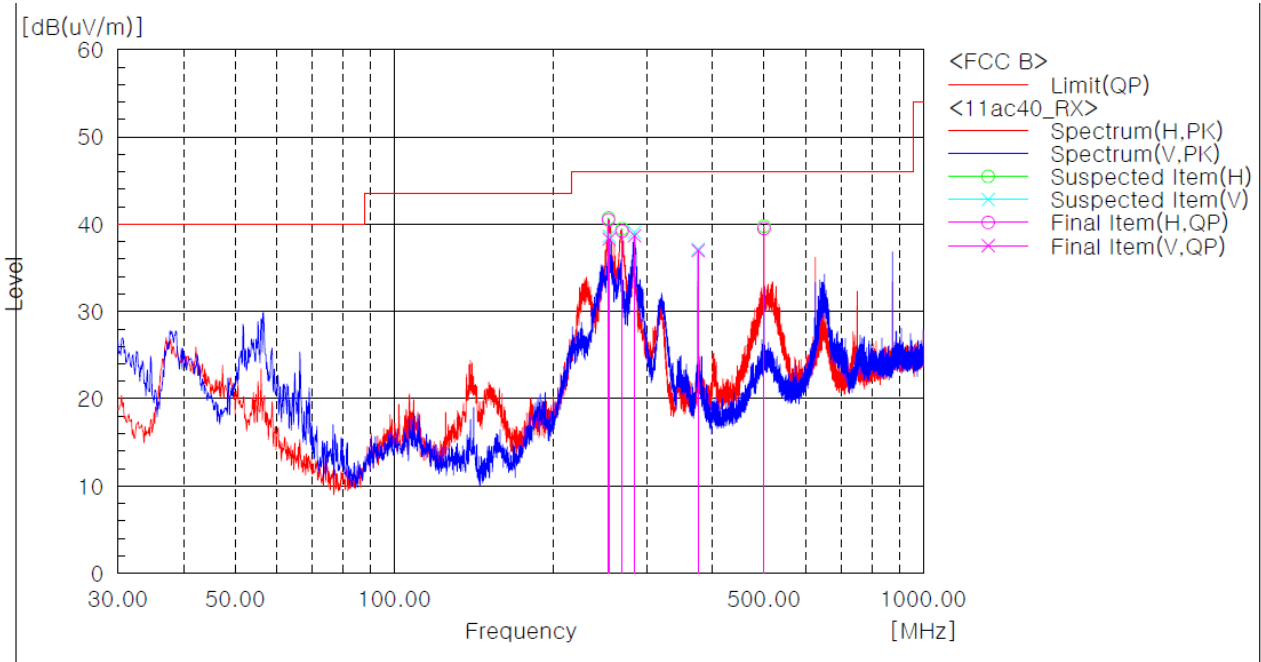
EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	Below 1 000 MHz
Configuration	ANT0 + ANT1 + ANT2 + ANT3	Detector function	Quasi-Peak

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
253.977	40.5	5.5	Quasi-peak

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Angle [deg]	Remark
1	253.977	H	53.5	-13.0	40.5	46.0	5.5	324.5	
2	254.704	V	51.2	-12.9	38.3	46.0	7.7	238.5	
3	269.499	H	51.9	-12.7	39.2	46.0	6.8	6.6	
4	284.536	V	51.1	-12.4	38.7	46.0	7.3	194.5	
5	374.999	V	48.2	-11.2	37.0	46.0	9.0	194.5	
6	500.024	H	49.3	-9.8	39.5	46.0	6.5	353.2	

Remark :

1. The field strength of spurious emission was measured in the following position: EUT and antenna stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.



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Test mode : Receiver_802.11ac_VHT80(Worst Case)

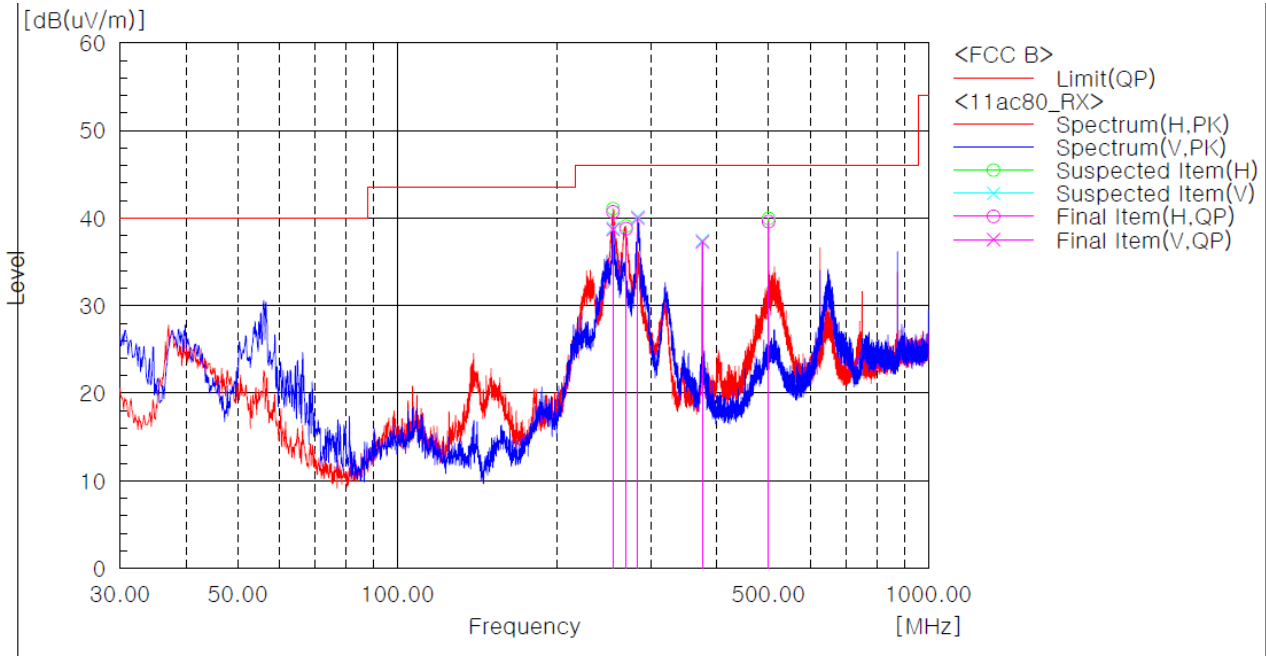
EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	Below 1 000 MHz
Configuration	ANT0 + ANT1 + ANT2 + ANT3	Detector function	Quasi-Peak

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
254.583	40.7	5.3	Quasi-peak

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Angle [deg]	Remark
1	254.583	H	53.6	-12.9	40.7	46.0	5.3	303.2	
2	254.583	V	51.6	-12.9	38.7	46.0	7.3	271.7	
3	269.499	H	51.5	-12.7	38.8	46.0	7.2	2.1	
4	283.565	V	52.5	-12.5	40.0	46.0	6.0	162.3	
5	374.999	V	48.5	-11.2	37.3	46.0	8.7	162.3	
6	500.024	H	49.4	-9.8	39.6	46.0	6.4	349.5	

Remark :

1. The field strength of spurious emission was measured in the following position: EUT and antenna stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.



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Test mode : Receiver_802.11ac_VHT160(Worst Case)

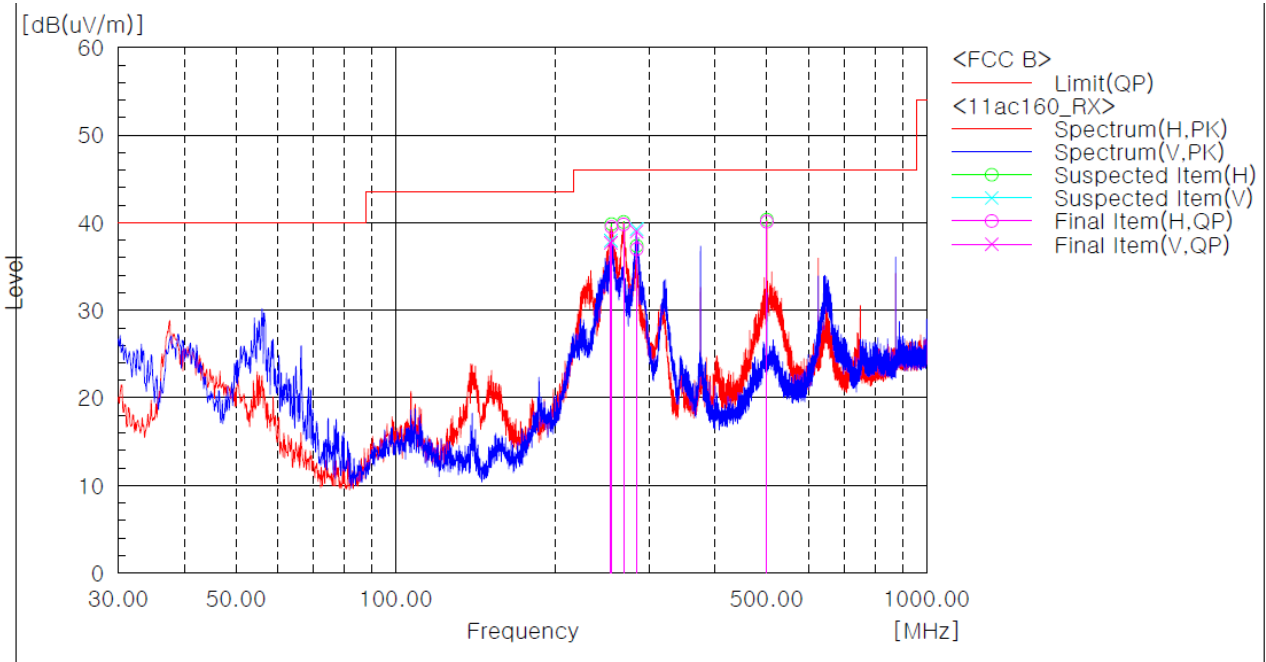
EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	Below 1 000 MHz
Configuration	ANT0 + ANT1 + ANT2 + ANT3	Detector function	Quasi-Peak

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBUV/m)	Margin (dB)	Remark
500.024	40.1	5.9	Quasi-peak

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Angle [deg]	Remark
1	253.977	V	50.7	-13.0	37.7	46.0	8.3	272.9	
2	254.826	H	52.4	-12.9	39.5	46.0	6.5	315.1	
3	268.650	H	52.5	-12.7	39.8	46.0	6.2	1.0	
4	283.929	V	51.4	-12.4	39.0	46.0	7.0	188.4	
5	284.536	H	49.4	-12.4	37.0	46.0	9.0	64.5	
6	500.024	H	49.9	-9.8	40.1	46.0	5.9	356.3	

Remark :

1. The field strength of spurious emission was measured in the following position: EUT and antenna stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.



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3) above 1 GHz

Test mode : 802.11a

EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	1 - 40 GHz
Mode	ANT0 + ANT1 + ANT2 + ANT3	Detector function	Average / Peak

Remarks

We have tested three mode (X, Y, Z). The worst mode (Z axis) for final test.

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
3 216.00	46.76	7.24	Average

Ch.52(5 260 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	37.70	43.95	16.30	30.05
1 125.00	V	54.00	74.00	37.09	43.12	16.91	30.88
3 216.00	H	54.00	74.00	41.15	47.51	12.85	26.49
3 216.00	V	54.00	74.00	41.49	48.36	12.51	25.64
10 520.00	H	54.00	74.00	41.79	54.97	12.21	19.03
10 520.00	V	54.00	74.00	43.40	55.70	10.60	18.30

Ch.60(5 300 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	38.09	43.24	15.91	30.76
1 125.00	V	54.00	74.00	36.25	42.08	17.75	31.92
3 216.00	H	54.00	74.00	44.33	47.92	9.67	26.08
3 216.00	V	54.00	74.00	46.56	48.49	7.44	25.51
10 600.00	H	54.00	74.00	42.71	54.37	11.29	19.63
10 600.00	V	54.00	74.00	42.33	53.60	11.67	20.40



Ch.64(5 320 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	38.26	43.05	15.74	30.95
1 125.00	V	54.00	74.00	37.92	42.58	16.08	31.42
3 216.00	H	54.00	74.00	41.12	47.76	12.88	26.24
3 216.00	V	54.00	74.00	46.76	48.42	7.24	25.58
5 350.00	H	54.00	74.00	39.80	53.61	14.20	20.39
5 350.00	V	54.00	74.00	36.60	52.38	17.40	21.62
10 640.00	H	54.00	74.00	41.42	53.21	12.58	20.79
10 640.00	V	54.00	74.00	42.04	53.14	11.96	20.86

Ch.100(5 500 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	38.17	43.04	15.83	30.96
1 125.00	V	54.00	74.00	37.53	42.55	16.47	31.45
3 216.00	H	54.00	74.00	41.02	47.94	12.98	26.06
3 216.00	V	54.00	74.00	46.06	48.45	7.94	25.55
5 460.00	H	54.00	74.00	37.04	51.89	16.96	22.11
5 460.00	V	54.00	74.00	36.27	52.16	17.73	21.84
11 000.00	H	54.00	74.00	41.60	53.40	12.40	20.60

Ch.120(5 600 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	37.78	42.89	16.22	31.11
1 125.00	V	54.00	74.00	37.37	42.26	16.63	31.74
3 216.00	H	54.00	74.00	41.23	47.17	12.77	26.83
3 216.00	V	54.00	74.00	43.04	47.33	10.96	26.67
11 200.00	H	54.00	74.00	41.52	54.04	12.48	19.96
11 200.00	V	54.00	74.00	41.27	54.51	12.73	19.49



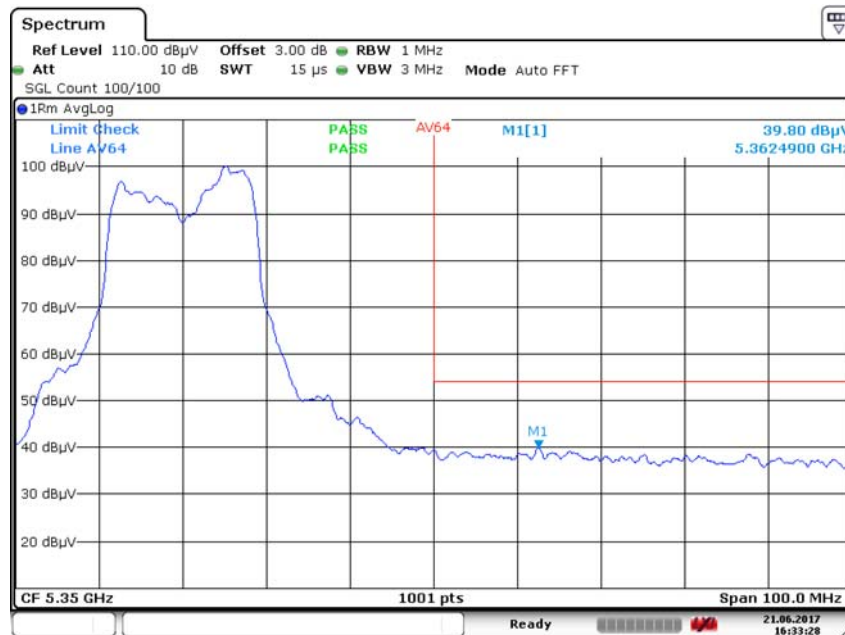
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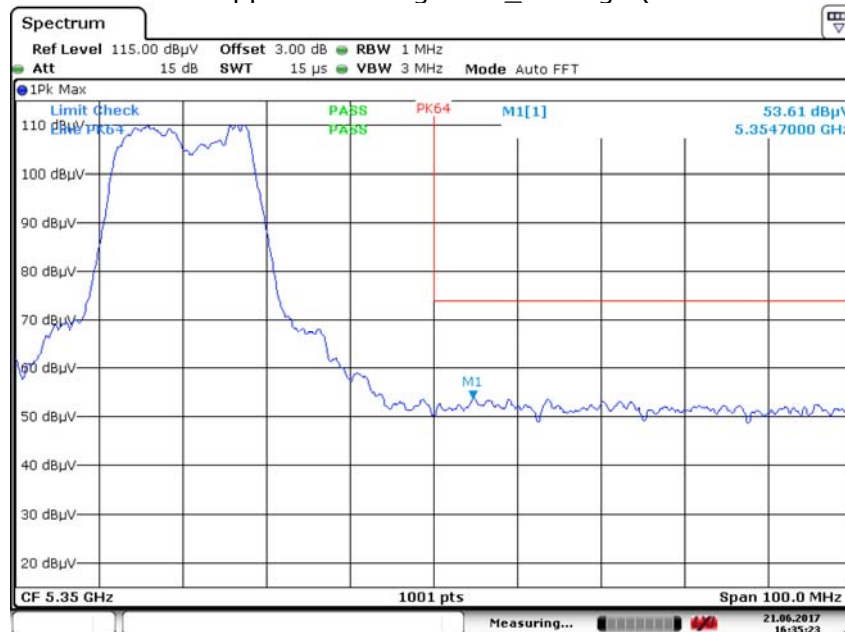
Ch.144(5 720 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	39.06	43.13	14.94	30.87
1 125.00	V	54.00	74.00	37.68	42.04	16.32	31.96
3 216.00	H	54.00	74.00	39.35	47.09	14.65	26.91
3 216.00	V	54.00	74.00	45.58	48.68	8.42	25.32
11 440.00	H	54.00	74.00	40.99	52.76	13.01	21.24
11 440.00	V	54.00	74.00	40.80	53.69	13.20	20.31

Worst Case Mode :	802.11a
Worst Case Transfer Rate :	6 Mbps
Distance of Measurements :	3 Meters
Operating Frequency :	5 320 MHz
Channel :	64

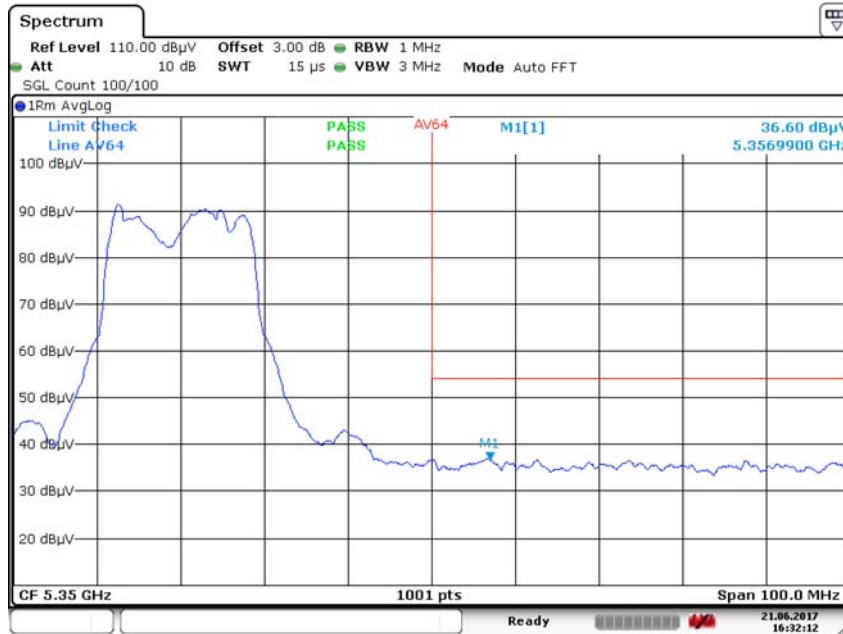


Radiated Restricted Upper Band Edge Plot_Average (Antenna-Horizontal)

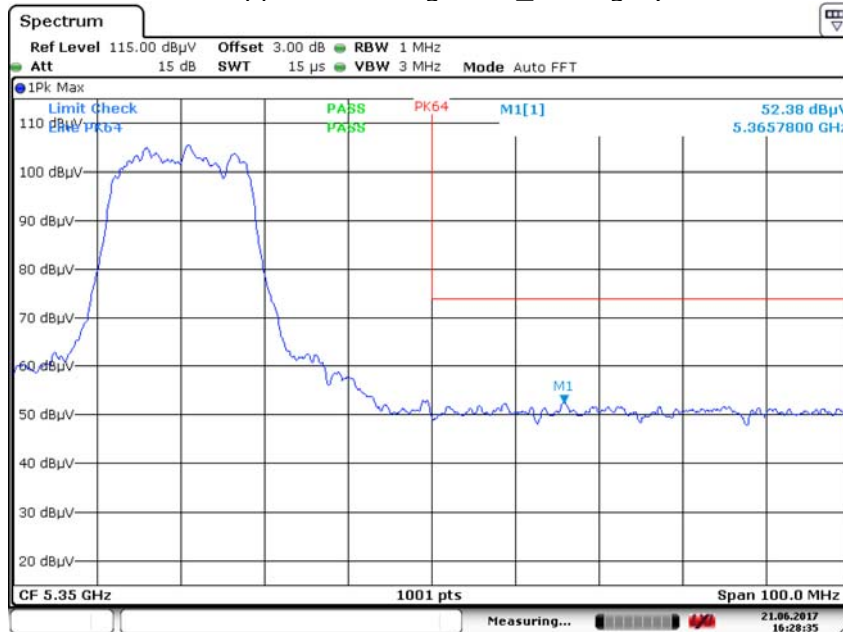


Radiated Restricted Upper Band Edge Plot_Peak (Antenna- Horizontal)

Worst Case Mode :	802.11a
Worst Case Transfer Rate :	6 Mbps
Distance of Measurements :	3 Meters
Operating Frequency :	5 320 MHz
Channel :	64



Radiated Restricted Upper Band Edge Plot_Average (Antenna- Vertical)



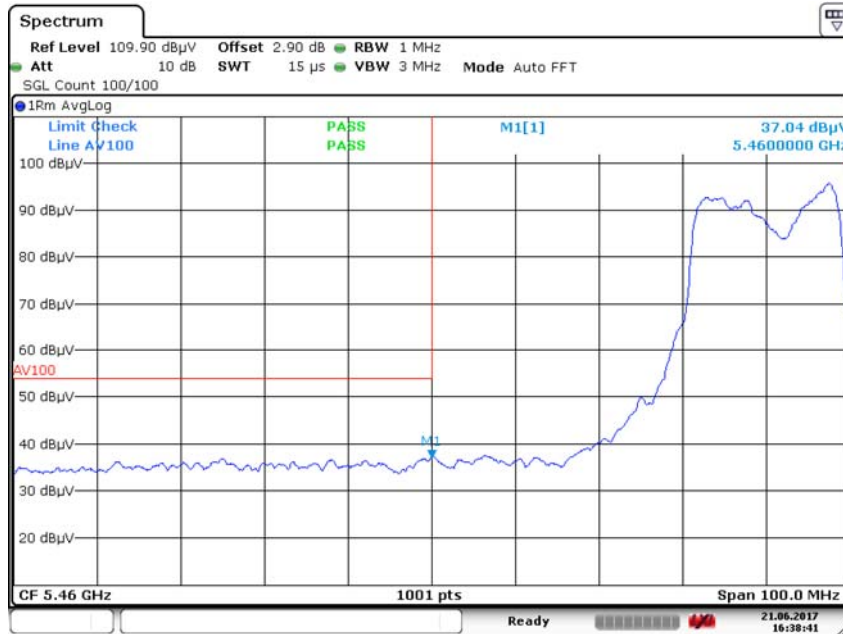
Radiated Restricted Upper Band Edge Plot_Peak (Antenna- Vertical)



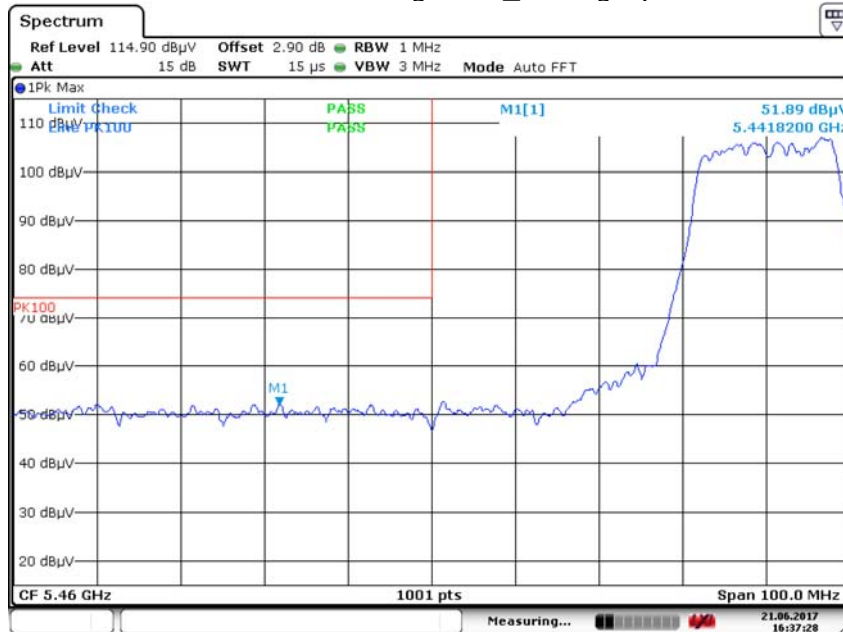
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Worst Case Mode :	802.11a
Worst Case Transfer Rate :	6 Mbps
Distance of Measurements :	3 Meters
Operating Frequency :	5 500 MHz
Channel :	100

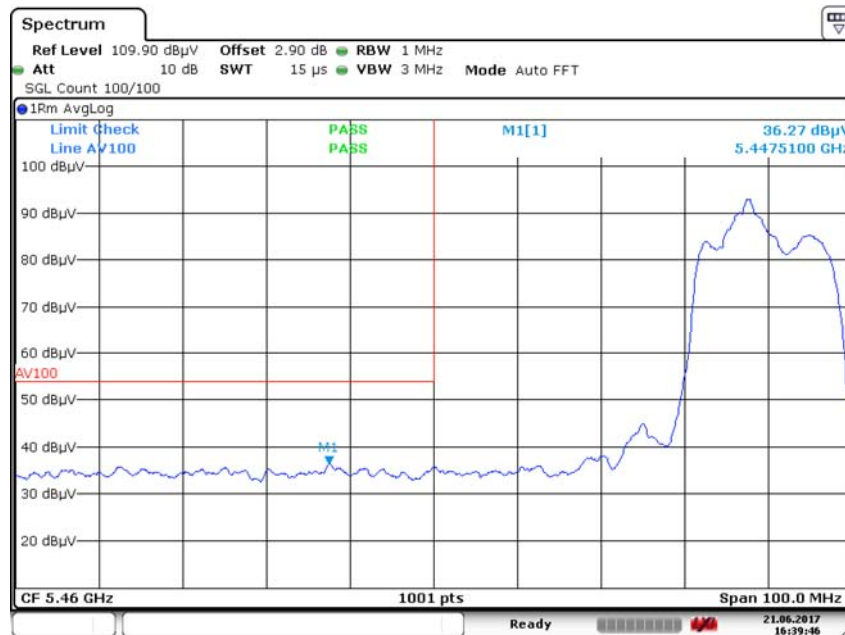


Radiated Restricted Lower Band Edge Plot_Average (Antenna-Horizontal)

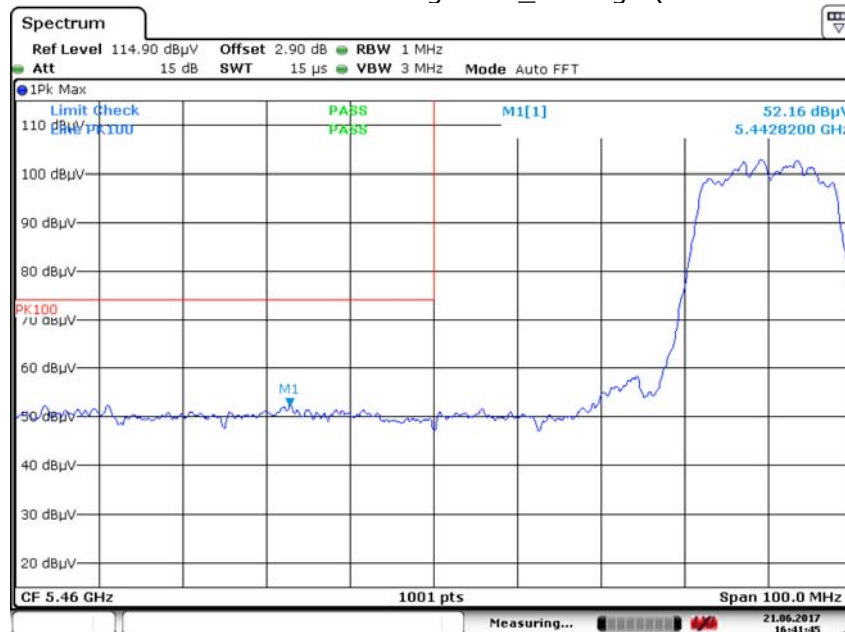


Radiated Restricted Lower Band Edge Plot_Peak (Antenna- Horizontal)

Worst Case Mode :	802.11a
Worst Case Transfer Rate :	6 Mbps
Distance of Measurements :	3 Meters
Operating Frequency :	5 500 MHz
Channel :	100



Radiated Restricted Lower Band Edge Plot_Average (Antenna- Vertical)



Radiated Restricted Lower Band Edge Plot_Peak (Antenna- Vertical)



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Test mode : 802.11n_HT20

EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	1 - 40 GHz
Mode	ANT0 + ANT1 + ANT2 + ANT3	Detector function	Average / Peak

Remarks

We have tested three mode (X, Y, Z). The worst mode (Z axis) for final test.

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
3 216.00	47.43	6.57	Average

Ch.52(5 260 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	38.26	42.94	15.74	31.06
1 125.00	V	54.00	74.00	34.21	40.80	19.79	33.20
3 216.00	H	54.00	74.00	44.30	47.97	9.70	26.03
3 216.00	V	54.00	74.00	47.42	50.33	6.58	23.67
10 520.00	H	54.00	74.00	41.22	53.40	12.78	20.60
10 520.00	V	54.00	74.00	40.31	53.43	13.69	20.57

Ch.60(5 300 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	37.36	43.11	16.64	30.89
1 125.00	V	54.00	74.00	34.66	40.69	19.34	33.31
3 216.00	H	54.00	74.00	44.49	47.75	9.51	26.25
3 216.00	V	54.00	74.00	47.38	50.50	6.62	23.50
10 600.00	H	54.00	74.00	41.59	53.41	12.41	20.59
10 600.00	V	54.00	74.00	40.56	52.57	13.44	21.43



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Ch.64(5 320 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	37.73	42.90	16.27	31.10
1 125.00	V	54.00	74.00	34.53	39.67	19.47	34.33
3 216.00	H	54.00	74.00	44.32	47.68	9.68	26.32
3 216.00	V	54.00	74.00	47.24	50.40	6.76	23.60
5 350.00	H	54.00	74.00	40.40	53.10	13.60	20.90
5 350.00	V	54.00	74.00	36.51	52.45	17.49	21.55
10 640.00	H	54.00	74.00	41.03	53.51	12.97	20.49
10 640.00	V	54.00	74.00	40.45	52.82	13.55	21.18

Ch.100(5 500 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	37.84	43.10	16.16	30.90
1 125.00	V	54.00	74.00	34.48	39.41	19.52	34.59
3 216.00	H	54.00	74.00	44.21	48.04	9.79	25.96
3 216.00	V	54.00	74.00	47.43	50.14	6.57	23.86
5 460.00	H	54.00	74.00	37.32	51.64	16.68	22.36
5 460.00	V	54.00	74.00	35.10	51.26	18.90	22.74
11 000.00	H	54.00	74.00	41.12	52.80	12.88	21.20
11 000.00	V	54.00	74.00	41.17	53.42	12.83	20.58

Ch.120(5 600 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	37.49	42.70	16.51	31.30
1 125.00	V	54.00	74.00	34.33	40.53	19.67	33.47
3 216.00	H	54.00	74.00	44.22	48.00	9.78	26.00
3 216.00	V	54.00	74.00	47.30	50.57	6.70	23.43
11 200.00	H	54.00	74.00	41.09	53.16	12.91	20.84
11 200.00	V	54.00	74.00	41.00	52.96	13.00	21.04



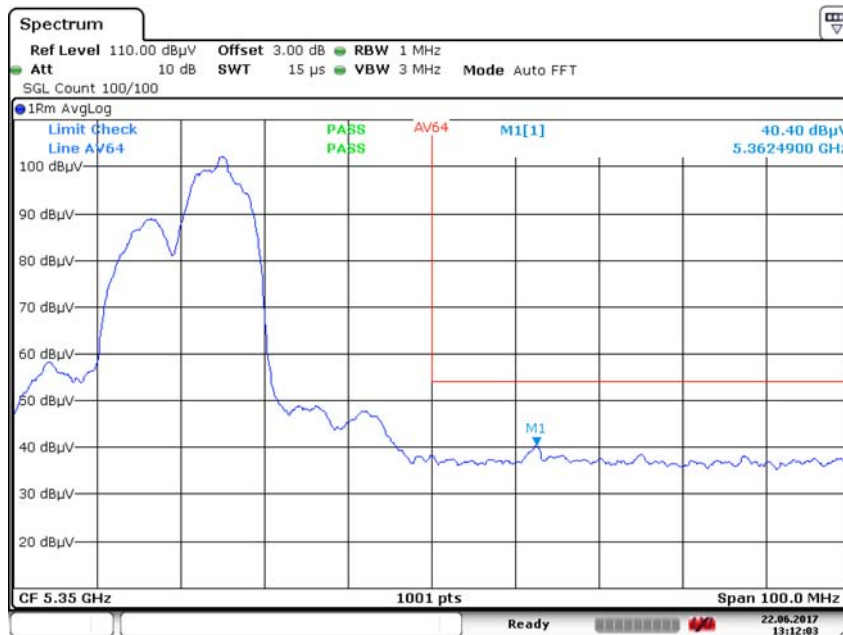
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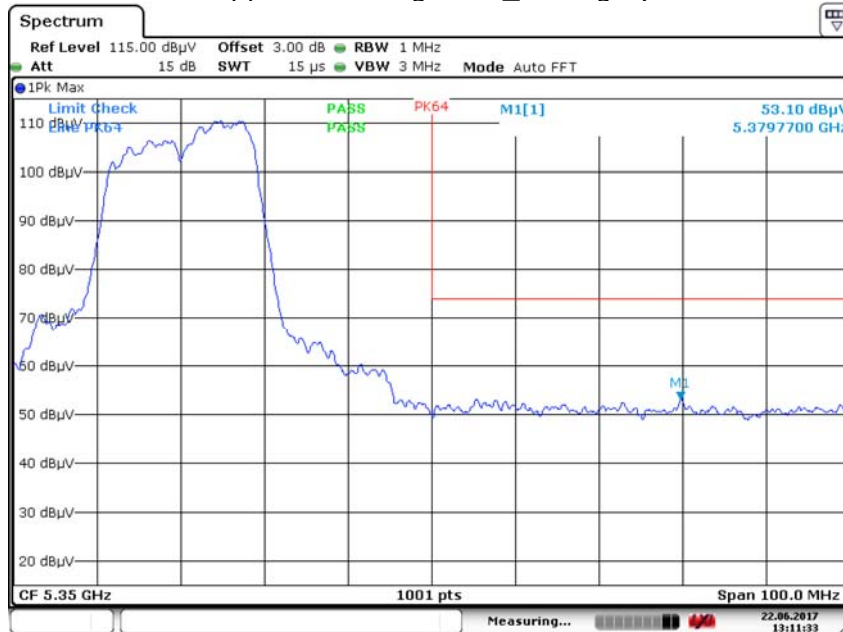
Ch.144(5 720 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	38.13	43.47	15.87	30.53
1 125.00	V	54.00	74.00	34.41	40.18	19.59	33.82
3 216.00	H	54.00	74.00	44.44	47.86	9.56	26.14
3 216.00	V	54.00	74.00	47.37	49.97	6.63	24.03
11 440.00	H	54.00	74.00	40.31	52.95	13.69	21.05
11 440.00	V	54.00	74.00	40.68	52.84	13.32	21.16

Worst Case Mode :	802.11n_HT20
Worst Case Transfer Rate :	MCS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 320 MHz
Channel :	64



Radiated Restricted Upper Band Edge Plot_Average (Antenna-Horizontal)

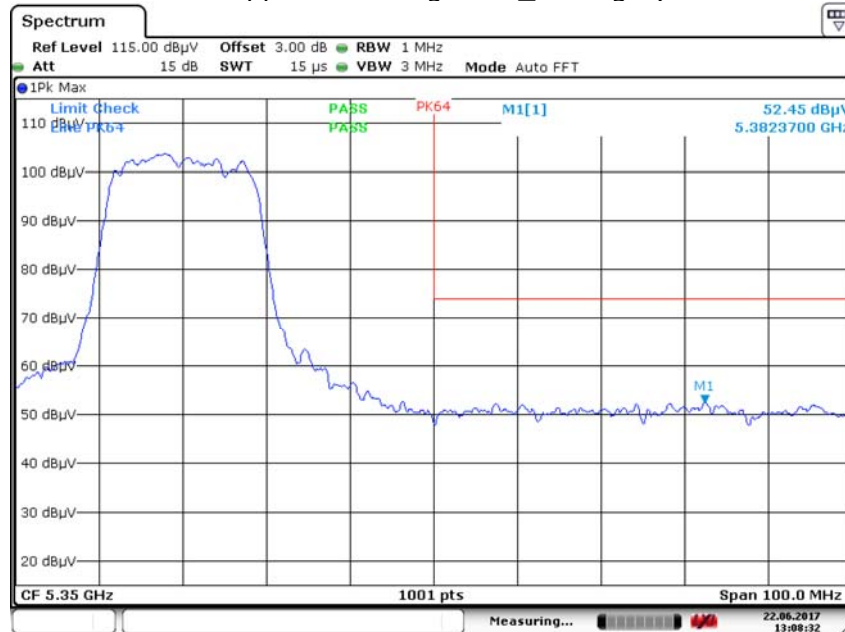


Radiated Restricted Upper Band Edge Plot_Peak (Antenna- Horizontal)

Worst Case Mode :	802.11n_HT20
Worst Case Transfer Rate :	MCS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 320 MHz
Channel :	64

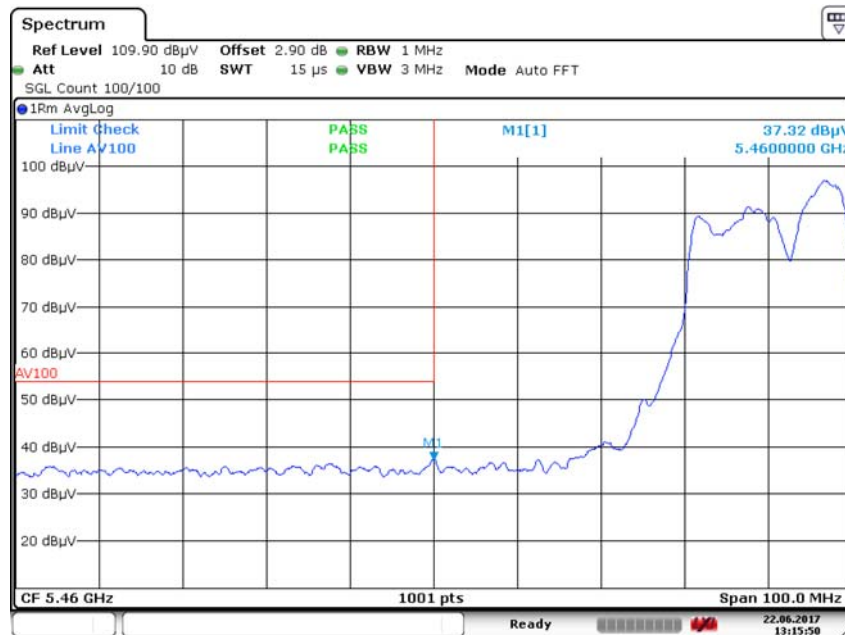


Radiated Restricted Upper Band Edge Plot_Average (Antenna- Vertical)

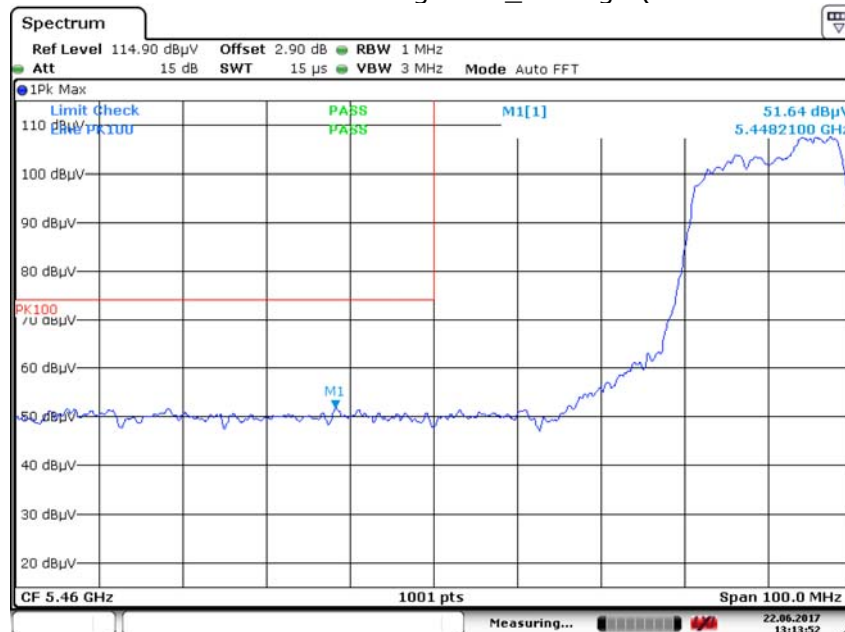


Radiated Restricted Upper Band Edge Plot_Peak (Antenna- Vertical)

Worst Case Mode :	802.11n_HT20
Worst Case Transfer Rate :	MCS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 500 MHz
Channel :	100

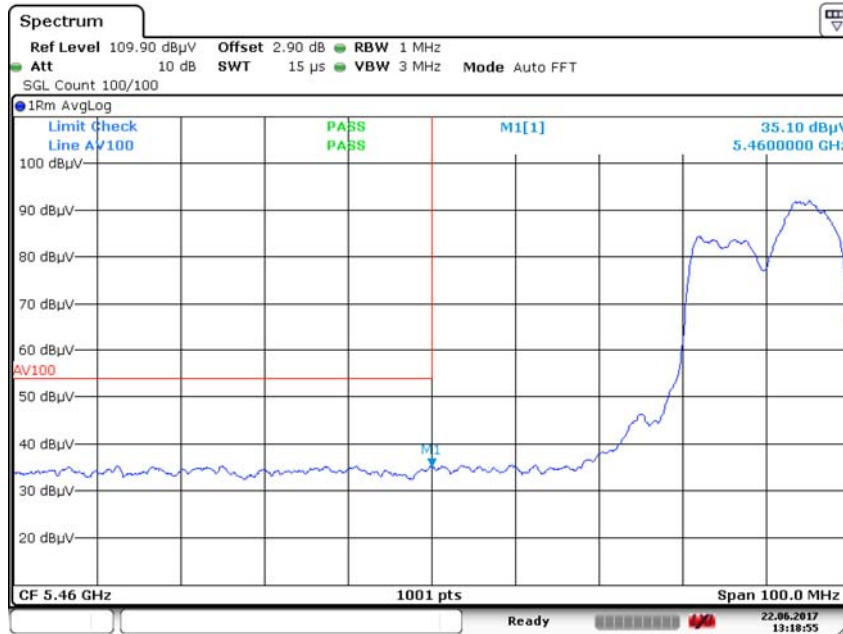


Radiated Restricted Lower Band Edge Plot_Average (Antenna-Horizontal)

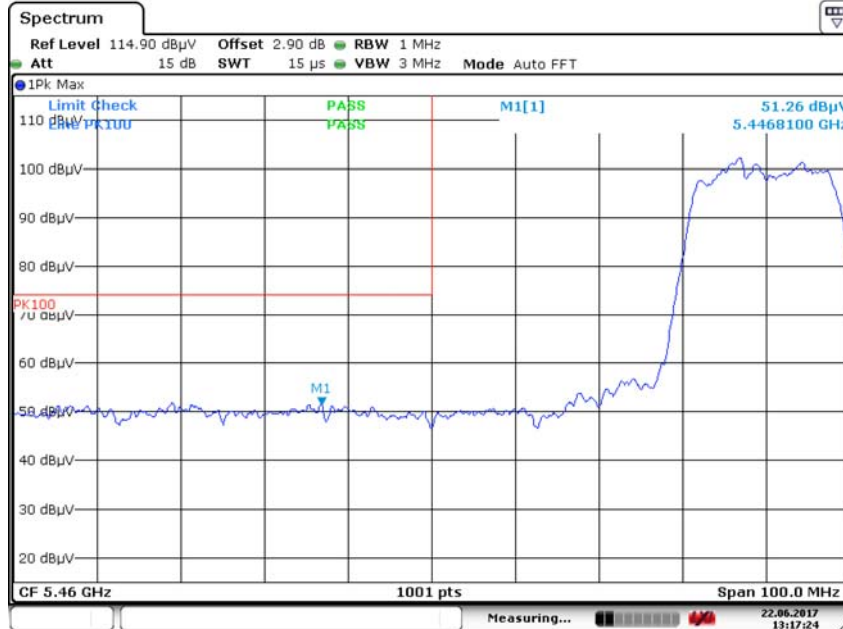


Radiated Restricted Lower Band Edge Plot_Peak (Antenna- Horizontal)

Worst Case Mode :	802.11n_HT20
Worst Case Transfer Rate :	MCS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 500 MHz
Channel :	100



Radiated Restricted Lower Band Edge Plot_Average (Antenna- Vertical)



Radiated Restricted Lower Band Edge Plot_Peak (Antenna- Vertical)



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Test mode : 802.11ac_VHT20

EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	1 - 40 GHz
Mode	ANT0 + ANT1 + ANT2 + ANT3	Detector function	Average / Peak

Remarks

We have tested three mode (X, Y, Z). The worst mode (Z axis) for final test.

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBUV/m)	Margin (dB)	Remark
3 216.00	47.86	6.14	Average

Ch.52(5 260 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	37.34	42.99	16.66	31.01
1 125.00	V	54.00	74.00	34.57	39.85	19.43	34.15
3 216.00	H	54.00	74.00	44.40	47.60	9.60	26.40
3 216.00	V	54.00	74.00	47.45	50.57	6.55	23.43
10 520.00	H	54.00	74.00	41.41	54.00	12.59	20.00
10 520.00	V	54.00	74.00	41.32	53.59	12.68	20.41

Ch.60(5 300 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	37.76	42.81	16.24	31.19
1 125.00	V	54.00	74.00	34.21	40.06	19.79	33.94
3 216.00	H	54.00	74.00	44.31	48.08	9.69	25.92
3 216.00	V	54.00	74.00	47.26	50.29	6.74	23.71
10 600.00	H	54.00	74.00	41.89	53.95	12.11	20.05
10 600.00	V	54.00	74.00	40.54	52.82	13.46	21.18



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Ch.64(5 320 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	38.00	42.78	16.00	31.22
1 125.00	V	54.00	74.00	34.28	39.44	19.72	34.56
3 216.00	H	54.00	74.00	44.24	48.00	9.76	26.00
3 216.00	V	54.00	74.00	47.55	50.48	6.45	23.52
5 350.00	H	54.00	74.00	39.86	52.54	14.14	21.46
5 350.00	V	54.00	74.00	36.89	52.02	17.11	21.98
10 640.00	H	54.00	74.00	40.97	52.31	13.03	21.69
10 640.00	V	54.00	74.00	40.63	52.26	13.37	21.74

Ch.100(5 500 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	38.10	43.49	15.90	30.51
1 125.00	V	54.00	74.00	34.29	40.28	19.71	33.72
3 216.00	H	54.00	74.00	44.75	48.01	9.25	25.99
3 216.00	V	54.00	74.00	47.86	50.62	6.14	23.38
5 460.00	H	54.00	74.00	35.87	51.44	18.13	22.56
5 460.00	V	54.00	74.00	36.11	51.19	17.89	22.81

Ch.120(5 600 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	38.01	43.11	15.99	30.89
1 125.00	V	54.00	74.00	34.67	40.25	19.33	33.75
3 216.00	H	54.00	74.00	44.61	49.23	9.39	24.77
3 216.00	V	54.00	74.00	47.68	50.77	6.32	23.23
6 987.00	H	54.00	74.00	38.48	49.60	15.52	24.40
6 987.00	V	54.00	74.00	38.33	49.10	15.67	24.90



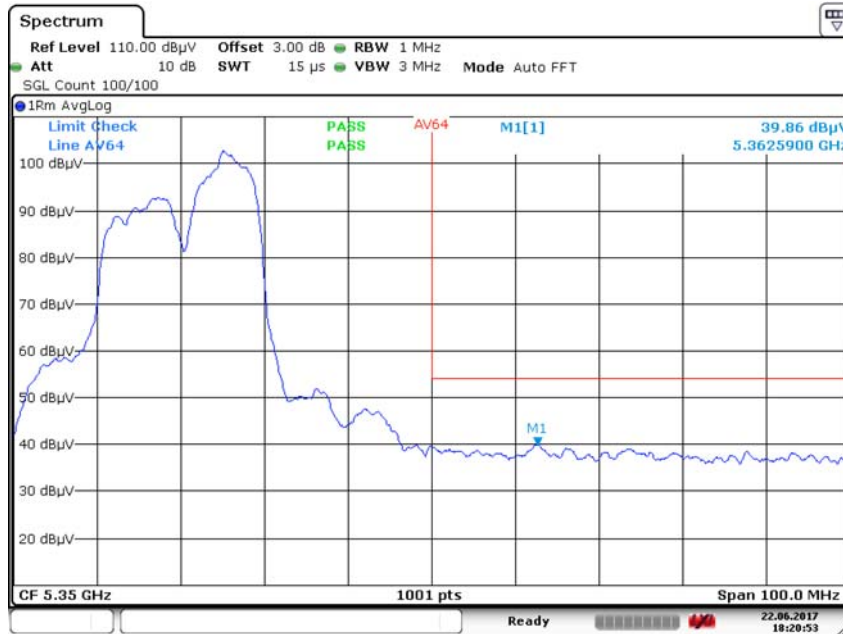
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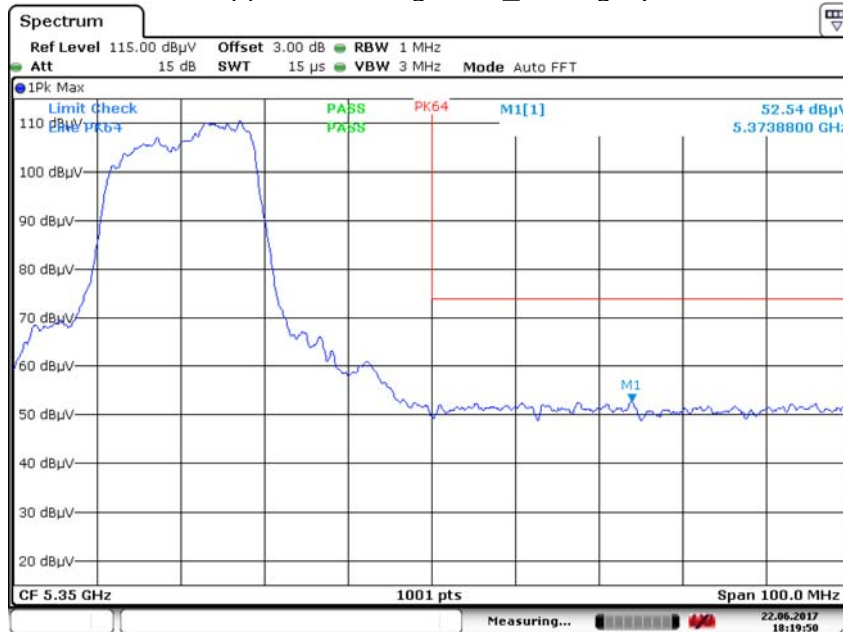
Ch.144(5 720 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	37.25	43.88	16.75	30.12
1 125.00	V	54.00	74.00	34.65	39.53	19.35	34.47
3 216.00	H	54.00	74.00	44.55	48.11	9.45	25.89
3 216.00	V	54.00	74.00	47.57	50.27	6.43	23.73
6 987.00	H	54.00	74.00	38.62	49.53	15.38	24.47
6 987.00	V	54.00	74.00	38.40	51.06	15.60	22.94

Worst Case Mode :	802.11ac_VHT20
Worst Case Transfer Rate :	MNSS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 320 MHz
Channel :	64

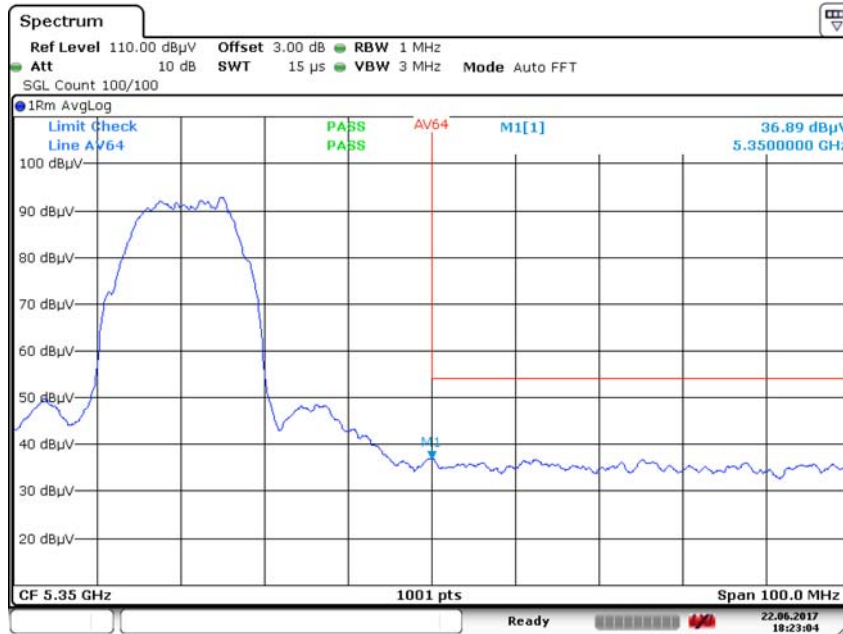


Radiated Restricted Upper Band Edge Plot_Average (Antenna-Horizontal)

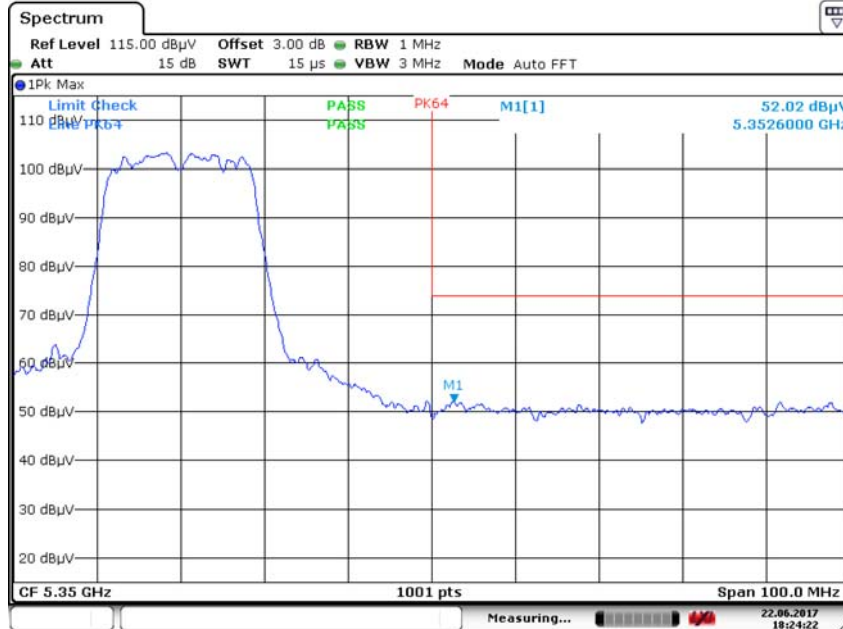


Radiated Restricted Upper Band Edge Plot_Peak (Antenna- Horizontal)

Worst Case Mode :	802.11ac_VHT20
Worst Case Transfer Rate :	MNSS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 320 MHz
Channel :	64



Radiated Restricted Upper Band Edge Plot_Average (Antenna- Vertical)



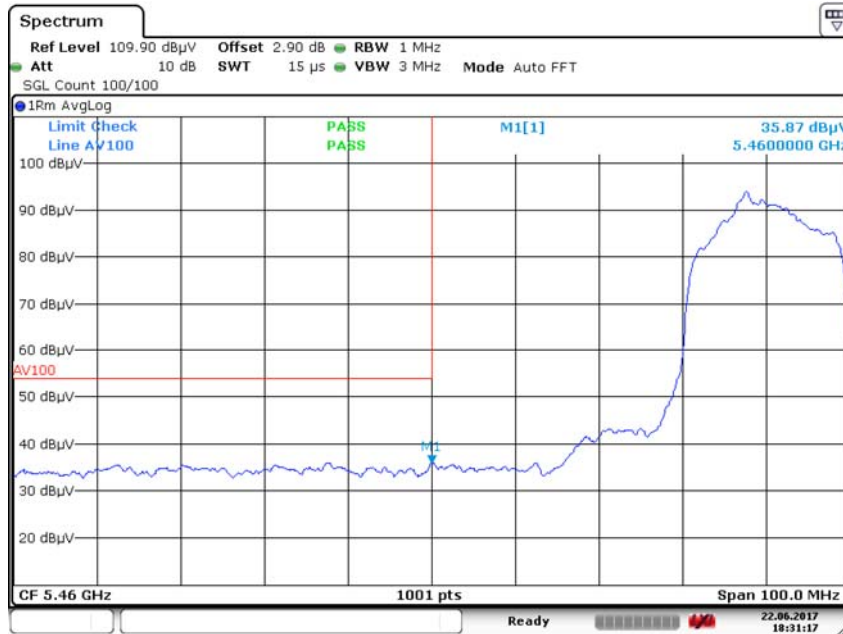
Radiated Restricted Upper Band Edge Plot_Peak (Antenna- Vertical)



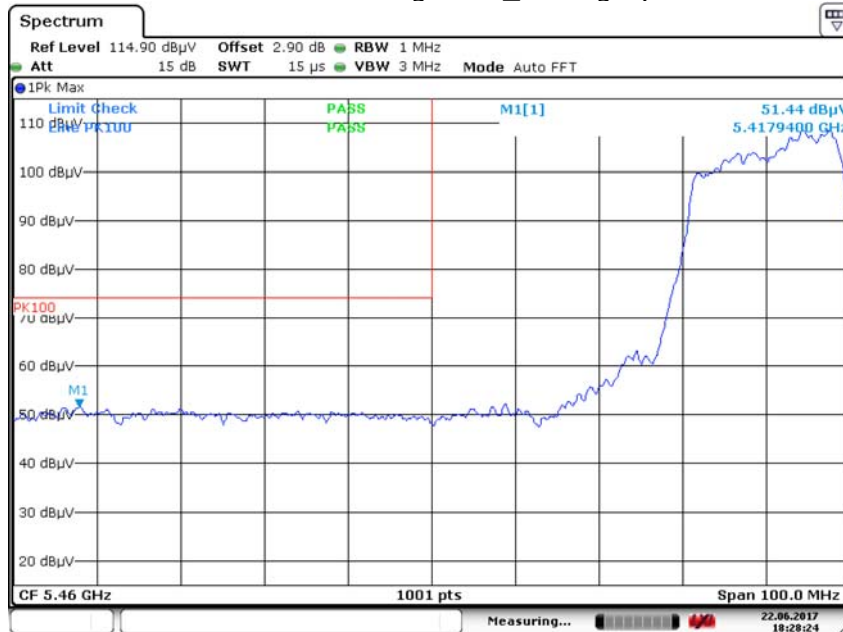
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Worst Case Mode :	802.11ac_VHT20
Worst Case Transfer Rate :	MNSS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 500 MHz
Channel :	100

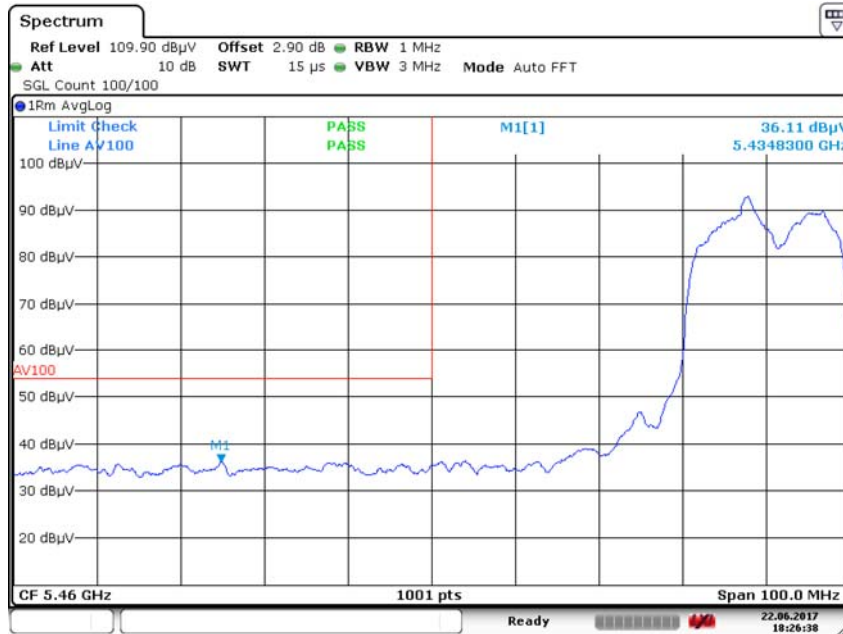


Radiated Restricted Lower Band Edge Plot_Average (Antenna-Horizontal)

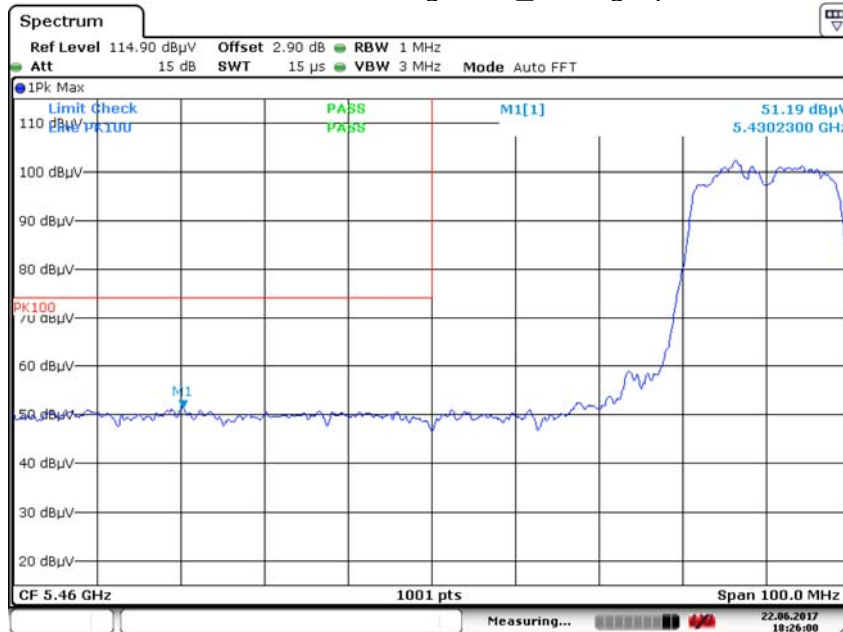


Radiated Restricted Lower Band Edge Plot_Peak (Antenna- Horizontal)

Worst Case Mode :	802.11ac_VHT20
Worst Case Transfer Rate :	MNSS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 500 MHz
Channel :	100



Radiated Restricted Lower Band Edge Plot_Average (Antenna- Vertical)



Radiated Restricted Lower Band Edge Plot_Peak (Antenna- Vertical)



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Test mode : 802.11n_HT40

EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	1 - 40 GHz
Mode	ANT0 + ANT1 + ANT2 + ANT3	Detector function	Average / Peak

Remarks

We have tested three mode (X, Y, Z). The worst mode (Z axis) for final test.

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
5 350.00	51.04	2.96	Average

Ch.54(5 270 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	37.23	42.67	16.77	31.33
1 125.00	V	54.00	74.00	37.15	42.99	16.85	31.01
3 216.00	H	54.00	74.00	45.74	49.01	8.26	24.99
3 216.00	V	54.00	74.00	47.97	49.41	6.03	24.59
10 540.00	H	54.00	74.00	41.09	52.89	12.91	21.11
10 540.00	V	54.00	74.00	41.33	53.65	12.67	20.35

Ch.62(5 310 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	37.65	42.71	16.35	31.29
1 125.00	V	54.00	74.00	36.46	43.24	17.54	30.76
3 216.00	H	54.00	74.00	45.11	48.57	8.89	25.43
3 216.00	V	54.00	74.00	47.20	50.89	6.80	23.11
5 350.00	H	54.00	74.00	51.04	64.07	2.96	9.93
5 350.00	V	54.00	74.00	49.91	61.78	4.09	12.22
10 620.00	H	54.00	74.00	41.29	52.81	12.71	21.19
10 620.00	V	54.00	74.00	41.01	53.14	12.99	20.86



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Ch.102(5 510 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	36.55	42.74	17.45	31.26
1 125.00	V	54.00	74.00	36.92	42.80	17.08	31.20
3 216.00	H	54.00	74.00	45.33	48.46	8.67	25.54
3 216.00	V	54.00	74.00	47.09	50.38	6.91	23.62
5 460.00	H	54.00	74.00	39.95	54.31	14.05	19.69
5 460.00	V	54.00	74.00	40.95	52.30	13.05	21.70
11 020.00	H	54.00	74.00	41.79	53.65	12.21	20.35
11 020.00	V	54.00	74.00	42.38	53.93	11.62	20.07

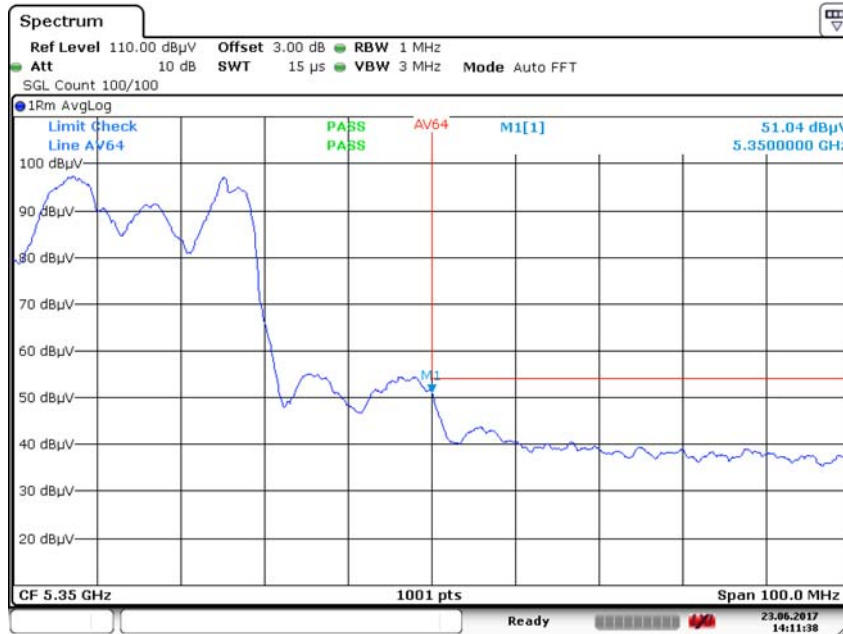
Ch.118(5 590 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	36.76	42.64	17.24	31.36
1 125.00	V	54.00	74.00	36.32	42.72	17.68	31.28
3 216.00	H	54.00	74.00	45.03	48.39	8.97	25.61
3 216.00	V	54.00	74.00	47.10	49.92	6.90	24.08
11 180.00	H	54.00	74.00	41.95	53.58	12.05	20.42
11 180.00	V	54.00	74.00	41.90	54.03	12.10	19.97

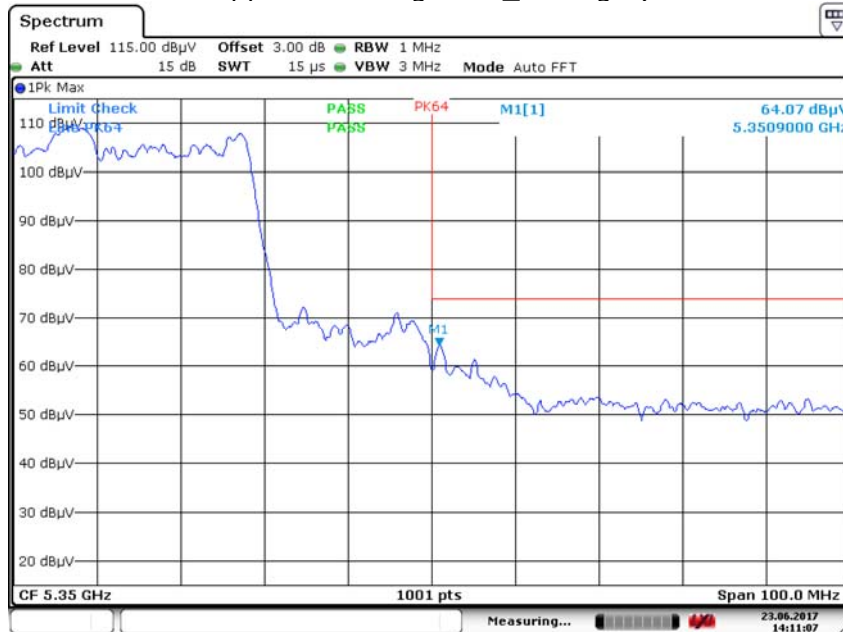
Ch.142(5 710 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	36.68	42.67	17.32	31.33
1 125.00	V	54.00	74.00	36.88	42.67	17.12	31.33
3 216.00	H	54.00	74.00	45.16	48.36	8.84	25.64
3 216.00	V	54.00	74.00	47.10	50.06	6.90	23.94
11 420.00	H	54.00	74.00	41.13	53.28	12.87	20.72
11 420.00	V	54.00	74.00	41.16	53.35	12.84	20.65

Worst Case Mode :	802.11n_HT40
Worst Case Transfer Rate :	MCS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 310 MHz
Channel :	62

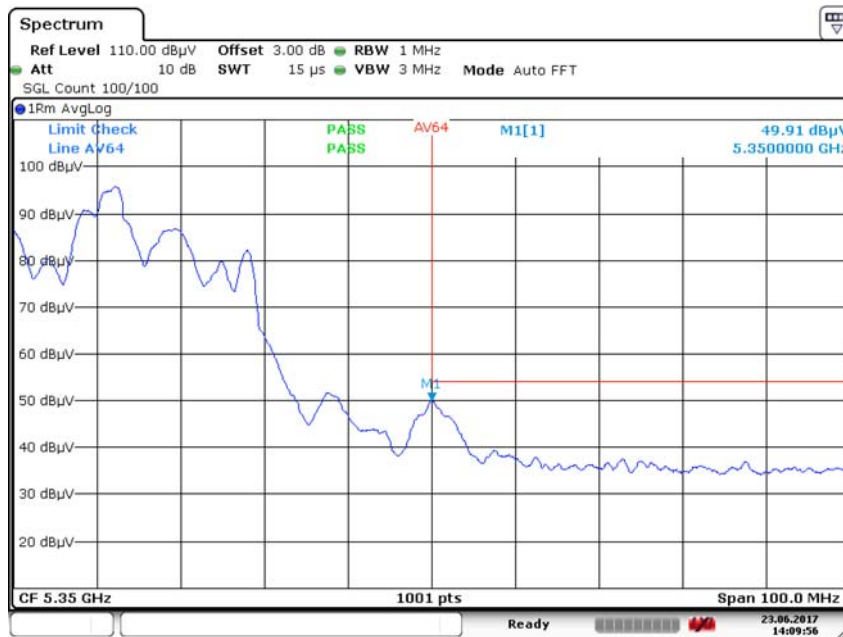


Radiated Restricted Upper Band Edge Plot_Average (Antenna-Horizontal)

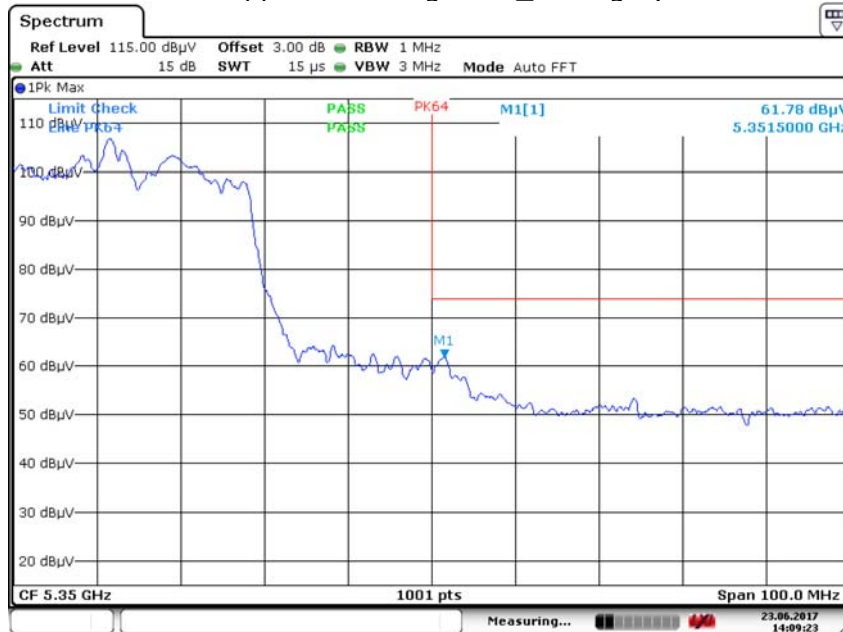


Radiated Restricted Upper Band Edge Plot_Peak (Antenna- Horizontal)

Worst Case Mode :	802.11n_HT40
Worst Case Transfer Rate :	MCS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 310 MHz
Channel :	62

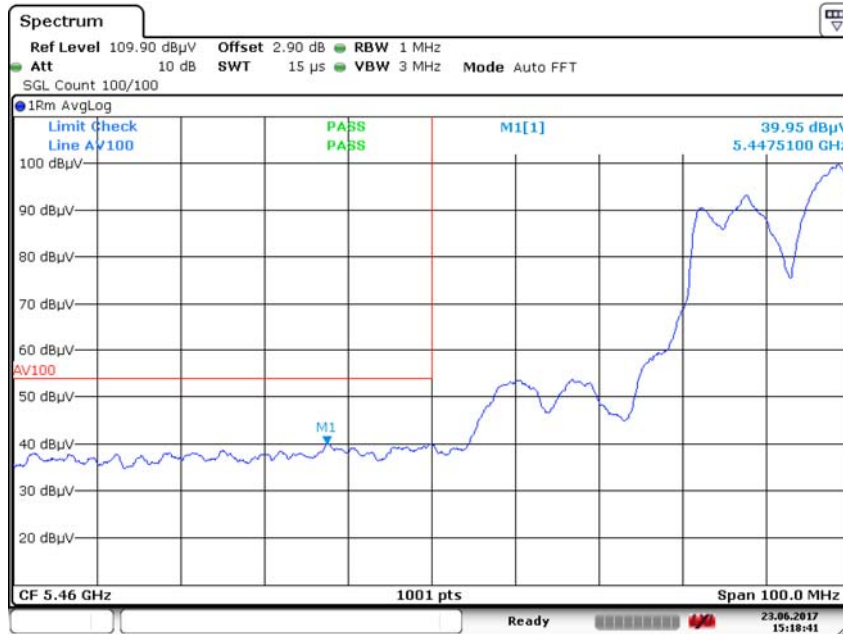


Radiated Restricted Upper Band Edge Plot_Average (Antenna- Vertical)

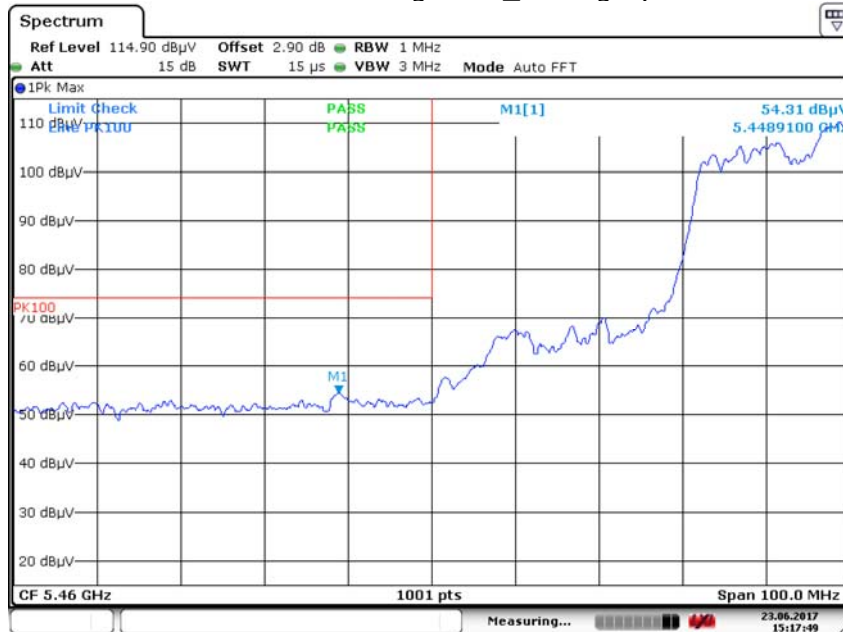


Radiated Restricted Upper Band Edge Plot_Peak (Antenna- Vertical)

Worst Case Mode :	802.11n_HT40
Worst Case Transfer Rate :	MCS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 510 MHz
Channel :	102



Radiated Restricted Lower Band Edge Plot_Average (Antenna-Horizontal)

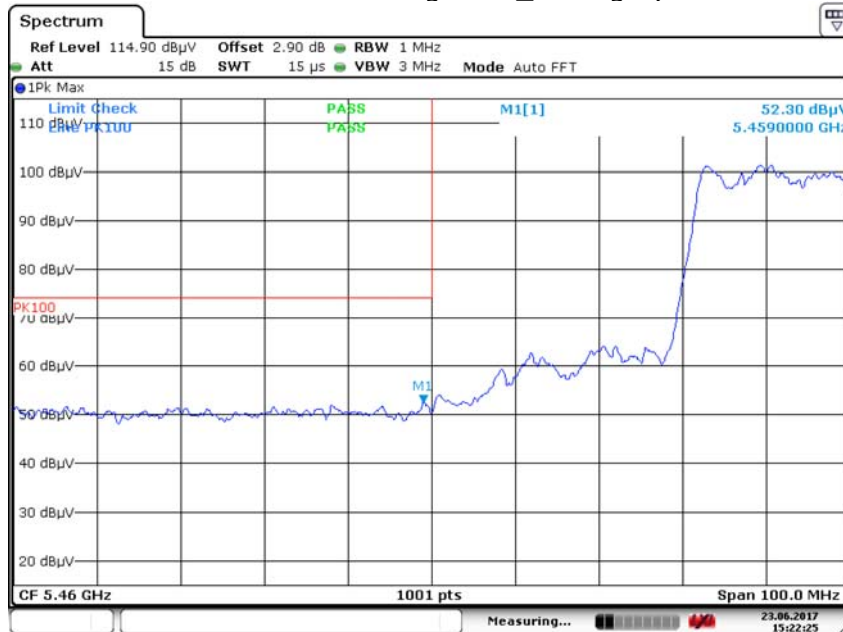


Radiated Restricted Lower Band Edge Plot_Peak (Antenna- Horizontal)

Worst Case Mode :	802.11n_HT40
Worst Case Transfer Rate :	MCS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 510 MHz
Channel :	102



Radiated Restricted Lower Band Edge Plot_Average (Antenna- Vertical)



Radiated Restricted Lower Band Edge Plot_Peak (Antenna- Vertical)



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Test mode : 802.11ac_VHT40

EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	1 - 40 GHz
Mode	ANT0 + ANT1 + ANT2 + ANT3	Detector function	Average / Peak

Remarks

We have tested three mode (X, Y, Z). The worst mode (Z axis) for final test.

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
5 350.00	49.94	4.06	Average

Ch.54(5270 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	36.56	41.22	17.44	32.78
1 125.00	V	54.00	74.00	37.34	42.31	16.66	31.69
3 216.00	H	54.00	74.00	44.78	48.22	9.22	25.78
3 216.00	V	54.00	74.00	46.73	49.57	7.27	24.43
10 540.00	H	54.00	74.00	40.45	52.65	13.55	21.35
10 540.00	V	54.00	74.00	40.37	52.49	13.63	21.51

Ch.62(5 310 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	36.83	42.37	17.17	31.63
1 125.00	V	54.00	74.00	37.55	42.88	16.45	31.12
3 216.00	H	54.00	74.00	45.06	48.13	8.94	25.87
3 216.00	V	54.00	74.00	47.17	49.65	6.83	24.35
5 350.00	H	54.00	74.00	49.94	63.50	4.06	10.50
5 350.00	V	54.00	74.00	45.41	56.71	8.59	17.29
10 620.00	H	54.00	74.00	40.58	53.01	13.42	20.99
10 620.00	V	54.00	74.00	40.35	53.01	13.65	20.99



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Ch.102(5 510 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	37.60	42.95	16.40	31.05
1 125.00	V	54.00	74.00	36.58	42.77	17.42	31.23
3 216.00	H	54.00	74.00	44.71	48.26	9.29	25.74
3 216.00	V	54.00	74.00	47.05	49.93	6.95	24.07
5 460.00	H	54.00	74.00	41.63	54.04	12.37	19.96
5 460.00	V	54.00	74.00	37.38	51.64	16.62	22.36
11 020.00	H	54.00	74.00	41.32	53.82	12.68	20.18
11 020.00	V	54.00	74.00	41.40	54.44	12.60	19.56

Ch.118(5 590 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	36.94	42.59	17.06	31.41
1 125.00	V	54.00	74.00	36.65	43.01	17.35	30.99
3 216.00	H	54.00	74.00	45.16	48.22	8.84	25.78
3 216.00	V	54.00	74.00	47.06	50.03	6.94	23.97
11 180.00	H	54.00	74.00	41.48	54.33	12.52	19.67
11 180.00	V	54.00	74.00	41.51	53.40	12.49	20.60

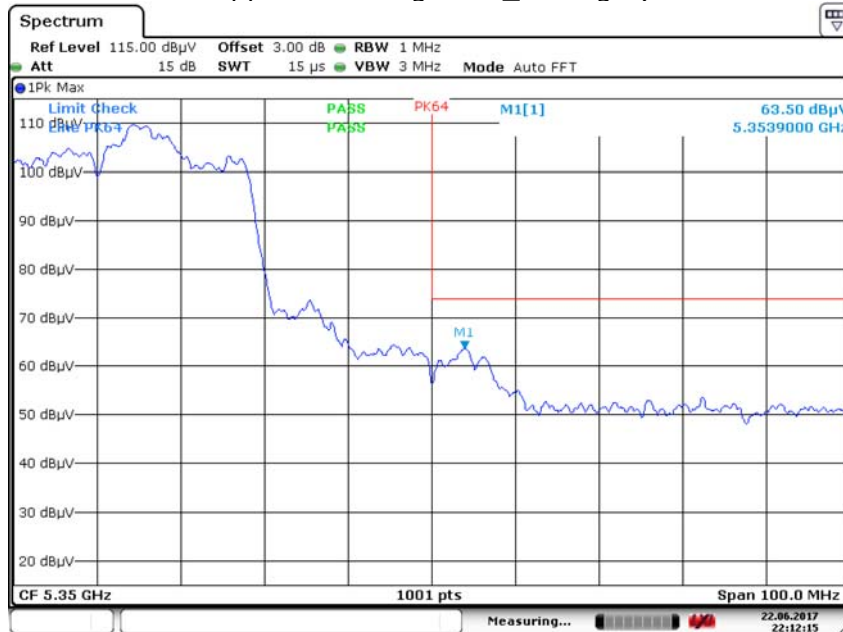
Ch.142(5 710 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	37.37	42.74	16.63	31.26
1 125.00	V	54.00	74.00	36.82	42.87	17.18	31.13
3 216.00	H	54.00	74.00	45.11	48.39	8.89	25.61
3 216.00	V	54.00	74.00	47.00	49.91	7.00	24.09
11 420.00	H	54.00	74.00	40.74	52.95	13.26	21.05
11 420.00	V	54.00	74.00	40.96	52.88	13.04	21.12

Worst Case Mode :	802.11ac_VHT40
Worst Case Transfer Rate :	MNSS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 310 MHz
Channel :	62



Radiated Restricted Upper Band Edge Plot_Average (Antenna-Horizontal)



Radiated Restricted Upper Band Edge Plot_Peak (Antenna- Horizontal)



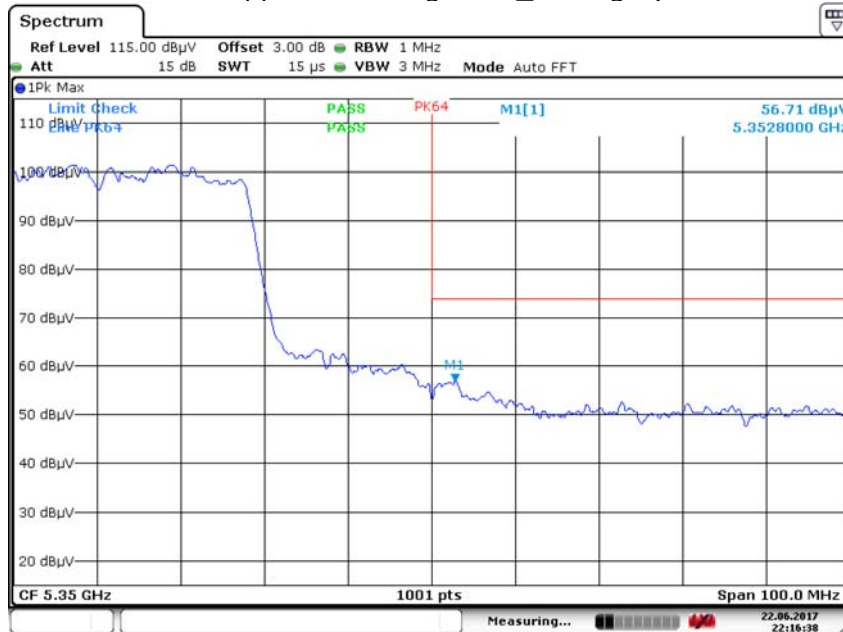
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Worst Case Mode :	802.11ac_VHT40
Worst Case Transfer Rate :	MNSS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 310 MHz
Channel :	62

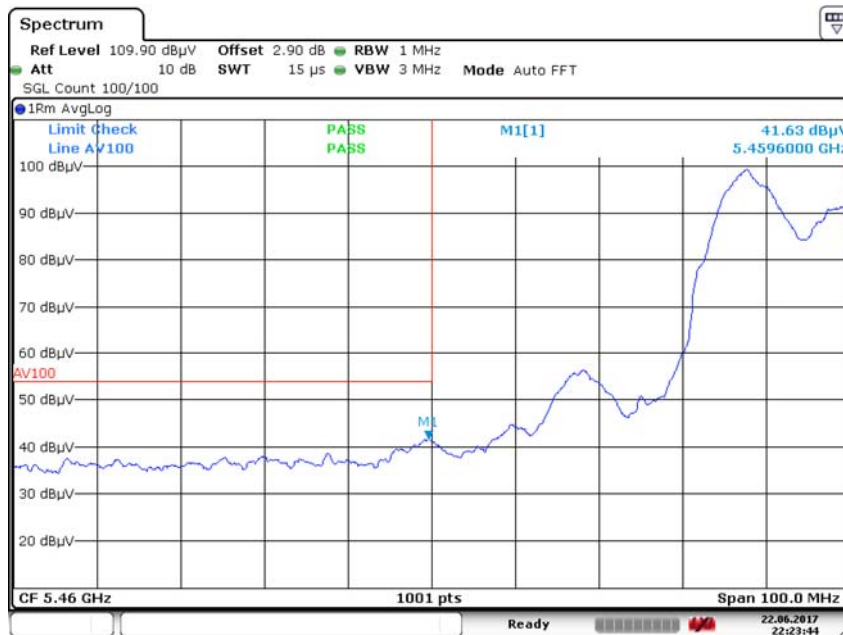


Radiated Restricted Upper Band Edge Plot_Average (Antenna- Vertical)

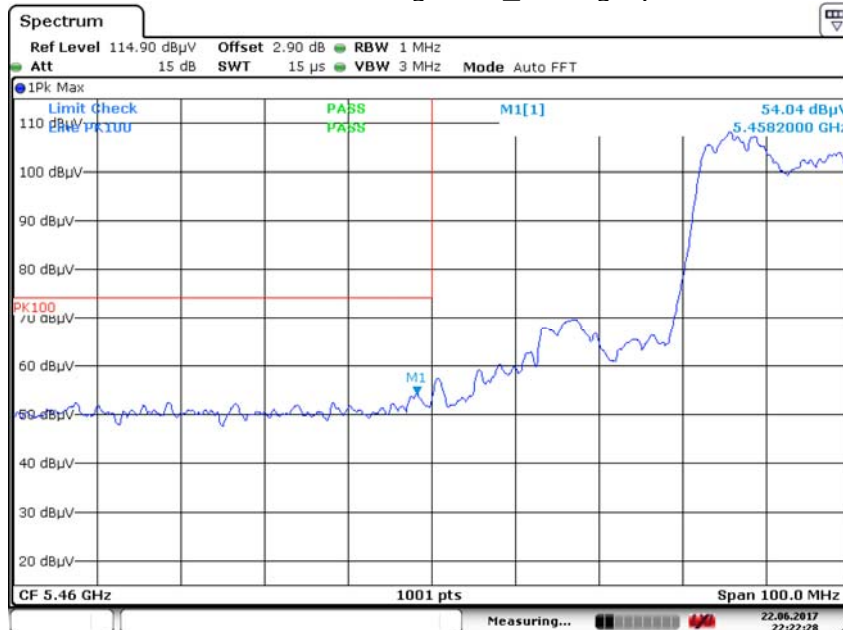


Radiated Restricted Upper Band Edge Plot_Peak (Antenna- Vertical)

Worst Case Mode :	802.11ac_VHT40
Worst Case Transfer Rate :	MNSS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 510 MHz
Channel :	102

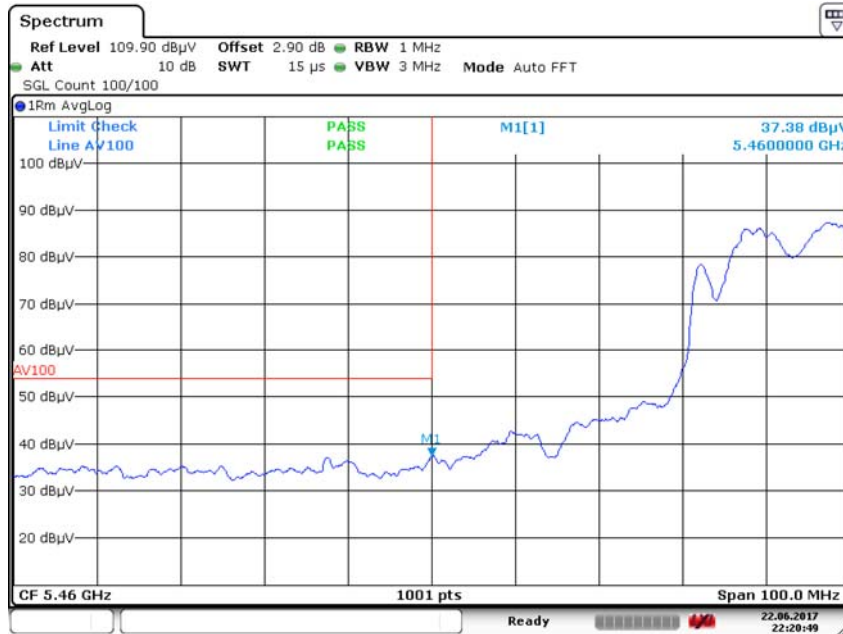


Radiated Restricted Lower Band Edge Plot_Average (Antenna-Horizontal)

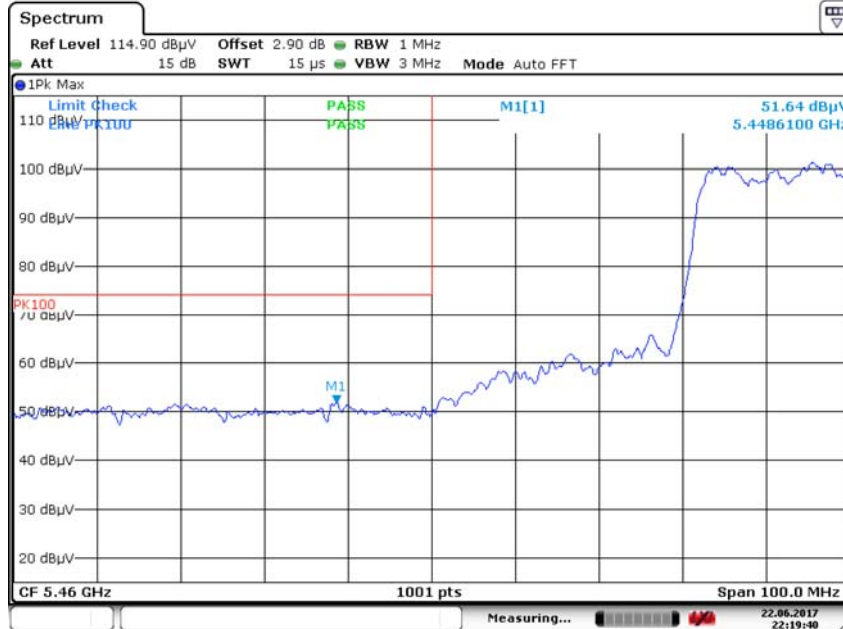


Radiated Restricted Lower Band Edge Plot_Peak (Antenna- Horizontal)

Worst Case Mode :	802.11ac_VHT40
Worst Case Transfer Rate :	MNSS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 510 MHz
Channel :	102



Radiated Restricted Lower Band Edge Plot_Average (Antenna- Vertical)



Radiated Restricted Lower Band Edge Plot_Peak (Antenna- Vertical)



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Test mode : 802.11ac_VHT80

EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	1 - 40 GHz
Mode	ANT0 + ANT1 + ANT2 + ANT3	Detector function	Average / Peak

Remarks

We have tested three mode (X, Y, Z). The worst mode (Z axis) for final test.

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBUV/m)	Margin (dB)	Remark
5 350.00	52.61	1.39	Average

Ch.58(5 290 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	36.00	43.19	18.00	30.81
1 125.00	V	54.00	74.00	35.56	43.01	18.44	30.99
3 216.00	H	54.00	74.00	44.48	48.92	9.52	25.08
3 216.00	V	54.00	74.00	46.75	51.21	7.25	22.79
5 350.00	H	54.00	74.00	52.61	66.52	1.39	7.48
5 350.00	V	54.00	74.00	51.10	63.32	2.90	10.68

Ch.106(5 530 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	35.44	42.96	18.56	31.04
1 125.00	V	54.00	74.00	35.08	42.64	18.92	31.36
3 216.00	H	54.00	74.00	44.54	48.79	9.46	25.21
3 216.00	V	54.00	74.00	46.31	50.15	7.69	23.85
5 460.00	H	54.00	74.00	51.60	68.58	2.40	5.42
5 460.00	V	54.00	74.00	50.31	61.05	3.69	12.95



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Ch.138(5 690 MHz)

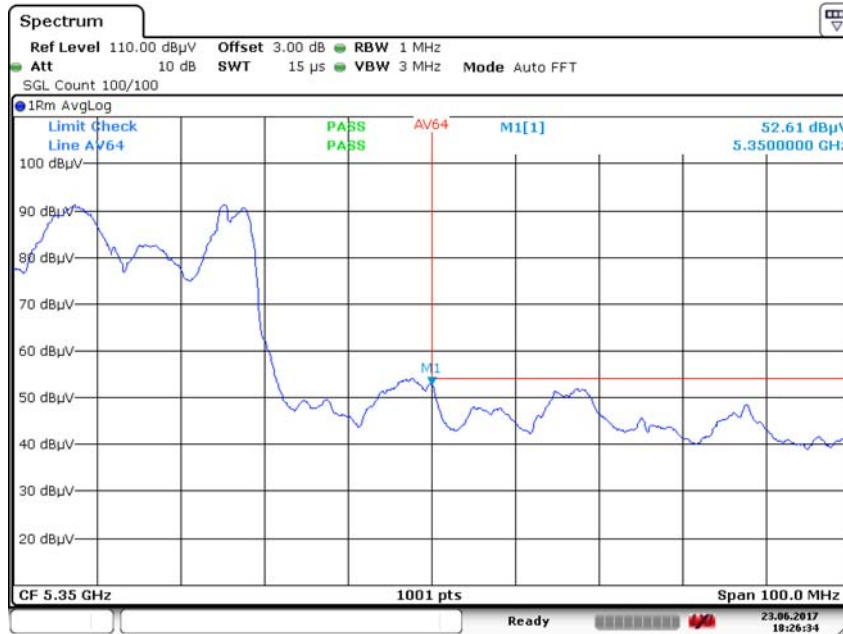
Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	35.91	42.66	18.09	31.34
1 125.00	V	54.00	74.00	35.13	43.09	18.87	30.91
3 216.00	H	54.00	74.00	44.66	48.88	9.34	25.12
3 216.00	V	54.00	74.00	46.58	50.31	7.42	23.69
11 380.00	H	54.00	74.00	39.67	52.57	14.33	21.43
11 380.00	V	54.00	74.00	39.55	51.53	14.45	22.47



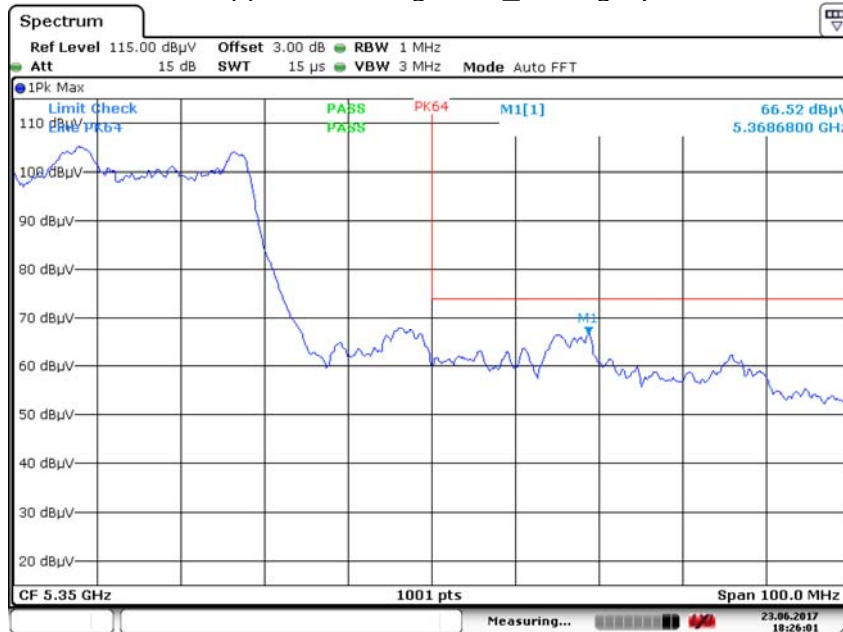
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Worst Case Mode :	802.11ac_VHT80
Worst Case Transfer Rate :	MNSS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 290 MHz
Channel :	58

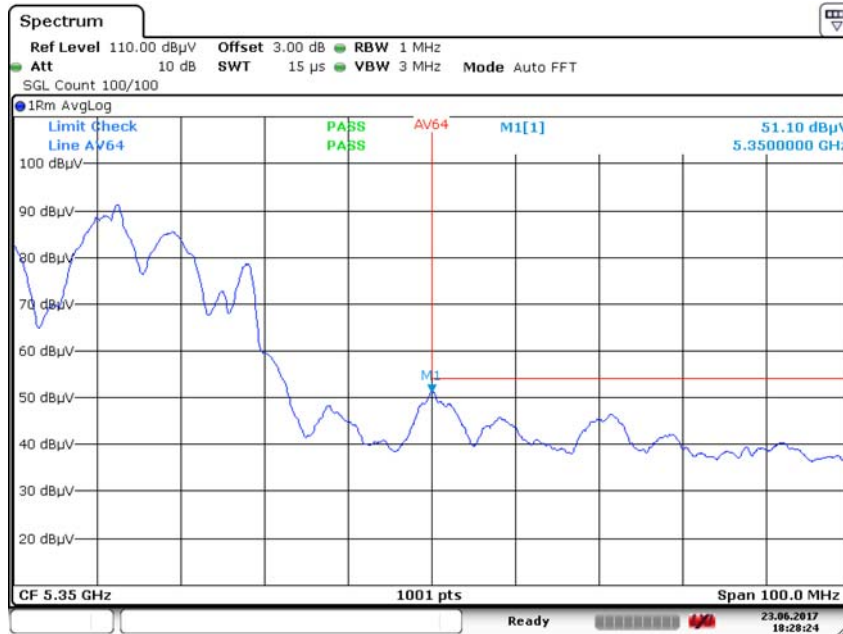


Radiated Restricted Upper Band Edge Plot_Average (Antenna-Horizontal)

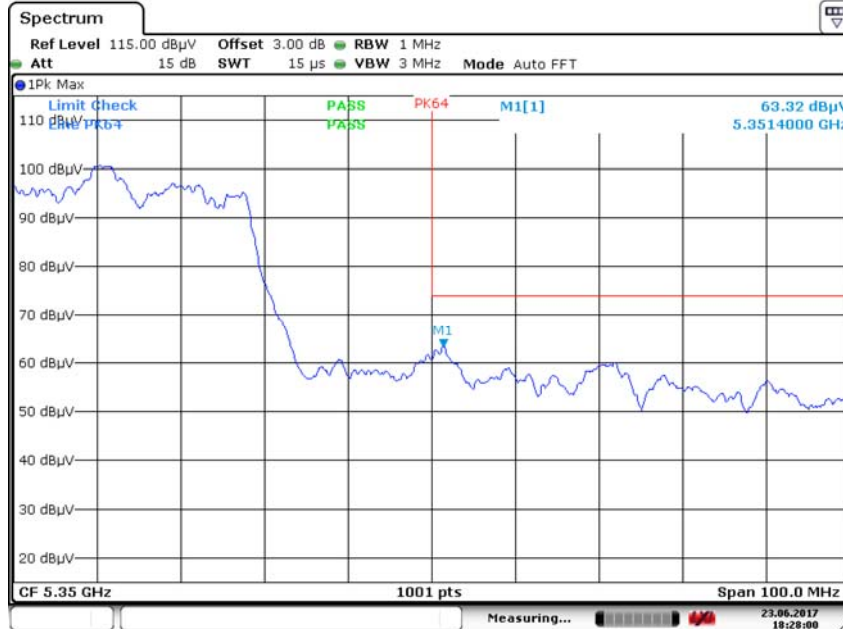


Radiated Restricted Upper Band Edge Plot_Peak (Antenna- Horizontal)

Worst Case Mode :	802.11ac_VHT80
Worst Case Transfer Rate :	MNSS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 290 MHz
Channel :	58

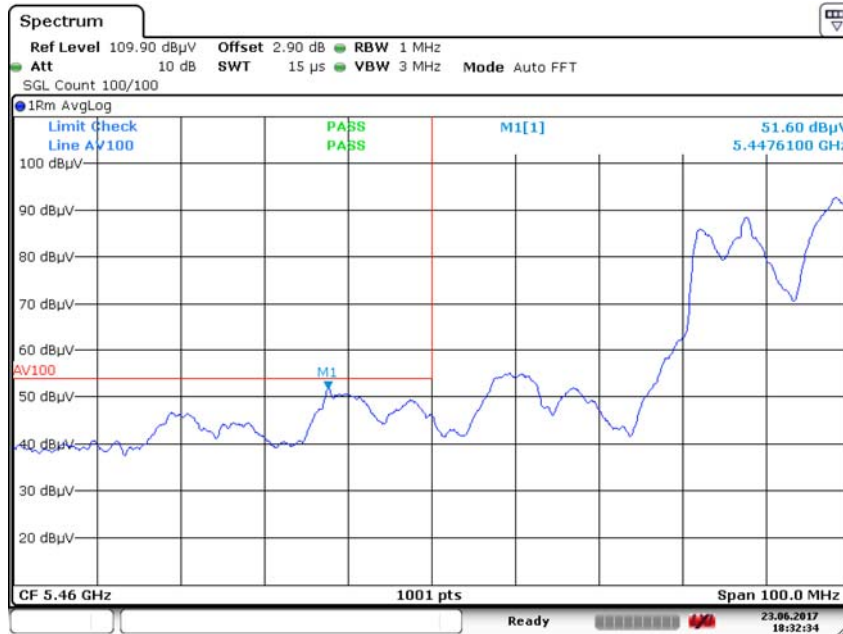


Radiated Restricted Upper Band Edge Plot_Average (Antenna- Vertical)

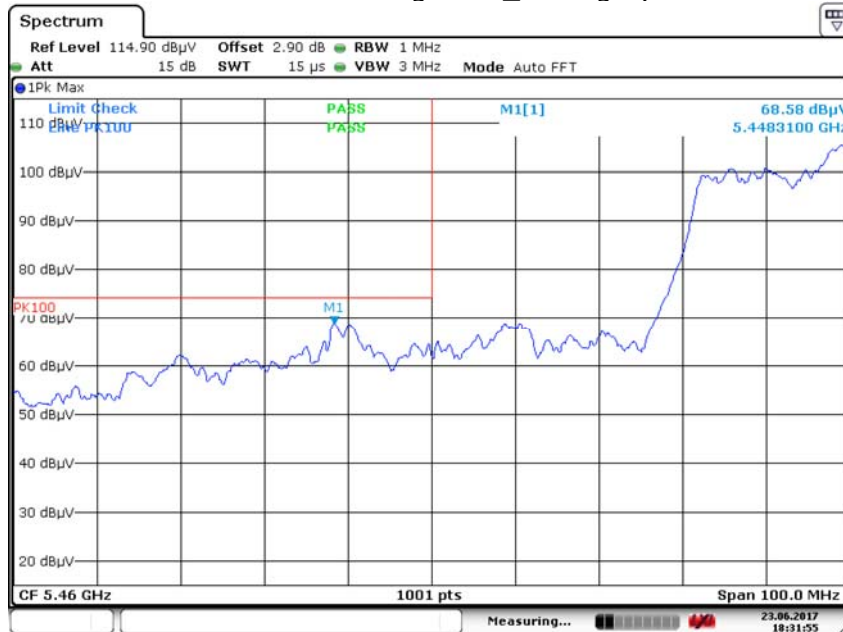


Radiated Restricted Upper Band Edge Plot_Peak (Antenna- Vertical)

Worst Case Mode :	802.11ac_VHT80
Worst Case Transfer Rate :	MNSS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 530 MHz
Channel :	106



Radiated Restricted Lower Band Edge Plot_Average (Antenna-Horizontal)

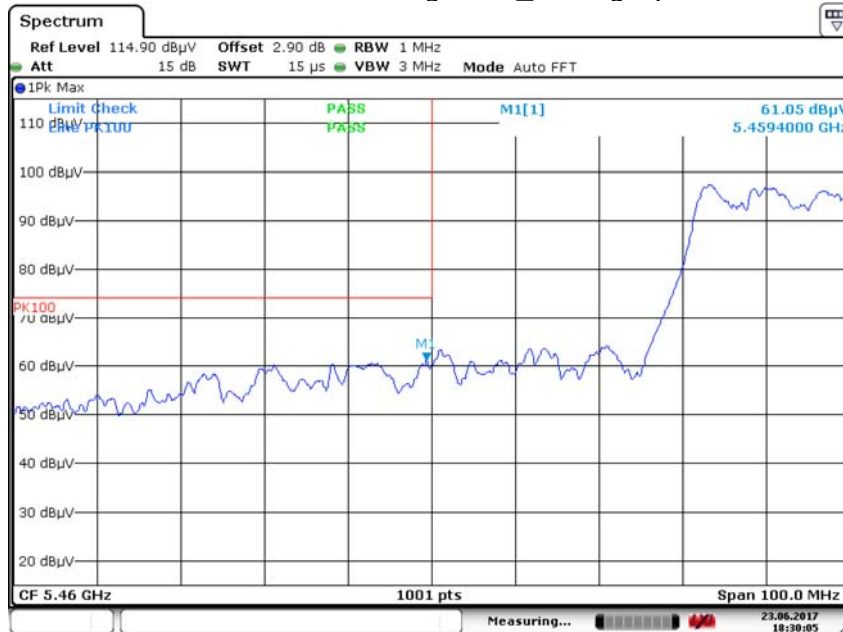


Radiated Restricted Lower Band Edge Plot_Peak (Antenna- Horizontal)

Worst Case Mode :	802.11ac_VHT80
Worst Case Transfer Rate :	MNSS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 530 MHz
Channel :	106



Radiated Restricted Lower Band Edge Plot_Average (Antenna- Vertical)



Radiated Restricted Lower Band Edge Plot_Peak (Antenna- Vertical)



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Test mode : 802.11ac_VHT160

EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	1 - 40 GHz
Mode	ANT0 + ANT1 + ANT2 + ANT3	Detector function	Average / Peak

Remarks

We have tested three mode (X, Y, Z). The worst mode (Z axis) for final test.

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
5 460.00	52.58	1.42	Average

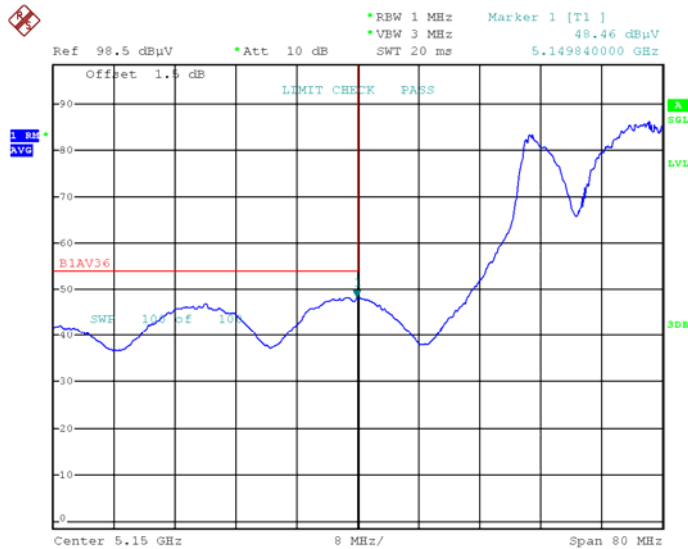
Ch.50(5 250 MHz)

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	35.28	42.40	18.72	31.60
1 125.00	V	54.00	74.00	34.79	42.75	19.21	31.25
3 216.00	H	54.00	74.00	44.52	48.59	9.48	25.41
3 216.00	V	54.00	74.00	46.48	50.35	7.52	23.65
5 150.00	H	54.00	74.00	48.46	62.10	5.54	11.90
5 150.00	V	54.00	74.00	47.44	56.67	6.56	17.33
5 350.00	H	54.00	74.00	47.61	60.08	6.39	13.92
5 350.00	V	54.00	74.00	39.95	55.65	14.05	18.35

Ch.114(5 570 MHz)

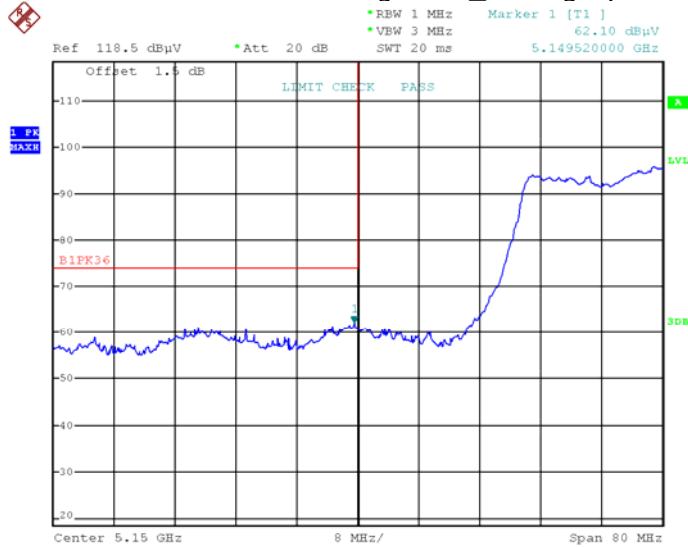
Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	36.08	43.25	17.92	30.75
1 125.00	V	54.00	74.00	35.62	42.59	18.38	31.41
3 216.00	H	54.00	74.00	44.54	49.77	9.46	24.23
3 216.00	V	54.00	74.00	46.37	50.42	7.63	23.58
5 460.00	H	54.00	74.00	52.58	65.68	1.42	8.32
5 460.00	V	54.00	74.00	48.85	61.18	5.15	12.82

Worst Case Mode :	802.11ac_VHT160
Worst Case Transfer Rate :	MNSS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 250 MHz
Channel :	50



Date: 24.JUN.2017 12:33:58

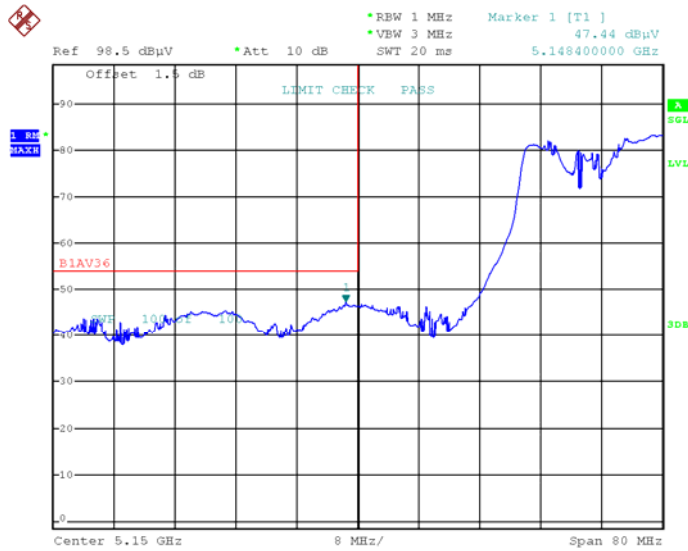
Radiated Restricted Lower Band Edge Plot_Average (Antenna-Horizontal)



Date: 24.JUN.2017 12:31:43

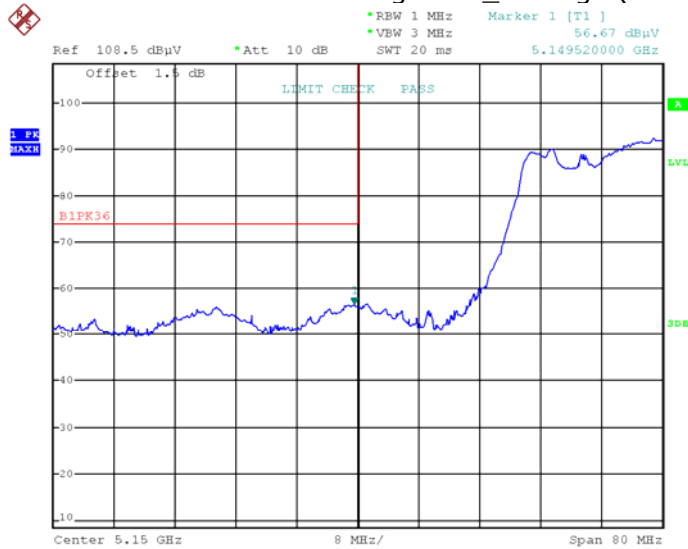
Radiated Restricted Lower Band Edge Plot_Peak (Antenna- Horizontal)

Worst Case Mode :	802.11ac_VHT160
Worst Case Transfer Rate :	MNSS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 250 MHz
Channel :	50



Date: 24.JUN.2017 12:39:44

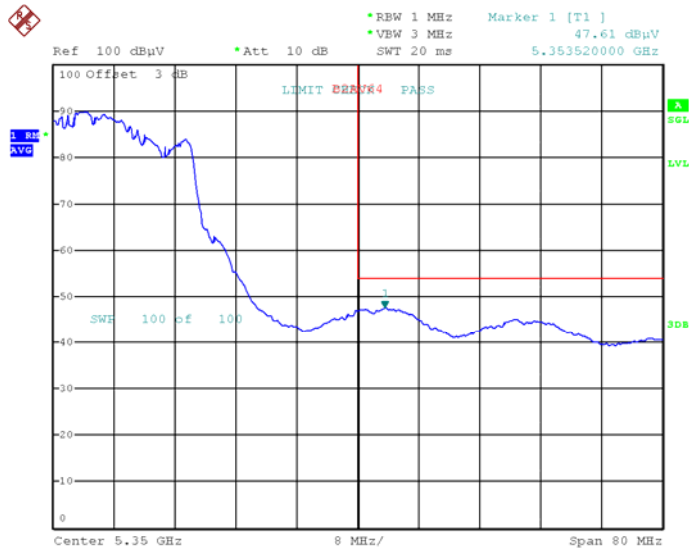
Radiated Restricted Lower Band Edge Plot_Average (Antenna- Vertical)



Date: 24.JUN.2017 12:36:33

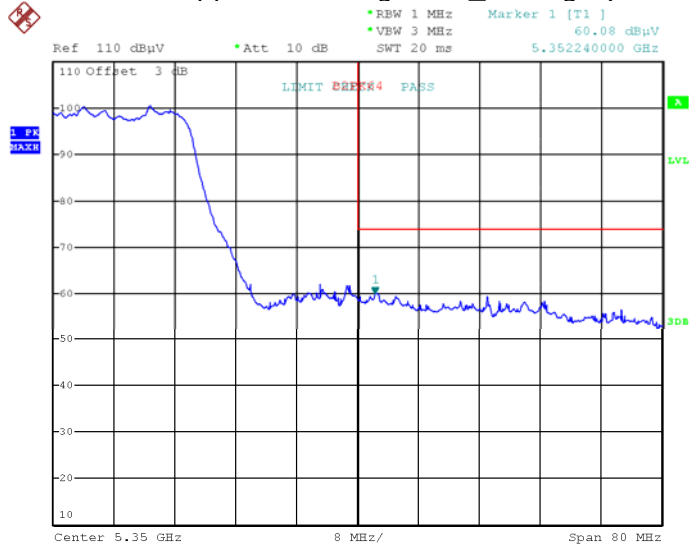
Radiated Restricted Lower Band Edge Plot_Peak (Antenna- Vertical)

Worst Case Mode :	802.11ac_VHT160
Worst Case Transfer Rate :	MNSS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 250 MHz
Channel :	50



Date: 24.JUN.2017 14:02:30

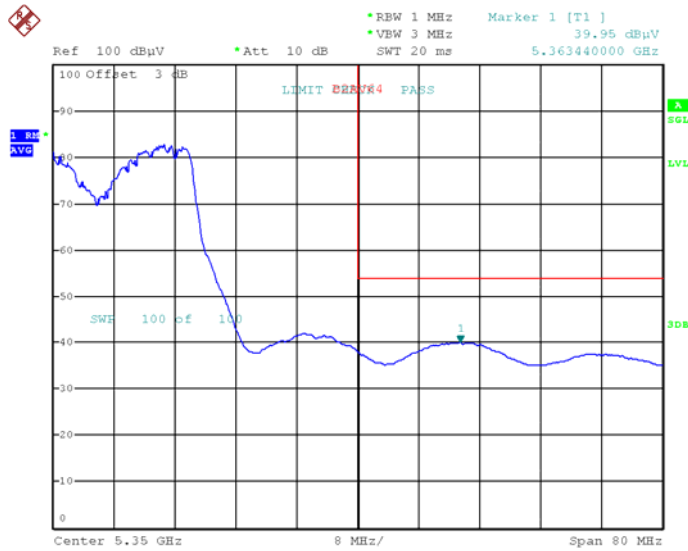
Radiated Restricted Upper Band Edge Plot_Average (Antenna-Horizontal)



Date: 24.JUN.2017 14:01:43

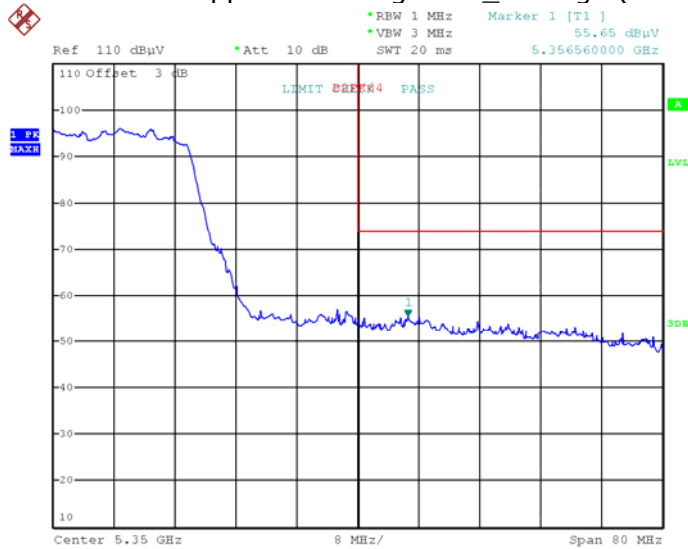
Radiated Restricted Upper Band Edge Plot_Peak (Antenna- Horizontal)

Worst Case Mode :	802.11ac_VHT160
Worst Case Transfer Rate :	MNSS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 250 MHz
Channel :	50



Date: 24.JUN.2017 13:59:38

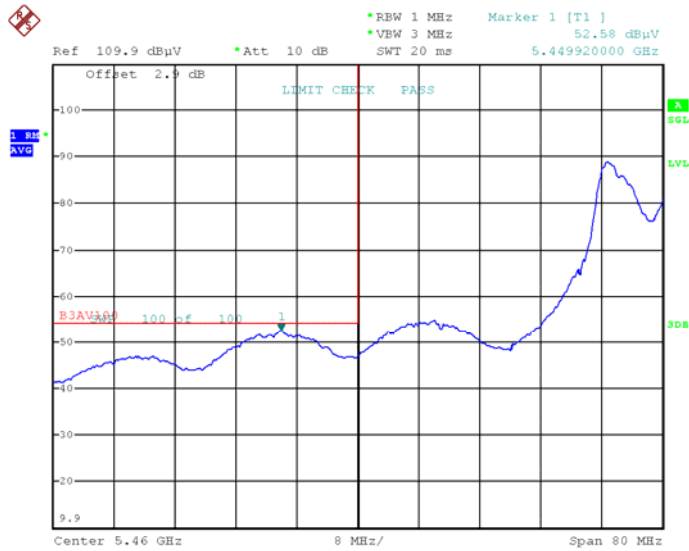
Radiated Restricted Upper Band Edge Plot_Average (Antenna- Vertical)



Date: 24.JUN.2017 13:57:57

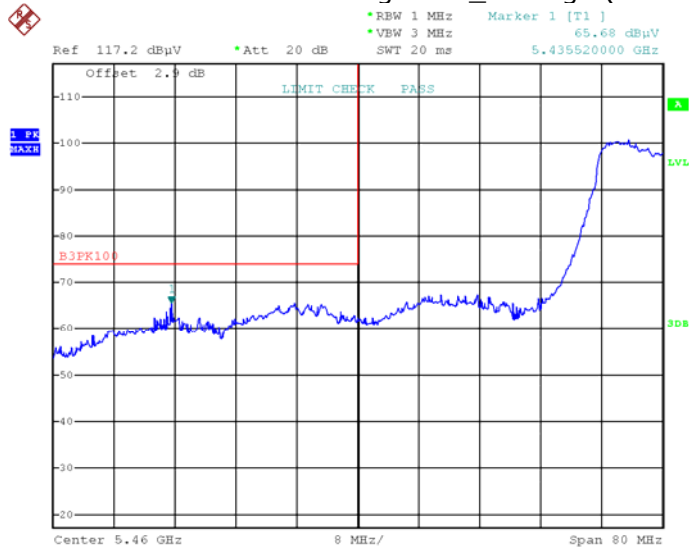
Radiated Restricted Upper Band Edge Plot_Peak (Antenna- Vertical)

Worst Case Mode :	802.11ac_VHT160
Worst Case Transfer Rate :	MNSS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 570 MHz
Channel :	114



Date: 24.JUN.2017 14:10:45

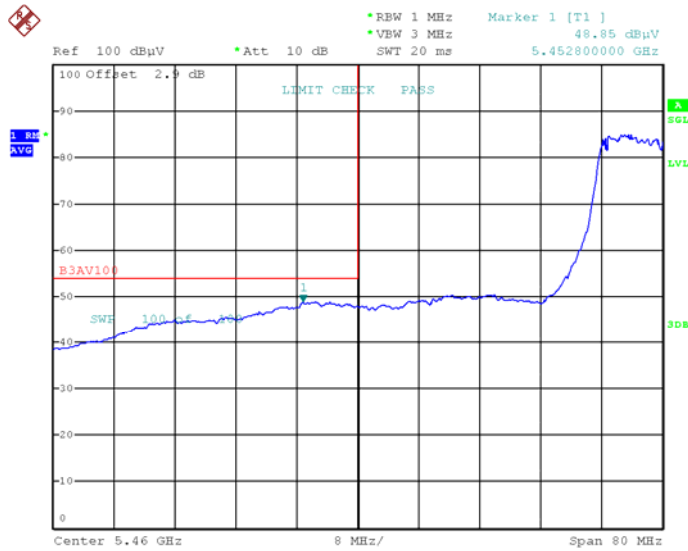
Radiated Restricted Lower Band Edge Plot_Average (Antenna-Horizontal)



Date: 24.JUN.2017 14:15:03

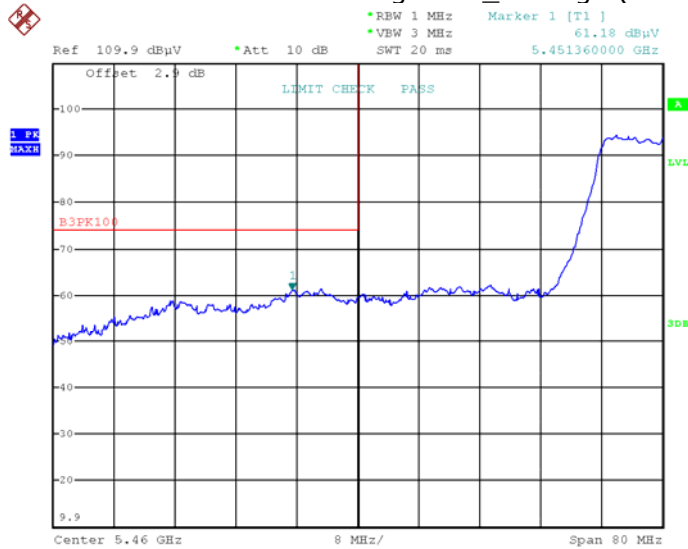
Radiated Restricted Lower Band Edge Plot_Peak (Antenna- Horizontal)

Worst Case Mode :	802.11ac_VHT160
Worst Case Transfer Rate :	MNSS 0
Distance of Measurements :	3 Meters
Operating Frequency :	5 570 MHz
Channel :	114



Date: 24.JUN.2017 14:13:57

Radiated Restricted Lower Band Edge Plot_Average (Antenna- Vertical)



Date: 24.JUN.2017 14:13:27

Radiated Restricted Lower Band Edge Plot_Peak (Antenna- Vertical)



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Test mode : Receiver

EUT	WLAN Access Point	Measurement Detail	
Model	WEA524i	Frequency Range	1 - 40 GHz
Mode	Receiver	Detector function	Average / Peak

Remarks

We have tested three mode (X, Y, Z). The worst mode (Z axis) for final test.

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
3 216.00	45.69	8.31	Average

Frequency [MHz]	(P)	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
1 125.00	H	54.00	74.00	35.21	44.02	18.79	29.98
1 125.00	V	54.00	74.00	35.16	43.50	18.84	30.50
1 375.00	H	54.00	74.00	34.85	40.11	19.15	33.89
1 375.00	V	54.00	74.00	35.33	42.24	18.67	31.76
3 216.00	H	54.00	74.00	39.25	47.03	14.75	26.97
3 216.00	V	54.00	74.00	45.69	49.17	8.31	24.83



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4.7 AC Conducted Emissions

Test Location

Shielded Room

Frequency Range of Measurement

150 kHz to 30 MHz

Instrument Settings

IF Band Width: 9 kHz

Test Procedures

The EUT was placed on a non-metallic table 0.8m above the metallic, grounded floor and 0.4m from the reference ground plane wall. The distance to other metallic surfaces was at least 0.8m.

Amplitude measurements were performed with a quasi-peak detector and an average detector.

Limit

- 15.207(a)

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56*	56 to 46*
0.5 ~ 5	56	46
5 ~ 30	60	50

* Decreases with the logarithm of the frequency.

Test Results

The requirements are:

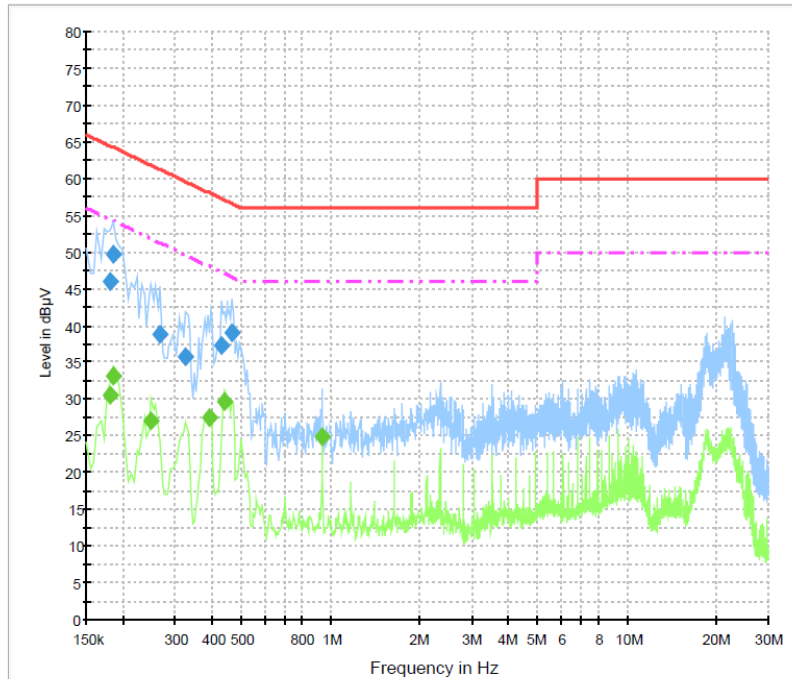
Complies

Frequency (MHz)	Measured Data (dBuV)	Margin (dB)	Remark
0.465 000	42.6	14.0	Quasi-peak

Test Data

[LINE]

Class B_L1



Final Result 1

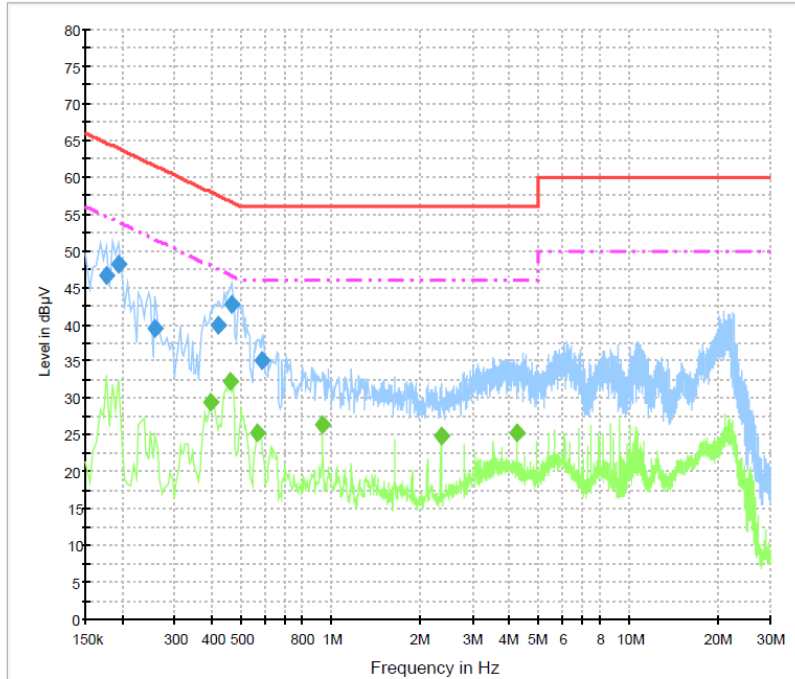
Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.181500	46.1	1000.0	9.000	On	L1	9.9	18.3	64.4
0.186000	49.8	1000.0	9.000	On	L1	9.9	14.4	64.2
0.267000	38.7	1000.0	9.000	On	L1	9.7	22.5	61.2
0.325500	35.7	1000.0	9.000	On	L1	9.8	23.9	59.6
0.429000	37.3	1000.0	9.000	On	L1	9.9	20.0	57.3
0.465000	39.1	1000.0	9.000	On	L1	9.9	17.5	56.6

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.181500	30.4	1000.0	9.000	On	L1	9.9	24.0	54.4
0.186000	33.0	1000.0	9.000	On	L1	9.9	21.2	54.2
0.249000	27.0	1000.0	9.000	On	L1	9.6	24.8	51.8
0.388500	27.5	1000.0	9.000	On	L1	9.9	20.6	48.1
0.438000	29.6	1000.0	9.000	On	L1	9.9	17.5	47.1
0.937500	24.8	1000.0	9.000	On	L1	9.8	21.2	46.0

[NEUTRAL]

Class B_N



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.177000	46.6	1000.0	9.000	On	N	9.8	18.1	64.6
0.195000	48.1	1000.0	9.000	On	N	9.9	15.7	63.8
0.258000	39.5	1000.0	9.000	On	N	9.6	21.9	61.5
0.420000	39.9	1000.0	9.000	On	N	9.9	17.6	57.4
0.465000	42.6	1000.0	9.000	On	N	9.9	14.0	56.6
0.586500	35.1	1000.0	9.000	On	N	9.9	20.9	56.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.393000	29.5	1000.0	9.000	On	N	9.9	18.5	48.0
0.460500	32.3	1000.0	9.000	On	N	9.9	14.4	46.7
0.568500	25.3	1000.0	9.000	On	N	9.9	20.7	46.0
0.937500	26.3	1000.0	9.000	On	N	9.8	19.7	46.0
2.346000	24.9	1000.0	9.000	On	N	9.8	21.1	46.0
4.222500	25.3	1000.0	9.000	On	N	9.8	20.7	46.0



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APPENDIX A – Test Equipment Used For Tests

	Name of Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	Signal Analyzer	R&S	FSV30	100925	2017-02-02	2018-02-02
2	Signal Analyzer	R&S	FSP-30	100994	2016-11-01	2017-11-01
3	Signal Generator	Rohde & Schwarz	SMB100A	175528	2016-11-01	2017-11-01
4	EMI Test Receiver	Rohde & Schwarz	ESCI7	100814	2016-11-01	2017-11-01
5	Bilog Antenna	Schaffner	CBL6111C	2551	2016-05-13	2018-05-13
6	Active Loop Antenna	SCHWARZBECK	FMZB 1513	1513-125	2016-05-16	2018-05-16
7	6dB Attenuator	R&S	DNF	272.4110.50-2	2016-11-01	2017-11-01
8	6dB Attenuator	R&S	DNF	272.4110.50-1	2017-02-03	2018-02-03
9	AMPLIFIER	SONOMA	310	291721	2017-02-02	2018-02-02
10	EMI Test Receiver	Rohde & Schwarz	ESU40	100336	2017-05-12	2018-05-12
11	LISN	Rohde & Schwarz	ENV216	101760	2017-02-03	2018-02-03
12	Preamplifier	Agilent	8449B	3008A02011	2016-12-01	2017-12-01
13	Horn Antenna	ETS-Lindgren	3115	00078894	2015-09-02	2017-09-02
14	Horn Antenna	ETS-Lindgren	3116	00062504	2015-09-04	2017-09-04
15	Horn Antenna	ETS-Lindgren	3117	00154525	2015-09-02	2017-09-02
16	Band Reject Filter	Micro Tronics	BRM50702	G233	2017-02-03	2018-02-03
17	Band Reject Filter	Micro Tronics	BRM50716	G184	2017-02-03	2018-02-03
18	Temp&Humi Chamber	ESPEC CORP.	SH-241	92000872	2017-02-02	2018-02-02