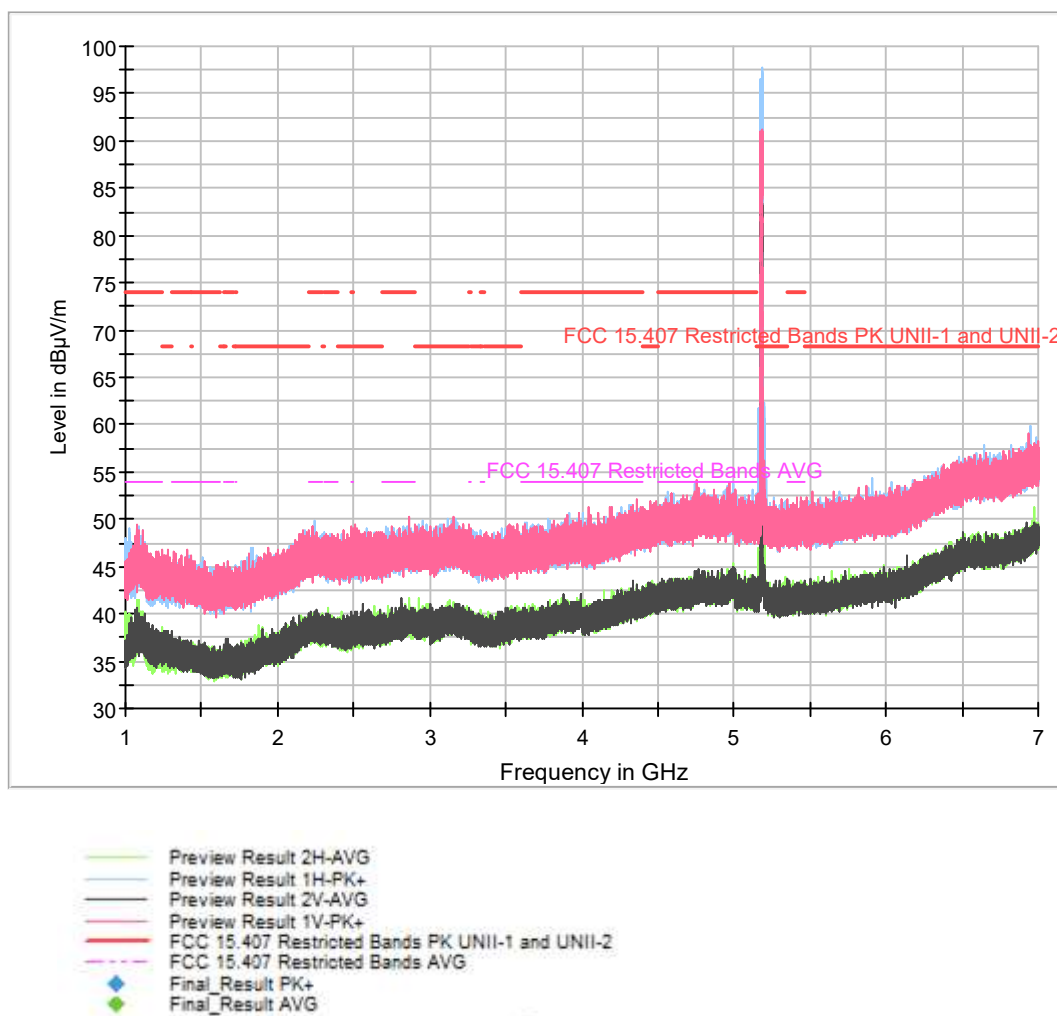


FREQUENCY RANGE 1 - 7 GHz (802.11 n HT20 MCS0)

- Low Channel:

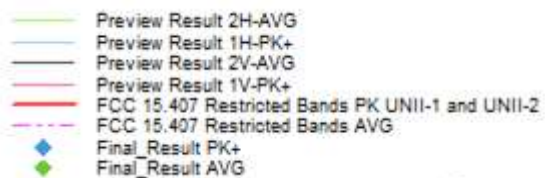
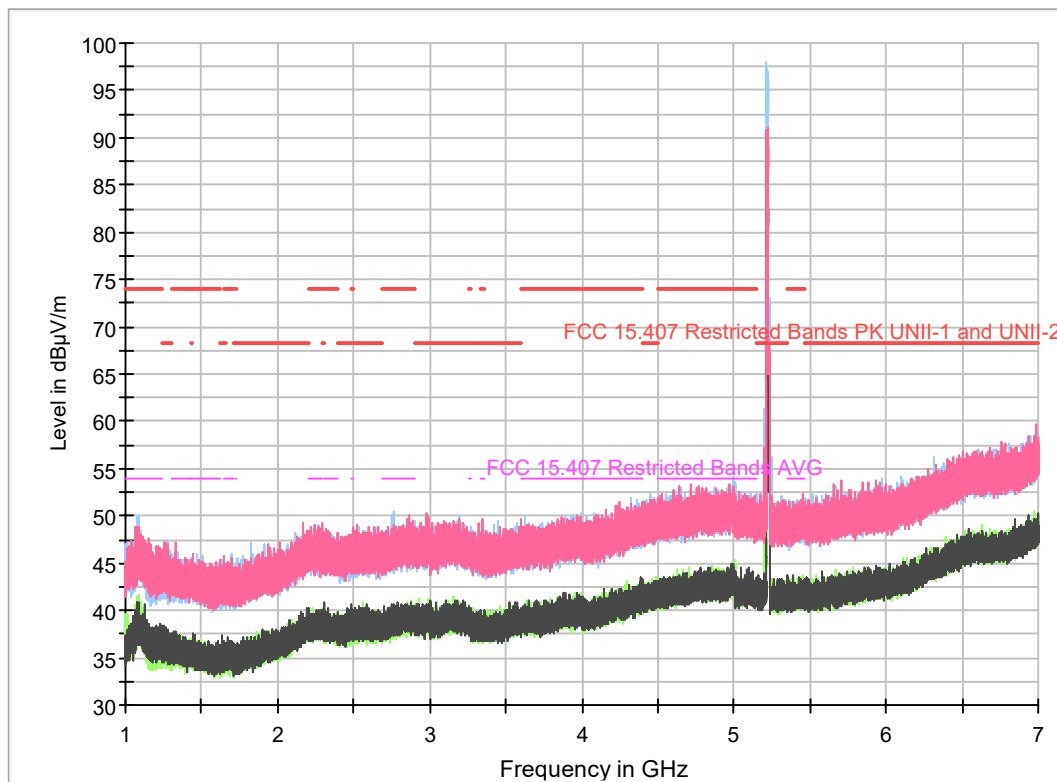
Full Spectrum



The peak above the limit is the carrier frequency.

- Middle Channel:

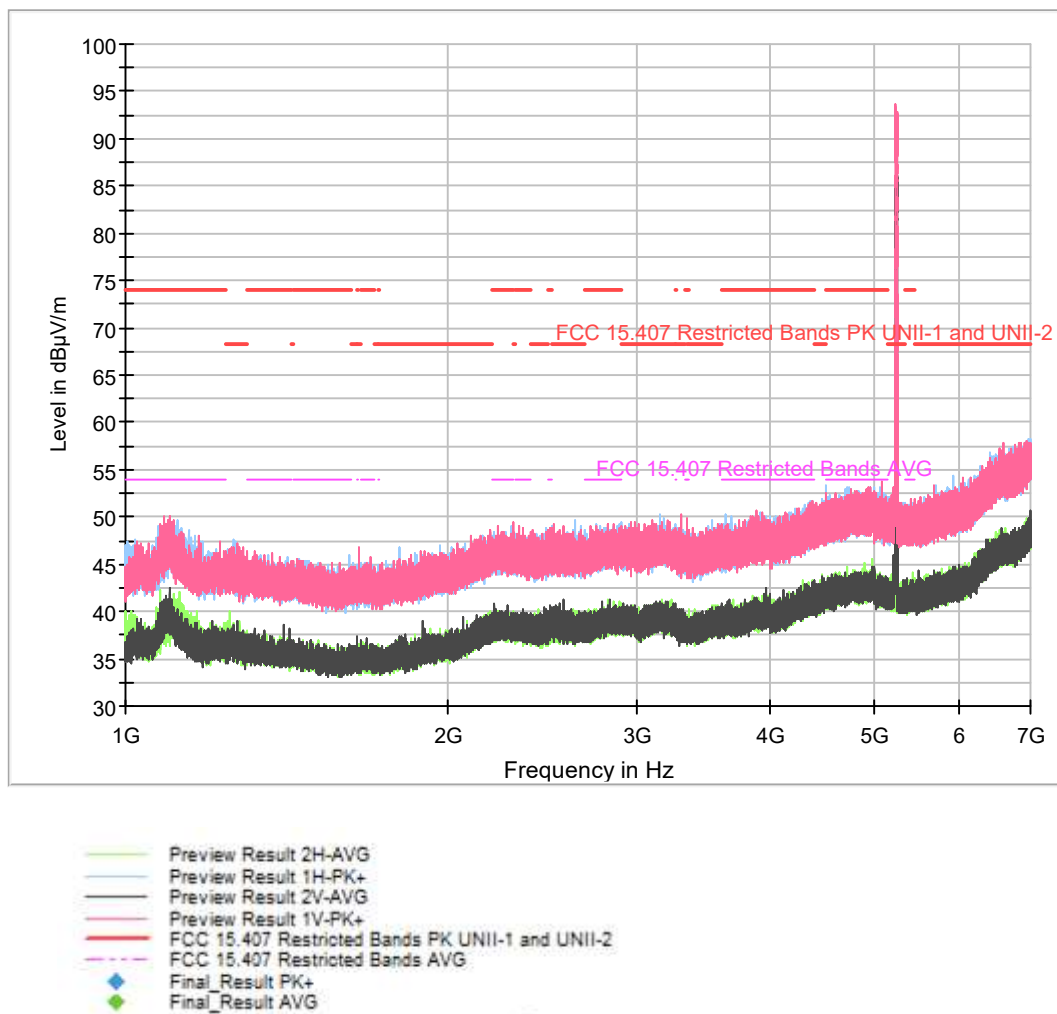
Full Spectrum



The peak above the limit is the carrier frequency.

- High Channel:

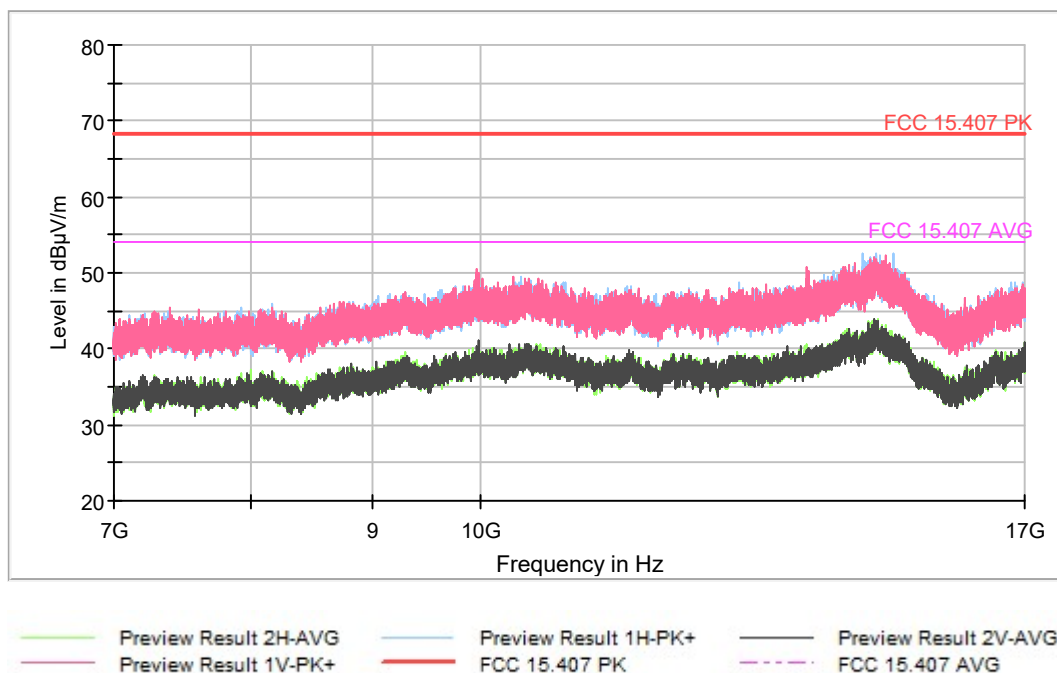
Full Spectrum



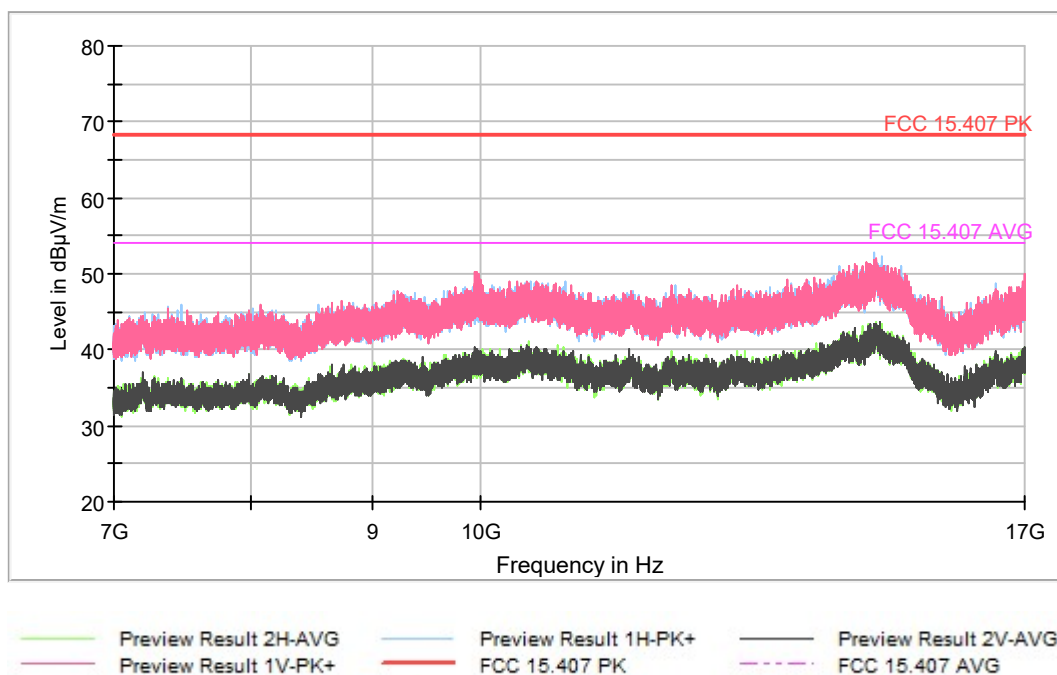
The peak above the limit is the carrier frequency.

FREQUENCY RANGE 7 - 17 GHz (802.11 n HT20 MCS0)

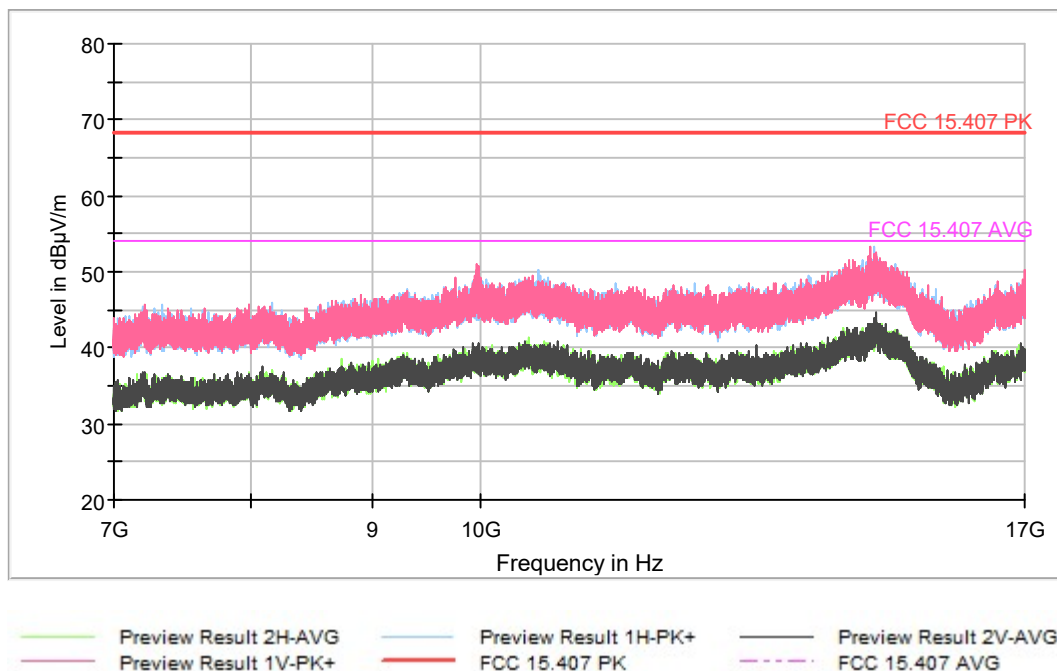
- Low Channel:



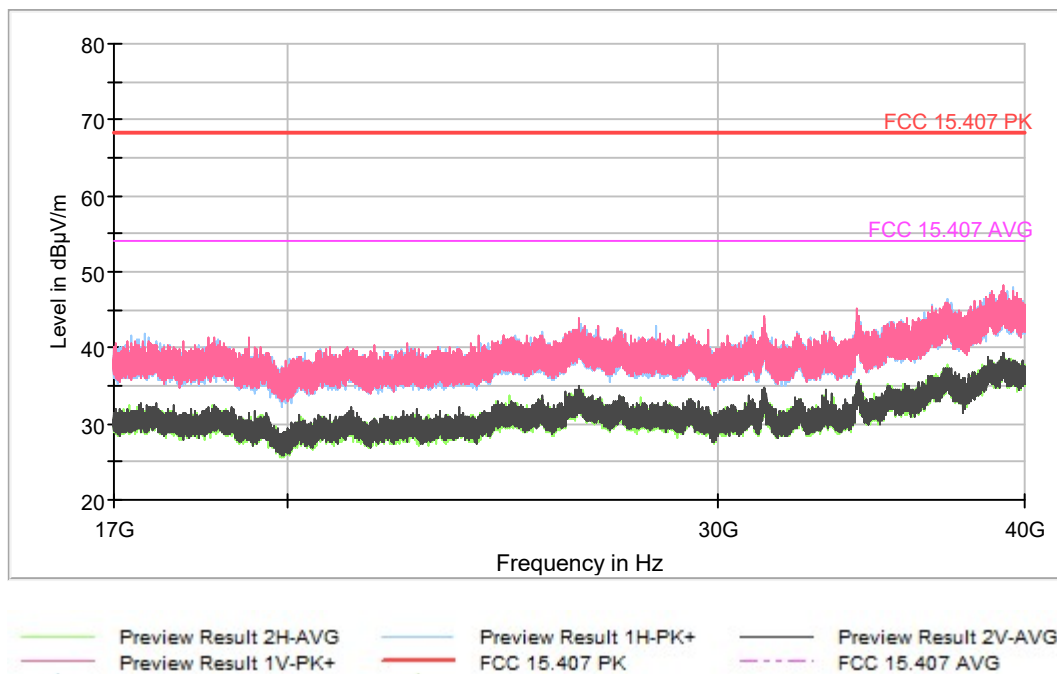
- Middle Channel:



- High Channel:



FREQUENCY RANGE 17 - 40 GHz



This plot is valid for Low, Middle and High Channels and all modulations.

FCC 15.407 (b)(1) / RSS-247 6.2.1.2. Transmitter Band Edge Radiated Emissions

Limits

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

Frequency Range (MHz)	Field strength ($\mu\text{V/m}$)	Field strength ($\text{dB}\mu\text{V/m}$)	Measurement distance (m)
0.009-0.490	2400/F(kHz)	-	300
0.490-1.705	24000/F(kHz)	-	30
1.705 - 30.0	30	-	30
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
Above 960	500	54	3

The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

For average radiated emission measurements above 1000 MHz, there is also a limit corresponding to 20 dB above the indicated values in the table, specified when measuring with peak detector function.

Equipment certified under this standard is required to comply with the provisions in RSS-Gen with respect to emissions falling within restricted frequency bands.

Results

The field strength is calculated by adding a correction factor to the measured level from the spectrum analyzer. This correction factor includes antenna factor, cable loss and pre-amplifiers gain.

There are restricted bands of operation below the lower band edge at 5.15 GHz (4.5-5.15 GHz) and also above the upper band edge at 5.35 GHz (5.35-5.46 GHz) therefore the provisions of FCC Part 15.205 apply.

Test performed on the following modulations and data rates:

802.11 a20:	6 Mbps
802.11 n HT20:	MCS0
802.11 n HT40:	MCS0
802.11 ac VHT20:	MCS0
802.11 ac VHT40:	MCS0
802.11 ac VHT80:	MCS0

BAND EDGE EMISSIONS:

Spurious frequencies in the restricted bands with peak levels above the average limit (54 dBµV/m at 3 m) are measured with an average detector for average compliance checking.

• **802.11 a20:**

- Lower Band Edge Channel 36 (5180 MHz). Inside the Restricted Band 4.50-5.15 GHz:

No spurious emissions found.

- Upper Band Edge Channel 48 (5240 MHz). Inside the Restricted Band 5.35-5.46 GHz:

No spurious emissions found.

• **802.11 n20:**

- Lower Band Edge Channel 36 (5180 MHz). Inside the Restricted Band 4.50-5.15 GHz:

No spurious emissions found.

- Upper Band Edge Channel 48 (5240 MHz). Inside the Restricted Band 5.35-5.46 GHz:

No spurious emissions found.

• **802.11 ac20:**

- Lower Band Edge Channel 36 (5180 MHz). Inside the Restricted Band 4.50-5.15 GHz:

No spurious emissions found.

- Upper Band Edge Channel 48 (5240 MHz). Inside the Restricted Band 5.35-5.46 GHz:

No spurious emissions found.

• **802.11 n40:** * *Duty cycle correction factor: 0.11 dB*

- Lower Band Edge Channel 38 (5190 MHz). Inside the Restricted Band 4.50-5.15 GHz:

Spurious frequencies at less than 20 dB below the limit:

Spurious frequency (GHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
5.14968	55.00	---	H	Peak
	39.68	39.79		Average

- Upper Band Edge Channel 46 (5230 MHz). Inside the Restricted Band 5.35-5.46 GHz:

No spurious emissions found.

• **802.11 ac40:**

- Lower Band Edge Channel 38 (5190 MHz). Inside the Restricted Band 4.50-5.15 GHz:

Spurious frequencies at less than 20 dB below the limit:

Spurious frequency (GHz)	Emission Level (dBμV/m)	Polarization	Detector
5.14903	51.81	H	Peak

- Upper Band Edge Channel 46 (5230 MHz). Inside the Restricted Band 5.35-5.46 GHz:

No spurious emissions found.

• **802.11 ac80:**

* Duty cycle correction factor: 0.22 dB

- Lower Band Edge Channel 42 (5210 MHz). Inside the Restricted Band 4.50-5.15 GHz:

Spurious frequencies at less than 20 dB below the limit:

Spurious frequency (GHz)	Emission Level (dBμV/m)	Corrected Emission Level (dBμV/m)	Polarization	Detector
5.14643	55.57	---	H	Peak
	41.23	41.45		Average

- Upper Band Edge Channel 42 (5210 MHz). Inside the Restricted Band 5.35-5.46 GHz:

Spurious frequencies at less than 20 dB below the limit:

Spurious frequency (GHz)	Emission Level (dBμV/m)	Polarization	Detector
5.40730	52.19	V	Peak

Verdict

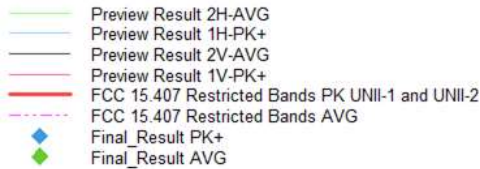
Pass

Attachments

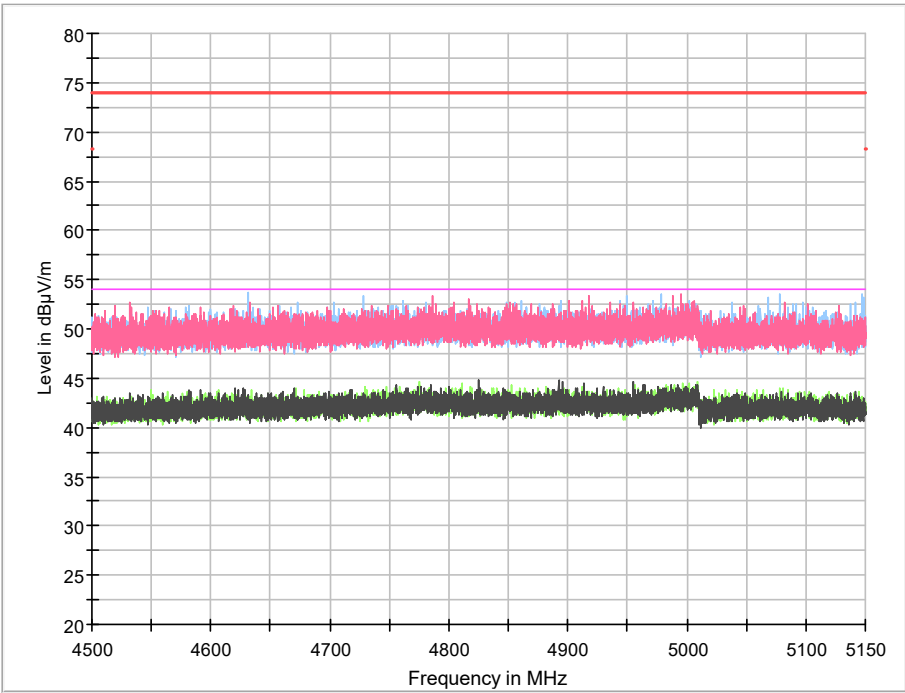
The setting for restricted bands is indicated in the following table:

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
Receiver: [ESR 7] 1 GHz - 7 GHz	187,5 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

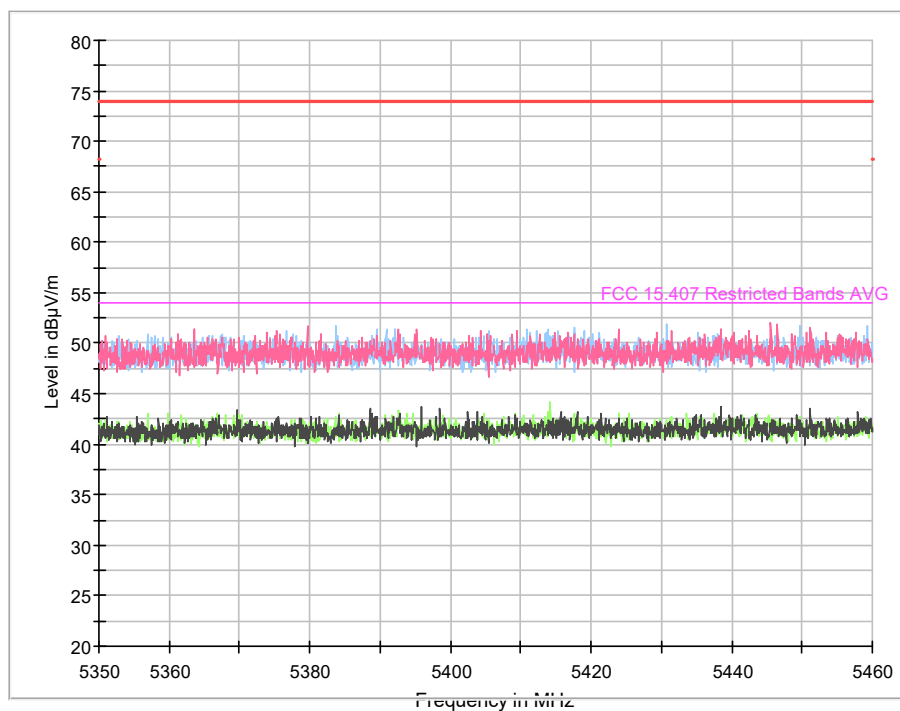
The legend for the next plots is the following:



- 802.11 a20:
 - Lower Band Edge Channel 36 (Restricted Band 4.50-5.15 GHz)

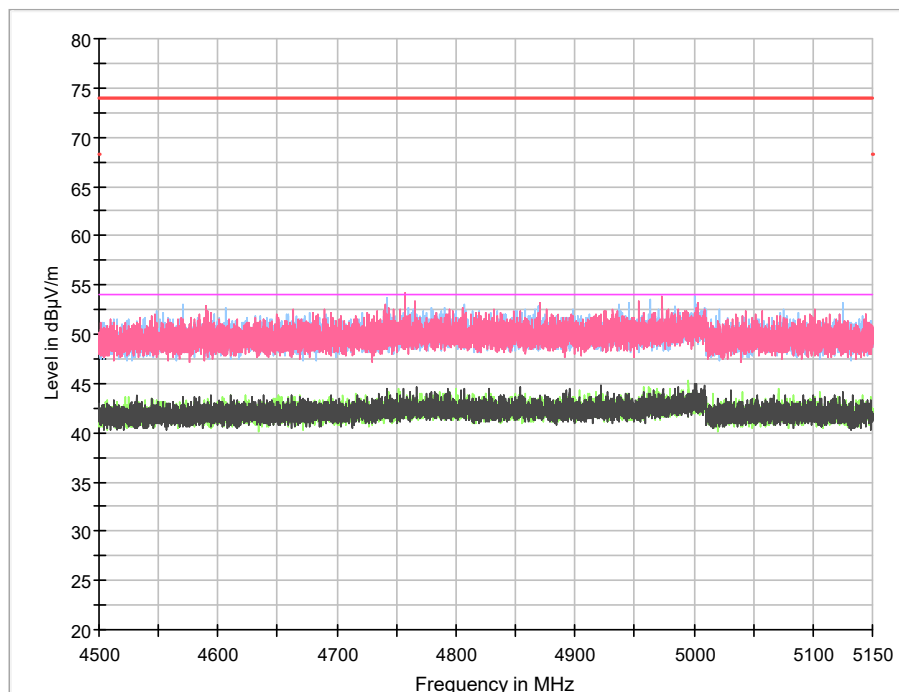


- Upper Band Edge Channel 48 (Restricted Band 5.35-5.46 GHz)

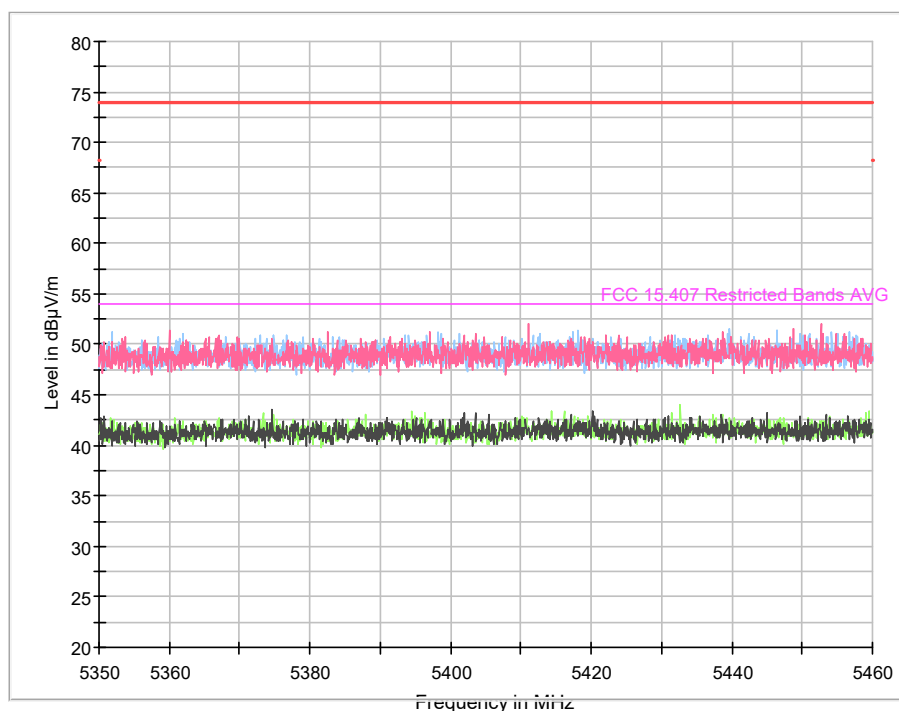


• **802.11 n20:**

- Lower Band Edge Channel 36 (Restricted Band 4.50-5.15 GHz)

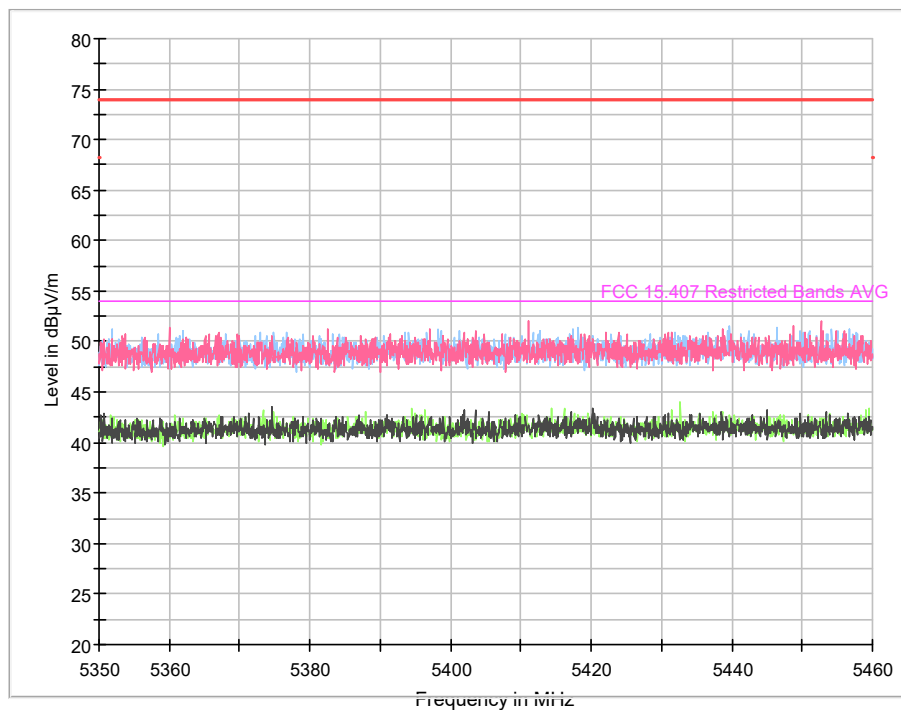


- Upper Band Edge Channel 48 (Restricted Band 5.35-5.46 GHz)

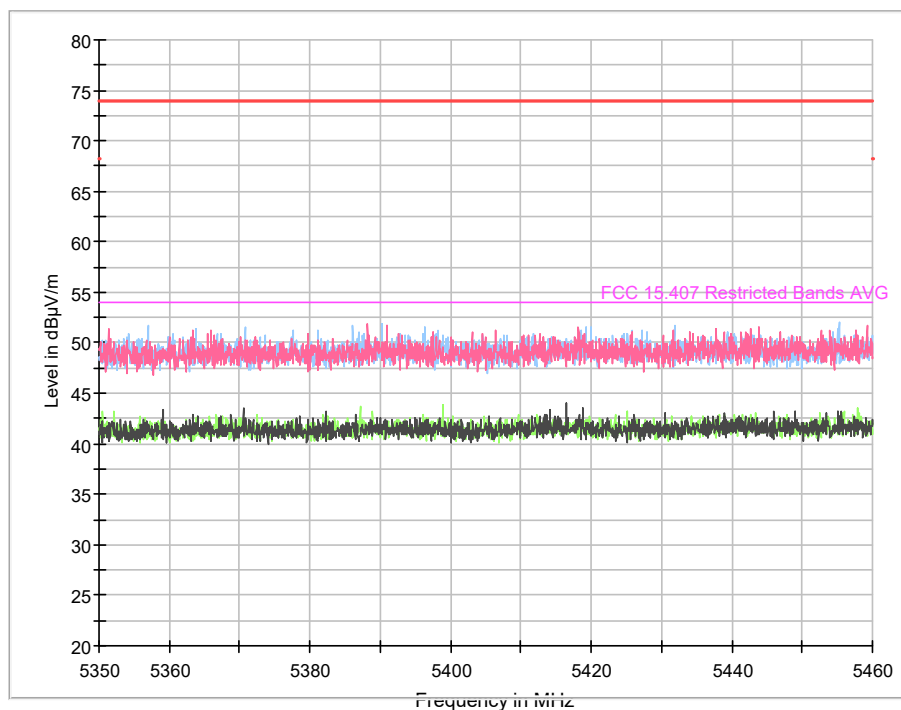


• **802.11 ac20:**

- Lower Band Edge Channel 36 (Restricted Band 4.50-5.15 GHz)

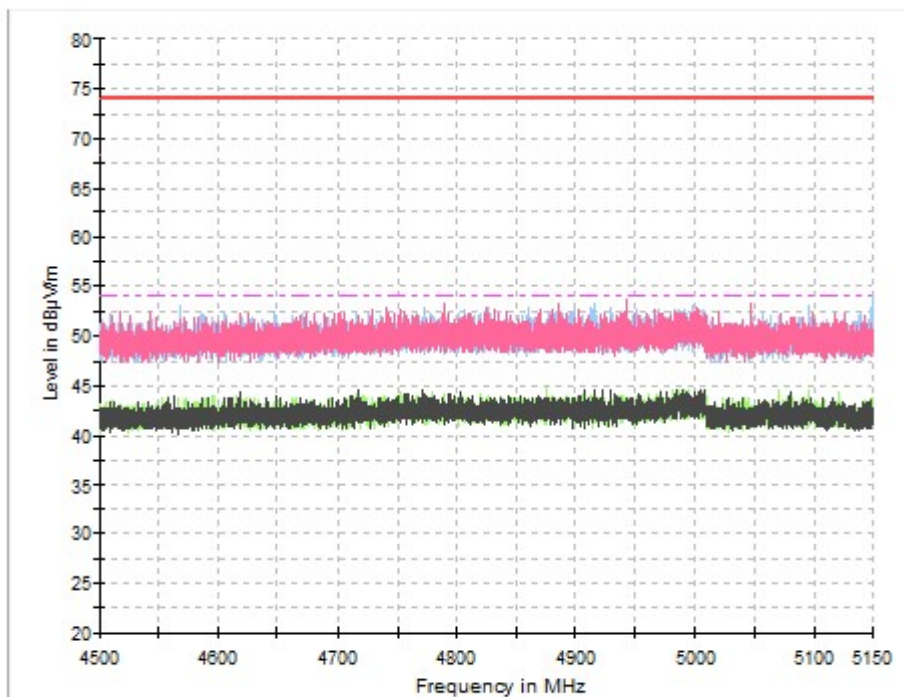


- Upper Band Edge Channel 48 (Restricted Band 5.35-5.46 GHz)

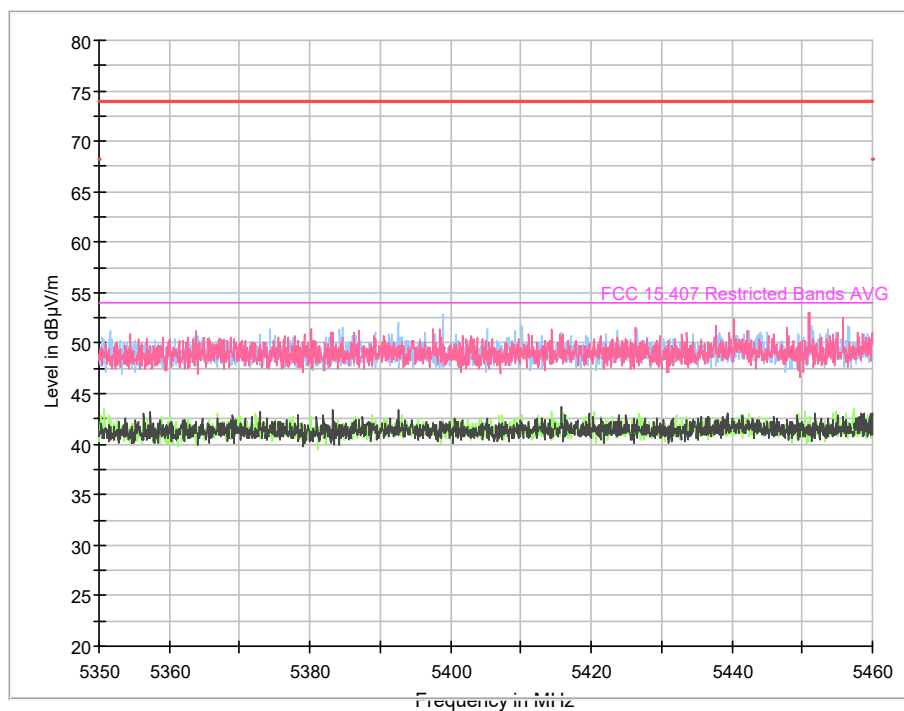


- **802.11 n40:**

- Lower Band Edge Channel 38 (Restricted Band 4.50-5.15 GHz)

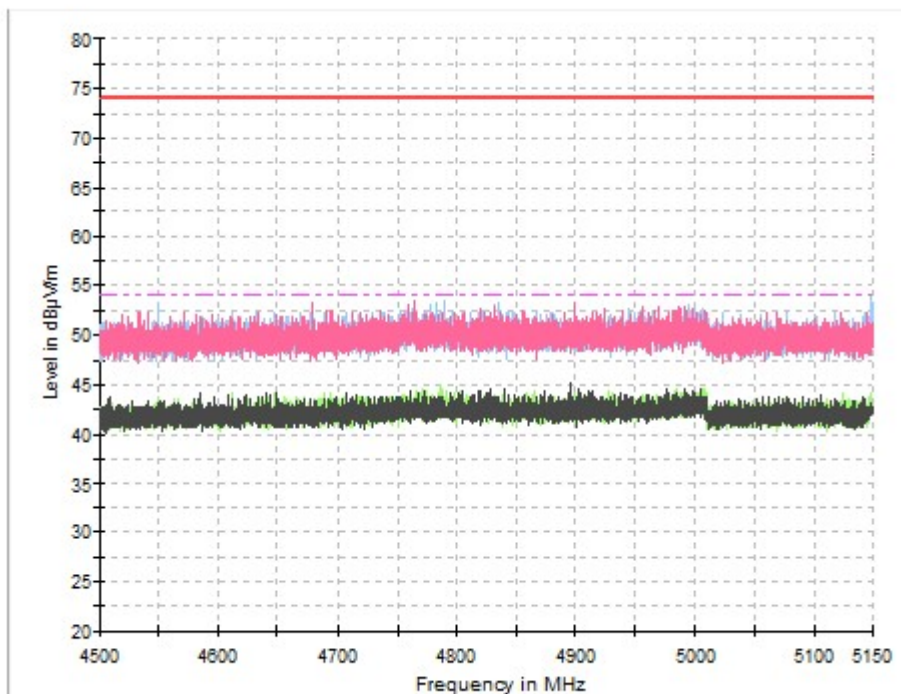


- Upper Band Edge Channel 46 (Restricted Band 5.35-5.46 GHz)



• **802.11 ac40:**

- Lower Band Edge Channel 38 (Restricted Band 4.50-5.15 GHz)



- Upper Band Edge Channel 46 (Restricted Band 5.35-5.46 GHz)

