10.7 Peak excursion measurements

Description:

Peak to average value.

Measurement:

Measurement parameter	
Detector:	Peak
Sweep time:	60 s / 120 s
Resolution bandwidth:	1 MHz
Video bandwidth:	≥ 3 MHz
Span:	> Complete signal
Trace-Mode:	Max hold

Limits:

Peak excursion value
Does not exceed 13 dB.

Results:

Modulation OFDM / a – mode	Peak excursion value		
Channel	5180 MHz	-/-	5240 MHz
RMS	2.40	-/-	3.02
Peak	10.98	-/-	11.69
Peak excursion value	8.58	-/-	8.67
Channel	5260 MHz	-/-	5320 MHz
RMS	2.32	-/-	3.31
Peak	11.08	-/-	11.98
Peak excursion value	8.76	-/-	8.67
Channel	5500 MHz	5600 MHz	5700 MHz
RMS	4.38	5.27	5.27
Peak	13.02	13.99	13.84
Peak excursion value	8.64	8.72	8.57
Measurement uncertainty	± 1 dB		

Result: **Passed**

Results:

Modulation OFDM / ac – mode HT20	Peak excursion value		
Channel	5180 MHz	-/-	5240 MHz
RMS	2.26	-/-	2.59
Peak	12.41	-/-	13.04
Peak excursion value	10.15	-/-	10.45
Channel	5260 MHz	-/-	5320 MHz
RMS	2.28	-/-	2.82
Peak	12.67	-/-	13.03
Peak excursion value	10.39	-/-	10.21
Channel	5500 MHz	5600 MHz	5700 MHz
RMS	4.05	5.31	4.98
Peak	14.47	15.38	15.43
Peak excursion value	10.42	10.07	10.45
Measurement uncertainty	± 1 dB		

Result: **Passed**

Results:

Modulation OFDM / ac – mode HT40	Peak excursion value		
Channel	5190 MHz	5230 MHz	5270 MHz
RMS	-4.17	-3.59	-3.64
Peak	6.24	6.90	6.56
Peak excursion value	10.41	10.49	10.20
Channel	5310 MHz	5510 MHz	5590 MHz
RMS	-3.05	0.48	0.77
Peak	6.95	10.86	11.23
Peak excursion value	10.00	10.38	10.46
Channel	5670 MHz	-/-	-/-
RMS	1.15	-/-	-/-
Peak	11.63	-/-	-/-
Peak excursion value	10.48	-/-	-/-
Measurement uncertainty	± 1 dB		

Result: **Passed**

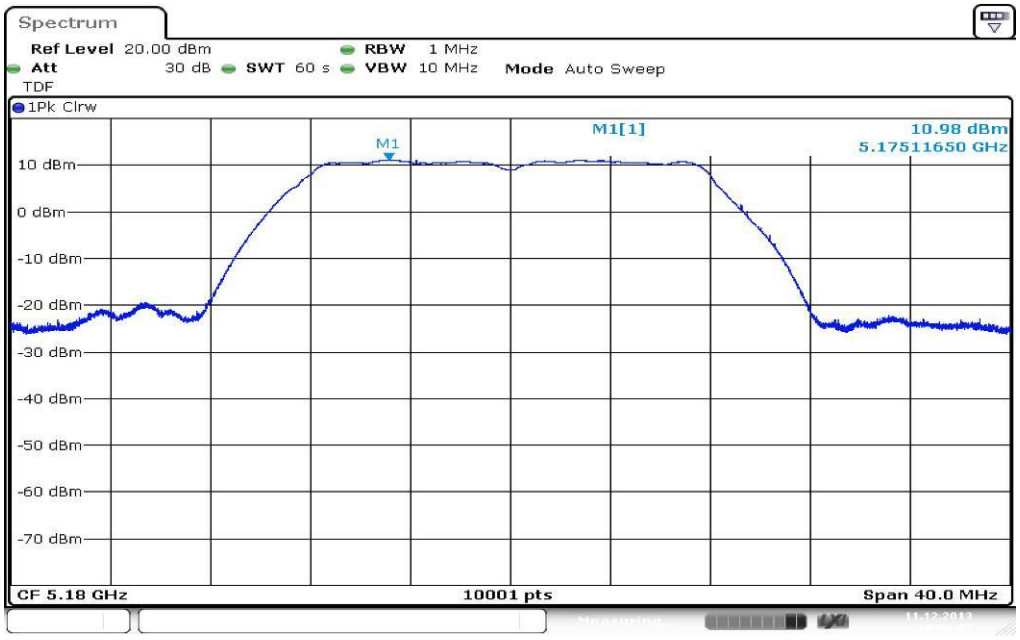
Results:

Modulation OFDM / ac – mode HT80	Peak excursion value		
Channel	5210 MHz	5290 MHz	5530 MHz
RMS	-7.91	-8.13	-6.02
Peak	2.49	2.28	4.41
Peak excursion value	10.40	10.41	10.43
Channel	5610 MHz	-/-	-/-
RMS	-6.24	-/-	-/-
Peak	4.29	-/-	-/-
Peak excursion value	10.53	-/-	-/-
Measurement uncertainty	± 1 dB		

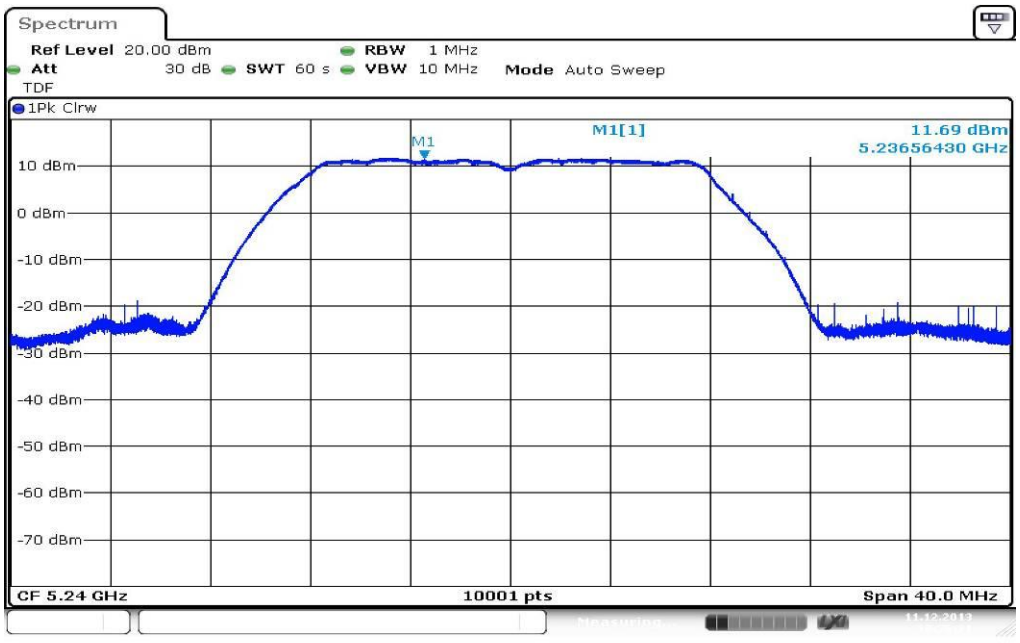
Result: **Passed**

Plots: OFDM / a – mode

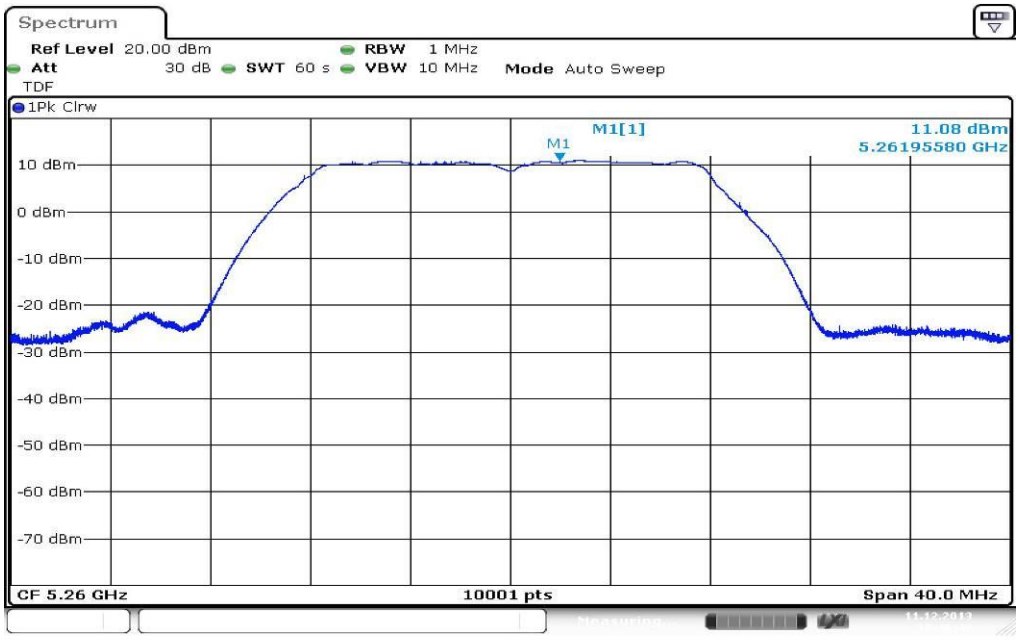
Plot 1: 5180 MHz



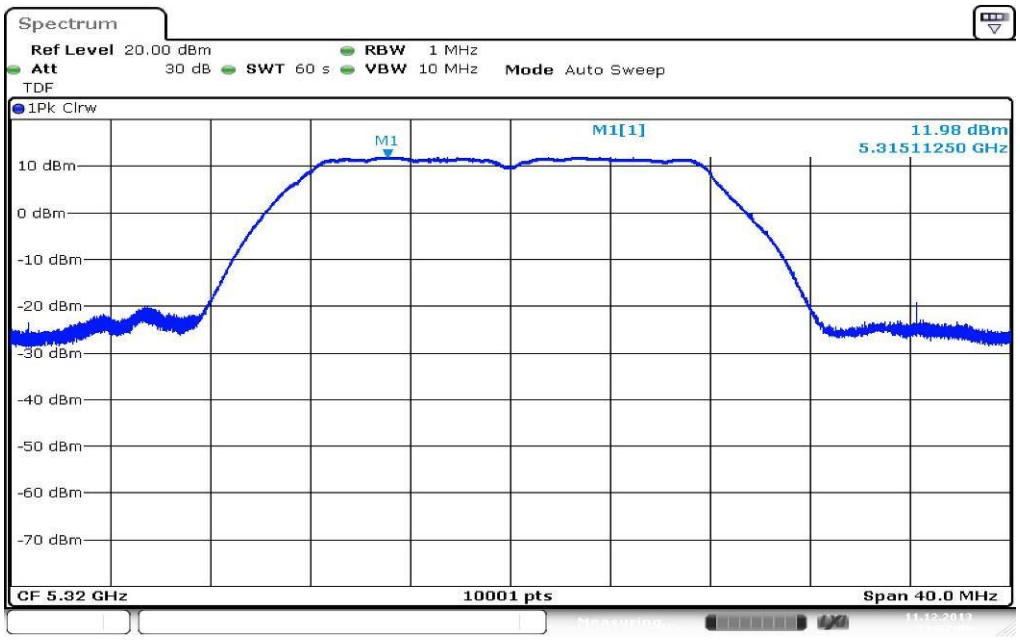
Plot 2: 5240 MHz



Plot 3: 5260 MHz

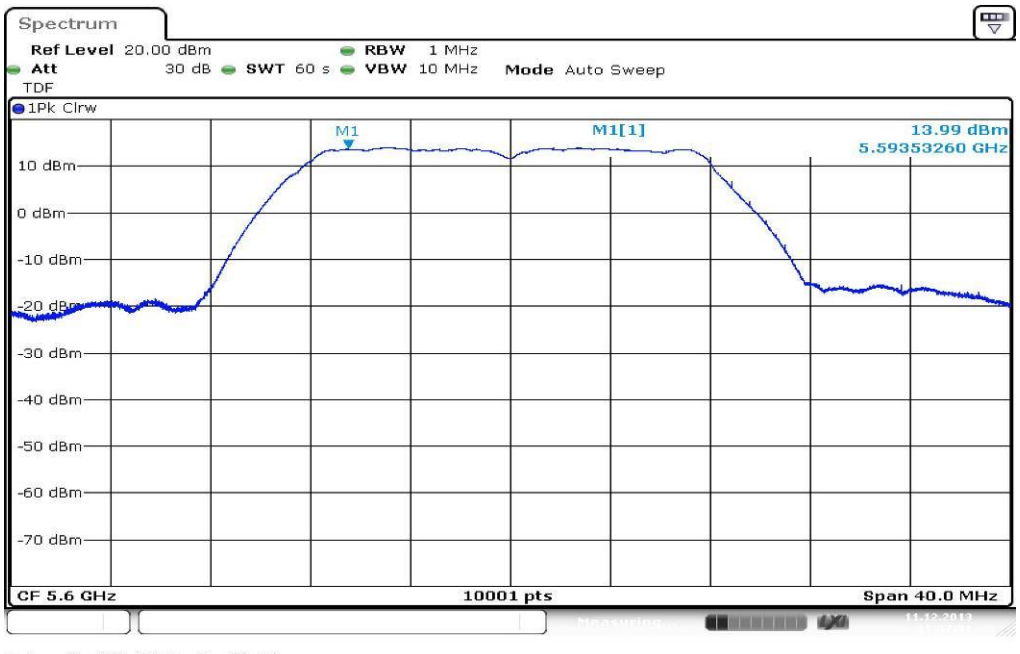


Plot 4: 5320 MHz

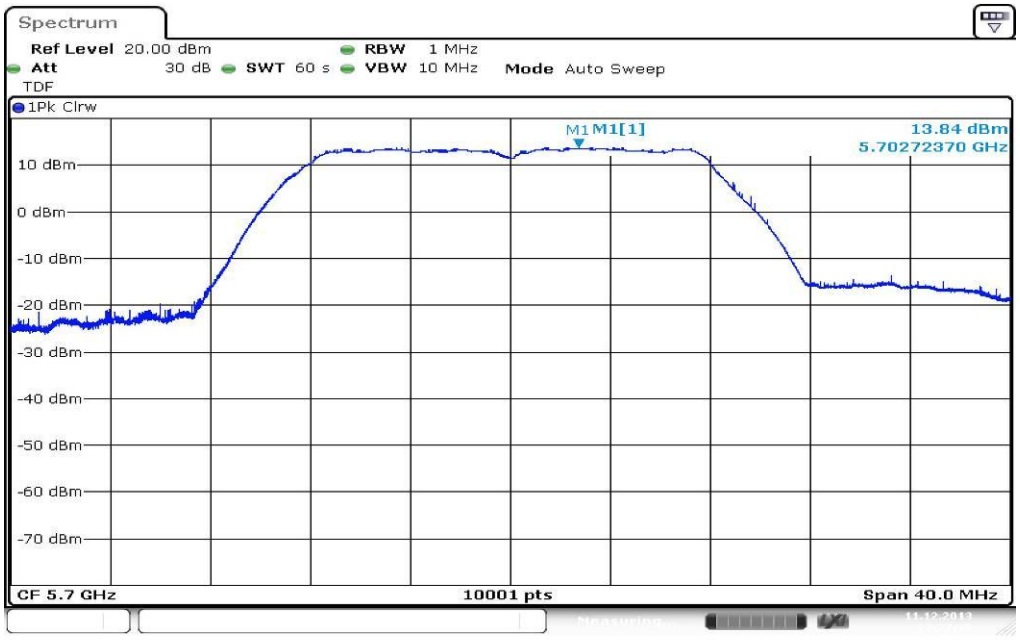


Plot 5: 5500 MHz

Plot 6: 5600 MHz

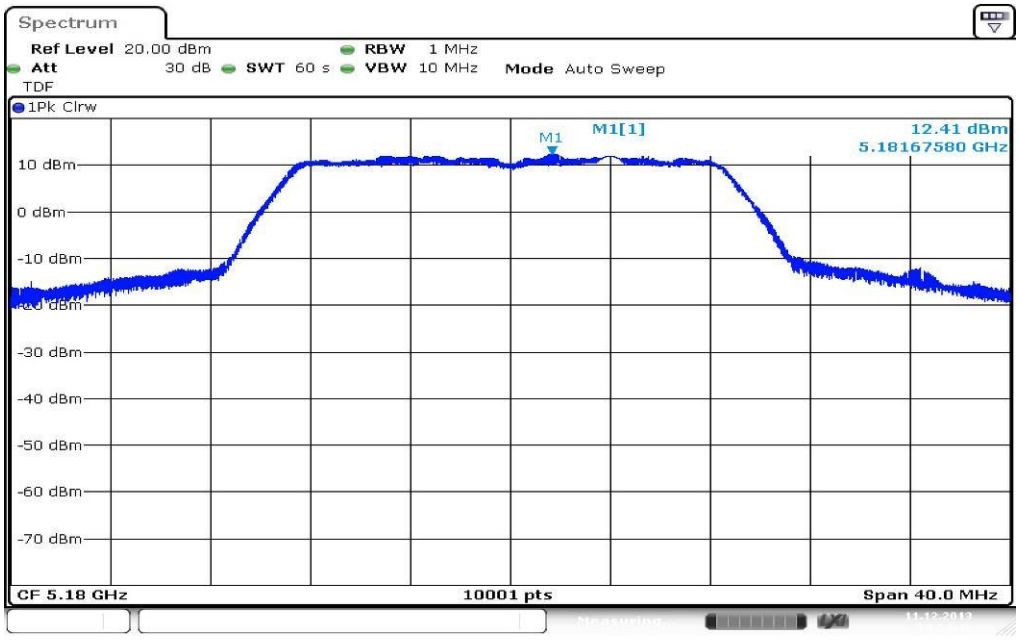


Plot 7: 5700 MHz

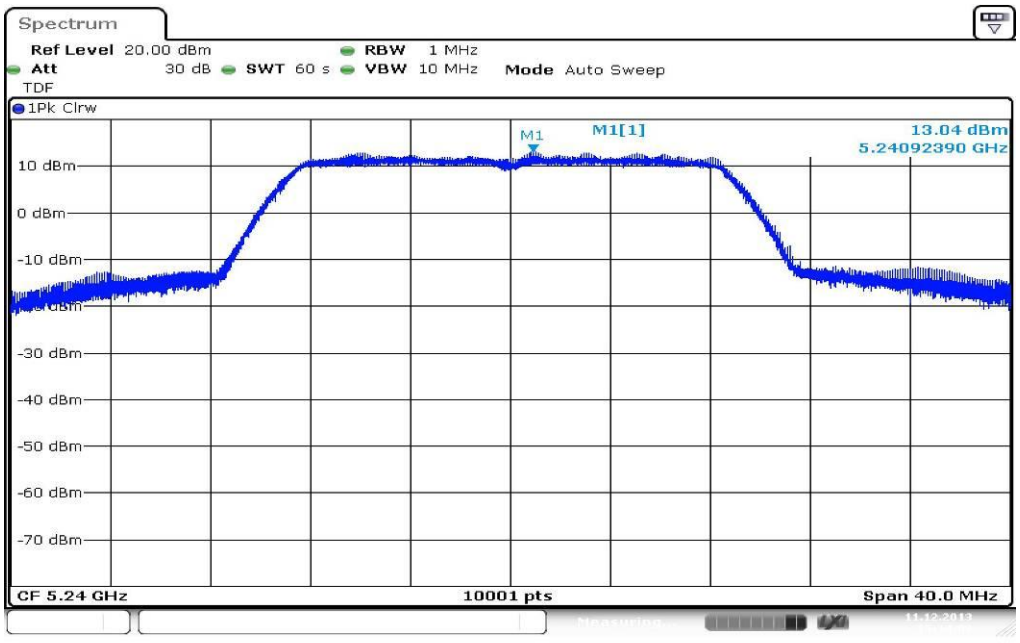


Plots: OFDM / ac – mode HT20

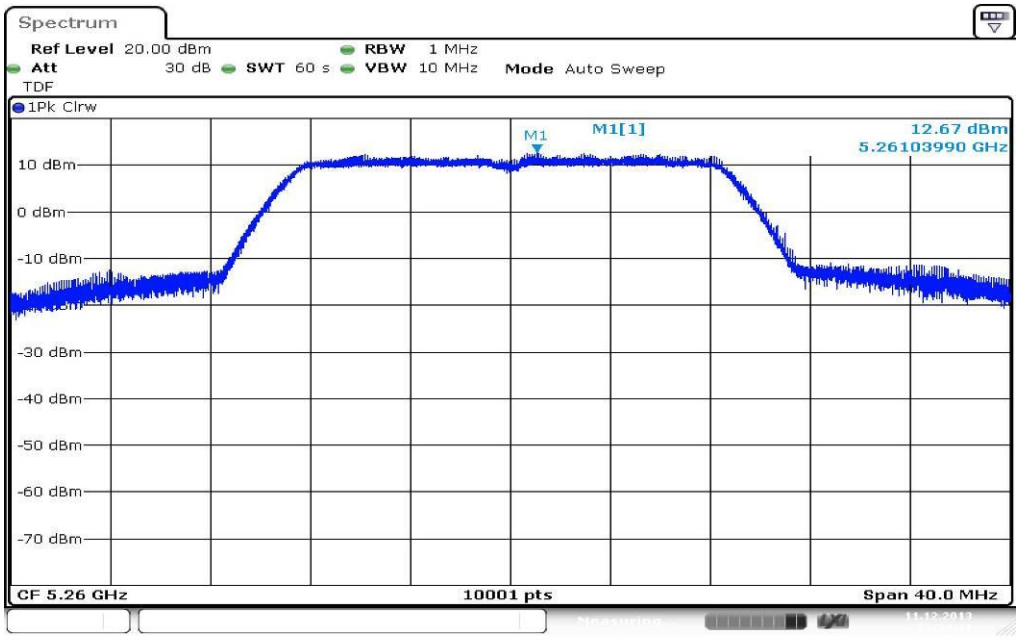
Plot 1: 5180 MHz



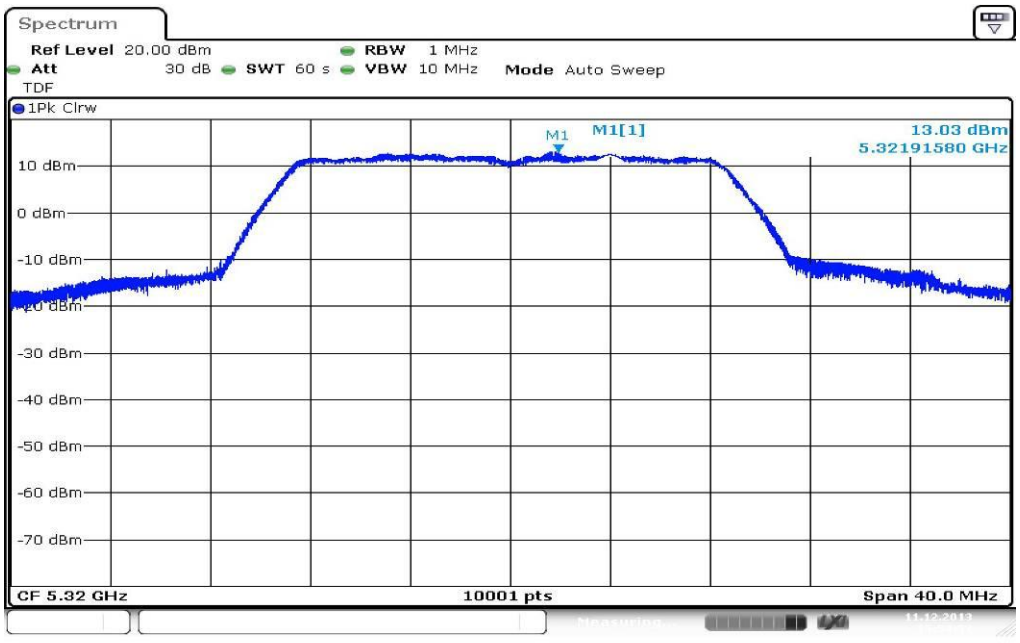
Plot 2: 5240 MHz



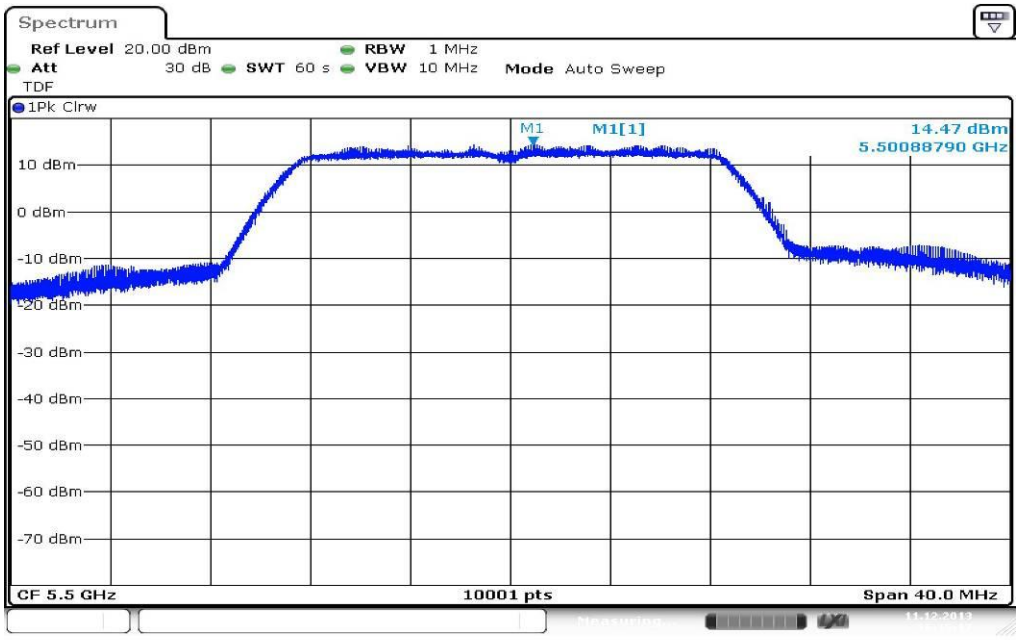
Plot 3: 5260 MHz



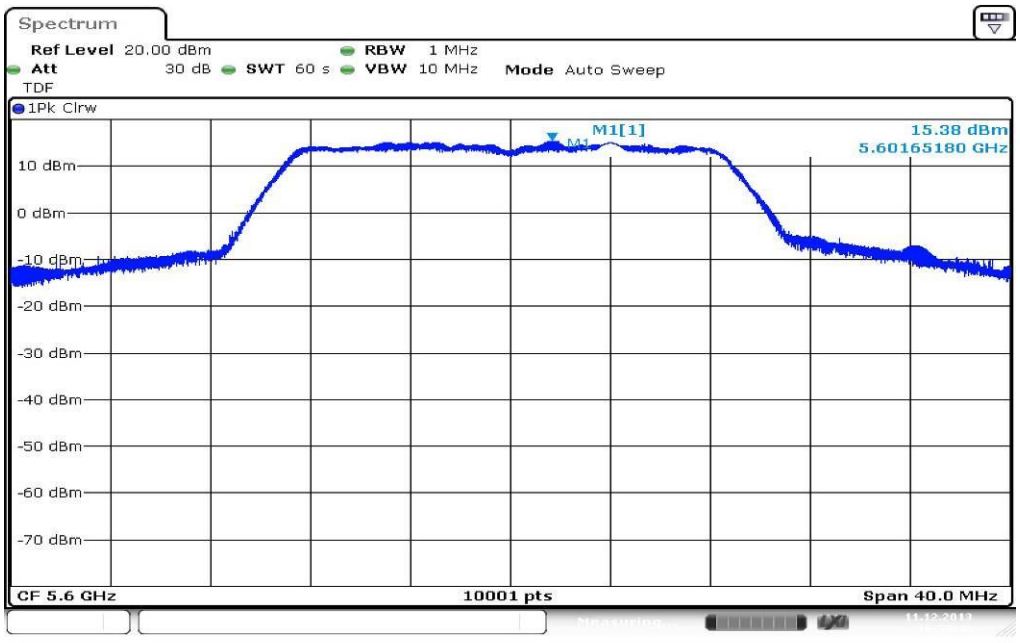
Plot 4: 5320 MHz



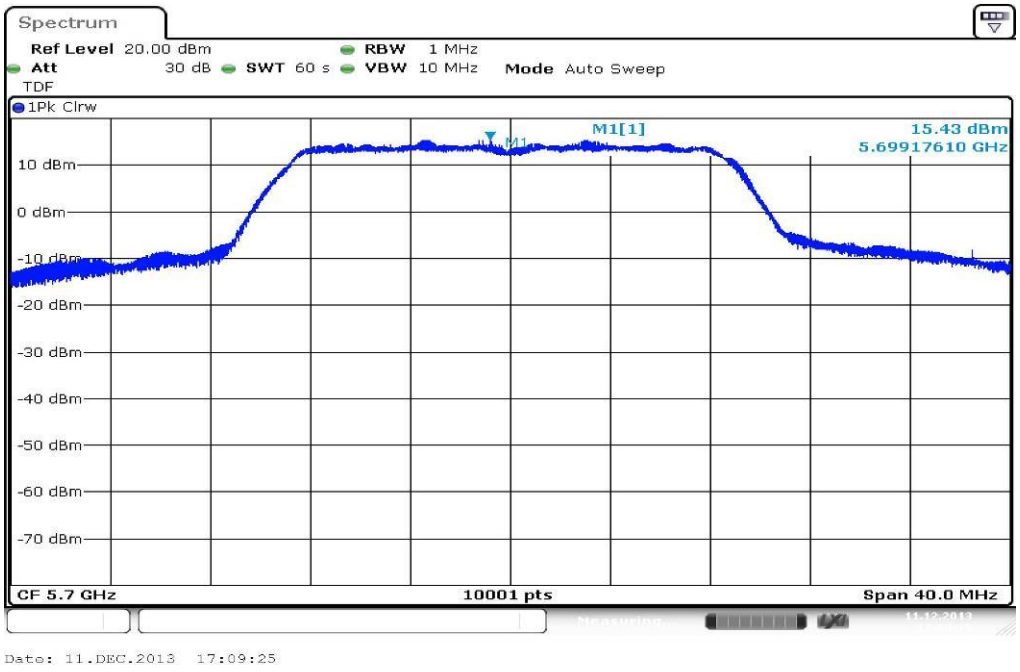
Plot 5: 5500 MHz



Plot 6: 5600 MHz

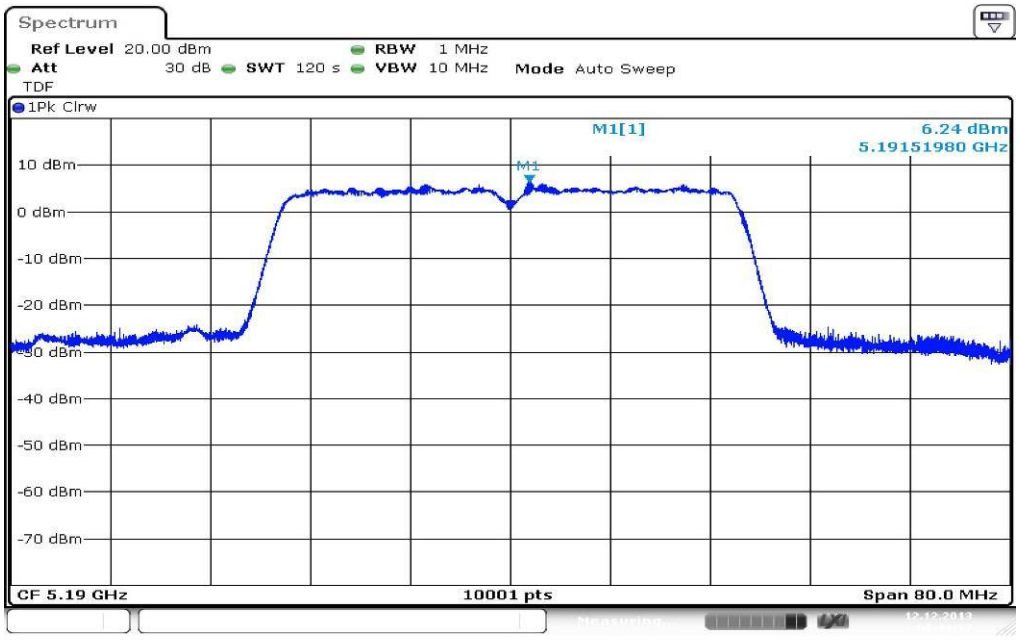


Plot 7: 5700 MHz

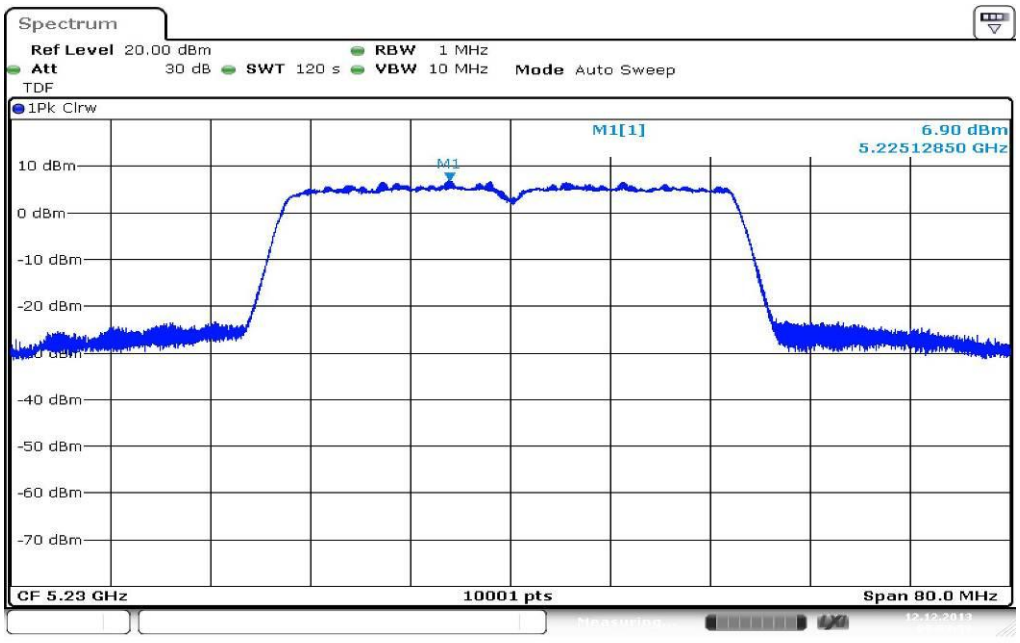


Plots: OFDM / ac – mode HT40

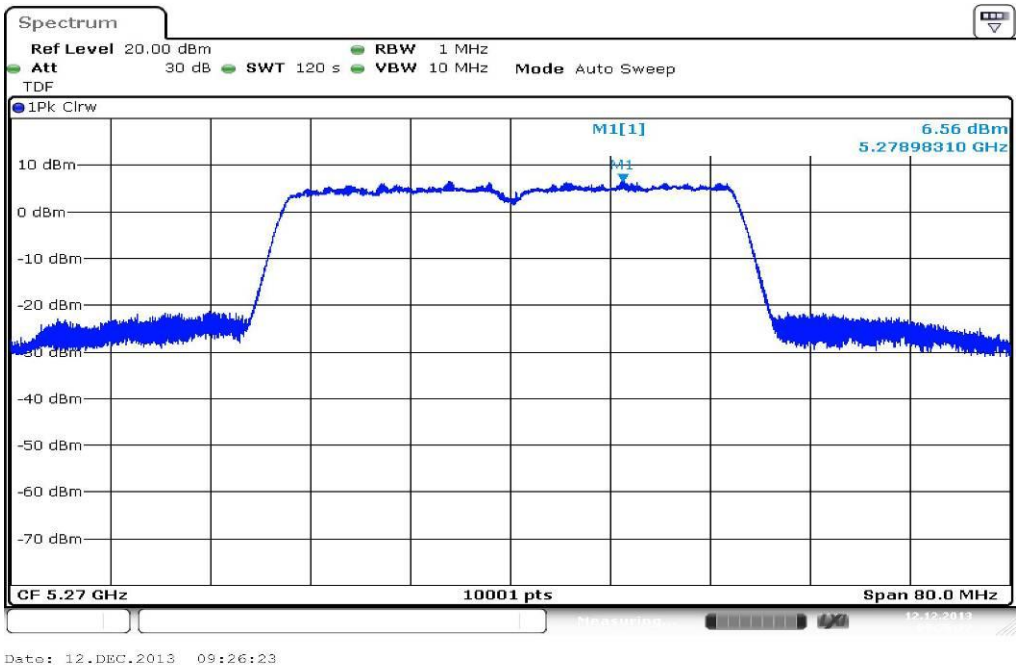
Plot 1: 5190 MHz



Plot 2: 5230 MHz

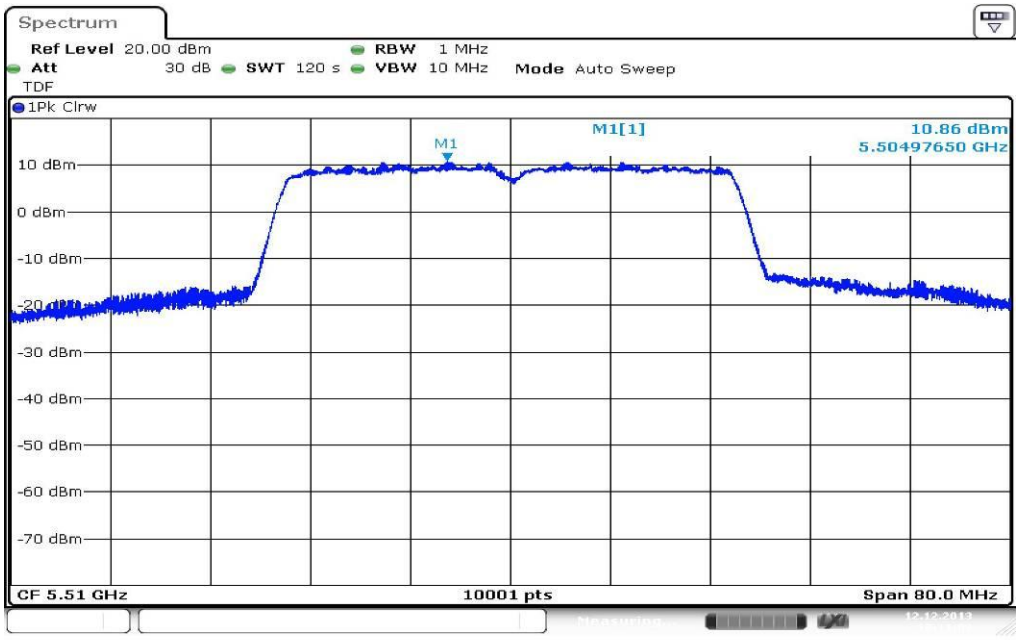


Plot 3: 5270 MHz

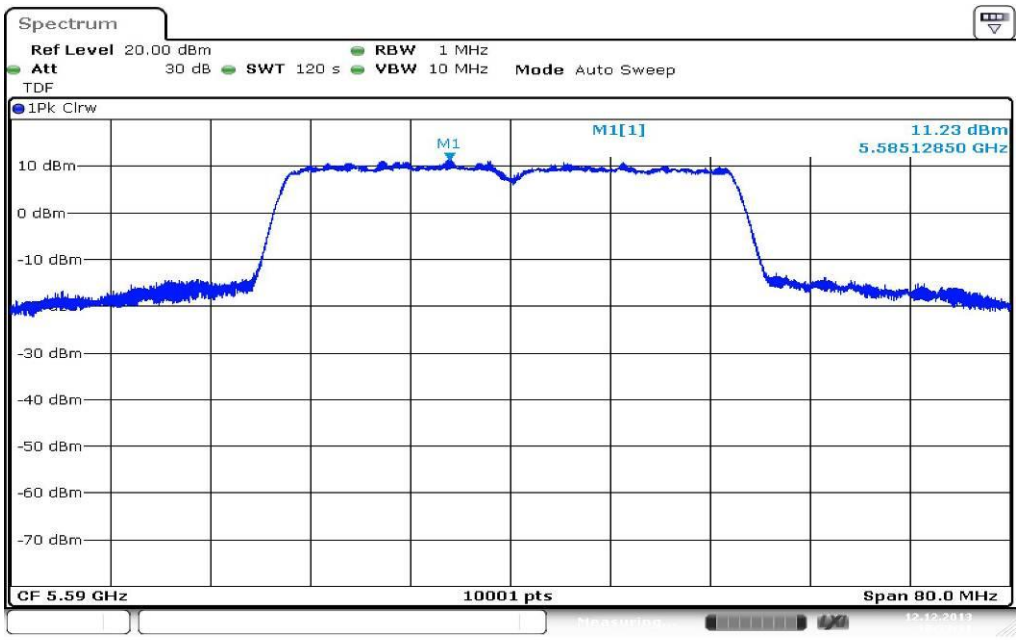


Plot 4: 5310 MHz

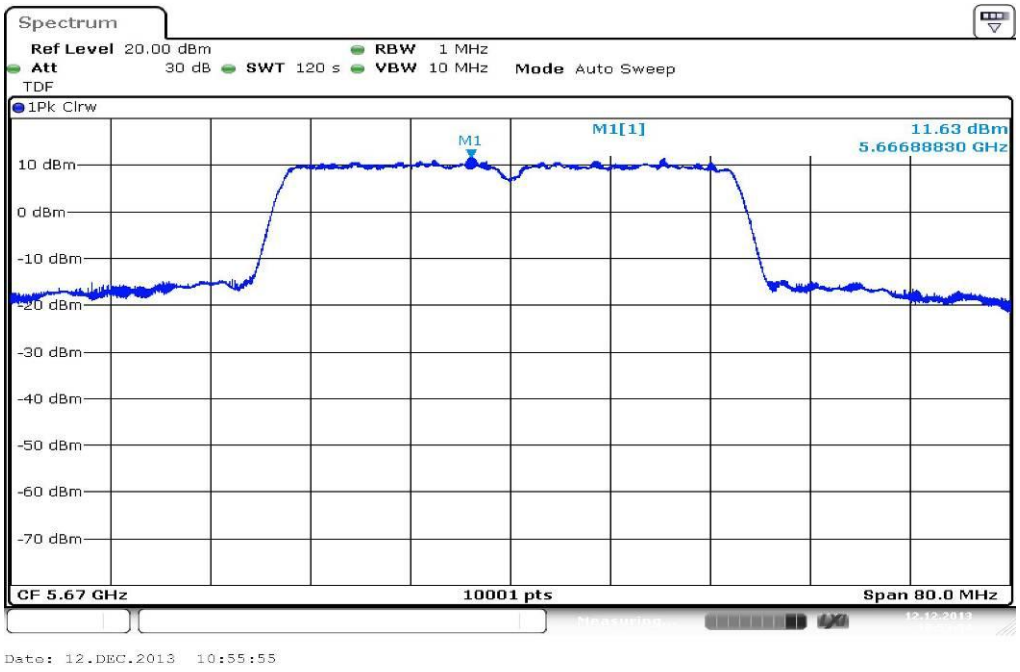
Plot 5: 5510 MHz



Plot 6: 5590 MHz

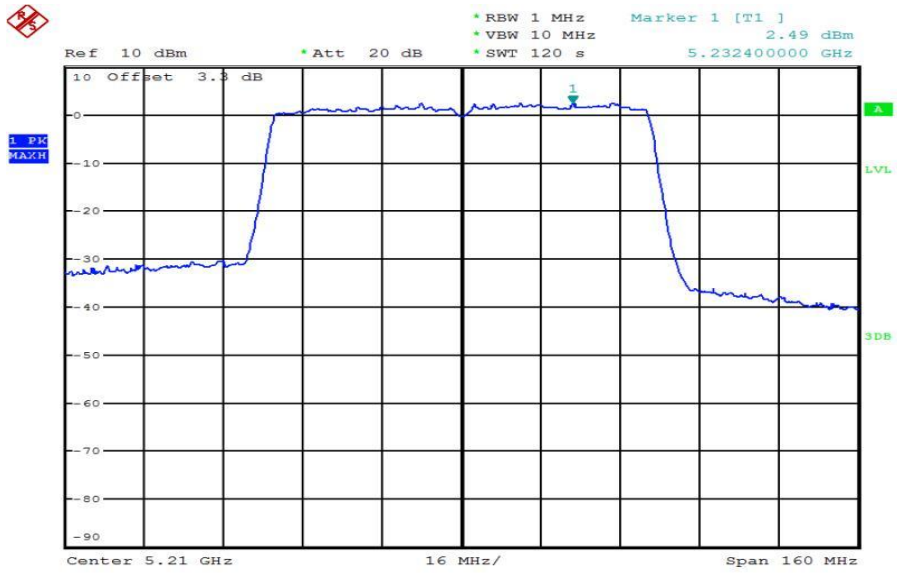


Plot 7: 5670 MHz



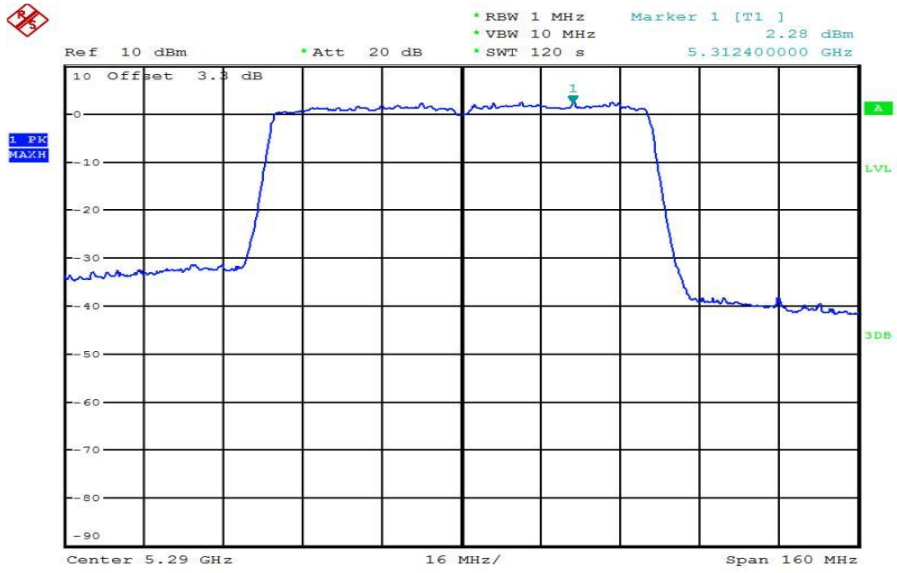
Plots: OFDM / ac – mode HT80

Plot 1: 5210 MHz



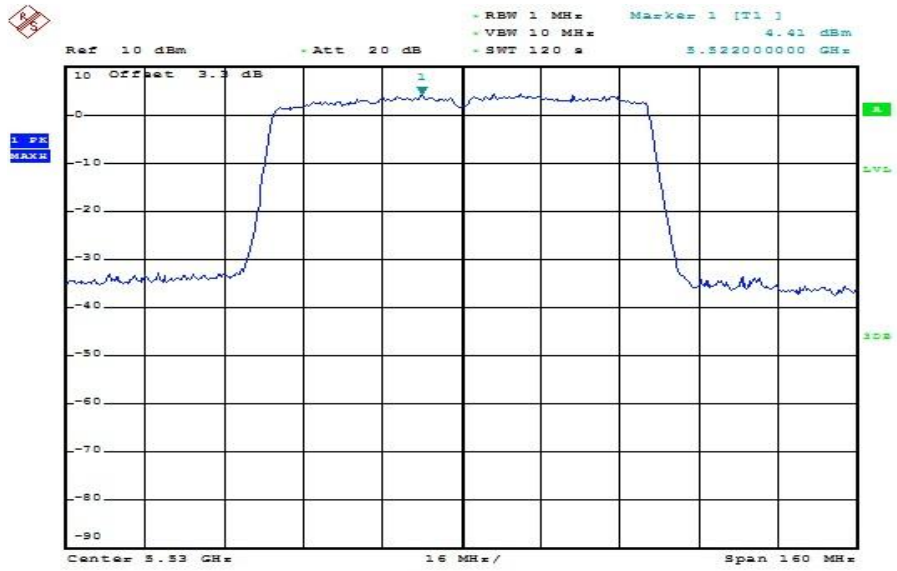
Date: 23.JAN.2014 17:37:01

Plot 2: 5290 MHz



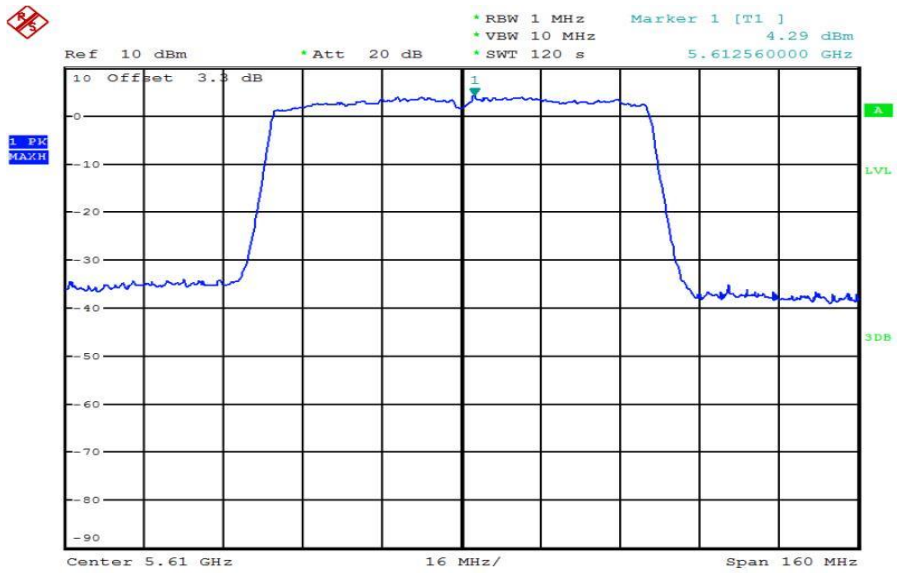
Date: 23.JAN.2014 17:39:52

Plot 3: 5530 MHz



Date: 23.JAN.2014 17:30:50

Plot 4: 5610 MHz



Date: 23.JAN.2014 17:34:21

10.8 Band edge compliance radiated

Description:

Measurement of the radiated band edge compliance. The EUT is turned in the position that results in the maximum level at the band edge. Then a sweep over the corresponding restricted band is performed. The EUT is set to the lowest channel for the lower restricted band and to the highest channel for the upper restricted band. Measurement distance is 3m.

Measurement:

Measurement parameter	
Detector:	Peak / RMS
Sweep time:	Auto
Resolution bandwidth:	1 MHz
Video bandwidth:	10 Hz / 1 MHz
Span:	See plots!
Trace-Mode:	Max Hold

Limits:

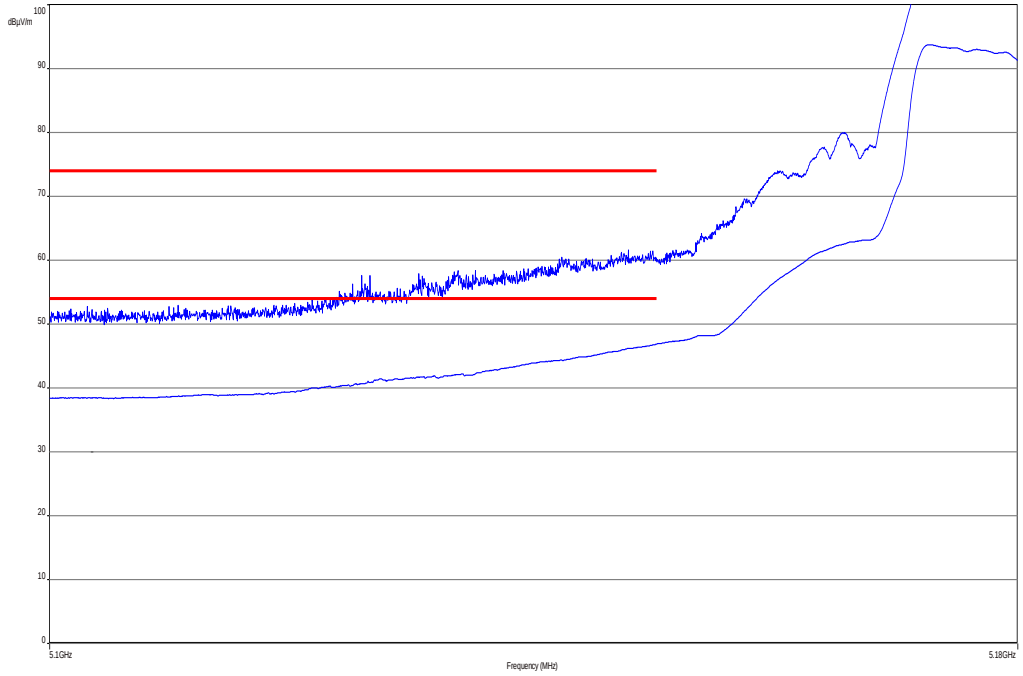
Band Edge Compliance Radiated
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 5.205(c)).
74 dBµV/m PEAK 54 dBµV/m AVG

Result:

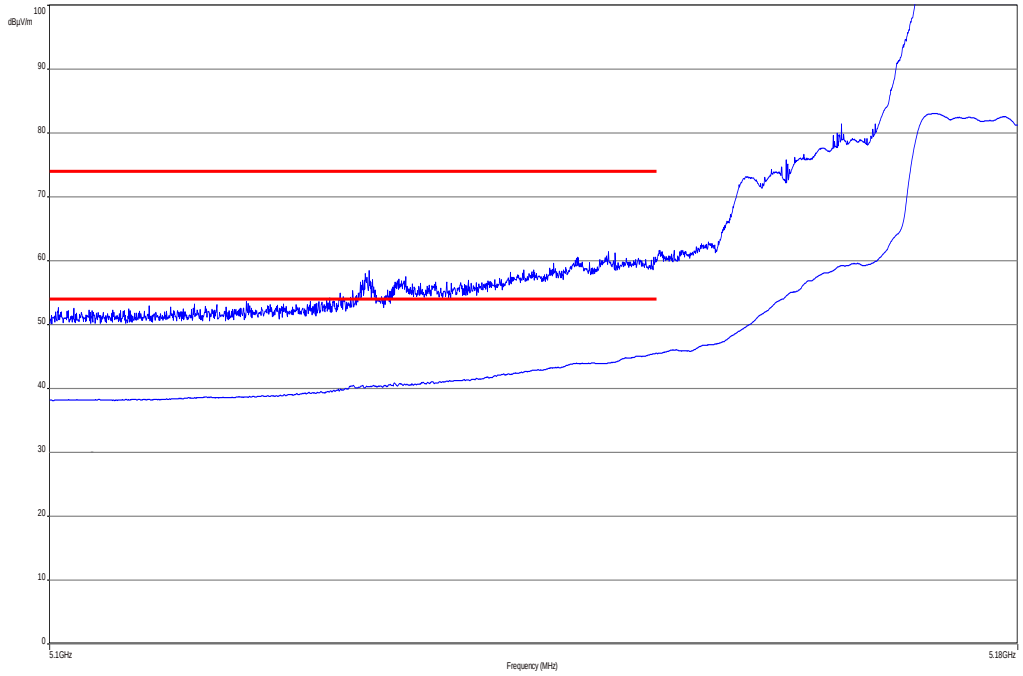
Scenario	Band Edge Compliance Radiated [dBµV/m]
band edge	< 74 dBµV/m (AVG) < 54 dBµV/m (PEAK)
Measurement uncertainty	± 3 dB

Plots:

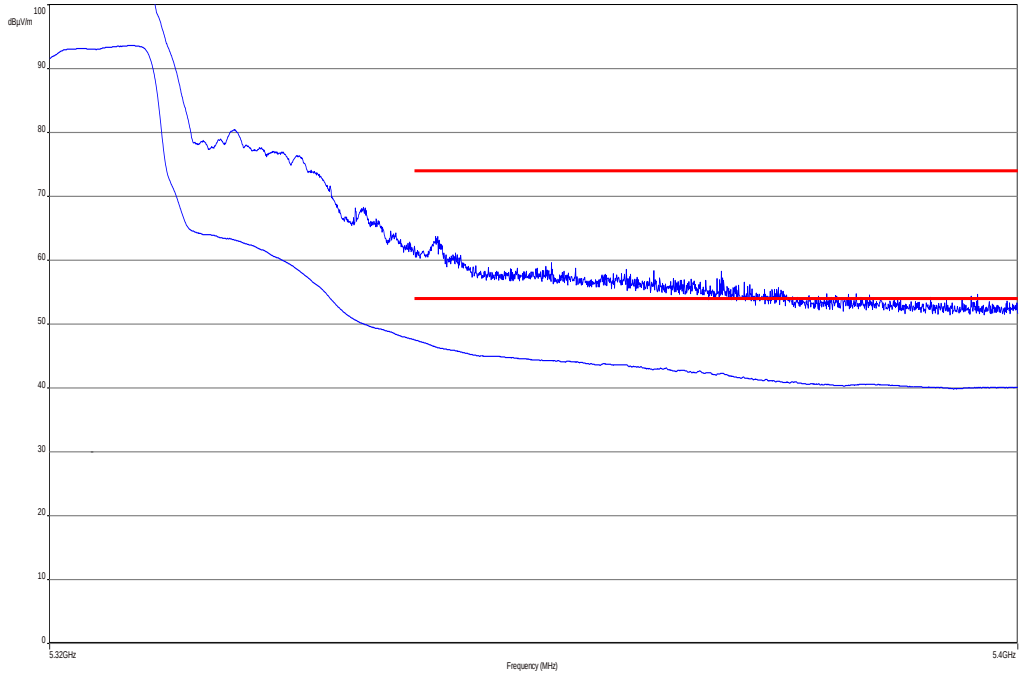
Plot 1: lower band edge, vertical & horizontal polarization (a mode), channel 36, low data rate



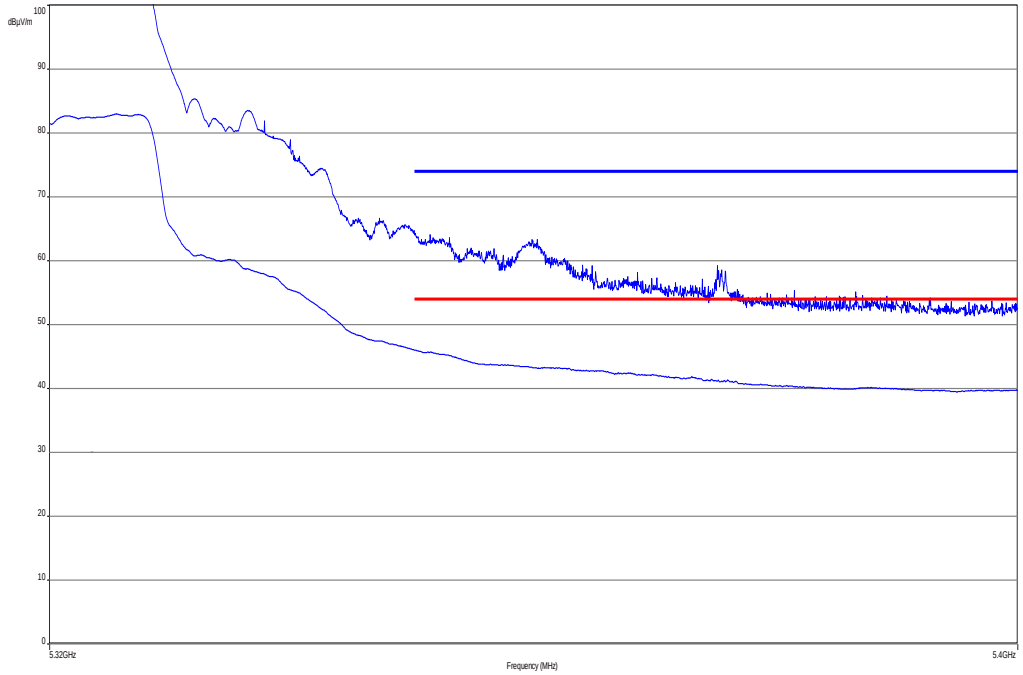
Plot 2: lower band edge, vertical & horizontal polarization (a mode), channel 36, high data rate



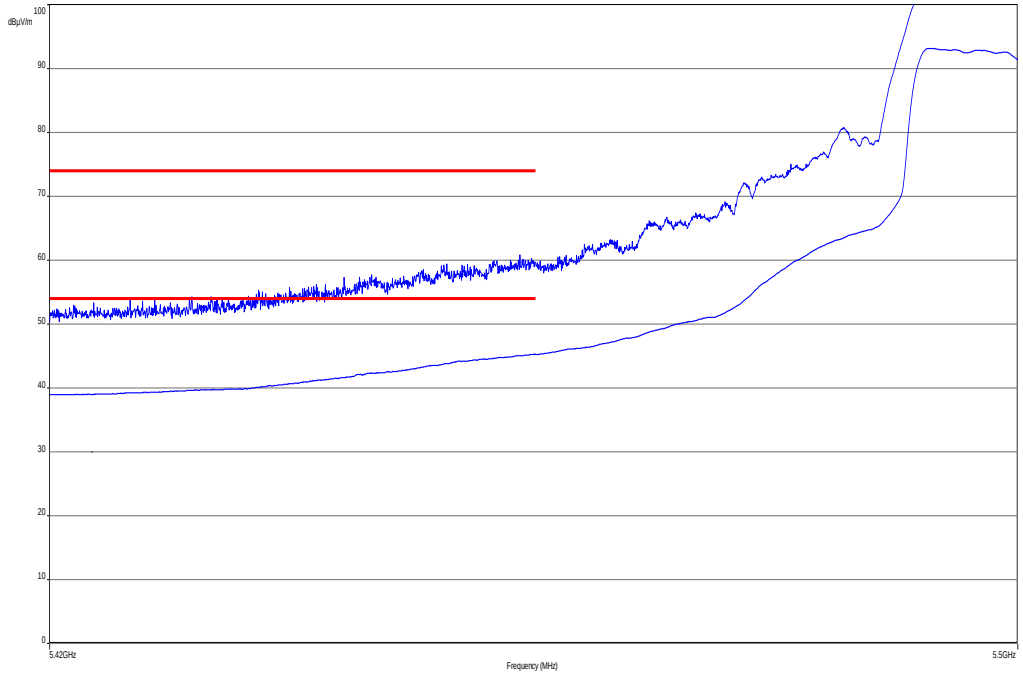
Plot 3: upper band edge, vertical & horizontal polarization (a mode), channel 64, low data rate



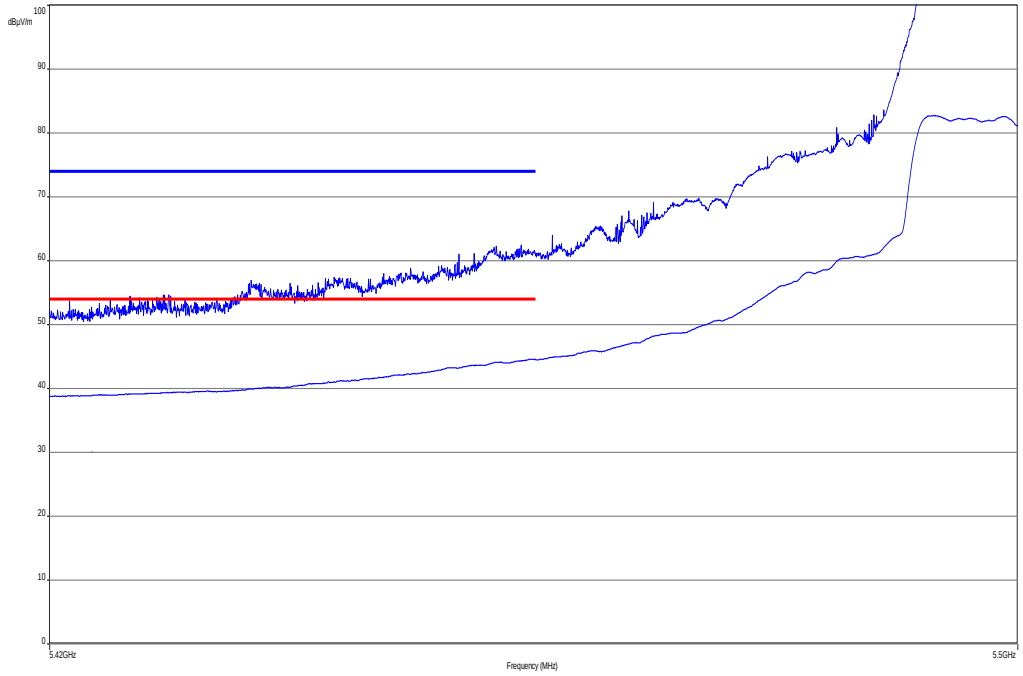
Plot 4: upper band edge, vertical & horizontal polarization (a mode), channel 64, high data rate



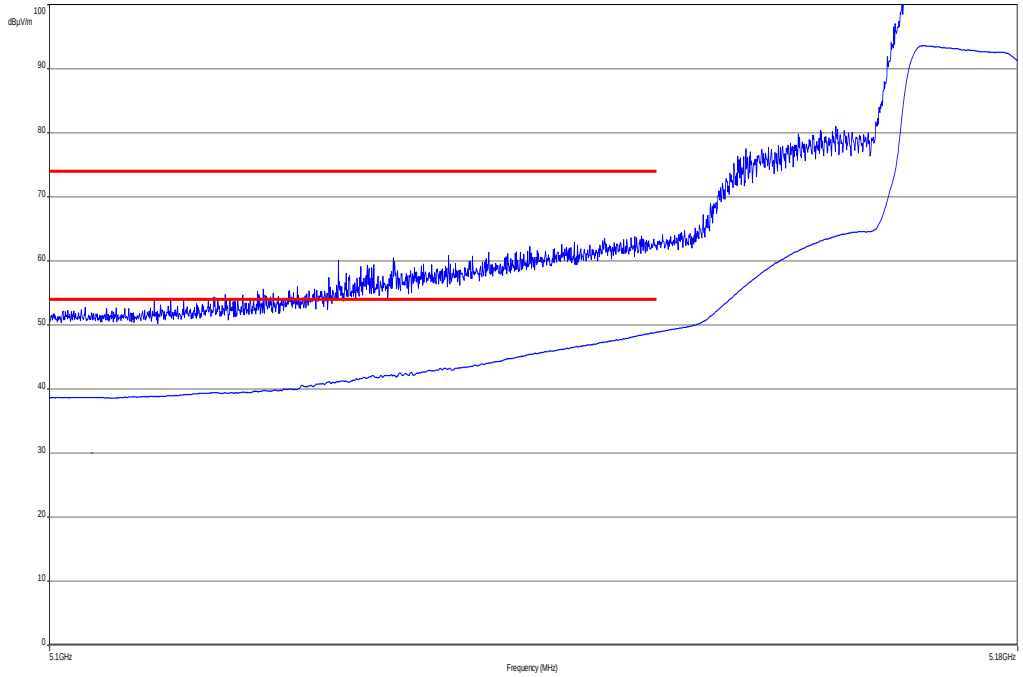
Plot 5: lower band edge, vertical & horizontal polarization (a mode), channel 100, low data rate



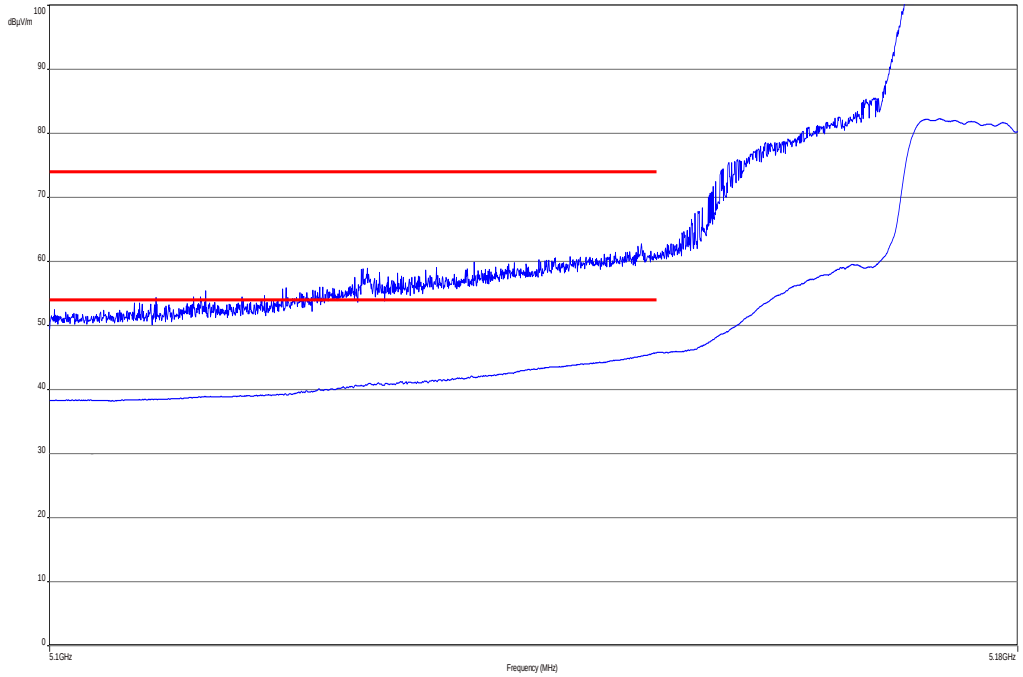
Plot 6: lower band edge, vertical & horizontal polarization (a mode), channel 100, high data rate



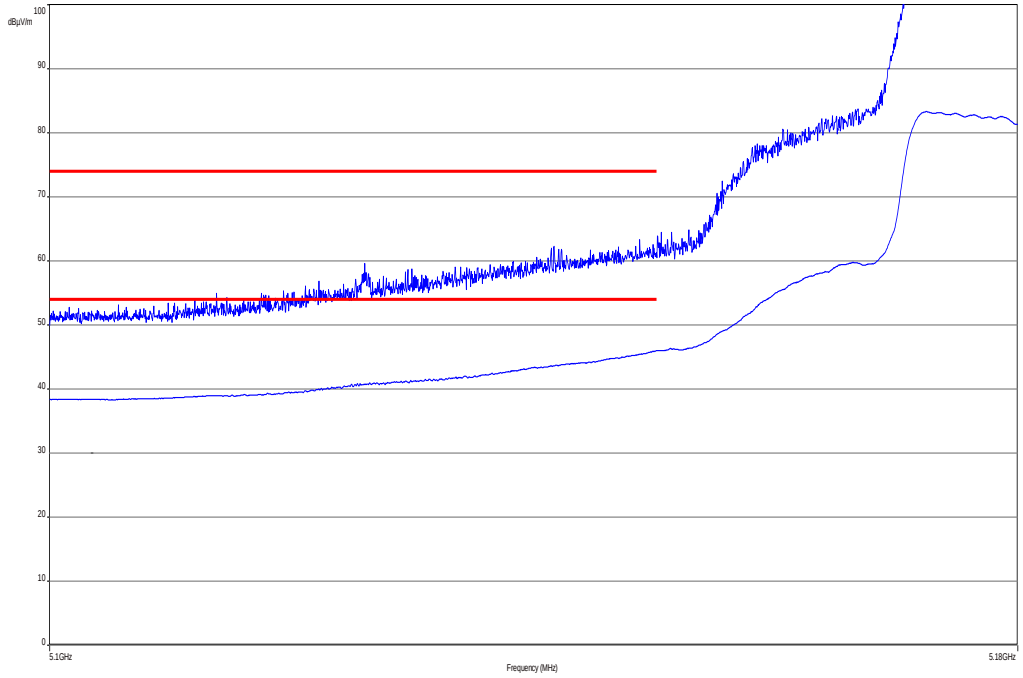
Plot 7: lower band edge, vertical & horizontal polarization (ac HT 20 mode), channel 36, low data rate



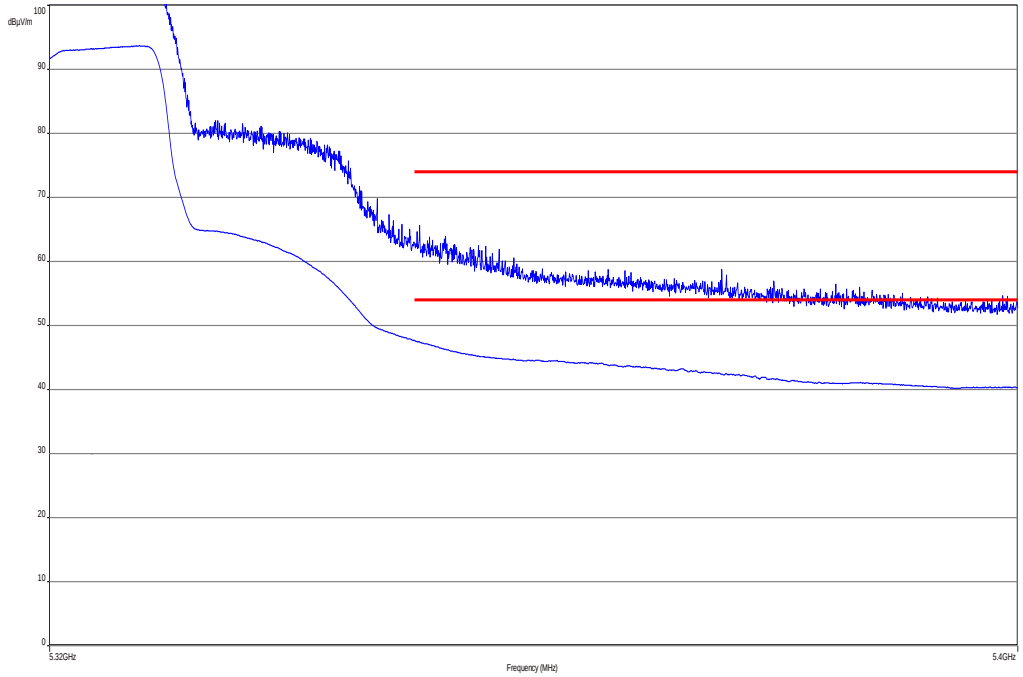
Plot 8: lower band edge, vertical & horizontal polarization (ac HT 20 mode), channel 36, high data rate



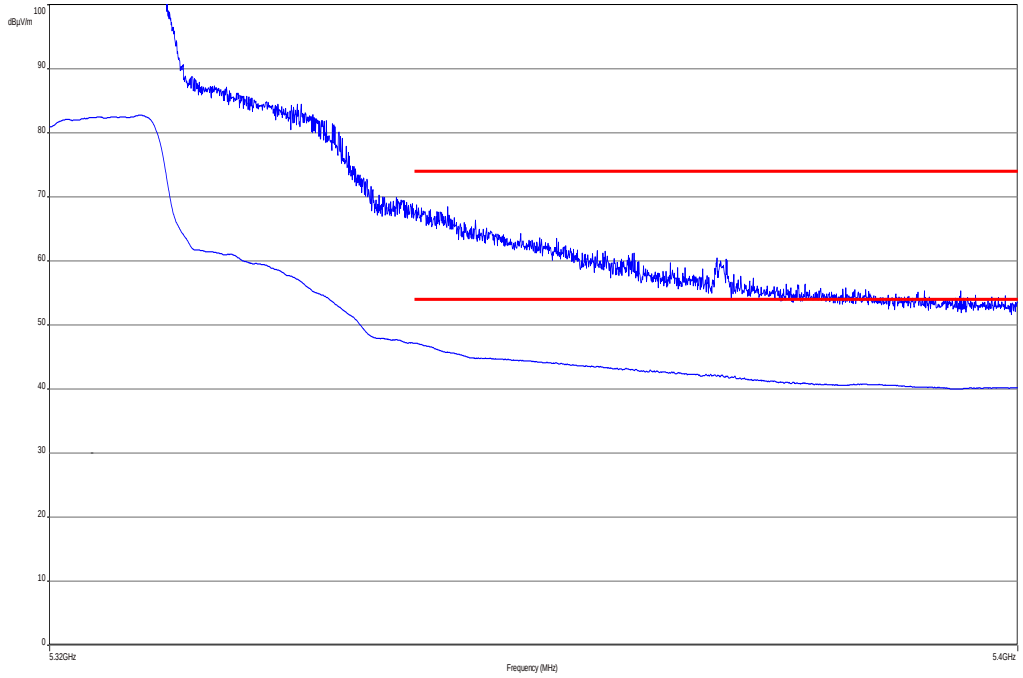
Plot 9: lower band edge, vertical & horizontal polarization (ac HT 20 mode), channel 36, highest power d. r.



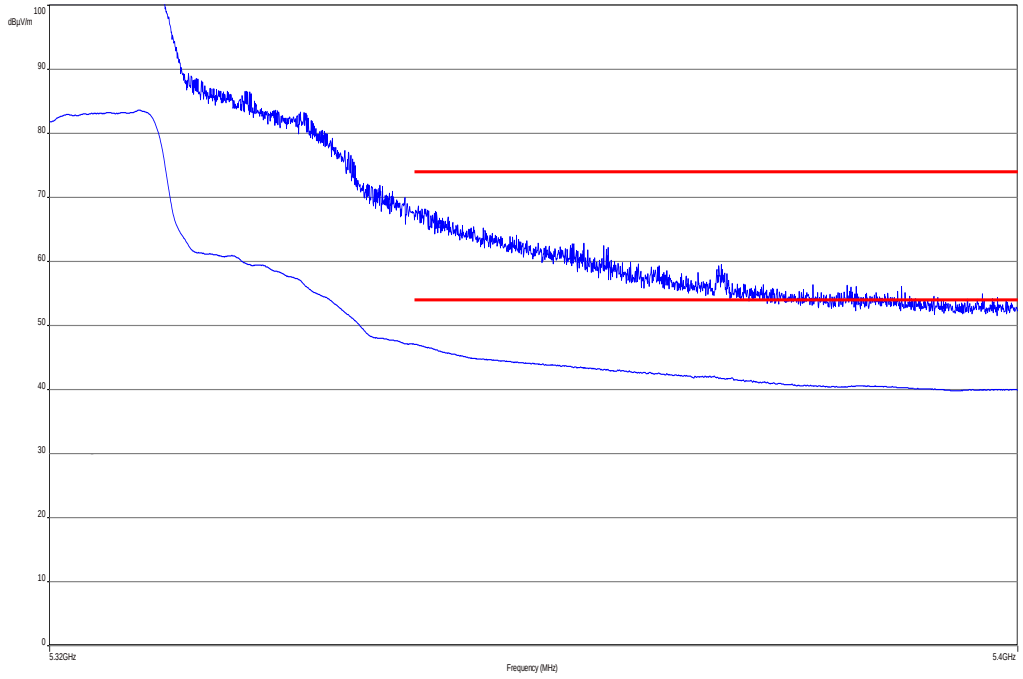
Plot 10: upper band edge, vertical & horizontal polarization (ac HT 20 mode), channel 64, low data rate



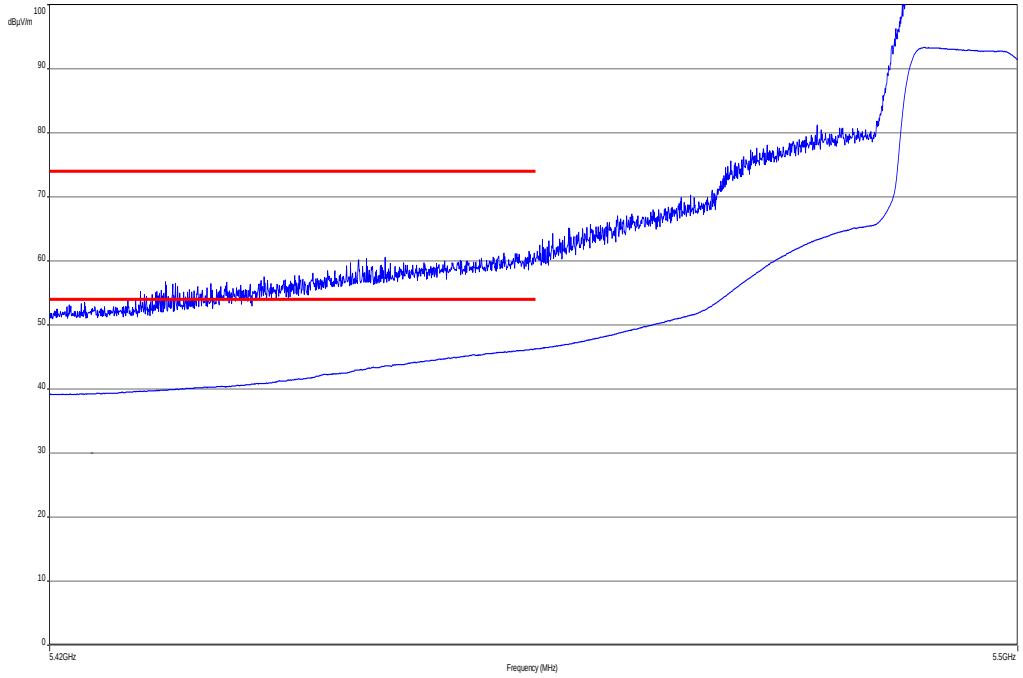
Plot 11: upper band edge, vertical & horizontal polarization (ac HT 20 mode), channel 64, high data rate



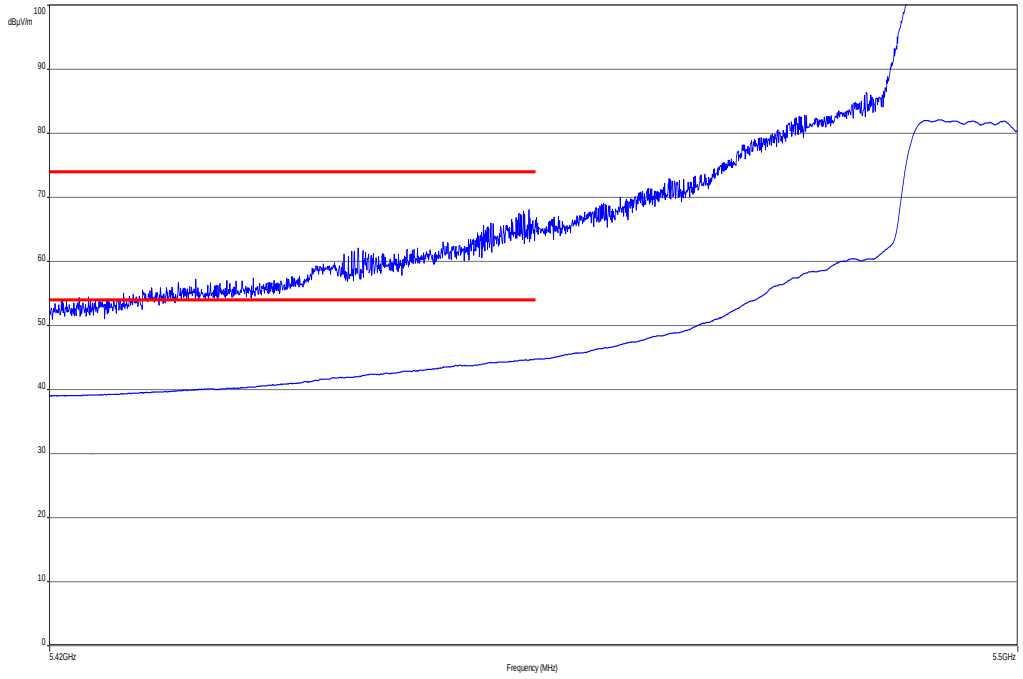
Plot 12: upper band edge, vertical & horizontal polarization (ac HT 20 mode), channel 64, highest power d. r.



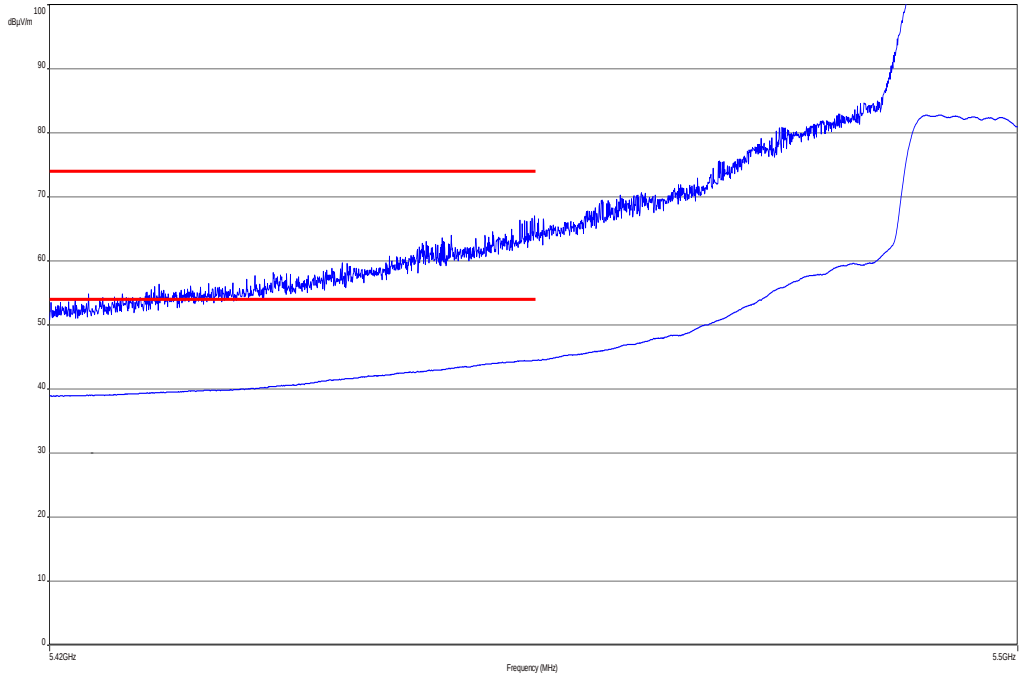
Plot 13: lower band edge, vertical & horizontal polarization (ac HT 20 mode), channel 100, low data rate



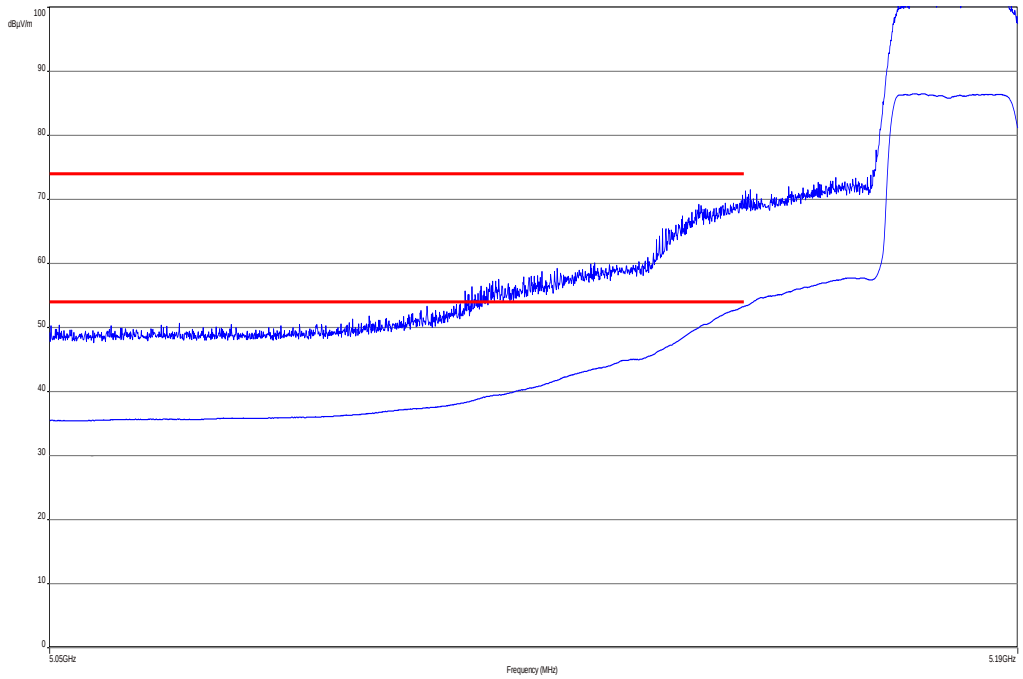
Plot 14: lower band edge, vertical & horizontal polarization (ac HT 20 mode), channel 100, high data rate



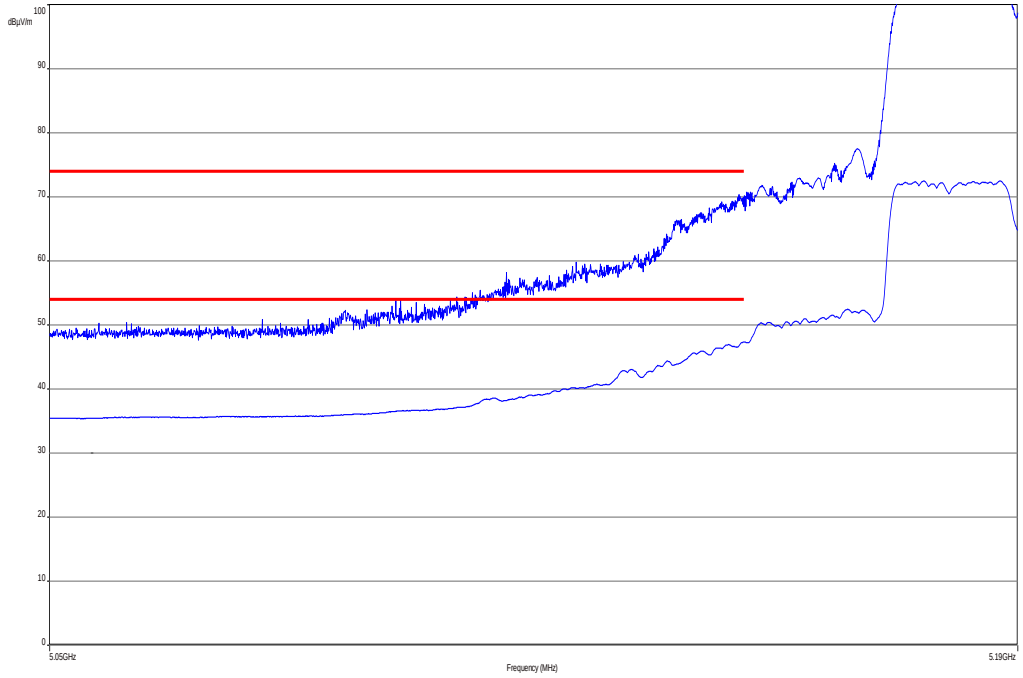
Plot 15: lower band edge, vertical & horizontal polarization (ac HT 20 mode), channel 100, highest power d. r.



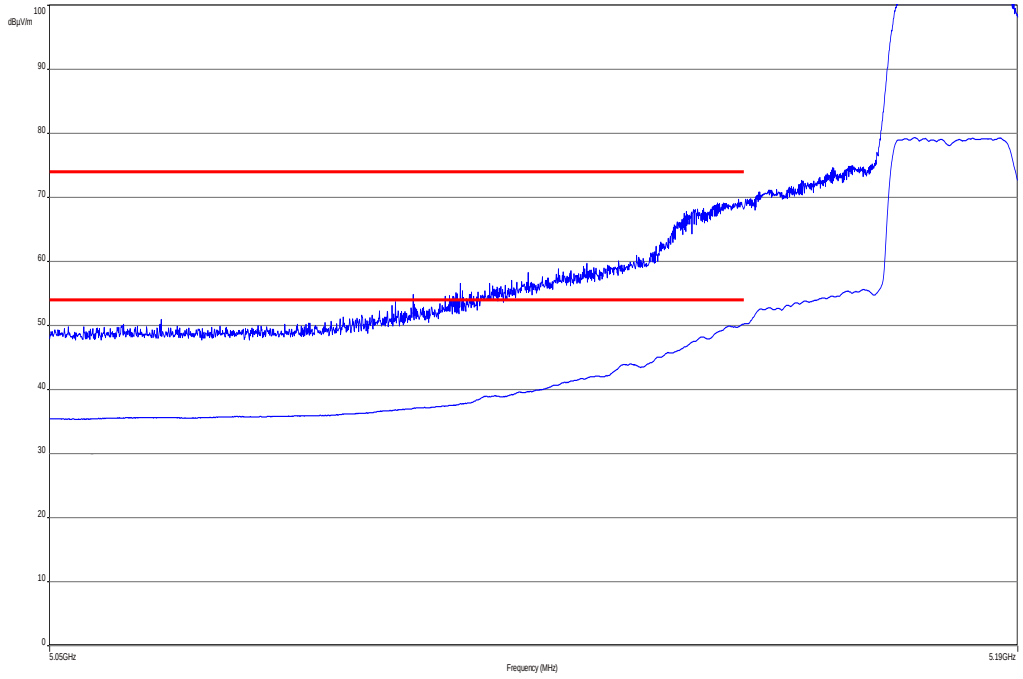
Plot 16: lower band edge, vertical & horizontal polarization (ac HT 40 mode), channel 38, low data rate



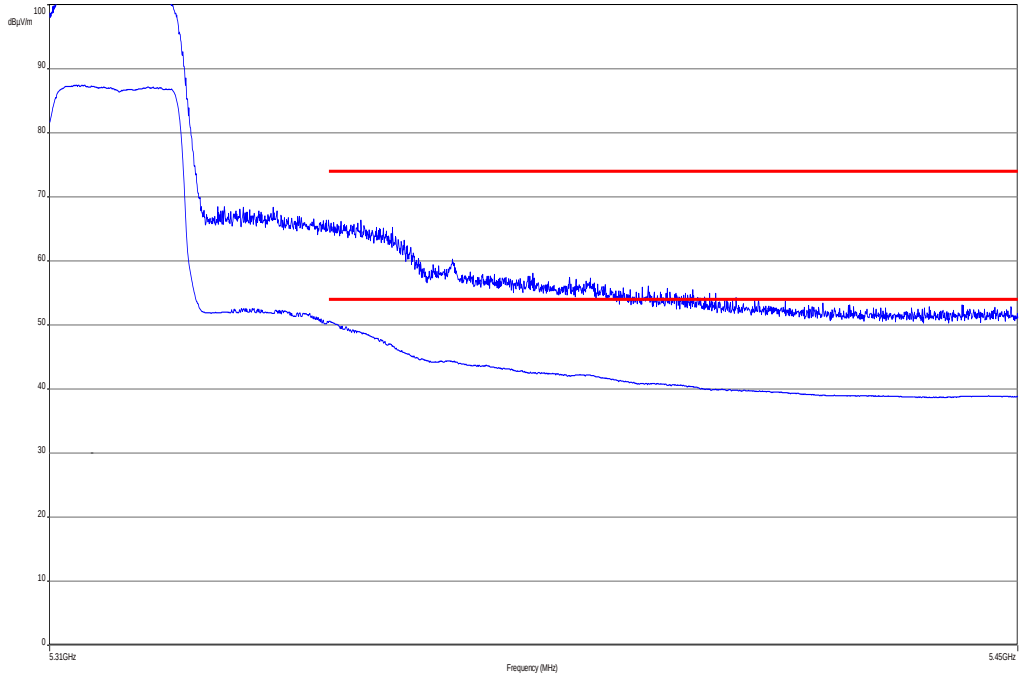
Plot 17: lower band edge, vertical & horizontal polarization (ac HT 40 mode), channel 38, high data rate



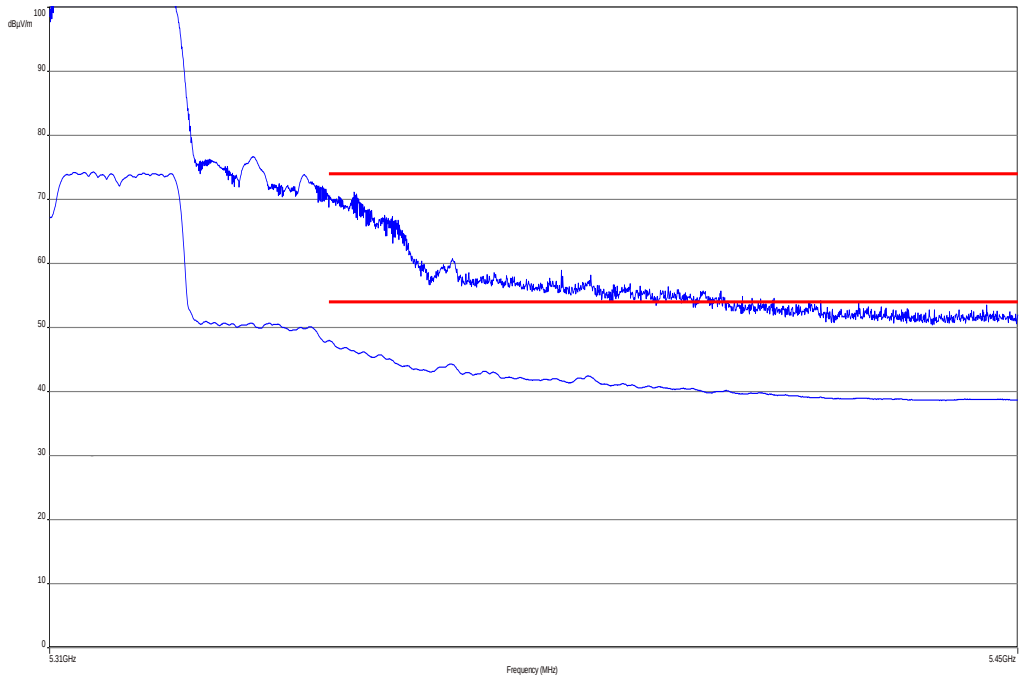
Plot 18: lower band edge, vertical & horizontal polarization (ac HT 40 mode), channel 38, highest power d. r.



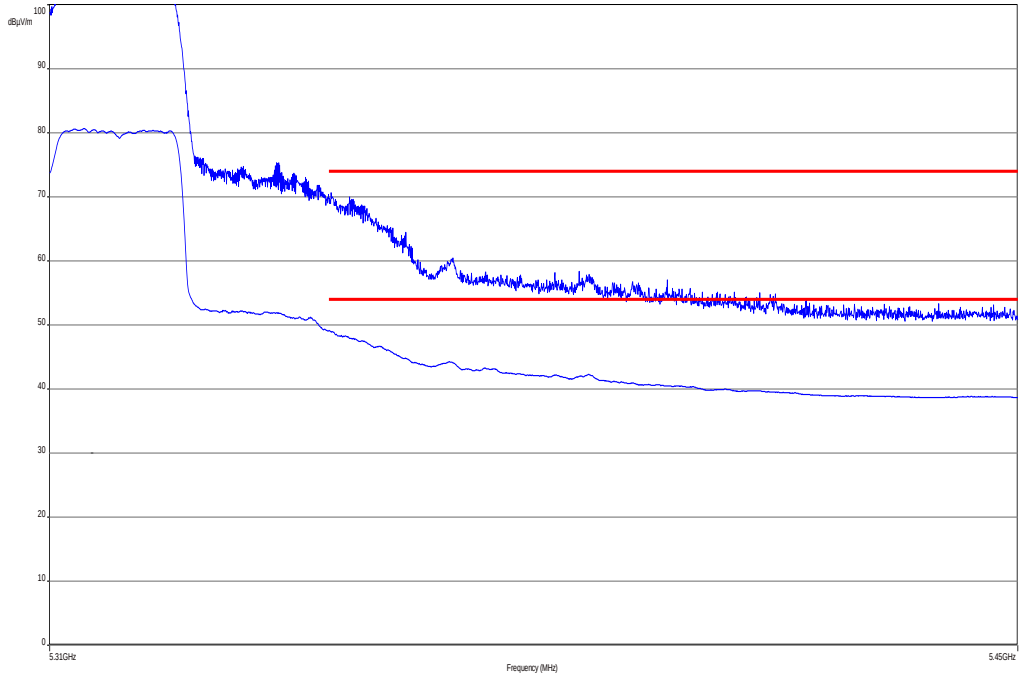
Plot 19: upper band edge, vertical & horizontal polarization (ac HT 40 mode), channel 62, low data rate



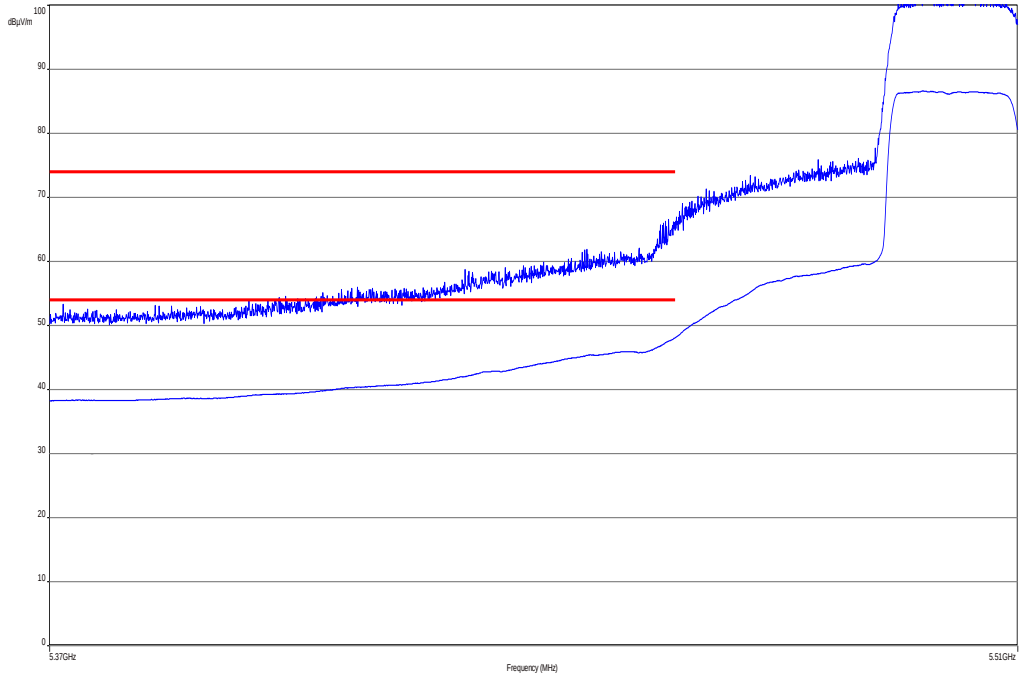
Plot 20: upper band edge, vertical & horizontal polarization (ac HT 40 mode), channel 62, high data rate



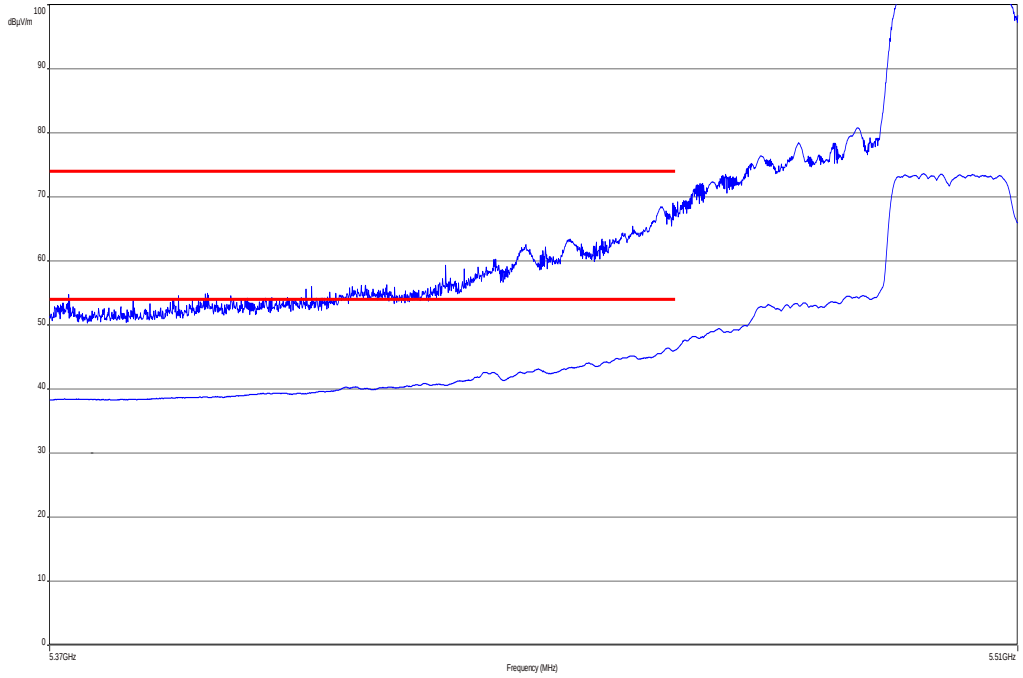
Plot 21: upper band edge, vertical & horizontal polarization (ac HT 40 mode), channel 62, highest power d. r.



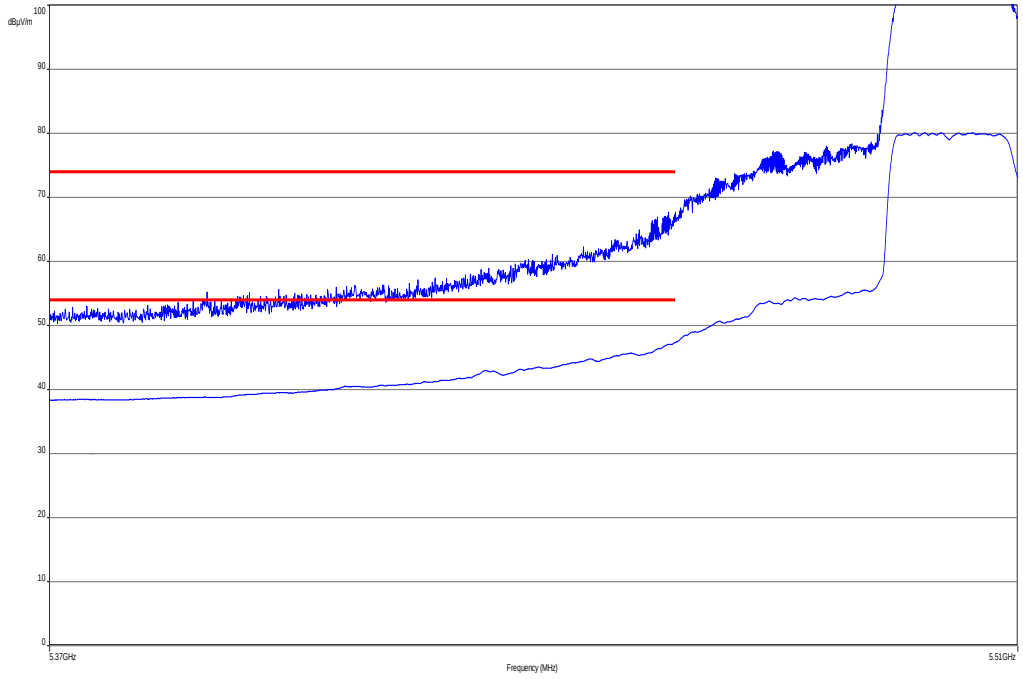
Plot 22: lower band edge, vertical & horizontal polarization (ac HT 40 mode), channel 102, low data rate



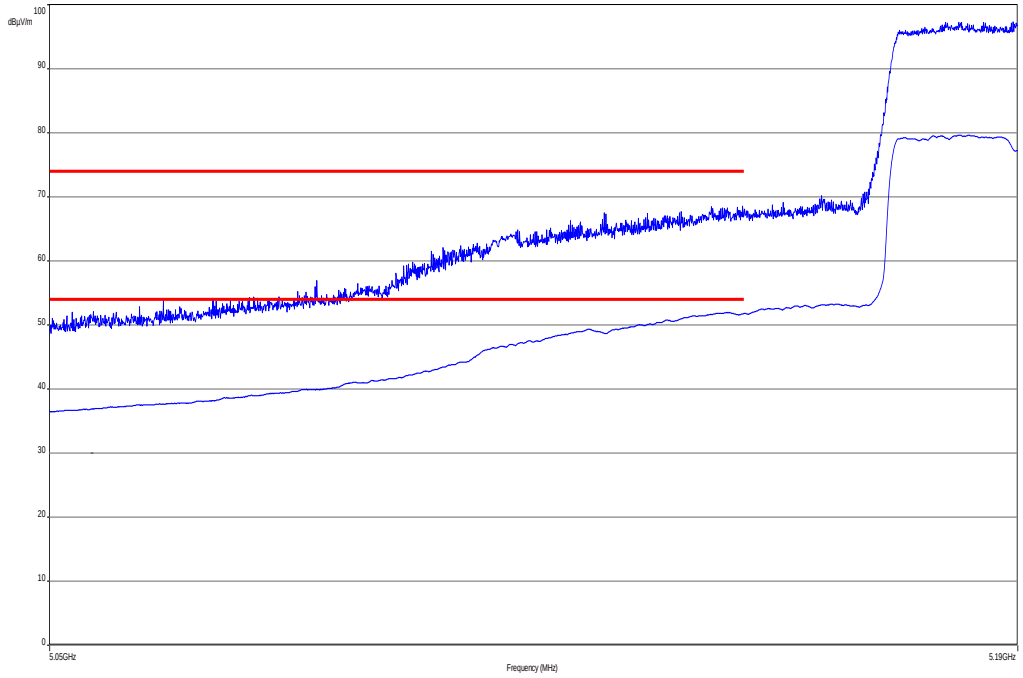
Plot 23: lower band edge, vertical & horizontal polarization (ac HT 40 mode), channel 102, high data rate



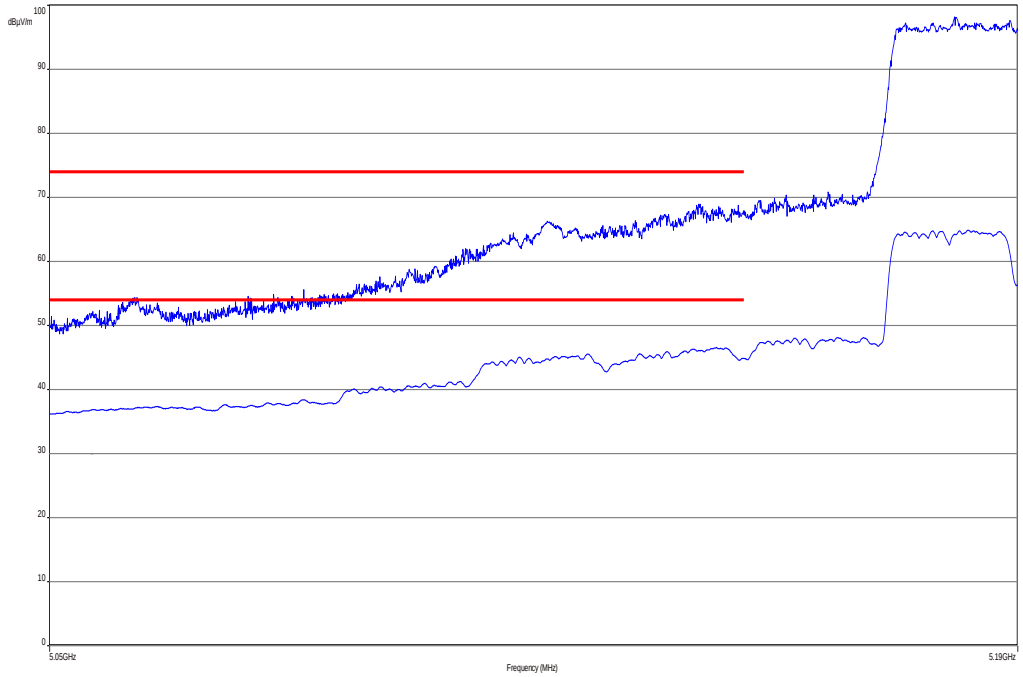
Plot 24: lower band edge, vertical & horizontal polarization (ac HT 40 mode), channel 102, highest power d. r.



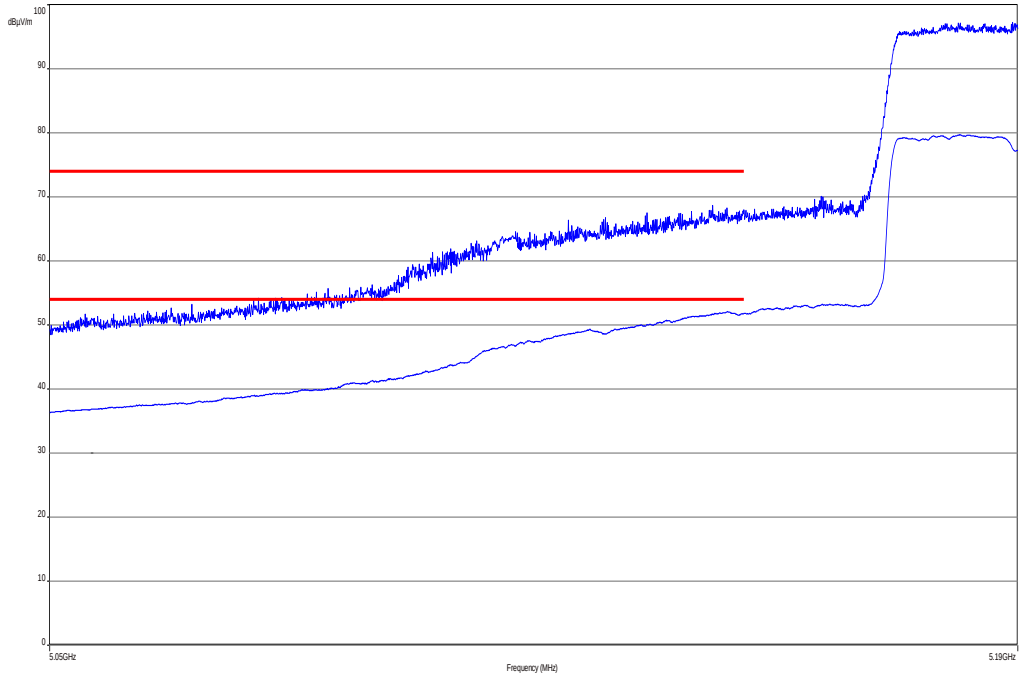
Plot 25: lower band edge, vertical & horizontal polarization (ac HT 80 mode), channel 42, low data rate



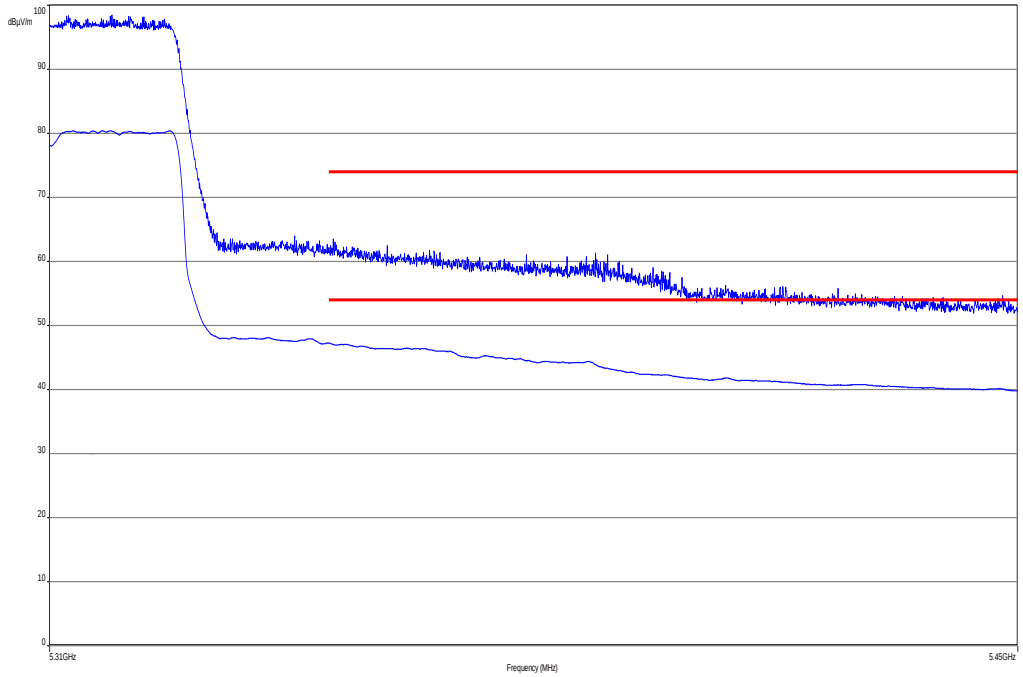
Plot 26: lower band edge, vertical & horizontal polarization (ac HT 80 mode), channel 42, high data rate



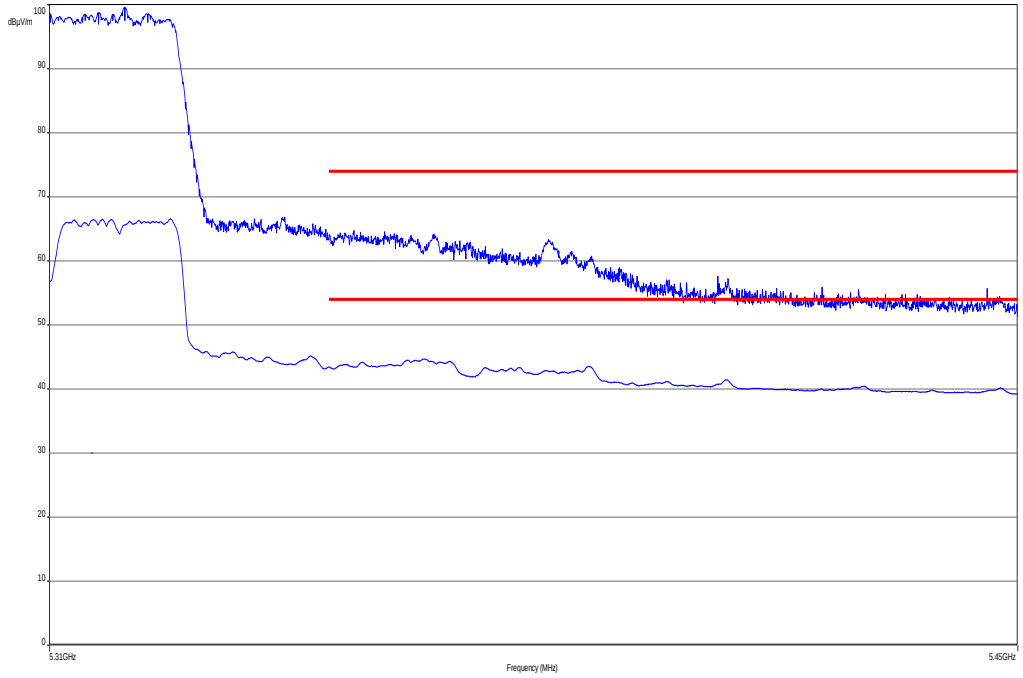
Plot 27: lower band edge, vertical & horizontal polarization (ac HT 80 mode), channel 42, highest power d. r.



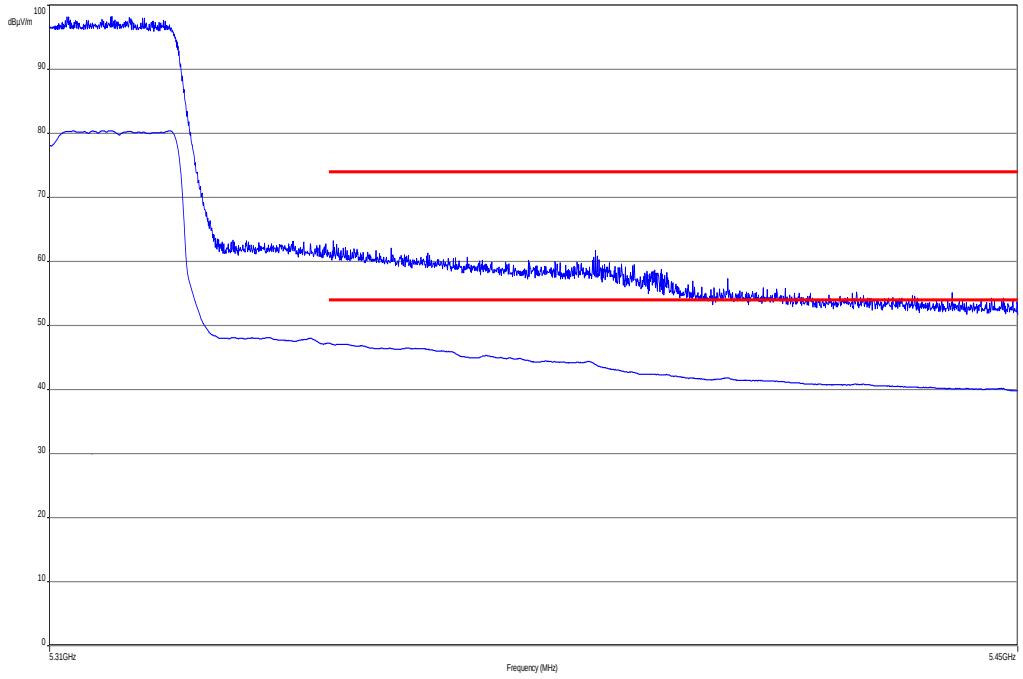
Plot 28: upper band edge, vertical & horizontal polarization (ac HT 80 mode), channel 58, low data rate



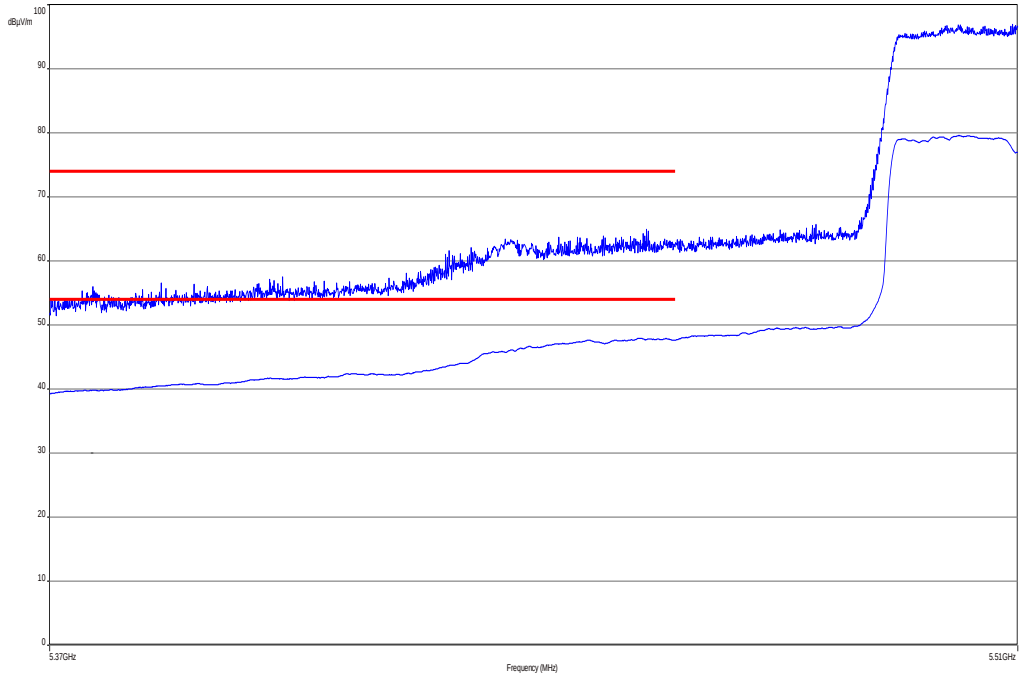
Plot 29: upper band edge, vertical & horizontal polarization (ac HT 80 mode), channel 58, high data rate



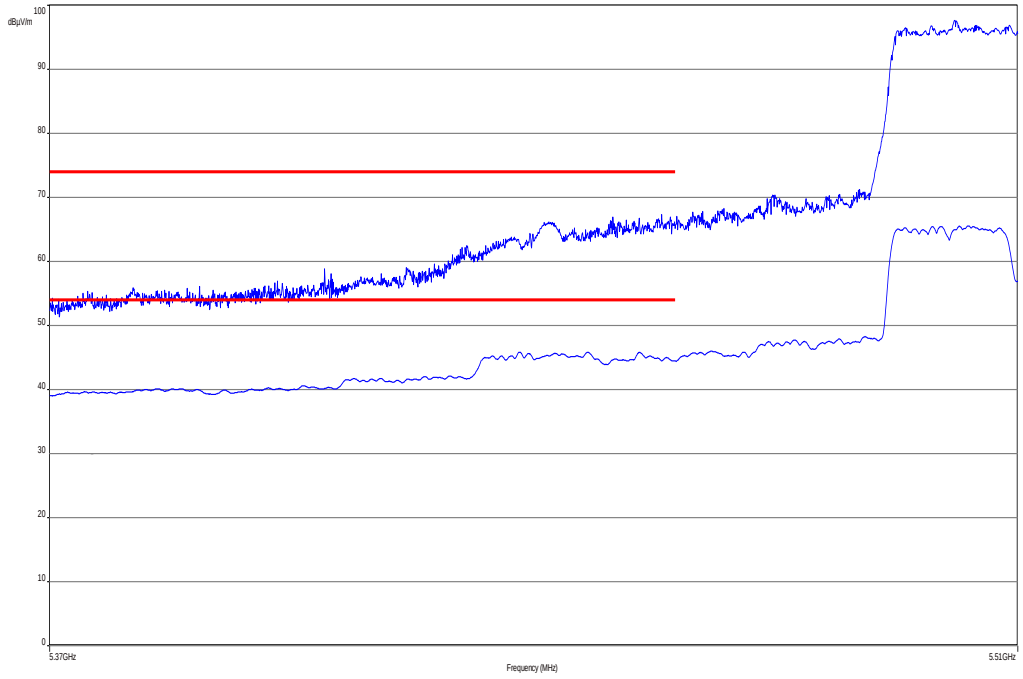
Plot 30: upper band edge, vertical & horizontal polarization (ac HT 80 mode), channel 58, highest power d. r.



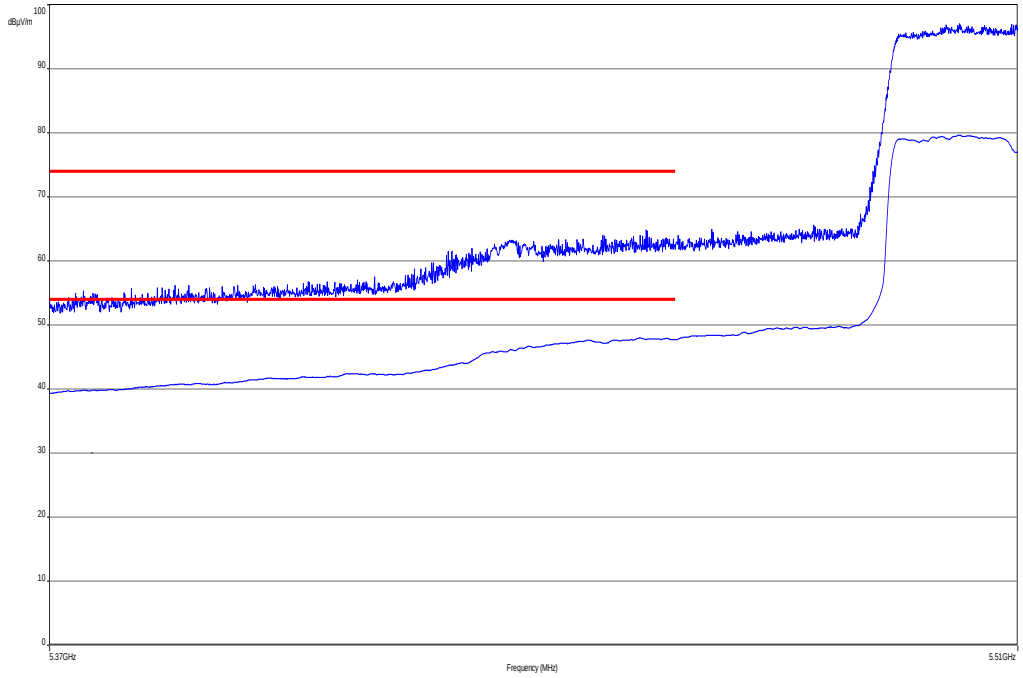
Plot 31: lower band edge, vertical & horizontal polarization (ac HT 80 mode), channel 106, low data rate



Plot 32: lower band edge, vertical & horizontal polarization (ac HT 80 mode), channel 106, high data rate



Plot 33: lower band edge, vertical & horizontal polarization (ac HT 80 mode), channel 106, highest power d. r.



Result: **Passed**