

11.8 Occupied bandwidth / 99% emission bandwidth

Description:

Measurement of the 99% bandwidth of the modulated signal acc. RSS-GEN.

Measurement:

Measurement parameter	
Detector:	Peak
Sweep time:	Auto
Resolution bandwidth:	300 kHz / 500 kHz
Video bandwidth:	1 MHz / 3 MHz
Span:	50 MHz / 100 MHz
Measurement procedure:	Measurement of the 99% bandwidth using the integration function of the analyzer
Trace mode:	Max hold (allow trace to stabilize)
Test setup:	See sub clause 6.5 – A
Measurement uncertainty:	See sub clause 8

Usage:

-/-	IC
OBW is necessary for Emission Designator	

Results:

a	99% bandwidth (kHz)		
	U-NII-1 (5150 MHz to 5250 MHz)		
	Lowest channel	Middle channel	Highest channel
	16833	16833	16833
	U-NII-2A (5250 MHz to 5350 MHz)		
	Lowest channel	Middle channel	Highest channel
	16833	16883	16883
	U-NII-2C (5470 MHz to 5725 MHz)		
	Lowest channel	Middle channel	Highest channel
	17233	16883	16933
	U-NII-3 (5725 MHz to 5850 MHz)		
	Lowest channel	Middle channel	Highest channel
	17183	17083	17483

Results:

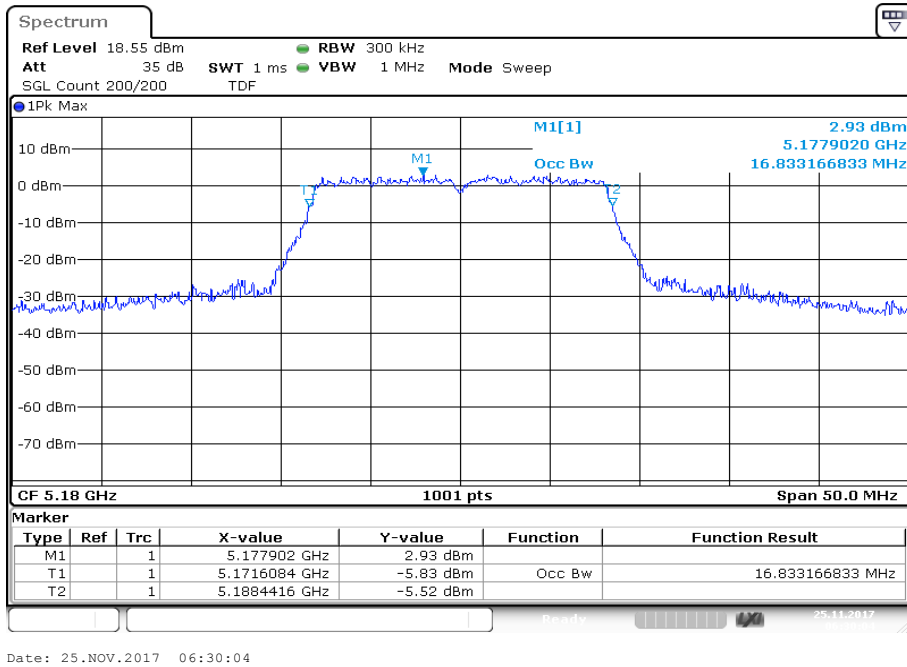
n/ac HT20	99% bandwidth (kHz)		
	U-NII-1 (5150 MHz to 5250 MHz)		
	Lowest channel	Middle channel	Highest channel
	17982	17982	17982
	U-NII-2A (5250 MHz to 5350 MHz)		
	Lowest channel	Middle channel	Highest channel
	17982	17982	17982
	U-NII-2C (5470 MHz to 5725 MHz)		
	Lowest channel	Middle channel	Highest channel
	18132	18032	18032
	U-NII-3 (5725 MHz to 5850 MHz)		
	Lowest channel	Middle channel	Highest channel
	18032	18082	18182

Results:

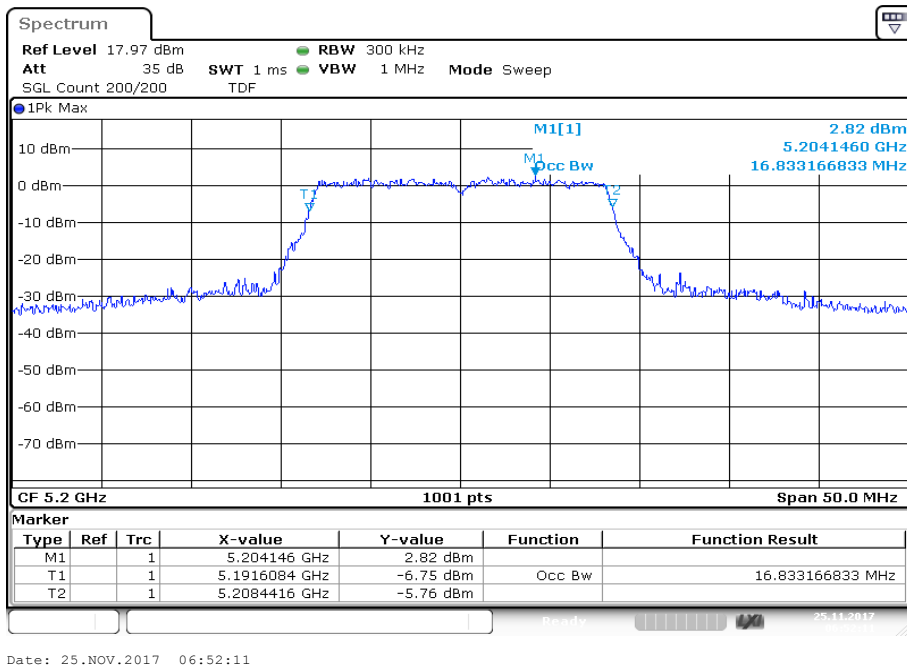
n/ac HT40	99% bandwidth (kHz)		
	U-NII-1 (5150 MHz to 5250 MHz)		
	Lowest channel		Highest channel
	36563		36563
	U-NII-2A (5250 MHz to 5350 MHz)		
	Lowest channel		Highest channel
	36663		36464
	U-NII-2C (5470 MHz to 5725 MHz)		
	Lowest channel	Middle channel	Highest channel
	36663	36663	36563
	U-NII-3 (5725 MHz to 5850 MHz)		
	Lowest channel		Highest channel
	36663		36763

Plots: a – mode

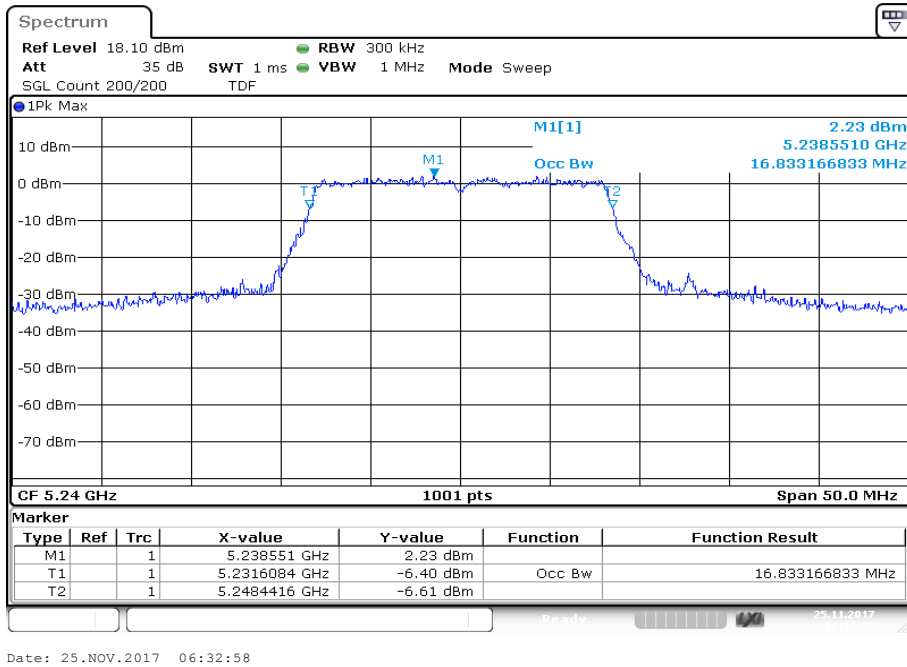
Plot 1: U-NII-1; lowest channel



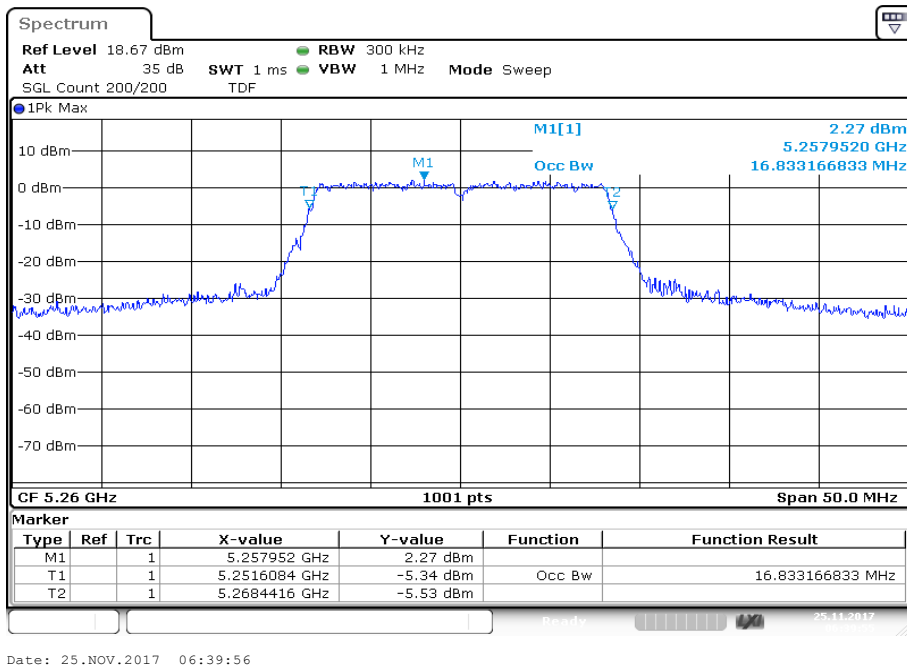
Plot 2: U-NII-1; middle channel



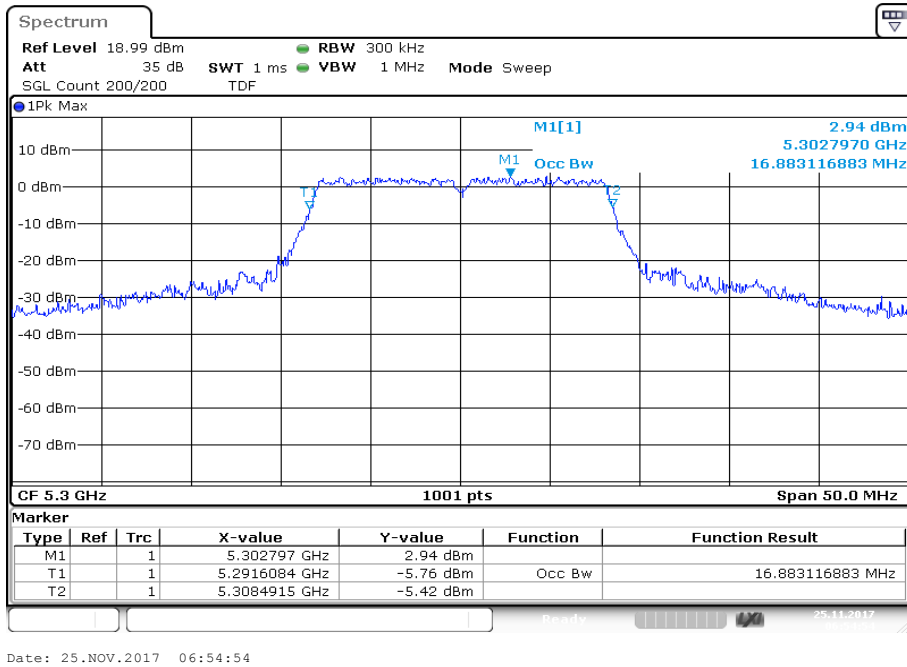
Plot 3: U-NII-1; highest channel



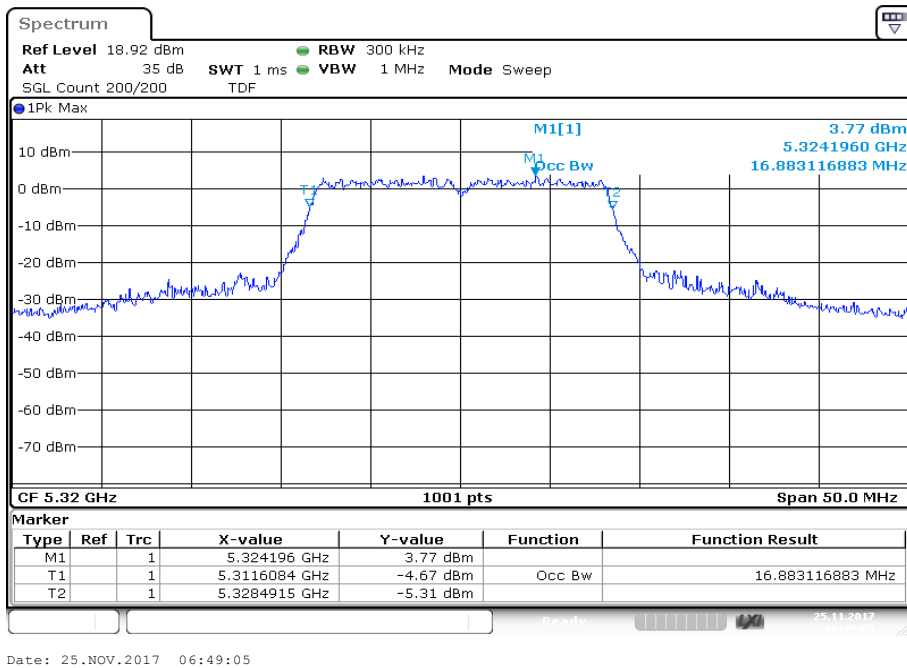
Plot 4: U-NII-2A; lowest channel



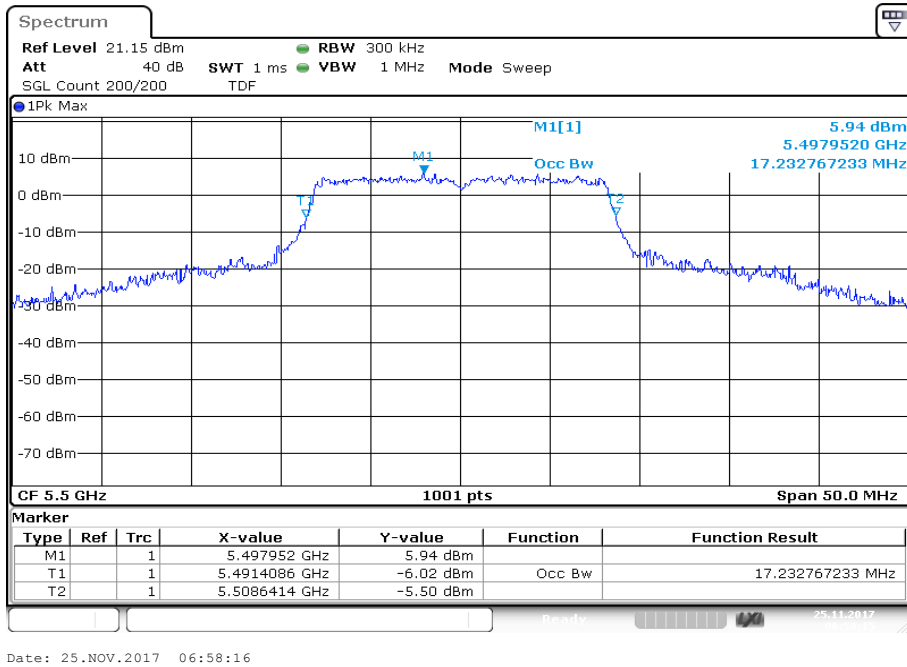
Plot 5: U-NII-2A; middle channel



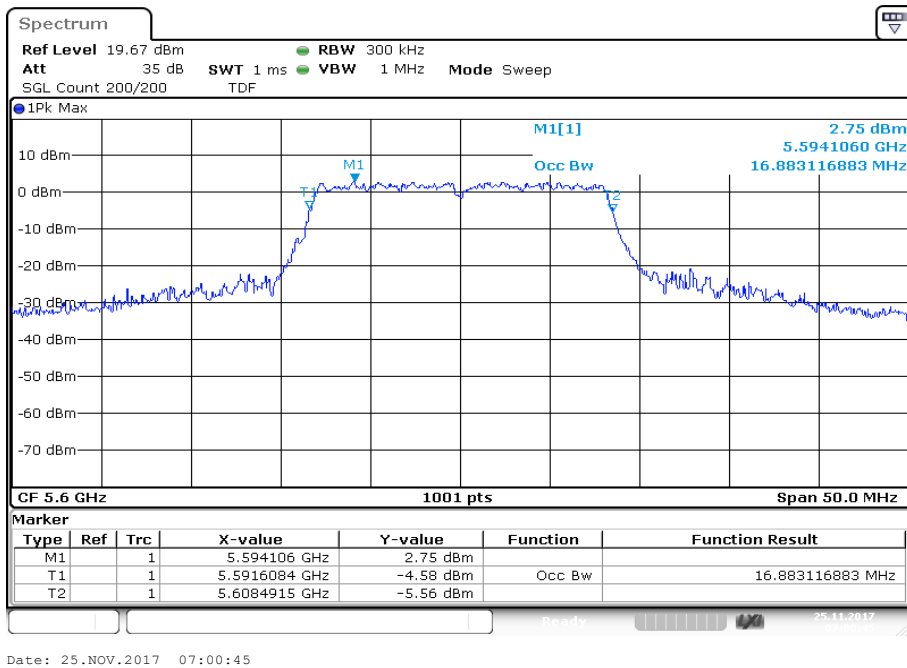
Plot 6: U-NII-2A; highest channel



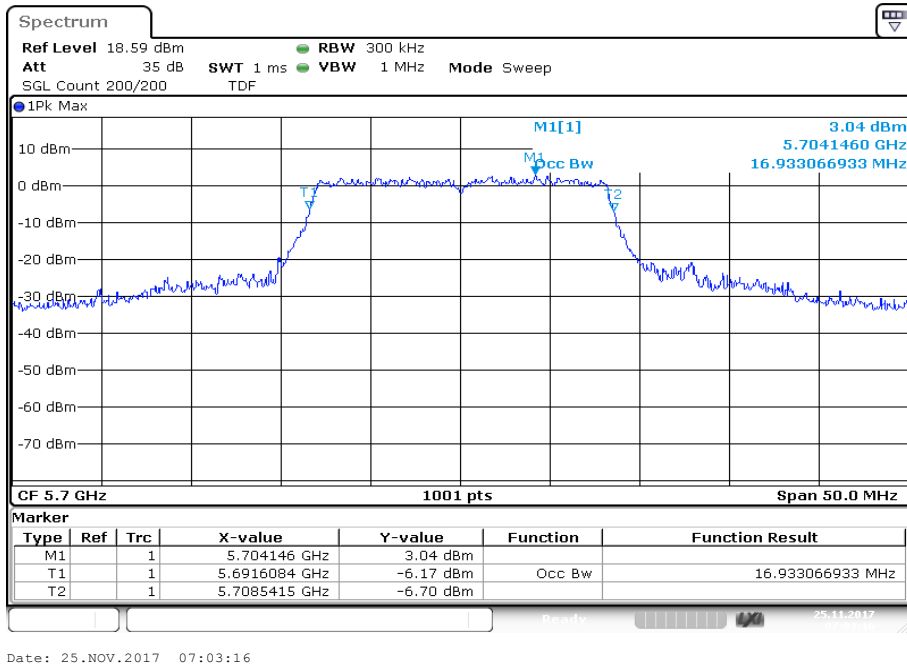
Plot 7: U-NII-2C; lowest channel



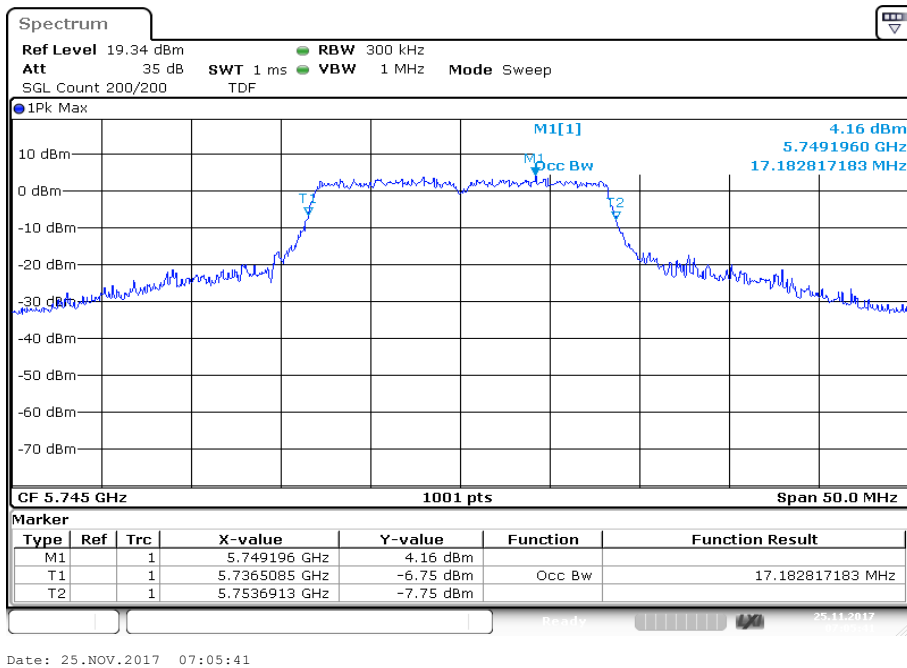
Plot 8: U-NII-2C; middle channel



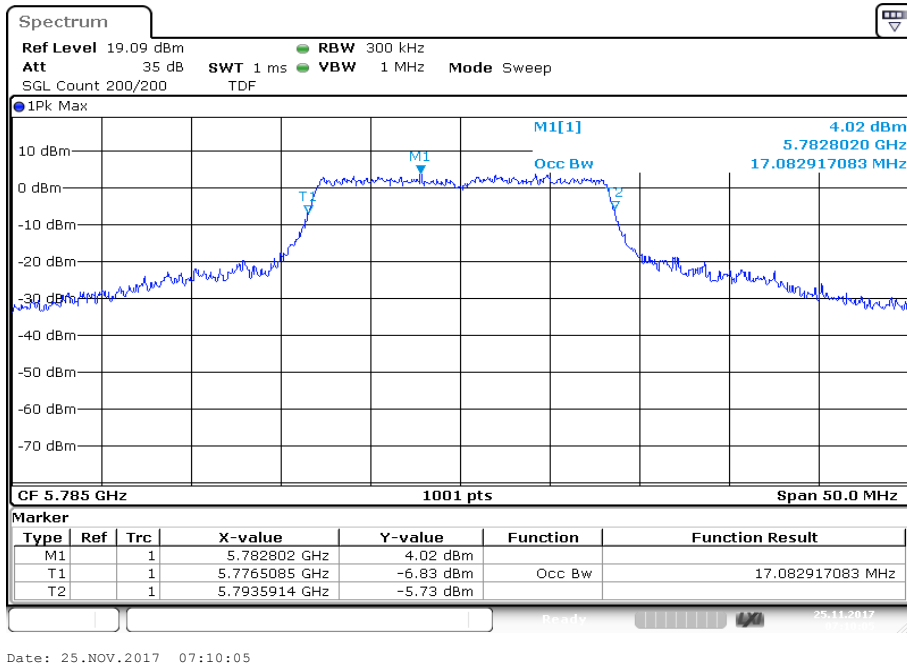
Plot 9: U-NII-2C; highest channel



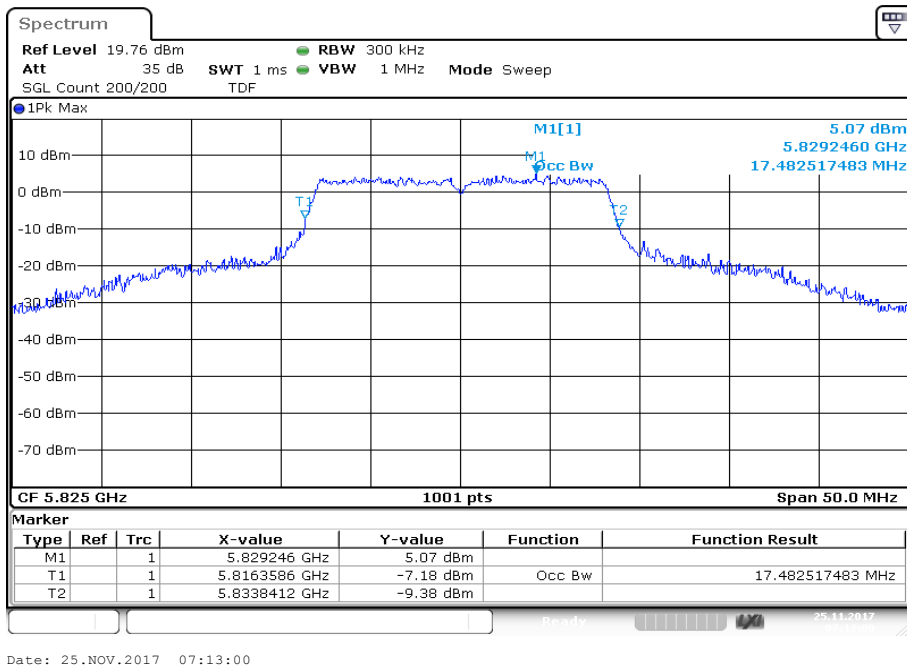
Plot 10: U-NII-3; lowest channel



Plot 11: U-NII-3; middle channel

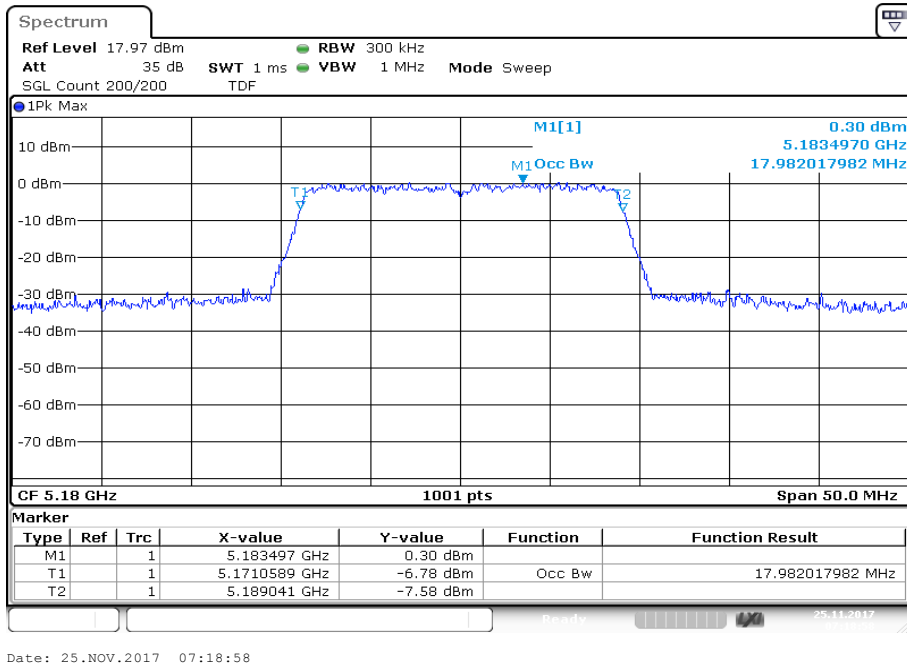


Plot 12: U-NII-3; highest channel

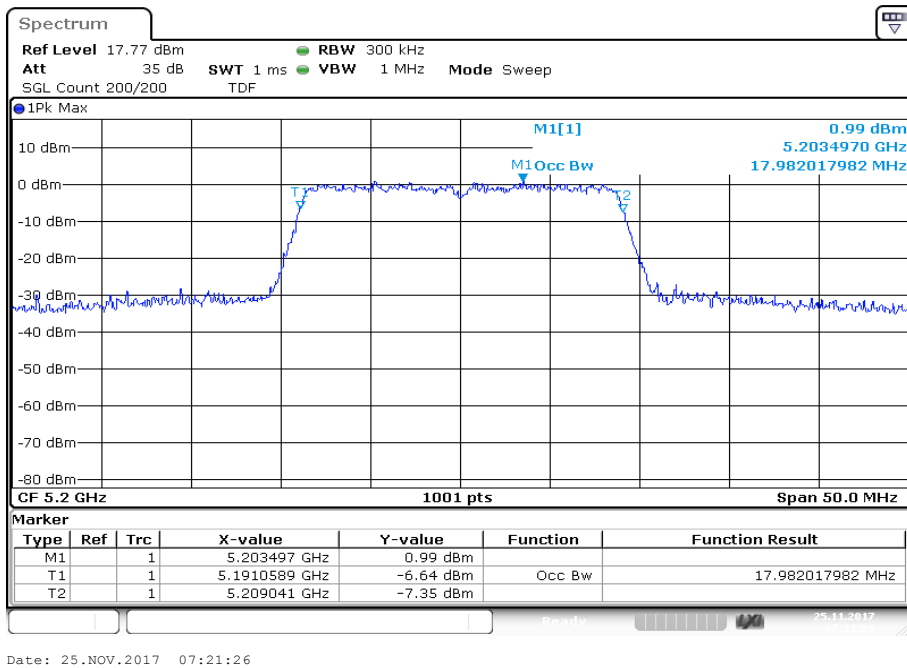


Plots: n/ac HT20 – mode

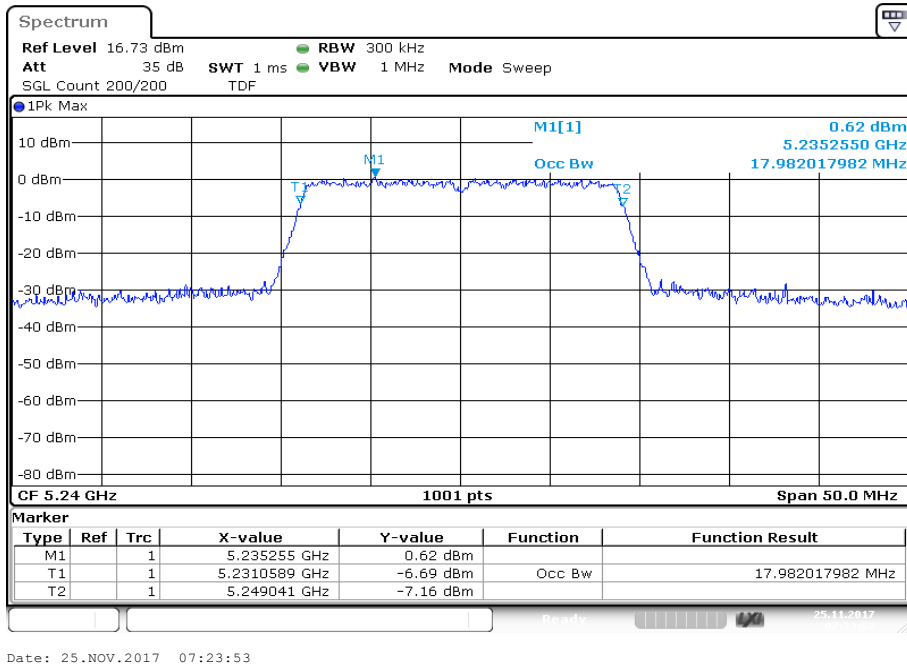
Plot 1: U-NII-1; lowest channel



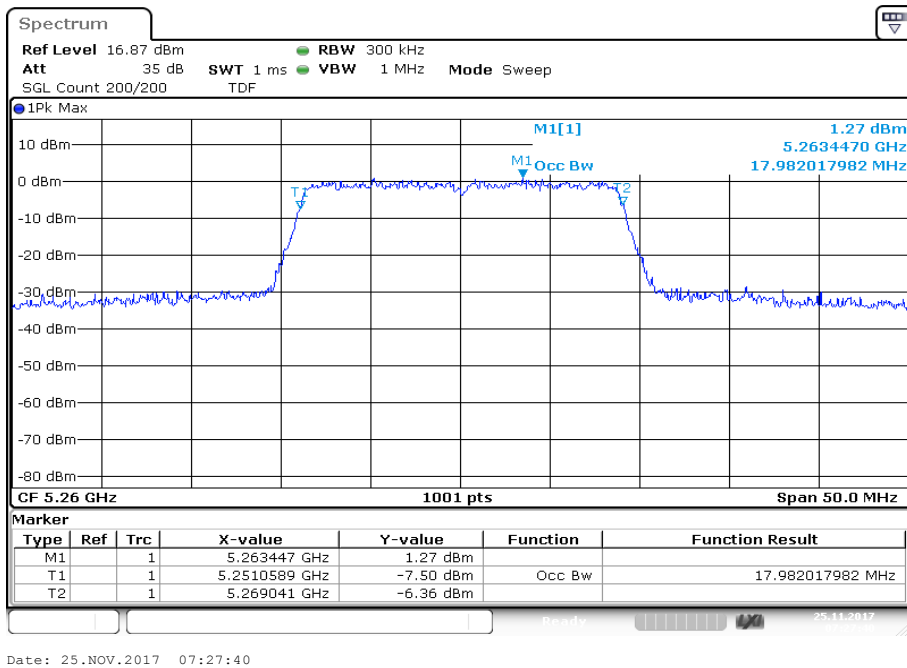
Plot 2: U-NII-1; middle channel



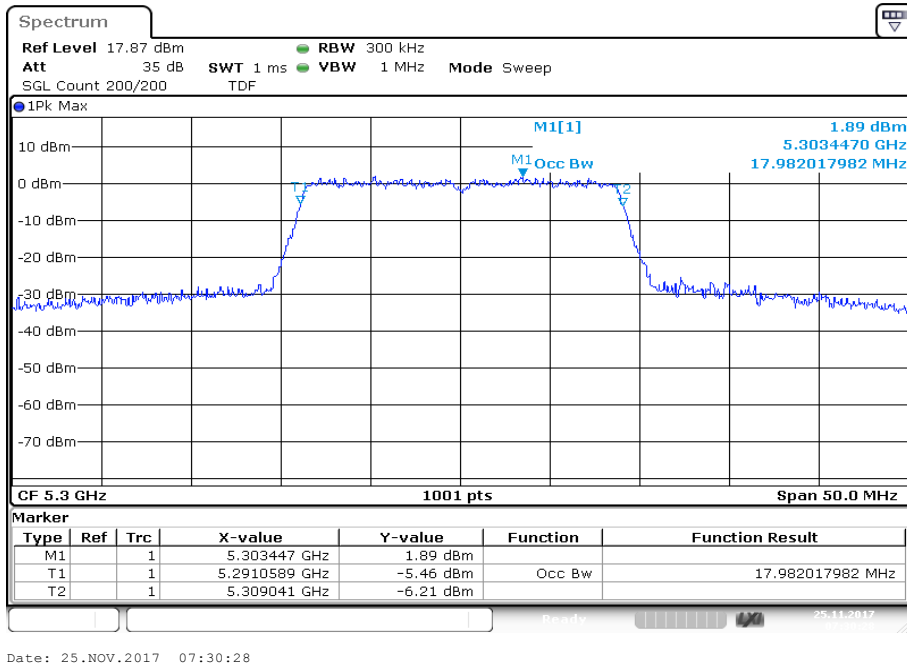
Plot 3: U-NII-1; highest channel



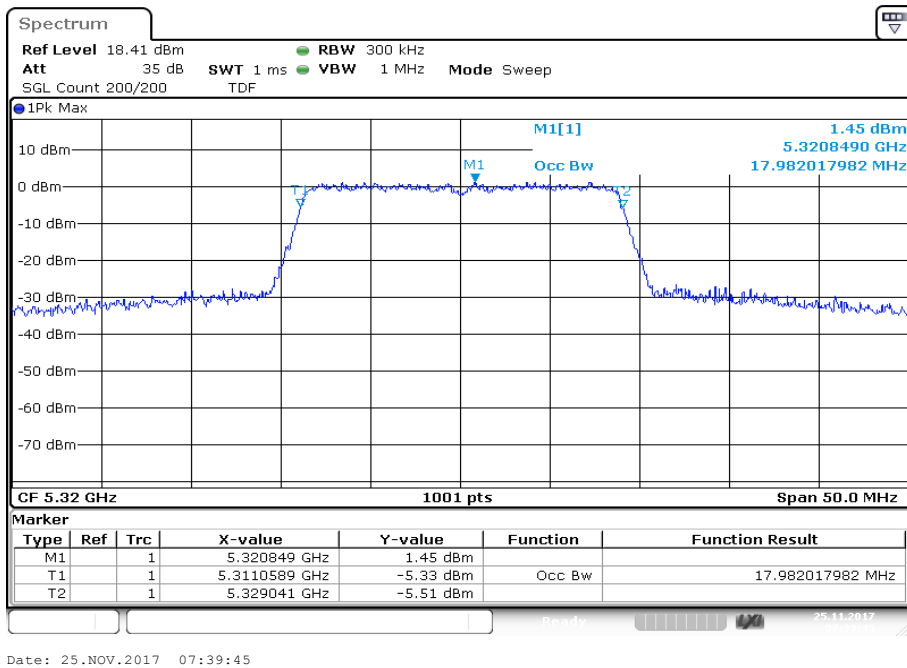
Plot 4: U-NII-2A; lowest channel



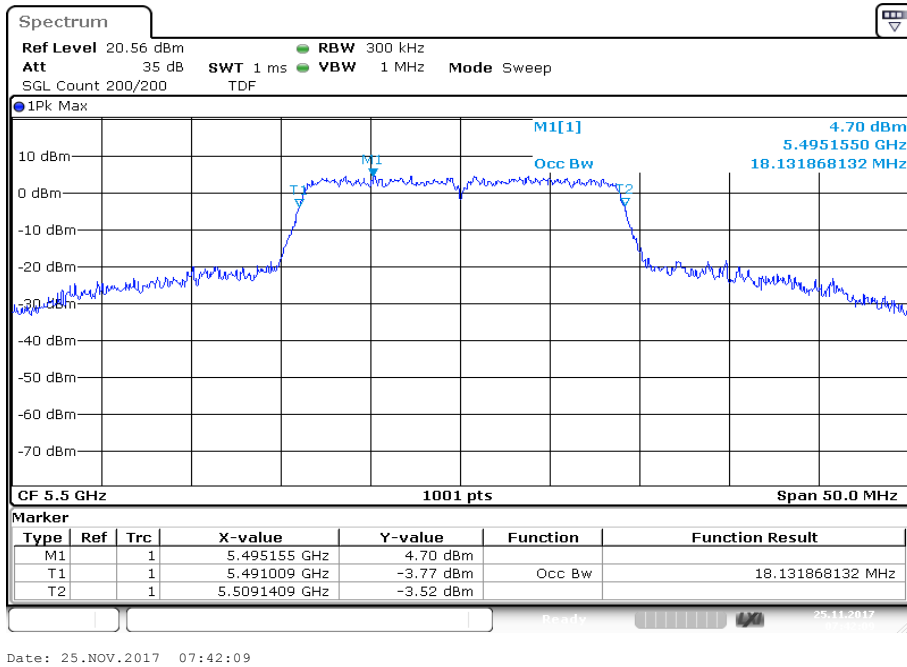
Plot 5: U-NII-2A; middle channel



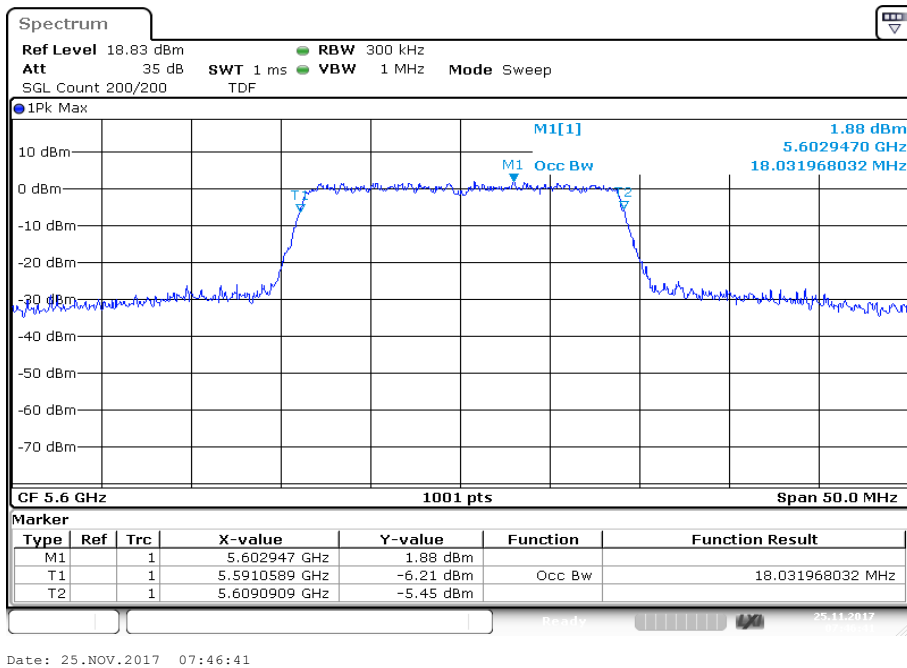
Plot 6: U-NII-2A; highest channel



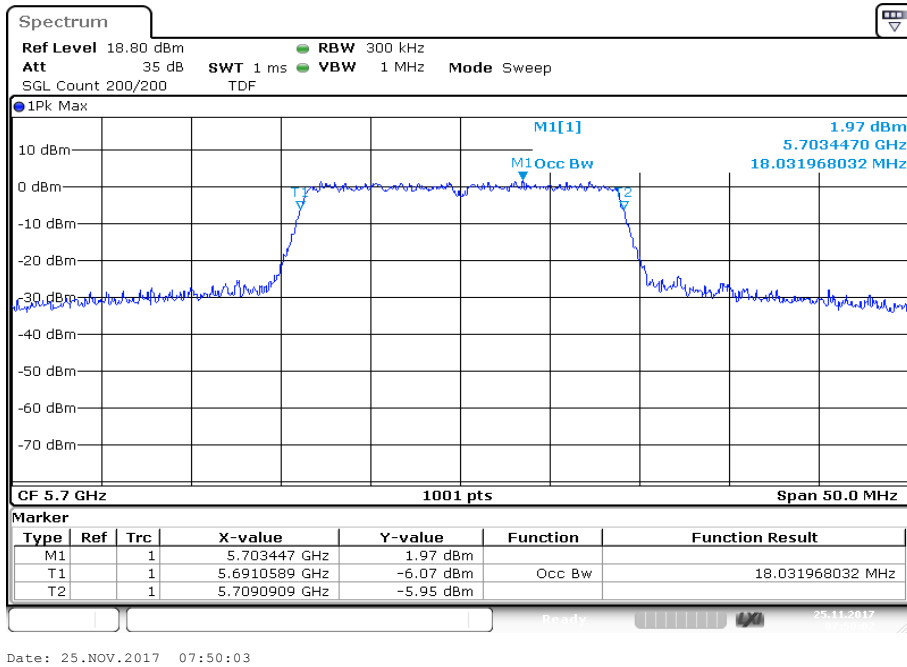
Plot 7: U-NII-2C; lowest channel



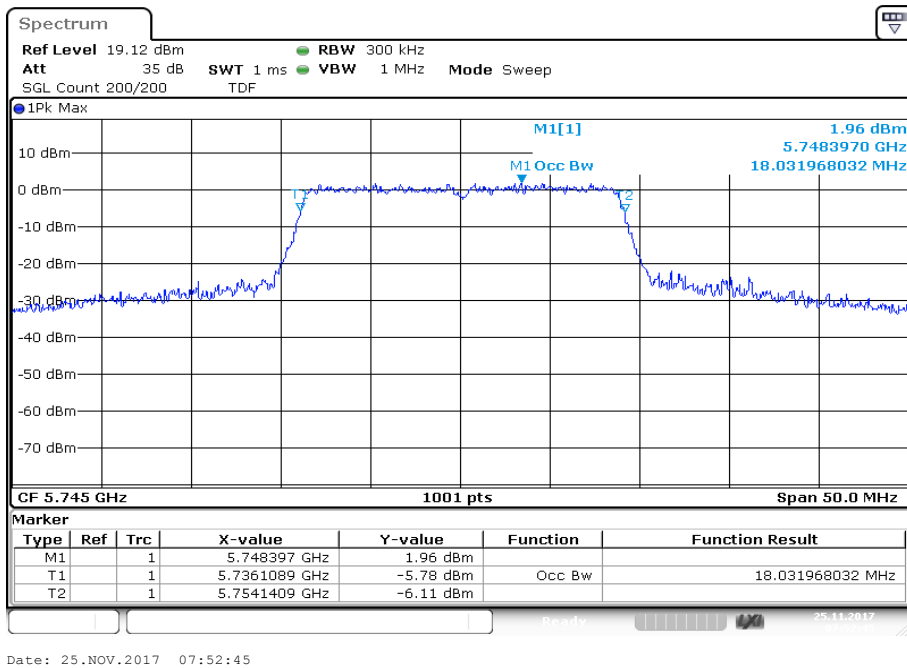
Plot 8: U-NII-2C; middle channel



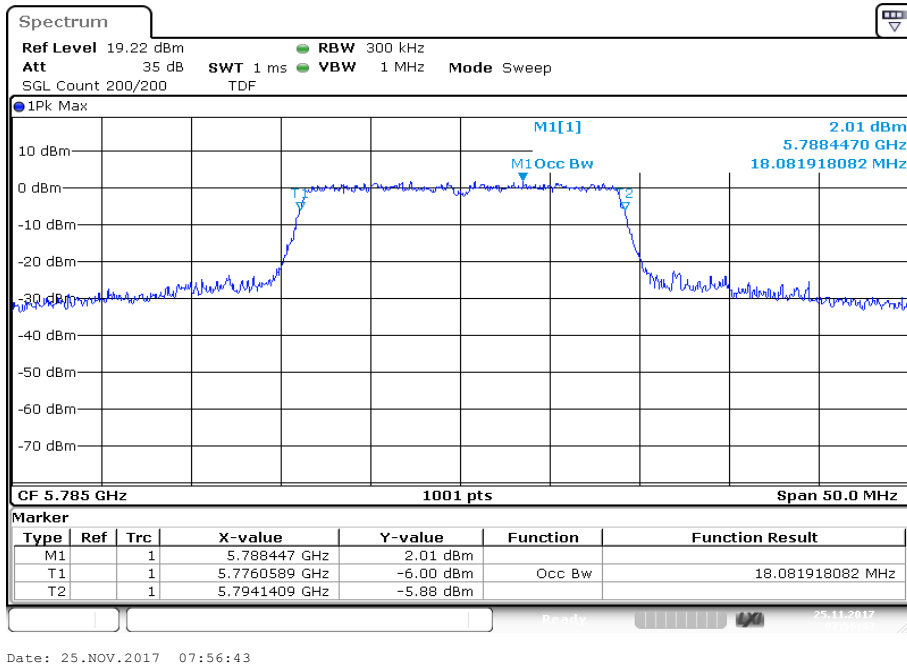
Plot 9: U-NII-2C; highest channel



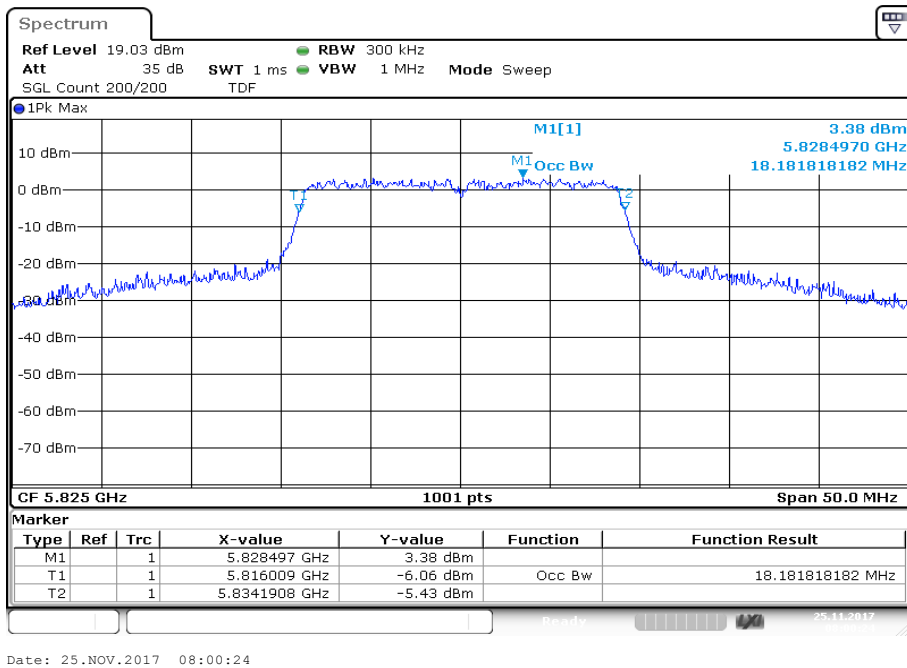
Plot 10: U-NII-3; lowest channel



Plot 11: U-NII-3; middle channel

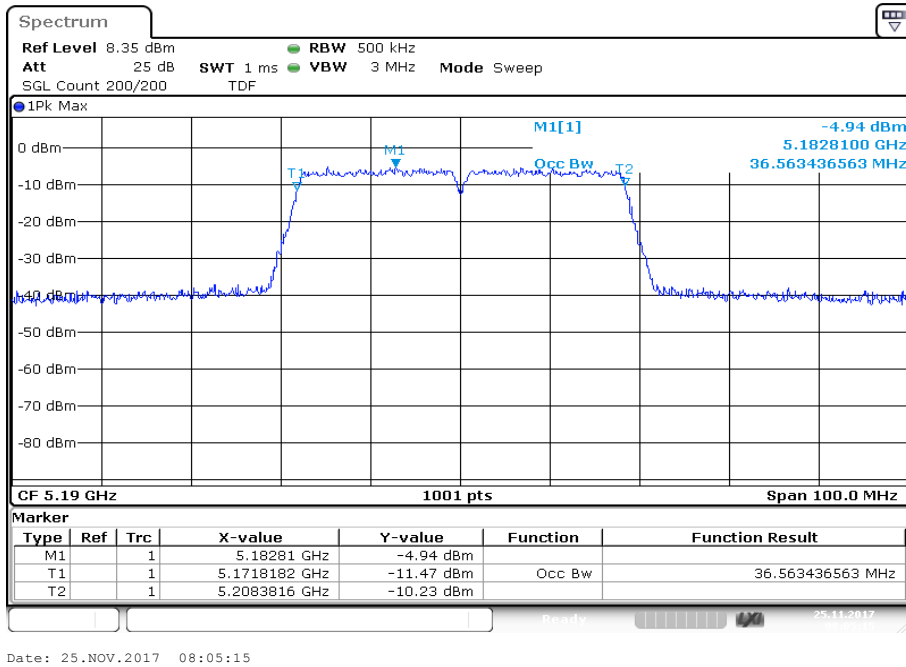


Plot 12: U-NII-3; highest channel

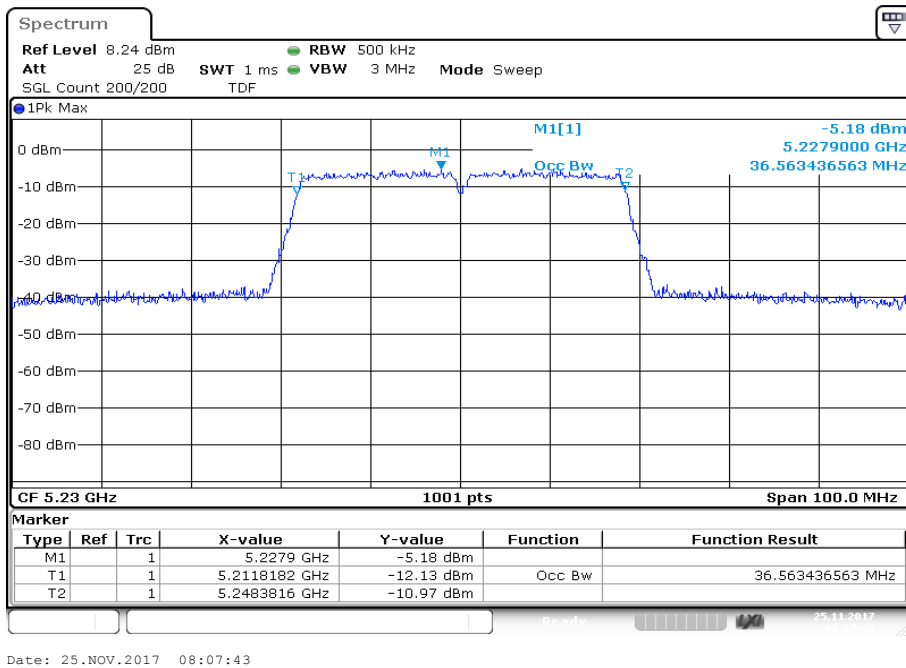


Plots: n/ac HT40 – mode

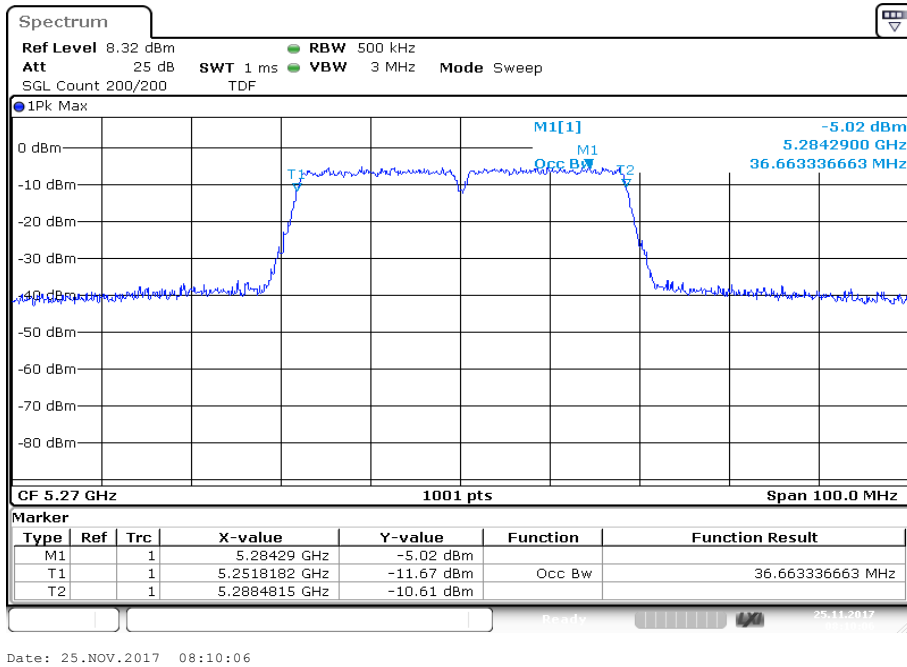
Plot 1: U-NII-1; lowest channel



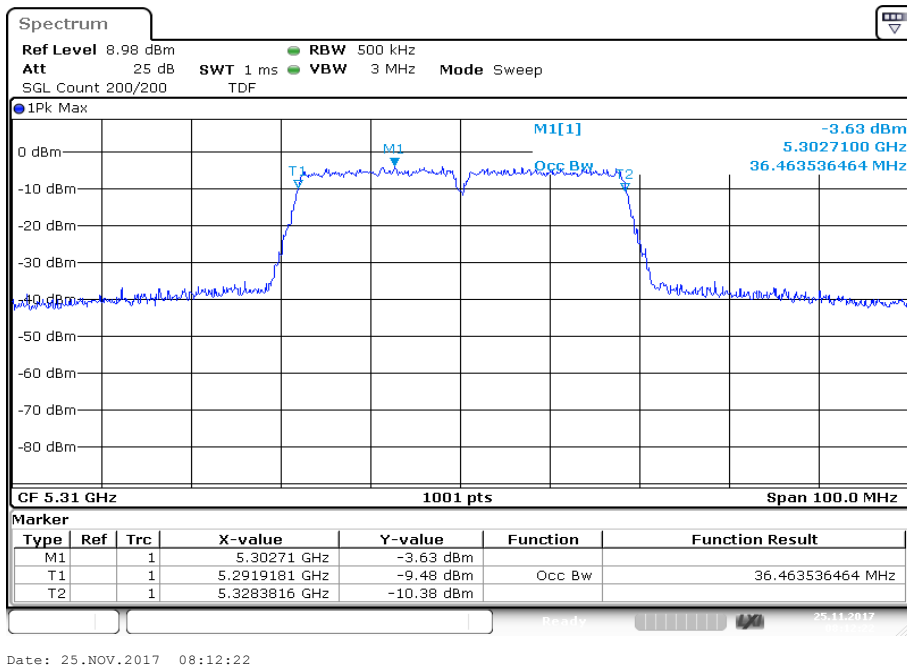
Plot 2: U-NII-1; highest channel



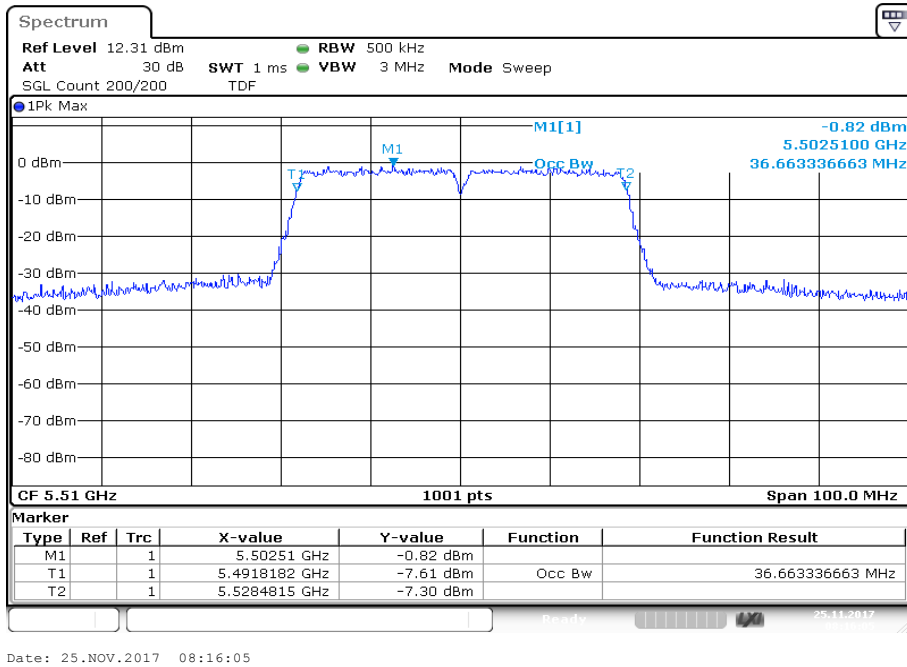
Plot 3: U-NII-2A; lowest channel



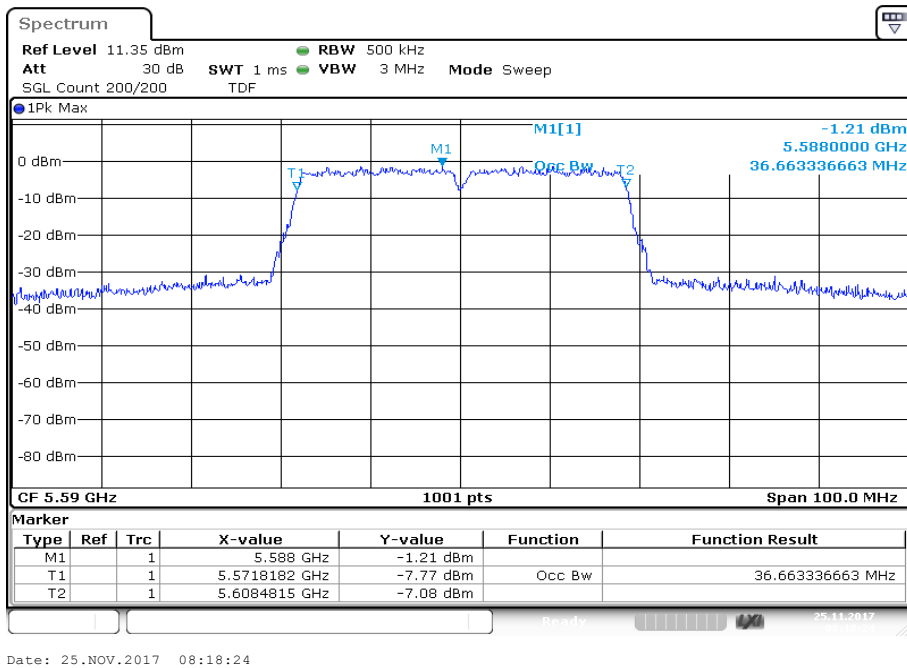
Plot 4: U-NII-2A; highest channel



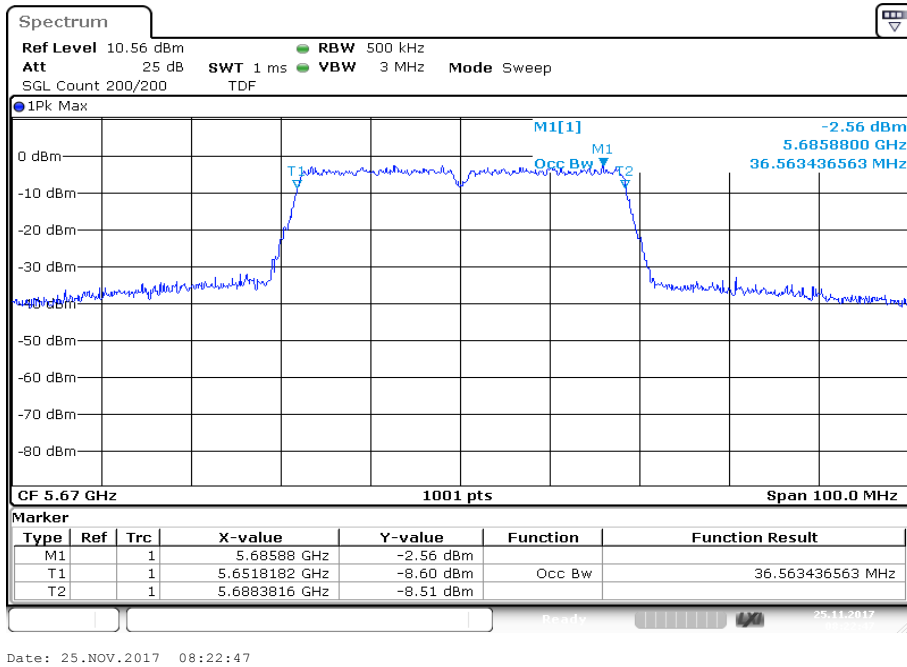
Plot 5: U-NII-2C; lowest channel



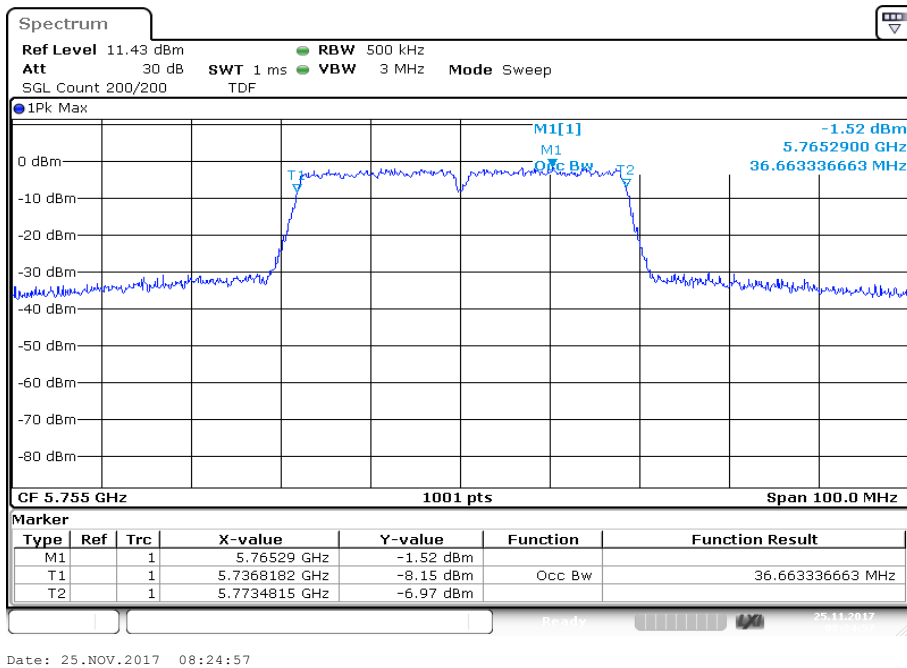
Plot 6: U-NII-2C; middle channel



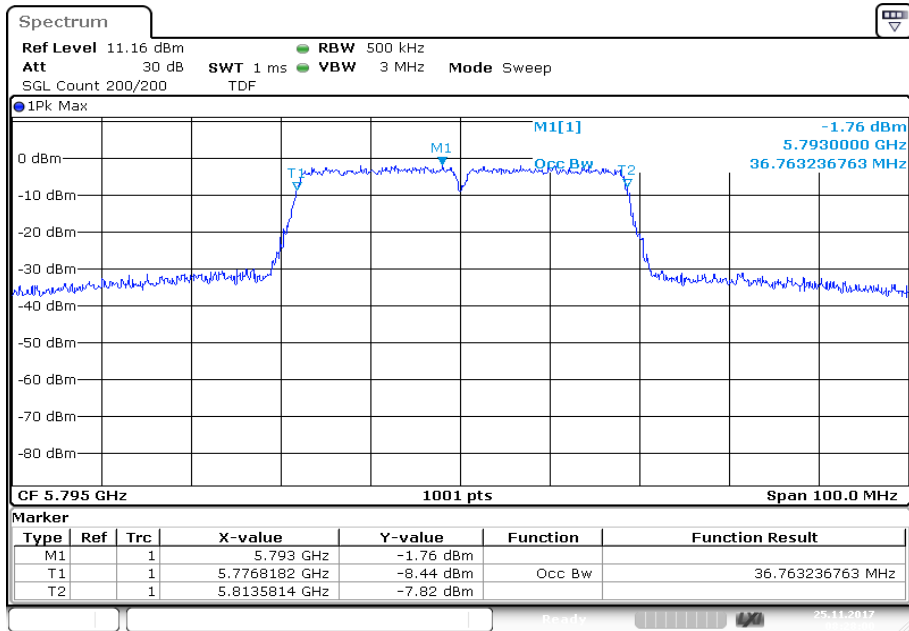
Plot 7: U-NII-2C; highest channel



Plot 8: U-NII-3; lowest channel



Plot 9: U-NII-3; highest channel



Date: 25.NOV.2017 08:28:00

11.9 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:	≥ 3 x RBW
Span:	See plots!
Trace mode:	Max Hold
Test setup:	See sub clause 6.2 – C
Measurement uncertainty:	See sub clause 8

Limits:

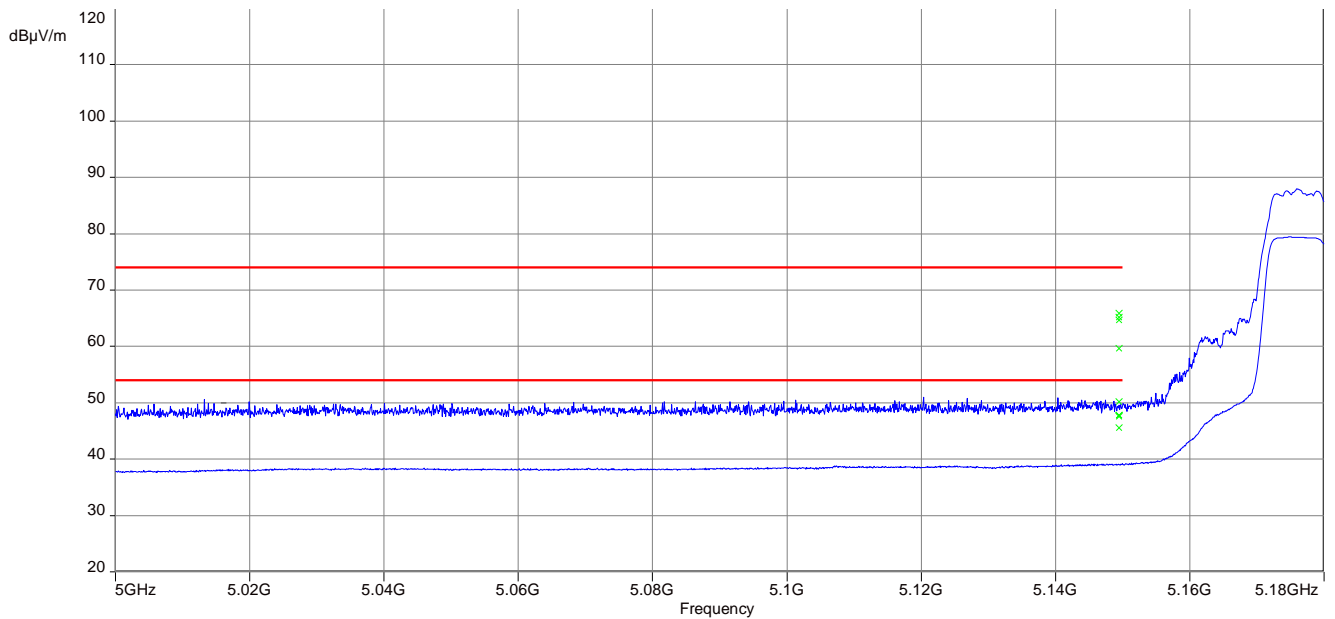
Band Edge Compliance Radiated
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within 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 (average)

Result:

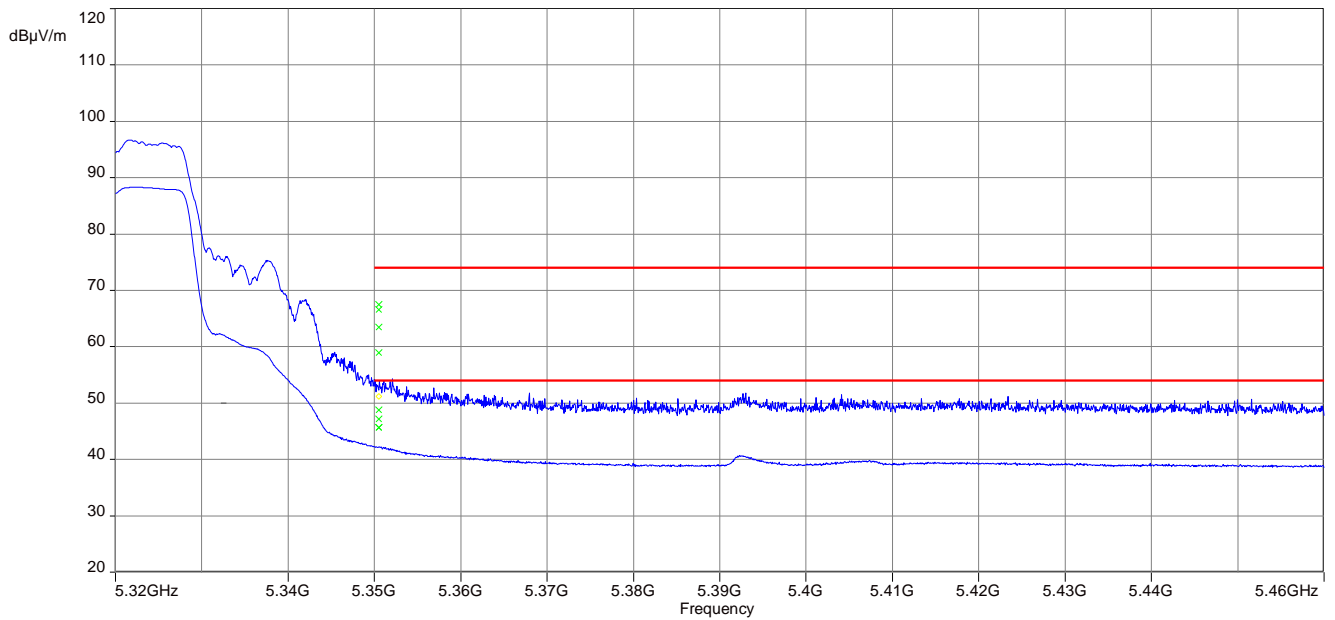
Scenario	Band Edge Compliance Radiated [dBµV/m]
band edge	< 74 dBµV/m (peak) < 54 dBµV/m (average)

Plots:

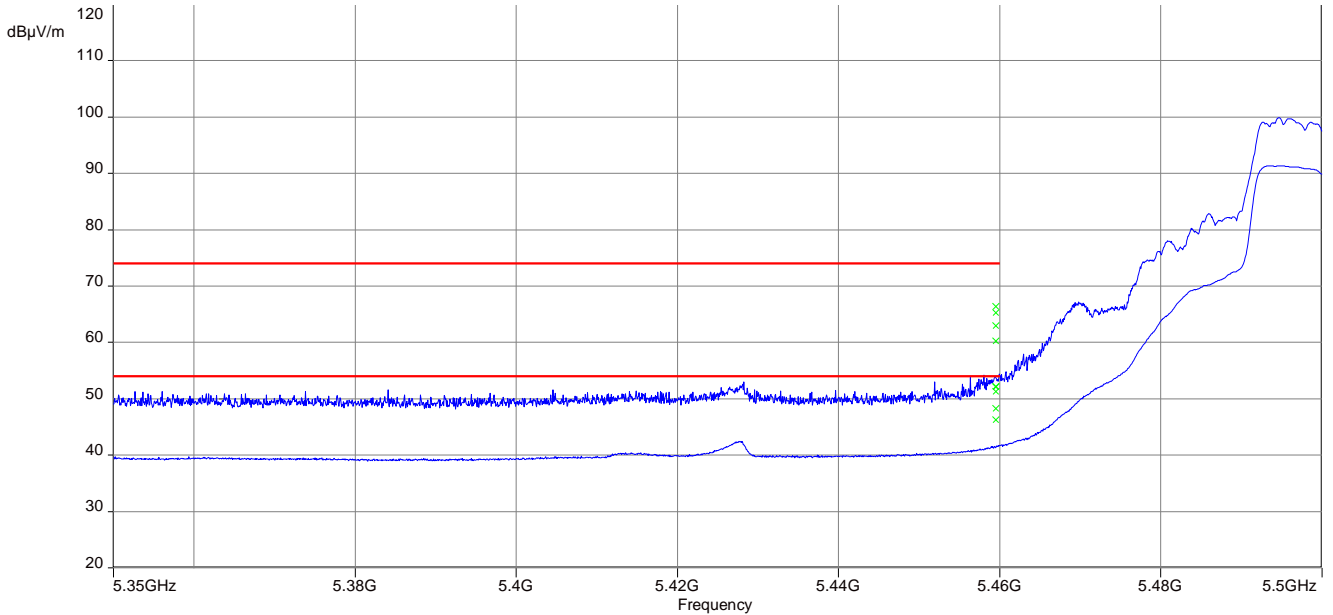
Plot 1: lower band edge; U-NII-1; lowest channel; 20 MHz channel bandwidth; a - mode



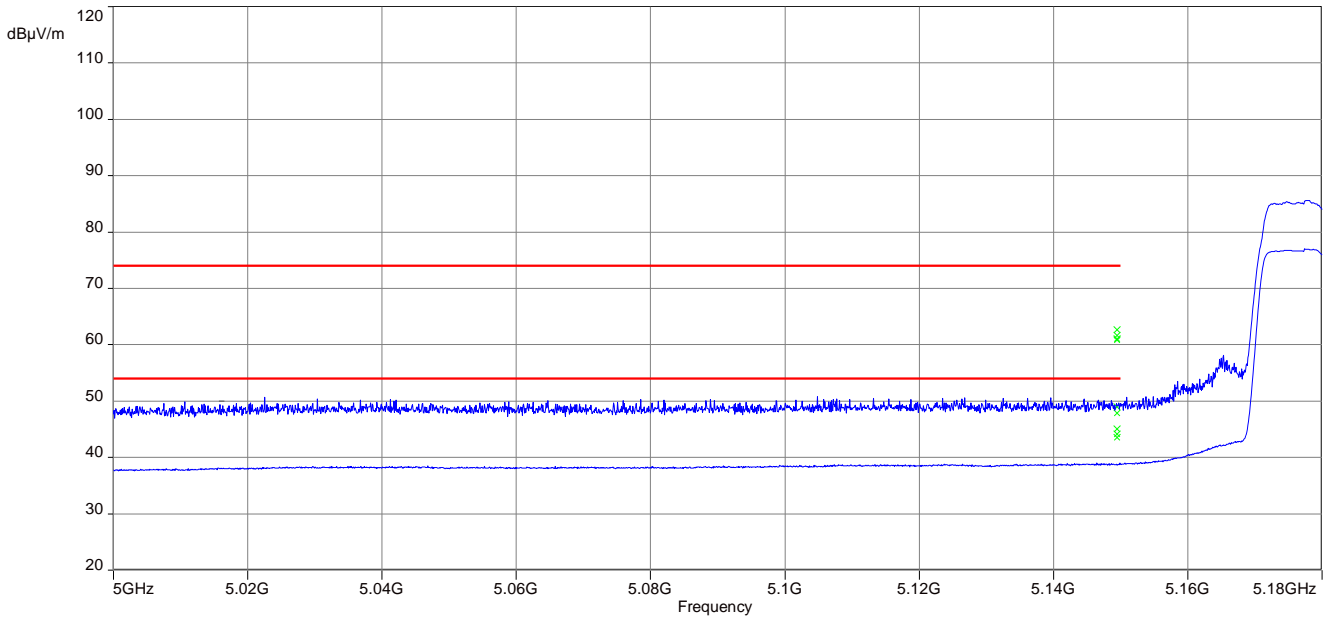
Plot 2: upper band edge; U-NII-2A; highest channel; 20 MHz channel bandwidth; a - mode



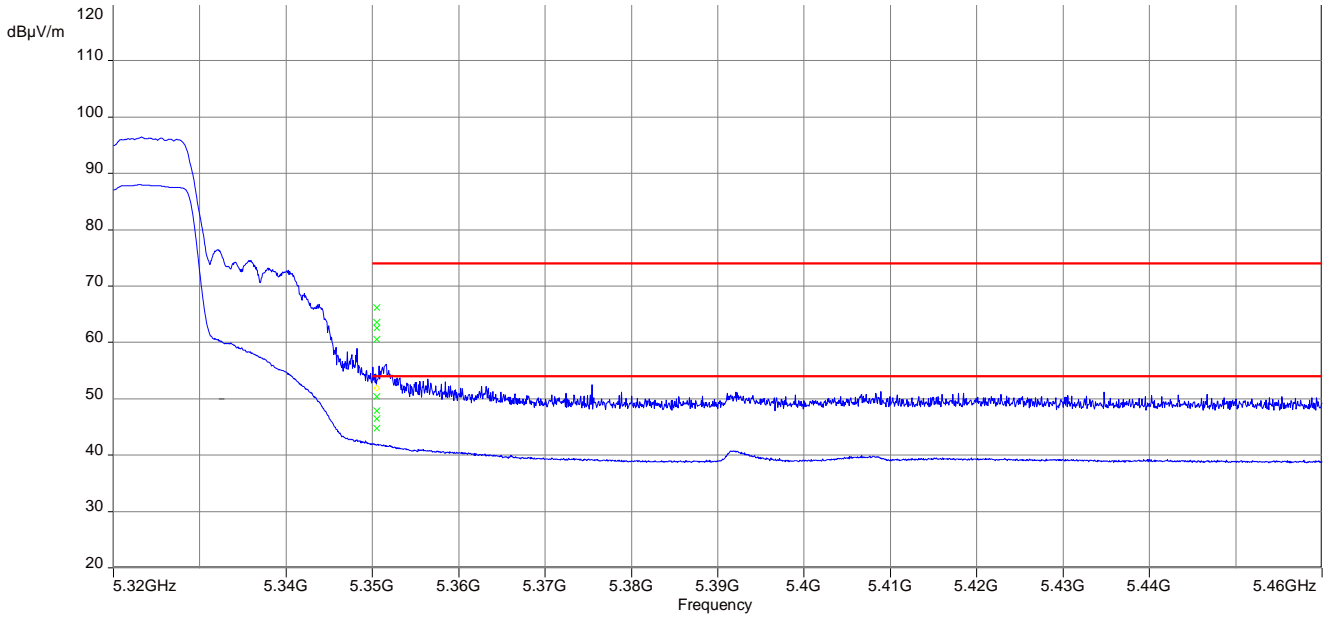
Plot 3: lower band edge; U-NII-2C; lowest channel; 20 MHz channel bandwidth; a - mode



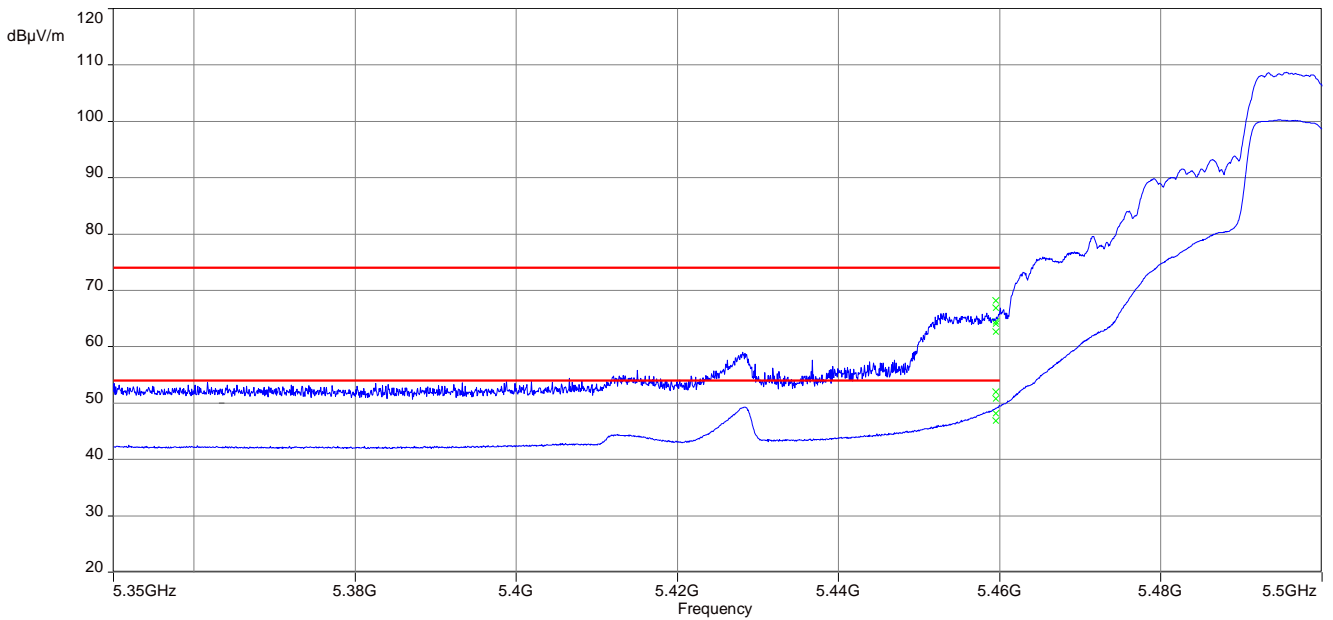
Plot 4: lower band edge; U-NII-1; lowest channel; 20 MHz channel bandwidth; n HT20 - mode



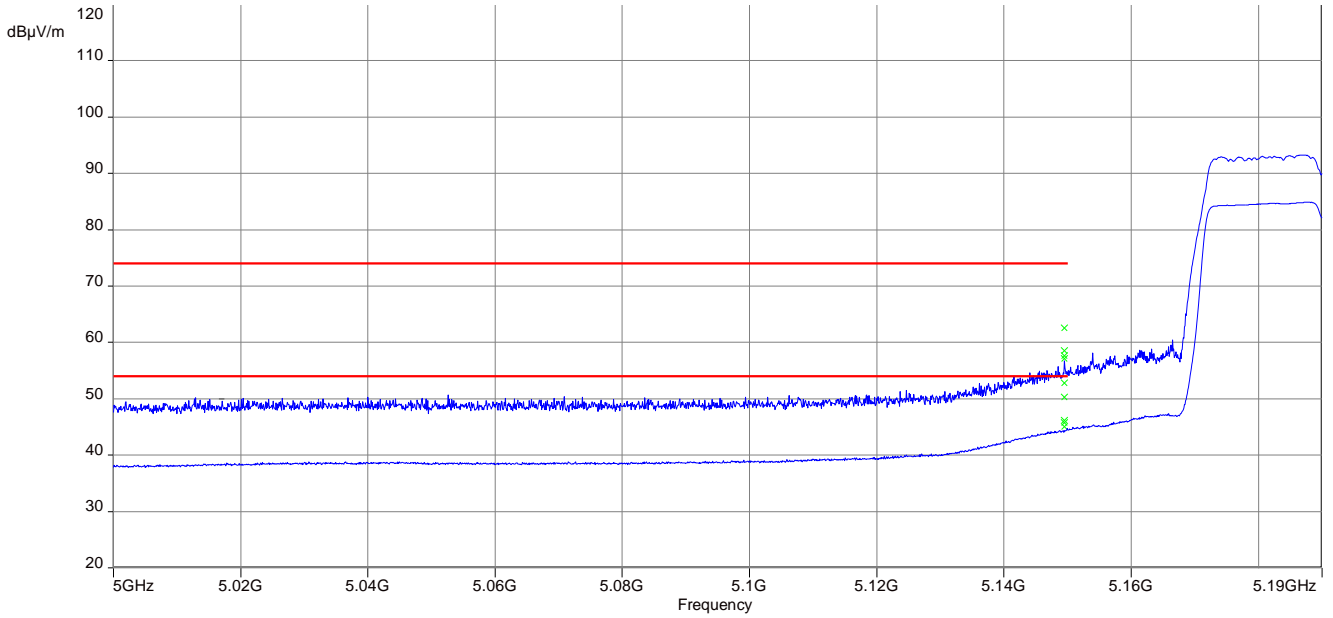
Plot 5: upper band edge; U-NII-2A; highest channel; 20 MHz channel bandwidth; n HT20 - mode



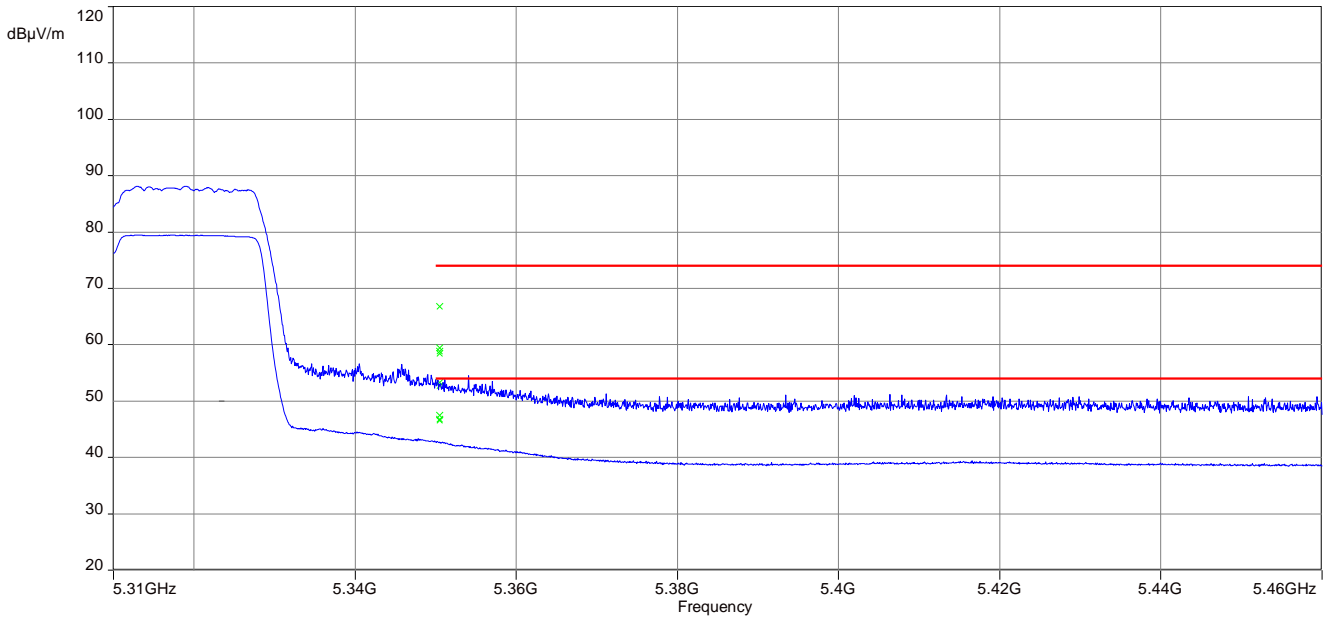
Plot 6: lower band edge; U-NII-2C; lowest channel; 20 MHz channel bandwidth; n HT20 - mode



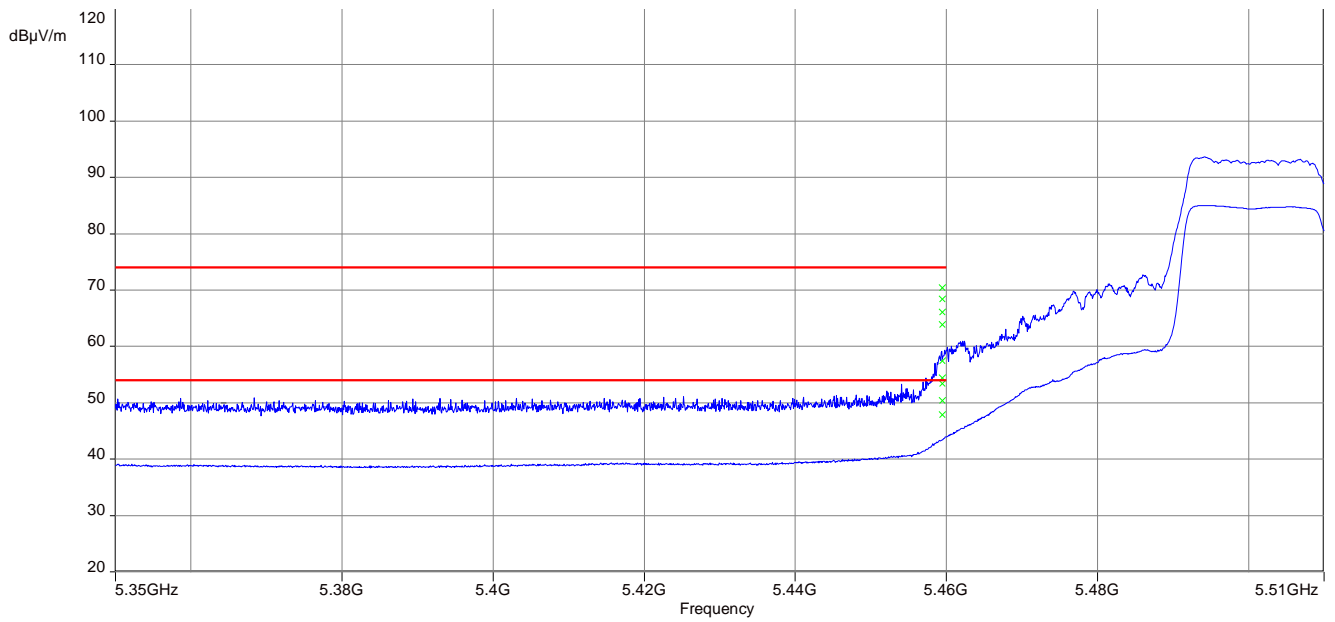
Plot 7: lower band edge; U-NII-1; lowest channel; 40 MHz channel bandwidth; n HT40 - mode



Plot 8: upper band edge; U-NII-2A; highest channel; 40 MHz channel bandwidth; n HT40 - mode



Plot 9: lower band edge; U-NII-2C; lowest channel; 40 MHz channel bandwidth; n HT40 - mode



11.10 Spurious emissions radiated < 30 MHz

Description:

Measurement of the radiated spurious emissions in transmit mode and receive mode below 30 MHz. The EUT is set first to middle channel. This measurement is representative for all channels and modes. If critical peaks are found the lowest channel and the highest channel will be measured too. Then the EUT is set to receive or idle mode. The limits are recalculated to a measurement distance of 3 m with 40 dB/decade according CFR Part 2.

Measurement:

Measurement parameter	
Detector:	Peak / Quasi Peak
Sweep time:	Auto
Video bandwidth:	F < 150 kHz: 200 Hz F > 150 kHz: 9 kHz
Resolution bandwidth:	F < 150 kHz: 1 kHz F > 150 kHz: 100 kHz
Span:	9 kHz to 30 MHz
Trace mode:	Max Hold
Test setup:	See sub clause 6.2 – A
Measurement uncertainty:	See sub clause 8

Limits:

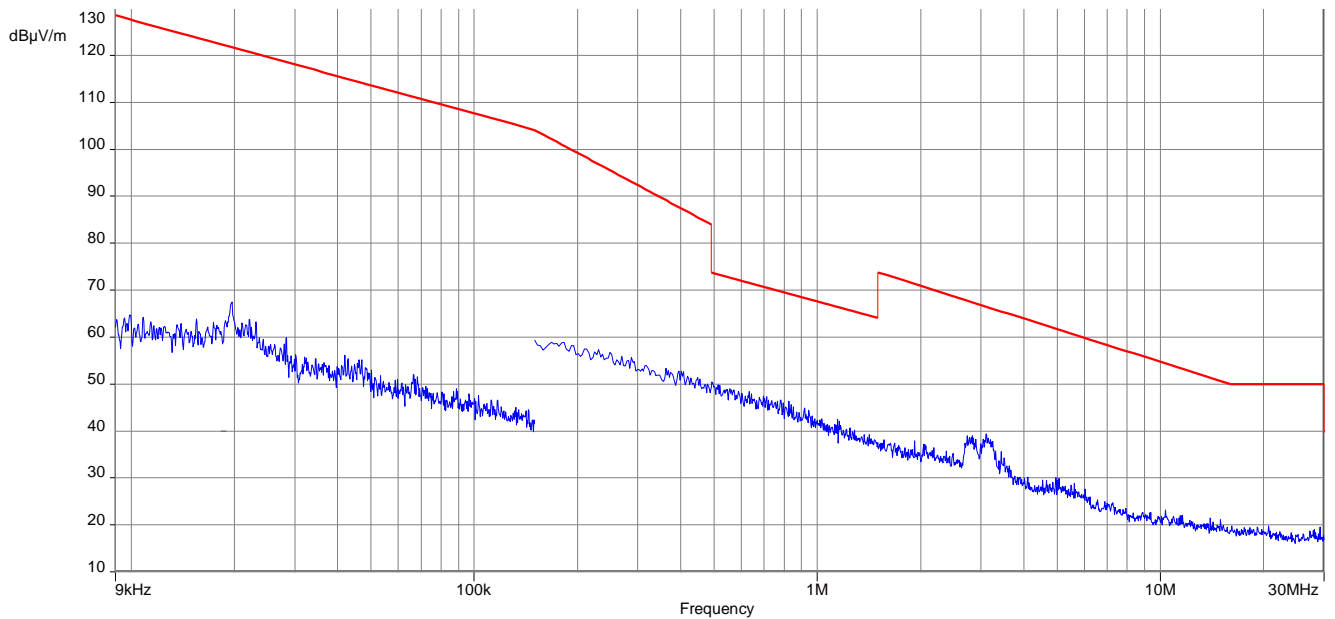
Spurious Emissions Radiated < 30 MHz		
Frequency (MHz)	Field Strength (dBµV/m)	Measurement distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30

Results:

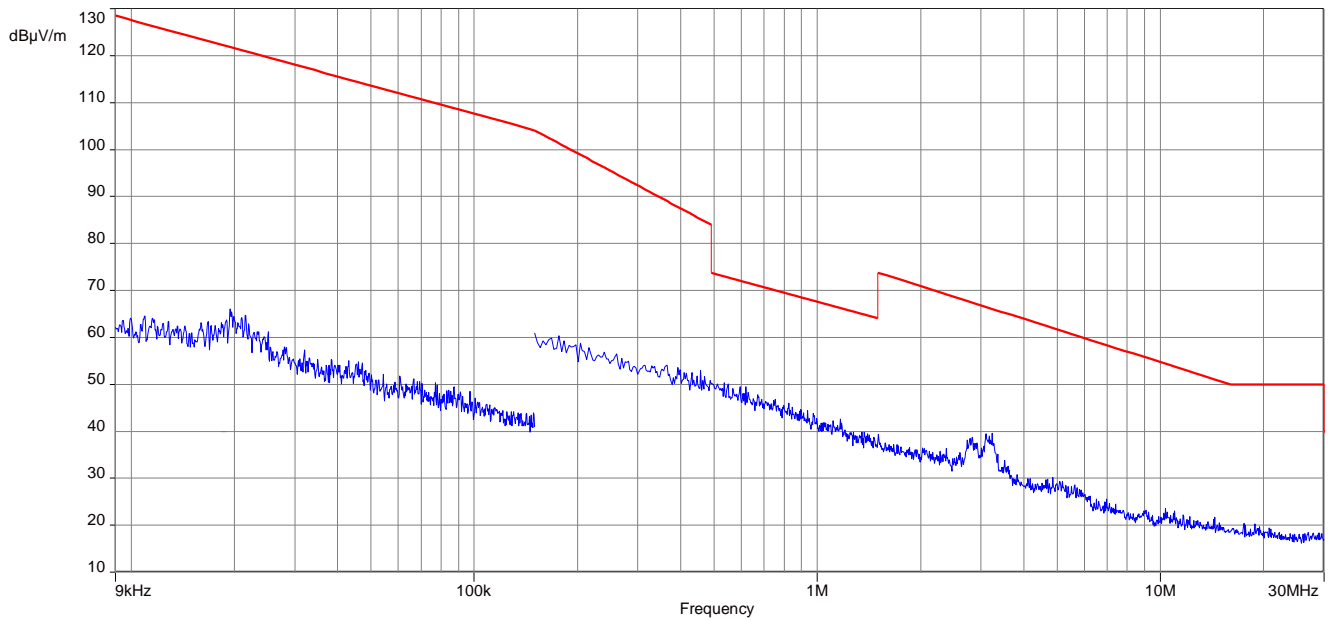
Spurious Emissions Radiated < 30 MHz [dBµV/m]		
F [MHz]	Detector	Level [dBµV/m]
All detected emissions are more than 20 dB below the limit.		

Plots: 20 MHz channel bandwidth

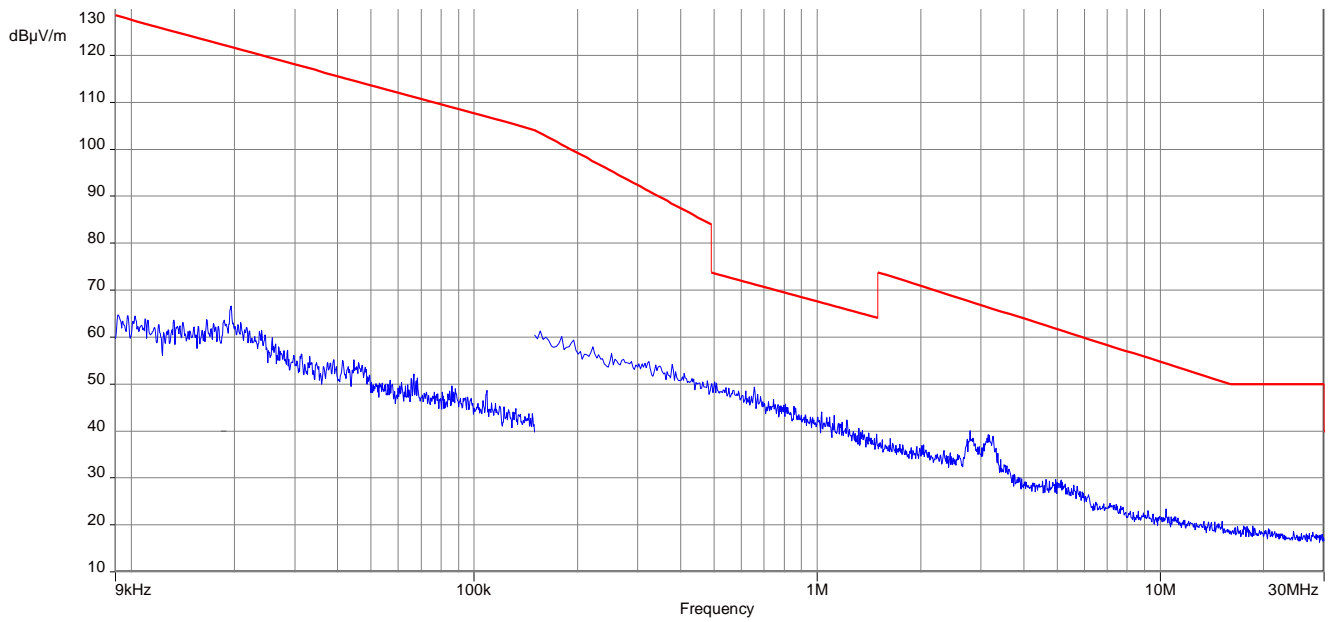
Plot 1: 9 kHz to 30 MHz, U-NII-1; lowest channel



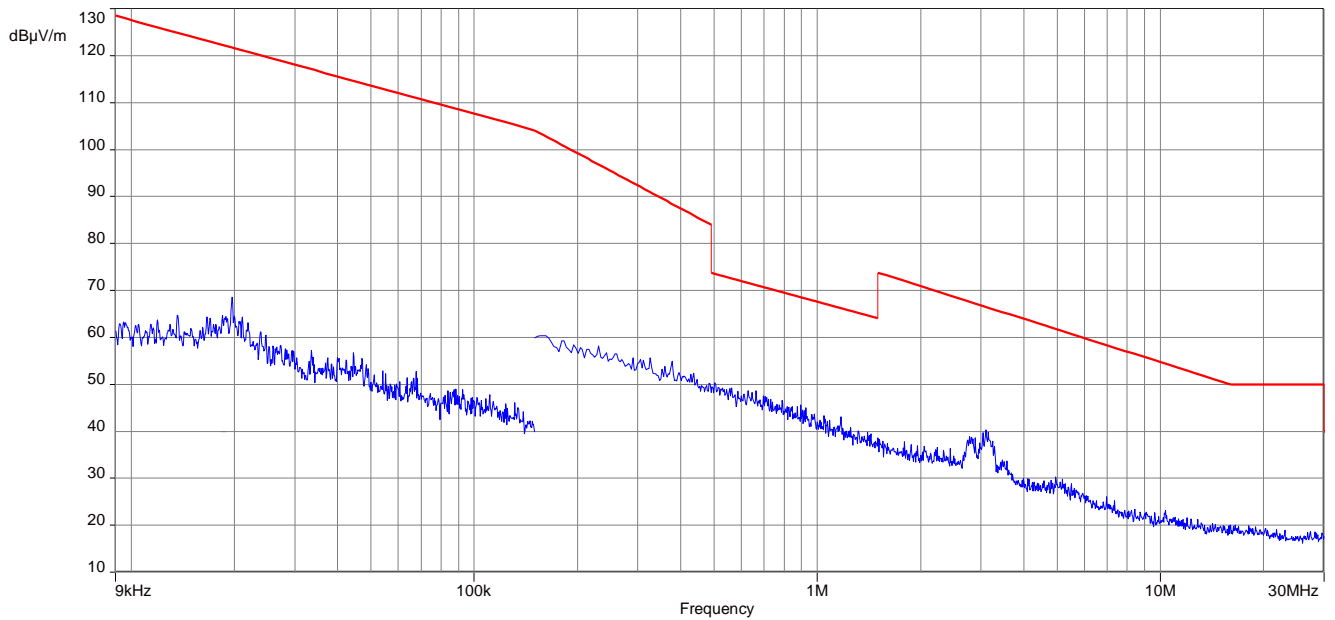
Plot 2: 9 kHz to 30 MHz, U-NII-1; highest channel



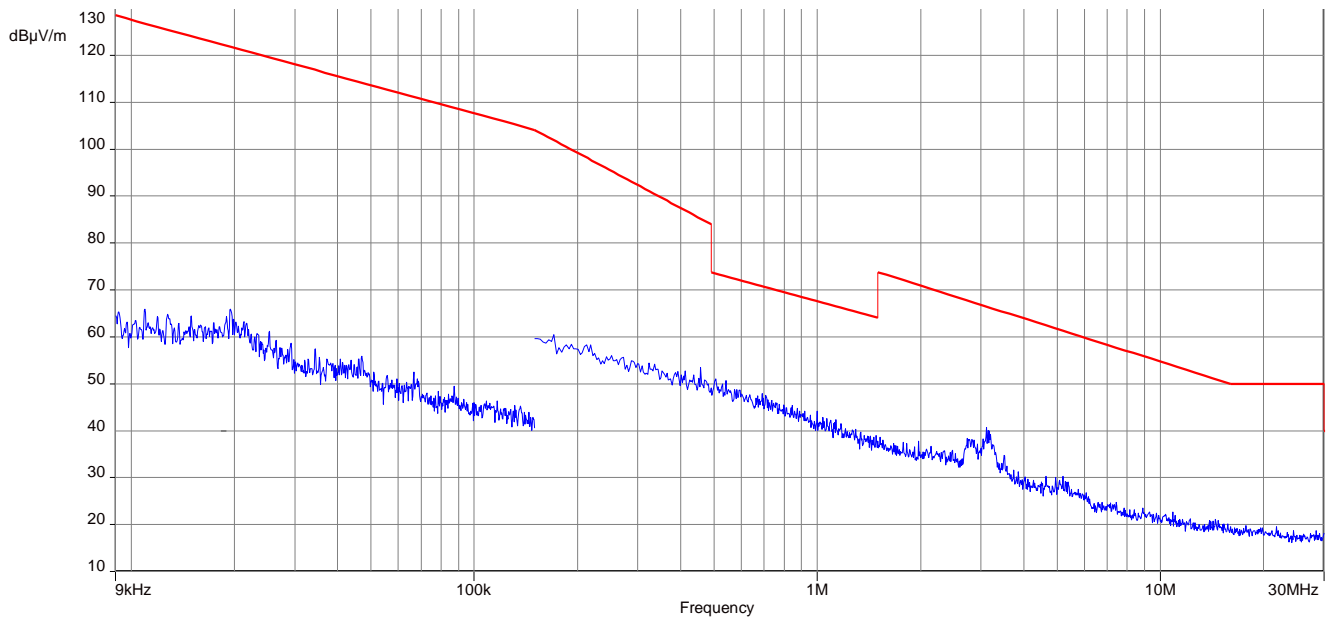
Plot 3: 9 kHz to 30 MHz, U-NII-2A; lowest channel



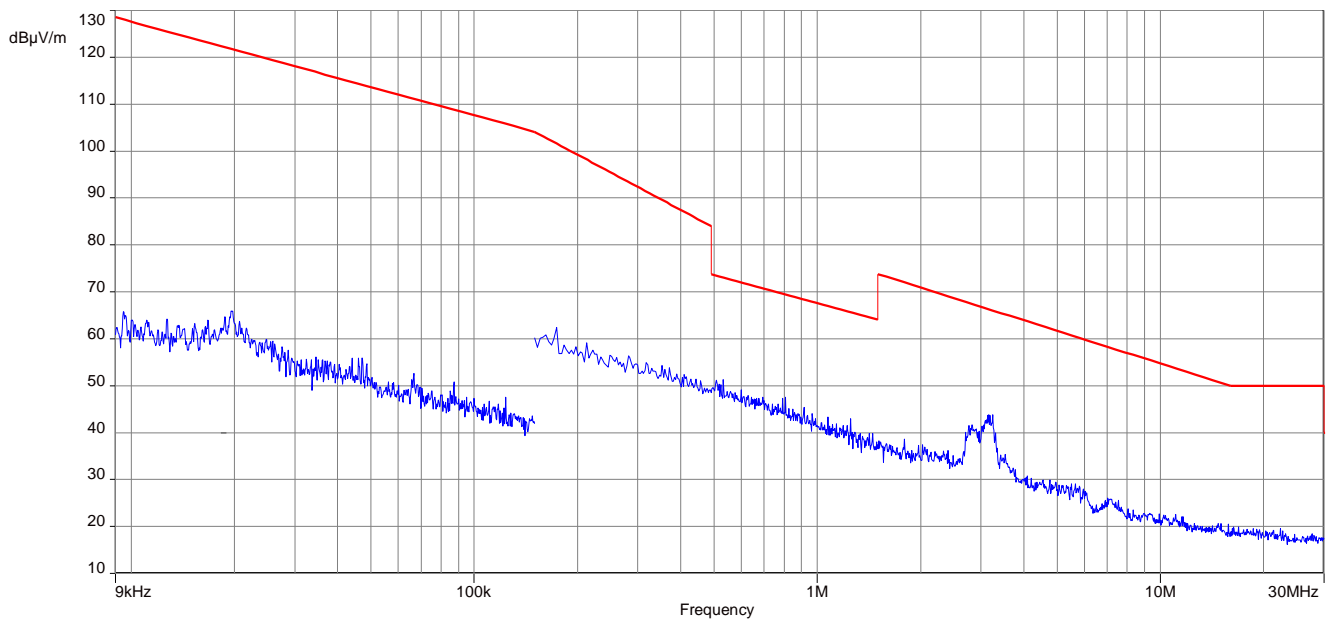
Plot 4: 9 kHz to 30 MHz, U-NII-2A; highest channel



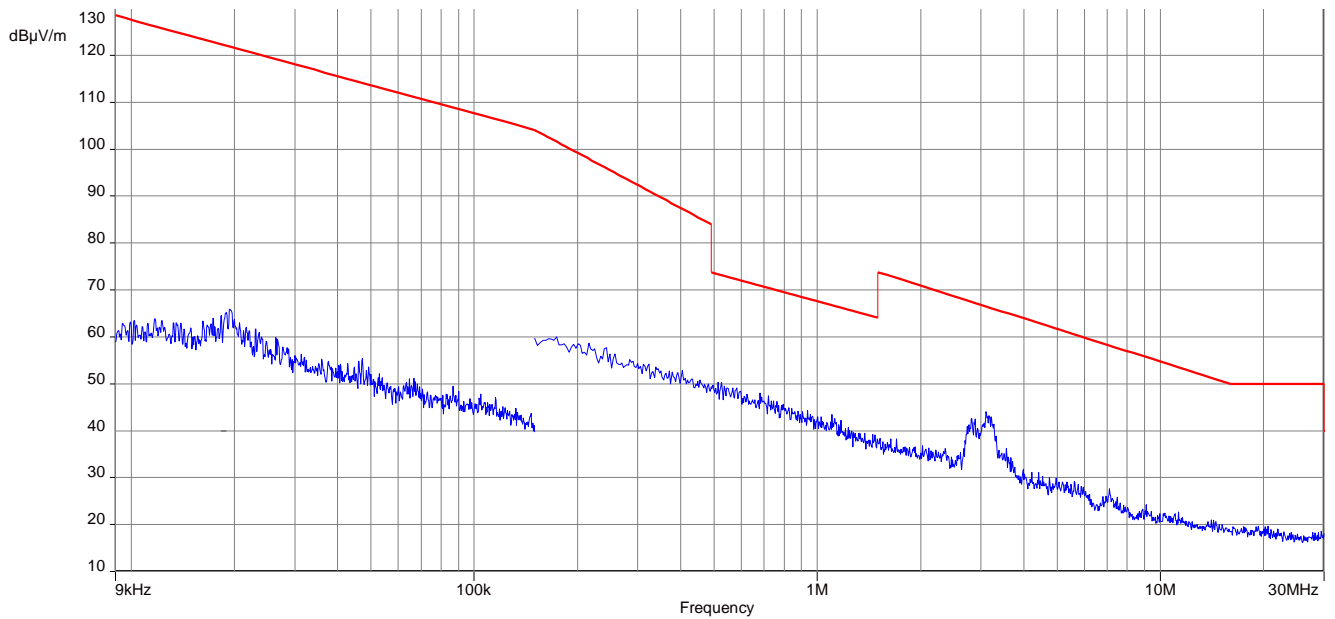
Plot 5: 9 kHz to 30 MHz, U-NII-2C; lowest channel



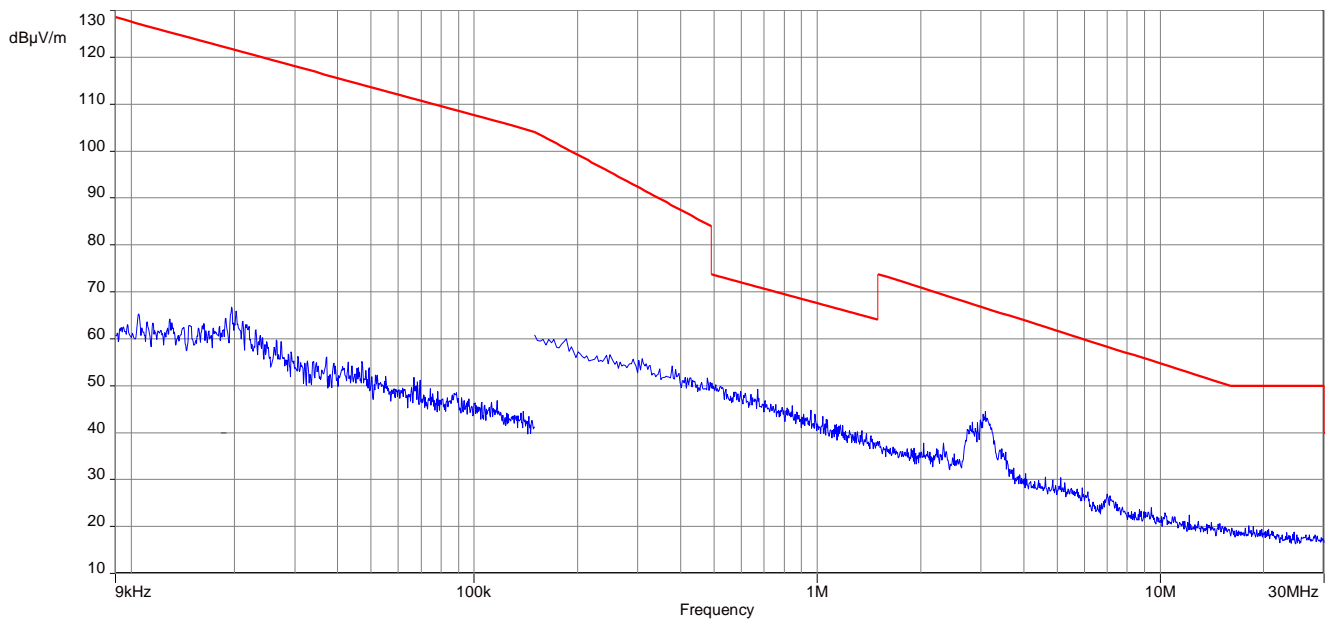
Plot 6: 9 kHz to 30 MHz, U-NII-2C; middle channel



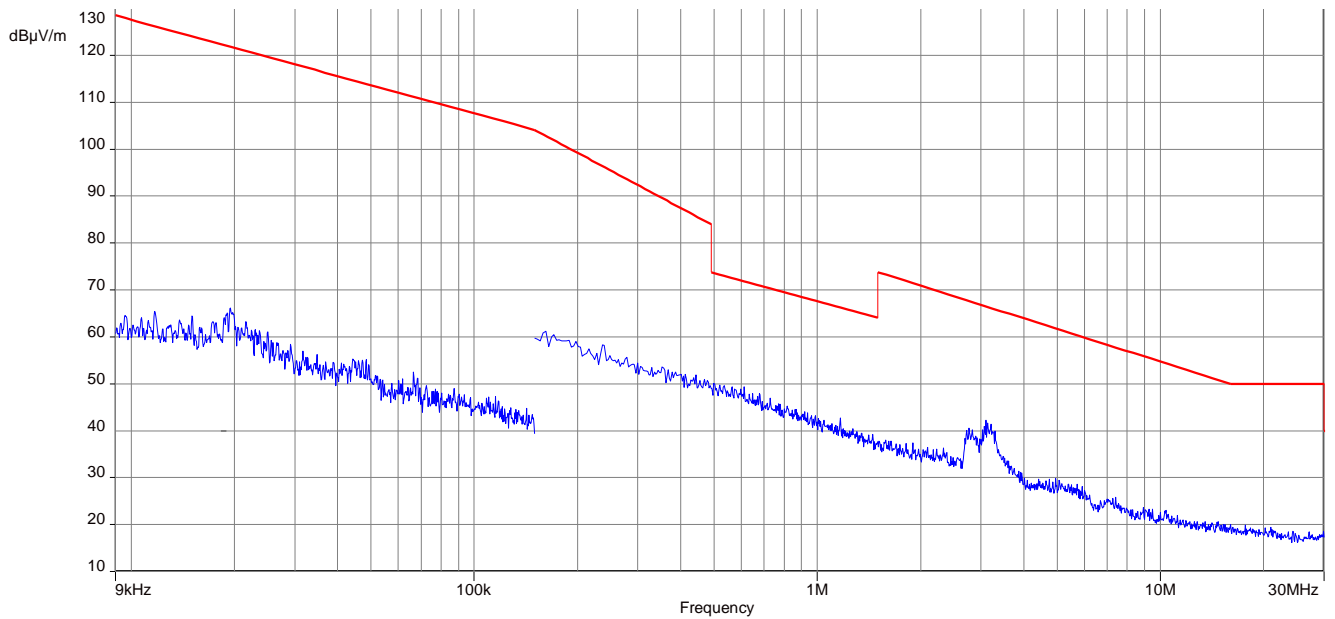
Plot 7: 9 kHz to 30 MHz, U-NII-2C; highest channel



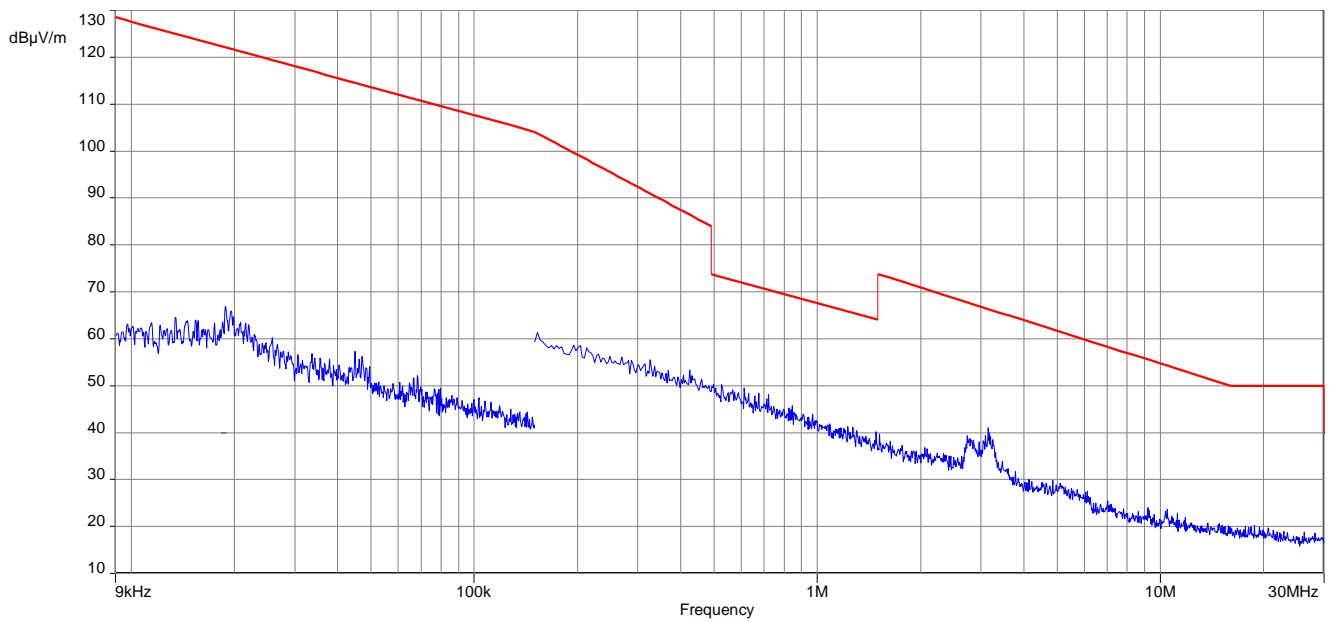
Plot 8: 9 kHz to 30 MHz, U-NII-3; lowest channel



Plot 9: 9 kHz to 30 MHz, U-NII-3; middle channel

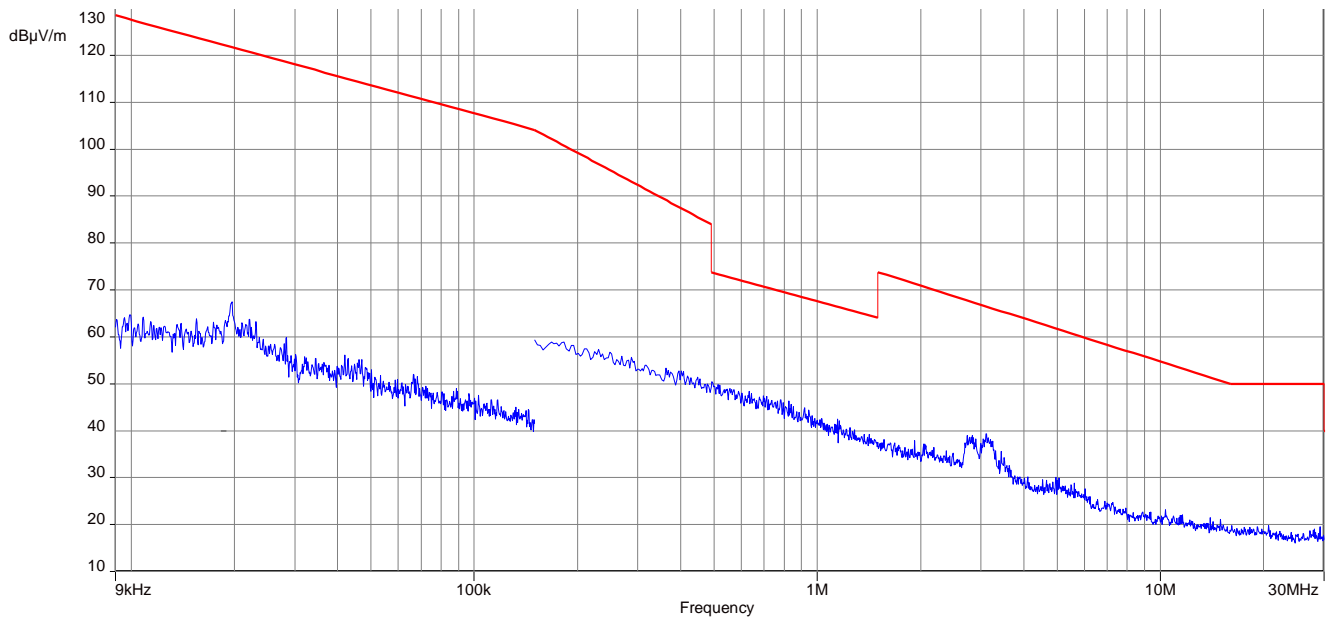


Plot 10: 9 kHz to 30 MHz, U-NII-3; highest channel

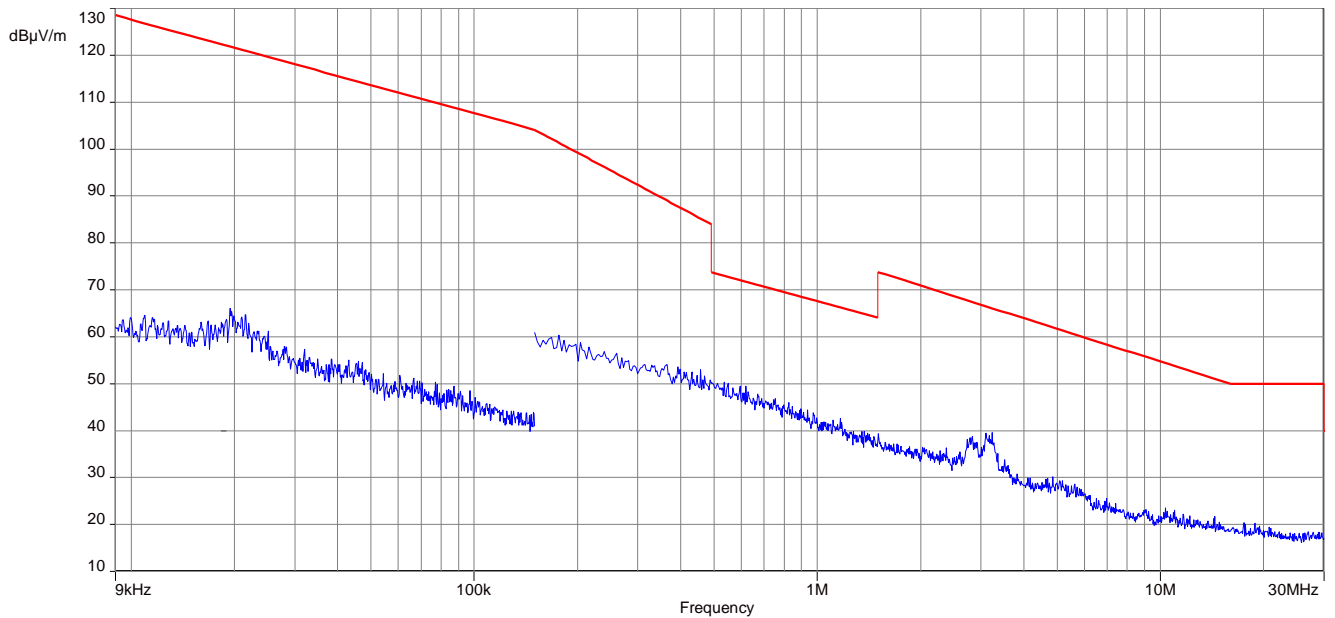


Plots: 40 MHz channel bandwidth

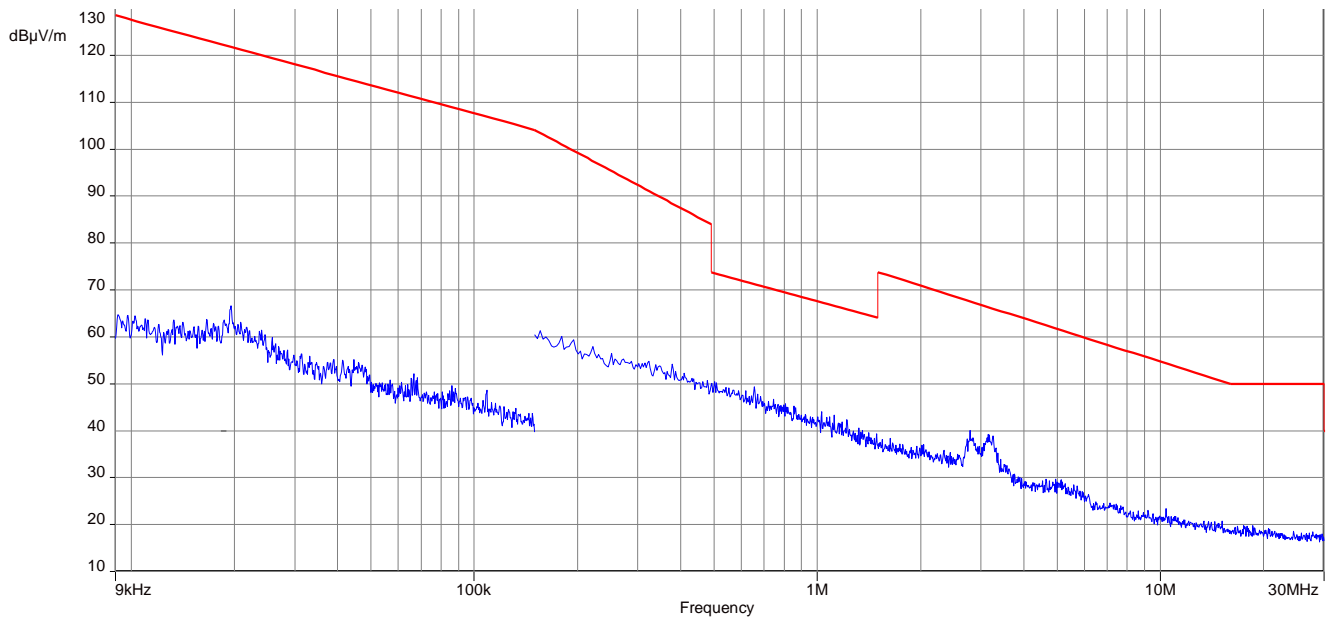
Plot 1: 9 kHz to 30 MHz, U-NII-1; lowest channel



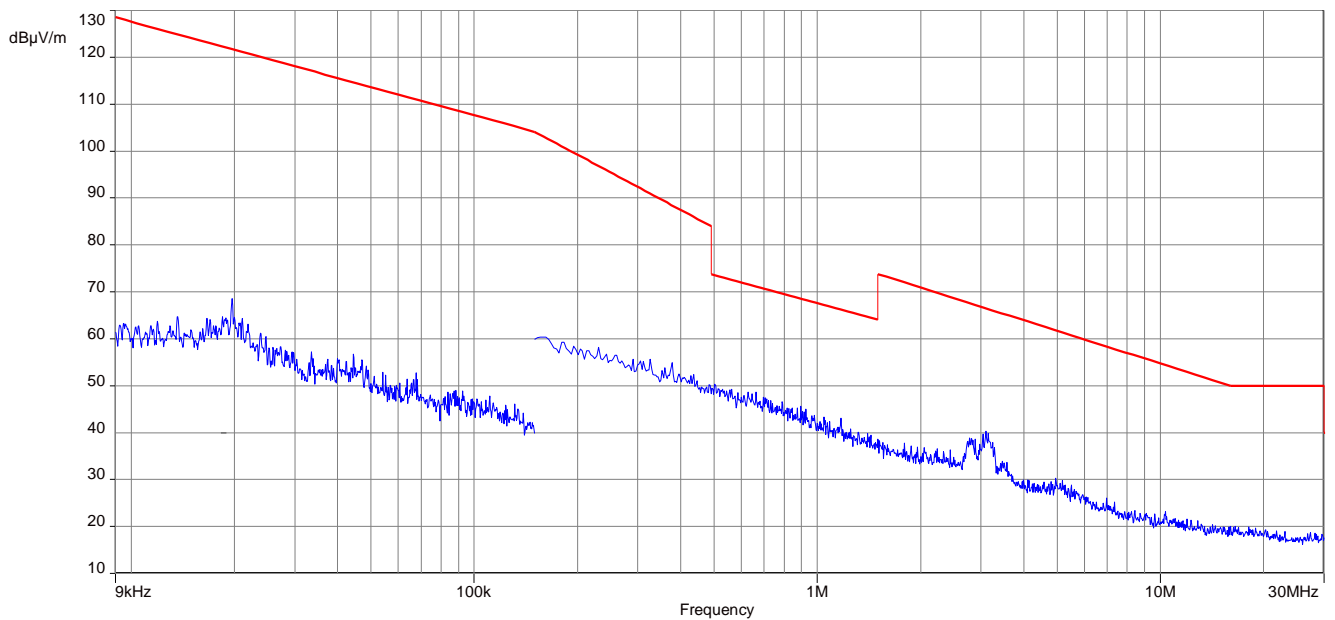
Plot 2: 9 kHz to 30 MHz, U-NII-1; highest channel



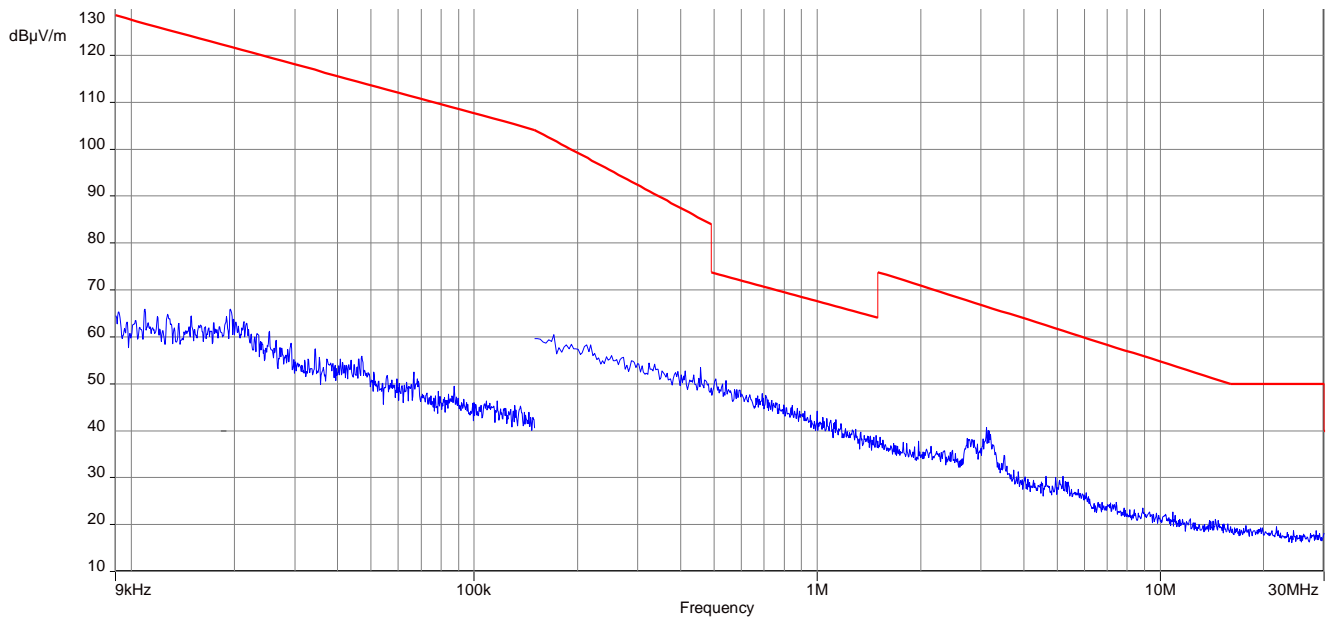
Plot 3: 9 kHz to 30 MHz, U-NII-2A; lowest channel



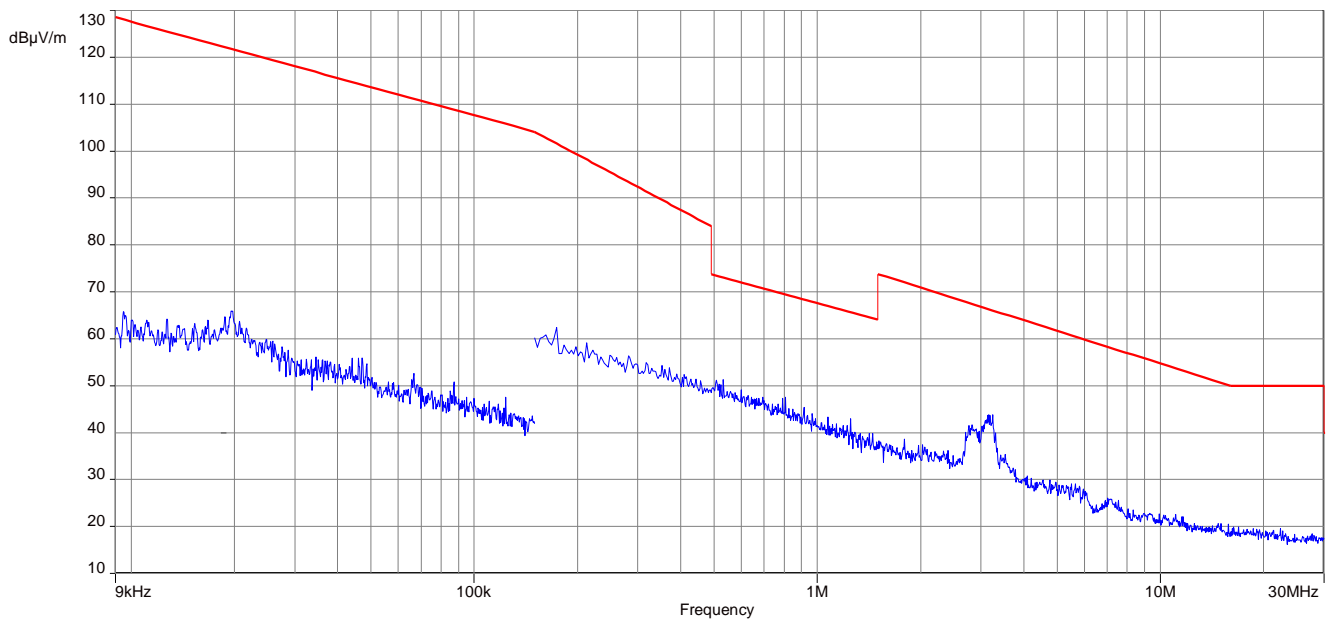
Plot 4: 9 kHz to 30 MHz, U-NII-2A; highest channel



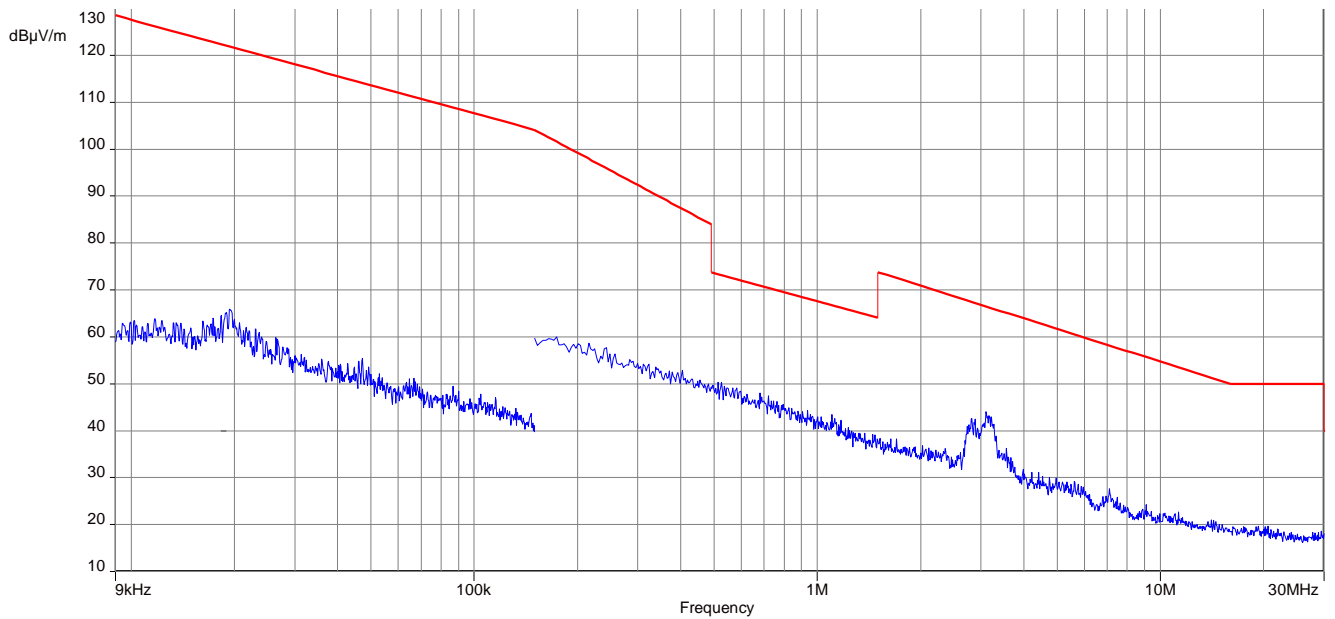
Plot 5: 9 kHz to 30 MHz, U-NII-2C; lowest channel



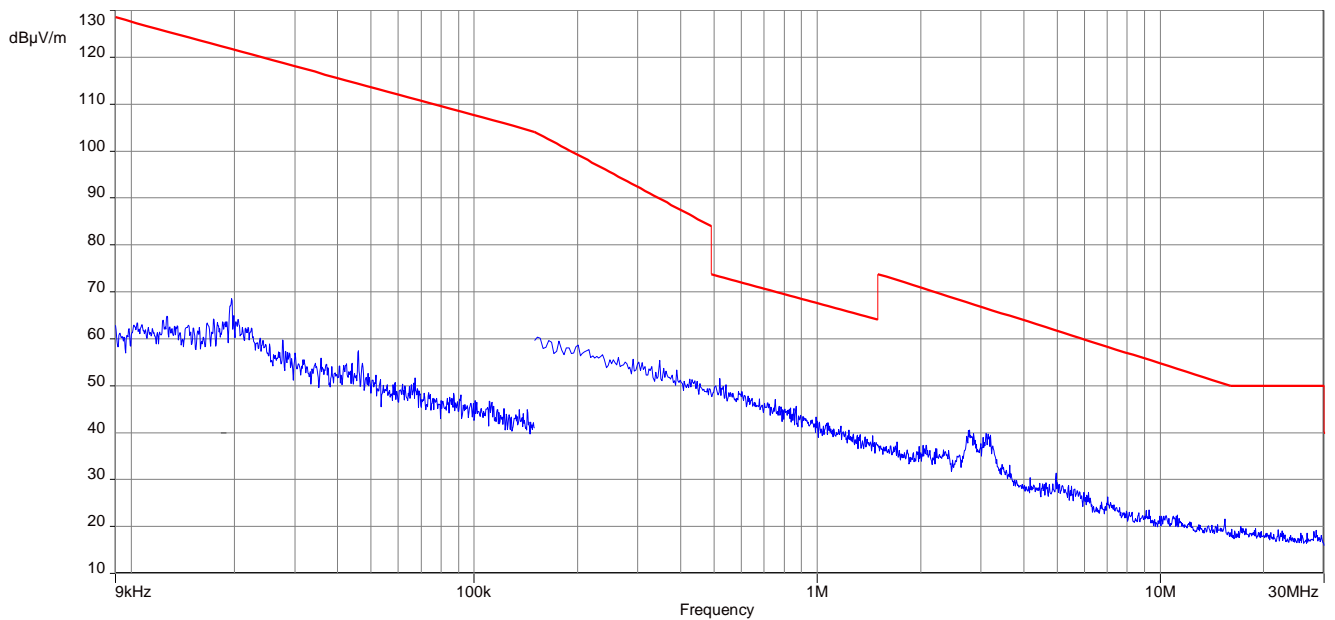
Plot 6: 9 kHz to 30 MHz, U-NII-2C; middle channel



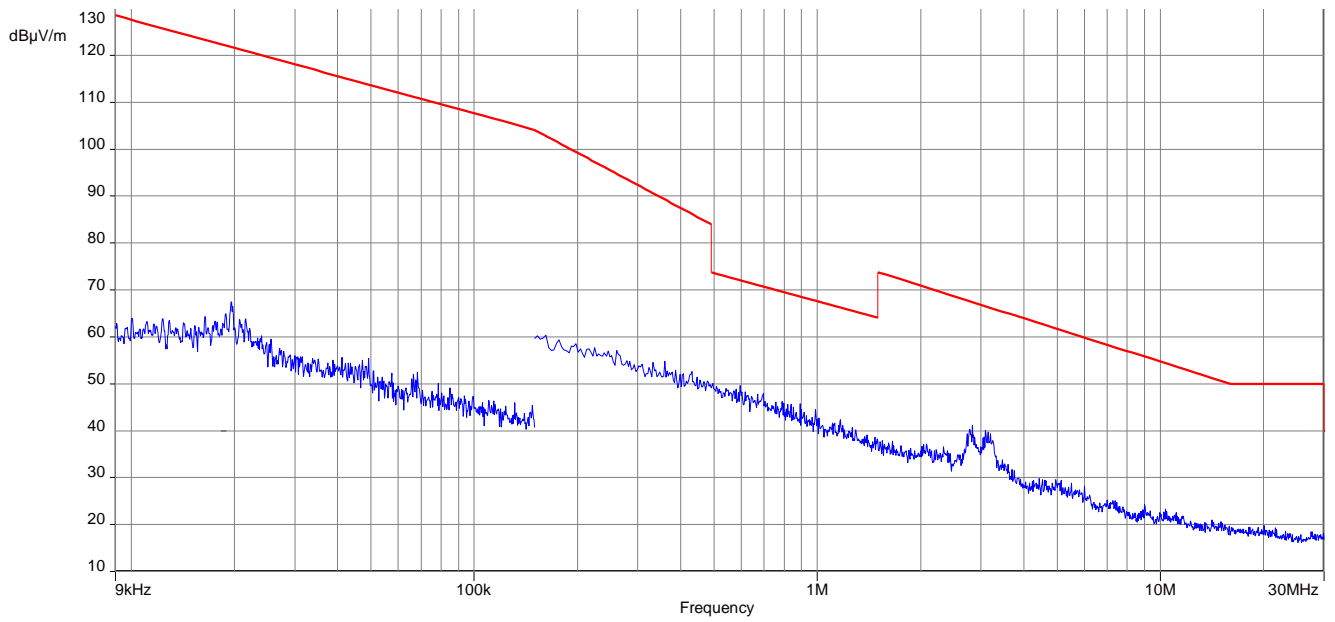
Plot 7: 9 kHz to 30 MHz, U-NII-2C; highest channel



Plot 8: 9 kHz to 30 MHz, U-NII-3; lowest channel



Plot 9: 9 kHz to 30 MHz, U-NII-3; highest channel



11.11 TX spurious emissions radiated

Description:

Measurement of the radiated spurious emissions in transmit mode. The measurement is performed at lowest, middle and highest channel.

Measurement:

Measurement parameter	
Detector:	Quasi Peak below 1 GHz (alternative Peak) Peak above 1 GHz / RMS
Sweep time:	Auto
Resolution bandwidth:	F < 1 GHz: 100 kHz F > 1 GHz: 1 MHz
Video bandwidth:	F < 1 GHz: 100 kHz F > 1 GHz: ≥ 3 MHz / 1 MHz
Span:	30 MHz to 40 GHz
Trace mode:	Max Hold / Average with 100 counts + 20 log (1 / X) for duty cycle lower than 100 %
Test setup:	See sub clause 6.1 – A See sub clause 6.2 – B See sub clause 6.3 – A
Measurement uncertainty:	See sub clause 8

Limits:

TX Spurious Emissions Radiated		
§15.209		
Frequency (MHz)	Field Strength (dBµV/m)	Measurement distance (m)
30 - 88	30.0	10
88 – 216	33.5	10
216 – 960	36.0	10
Above 960	54.0	3
§15.407		
Outside the restricted bands!	-27 dBm / MHz	

Results: 20 MHz channel bandwidth

TX Spurious Emissions Radiated [dBµV/m] / dBm								
U-NII-1 (5150 MHz to 5250 MHz)								
Lowest channel			-/-			Highest channel		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please look at the table below the plot.			-/-			For emissions below 1 GHz, please look at the table below the plot.		
6907	Peak	52.4				15720	Peak	65.3
	AVG	-/-					AVG	52.1
15540	Peak	63.2				-/-	Peak	-/-
	AVG	51.2					AVG	-/-
For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.					

TX Spurious Emissions Radiated [dBµV/m] / dBm								
U-NII-2A (5250 MHz to 5350 MHz)								
Lowest channel			-/-			Highest channel		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please look at the table below the plot.			-/-			For emissions below 1 GHz, please look at the table below the plot.		
15780	Peak	63.5				7093.6	Peak	48.7
	AVG	50.2					AVG	-/-
-/-	Peak	-/-				15960	Peak	65.4
	AVG	-/-					AVG	53.2
For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.					

TX Spurious Emissions Radiated [dBµV/m] / dBm								
U-NII-2C (5470 MHz to 5725 MHz)								
Lowest channel			Middle channel			Highest channel		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please look at the table below the plot.			For emissions below 1 GHz, please look at the table below the plot.			For emissions below 1 GHz, please look at the table below the plot.		
7333.5	Peak	49.4	7466.9	Peak	49.5	7600.1	Peak	49.6
	AVG	-/-		AVG	-/-		AVG	-/-
11000	Peak	60.4	-/-	Peak	-/-	-/-	Peak	-/-
	AVG	48.9		AVG	-/-		AVG	-/-
16500	Peak	63.3	-/-	Peak	-/-	-/-	Peak	-/-
	AVG	52.7		AVG	-/-		AVG	-/-
For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.		

TX Spurious Emissions Radiated [dBµV/m] / dBm								
U-NII-3 (5725 MHz to 5850 MHz)								
Lowest channel			Middle channel			Highest channel		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please look at the table below the plot.			For emissions below 1 GHz, please look at the table below the plot.			For emissions below 1 GHz, please look at the table below the plot.		
7660	Peak	51.0	7713	Peak	51.9	7766.7	Peak	51.7
	AVG	45.9		AVG	-/-		AVG	-/-
11490	Peak	60.2	-/-	Peak	-/-	11650	Peak	60.8
	AVG	47.8		AVG	-/-		AVG	47.4
For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.		

Results: 40 MHz channel bandwidth

TX Spurious Emissions Radiated [dBµV/m] / dBm								
U-NII-1 (5150 MHz to 5250 MHz)								
Lowest channel			-/-			Highest channel		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please look at the table below the plot.			-/-			For emissions below 1 GHz, please look at the table below the plot.		
-/-	Peak	-/-				-/-	Peak	-/-
	AVG	-/-					AVG	-/-
-/-	Peak	-/-				-/-	Peak	-/-
	AVG	-/-					AVG	-/-
For emissions above 18 GHz please take look at the plots.						For emissions above 18 GHz please take look at the plots.		

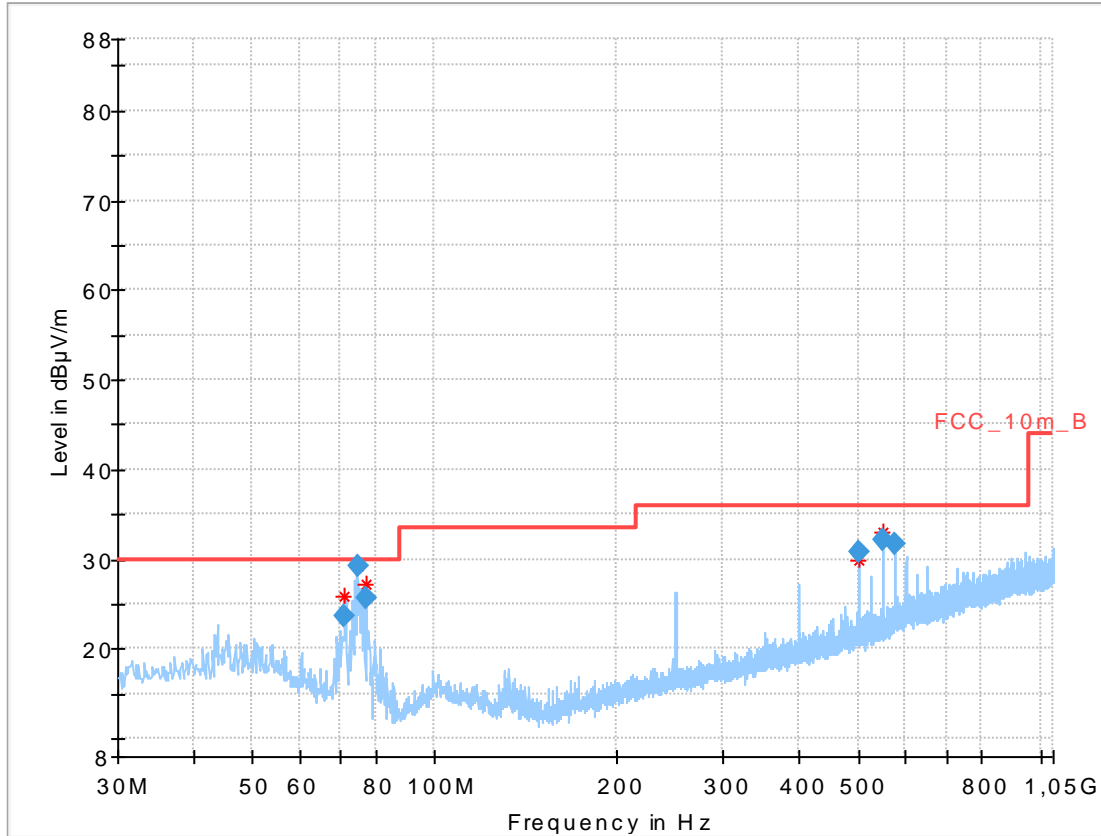
TX Spurious Emissions Radiated [dBµV/m] / dBm								
U-NII-2A (5250 MHz to 5350 MHz)								
Lowest channel			-/-			Highest channel		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please look at the table below the plot.			-/-			For emissions below 1 GHz, please look at the table below the plot.		
-/-	Peak	-/-				1225	Peak	39.4
	AVG	-/-					AVG	-/-
-/-	Peak	-/-				7079	Peak	47.0
	AVG	-/-					AVG	-/-
For emissions above 18 GHz please take look at the plots.						For emissions above 18 GHz please take look at the plots.		

TX Spurious Emissions Radiated [dBµV/m] / dBm								
U-NII-2C (5470 MHz to 5725 MHz)								
Lowest channel			Middle channel			Highest channel		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please look at the table below the plot.			For emissions below 1 GHz, please look at the table below the plot.			For emissions below 1 GHz, please look at the table below the plot.		
7346.5	Peak	51.6	7453.2	Peak	51.1	7559.9	Peak	49.7
	AVG	-/-		AVG	-/-		AVG	-/-
-/-	Peak	-/-	-/-	Peak	-/-	-/-	Peak	-/-
	AVG	-/-		AVG	-/-		AVG	-/-
For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.		

TX Spurious Emissions Radiated [dBµV/m] / dBm										
U-NII-3 (5725 MHz to 5850 MHz)										
Lowest channel			-/-			Highest channel				
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]		
For emissions below 1 GHz, please look at the table below the plot.			-/-			For emissions below 1 GHz, please look at the table below the plot.				
7673	Peak	51.6				7726			Peak	51.9
	AVG	-/-				AVG			-/-	
-/-	Peak	-/-				-/-			Peak	-/-
	AVG	-/-				AVG			-/-	
For emissions above 18 GHz please take look at the plots.						For emissions above 18 GHz please take look at the plots.				

Plots: 20 MHz channel bandwidth

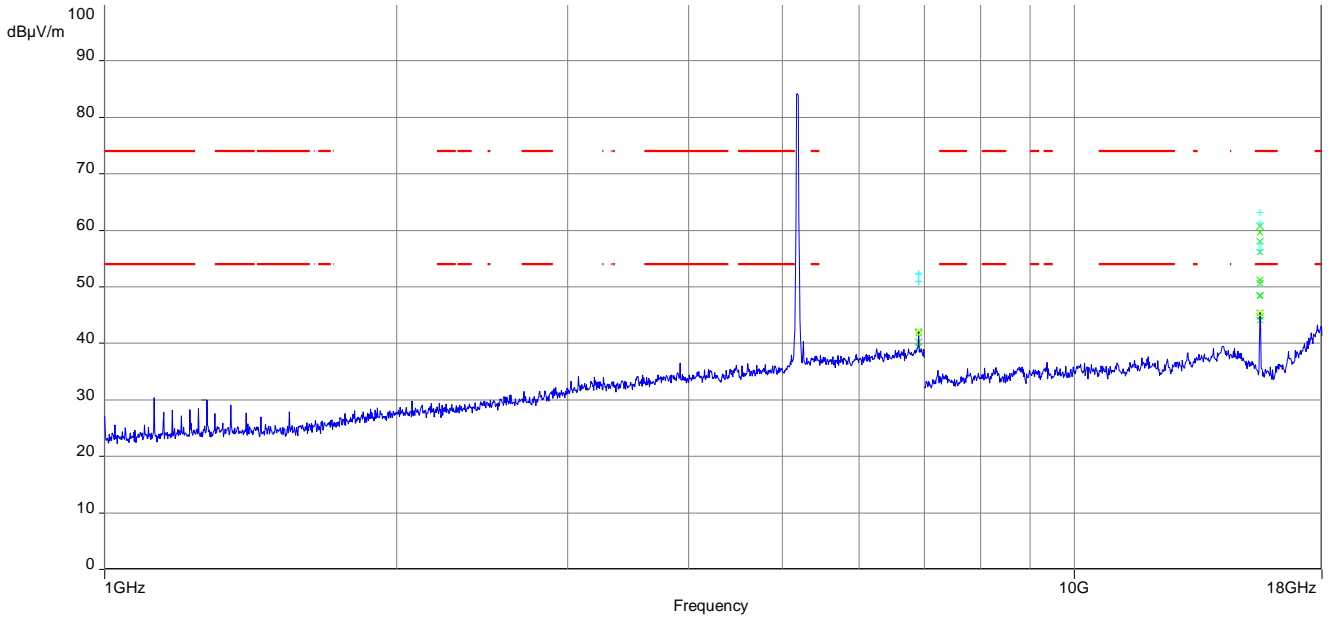
Plot 1: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-1; lowest channel



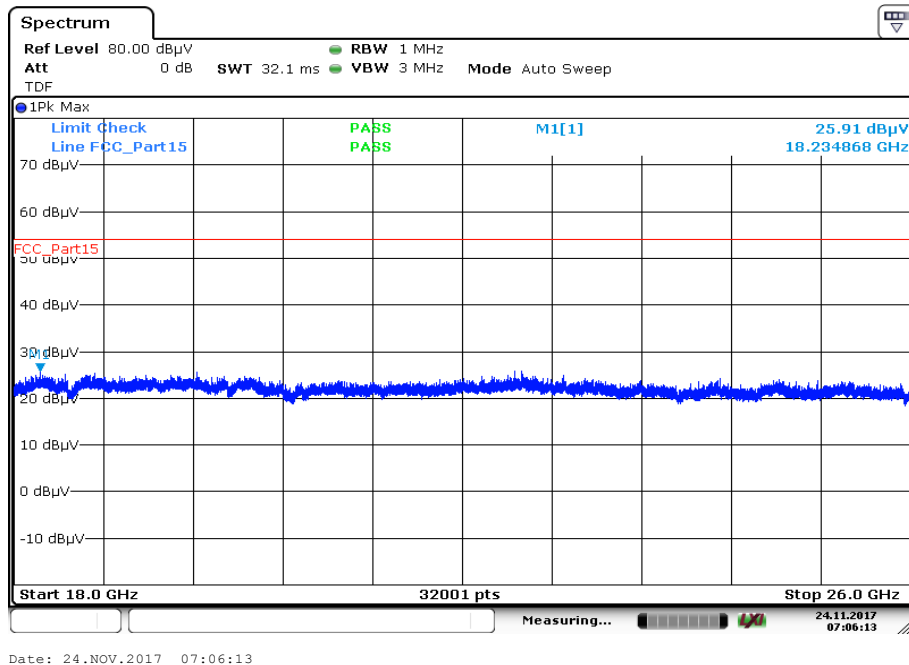
Final_Result:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
71.078	23.57	30.0	6.43	1000	120	101.0	V	340.0	9.5
74.562	29.25	30.0	0.75	1000	120	100.0	V	309.0	8.9
77.200	25.64	30.0	4.36	1000	120	101.0	V	309.0	8.5
499.983	30.74	36.0	5.26	1000	120	170.0	H	84.0	18.7
549.977	32.23	36.0	3.77	1000	120	101.0	H	78.0	19.3
574.985	31.68	36.0	4.32	1000	120	170.0	H	298.0	20.0

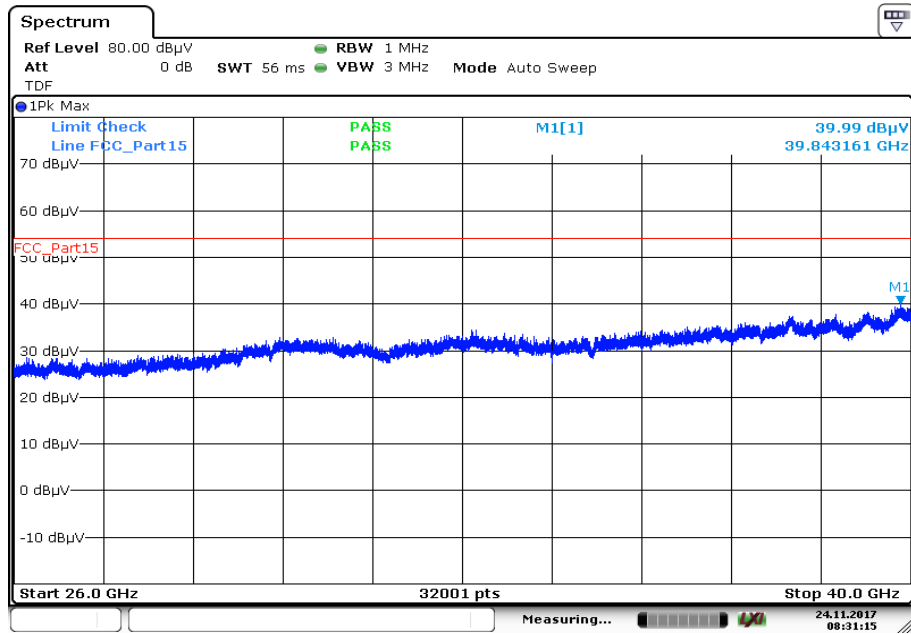
Plot 2: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-1; lowest channel



Plot 3: 18 GHz to 26 GHz; vertical & horizontal polarization; U-NII-1; lowest channel

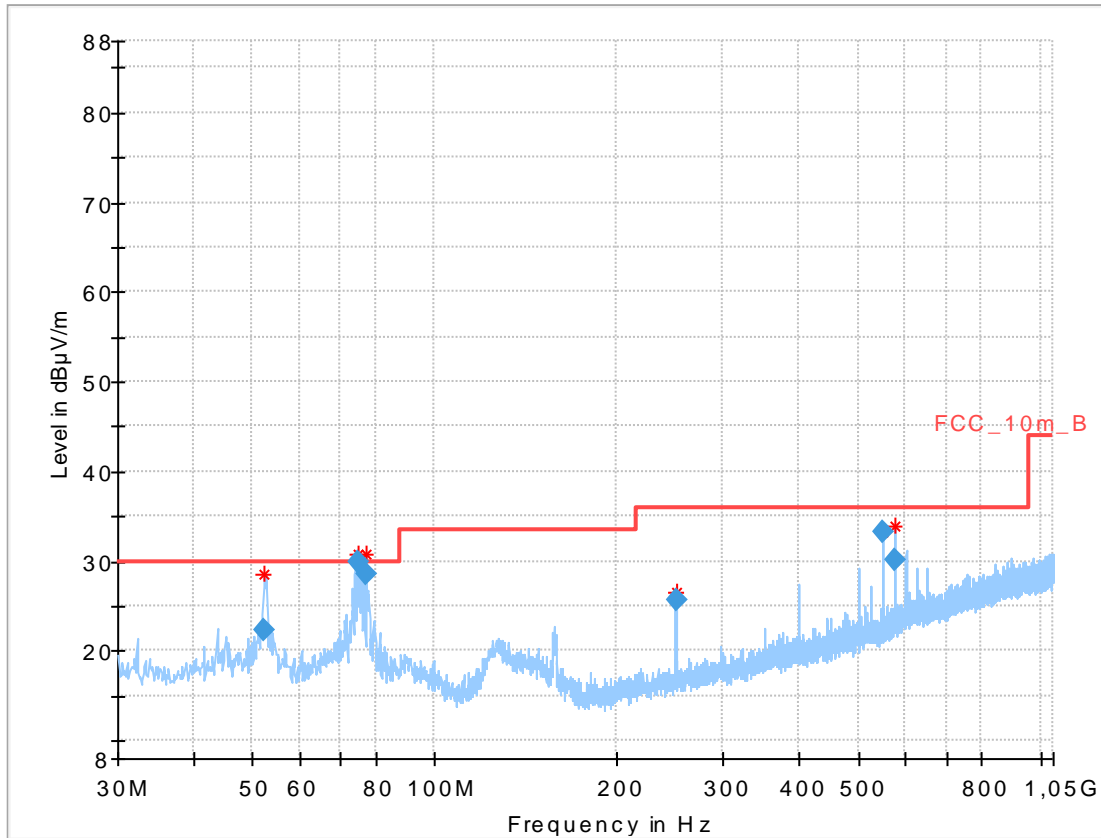


Plot 4: 26 GHz to 40 GHz; vertical & horizontal polarization; U-NII-1; lowest channel



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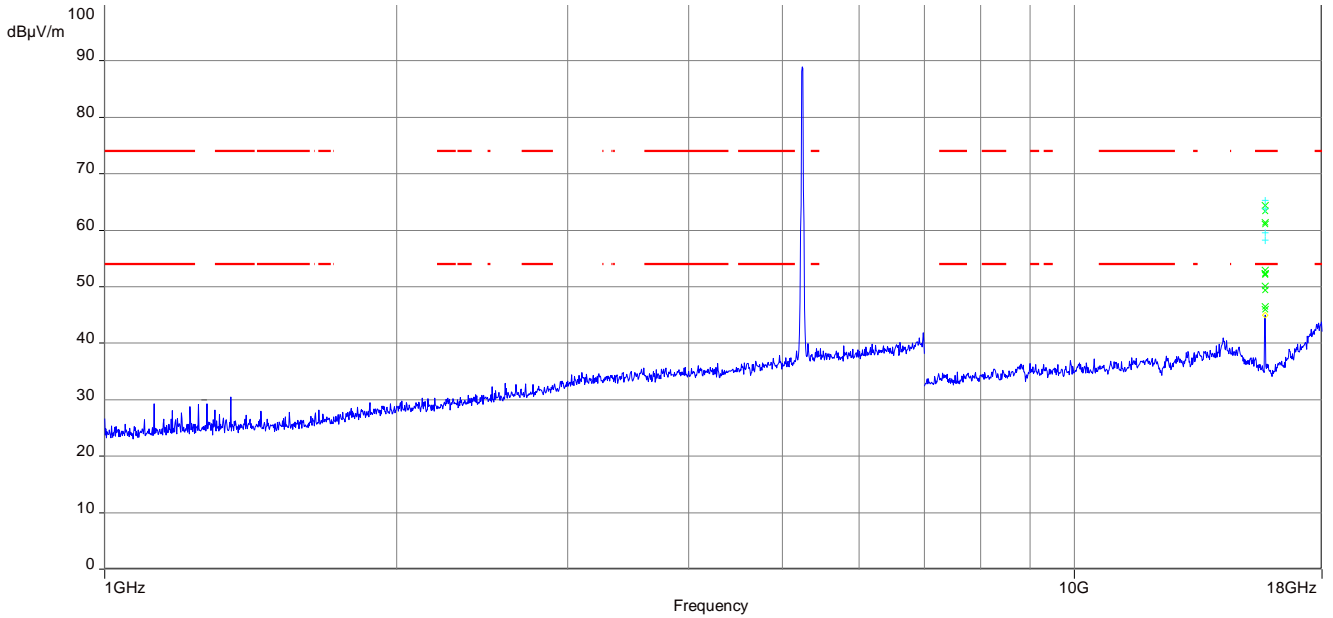
Plot 5: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-1; highest channel



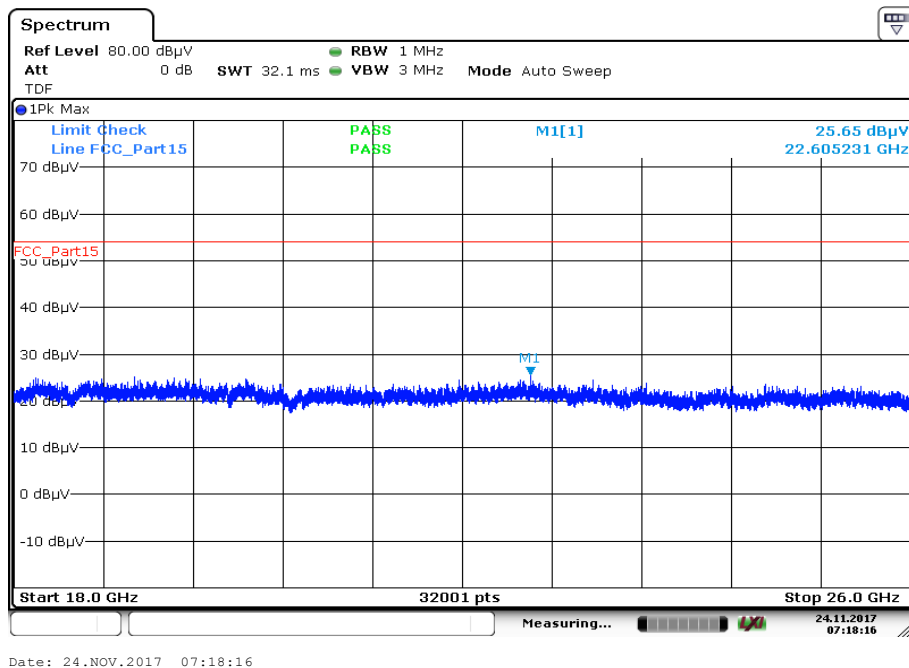
Final_Result:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
52.289	22.32	30.0	7.68	1000	120	98.0	V	159.0	13.4
74.566	29.91	30.0	0.09	1000	120	170.0	V	8.0	8.9
77.179	28.64	30.0	1.36	1000	120	101.0	V	7.0	8.5
250.007	25.57	36.0	10.43	1000	120	98.0	V	135.0	13.4
549.993	33.16	36.0	2.84	1000	120	101.0	H	66.0	19.3
575.008	30.23	36.0	5.77	1000	120	101.0	H	280.0	20.0

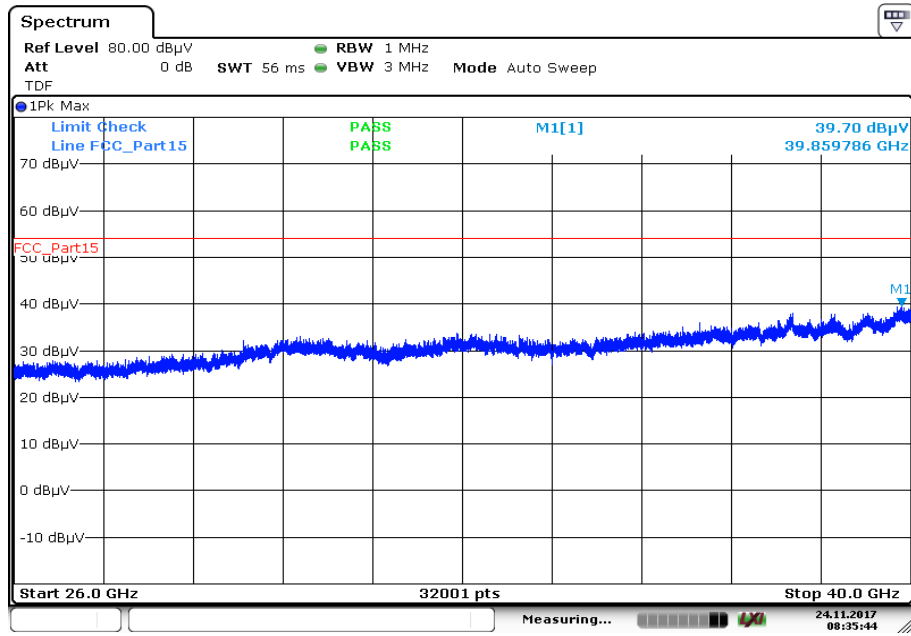
Plot 6: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-1; highest channel



Plot 7: 18 GHz to 26 GHz; vertical & horizontal polarization; U-NII-1; highest channel

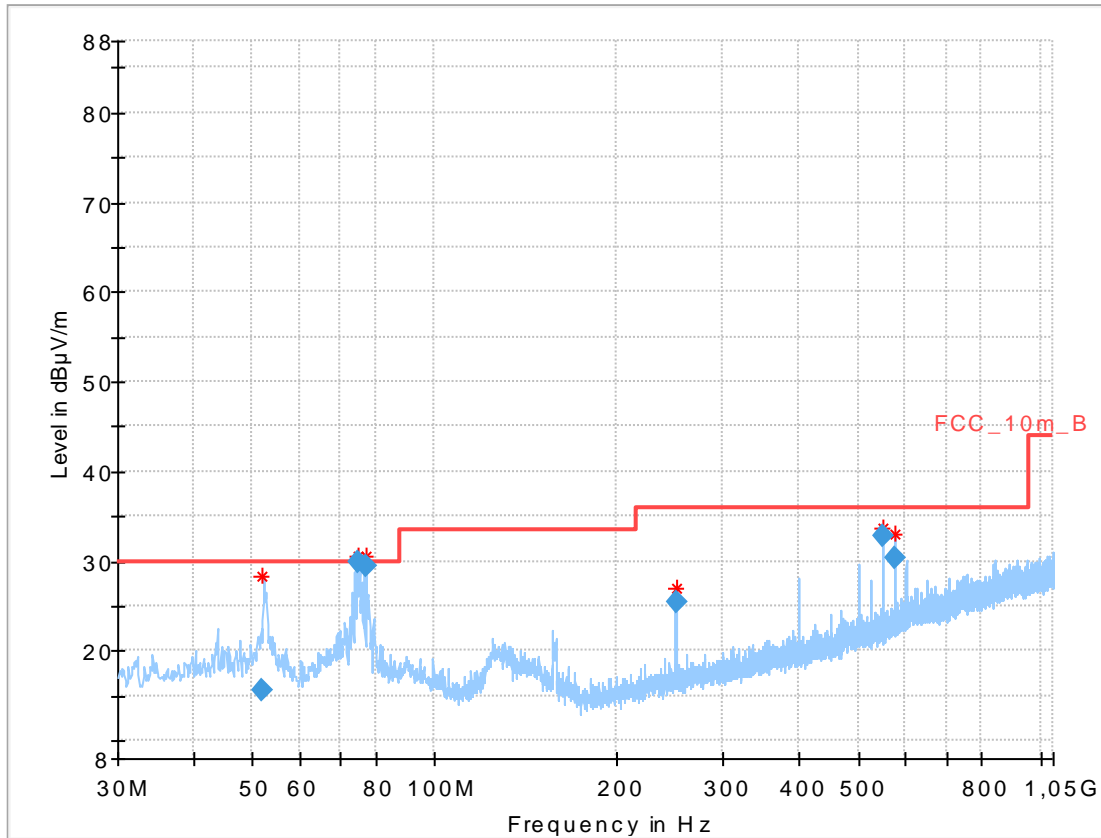


Plot 8: 26 GHz to 40 GHz; vertical & horizontal polarization; U-NII-1; highest channel



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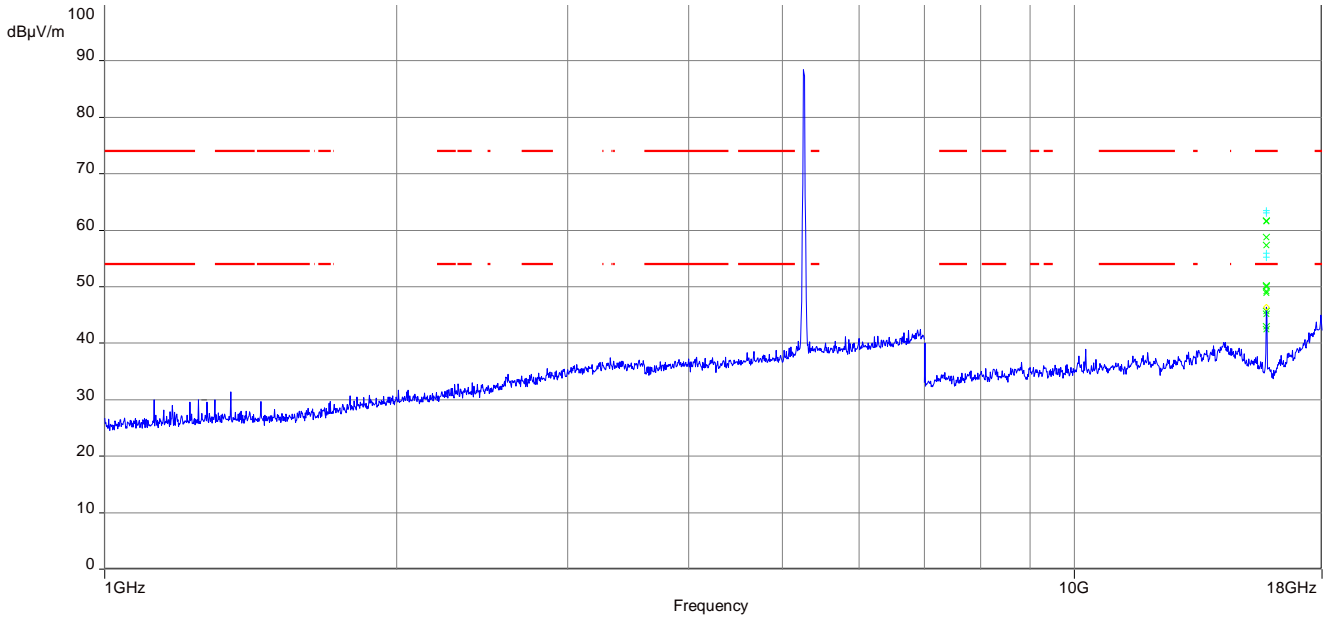
Plot 9: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-2A; lowest channel



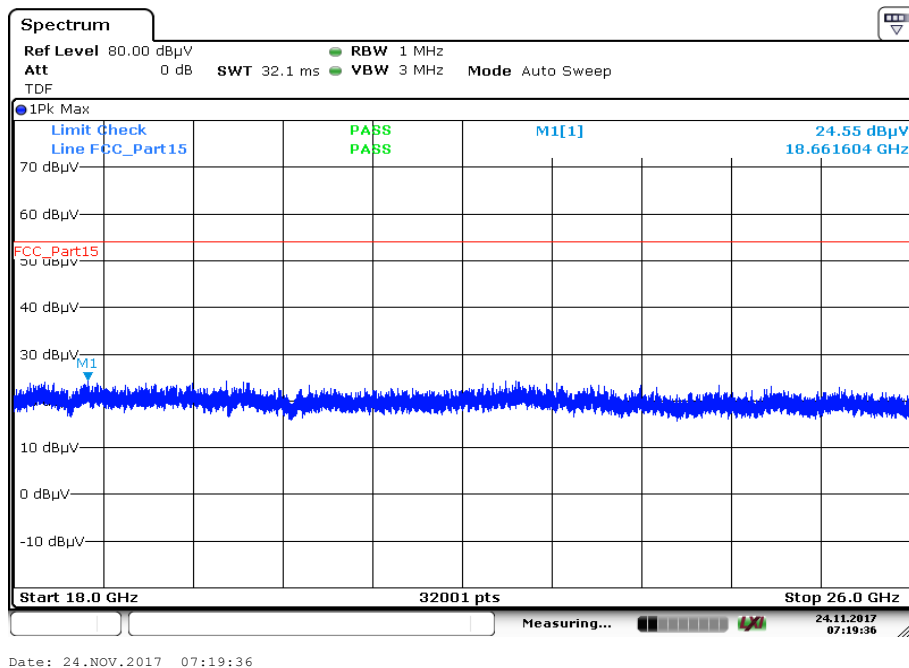
Final_Result:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
51.814	15.57	30.0	14.43	1000	120	101.0	V	246.0	13.5
74.557	29.84	30.0	0.16	1000	120	170.0	V	4.0	9.0
77.199	29.53	30.0	0.47	1000	120	101.0	V	-4.0	8.5
250.003	25.47	36.0	10.53	1000	120	98.0	V	114.0	13.4
550.010	32.76	36.0	3.24	1000	120	100.0	H	59.0	19.3
574.980	30.29	36.0	5.71	1000	120	101.0	H	289.0	20.0

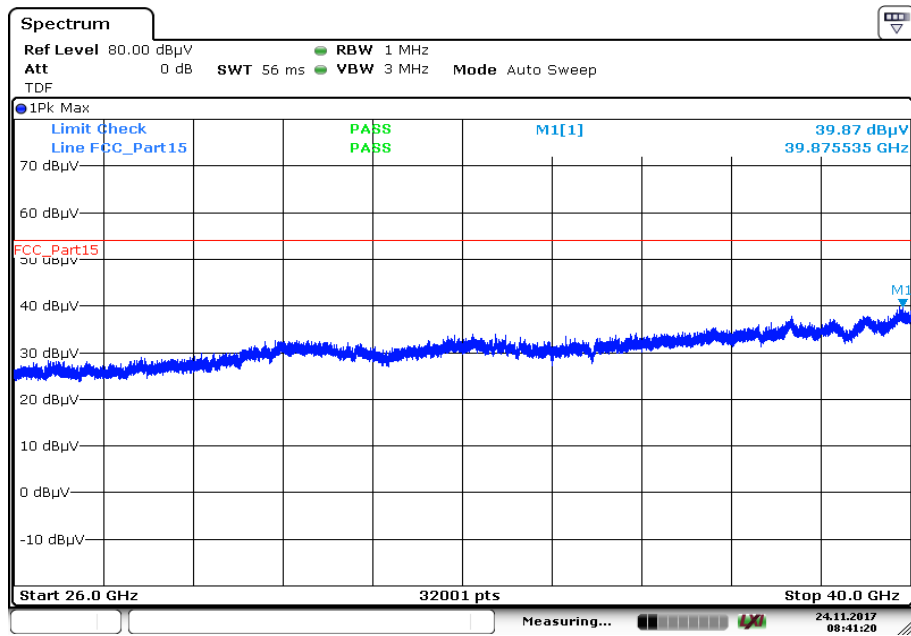
Plot 10: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2A; lowest channel



Plot 11: 18 GHz to 26 GHz; vertical & horizontal polarization; U-NII-2A; lowest channel

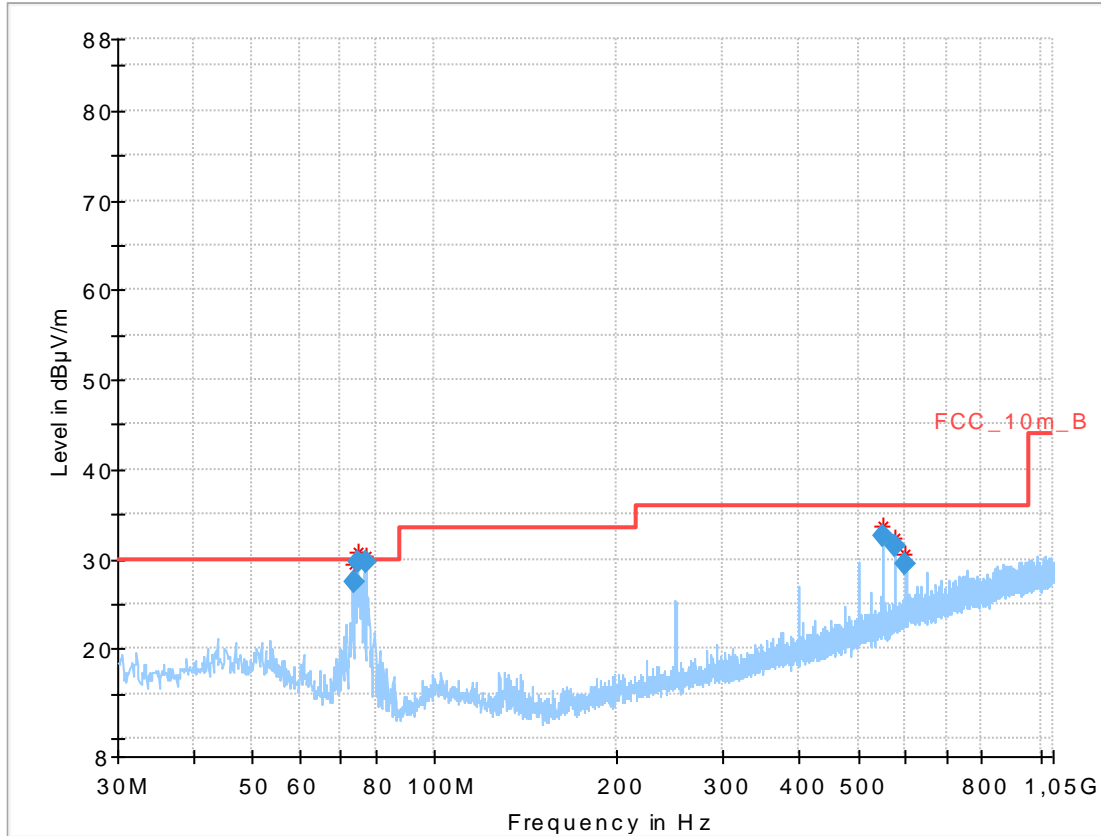


Plot 12: 26 GHz to 40 GHz; vertical & horizontal polarization; U-NII-2A; lowest channel



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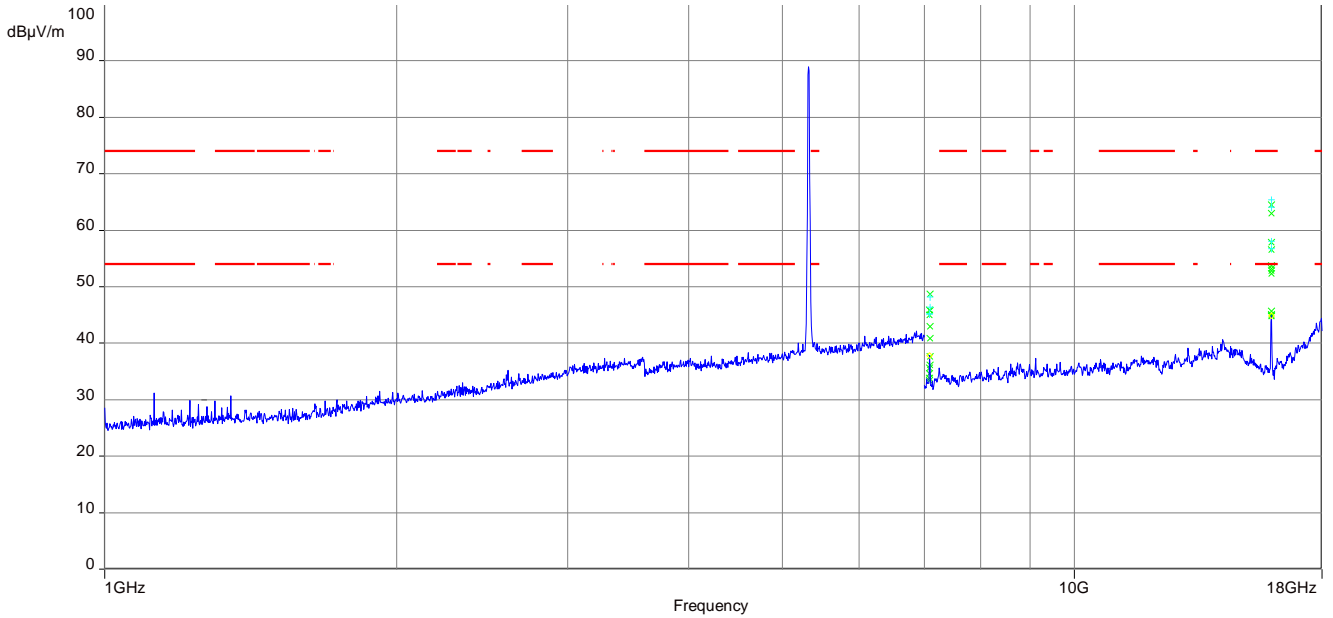
Plot 13: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-2A; highest channel



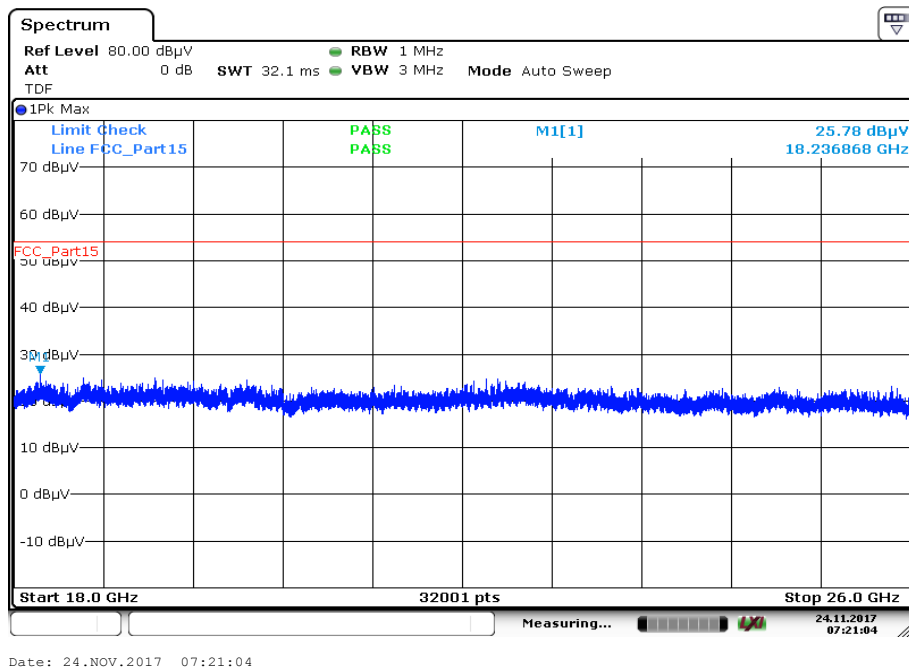
Final_Result:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
73.917	27.39	30.0	2.61	1000	120	170.0	V	185.0	9.1
74.564	29.61	30.0	0.39	1000	120	101.0	V	1.0	8.9
77.199	29.58	30.0	0.42	1000	120	101.0	V	-9.0	8.5
549.993	32.69	36.0	3.31	1000	120	101.0	H	48.0	19.3
574.986	31.57	36.0	4.43	1000	120	170.0	H	292.0	20.0
599.973	29.48	36.0	6.52	1000	120	101.0	H	89.0	20.7

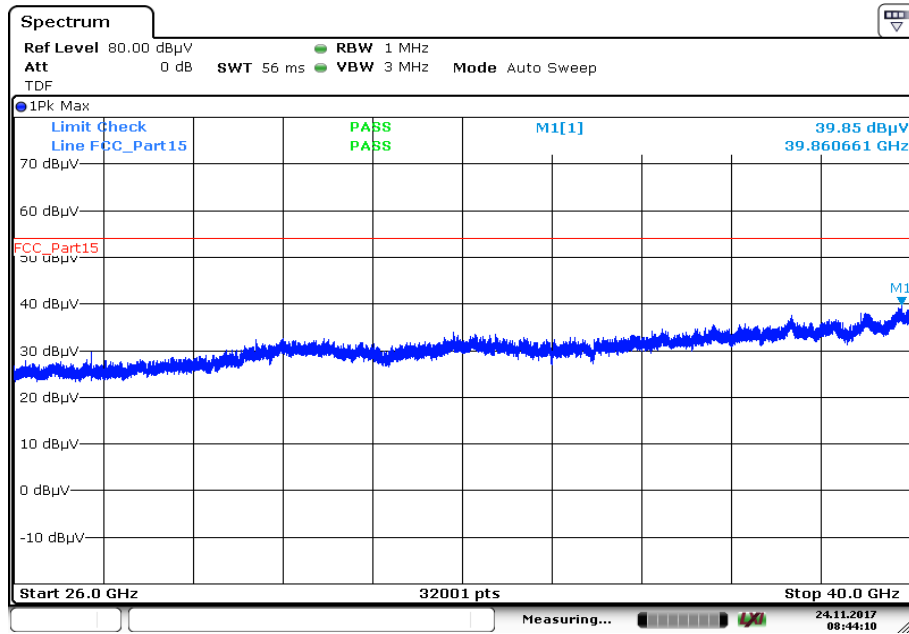
Plot 14: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2A; highest channel



Plot 15: 18 GHz to 26 GHz; vertical & horizontal polarization; U-NII-2A; highest channel

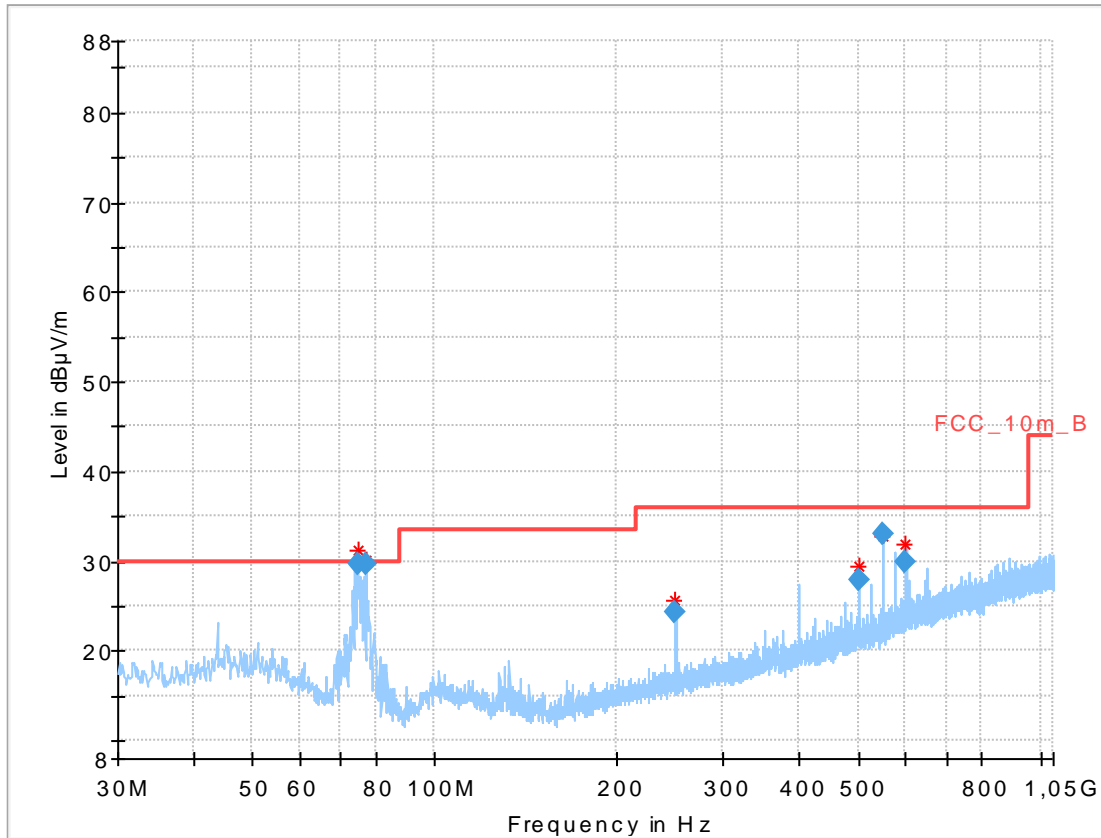


Plot 16: 26 GHz to 40 GHz; vertical & horizontal polarization; U-NII-2A; highest channel



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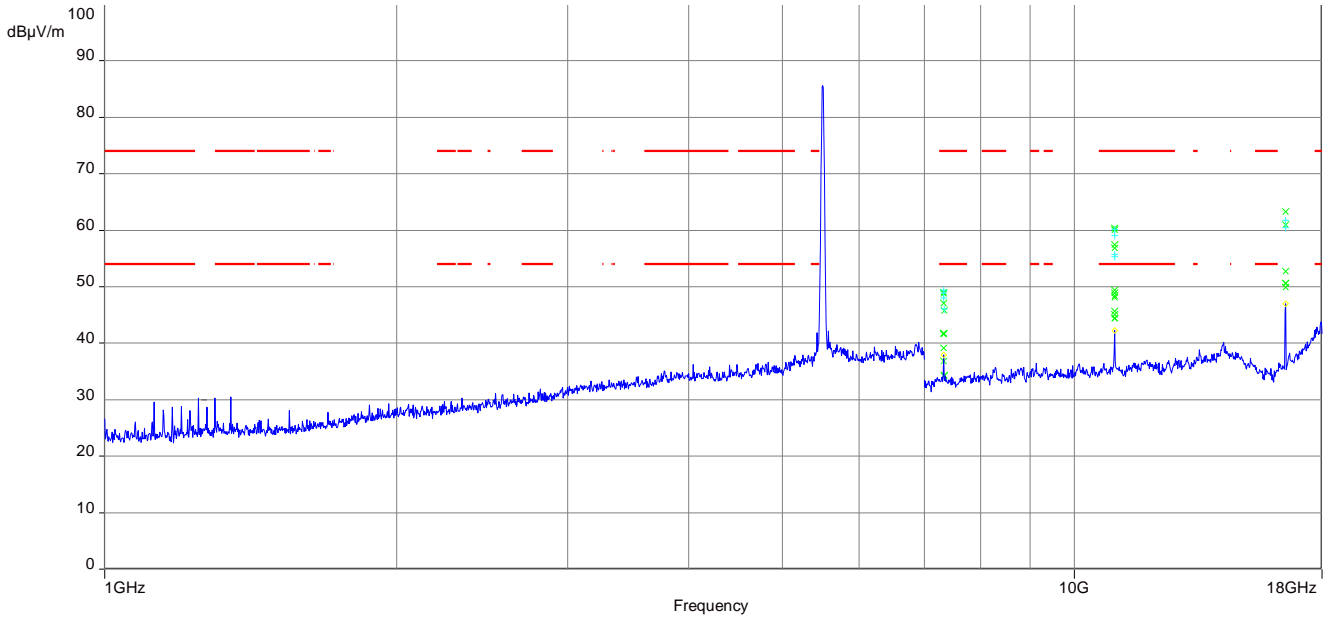
Plot 17: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-2C; lowest channel



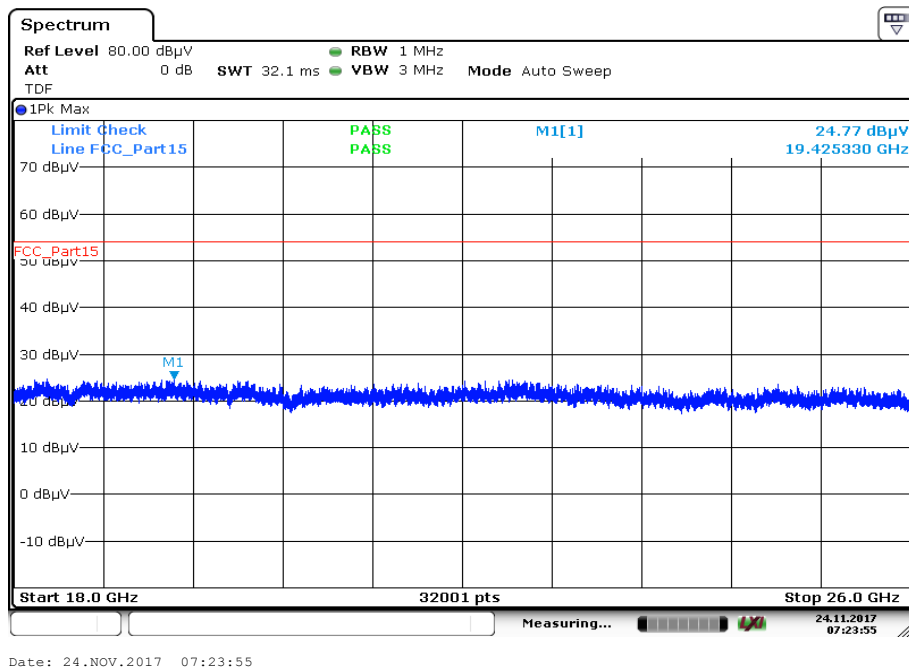
Final_Result:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
74.556	29.67	30.0	0.33	1000	120	170.0	V	185.0	9.0
77.195	29.59	30.0	0.41	1000	120	101.0	V	-9.0	8.5
249.981	24.31	36.0	11.69	1000	120	98.0	V	287.0	13.4
499.975	27.94	36.0	8.06	1000	120	101.0	H	83.0	18.7
549.995	32.95	36.0	3.05	1000	120	101.0	H	59.0	19.3
599.994	29.91	36.0	6.09	1000	120	101.0	H	98.0	20.7

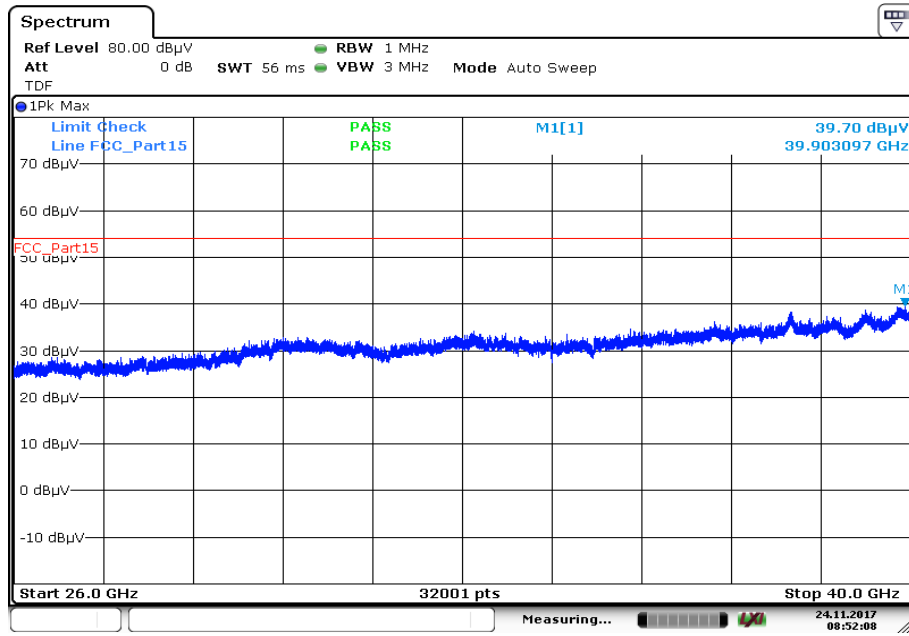
Plot 18: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2C; lowest channel



Plot 19: 18 GHz to 26 GHz; vertical & horizontal polarization; U-NII-2C; lowest channel

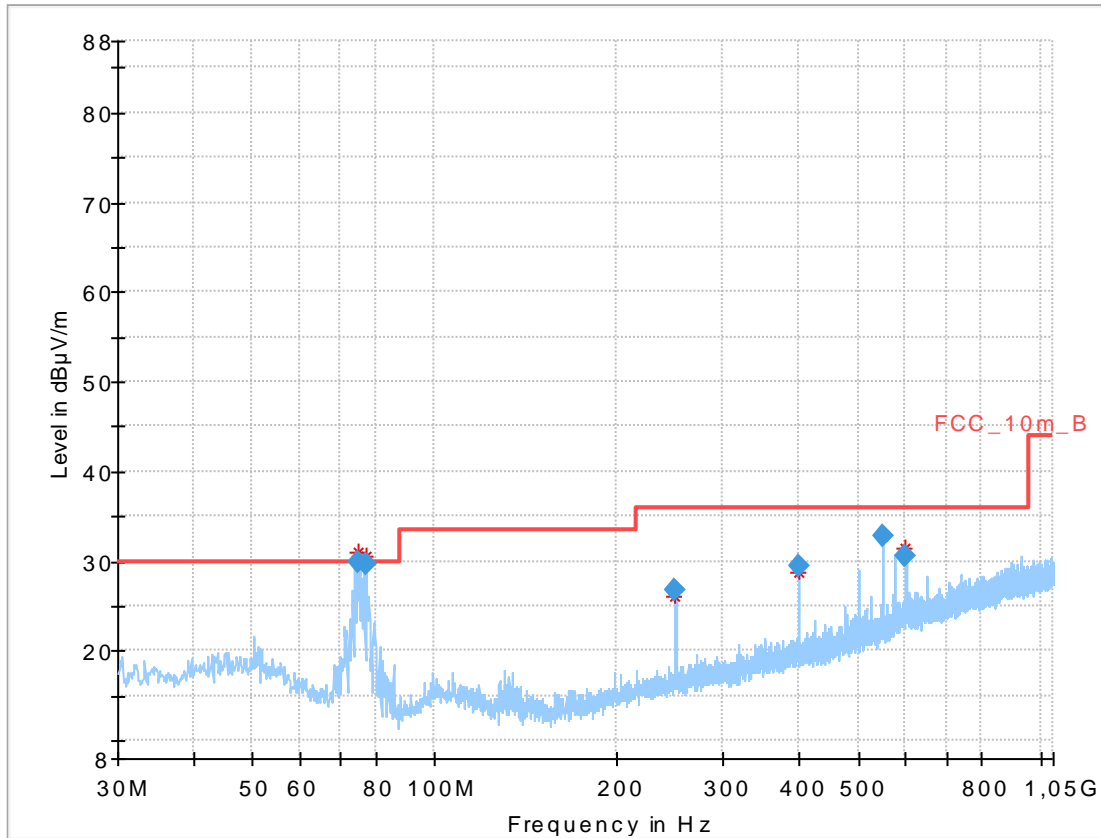


Plot 20: 26 GHz to 40 GHz; vertical & horizontal polarization; U-NII-2C; lowest channel



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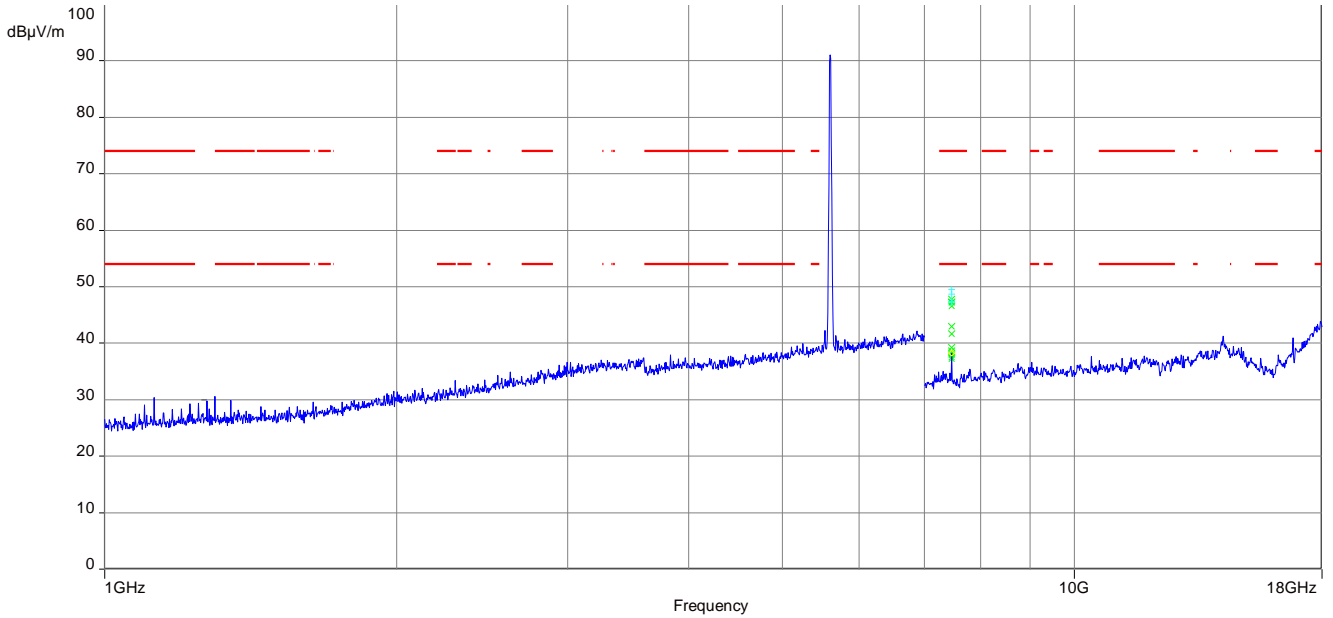
Plot 21: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-2C; middle channel



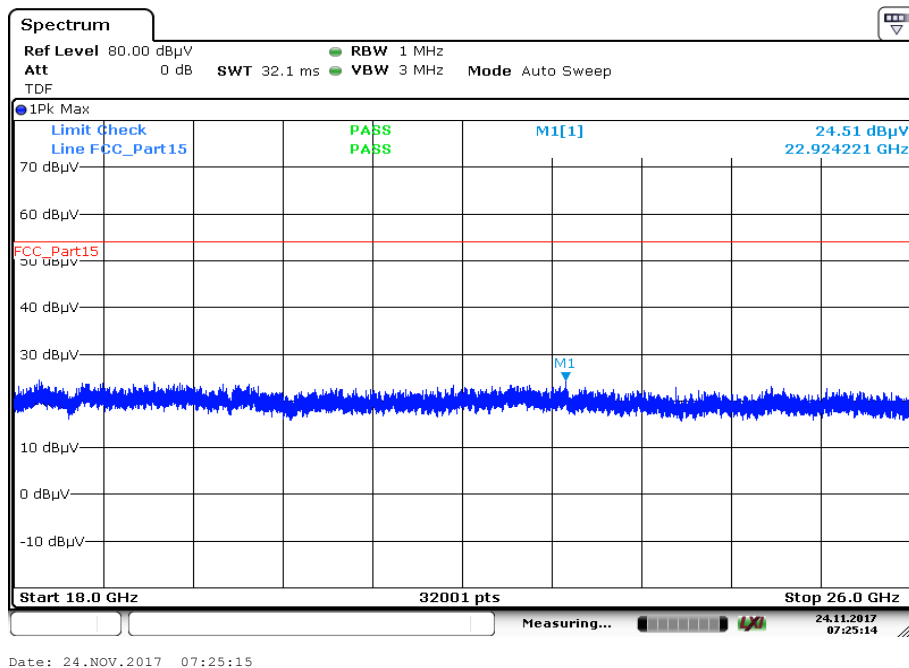
Final_Result:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
74.556	29.89	30.0	0.11	1000	120	101.0	V	334.0	9.0
77.200	29.77	30.0	0.23	1000	120	101.0	V	1.0	8.5
250.000	26.73	36.0	9.27	1000	120	170.0	H	241.0	13.4
400.006	29.56	36.0	6.44	1000	120	170.0	H	90.0	16.9
549.997	32.77	36.0	3.23	1000	120	101.0	H	55.0	19.3
600.000	30.59	36.0	5.41	1000	120	100.0	H	92.0	20.7

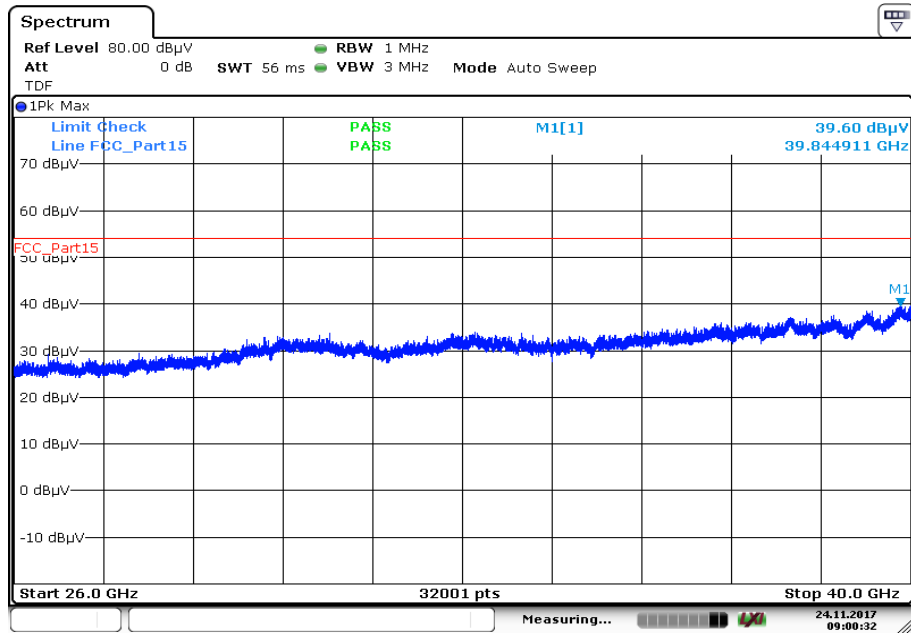
Plot 22: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2C; middle channel



Plot 23: 18 GHz to 26 GHz; vertical & horizontal polarization; U-NII-2C; middle channel

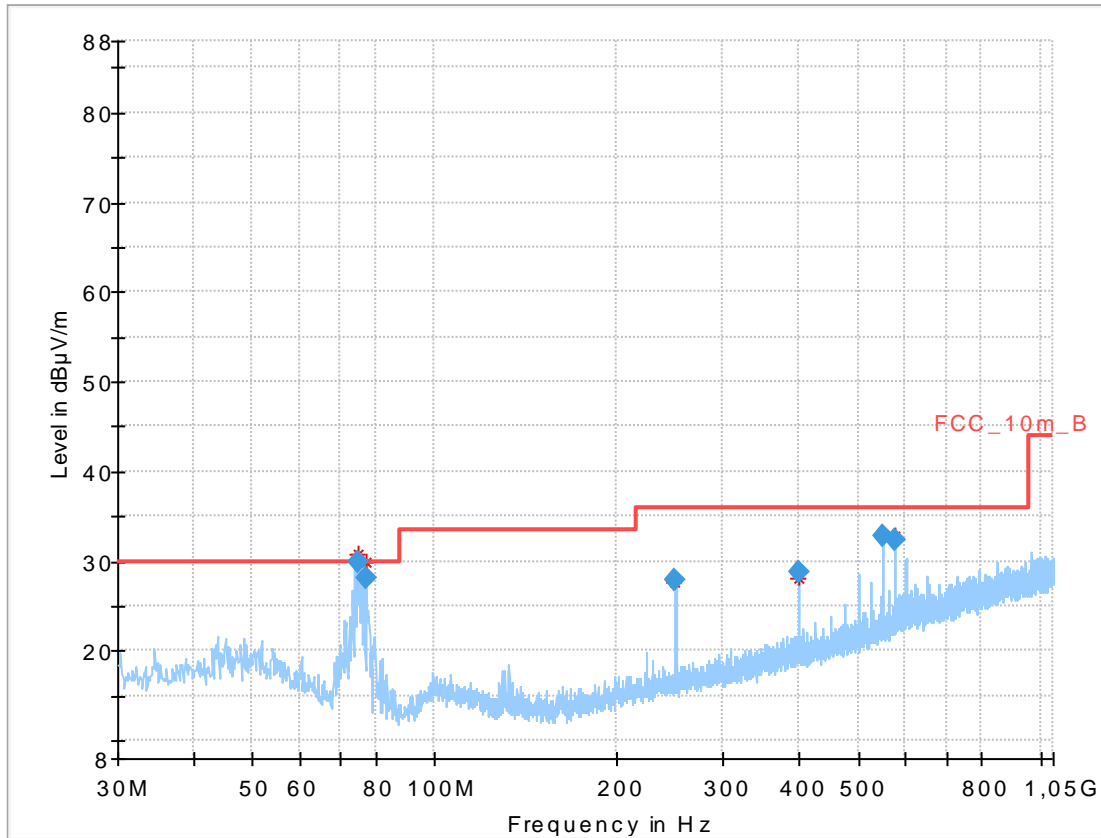


Plot 24: 26 GHz to 40 GHz; vertical & horizontal polarization; U-NII-2C; middle channel



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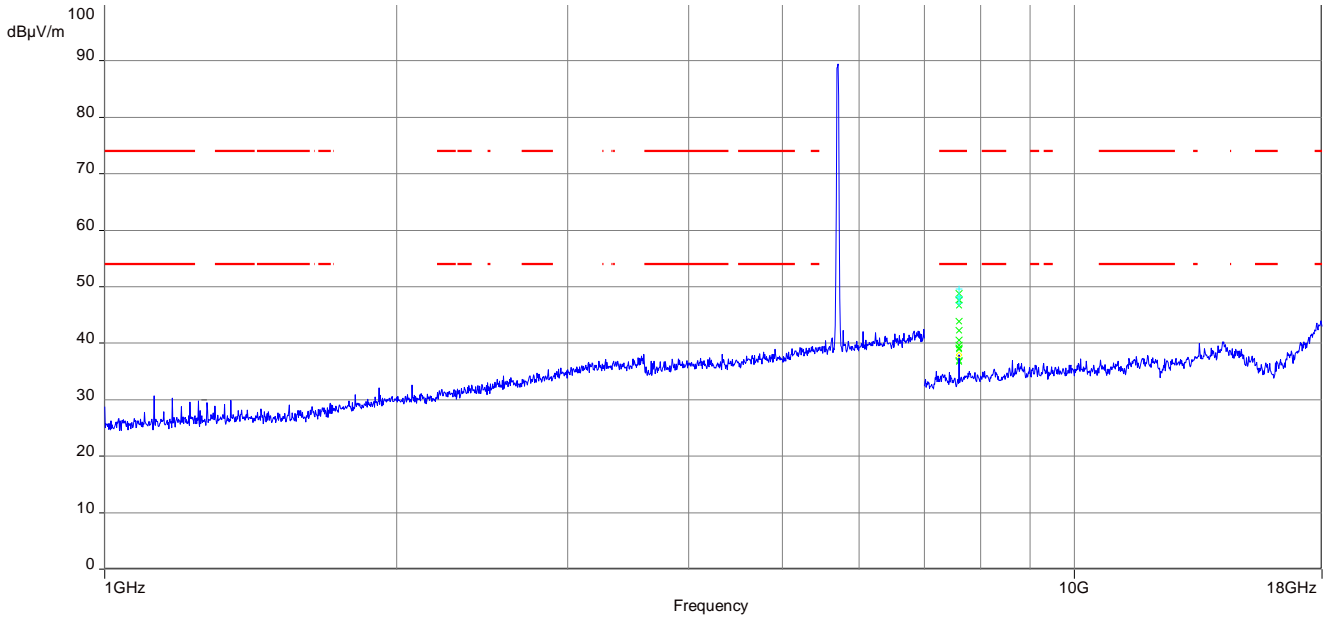
Plot 25: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-2C; highest channel



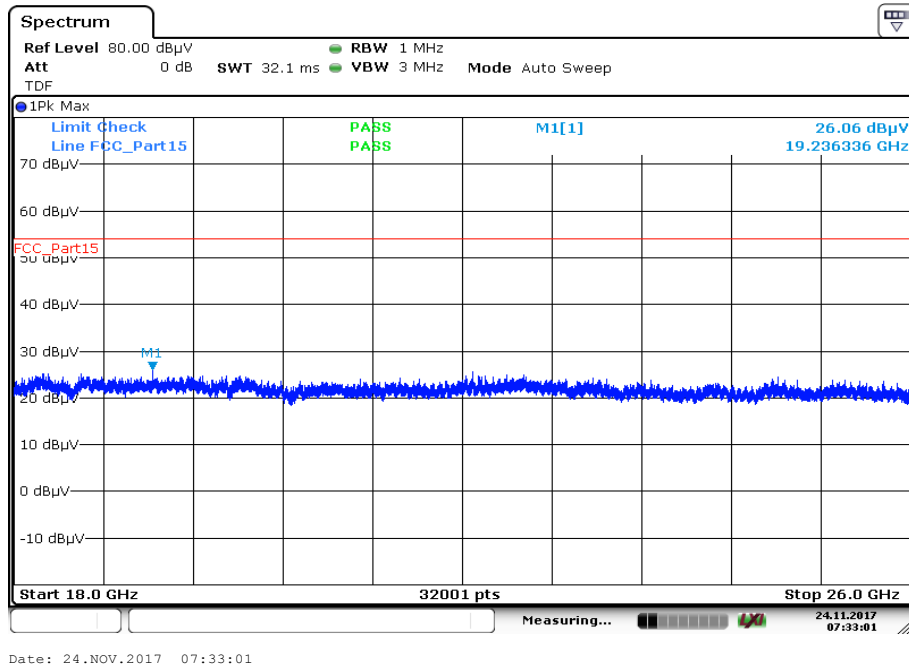
Final_Result:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
74.568	29.94	30.0	0.06	1000	120	170.0	V	-9.0	8.9
77.214	28.12	30.0	1.88	1000	120	101.0	V	-9.0	8.5
249.996	27.78	36.0	8.22	1000	120	98.0	V	85.0	13.4
399.982	28.85	36.0	7.15	1000	120	170.0	H	91.0	16.9
550.005	32.75	36.0	3.25	1000	120	101.0	H	49.0	19.3
575.005	32.37	36.0	3.63	1000	120	170.0	H	295.0	20.0

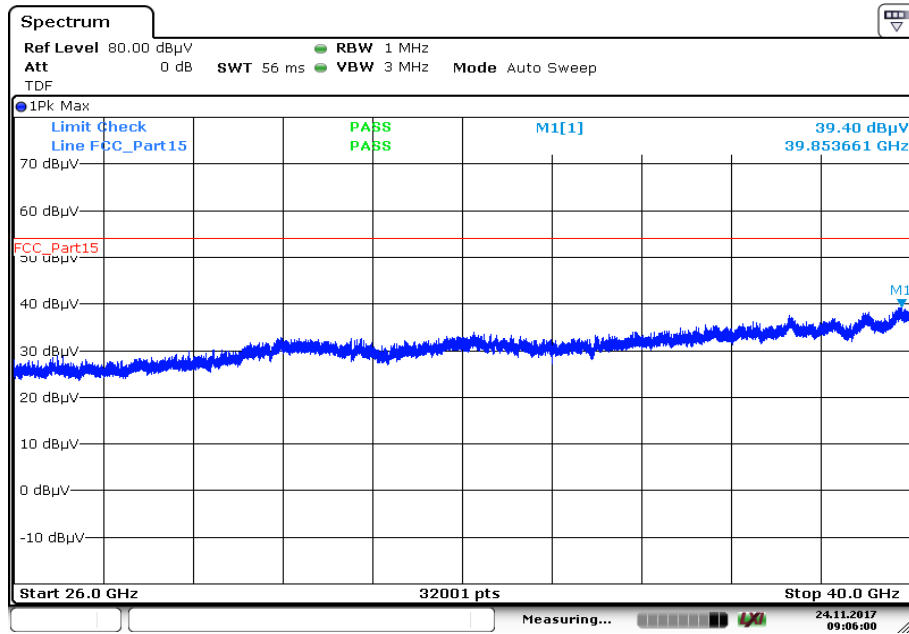
Plot 26: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2C; highest channel



Plot 27: 18 GHz to 26 GHz; vertical & horizontal polarization; U-NII-2C; highest channel

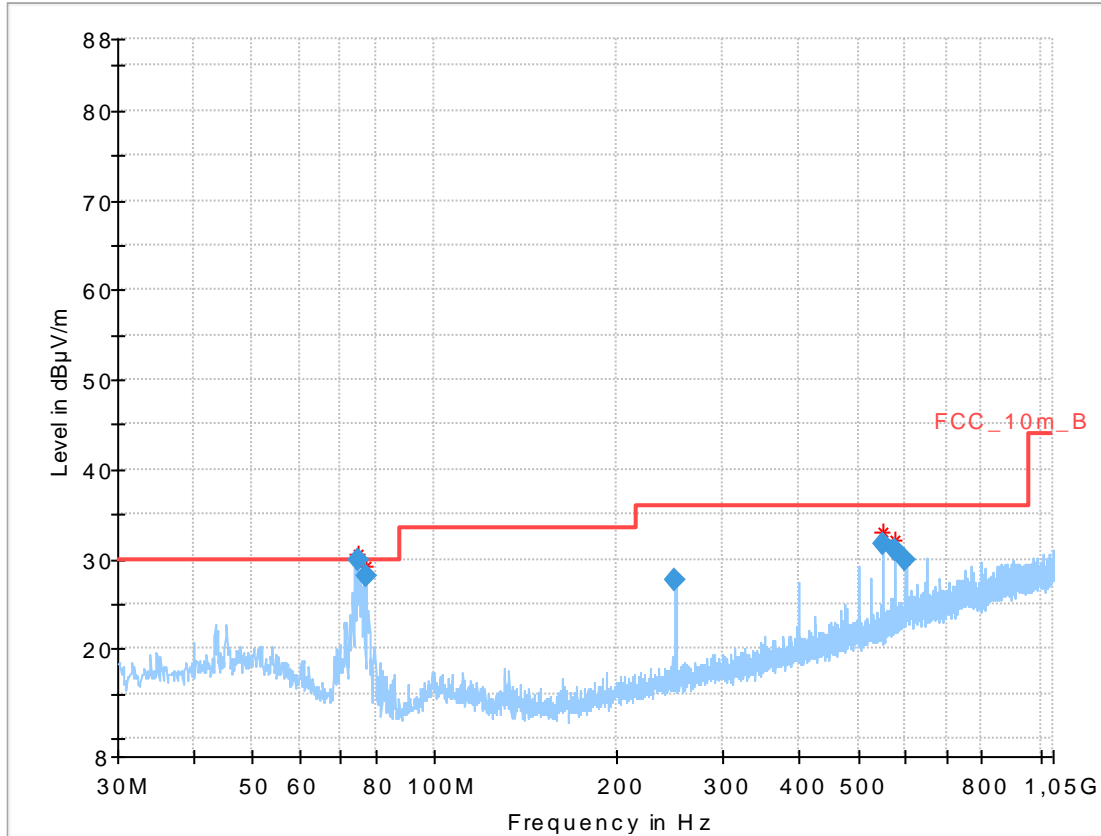


Plot 28: 26 GHz to 40 GHz; vertical & horizontal polarization; U-NII-2C; highest channel



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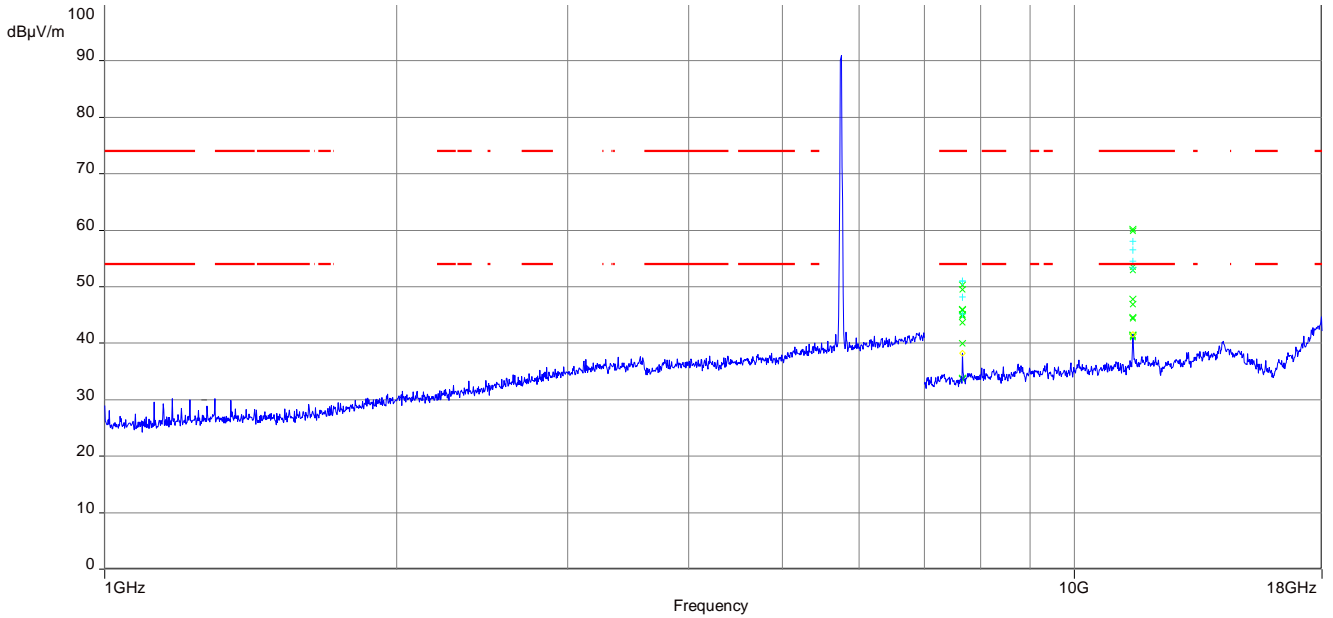
Plot 29: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-3; lowest channel



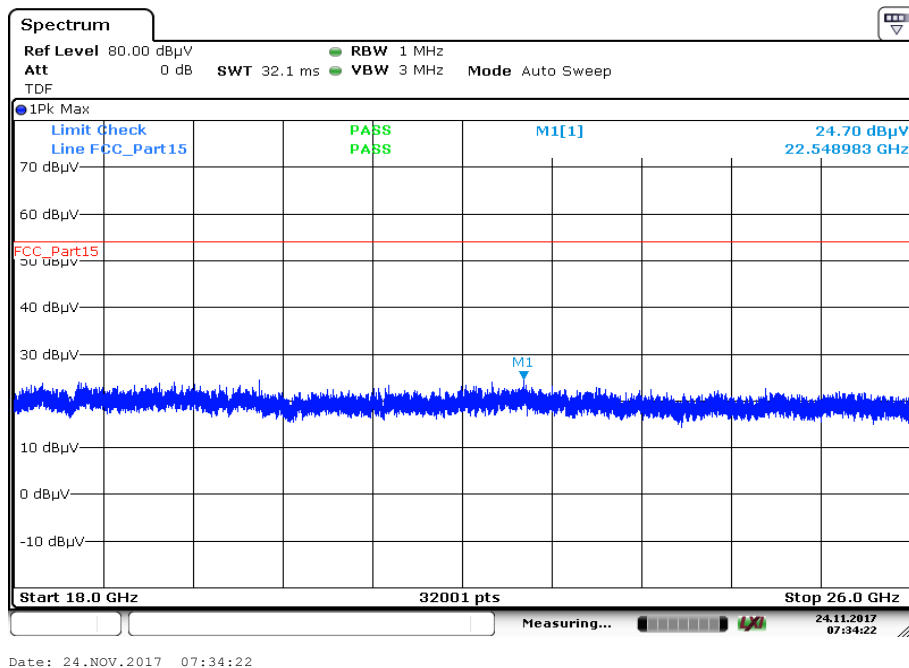
Final Result:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
74.565	29.93	30.0	0.07	1000	120	100.0	V	299.0	8.9
77.198	28.21	30.0	1.79	1000	120	101.0	V	-10.0	8.5
249.986	27.57	36.0	8.43	1000	120	98.0	V	81.0	13.4
549.976	31.73	36.0	4.27	1000	120	101.0	H	75.0	19.3
574.980	31.09	36.0	4.91	1000	120	101.0	H	291.0	20.0
600.005	29.94	36.0	6.06	1000	120	170.0	H	263.0	20.7

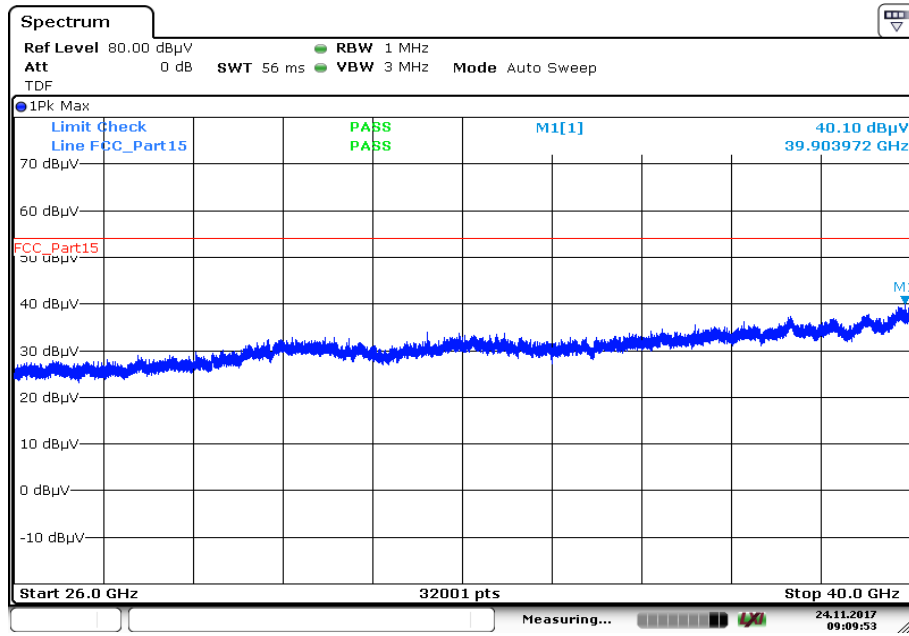
Plot 30: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-3; lowest channel



Plot 31: 18 GHz to 26 GHz; vertical & horizontal polarization; U-NII-3; lowest channel

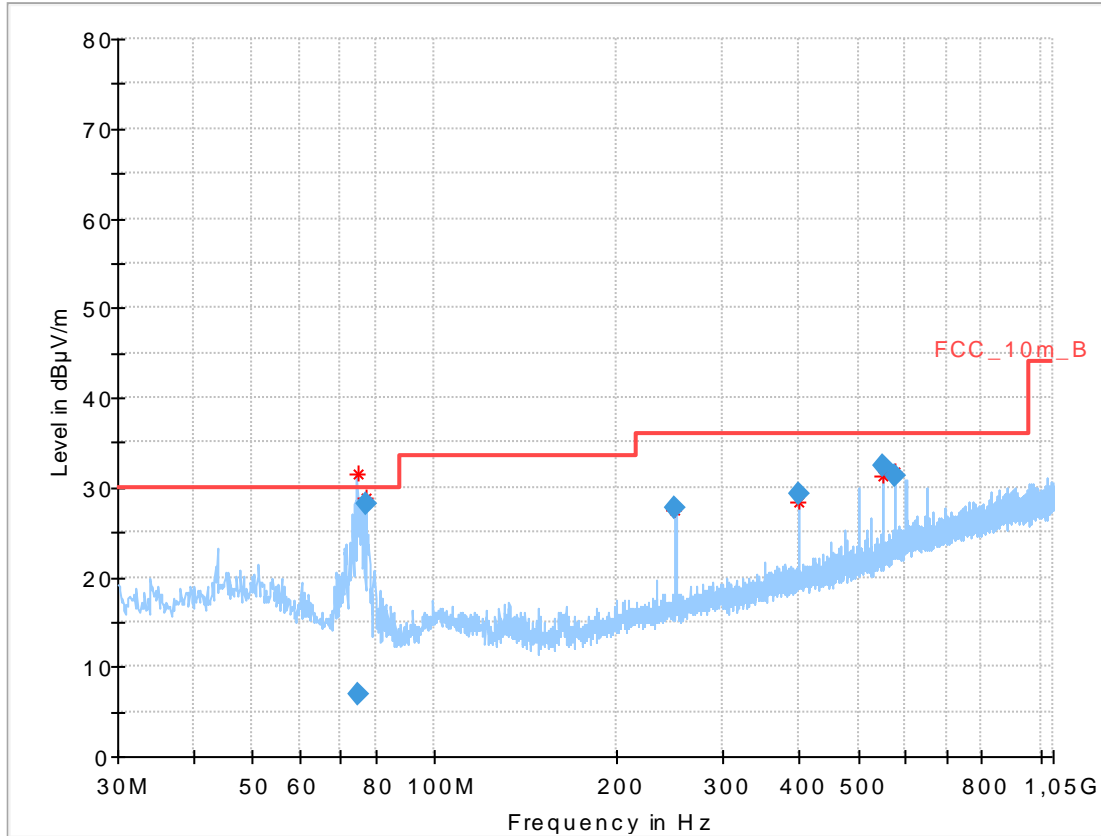


Plot 32: 26 GHz to 40 GHz; vertical & horizontal polarization; U-NII-3; lowest channel



Date: 24.NOV.2017 09:09:53

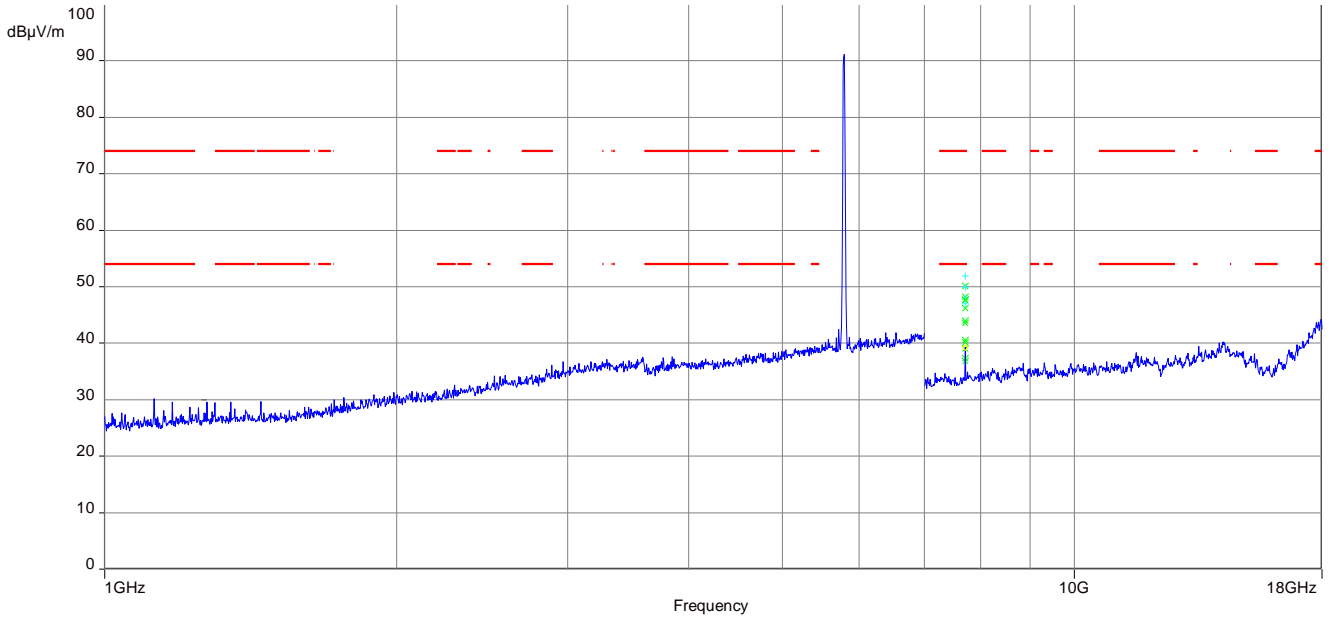
Plot 33: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-3; middle channel



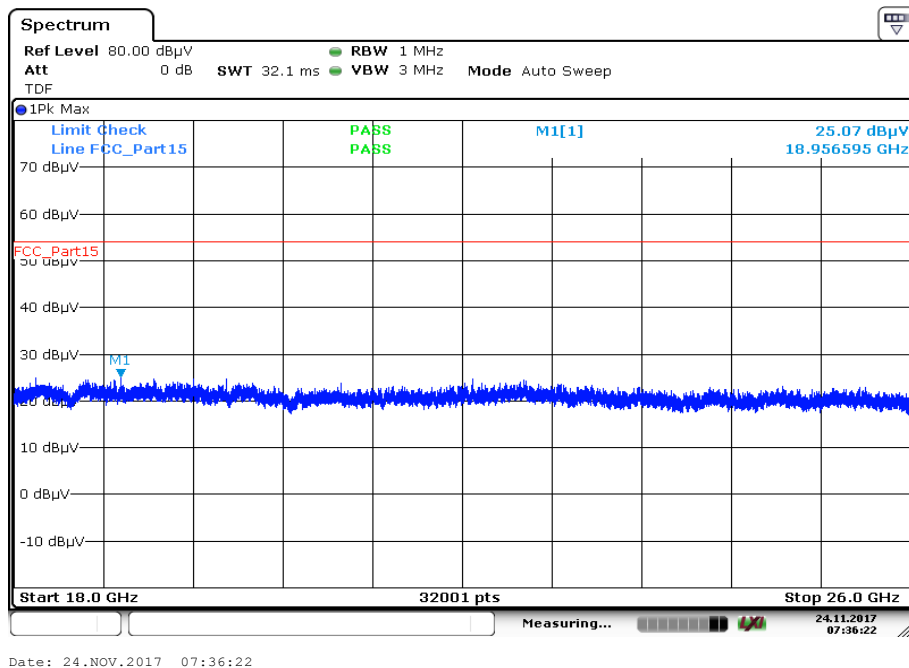
Final Result:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
75.039	7.03	30.0	22.97	1000	120	101.0	V	154.0	8.9
77.194	28.23	30.0	1.77	1000	120	101.0	V	-9.0	8.5
249.991	27.78	36.0	8.22	1000	120	98.0	V	102.0	13.4
400.000	29.36	36.0	6.64	1000	120	170.0	H	121.0	16.9
550.003	32.38	36.0	3.62	1000	120	170.0	H	312.0	19.3
574.995	31.18	36.0	4.82	1000	120	101.0	H	289.0	20.0

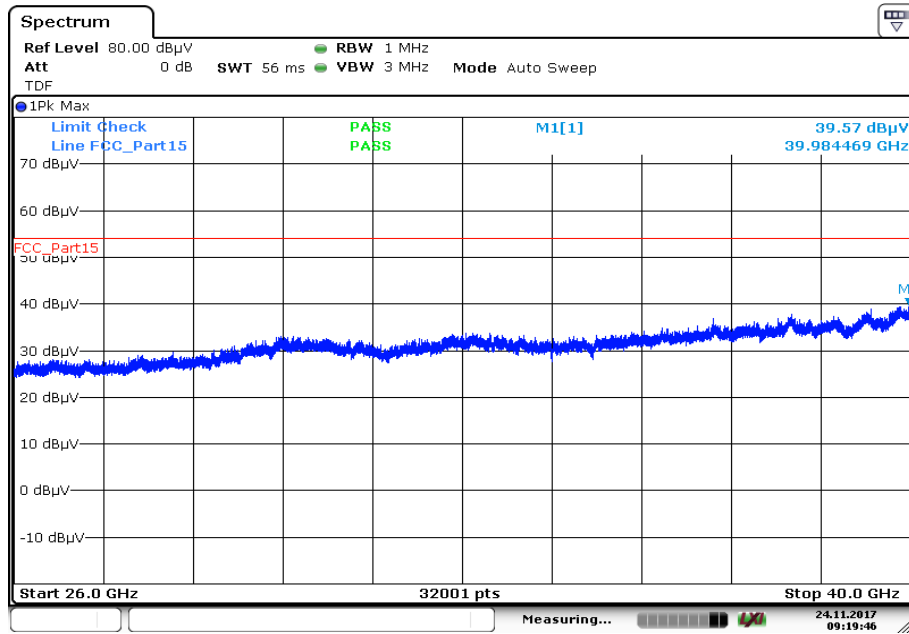
Plot 34: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-3; middle channel



Plot 35: 18 GHz to 26 GHz; vertical & horizontal polarization; U-NII-3; middle channel

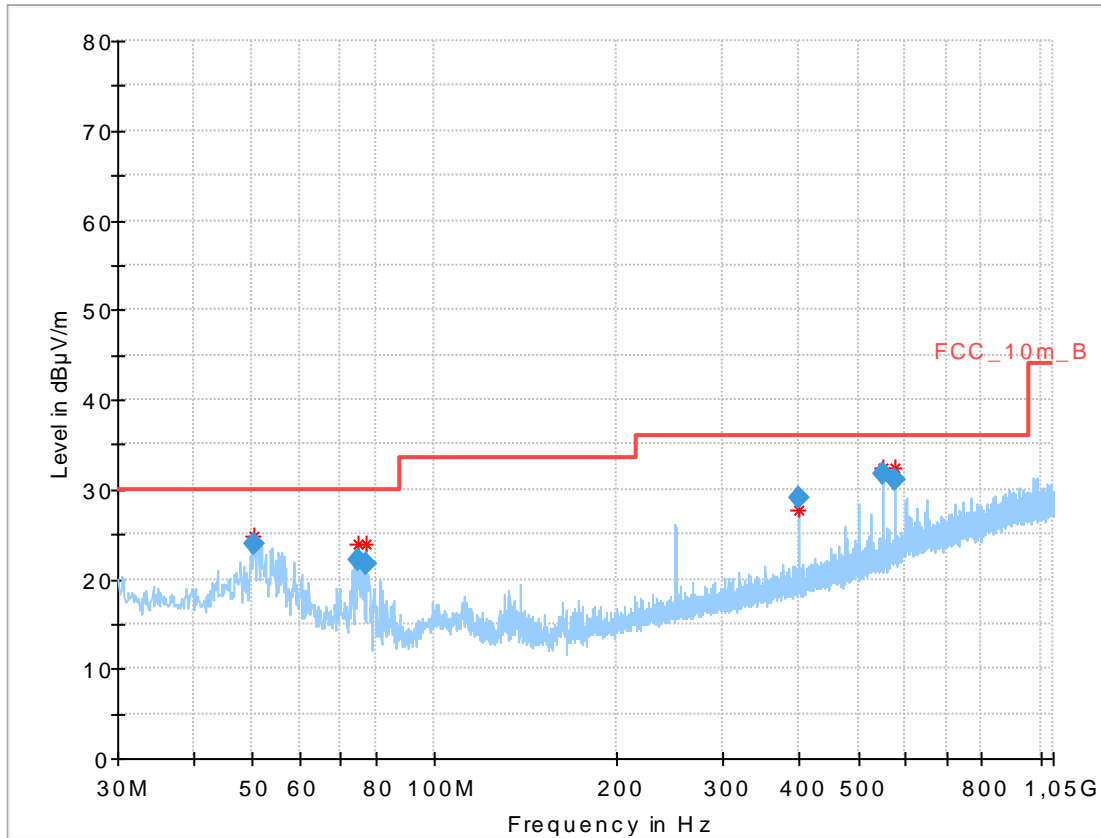


Plot 36: 26 GHz to 40 GHz; vertical & horizontal polarization; U-NII-3; middle channel



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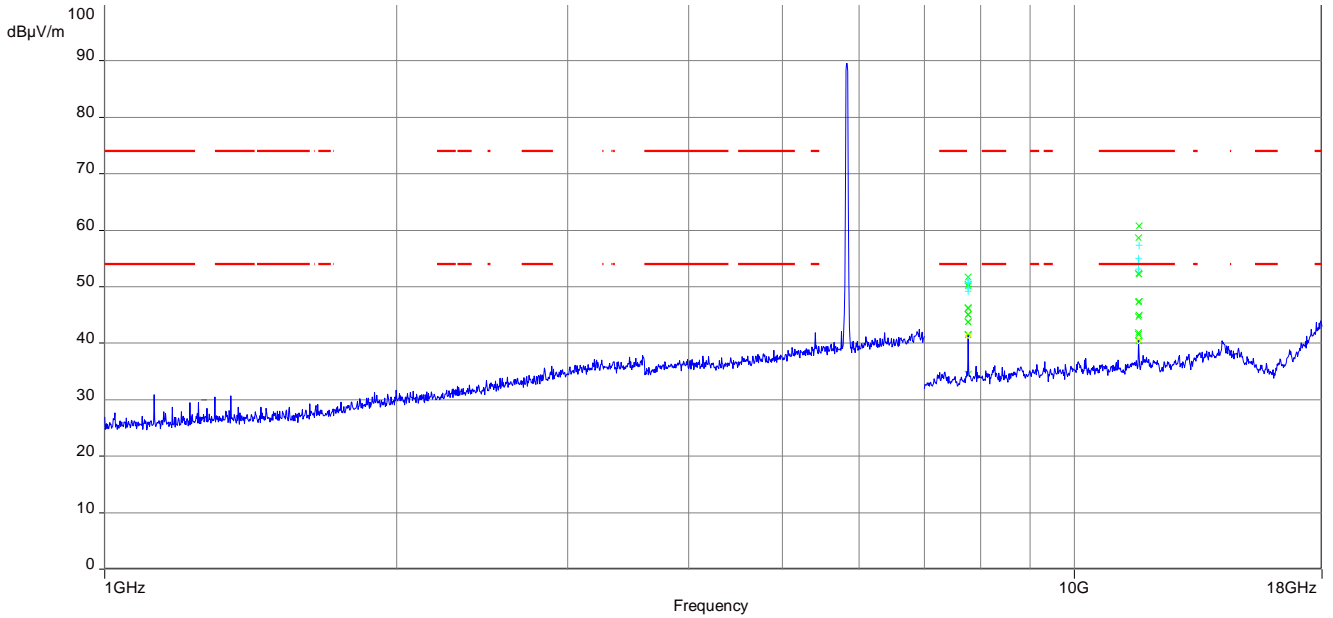
Plot 37: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-3; highest channel



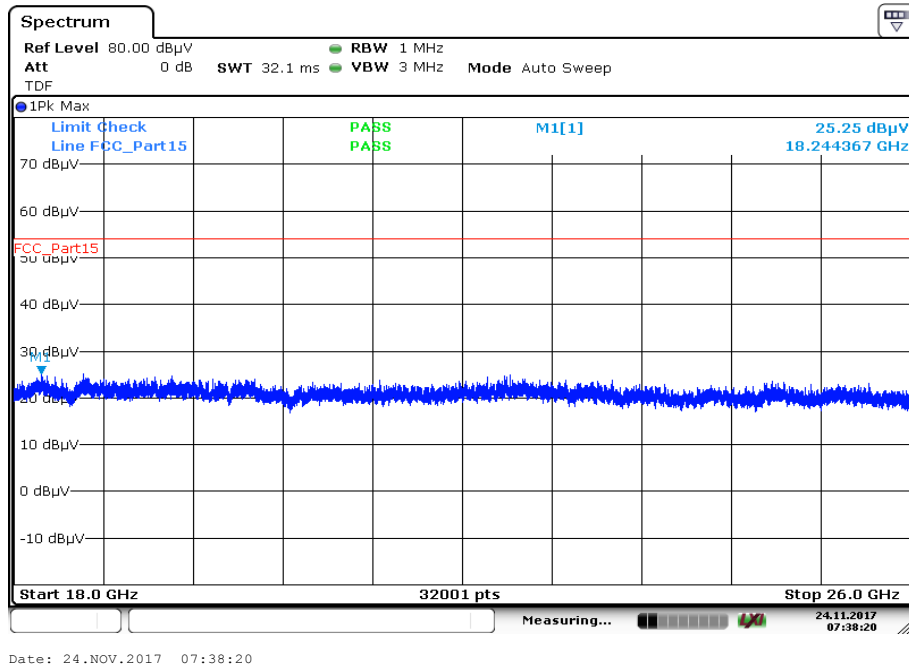
Final_Result:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
50.447	23.89	30.0	6.11	1000	120	98.0	V	332.0	13.7
74.576	22.16	30.0	7.84	1000	120	101.0	V	331.0	8.9
77.218	21.68	30.0	8.32	1000	120	101.0	V	228.0	8.5
399.988	29.05	36.0	6.95	1000	120	170.0	H	119.0	16.9
549.989	31.69	36.0	4.31	1000	120	101.0	H	307.0	19.3
574.985	31.12	36.0	4.88	1000	120	101.0	H	302.0	20.0

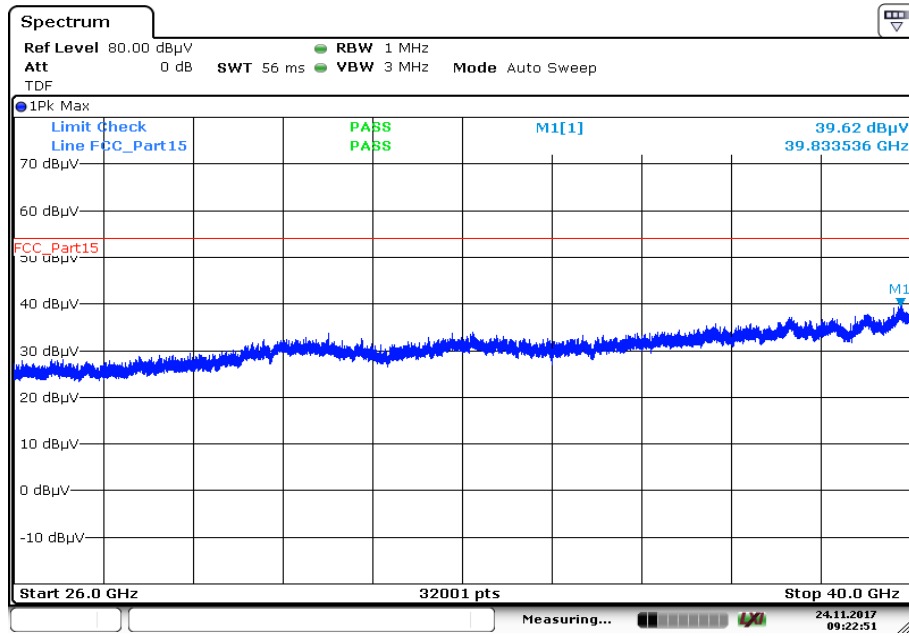
Plot 38: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-3; highest channel



Plot 39: 18 GHz to 26 GHz; vertical & horizontal polarization; U-NII-3; highest channel



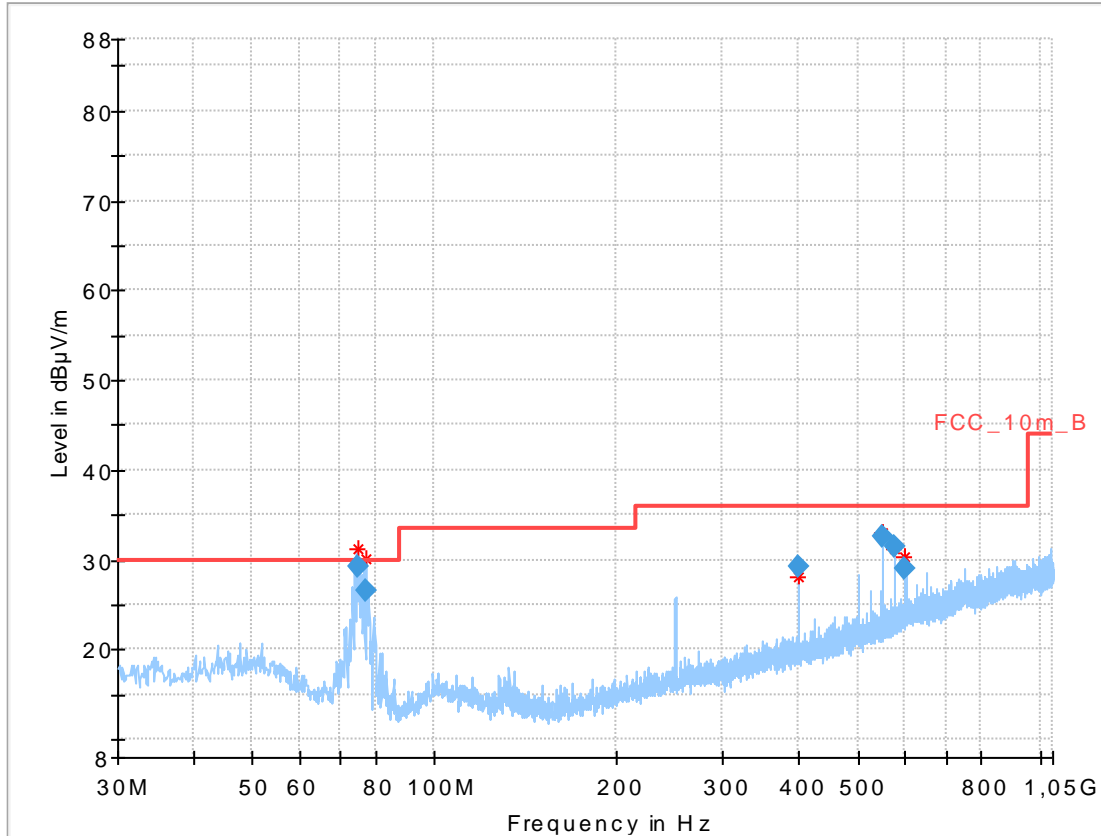
Plot 40: 26 GHz to 40 GHz; vertical & horizontal polarization; U-NII-3; highest channel



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Plots: 40 MHz channel bandwidth

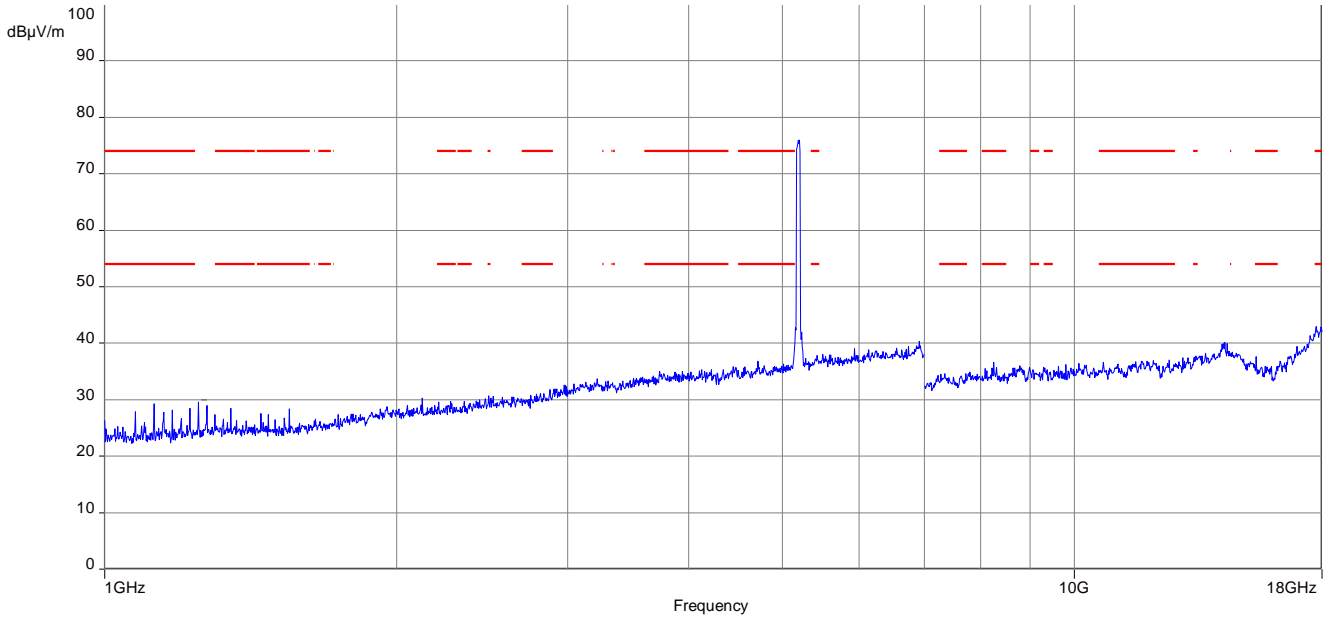
Plot 1: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-1; lowest channel



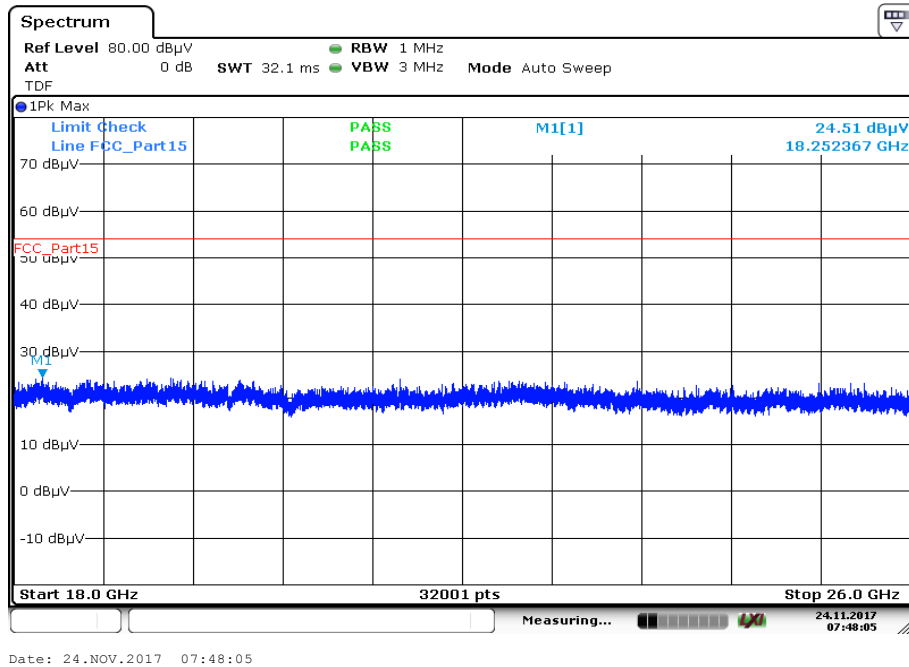
Final Result:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
74.568	29.24	30.0	0.76	1000	120	101.0	V	99.0	8.9
77.189	26.44	30.0	3.56	1000	120	101.0	V	132.0	8.5
400.014	29.13	36.0	6.87	1000	120	170.0	H	101.0	16.9
549.996	32.68	36.0	3.32	1000	120	101.0	H	45.0	19.3
574.980	31.36	36.0	4.64	1000	120	101.0	H	302.0	20.0
599.979	28.90	36.0	7.10	1000	120	100.0	H	92.0	20.7

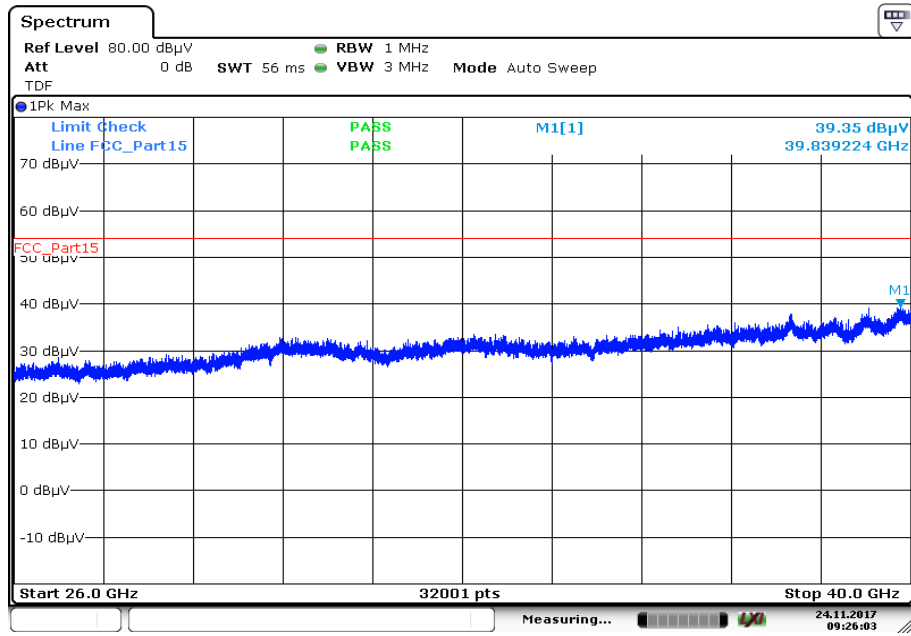
Plot 2: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-1; lowest channel



Plot 3: 18 GHz to 26 GHz; vertical & horizontal polarization; U-NII-1; lowest channel

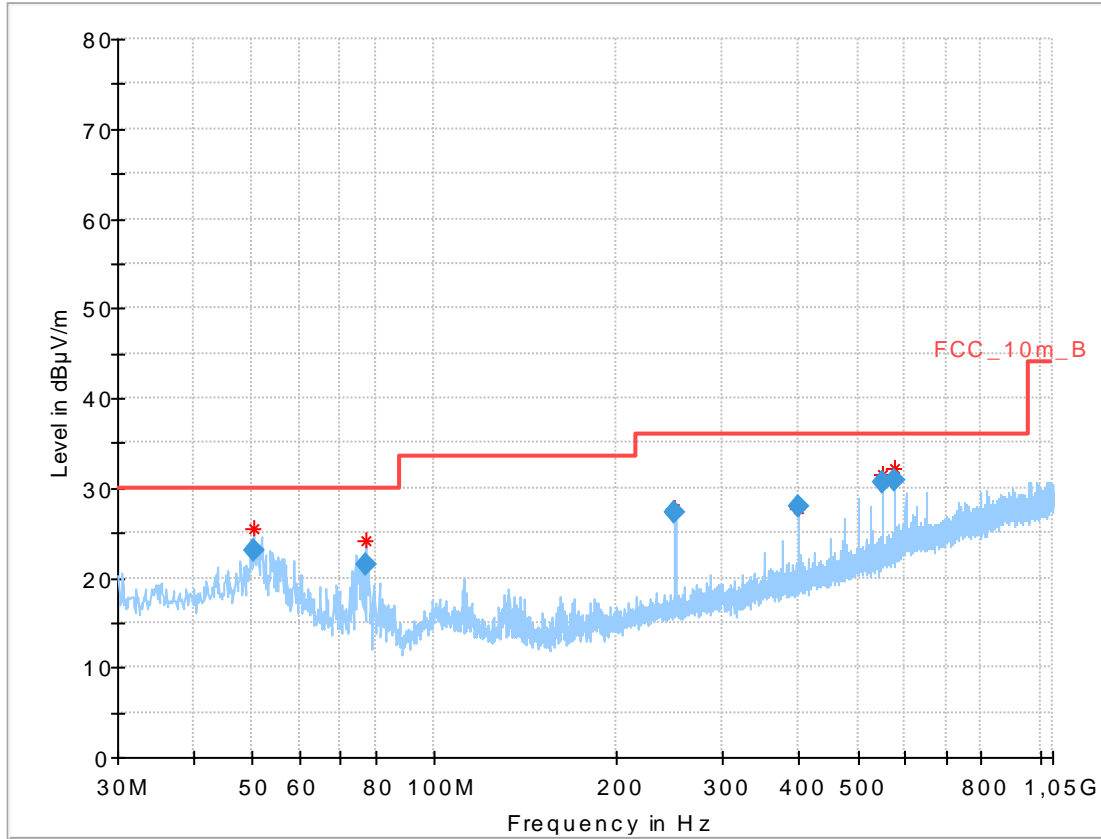


Plot 4: 26 GHz to 40 GHz; vertical & horizontal polarization; U-NII-1; lowest channel



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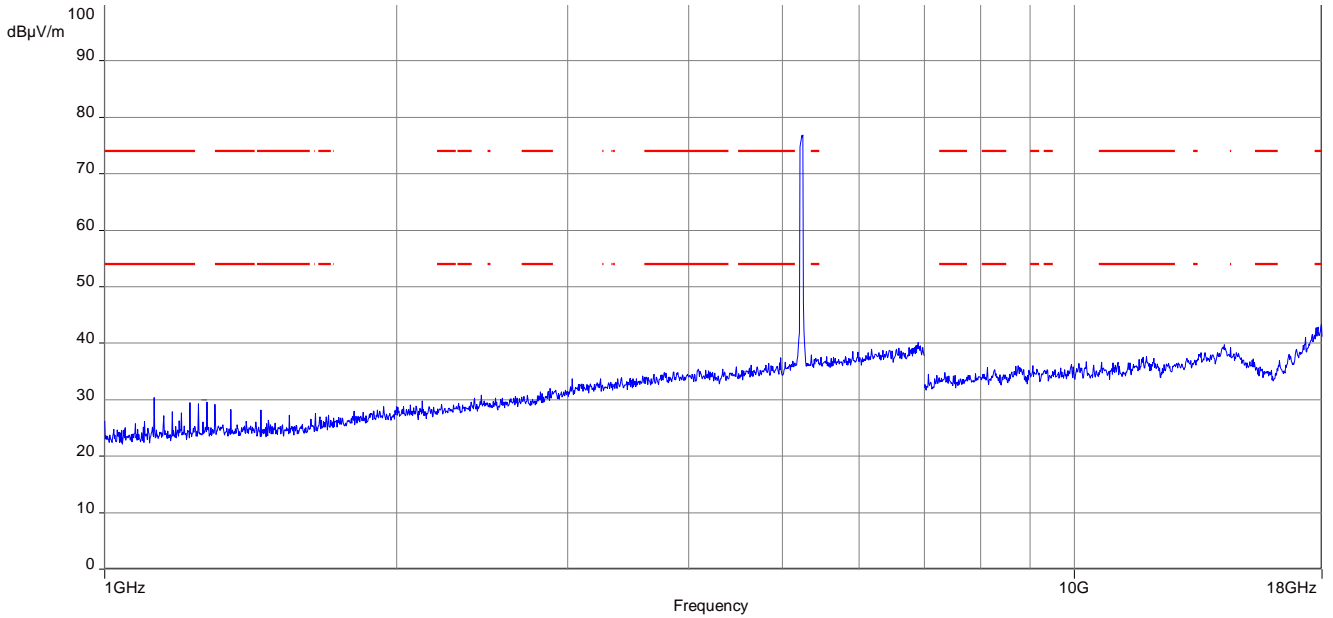
Plot 5: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-1; highest channel



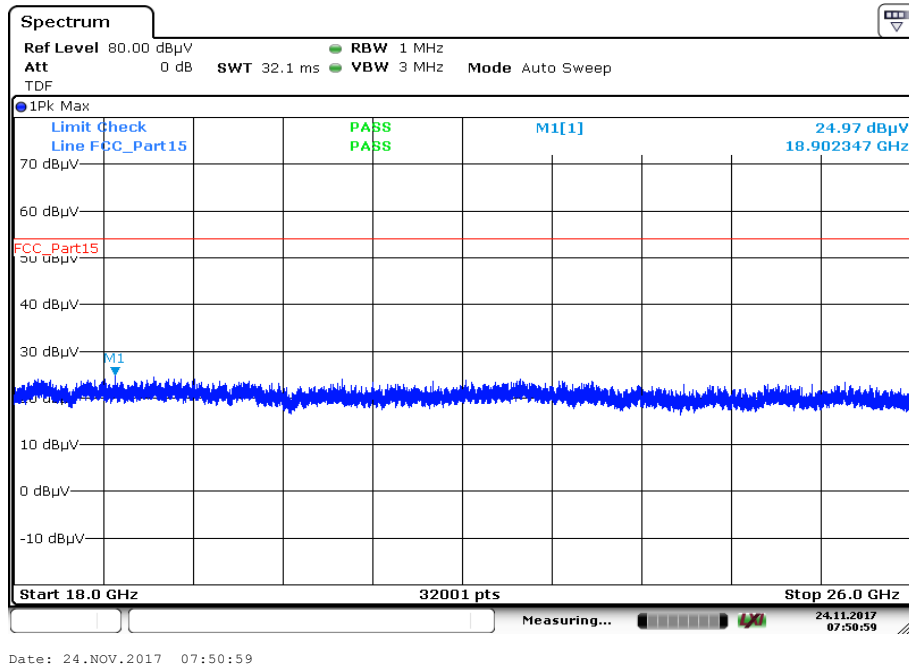
Final_Result:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
50.452	22.94	30.0	7.06	1000	120	170.0	V	73.0	13.7
77.200	21.45	30.0	8.55	1000	120	100.0	V	331.0	8.5
250.000	27.24	36.0	8.76	1000	120	98.0	V	316.0	13.4
399.995	27.94	36.0	8.06	1000	120	170.0	H	92.0	16.9
550.007	30.60	36.0	5.40	1000	120	101.0	H	36.0	19.3
574.996	30.83	36.0	5.17	1000	120	101.0	H	308.0	20.0

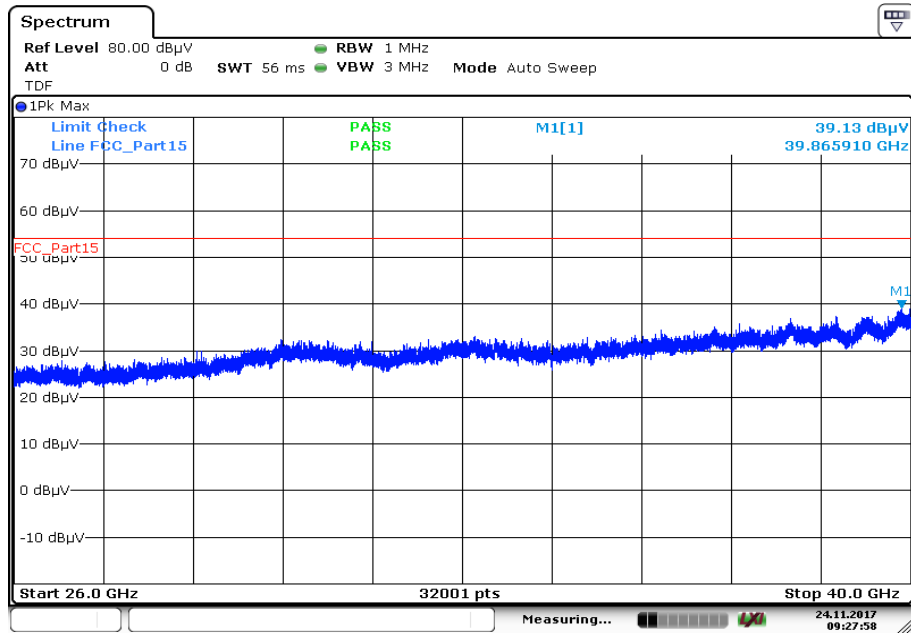
Plot 6: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-1; highest channel



Plot 7: 18 GHz to 26 GHz; vertical & horizontal polarization; U-NII-1; highest channel

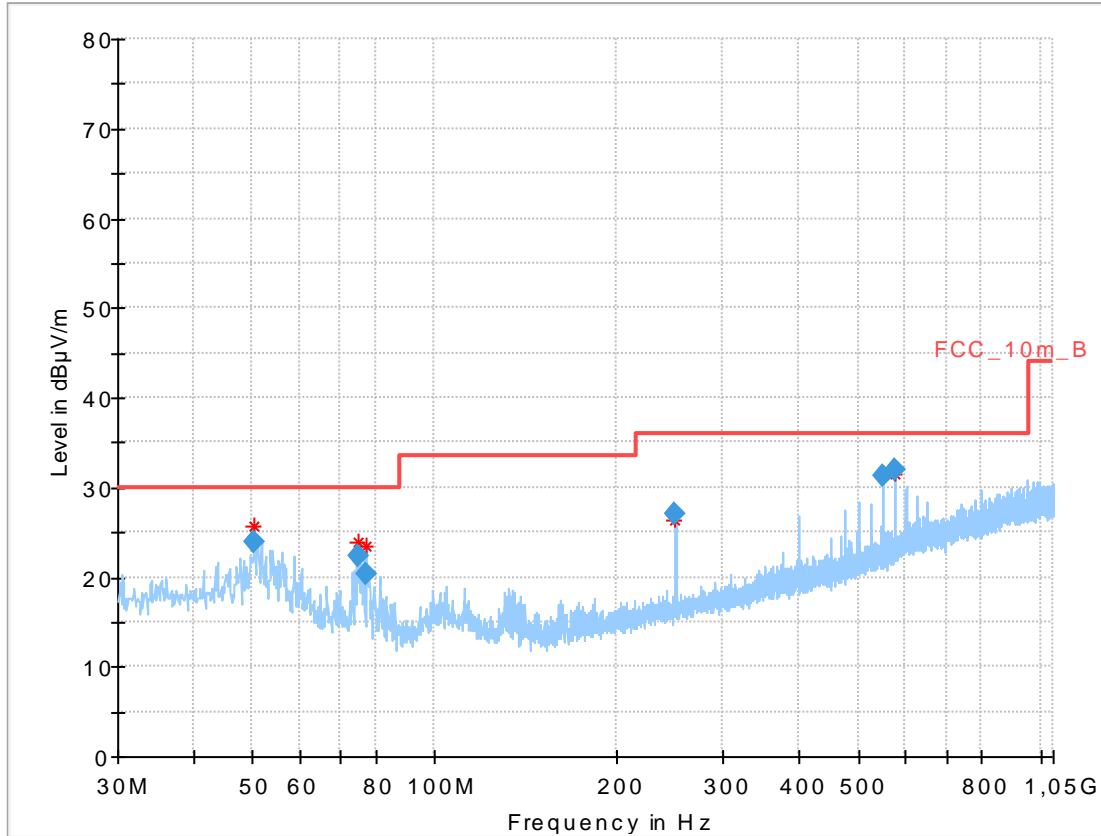


Plot 8: 26 GHz to 40 GHz; vertical & horizontal polarization; U-NII-1; highest channel



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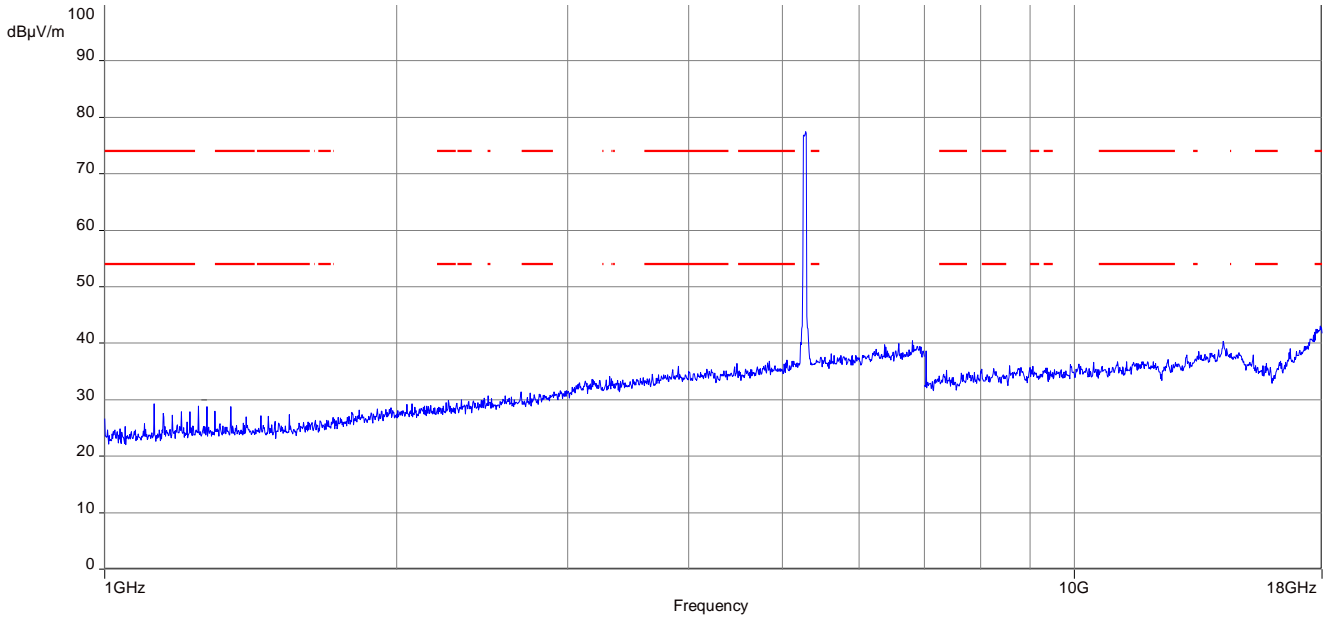
Plot 9: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-2A; lowest channel



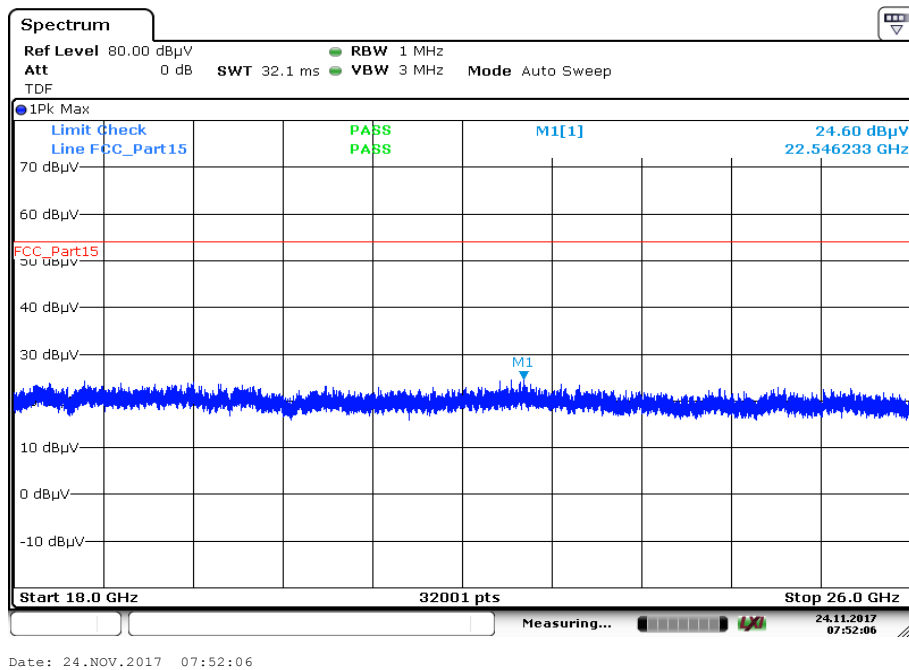
Final_Result:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
50.441	23.96	30.0	6.04	1000	120	98.0	V	208.0	13.7
74.566	22.39	30.0	7.61	1000	120	101.0	V	208.0	8.9
77.183	20.30	30.0	9.70	1000	120	101.0	V	157.0	8.5
249.988	27.06	36.0	8.94	1000	120	98.0	V	316.0	13.4
550.002	31.38	36.0	4.62	1000	120	101.0	H	42.0	19.3
574.998	32.05	36.0	3.95	1000	120	170.0	H	297.0	20.0

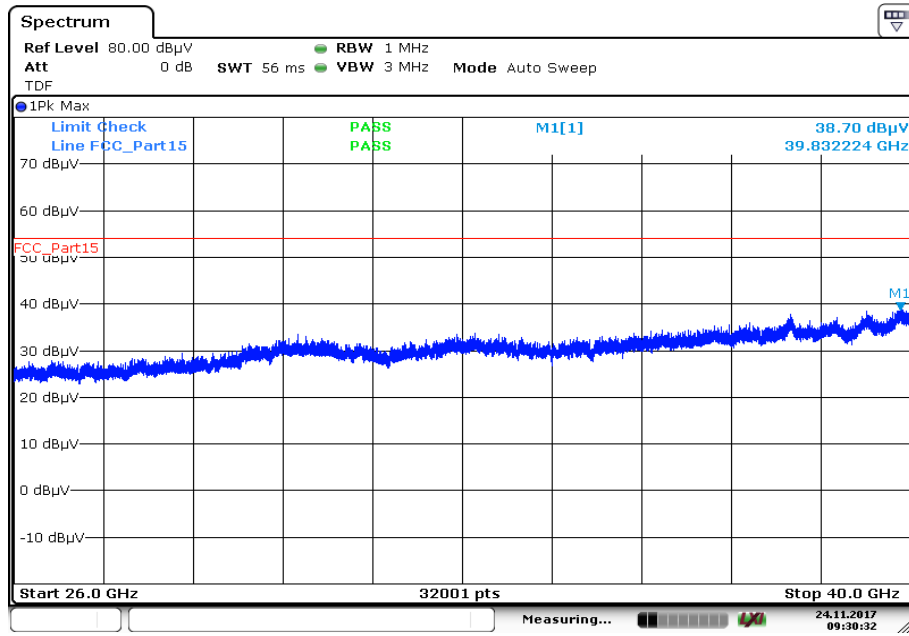
Plot 10: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2A; lowest channel



Plot 11: 18 GHz to 26 GHz; vertical & horizontal polarization; U-NII-2A; lowest channel

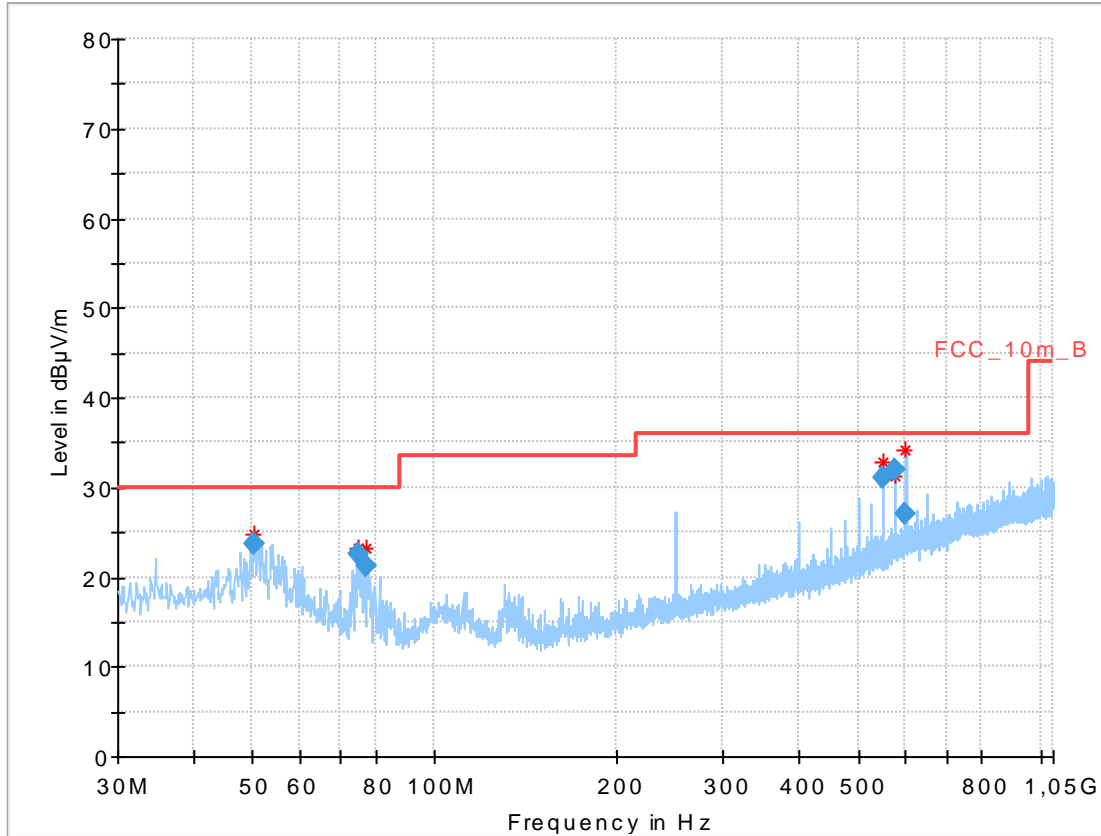


Plot 12: 26 GHz to 40 GHz; vertical & horizontal polarization; U-NII-2A; lowest channel



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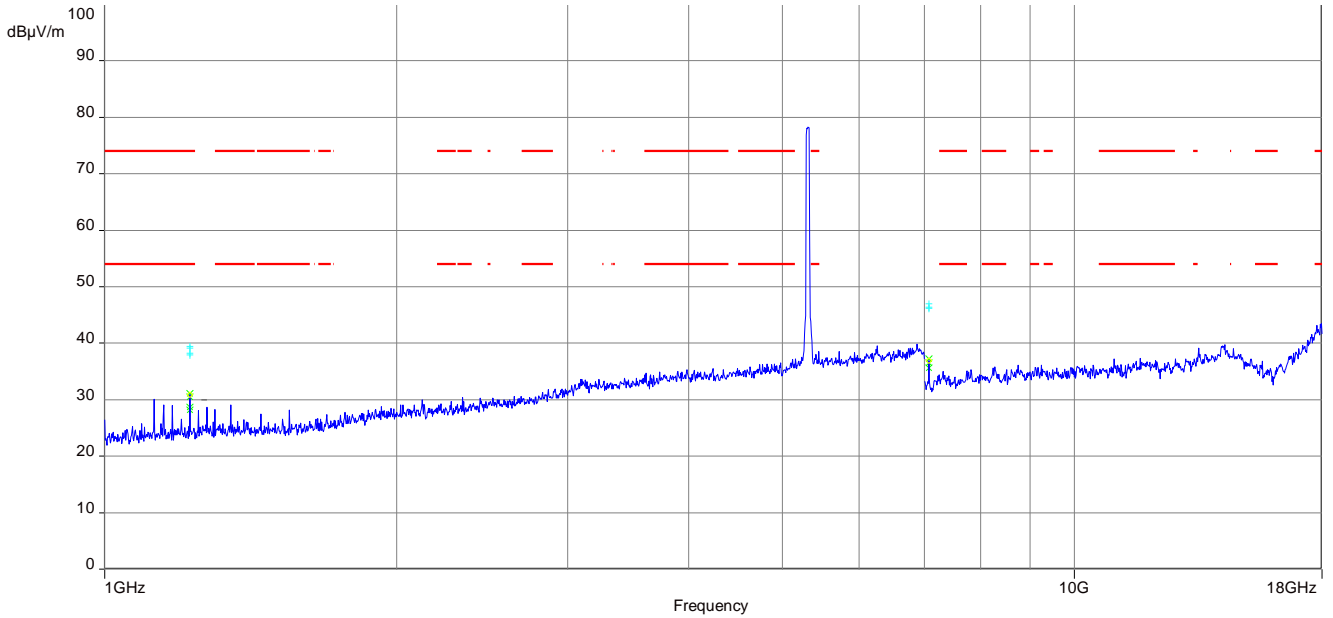
Plot 13: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-2A; highest channel



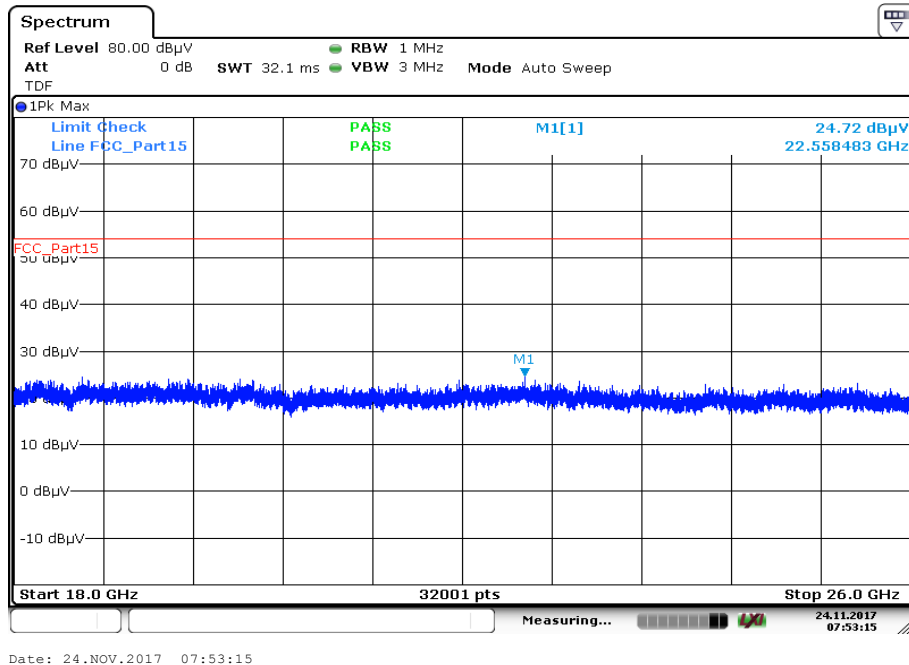
Final_Result:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
50.454	23.60	30.0	6.40	1000	120	101.0	V	203.0	13.7
74.558	22.55	30.0	7.45	1000	120	101.0	V	264.0	9.0
77.207	21.18	30.0	8.82	1000	120	101.0	V	341.0	8.5
550.014	31.16	36.0	4.84	1000	120	101.0	H	47.0	19.3
575.002	31.96	36.0	4.04	1000	120	170.0	H	296.0	20.0
599.966	26.94	36.0	9.06	1000	120	101.0	H	281.0	20.7

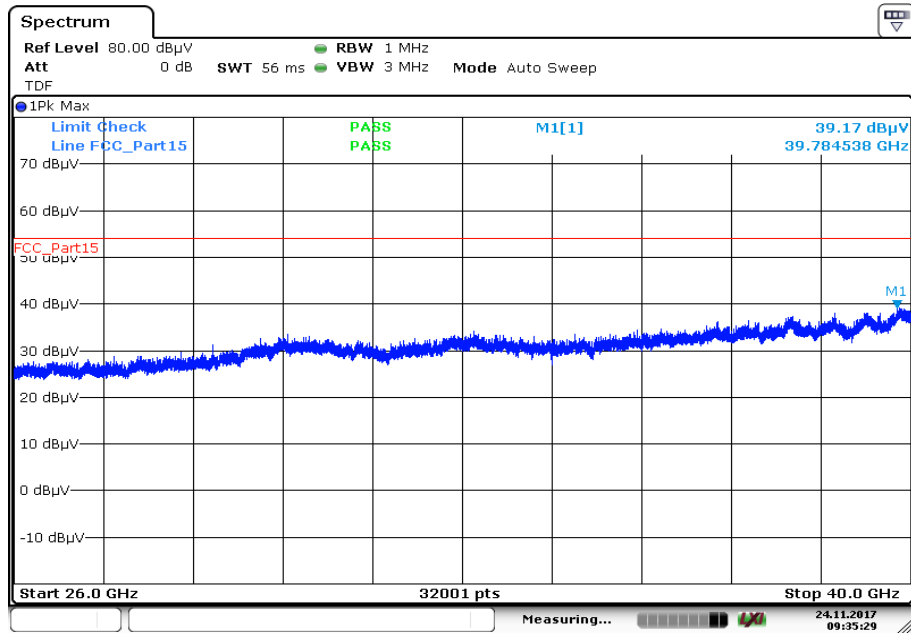
Plot 14: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2A; highest channel



Plot 15: 18 GHz to 26 GHz; vertical & horizontal polarization; U-NII-2A; highest channel

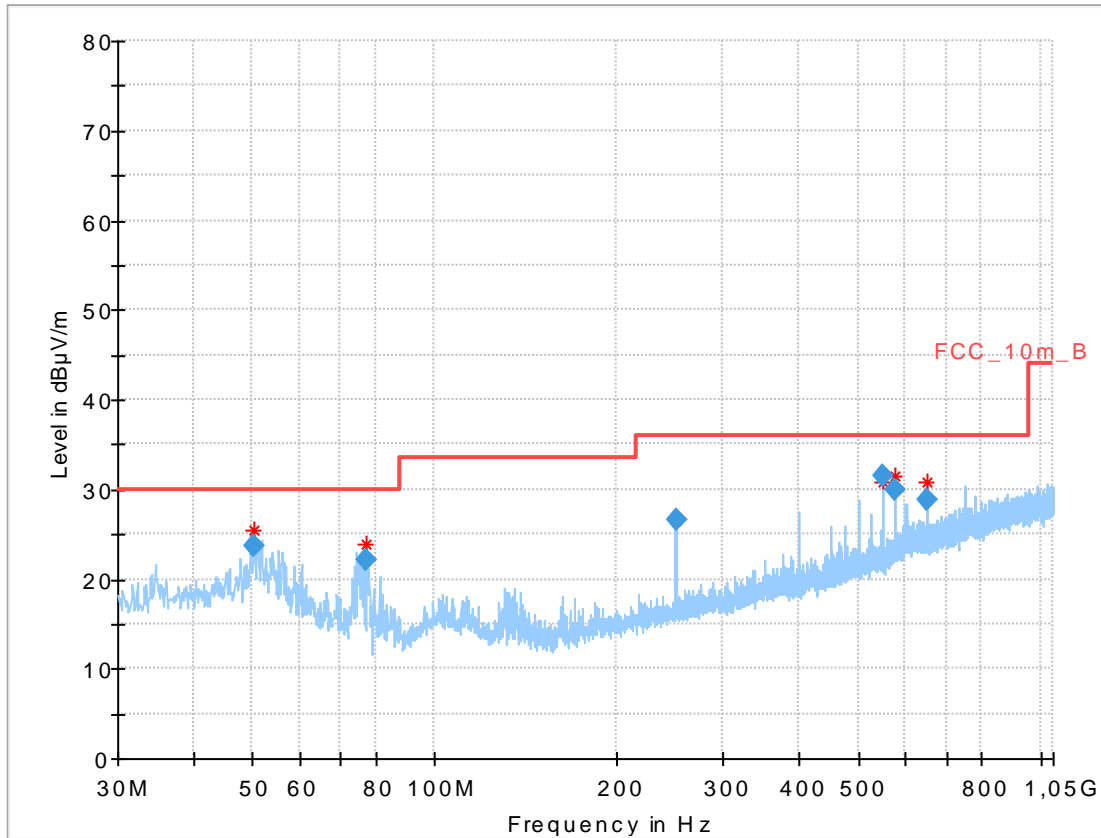


Plot 16: 26 GHz to 40 GHz; vertical & horizontal polarization; U-NII-2A; highest channel



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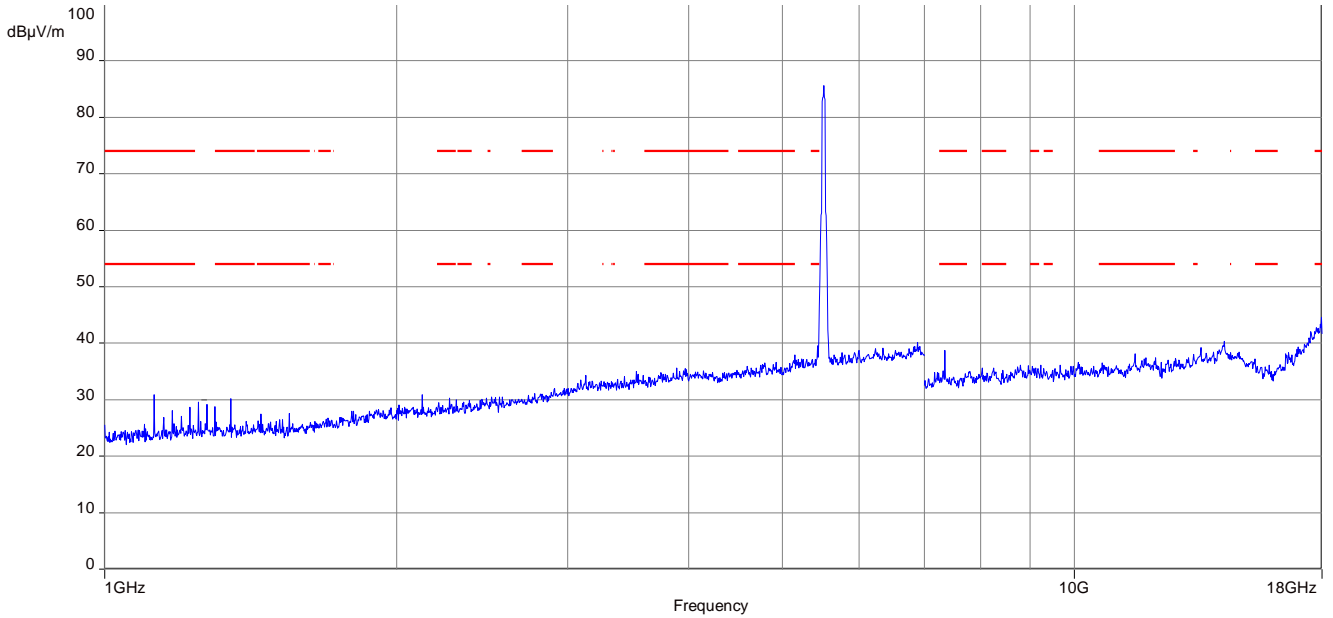
Plot 17: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-2C; lowest channel



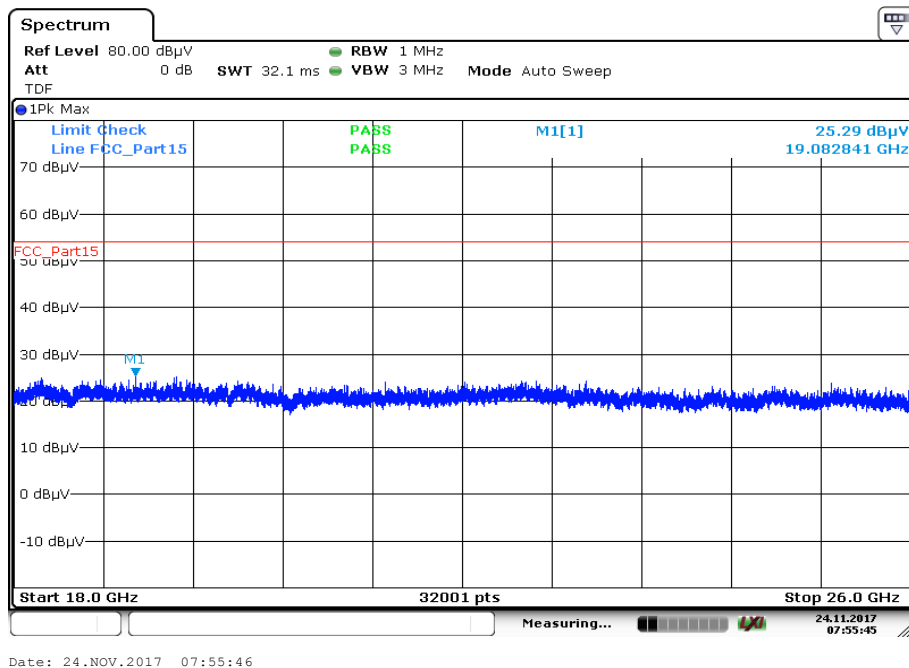
Final Result:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
50.419	23.63	30.0	6.37	1000	120	98.0	V	164.0	13.7
77.205	22.21	30.0	7.79	1000	120	101.0	V	271.0	8.5
250.008	26.62	36.0	9.38	1000	120	98.0	V	295.0	13.4
550.001	31.62	36.0	4.38	1000	120	101.0	H	46.0	19.3
574.983	29.92	36.0	6.08	1000	120	101.0	H	291.0	20.0
649.991	28.75	36.0	7.25	1000	120	170.0	H	78.0	21.1

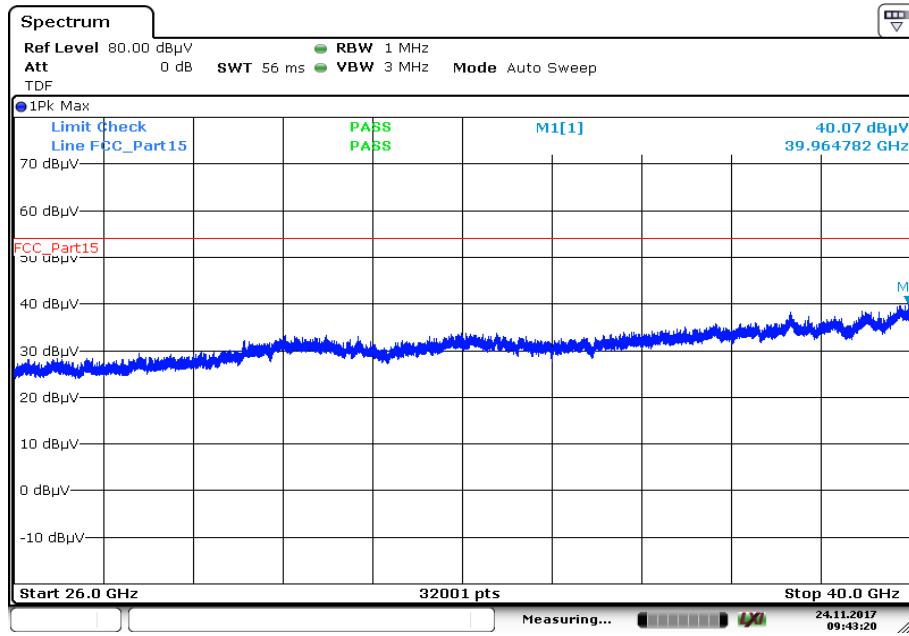
Plot 18: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2C; lowest channel



Plot 19: 18 GHz to 26 GHz; vertical & horizontal polarization; U-NII-2C; lowest channel

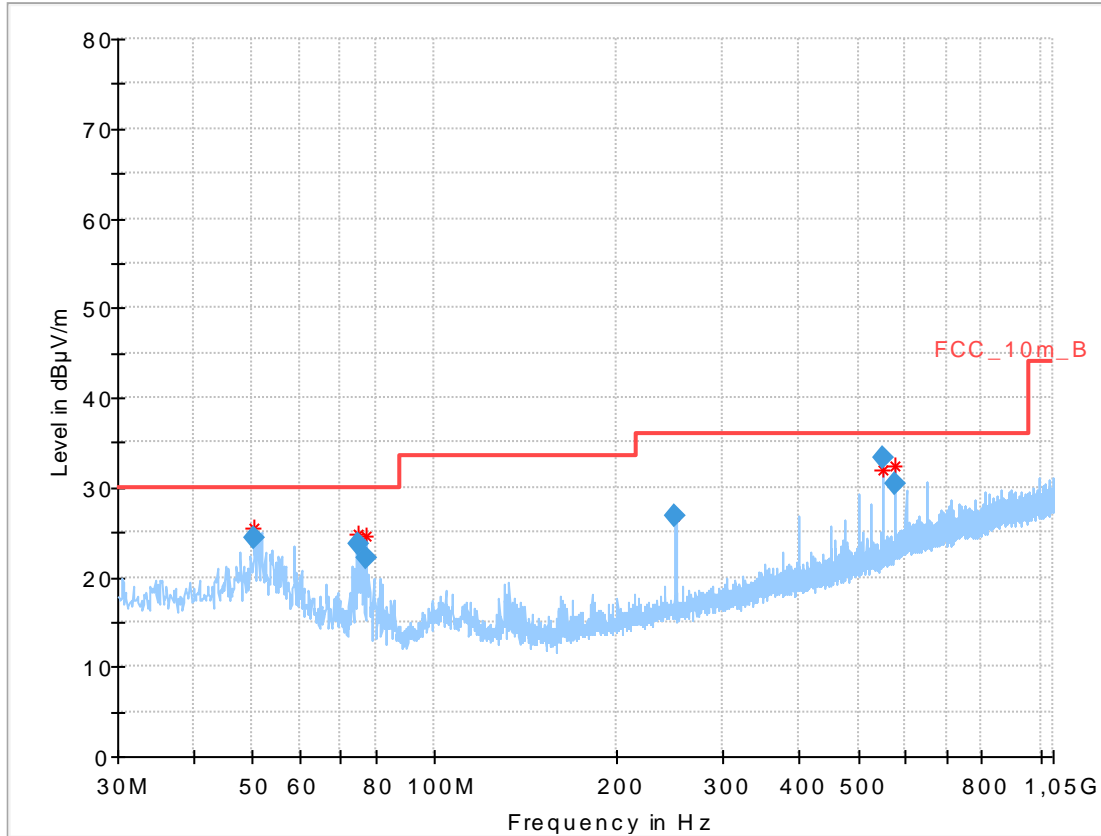


Plot 20: 26 GHz to 40 GHz; vertical & horizontal polarization; U-NII-2C; lowest channel



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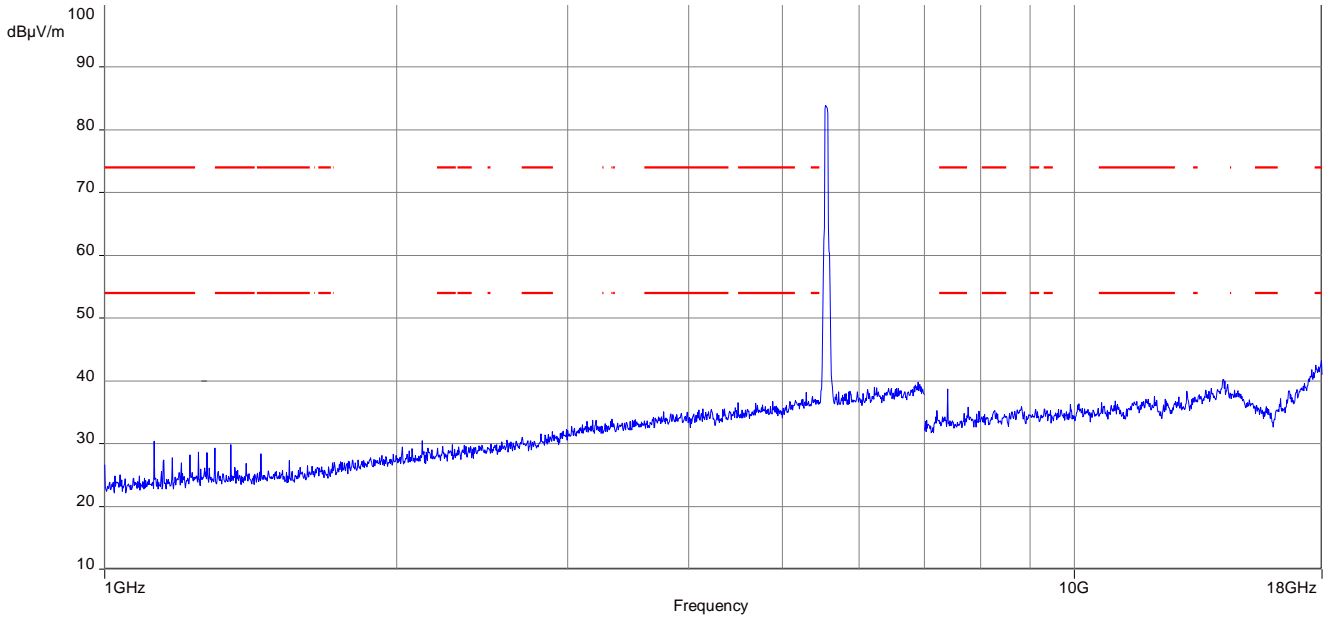
Plot 21: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-2C; middle channel



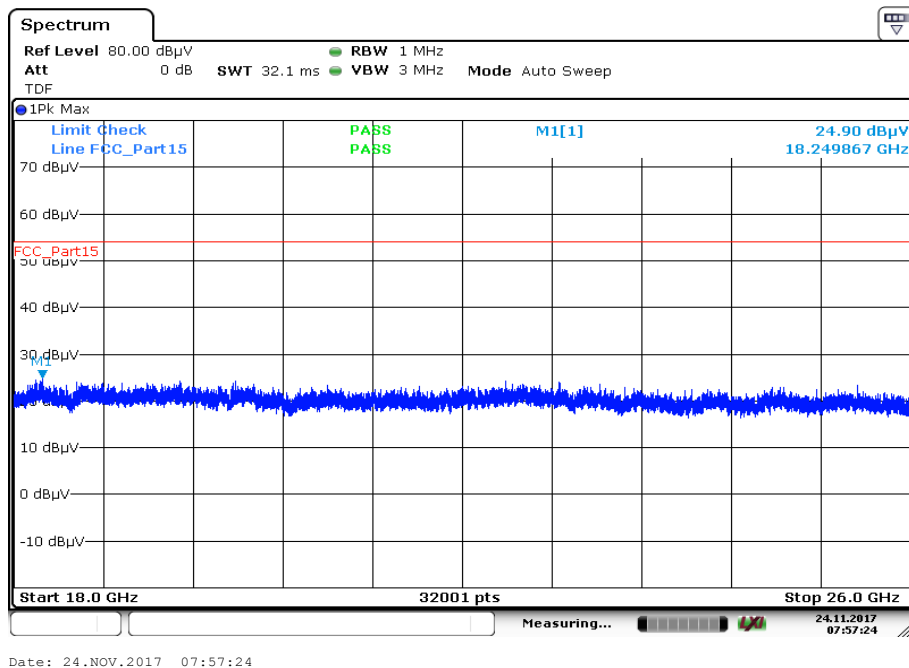
Final Result:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
50.440	24.27	30.0	5.73	1000	120	98.0	V	86.0	13.7
74.559	23.61	30.0	6.39	1000	120	170.0	V	291.0	9.0
77.185	22.03	30.0	7.97	1000	120	101.0	V	253.0	8.5
249.996	26.92	36.0	9.08	1000	120	98.0	V	317.0	13.4
549.999	33.27	36.0	2.73	1000	120	170.0	H	303.0	19.3
574.997	30.45	36.0	5.55	1000	120	101.0	H	294.0	20.0

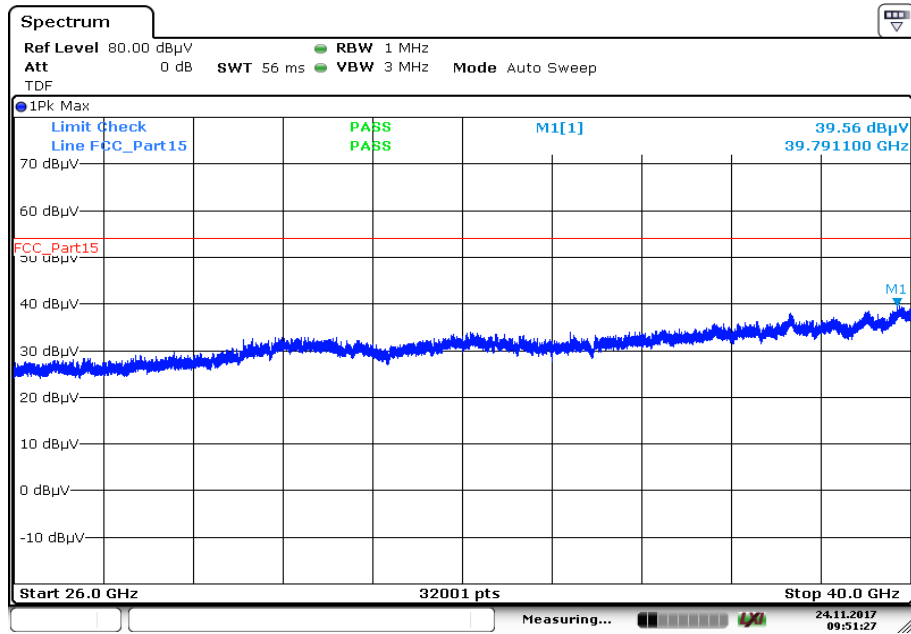
Plot 22: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2C; middle channel



Plot 23: 18 GHz to 26 GHz; vertical & horizontal polarization; U-NII-2C; middle channel

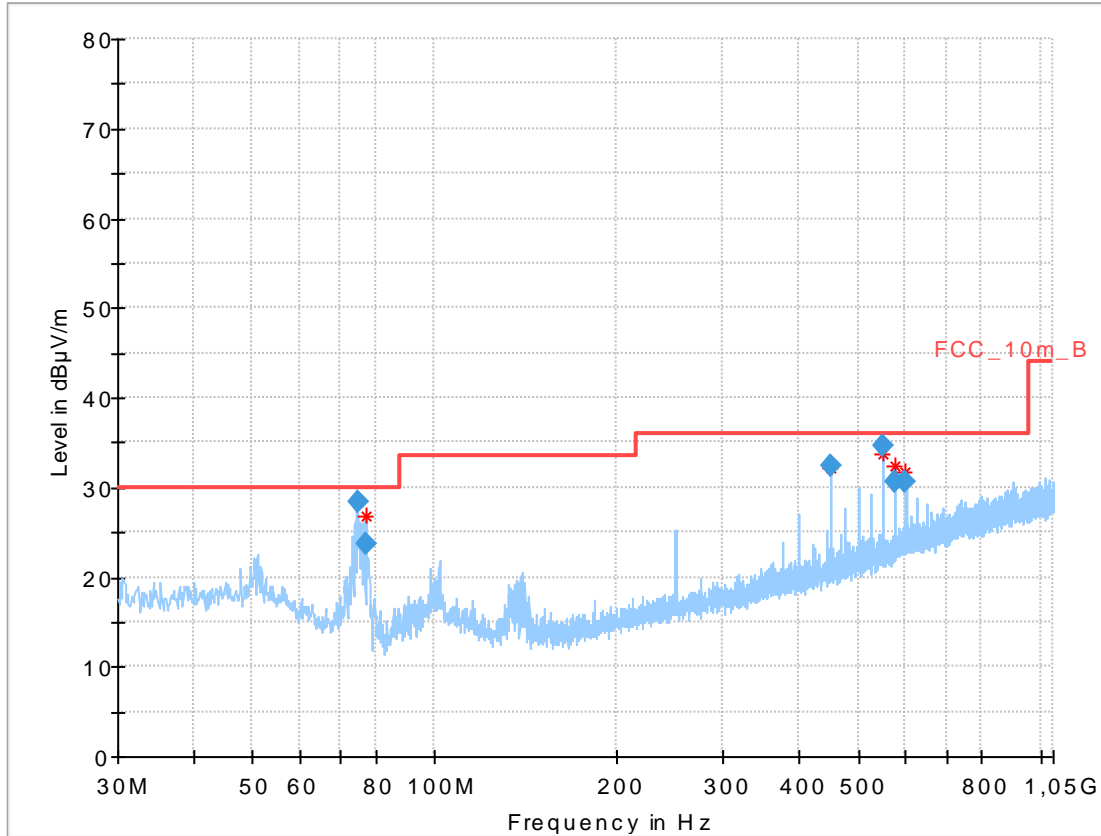


Plot 24: 26 GHz to 40 GHz; vertical & horizontal polarization; U-NII-2C; middle channel



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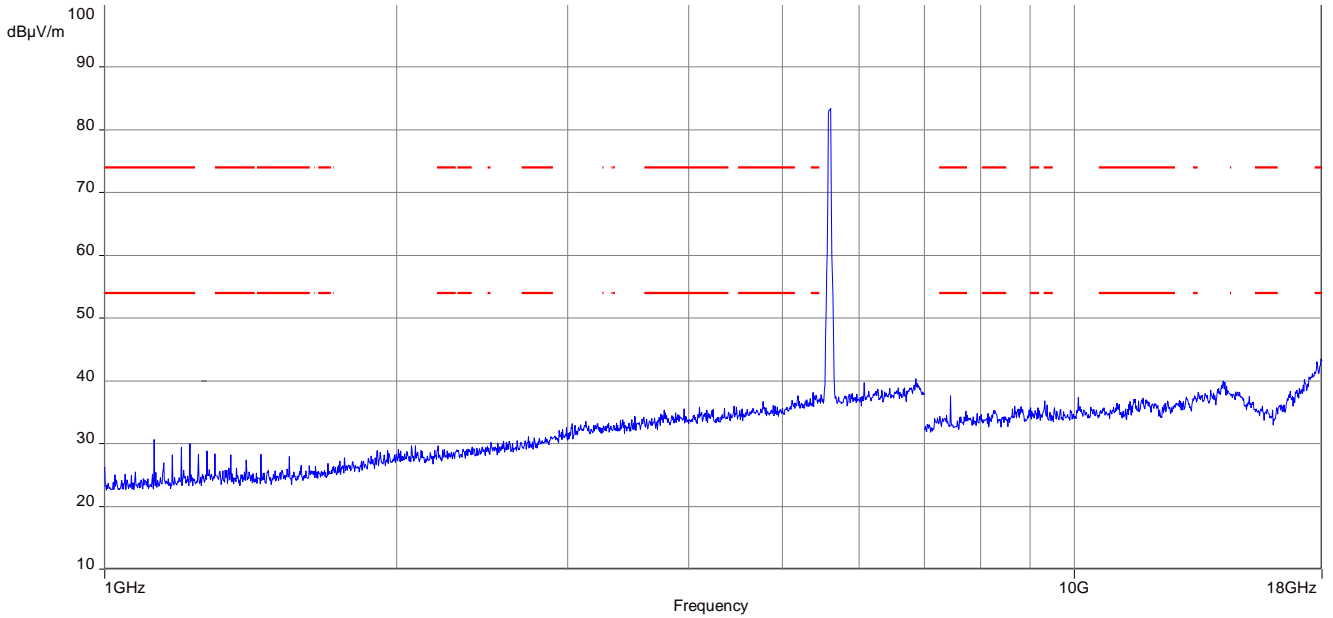
Plot 25: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-2C; highest channel



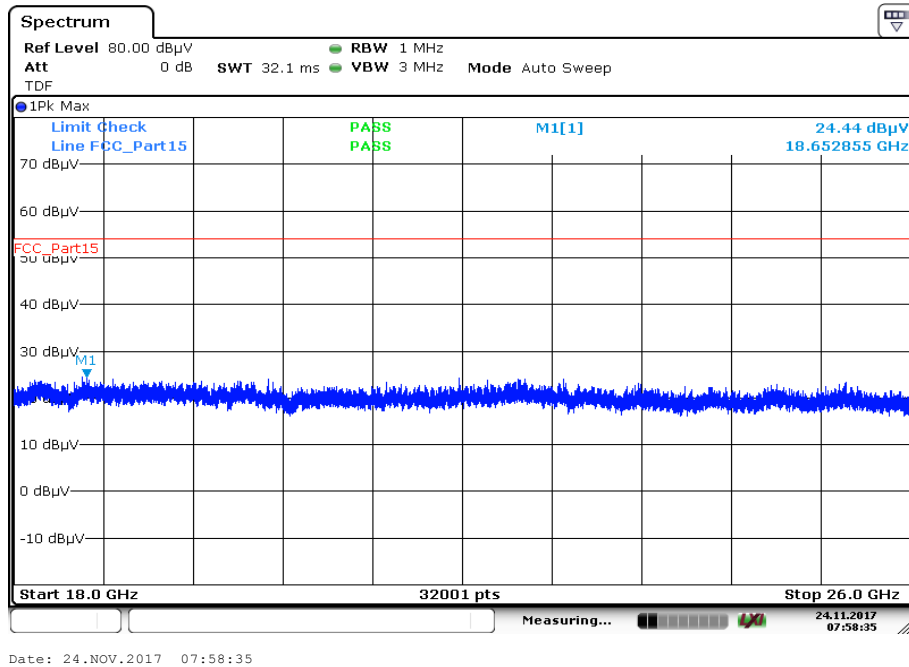
Final Result:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
74.539	28.33	30.0	1.67	1000	120	170.0	V	283.0	9.0
77.190	23.59	30.0	6.41	1000	120	100.0	V	283.0	8.5
449.990	32.44	36.0	3.56	1000	120	170.0	H	266.0	17.6
550.007	34.58	36.0	1.42	1000	120	100.0	H	266.0	19.3
574.991	30.62	36.0	5.38	1000	120	101.0	H	286.0	20.0
600.019	30.68	36.0	5.32	1000	120	170.0	H	270.0	20.7

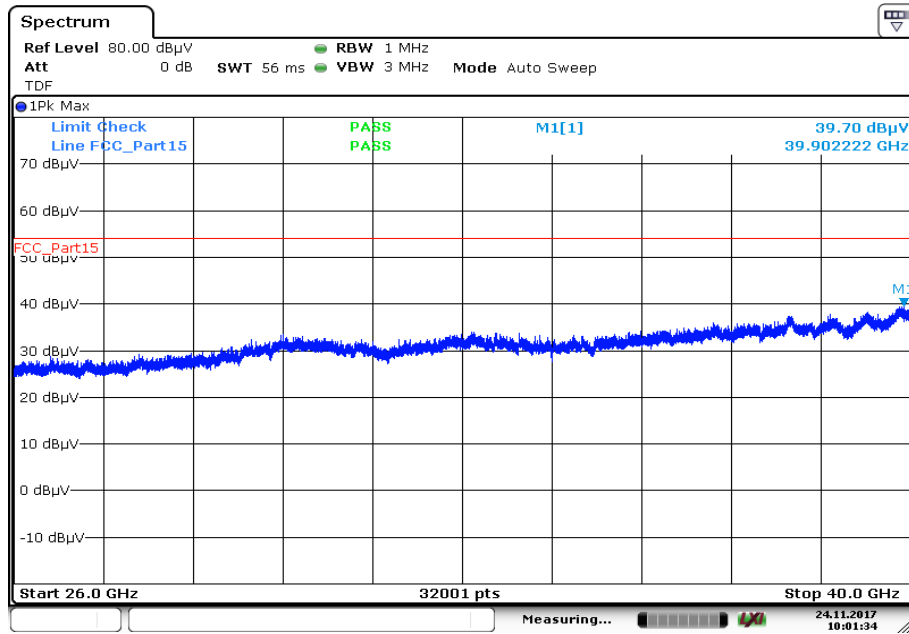
Plot 26: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2C; highest channel



Plot 27: 18 GHz to 26 GHz; vertical & horizontal polarization; U-NII-2C; highest channel

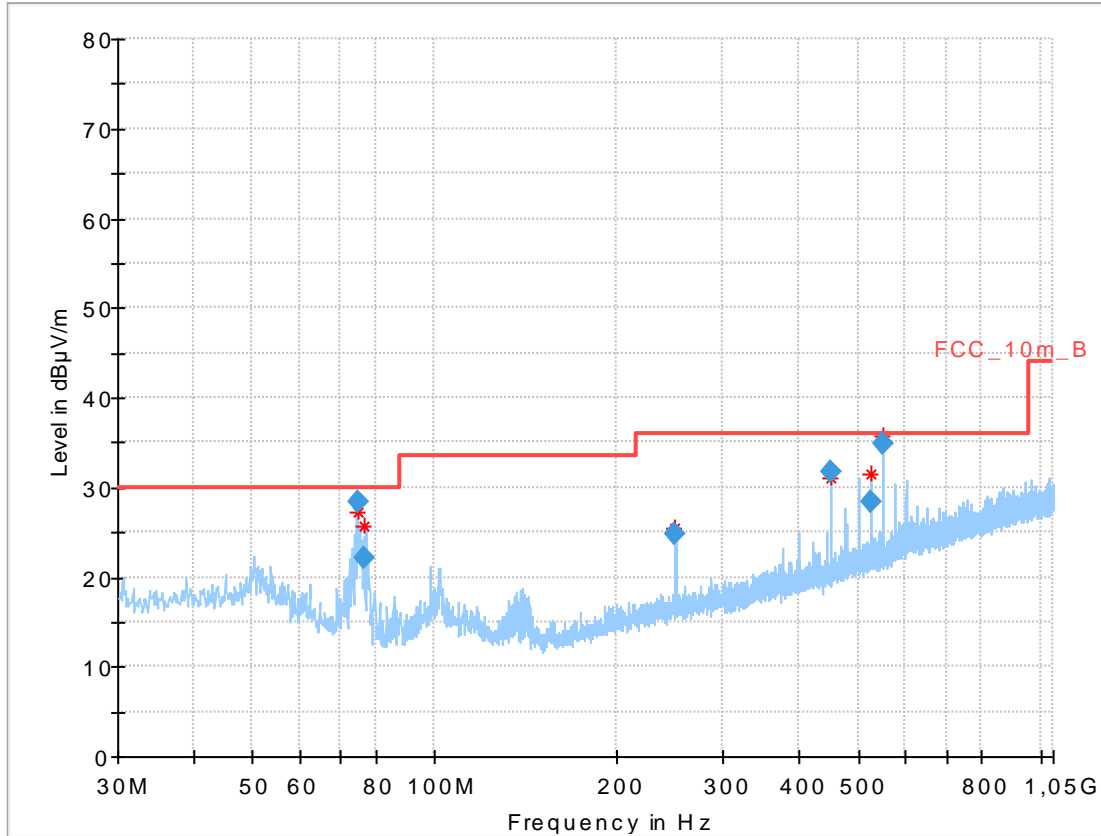


Plot 28: 26 GHz to 40 GHz; vertical & horizontal polarization; U-NII-2C; highest channel



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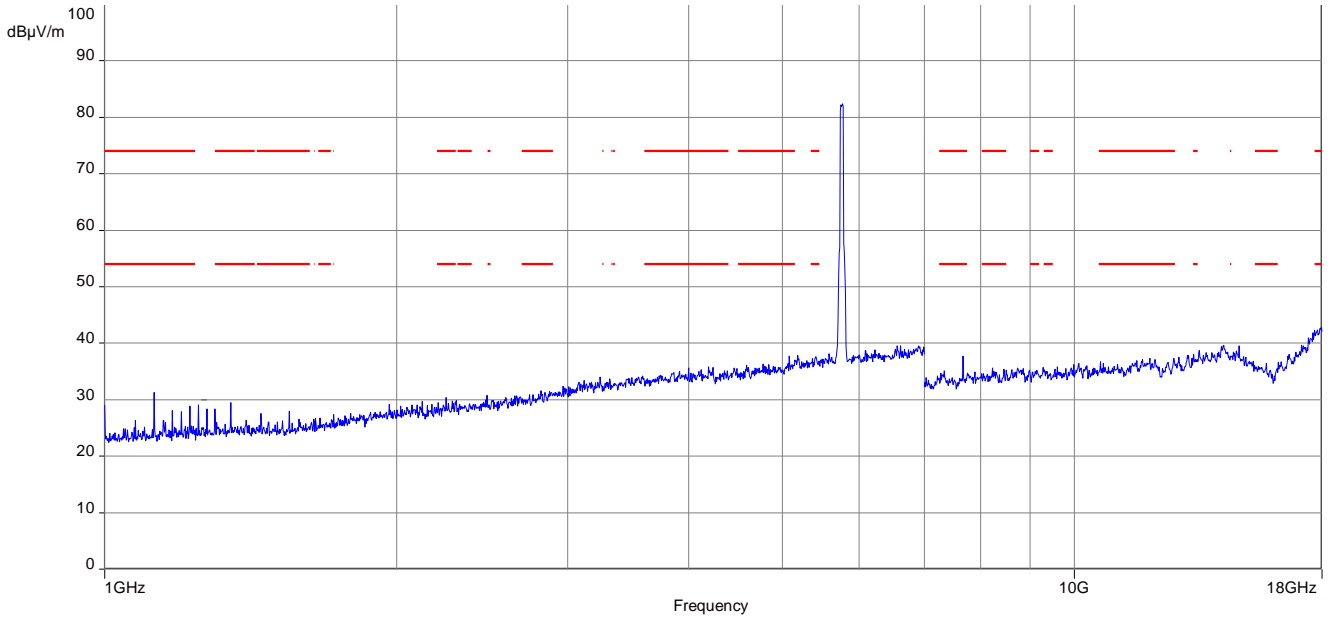
Plot 29: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-3; lowest channel



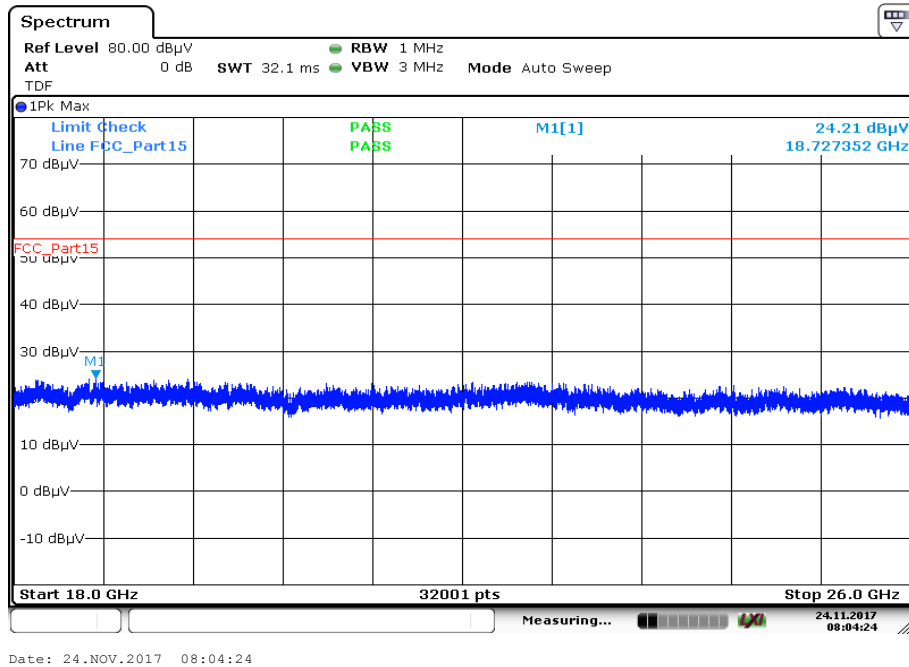
Final_Result:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
74.564	28.35	30.0	1.65	1000	120	170.0	V	340.0	8.9
76.577	22.13	30.0	7.87	1000	120	101.0	V	0.0	8.6
249.992	24.87	36.0	11.13	1000	120	101.0	V	88.0	13.4
449.997	31.75	36.0	4.25	1000	120	170.0	H	253.0	17.6
525.010	28.40	36.0	7.60	1000	120	101.0	H	288.0	19.0
550.002	34.79	36.0	1.21	1000	120	101.0	H	272.0	19.3

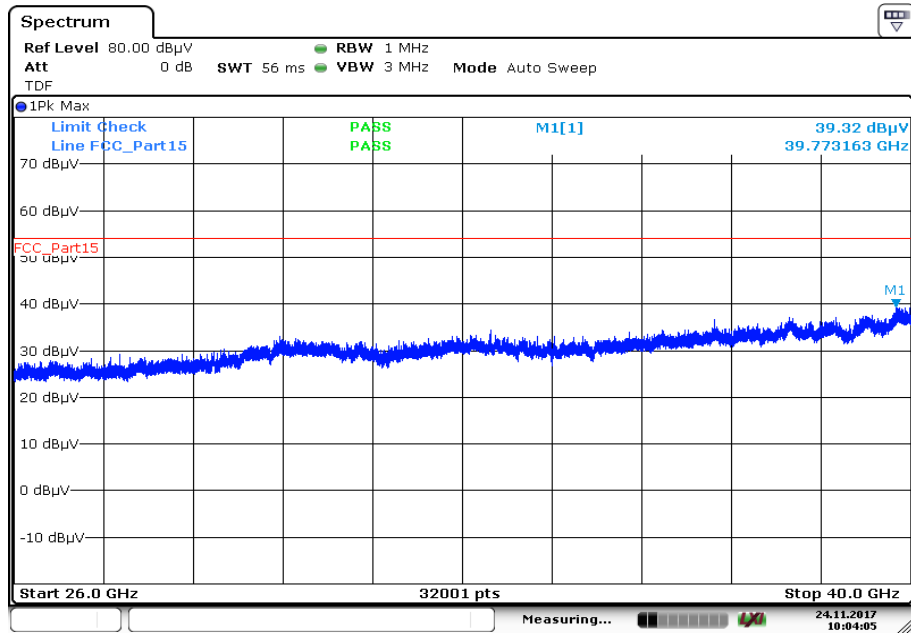
Plot 30: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-3; lowest channel



Plot 31: 18 GHz to 26 GHz; vertical & horizontal polarization; U-NII-3; lowest channel

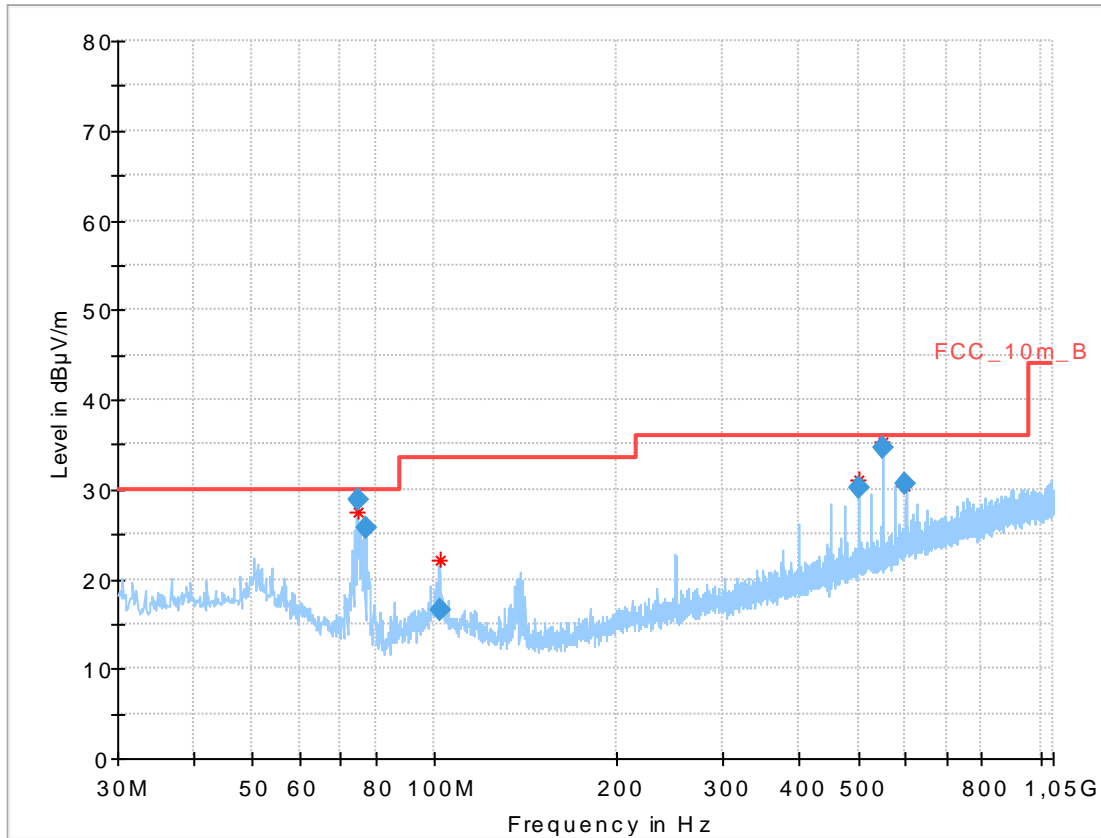


Plot 32: 26 GHz to 40 GHz; vertical & horizontal polarization; U-NII-3; lowest channel



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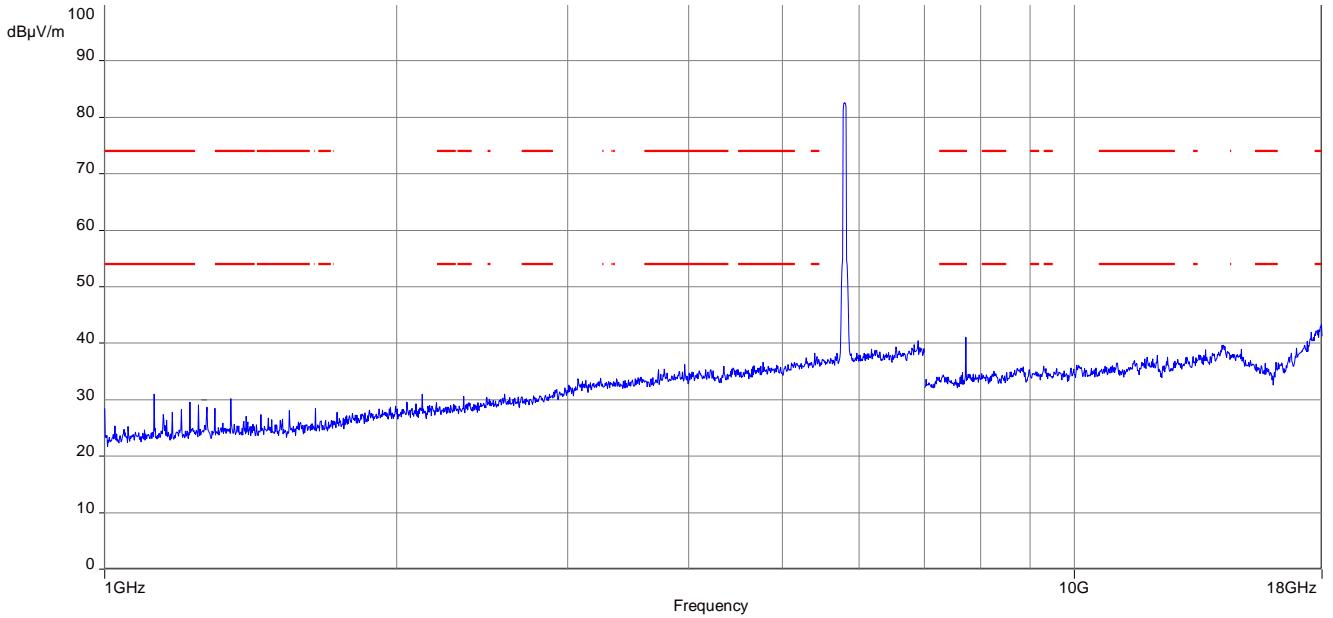
Plot 33: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-3; highest channel



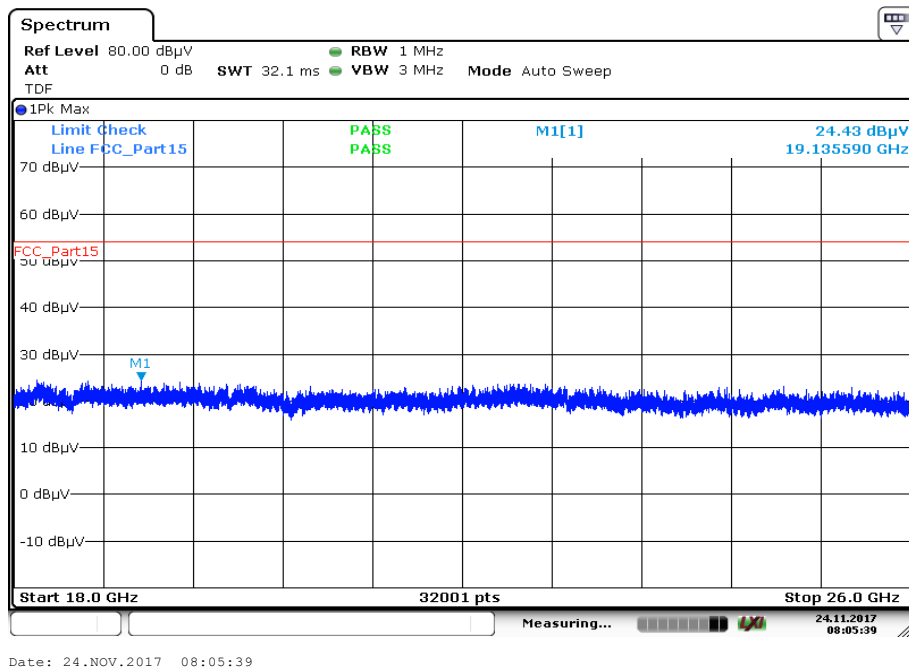
Final_Result:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
74.555	28.86	30.0	1.14	1000	120	170.0	V	351.0	9.0
77.202	25.81	30.0	4.19	1000	120	170.0	V	-10.0	8.5
101.883	16.60	33.5	16.90	1000	120	170.0	V	320.0	11.9
499.995	30.13	36.0	5.87	1000	120	170.0	H	293.0	18.7
549.991	34.61	36.0	1.39	1000	120	100.0	H	272.0	19.3
599.997	30.57	36.0	5.43	1000	120	170.0	H	284.0	20.7

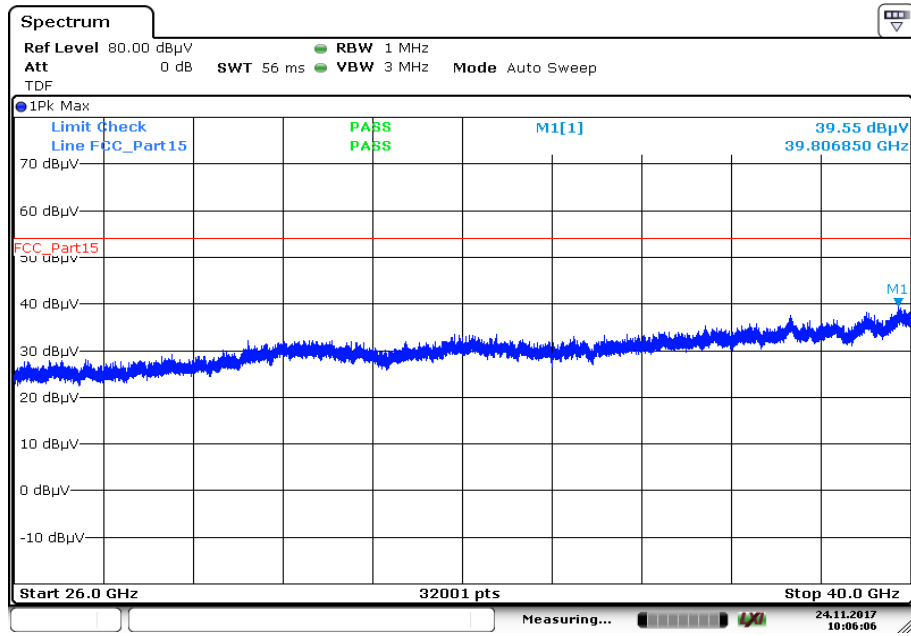
Plot 34: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-3; highest channel



Plot 35: 18 GHz to 26 GHz; vertical & horizontal polarization; U-NII-3; highest channel



Plot 36: 26 GHz to 40 GHz; vertical & horizontal polarization; U-NII-3; highest channel



Date: 24.NOV.2017 10:06:06

11.12 RX spurious emissions radiated

Description:

Measurement of the radiated spurious emissions in idle/receive mode.

Measurement:

Measurement parameter	
Detector:	Quasi Peak below 1 GHz (alternative Peak) Peak above 1 GHz / RMS
Sweep time:	Auto
Resolution bandwidth:	F < 1 GHz: 100 kHz F > 1 GHz: 1 MHz
Video bandwidth:	F < 1 GHz: 100 kHz F > 1 GHz: ≥ 3 MHz
Span:	30 MHz to 40 GHz
Trace mode:	Max Hold / Average with 100 counts + 20 log (1 / X) for duty cycle lower than 100 %
Test setup:	See sub clause 6.2 – B
Measurement uncertainty:	See sub clause 8

Limits:

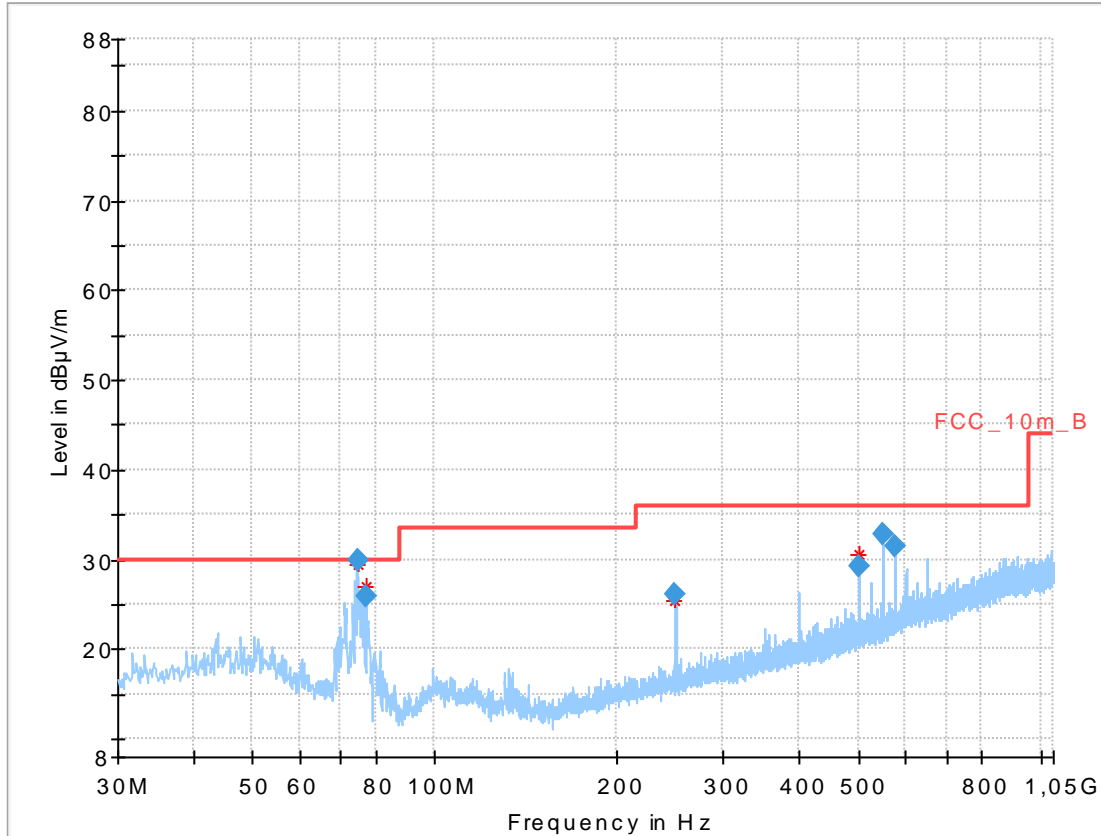
RX Spurious Emissions Radiated		
Frequency (MHz)	Field Strength (dBµV/m)	Measurement distance (m)
30 - 88	30.0	10
88 – 216	33.5	10
216 – 960	36.0	10
Above 960	54.0	3

Results:

RX Spurious Emissions Radiated [dBµV/m]		
F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please look at the table below the plot.		
-/-	-/-	-/-
For emissions above 18 GHz please take look at the plots.		

Plots:

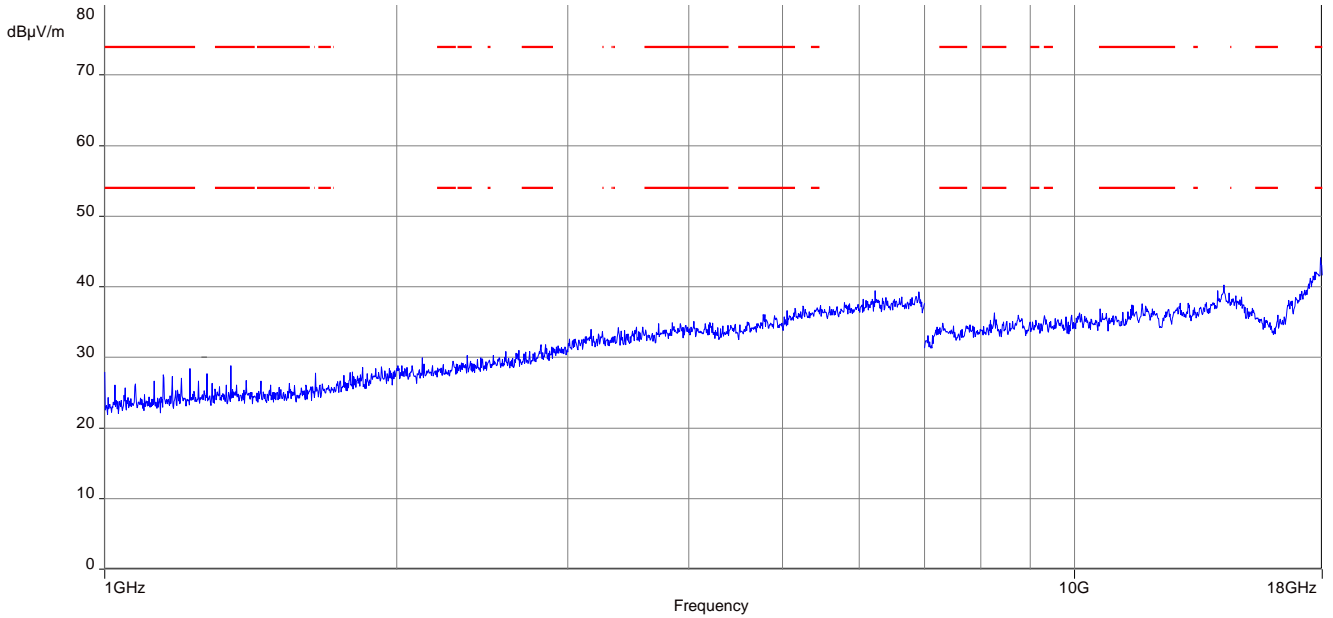
Plot 1: 30 MHz to 1 GHz, vertical & horizontal polarization



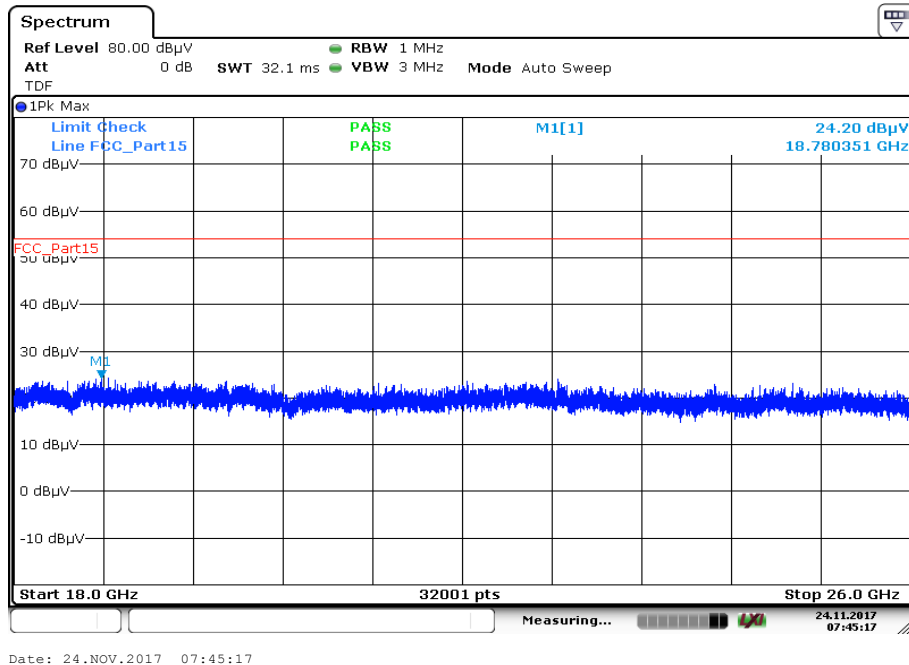
Final results:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
74.565	29.80	30.0	0.20	1000	120	170.0	V	226.0	8.9
77.198	25.91	30.0	4.09	1000	120	100.0	V	294.0	8.5
249.995	26.02	36.0	9.98	1000	120	98.0	V	143.0	13.4
499.987	29.24	36.0	6.76	1000	120	101.0	H	98.0	18.7
550.009	32.84	36.0	3.16	1000	120	101.0	H	67.0	19.3
574.991	31.44	36.0	4.56	1000	120	101.0	H	292.0	20.0

Plot 2: 1 GHz to 18 GHz, vertical & horizontal polarization

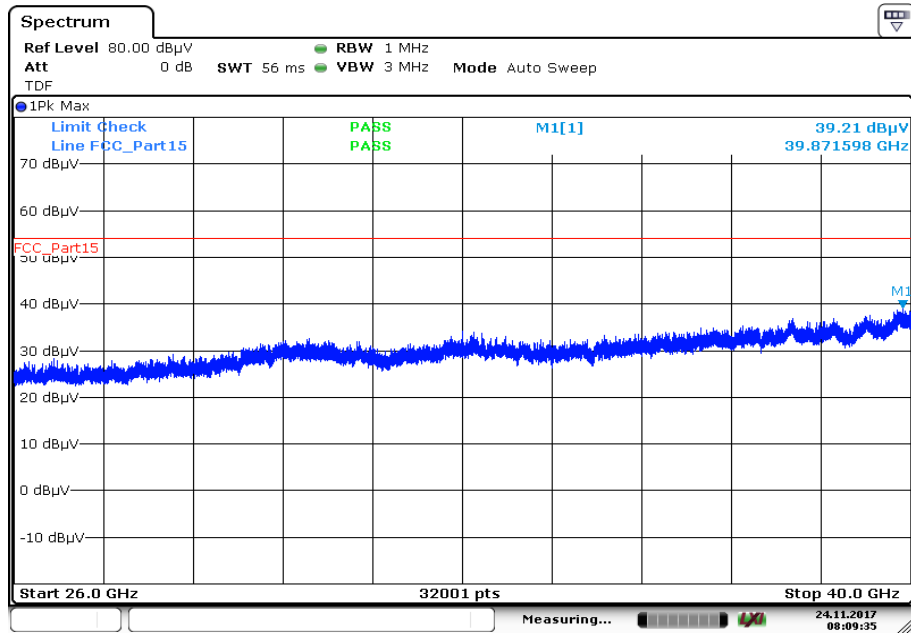


Plot 3: 18 GHz to 26 GHz, vertical & horizontal polarization



Date: 24.NOV.2017 07:45:17

Plot 4: 26 GHz to 40 GHz, vertical & horizontal polarization



Date: 24.NOV.2017 08:09:35

11.13 Spurious emissions conducted < 30 MHz

Description:

Measurement of the conducted spurious emissions in transmit mode below 30 MHz. The EUT is set to middle channel. If critical peaks are found the lowest channel and the highest channel will be measured too. Both power lines, phase and neutral line, are measured. Found peaks are re-measured with average and quasi peak detection to show compliance to the limits.

Measurement:

Measurement parameter	
Detector:	Peak - Quasi Peak / Average
Sweep time:	Auto
Video bandwidth:	9 kHz
Resolution bandwidth:	100 kHz
Span:	150 kHz to 30 MHz
Trace mode:	Max Hold
Test setup:	See sub clause 6.4 – A
Measurement uncertainty:	See sub clause 8

Limits:

Spurious Emissions Conducted < 30 MHz		
Frequency (MHz)	Quasi-Peak (dBµV/m)	Average (dBµV/m)
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30.0	60	50

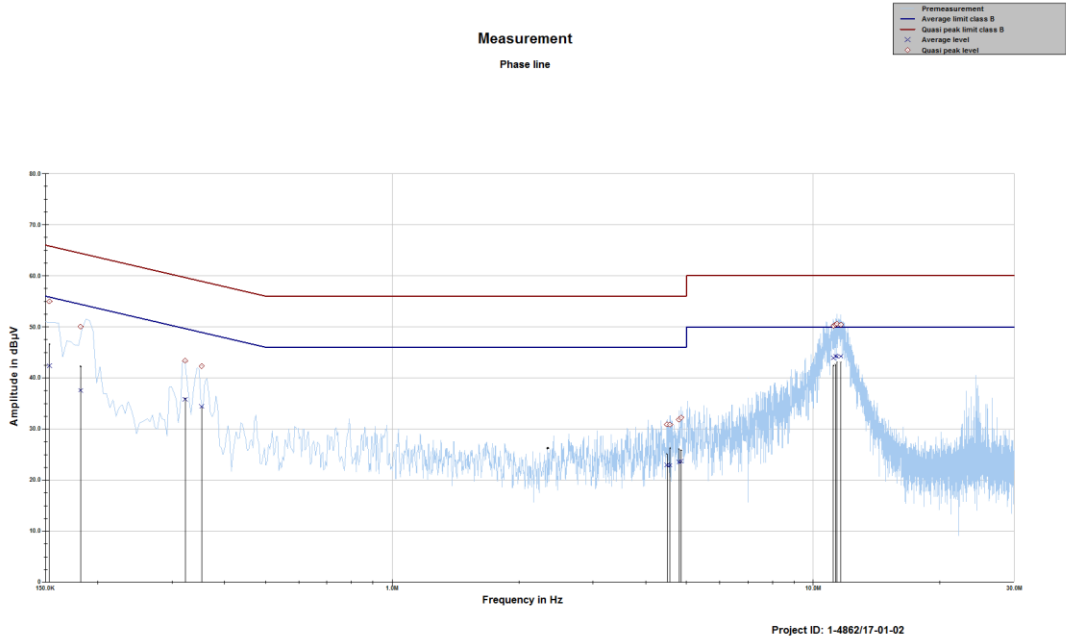
*Decreases with the logarithm of the frequency

Results:

Spurious Emissions Conducted < 30 MHz [dBµV/m]		
F [MHz]	Detector	Level [dBµV/m]
See table below the plots.		

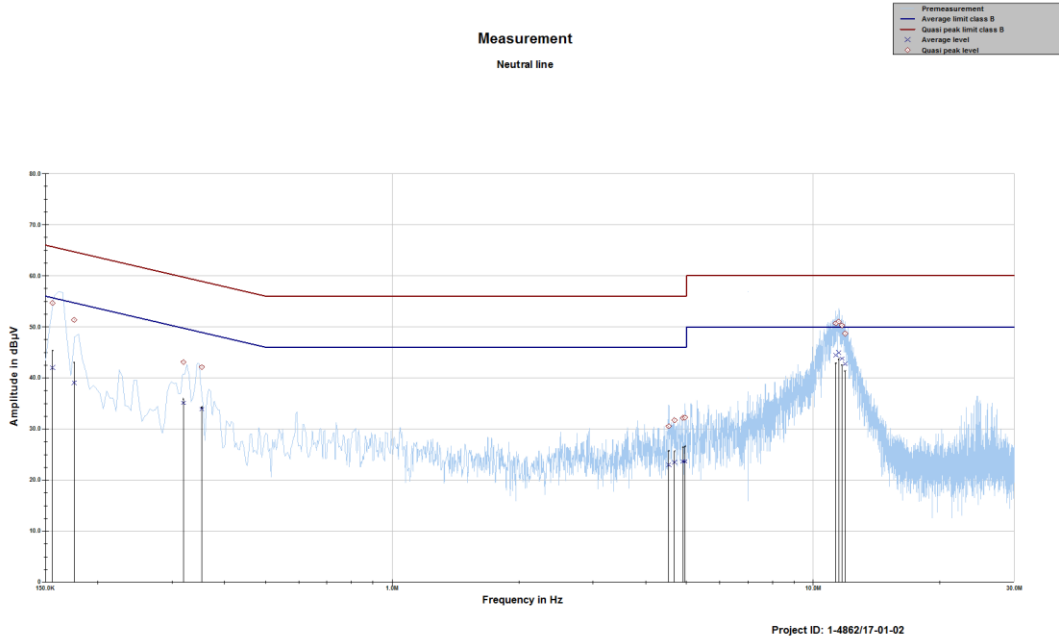
Plots:

Plot 1: 150 kHz to 30 MHz, phase line



Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin average	Limit AV
MHz	dBµV	dB	dBµV	dBµV	dB	dBµV
0.153376	54.97	10.84	65.815	42.36	13.54	55.904
0.181905	50.05	14.35	64.398	37.58	17.51	55.088
0.322196	43.37	16.28	59.650	35.82	15.26	51.080
0.352576	42.31	16.59	58.902	34.40	15.81	50.212
4.494698	30.88	25.12	56.000	22.95	23.05	46.000
4.568475	30.85	25.15	56.000	22.89	23.11	46.000
4.798964	31.84	24.16	56.000	23.53	22.47	46.000
4.856707	32.24	23.76	56.000	23.71	22.29	46.000
11.167822	50.19	9.81	60.000	43.93	6.07	50.000
11.296825	50.44	9.56	60.000	44.27	5.73	50.000
11.382623	50.58	9.42	60.000	44.23	5.77	50.000
11.624701	50.42	9.58	60.000	44.25	5.75	50.000

Plot 2: 150 kHz to 30 MHz, neutral line



Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin average	Limit AV
MHz	dBµV	dB	dBµV	dBµV	dB	dBµV
0.155946	54.67	11.01	65.677	41.98	13.85	55.830
0.175635	51.36	13.33	64.690	39.06	16.21	55.268
0.319242	43.11	16.62	59.726	35.11	16.06	51.165
0.353017	42.13	16.76	58.891	33.91	16.29	50.200
4.535622	30.55	25.45	56.000	22.98	23.02	46.000
4.679789	31.72	24.28	56.000	23.47	22.53	46.000
4.905424	32.17	23.83	56.000	23.64	22.36	46.000
4.956942	32.25	23.75	56.000	23.66	22.34	46.000
11.314486	50.69	9.31	60.000	44.46	5.54	50.000
11.491331	51.03	8.97	60.000	44.95	5.05	50.000
11.696401	50.29	9.71	60.000	43.77	6.23	50.000
11.902902	48.70	11.30	60.000	42.75	7.25	50.000

12 Observations

No observations except those reported with the single test cases have been made.

Annex A Glossary

EUT	Equipment under test
DUT	Device under test
UUT	Unit under test
GUE	GNSS User Equipment
ETSI	European Telecommunications Standards Institute
EN	European Standard
FCC	Federal Communications Commission
FCC ID	Company Identifier at FCC
IC	Industry Canada
PMN	Product marketing name
HMN	Host marketing name
HVIN	Hardware version identification number
FVIN	Firmware version identification number
EMC	Electromagnetic Compatibility
HW	Hardware
SW	Software
Inv. No.	Inventory number
S/N or SN	Serial number
C	Compliant
NC	Not compliant
NA	Not applicable
NP	Not performed
PP	Positive peak
QP	Quasi peak
AVG	Average
OC	Operating channel
OCW	Operating channel bandwidth
OBW	Occupied bandwidth
OOB	Out of band
DFS	Dynamic frequency selection
CAC	Channel availability check
OP	Occupancy period
NOP	Non occupancy period
DC	Duty cycle
PER	Packet error rate
CW	Clean wave
MC	Modulated carrier
WLAN	Wireless local area network
RLAN	Radio local area network
DSSS	Dynamic sequence spread spectrum
OFDM	Orthogonal frequency division multiplexing
FHSS	Frequency hopping spread spectrum
GNSS	Global Navigation Satellite System
C/N₀	Carrier to noise-density ratio, expressed in dB-Hz

Annex B Document history

Version	Applied changes	Date of release
-/-	Initial release	2017-11-29

Annex C Accreditation Certificate

first page	last page			
 <p>Deutsche Akkreditierungsstelle GmbH</p> <p>Bellehene gemäß § 8 Absatz 1 AkkStelleG i.V.m. § 1 Absatz 1 AkkStelleGBV Unterzeichnerin der Multilateralen Abkommen von EA, ILAC und IAF zur gegenseitigen Anerkennung</p> <p>Akkreditierung </p> <p>Die Deutsche Akkreditierungsstelle GmbH bestätigt hiermit, dass das Prüflaboratorium</p> <p>CTC advanced GmbH Untertürkheimer Straße 6-10, 66117 Saarbrücken</p> <p>die Kompetenz nach DIN EN ISO/IEC 17025:2005 besitzt, Prüfungen in folgenden Bereichen durchzuführen:</p> <ul style="list-style-type: none"> Funk Mobilfunk (GSM / DCS) + OTA Elektromagnetische Verträglichkeit (EMV) Produktsicherheit SAE / EMC Umwelt Smart Card Technology Bluetooth® Automotive WiFi-Services Kanadische Anforderungen US-Anforderungen Akustik Near Field Communication (NFC) <p>Die Akkreditierungsurkunde gilt nur in Verbindung mit dem Bescheid vom 25.11.2016 mit der Akkreditierungsnummer D-PL-12076-01 und ist gültig bis 17.01.2018. Sie besteht aus diesem Deckblatt, der Rückseite des Deckblatts und der folgenden Anlage mit insgesamt 63 Seiten.</p> <p>Registrierungsnummer der Urkunde: D-PL-12076-01-01</p> <p>Frankfurt, 25.11.2016</p> <p> Im Auftrag Dipl.-Ing. Ralf Egner Abteilungsleiter</p> <p><small>Siehe Hinweis auf der Rückseite</small></p>	<p>Deutsche Akkreditierungsstelle GmbH</p> <table border="0"> <tr> <td>Standort Berlin Spittelmarkt 10 10117 Berlin</td> <td>Standort Frankfurt am Main Europa-Allee 52 60327 Frankfurt am Main</td> <td>Standort Braunschweig Bundesallee 100 38116 Braunschweig</td> </tr> </table> <p>Die aussugswise Veröffentlichung der Akkreditierungsurkunde bedarf der vorherigen schriftlichen Zustimmung der Deutsche Akkreditierungsstelle GmbH (DAkkS). Ausgenommen davon ist die separate Weiterverbreitung des Deckblattes durch die umseitig genannte Konformitätsbewertungsstelle in unveränderter Form.</p> <p>Es darf nicht der Anschein erweckt werden, dass sich die Akkreditierung auch auf Bereiche erstreckt, die über den durch die DAkkS bestätigten Akkreditierungsbereich hinausgehen.</p> <p>Die Akkreditierung erfolgte gemäß des Gesetzes über die Akkreditierungsstelle (AkkStelleG) vom 31. Juli 2009 (BGBl. I S. 2625) sowie der Verordnung (EG) Nr. 765/2008 des Europäischen Parlaments und des Rates vom 9. Juli 2008 über die Vorschriften für die Akkreditierung und Marktüberwachung im Zusammenhang mit der Vermarktung von Produkten (ABl. L 218 vom 9. Juli 2008, S. 30). Die DAkkS ist Unterzeichnerin der Multilateralen Abkommen zur gegenseitigen Anerkennung der European co-operation for Accreditation (EA), des International Accreditation Forum (IAF) und der International Laboratory Accreditation Cooperation (ILAC). Die Unterzeichner dieser Abkommen erkennen ihre Akkreditierungen gegenseitig an.</p> <p>Der aktuelle Stand der Mitgliedschaft kann folgenden Webseiten entnommen werden: EA: www.european-accreditation.org ILAC: www.ilac.org IAF: www.iaf.nu</p>	Standort Berlin Spittelmarkt 10 10117 Berlin	Standort Frankfurt am Main Europa-Allee 52 60327 Frankfurt am Main	Standort Braunschweig Bundesallee 100 38116 Braunschweig
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Note: The current certificate annex is published on the website (link see below) of the Accreditation Body DAkkS or may be received by CTC advanced GmbH on request

<http://www.dakks.de/as/ast/d/D-PL-12076-01-03.pdf>