

12.9 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 7.1 – A See sub clause 7.2 – A See sub clause 7.3 – A
Measurement uncertainty:	See sub clause 9

Limits:

TX Spurious Emissions Radiated		
§15.209		
Frequency (MHz)	Field Strength (dB μ V/m)	Measurement distance
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: BPSK Antenna A

TX Spurious Emissions Radiated [dB μ V/m] / dBm								
5180 MHz			5210 MHz			5240 MHz		
F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]
All emission 10 dB below the dedicated limit. For further information please take a look at the plots.			All emission 10 dB below the dedicated limit. For further information please take a look at the plots.			All emission 10 dB below the dedicated limit. For further information please take a look at the plots.		
	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 [dB μ V/m] / dBm								
5736 MHz			5762 MHz			5814 MHz		
F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]
All emission 10 dB below the dedicated limit. For further information please take a look at the plots.			All emission 10 dB below the dedicated limit. For further information please take a look at the plots.			All emission 10 dB below the dedicated limit. For further information please take a look at the plots.		
	Peak			Peak			Peak	
	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.		

Results: BPSK Antenna B

TX Spurious Emissions Radiated [dB μ V/m] / dBm								
5180 MHz			5210 MHz			5240 MHz		
F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]
All emission 10 dB below the dedicated limit. For further information please take a look at the plots.			All emission 10 dB below the dedicated limit. For further information please take a look at the plots.			All emission 10 dB below the dedicated limit. For further information please take a look at the plots.		
	Peak			Peak			Peak	
	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 [dB μ V/m] / dBm								
5736 MHz			5762 MHz			5814 MHz		
F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]
All emission 10 dB below the dedicated limit. For further information please take a look at the plots.			All emission 10 dB below the dedicated limit. For further information please take a look at the plots.			All emission 10 dB below the dedicated limit. For further information please take a look at the plots.		
	Peak			Peak			Peak	
	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.		

Results: QPSK Antenna A

TX Spurious Emissions Radiated [dB μ V/m] / dBm								
5180 MHz			5210 MHz			5240 MHz		
F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]
All emission 10 dB below the dedicated limit. For further information please take a look at the plots.			All emission 10 dB below the dedicated limit. For further information please take a look at the plots.			All emission 10 dB below the dedicated limit. For further information please take a look at the plots.		
	Peak			Peak			Peak	
	AVG			AVG			AVG	

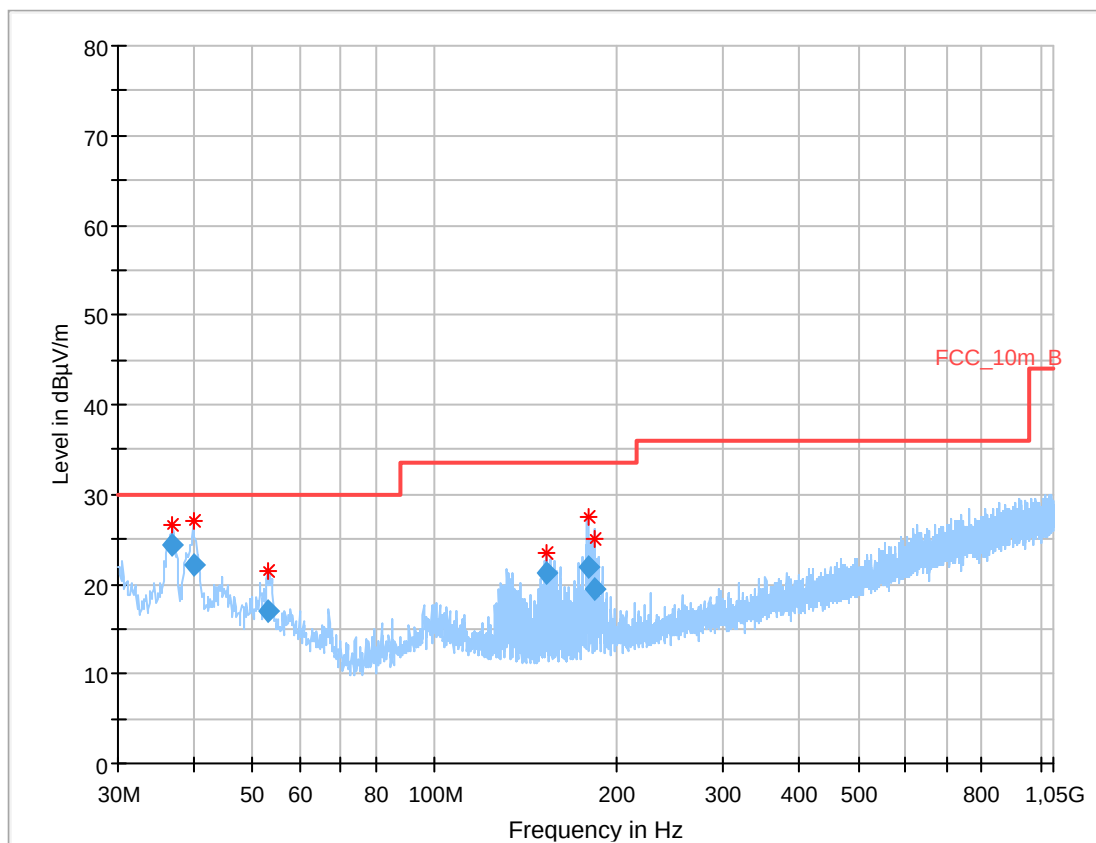
TX Spurious Emissions Radiated [dB μ V/m] / dBm								
5736 MHz			5762 MHz			5814 MHz		
F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]
All emission 10 dB below the dedicated limit. For further information please take a look at the plots.			All emission 10 dB below the dedicated limit. For further information please take a look at the plots.			All emission 10 dB below the dedicated limit. For further information please take a look at the plots.		
	Peak			Peak			Peak	
	AVG			AVG			AVG	

Results: QPSK Antenna B

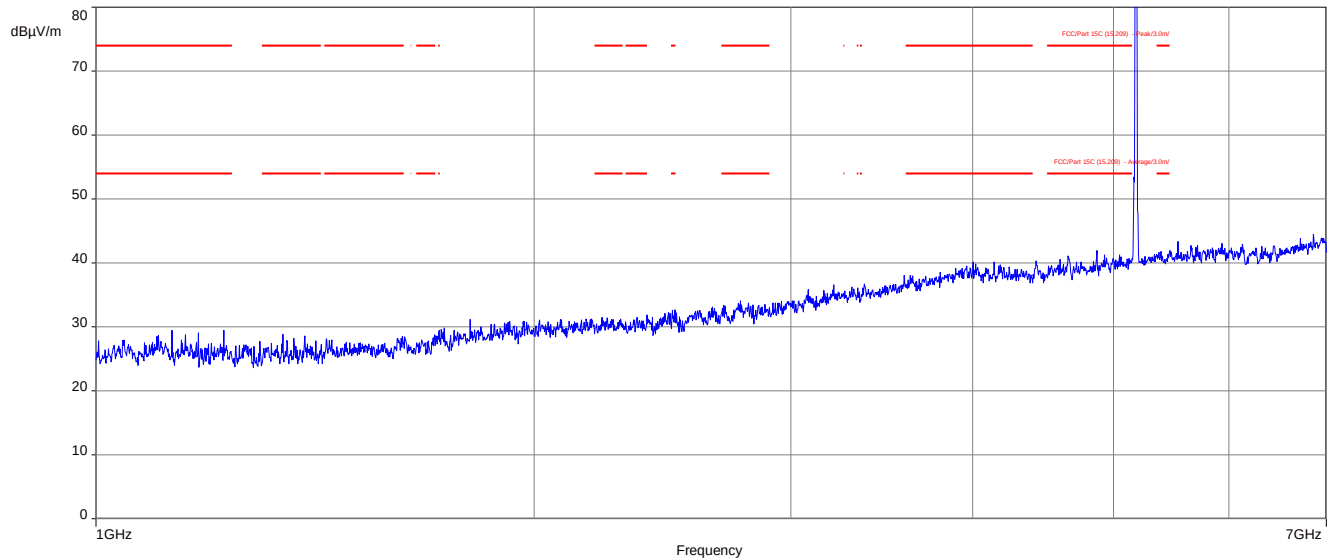
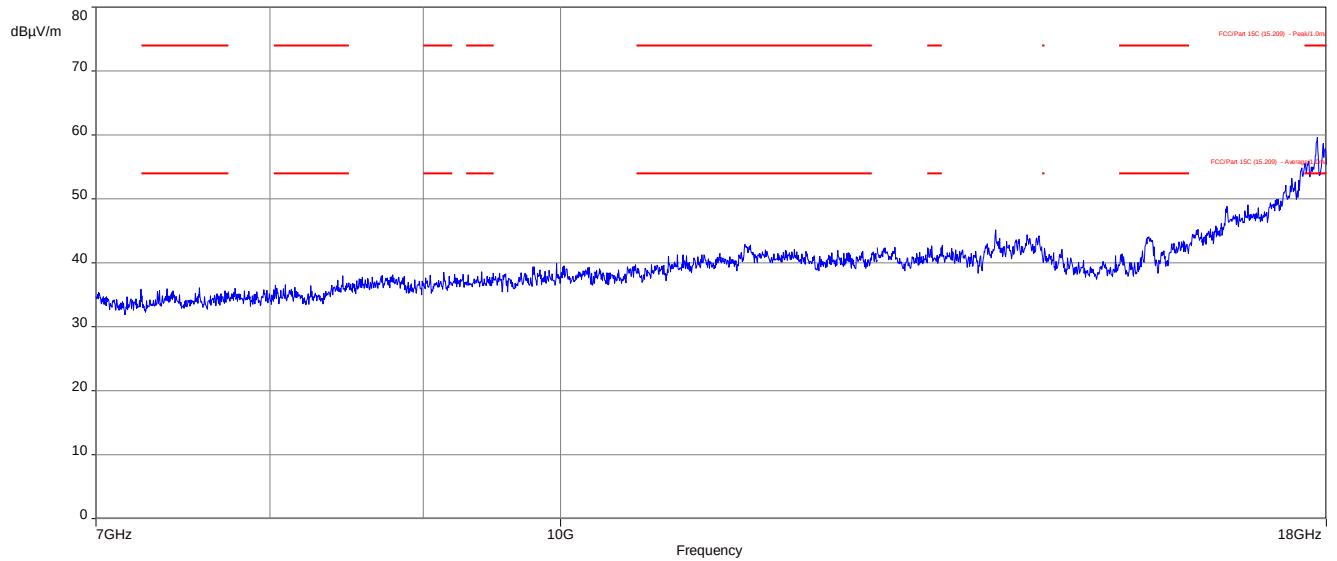
TX Spurious Emissions Radiated [dB μ V/m] / dBm								
5180 MHz			5210 MHz			5240 MHz		
F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]
All emission 10 dB below the dedicated limit. For further information please take a look at the plots.			All emission 10 dB below the dedicated limit. For further information please take a look at the plots.			All emission 10 dB below the dedicated limit. For further information please take a look at the plots.		
	Peak			Peak			Peak	
	AVG			AVG			AVG	

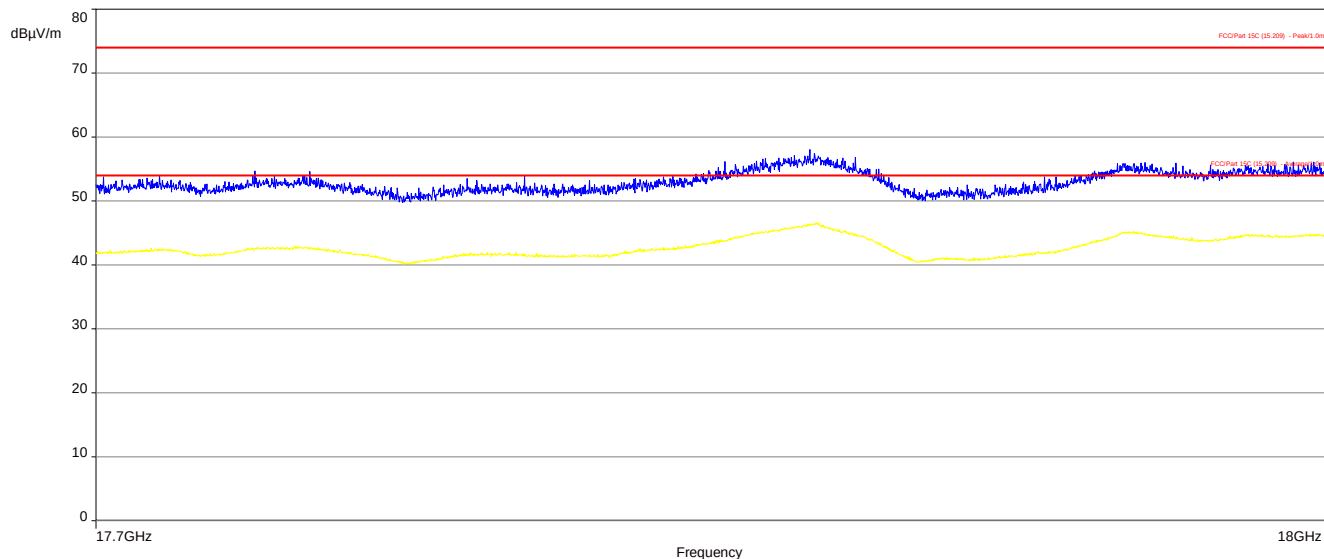
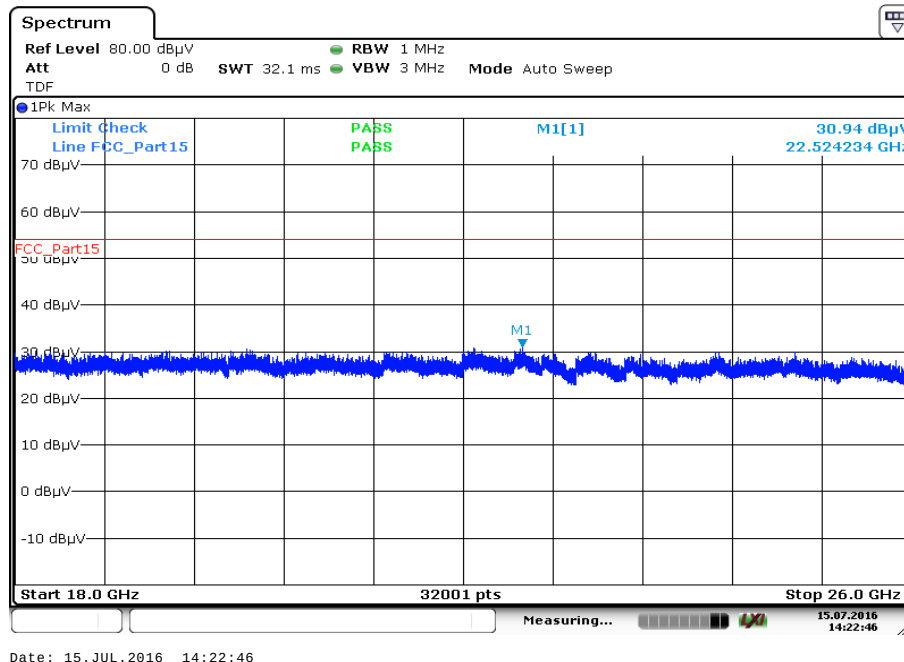
TX Spurious Emissions Radiated [dB μ V/m] / dBm								
5736 MHz			5762 MHz			5814 MHz		
F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]
All emission 10 dB below the dedicated limit. For further information please take a look at the plots.			All emission 10 dB below the dedicated limit. For further information please take a look at the plots.			All emission 10 dB below the dedicated limit. For further information please take a look at the plots.		
	Peak			Peak			Peak	
	AVG			AVG			AVG	

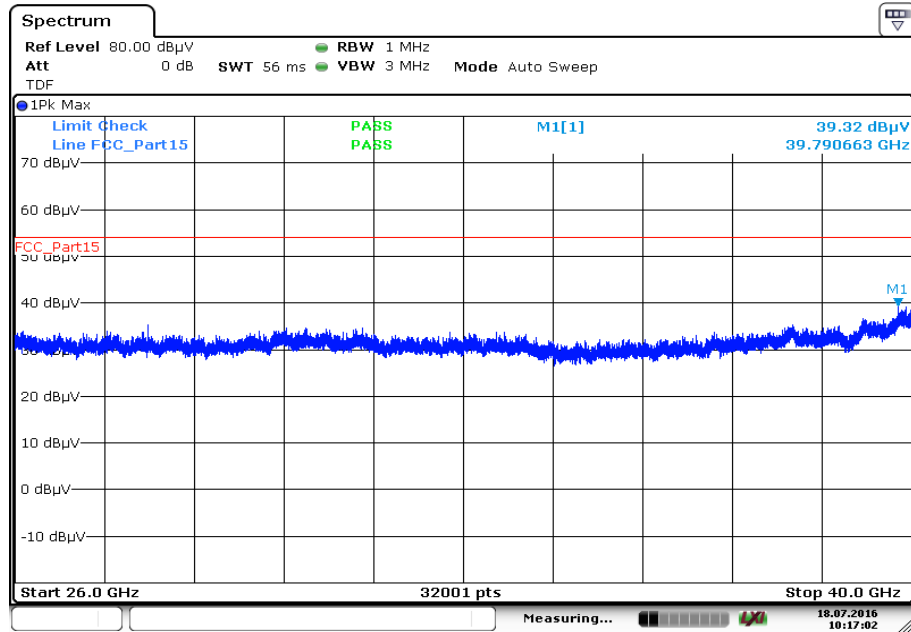
Plots: BPSK Antenna A

Plot 1: 30 MHz to 1 GHz, 5180 MHz, vertical & horizontal polarization

Final Result

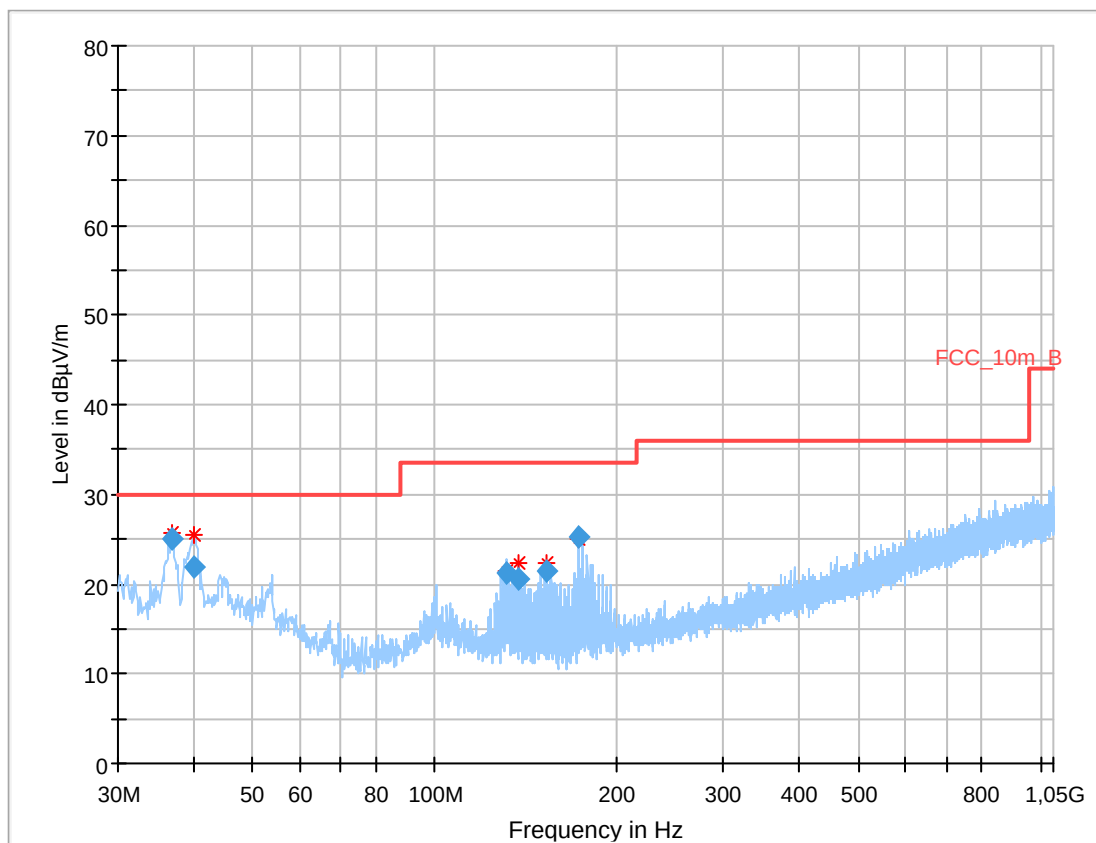
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
36.774600	24.42	30.00	5.58	1000.0	120.000	101.0	V	10.0	13.9
39.984900	22.09	30.00	7.91	1000.0	120.000	170.0	V	10.0	14.0
52.948500	16.88	30.00	13.12	1000.0	120.000	101.0	V	-10.0	12.2
152.811900	21.20	33.50	12.30	1000.0	120.000	98.0	V	170.0	8.9
178.905900	21.84	33.50	11.66	1000.0	120.000	98.0	V	260.0	10.3
183.856500	19.41	33.50	14.09	1000.0	120.000	98.0	V	260.0	10.6

Plot 2: 1 GHz to 7 GHz, 5180 MHz, vertical & horizontal polarization**Plot 3:** 7 GHz to 18 GHz, 5180 MHz, vertical & horizontal polarization

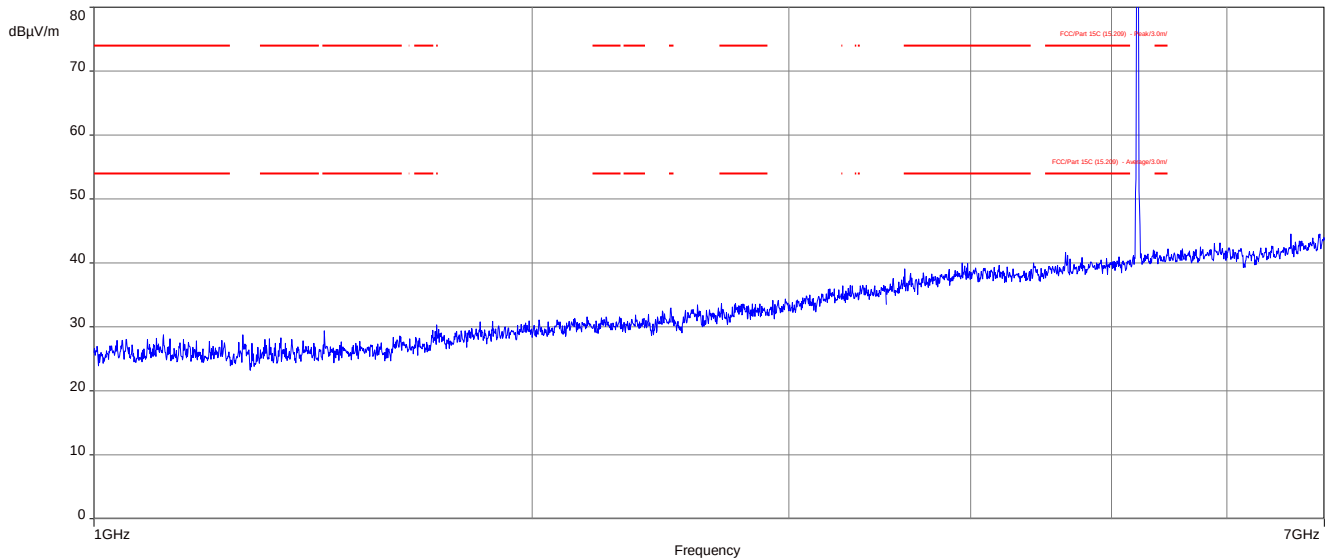
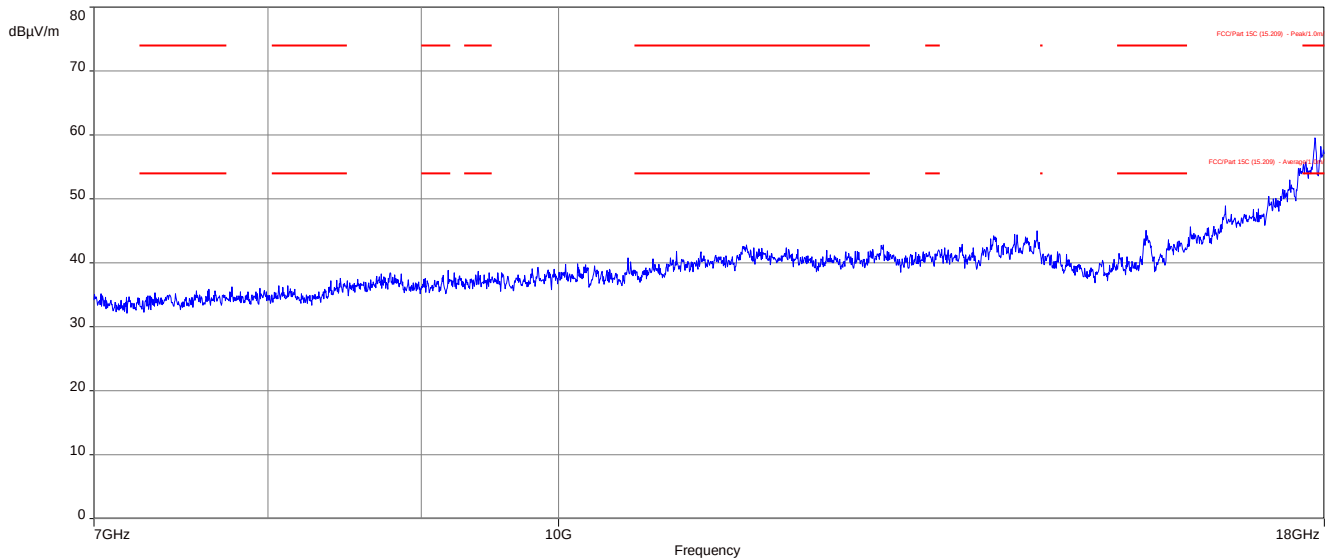
Plot 4: 17.7 GHz to 18 GHz, 5180 MHz, vertical & horizontal polarization**Plot 5:** 18 GHz to 26 GHz, 5180 MHz, vertical & horizontal polarization

Plot 6: 26 GHz to 40 GHz, 5180 MHz, vertical & horizontal polarization

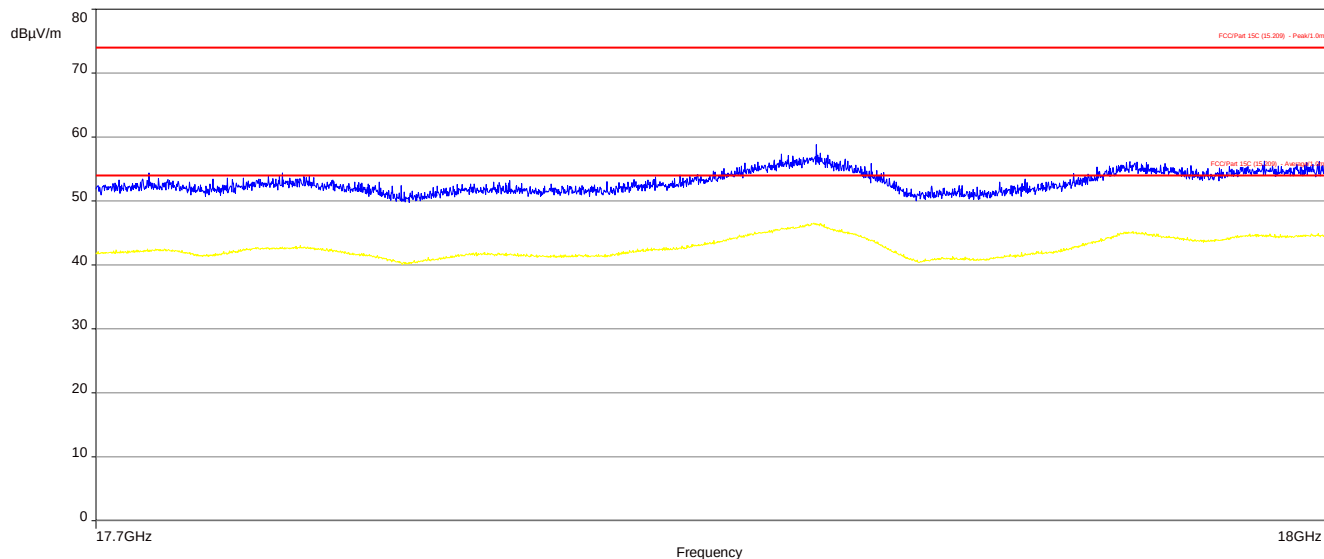
Date: 18.JUL.2016 10:17:02

Plot 7: 30 MHz to 1 GHz, 5210 MHz, vertical & horizontal polarization**Final Result**

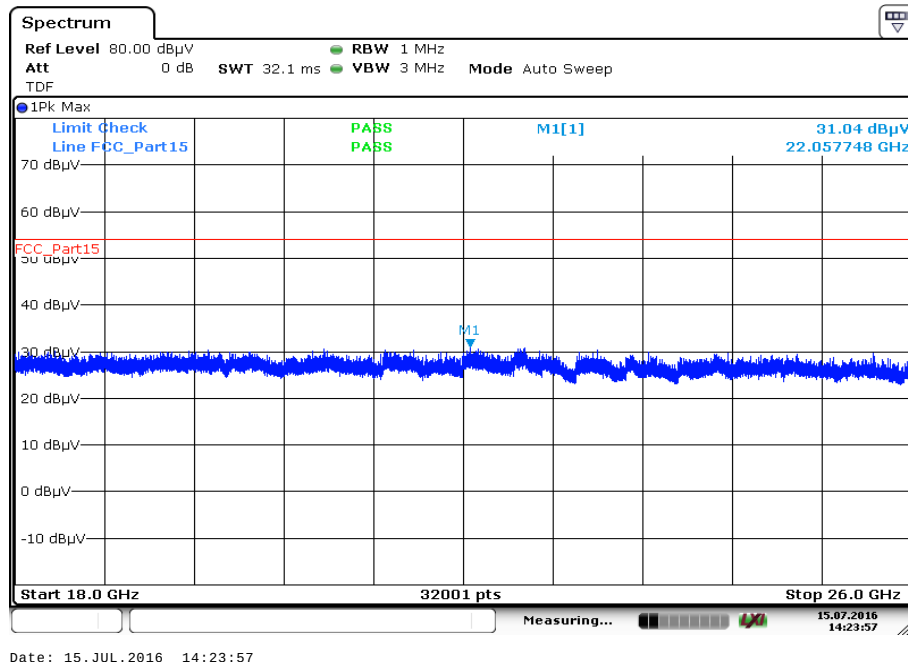
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
36.847200	24.95	30.00	5.05	1000.0	120.000	98.0	V	10.0	13.9
39.955500	21.85	30.00	8.15	1000.0	120.000	101.0	V	261.0	14.0
131.871750	21.25	33.50	12.25	1000.0	120.000	170.0	V	280.0	9.3
137.862600	20.54	33.50	12.96	1000.0	120.000	170.0	V	280.0	8.8
152.873400	21.48	33.50	12.02	1000.0	120.000	98.0	V	190.0	8.9
172.864500	25.23	33.50	8.27	1000.0	120.000	98.0	V	260.0	9.9

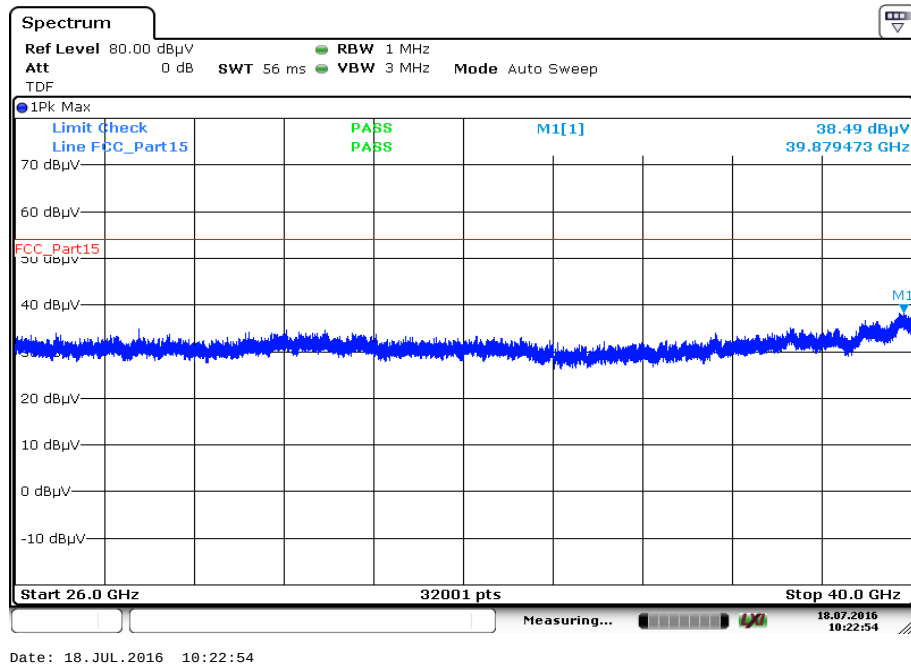
Plot 8: 1 GHz to 7 GHz, 5210 MHz, vertical & horizontal polarization**Plot 9:** 7 GHz to 18 GHz, 5210 MHz, vertical & horizontal polarization

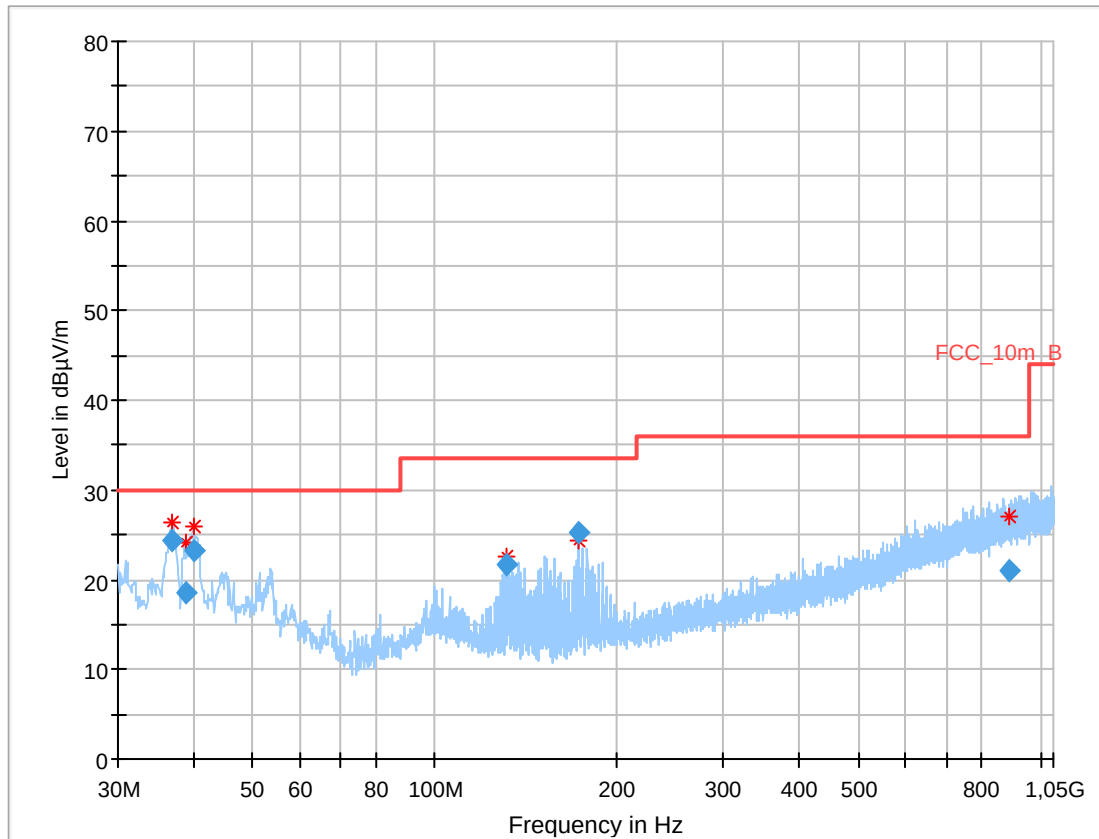
Plot 10: 17.7 GHz to 18 GHz, 5210 MHz, vertical & horizontal polarization



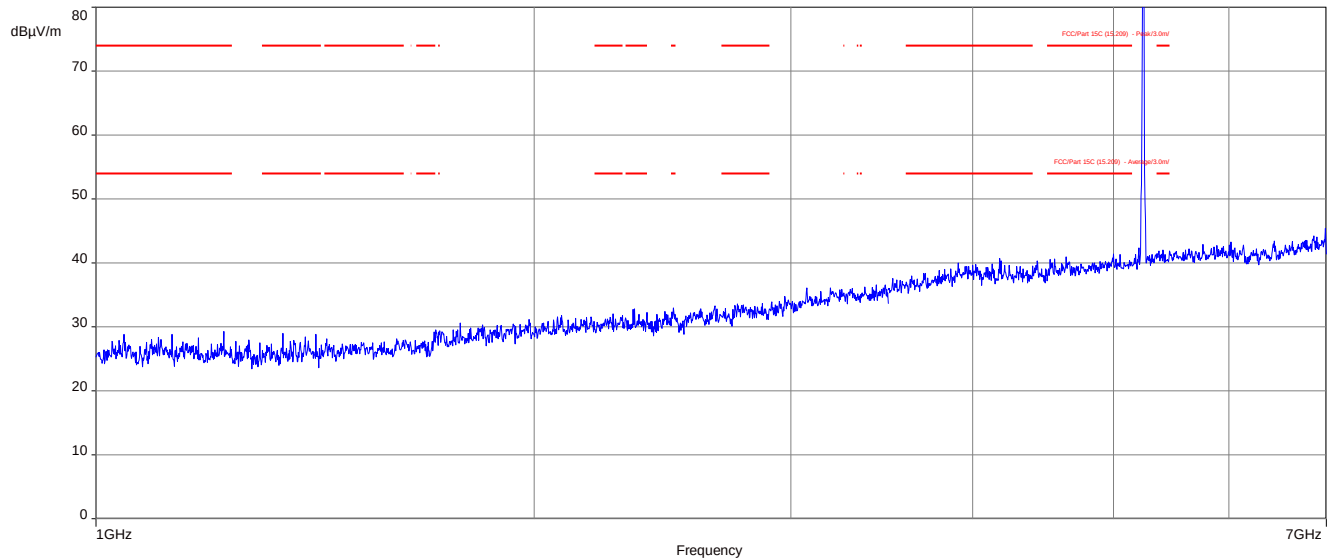
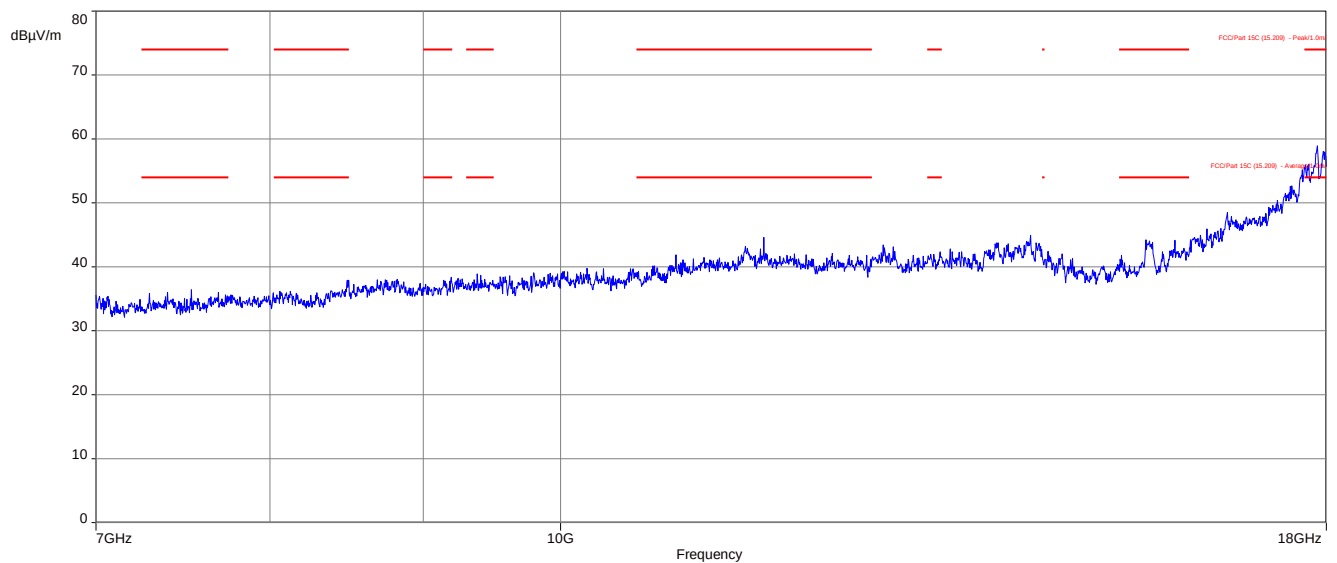
Plot 11: 18 GHz to 26 GHz, 5210 MHz, vertical & horizontal polarization

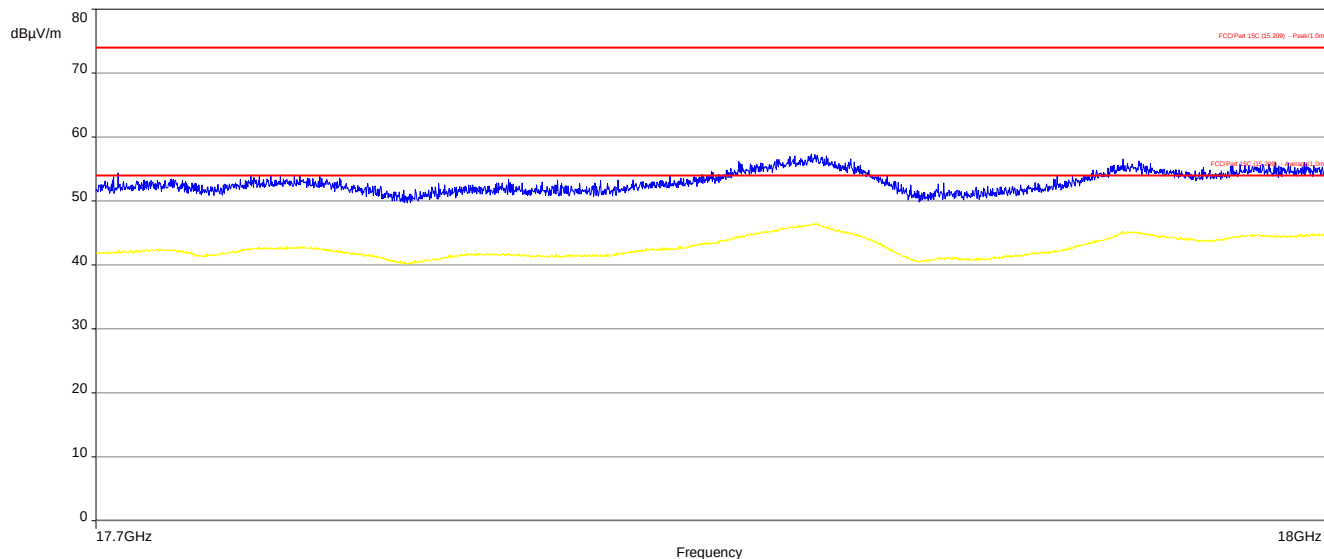
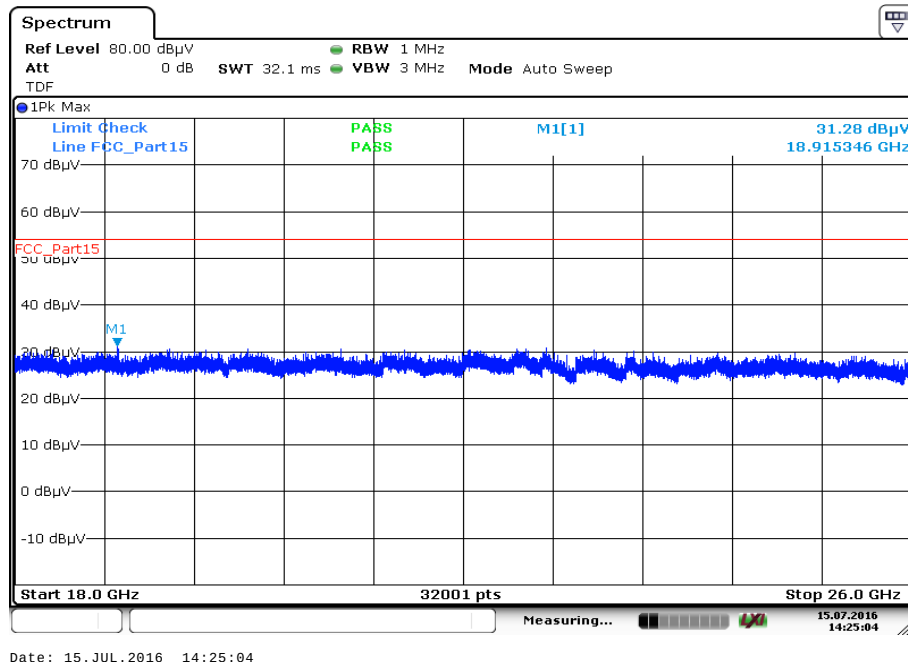


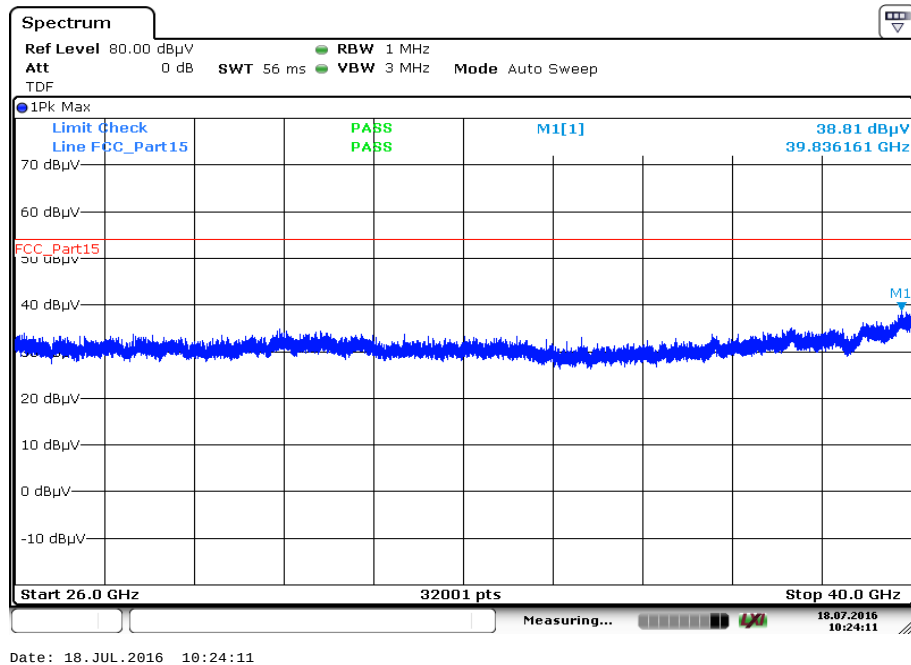
Plot 12: 26 GHz to 40 GHz, 5210 MHz, vertical & horizontal polarization

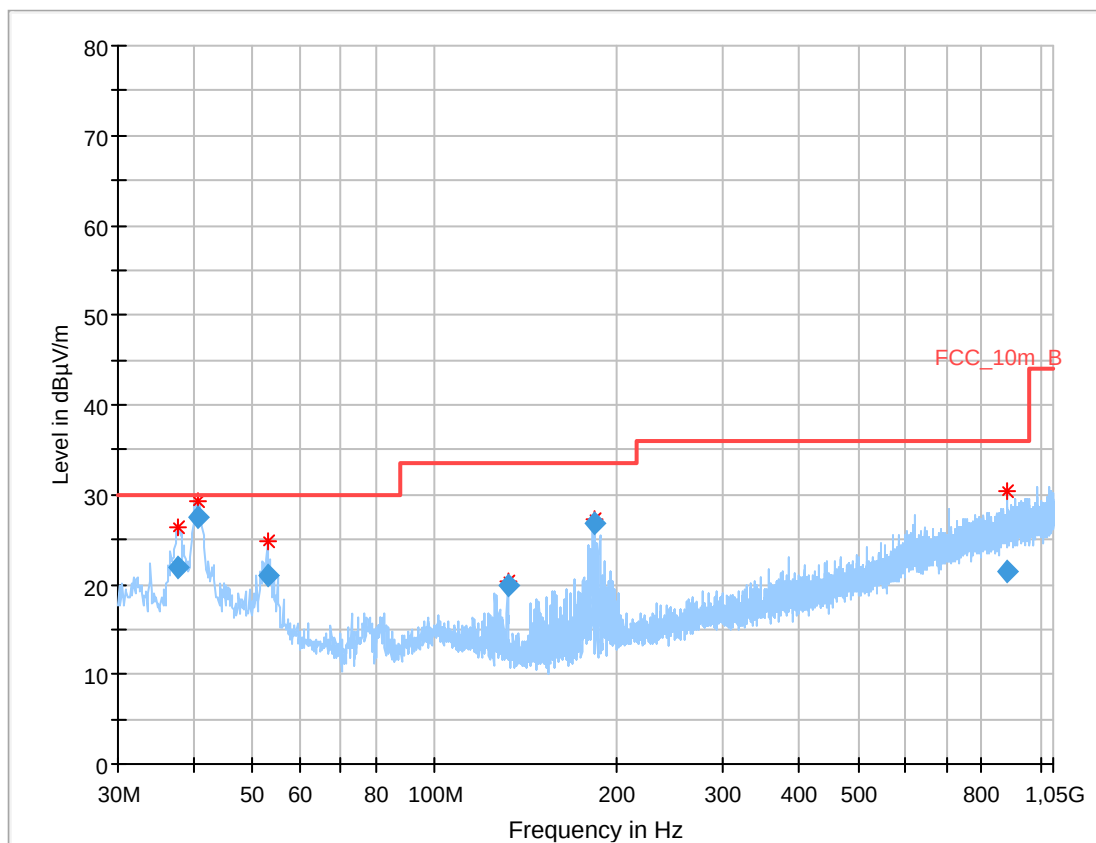
Plot 13: 30 MHz to 1 GHz, 5240 MHz, vertical & horizontal polarization**Final Result**

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
36.908400	24.44	30.00	5.56	1000.0	120.000	101.0	V	10.0	13.9
38.919450	18.61	30.00	11.39	1000.0	120.000	101.0	V	280.0	14.0
40.128000	23.16	30.00	6.84	1000.0	120.000	101.0	V	10.0	14.0
131.886300	21.60	33.50	11.90	1000.0	120.000	101.0	V	280.0	9.3
172.839900	25.26	33.50	8.24	1000.0	120.000	98.0	V	260.0	9.9
886.844700	21.11	36.00	14.89	1000.0	120.000	98.0	V	261.0	23.9

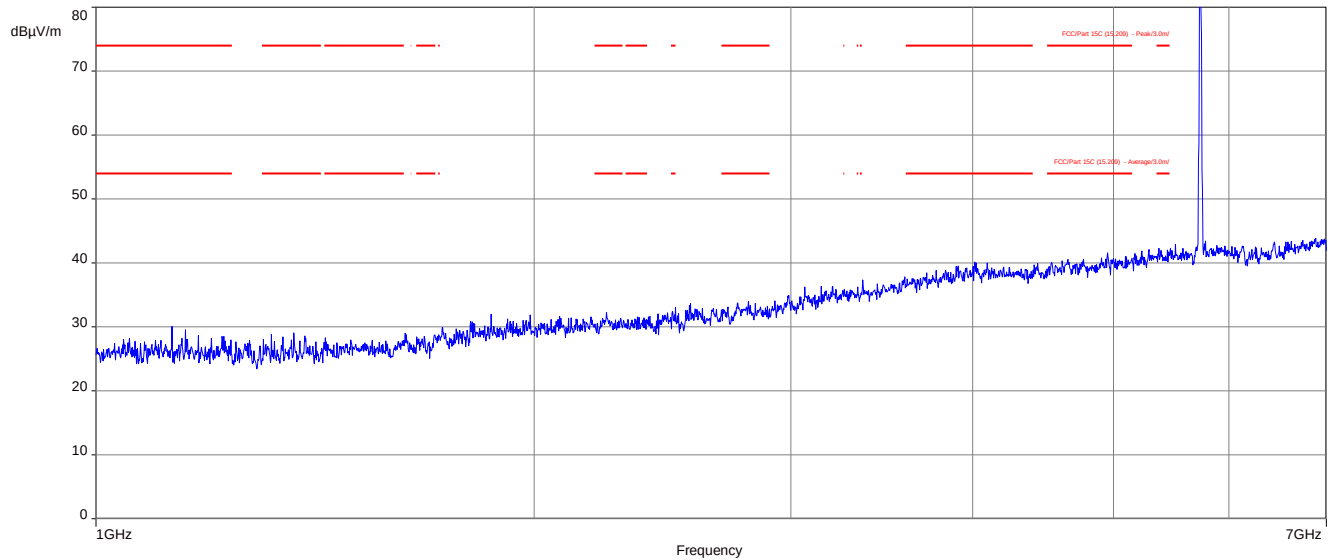
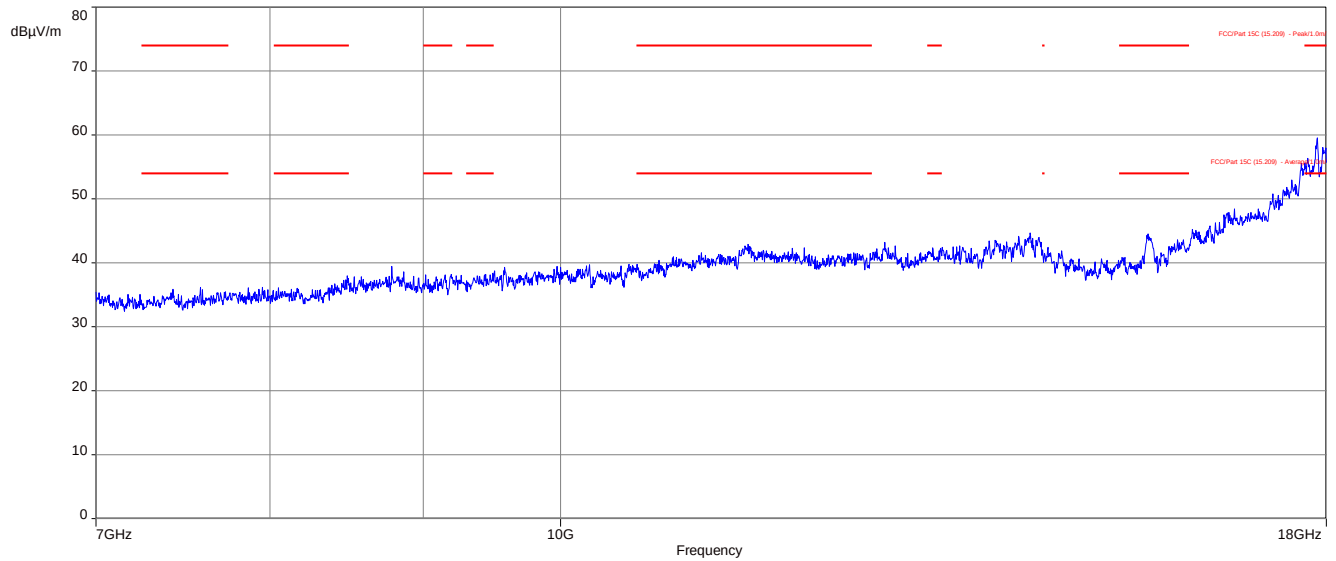
Plot 14: 1 GHz to 7 GHz, 5240 MHz, vertical & horizontal polarization**Plot 15:** 7 GHz to 18 GHz, 5240 MHz, vertical & horizontal polarization

Plot 16: 17.7 GHz to 18 GHz, 5240 MHz, vertical & horizontal polarization**Plot 17:** 18 GHz to 26 GHz, 5240 MHz, vertical & horizontal polarization

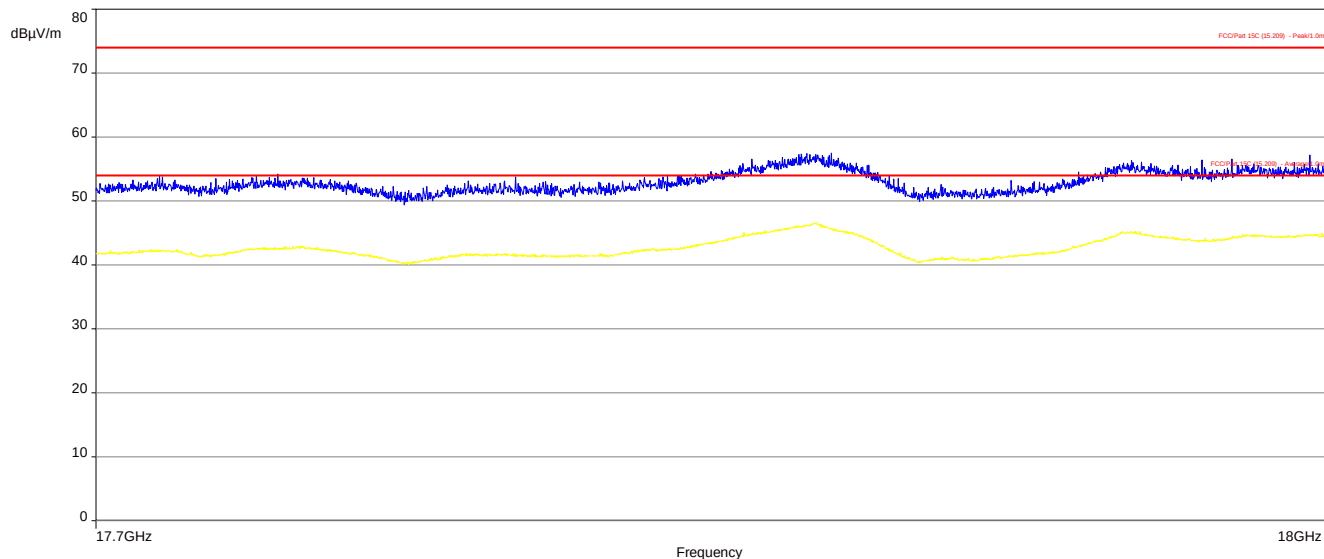
Plot 18: 26 GHz to 40 GHz, 5240 MHz, vertical & horizontal polarization

Plot 19: 30 MHz to 1 GHz, 5736 MHz, vertical & horizontal polarization**Final Result**

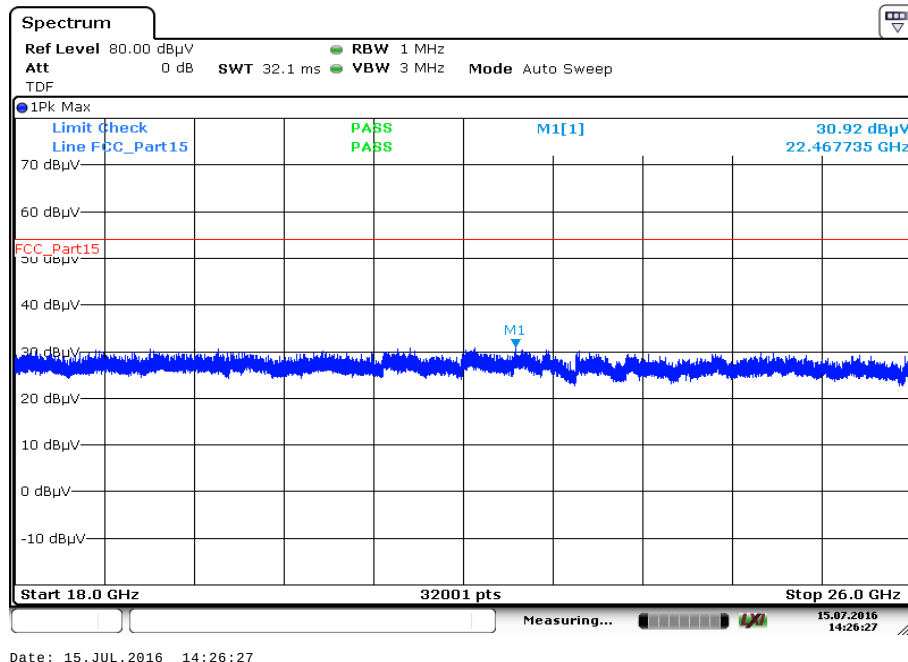
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
37.661400	22.01	30.00	7.99	1000.0	120.000	170.0	V	100.0	13.9
40.583700	27.49	30.00	2.51	1000.0	120.000	101.0	V	10.0	14.0
52.988850	20.90	30.00	9.10	1000.0	120.000	101.0	V	-10.0	12.2
131.997450	19.99	33.50	13.51	1000.0	120.000	98.0	V	80.0	9.3
184.248900	26.71	33.50	6.79	1000.0	120.000	98.0	V	260.0	10.7
882.302850	21.35	36.00	14.65	1000.0	120.000	98.0	H	10.0	23.9

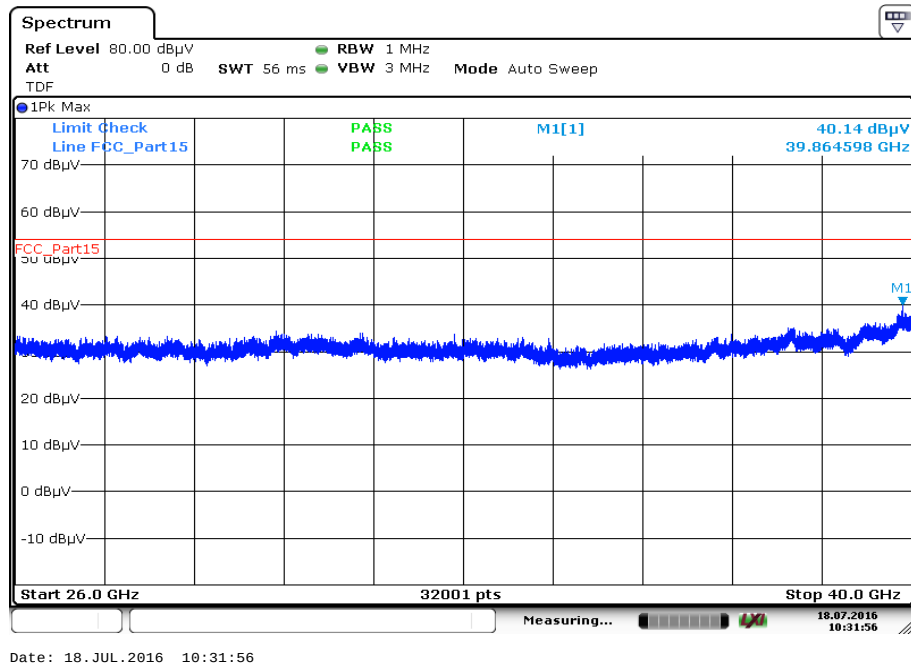
Plot 20: 1 GHz to 7 GHz, 5736 MHz, vertical & horizontal polarization**Plot 21:** 7 GHz to 18 GHz, 5736 MHz, vertical & horizontal polarization

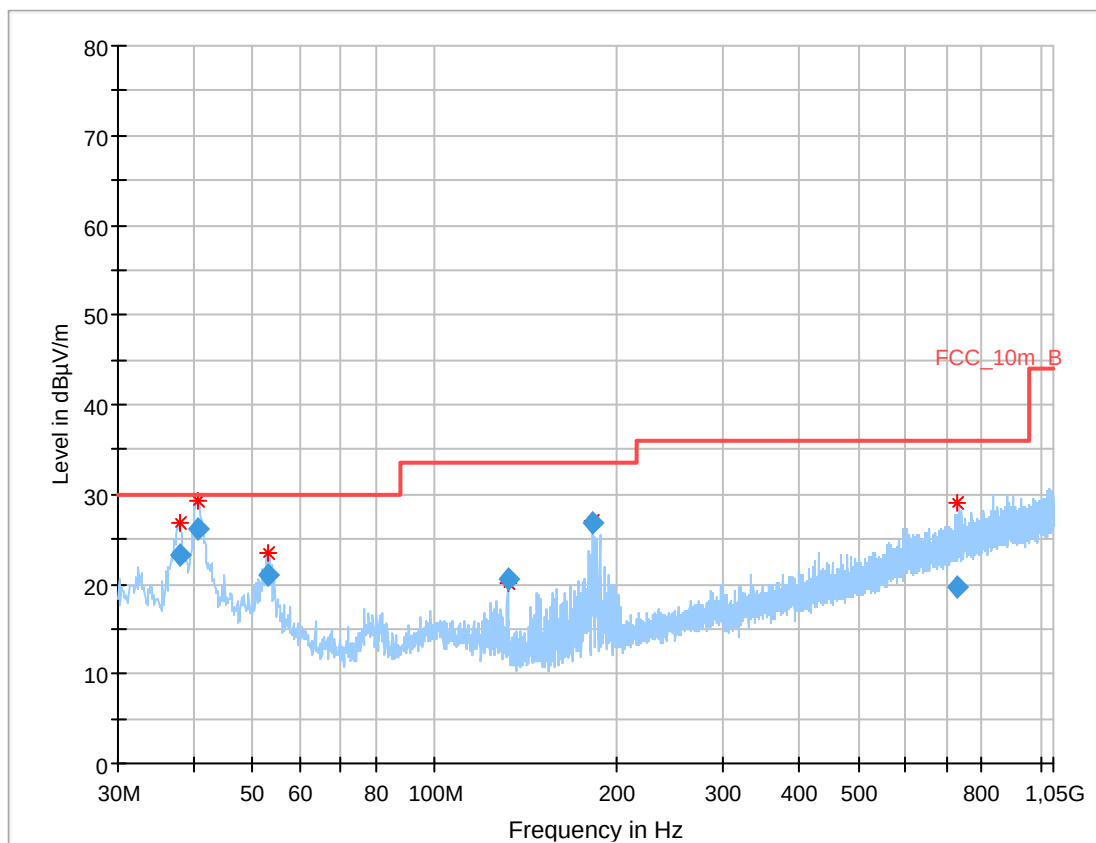
Plot 22: 17.7 GHz to 18 GHz, 5736 MHz, vertical & horizontal polarization



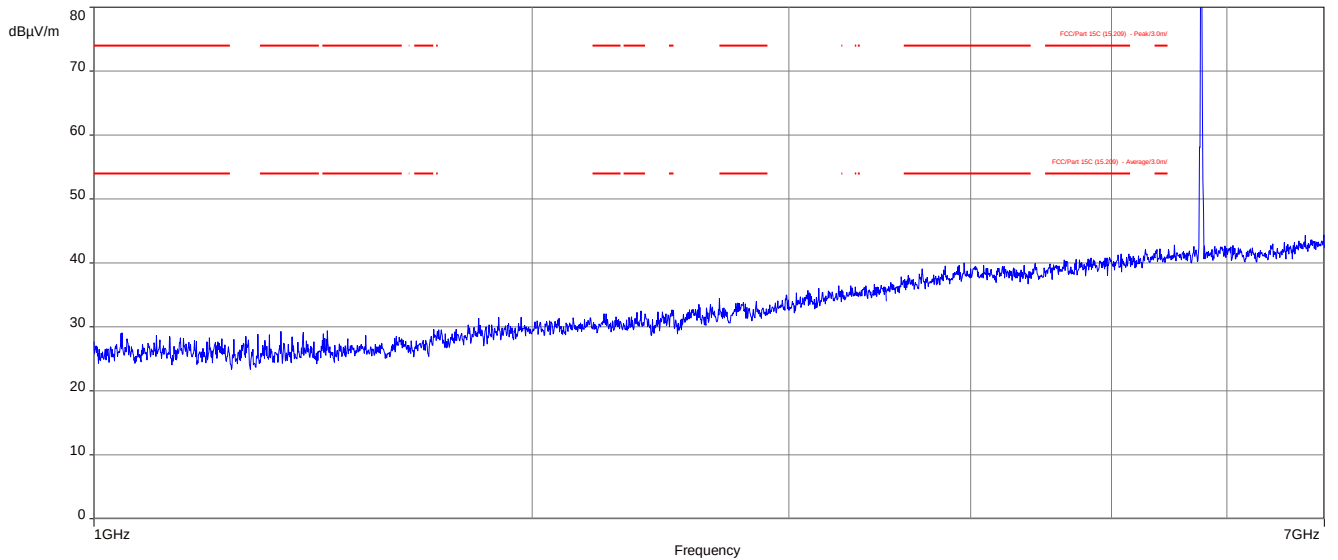
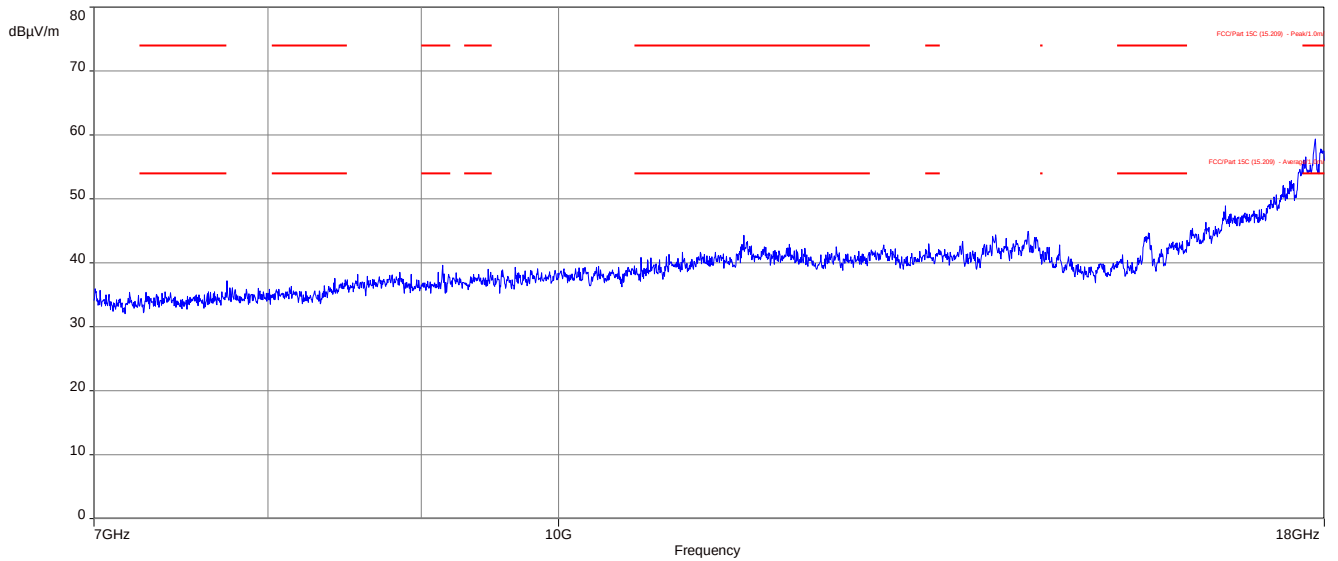
Plot 23: 18 GHz to 26 GHz, 5736 MHz, vertical & horizontal polarization



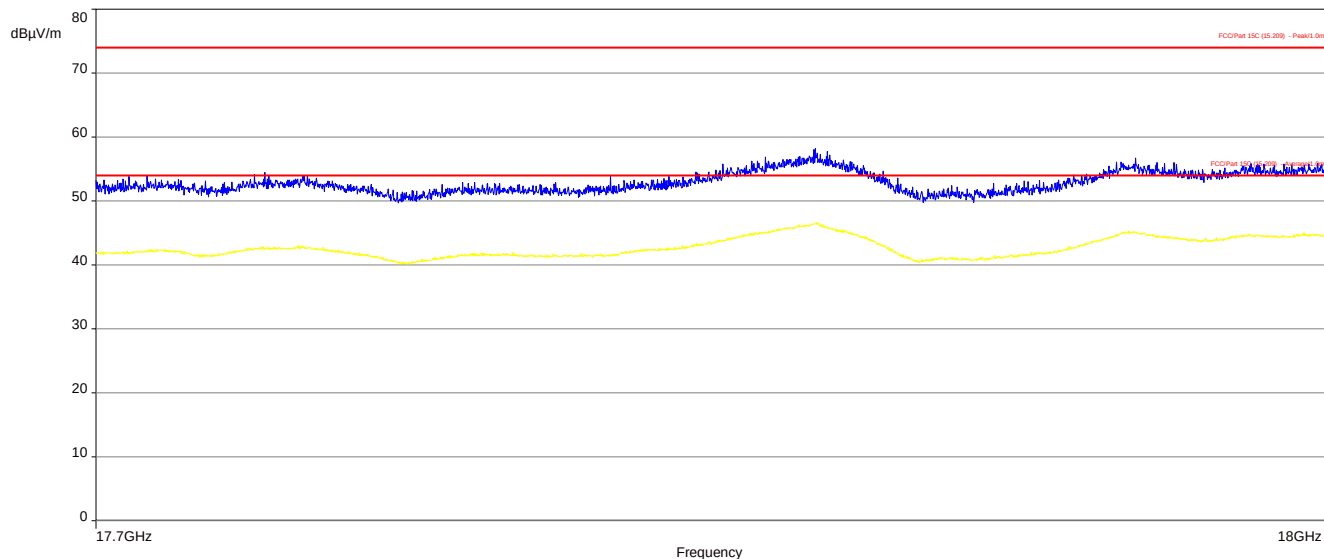
Plot 24: 26 GHz to 40 GHz, 5736 MHz, vertical & horizontal polarization

Plot 25: 30 MHz to 1 GHz, 5762 MHz, vertical & horizontal polarization**Final Result**

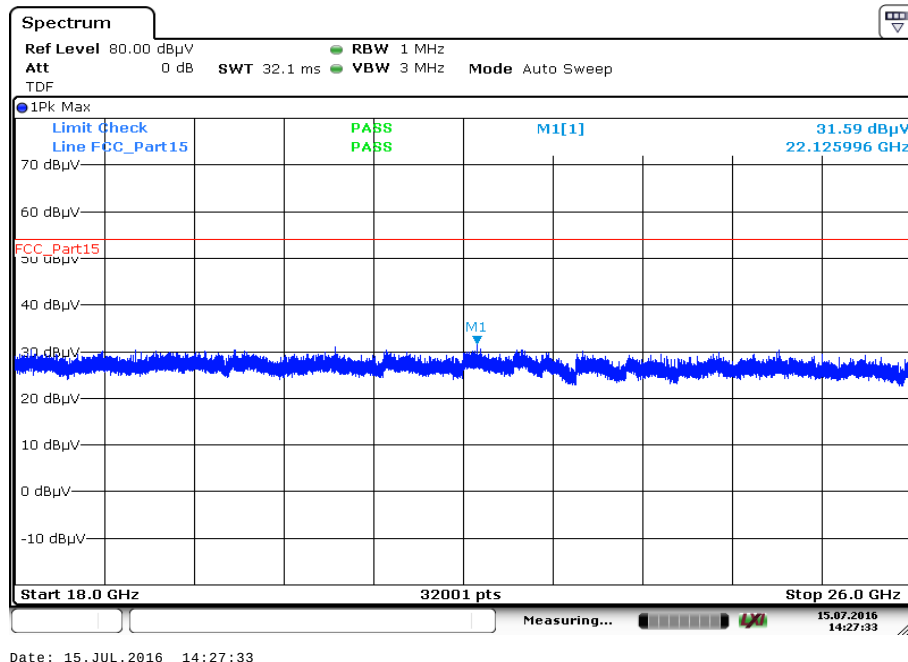
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
38.003700	23.29	30.00	6.71	1000.0	120.000	98.0	V	-10.0	13.9
40.805550	26.12	30.00	3.88	1000.0	120.000	100.0	V	100.0	14.0
52.965900	20.91	30.00	9.09	1000.0	120.000	98.0	V	-9.0	12.2
131.986050	20.51	33.50	12.99	1000.0	120.000	101.0	V	10.0	9.3
182.248200	26.74	33.50	6.76	1000.0	120.000	101.0	V	260.0	10.5
730.961700	19.68	36.00	16.32	1000.0	120.000	170.0	V	190.0	22.3

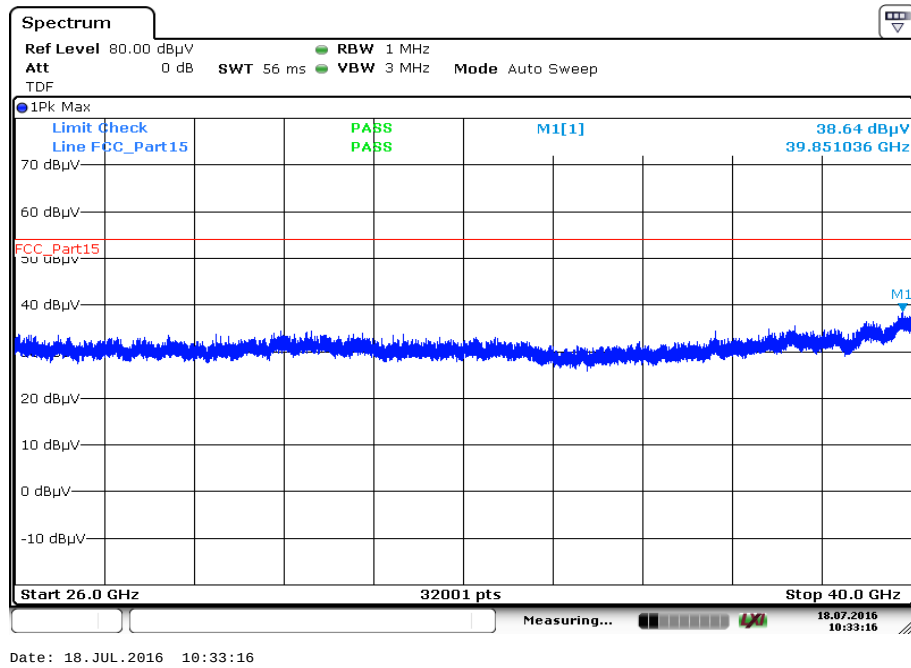
Plot 26: 1 GHz to 7 GHz, 5762 MHz, vertical & horizontal polarization**Plot 27:** 7 GHz to 18 GHz, 5762 MHz, vertical & horizontal polarization

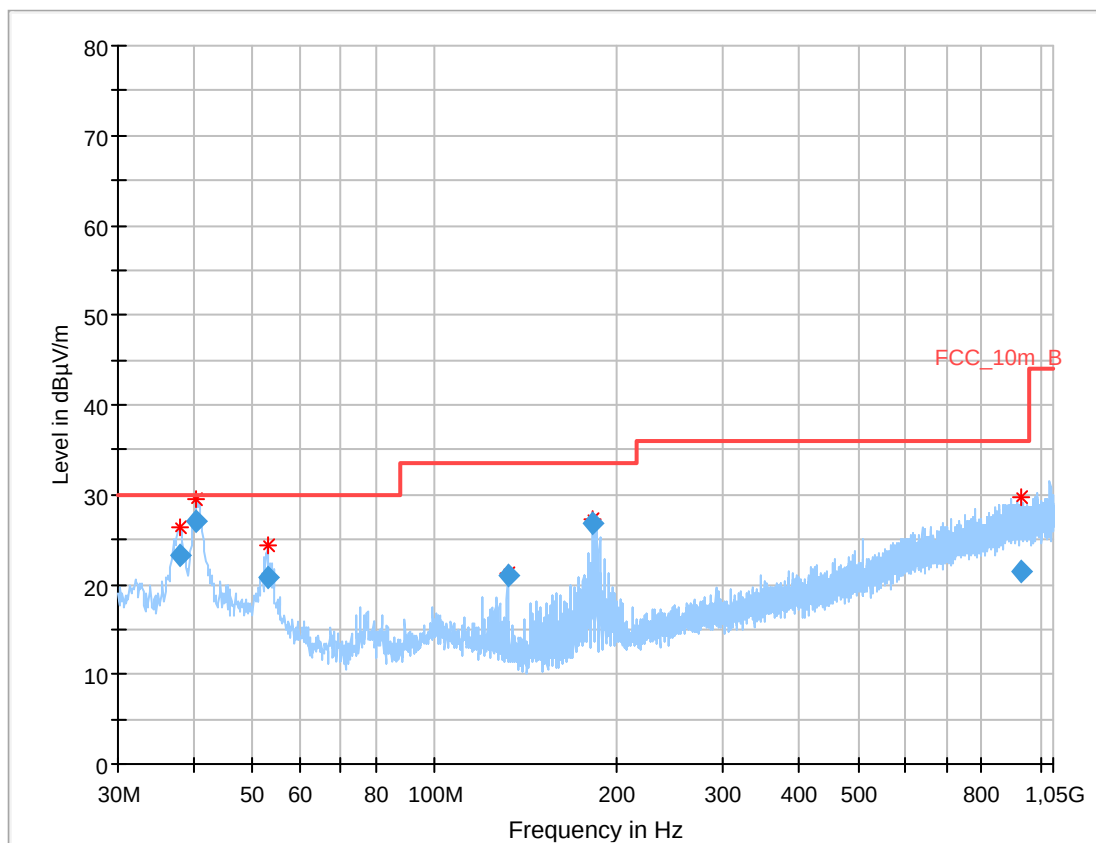
Plot 28: 17.7 GHz to 18 GHz, 5762 MHz, vertical & horizontal polarization



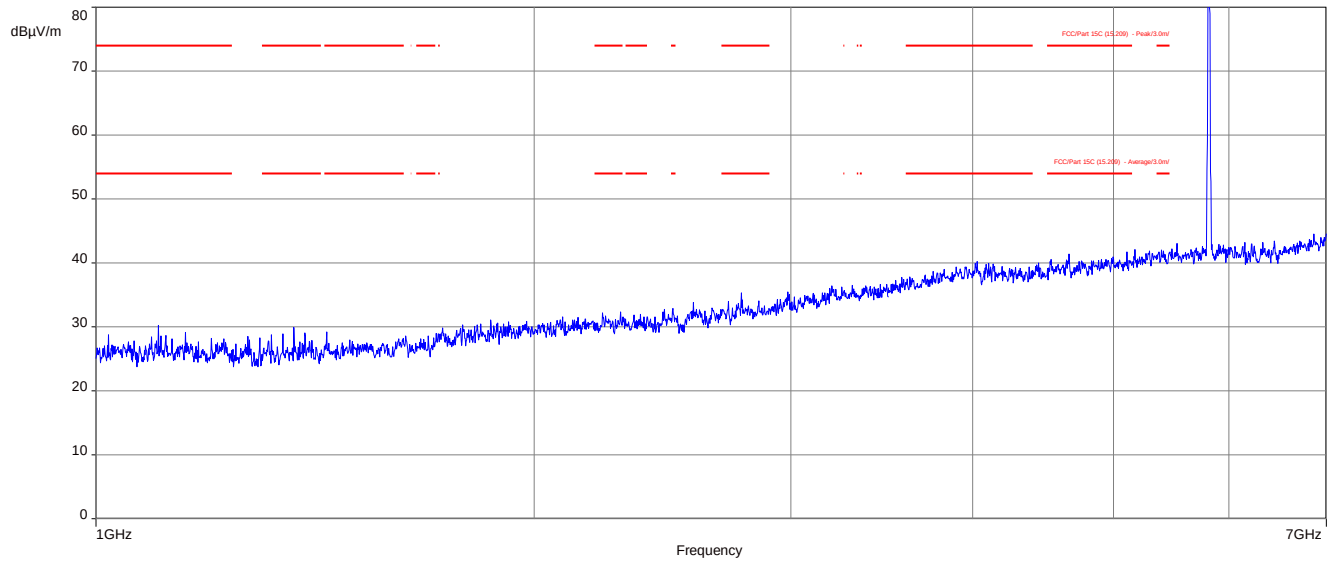
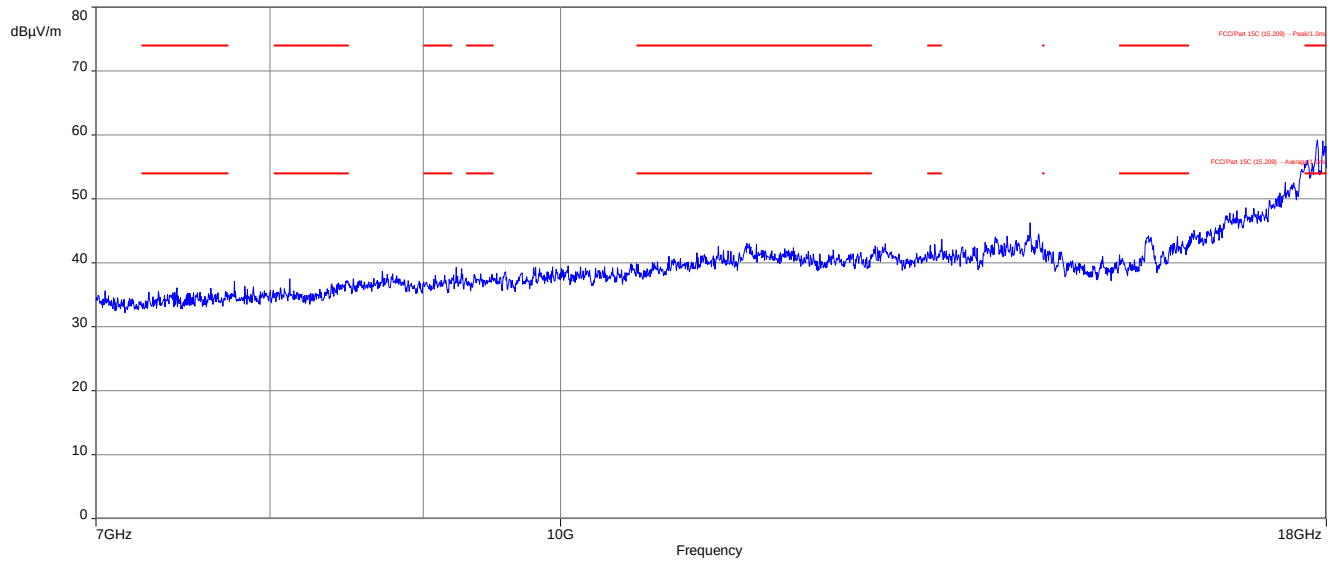
Plot 29: 18 GHz to 26 GHz, 5762 MHz, vertical & horizontal polarization



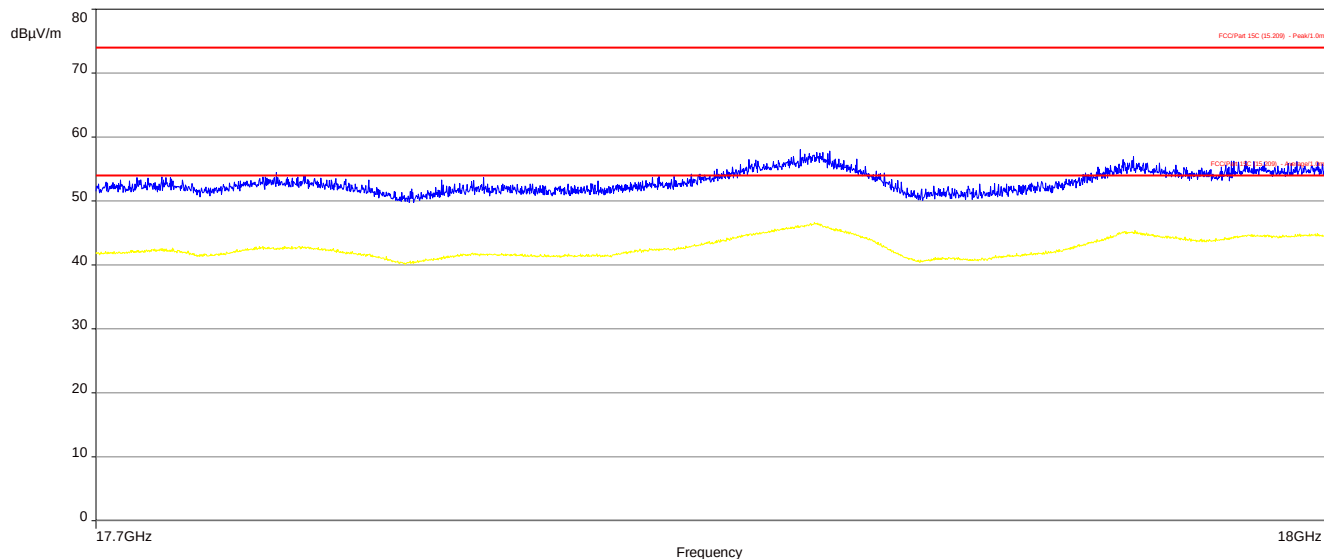
Plot 30: 26 GHz to 40 GHz, 5762 MHz, vertical & horizontal polarization

Plot 31: 30 MHz to 1 GHz, 5814 MHz, vertical & horizontal polarization**Final Result**

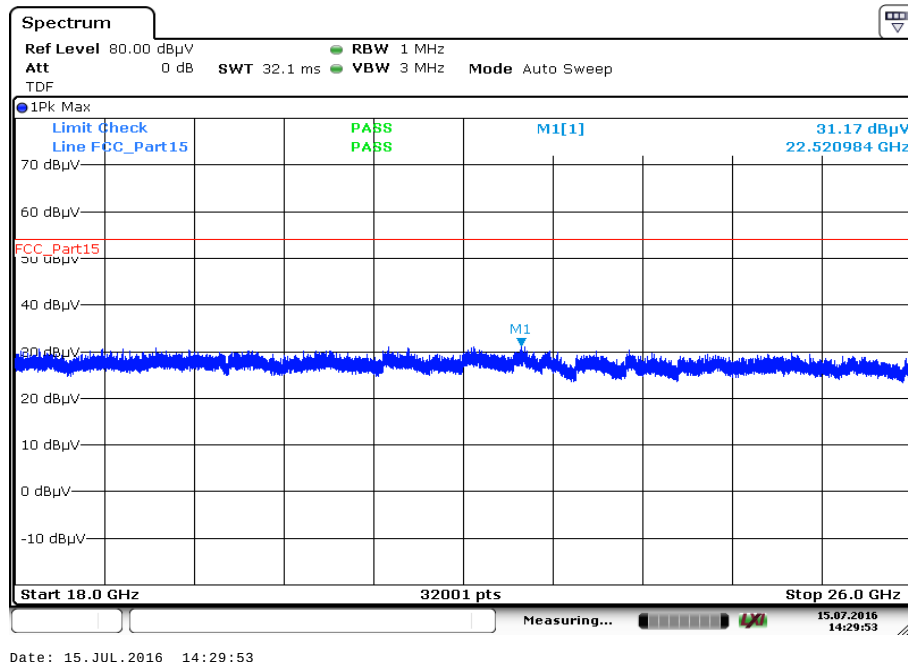
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
37.879200	23.25	30.00	6.75	1000.0	120.000	98.0	V	170.0	13.9
40.475700	26.96	30.00	3.04	1000.0	120.000	101.0	V	261.0	14.0
53.084700	20.84	30.00	9.16	1000.0	120.000	98.0	V	-9.0	12.1
132.005100	21.09	33.50	12.41	1000.0	120.000	98.0	V	81.0	9.3
182.212650	26.87	33.50	6.63	1000.0	120.000	98.0	V	260.0	10.5
929.447250	21.42	36.00	14.58	1000.0	120.000	170.0	H	261.0	24.2

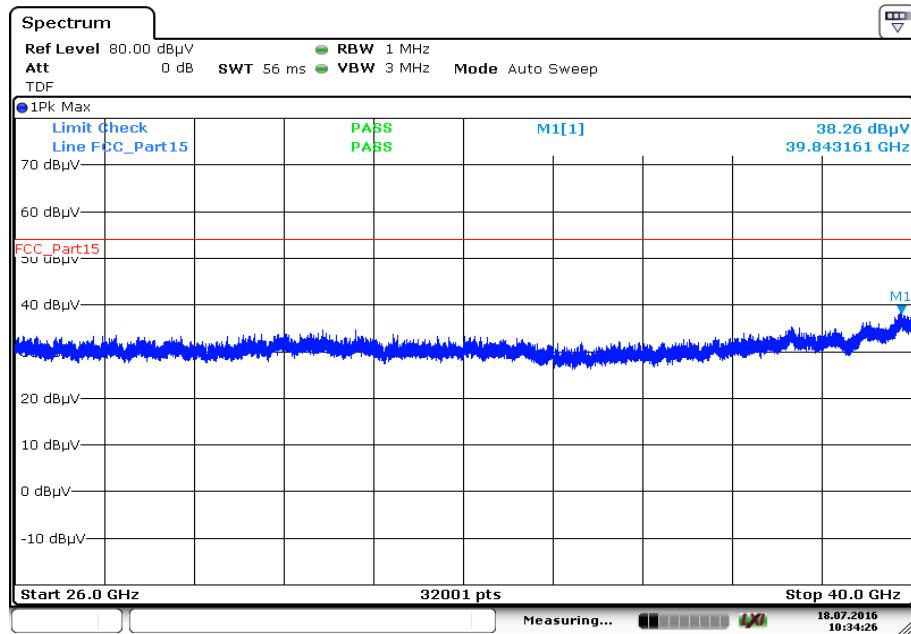
Plot 32: 1 GHz to 7 GHz, 5814 MHz, vertical & horizontal polarization**Plot 33:** 7 GHz to 18 GHz, 5814 MHz, vertical & horizontal polarization

Plot 34: 17.7 GHz to 18 GHz, 5814 MHz, vertical & horizontal polarization



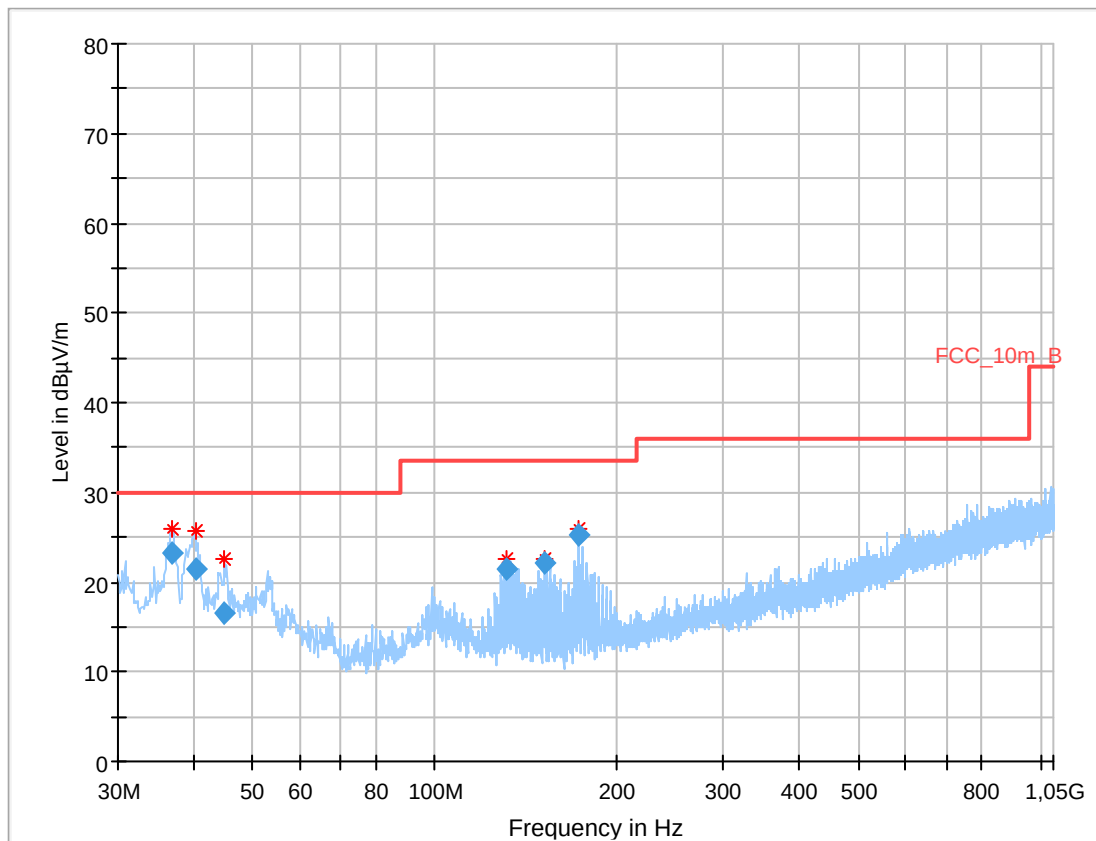
Plot 35: 18 GHz to 26 GHz, 5814 MHz, vertical & horizontal polarization



Plot 36: 26 GHz to 40 GHz, 5814 MHz, vertical & horizontal polarization

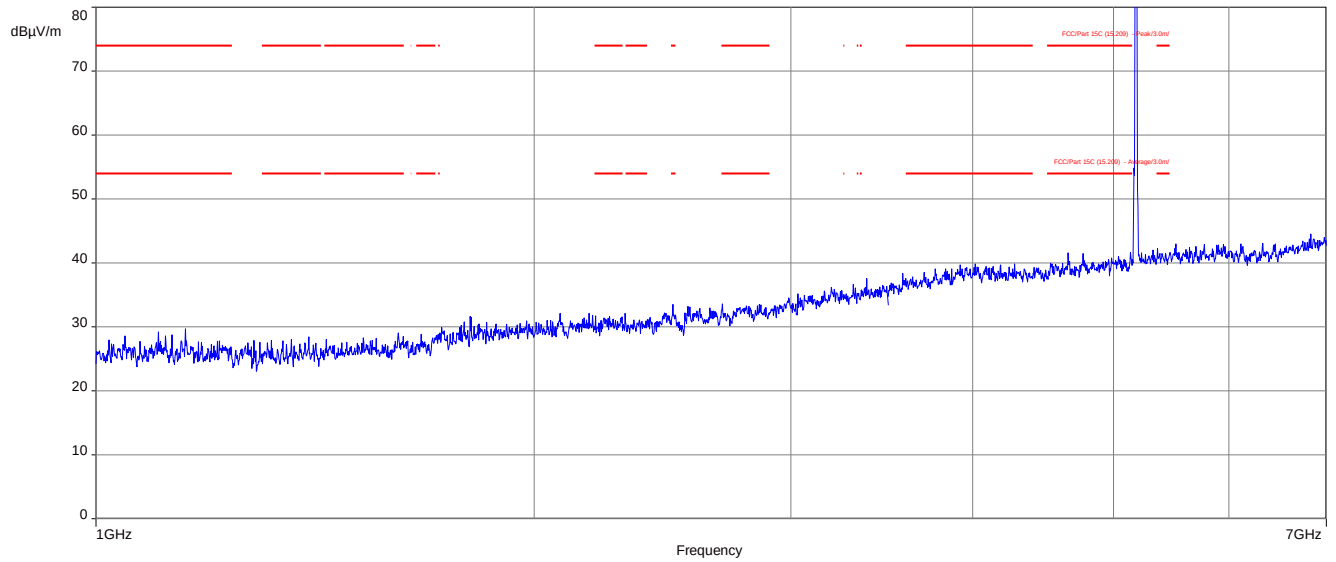
Date: 18.JUL.2016 10:34:26

Plots: BPSK Antenna B

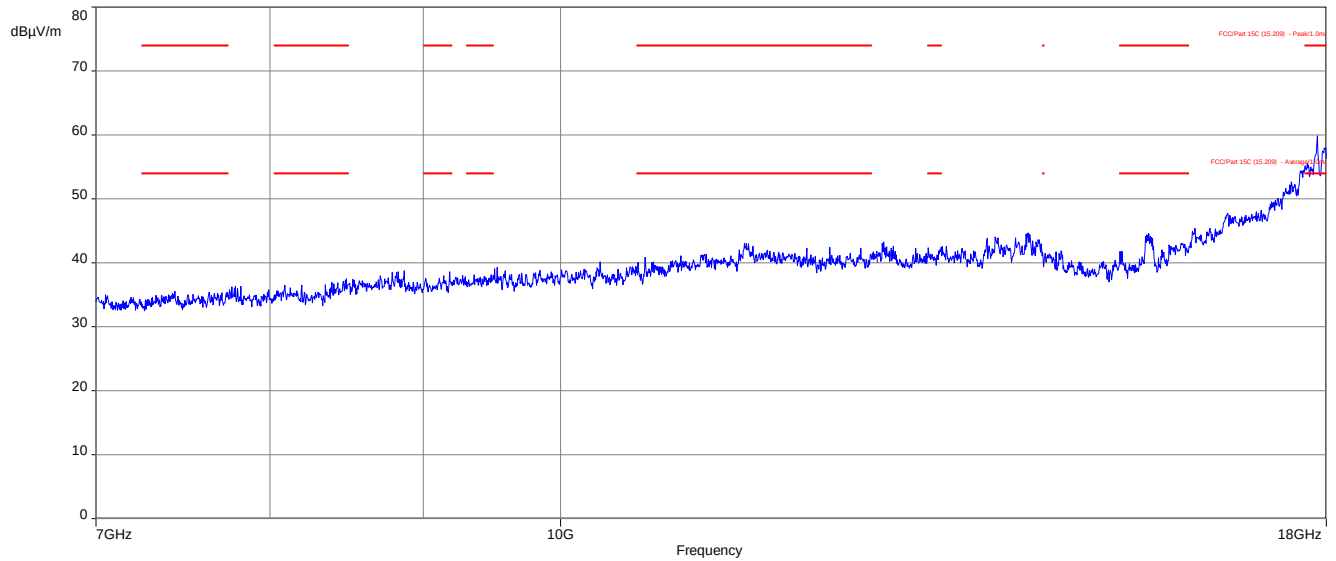
Plot 37: 30 MHz to 1 GHz, 5180 MHz, vertical & horizontal polarization

Final Result

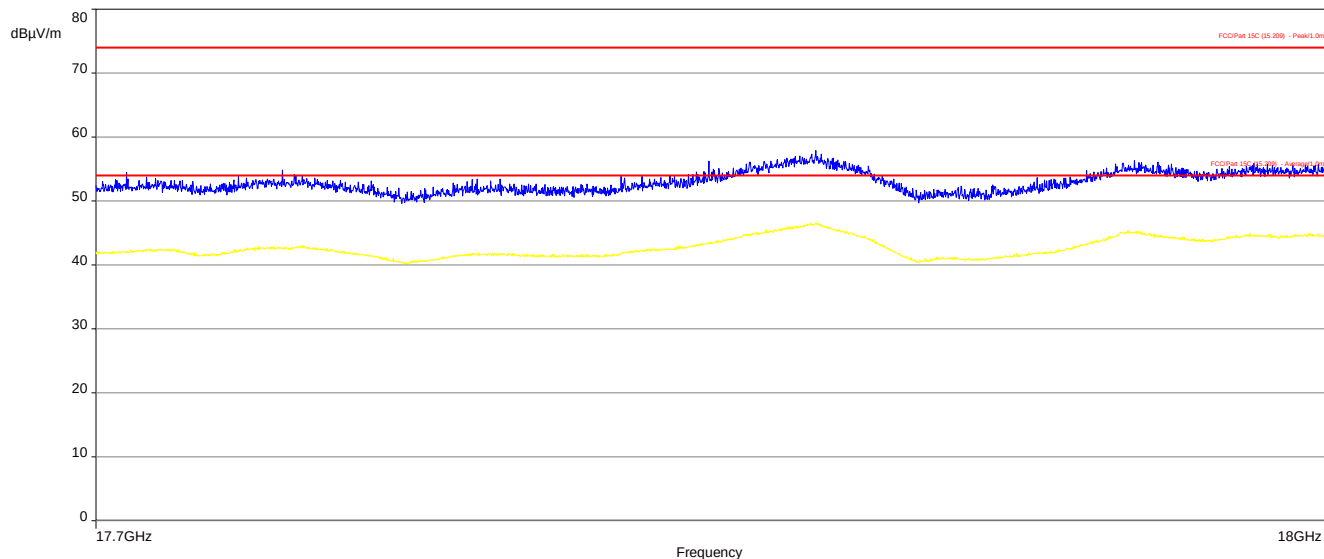
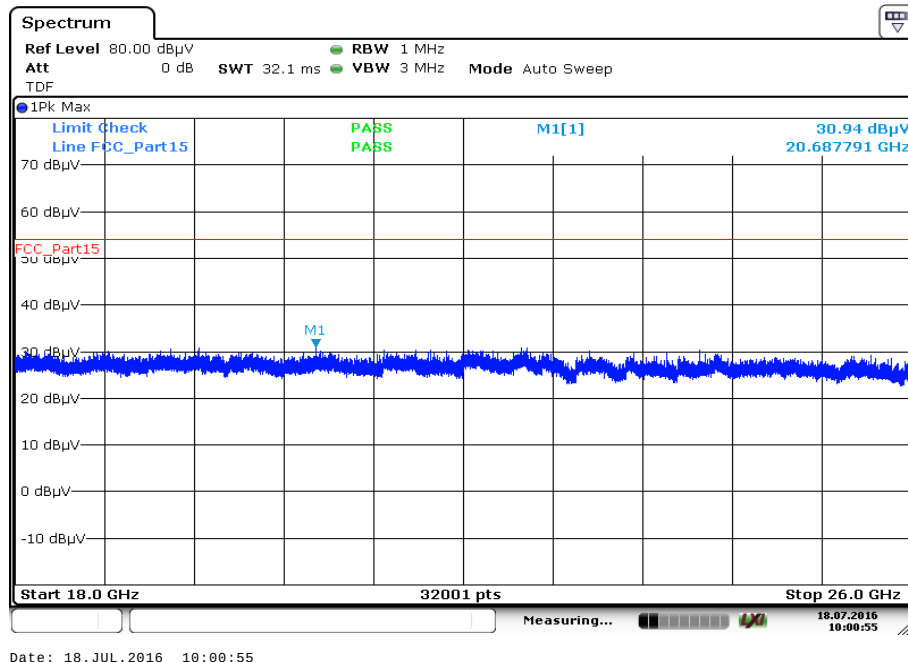
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
36.954000	23.25	30.00	6.75	1000.0	120.000	98.0	V	10.0	13.9
40.413600	21.47	30.00	8.53	1000.0	120.000	100.0	V	100.0	14.0
44.939250	16.43	30.00	13.57	1000.0	120.000	101.0	V	-9.0	13.9
131.855700	21.55	33.50	11.95	1000.0	120.000	98.0	V	280.0	9.3
151.877550	22.22	33.50	11.28	1000.0	120.000	102.0	V	190.0	8.9
172.847250	25.21	33.50	8.29	1000.0	120.000	101.0	V	260.0	9.9

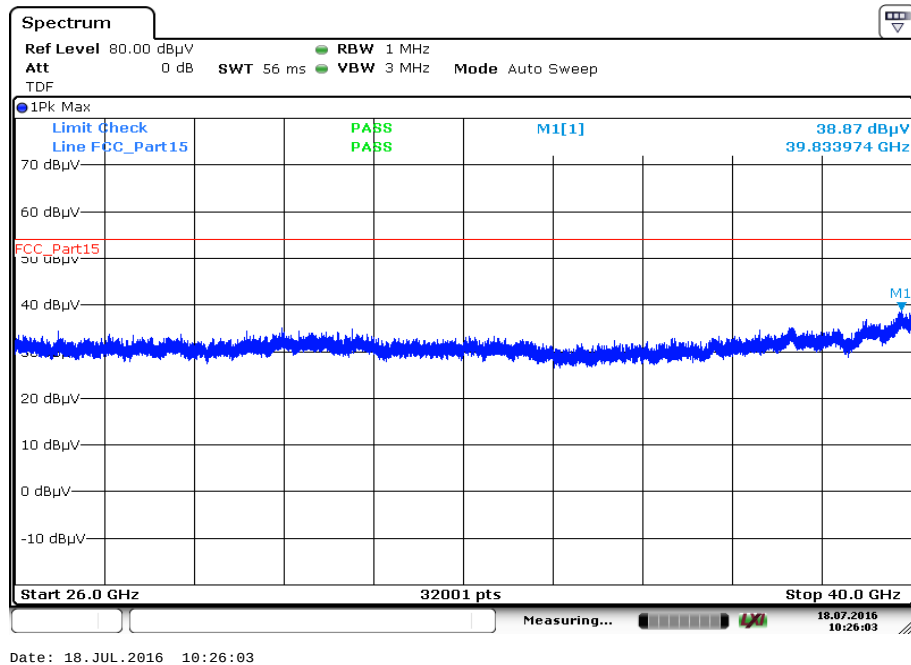
Plot 38: 1 GHz to 7 GHz, 5180 MHz, vertical & horizontal polarization

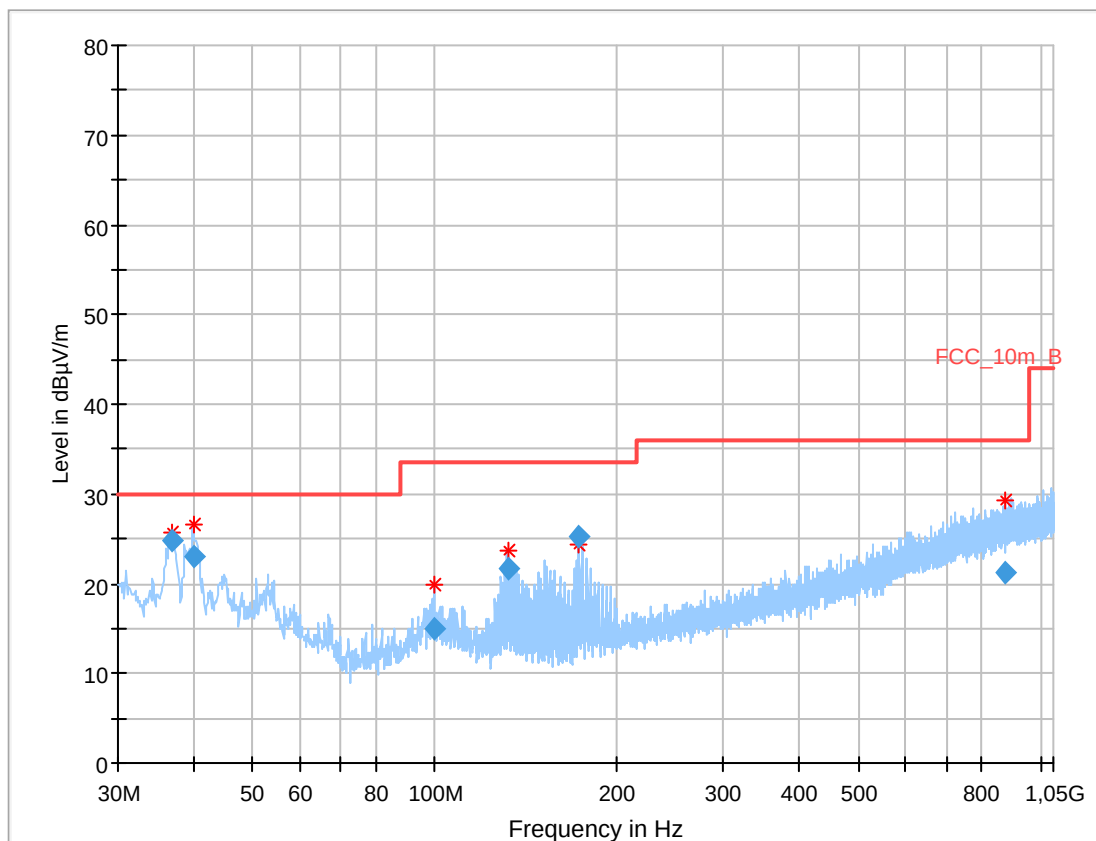


Plot 39: 7 GHz to 18 GHz, 5180 MHz, vertical & horizontal polarization

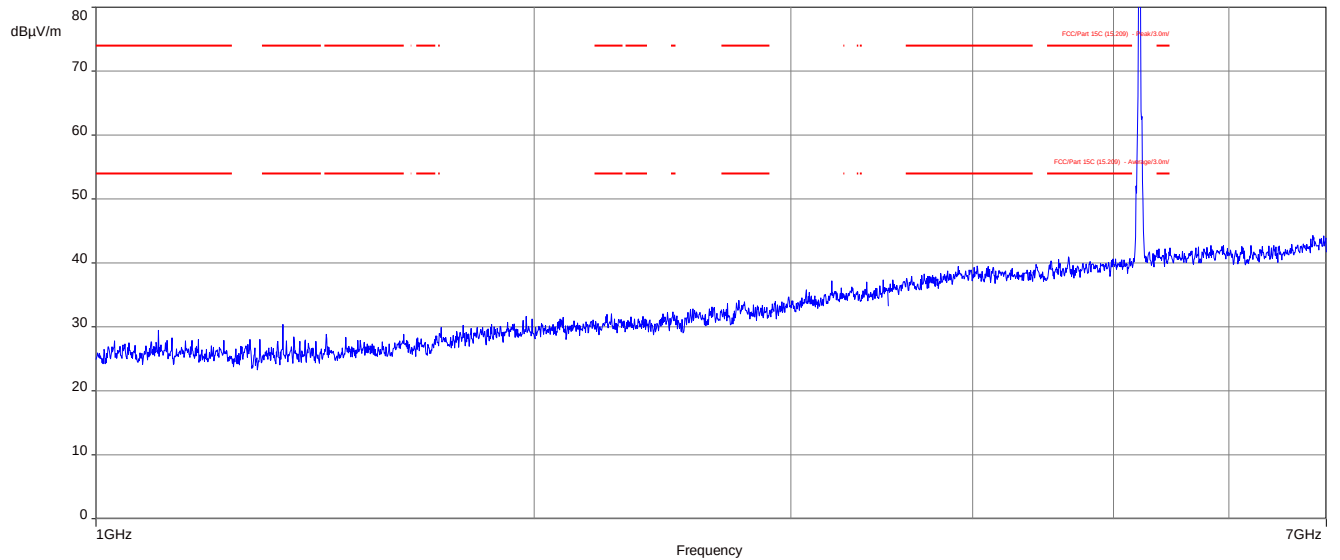
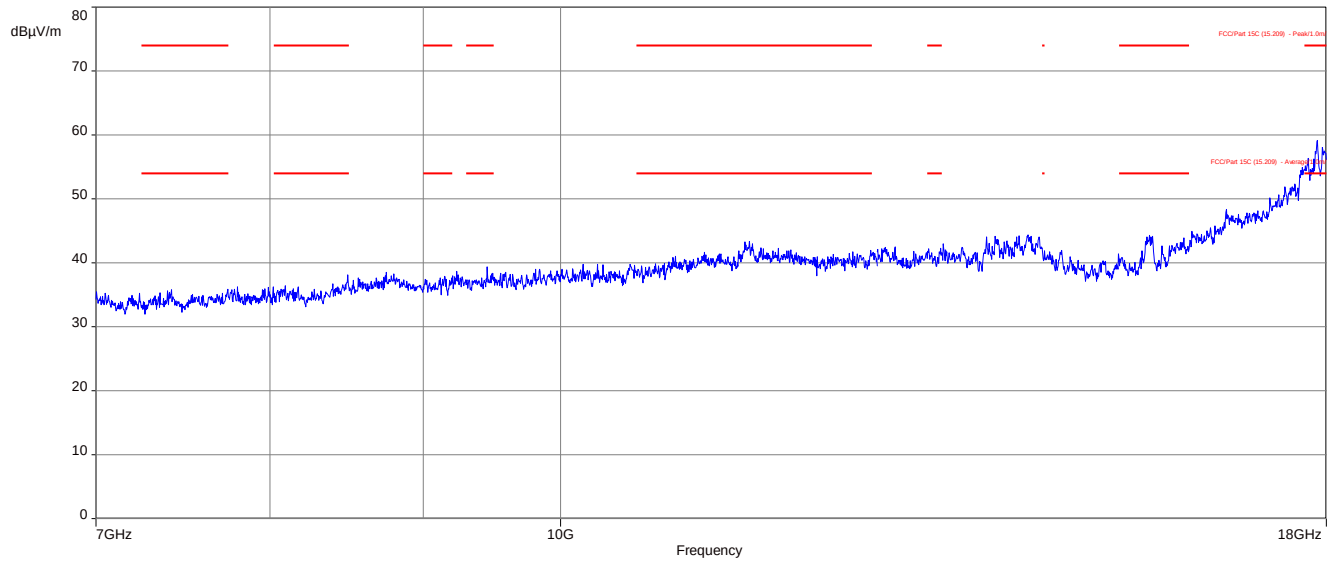


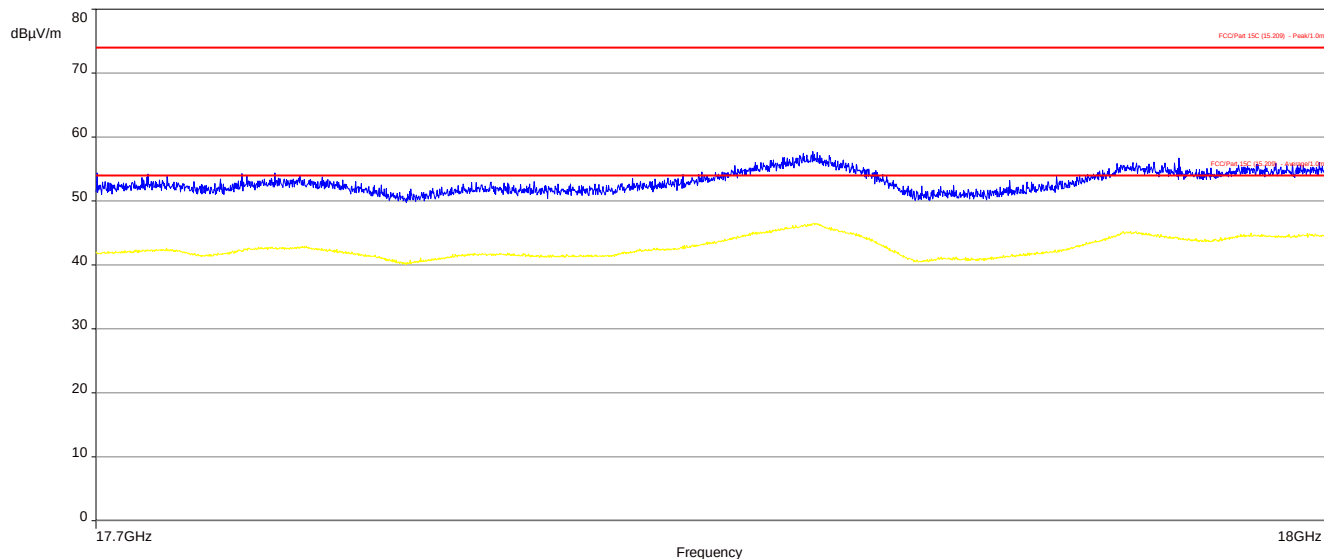
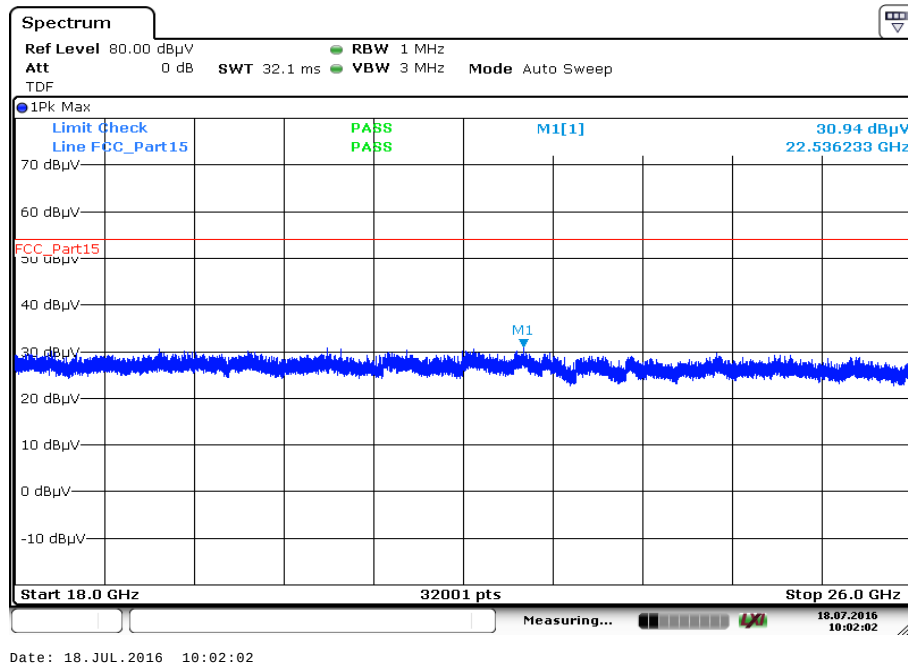
Plot 40: 17.7 GHz to 18 GHz, 5180 MHz, vertical & horizontal polarization**Plot 41:** 18 GHz to 26 GHz, 5180 MHz, vertical & horizontal polarization

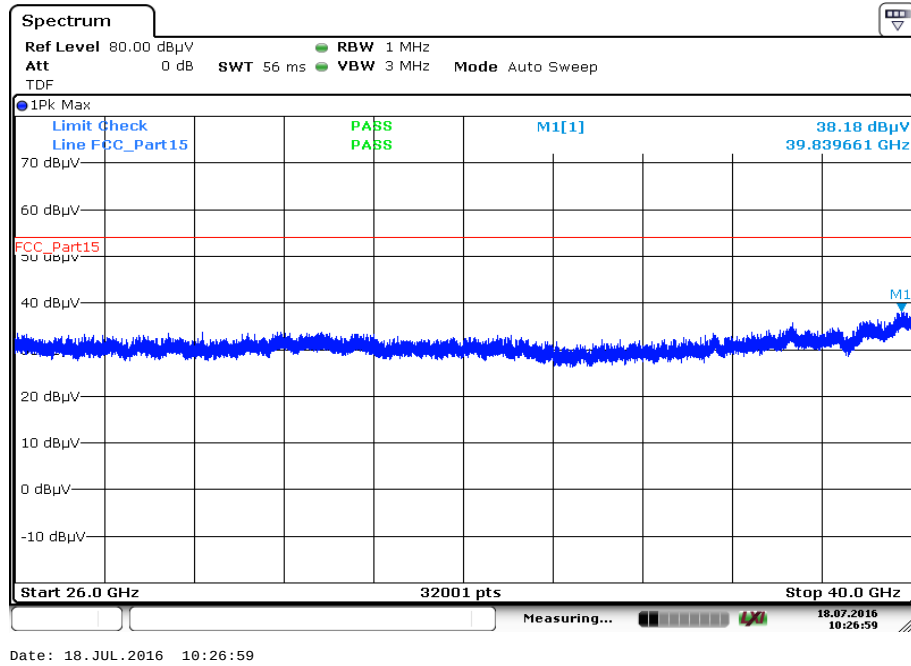
Plot 42: 26 GHz to 40 GHz, 5180 MHz, vertical & horizontal polarization

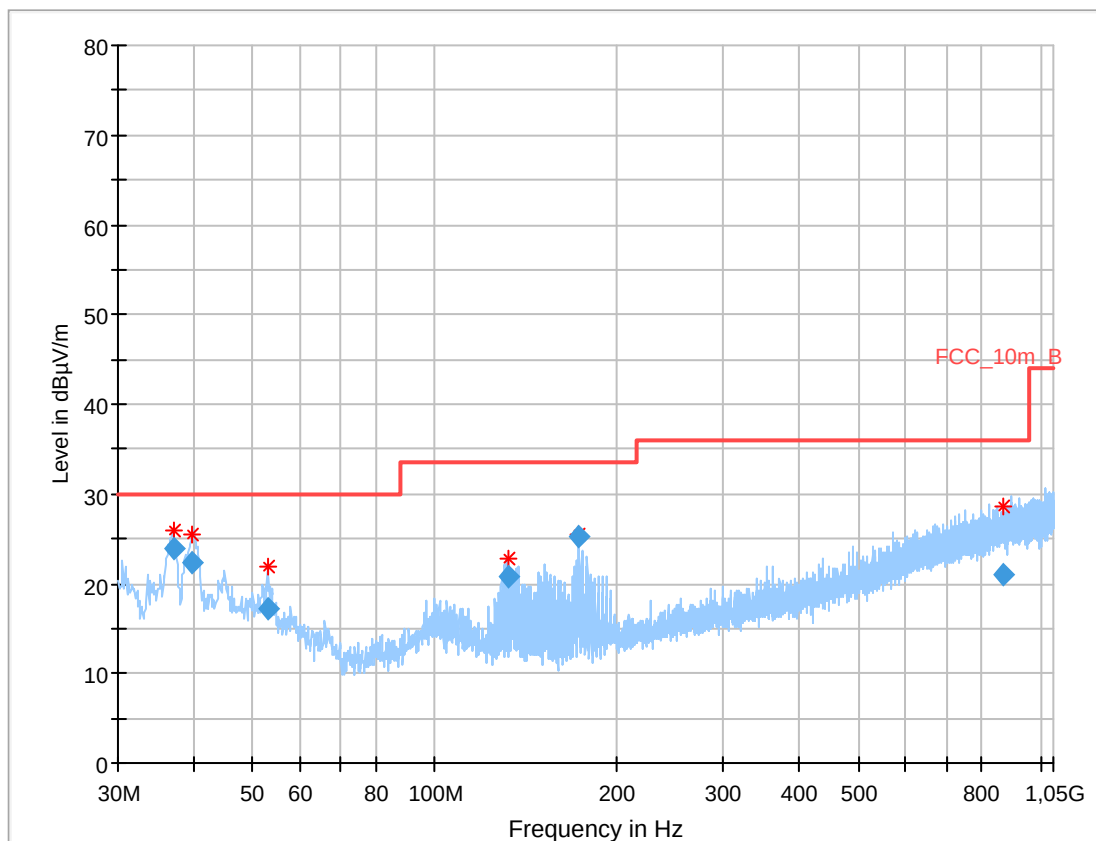
Plot 43: 30 MHz to 1 GHz, 5210 MHz, vertical & horizontal polarization**Final Result**

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
36.750750	24.81	30.00	5.19	1000.0	120.000	98.0	V	10.0	13.9
40.127850	22.94	30.00	7.06	1000.0	120.000	98.0	V	-9.0	14.0
99.944850	14.92	33.50	18.58	1000.0	120.000	100.0	V	280.0	12.2
131.895300	21.74	33.50	11.76	1000.0	120.000	100.0	V	261.0	9.3
172.833750	25.14	33.50	8.36	1000.0	120.000	98.0	V	260.0	9.9
874.683150	21.15	36.00	14.85	1000.0	120.000	170.0	V	170.0	23.8

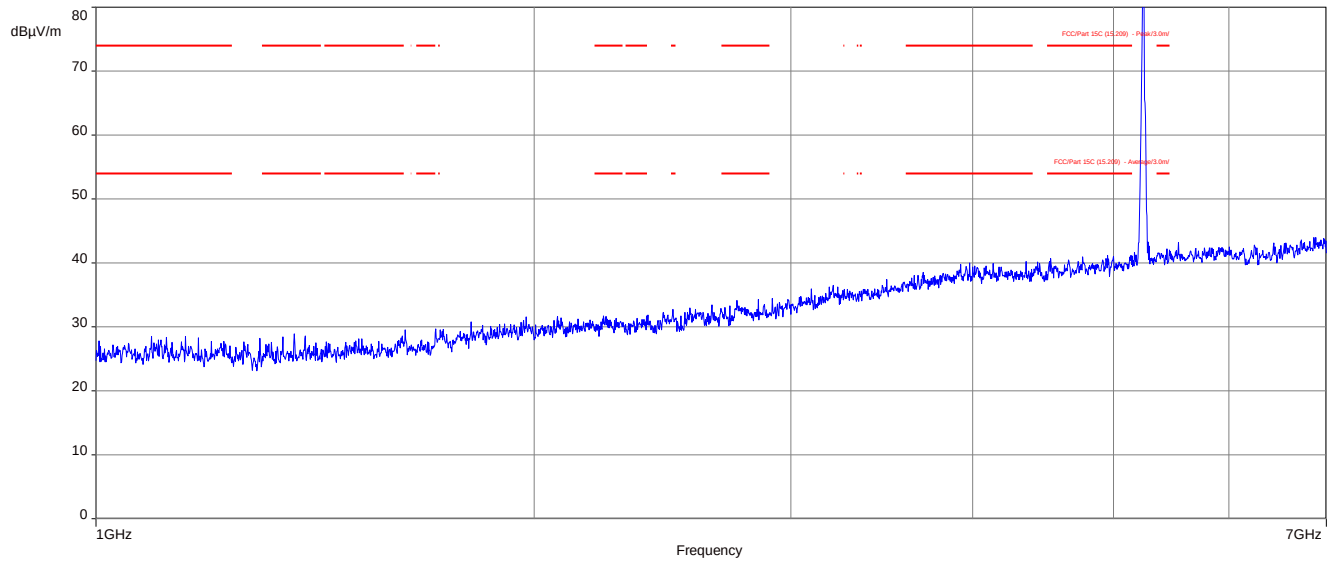
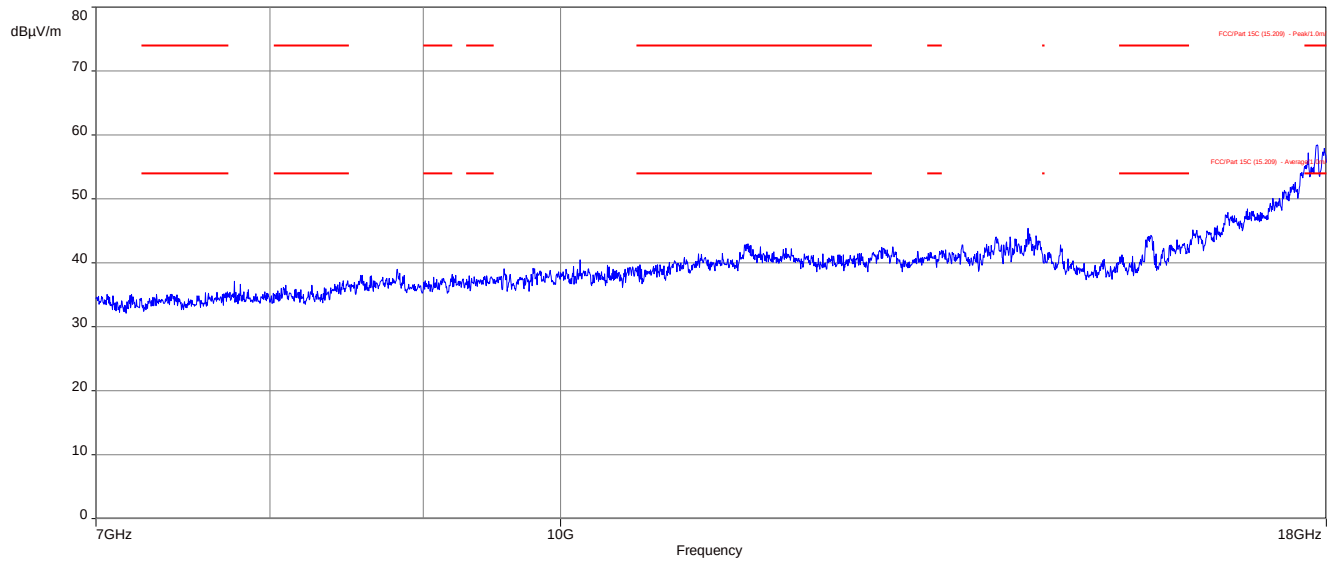
Plot 44: 1 GHz to 7 GHz, 5210 MHz, vertical & horizontal polarization**Plot 45:** 7 GHz to 18 GHz, 5210 MHz, vertical & horizontal polarization

Plot 46: 17.7 GHz to 18 GHz, 5210 MHz, vertical & horizontal polarization**Plot 47:** 18 GHz to 26 GHz, 5210 MHz, vertical & horizontal polarization

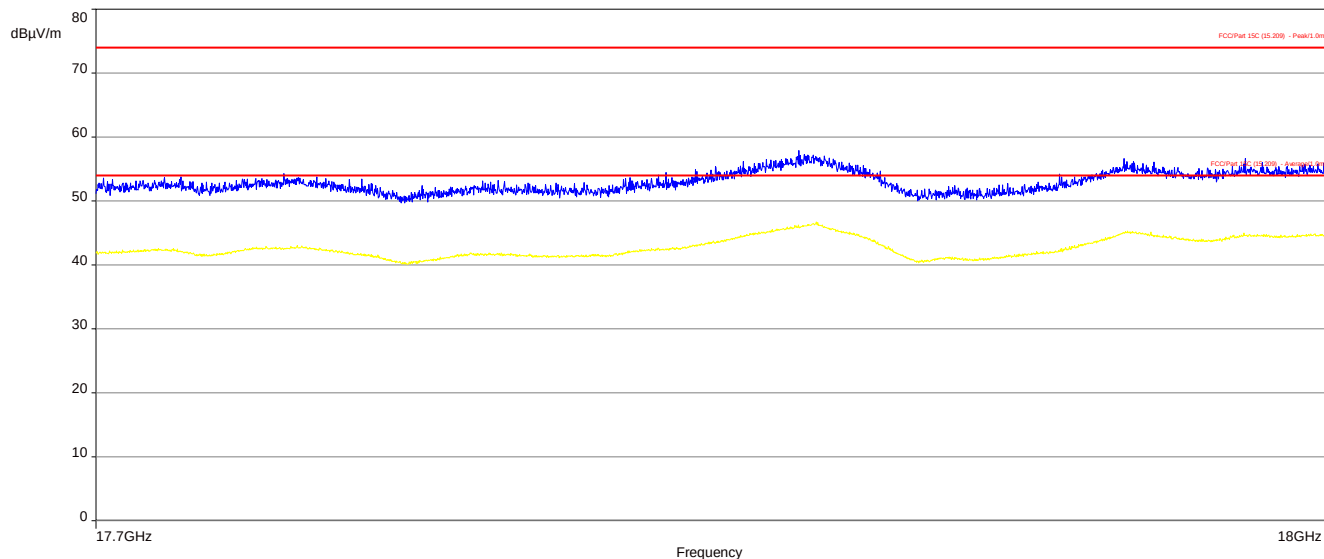
Plot 48: 26 GHz to 40 GHz, 5210 MHz, vertical & horizontal polarization

Plot 49: 30 MHz to 1 GHz, 5240 MHz, vertical & horizontal polarization**Final Result**

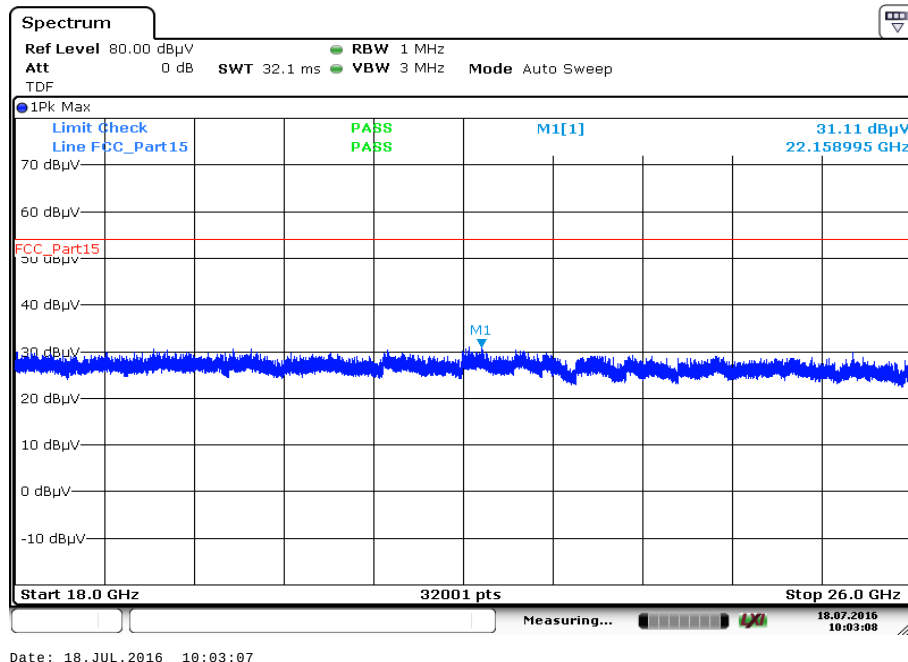
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
36.996750	23.80	30.00	6.20	1000.0	120.000	170.0	V	10.0	13.9
39.737250	22.29	30.00	7.71	1000.0	120.000	98.0	V	10.0	14.0
52.979400	17.17	30.00	12.83	1000.0	120.000	101.0	V	10.0	12.2
131.915400	20.80	33.50	12.70	1000.0	120.000	98.0	V	190.0	9.3
172.821900	25.18	33.50	8.32	1000.0	120.000	98.0	V	261.0	9.9
870.836700	21.10	36.00	14.90	1000.0	120.000	98.0	H	190.0	23.7

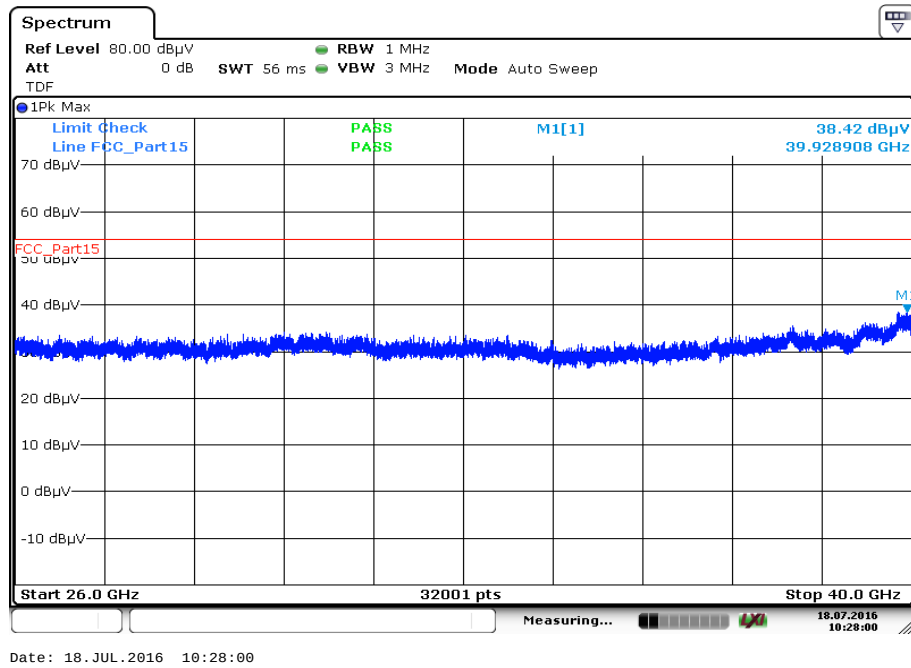
Plot 50: 1 GHz to 7 GHz, 5240 MHz, vertical & horizontal polarization**Plot 51:** 7 GHz to 18 GHz, 5240 MHz, vertical & horizontal polarization

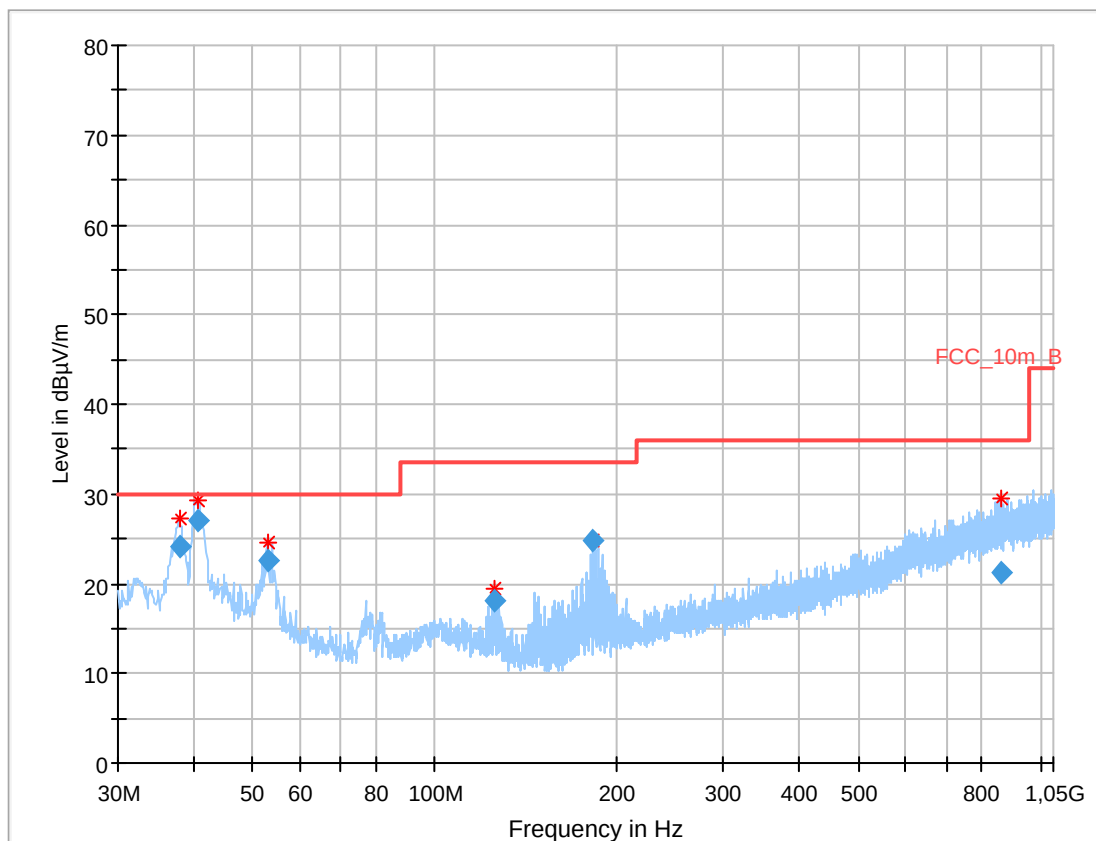
Plot 52: 17.7 GHz to 18 GHz, 5240 MHz, vertical & horizontal polarization



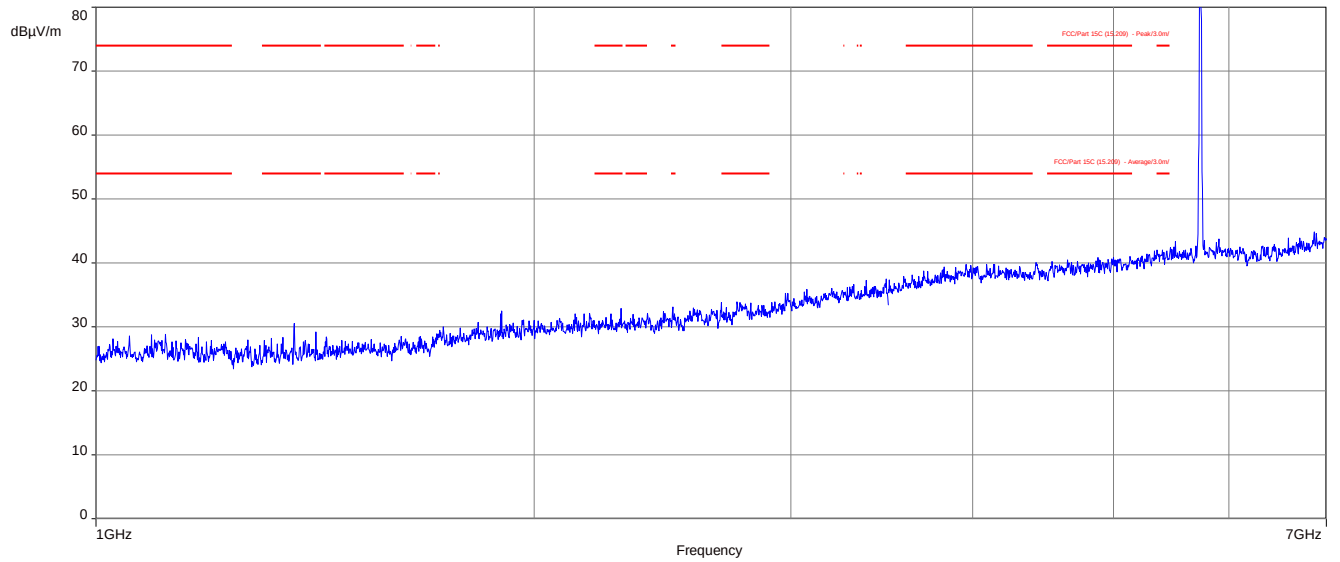
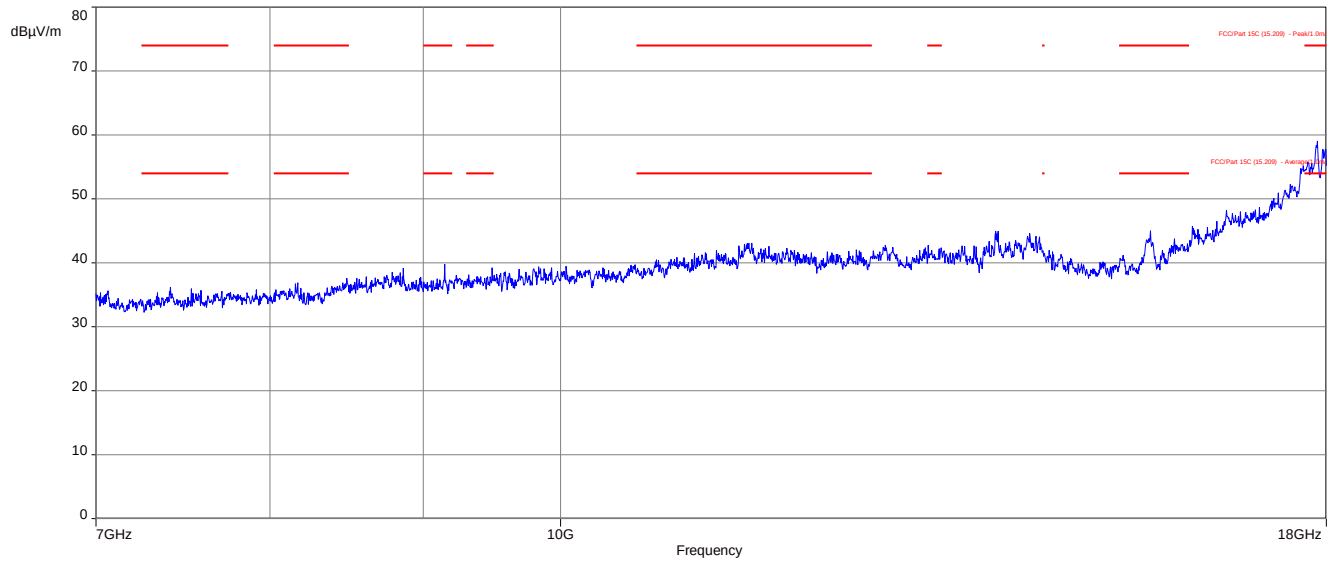
Plot 53: 18 GHz to 26 GHz, 5240 MHz, vertical & horizontal polarization



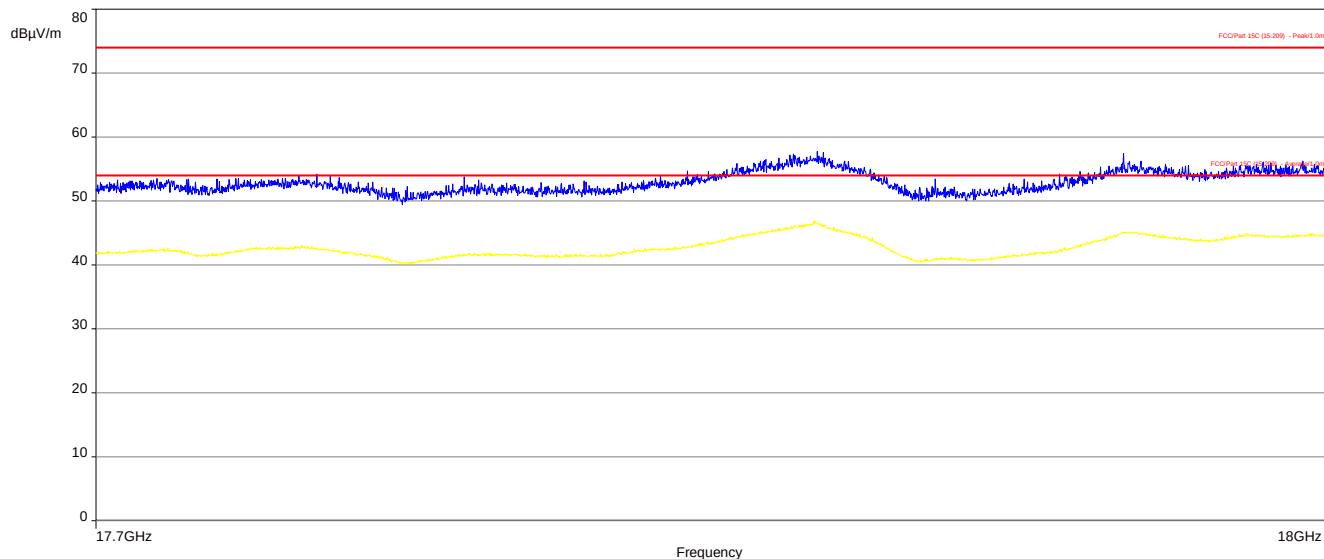
Plot 54: 26 GHz to 40 GHz, 5240 MHz, vertical & horizontal polarization

Plot 55: 30 MHz to 1 GHz, 5736 MHz, vertical & horizontal polarization**Final Result**

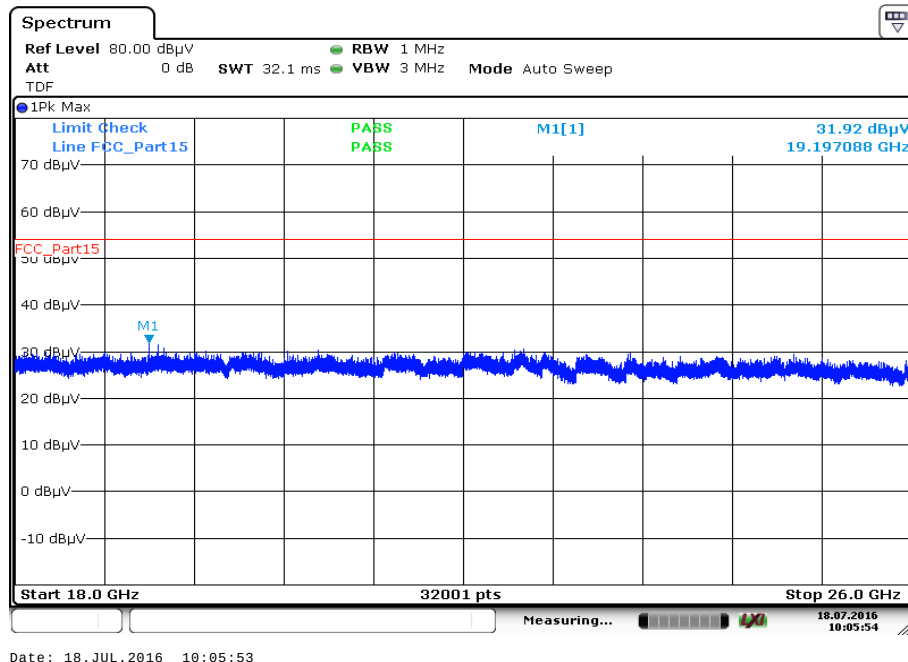
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
37.984050	24.16	30.00	5.84	1000.0	120.000	101.0	V	100.0	13.9
40.641750	27.15	30.00	2.85	1000.0	120.000	101.0	V	10.0	14.0
52.966800	22.52	30.00	7.48	1000.0	120.000	101.0	V	10.0	12.2
125.880000	18.10	33.50	15.40	1000.0	120.000	101.0	V	280.0	9.7
182.827500	24.83	33.50	8.67	1000.0	120.000	98.0	V	260.0	10.6
859.191450	21.12	36.00	14.88	1000.0	120.000	98.0	H	280.0	23.6

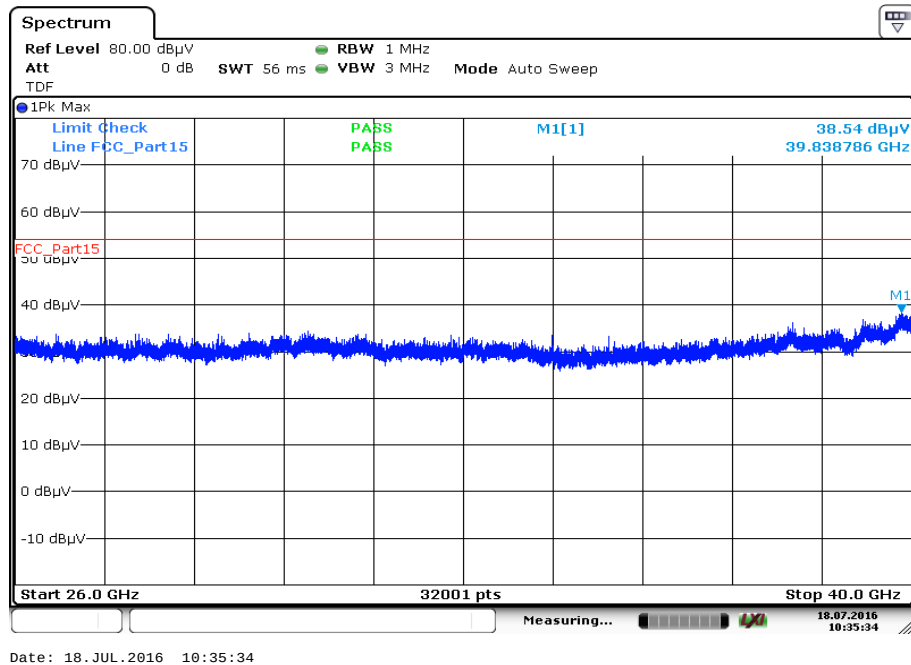
Plot 56: 1 GHz to 7 GHz, 5736 MHz, vertical & horizontal polarization**Plot 57:** 7 GHz to 18 GHz, 5736 MHz, vertical & horizontal polarization

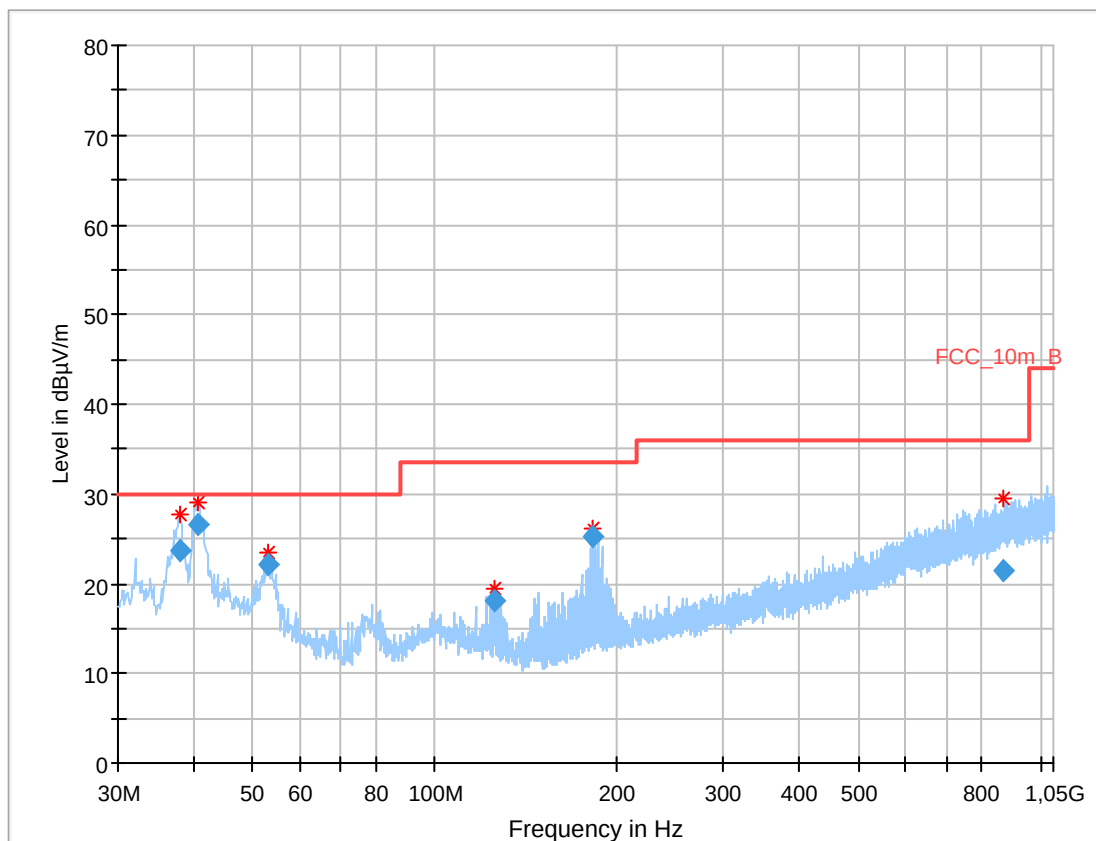
Plot 58: 17.7 GHz to 18 GHz, 5736 MHz, vertical & horizontal polarization



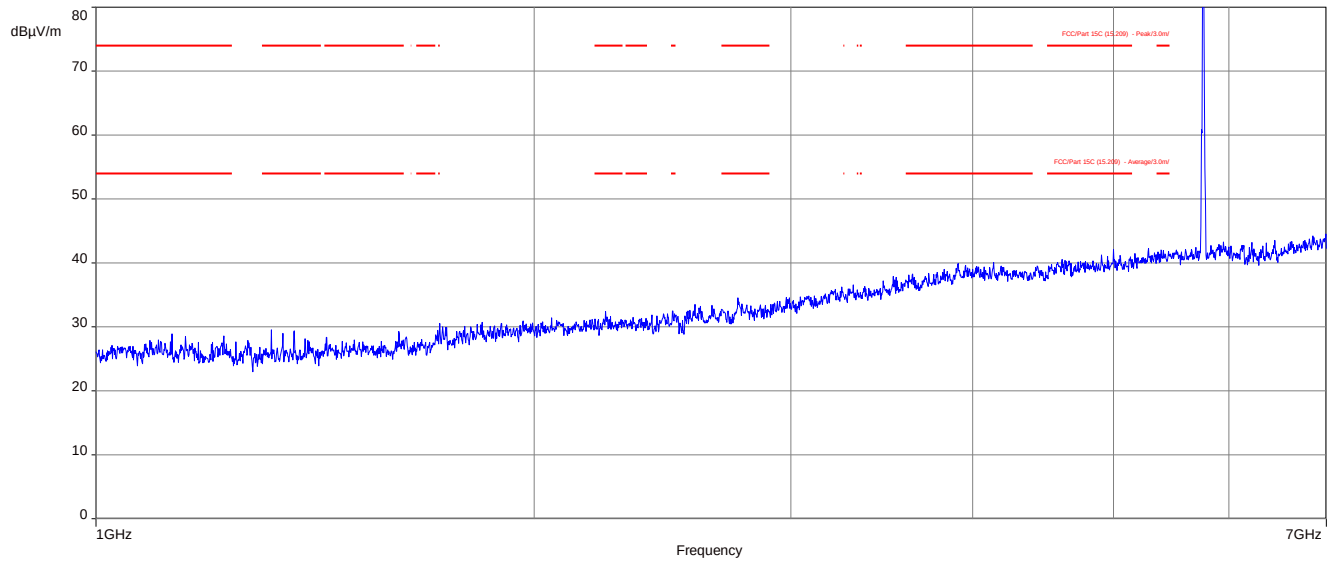
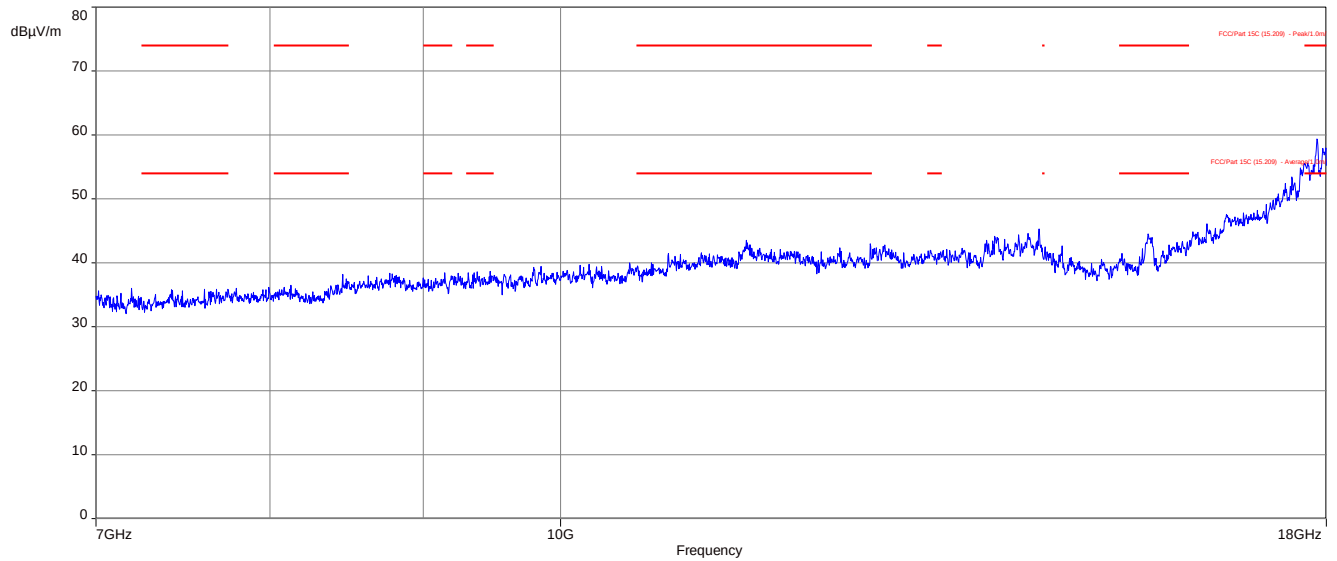
Plot 59: 18 GHz to 26 GHz, 5736 MHz, vertical & horizontal polarization

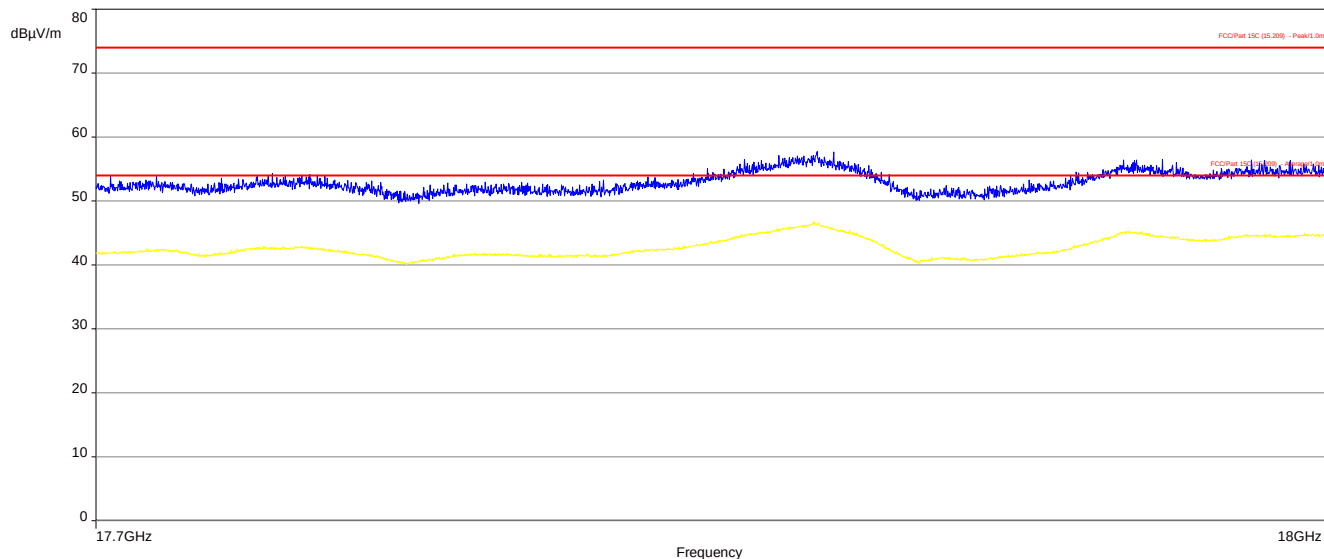
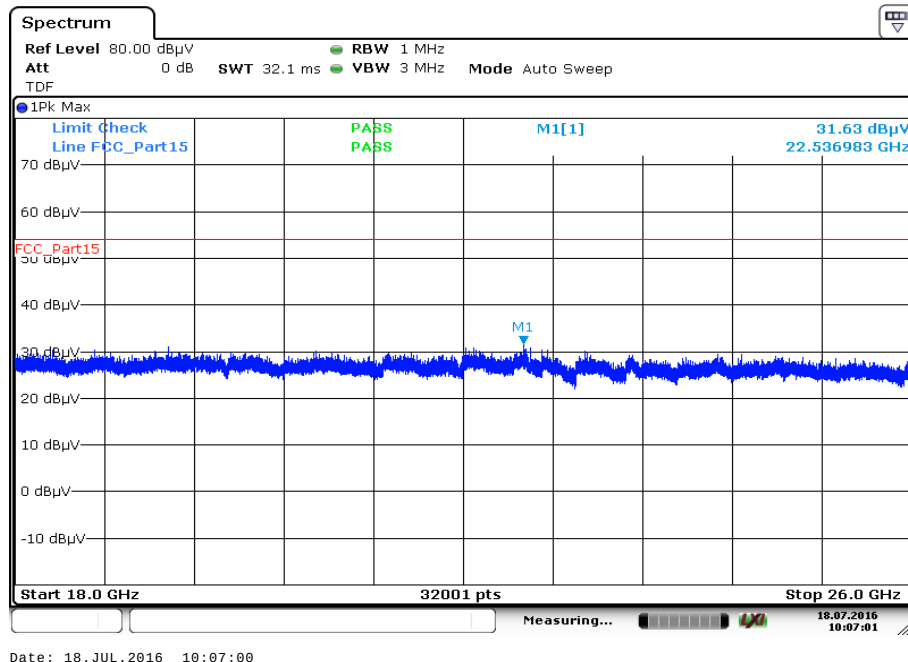


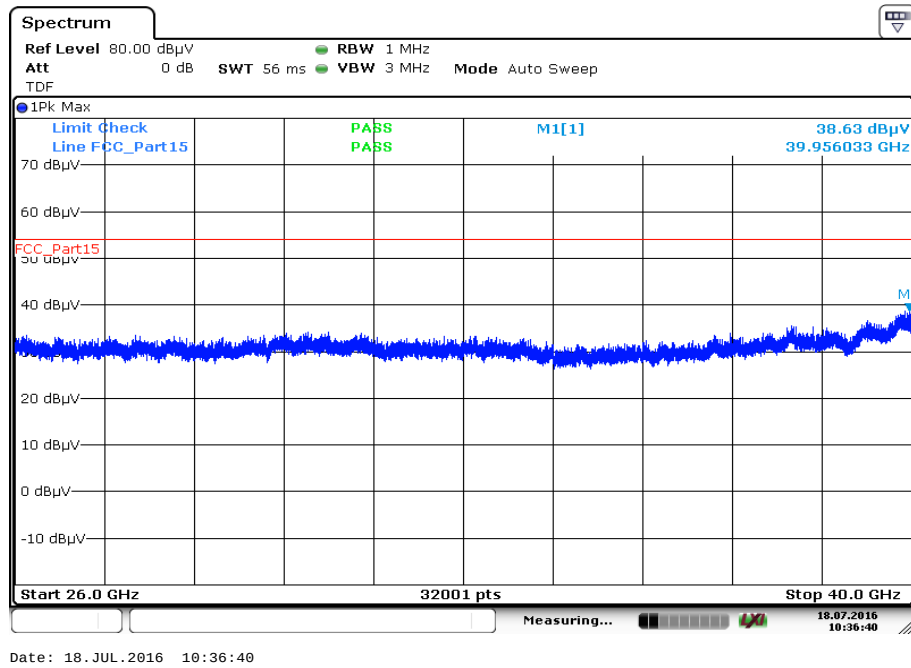
Plot 60: 26 GHz to 40 GHz, 5736 MHz, vertical & horizontal polarization

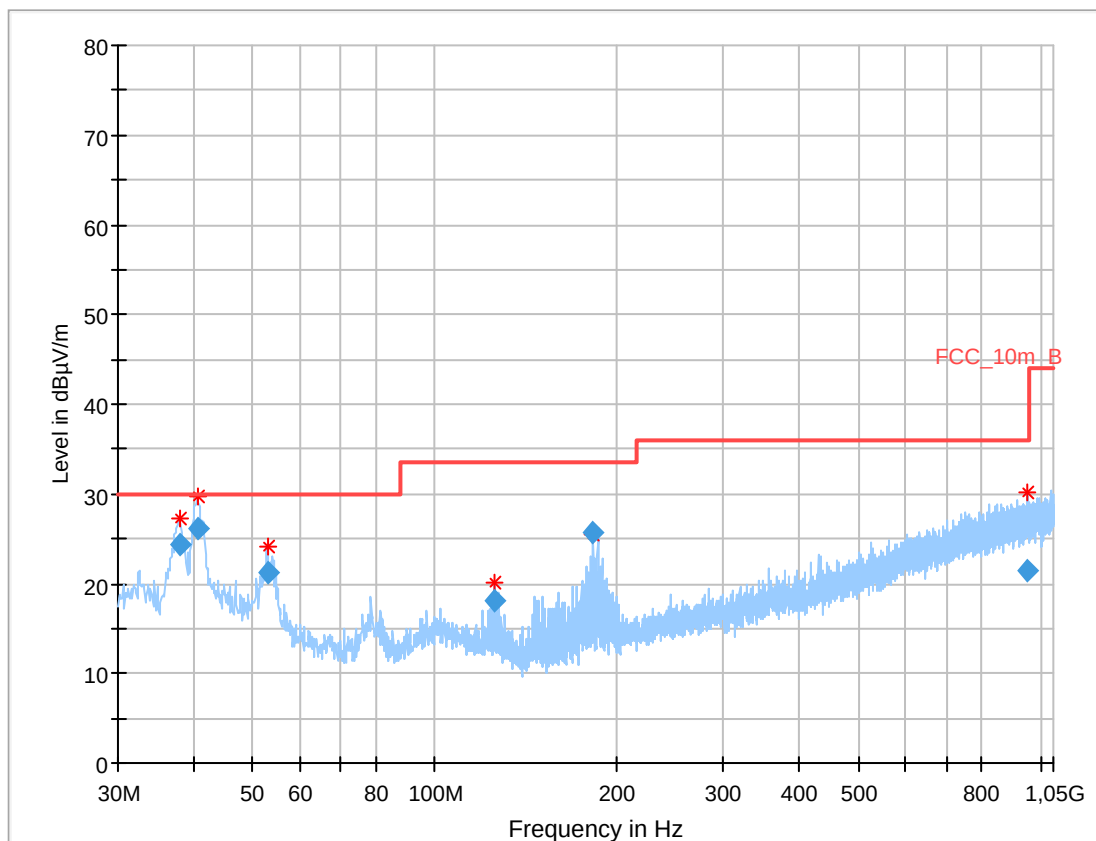
Plot 61: 30 MHz to 1 GHz, 5762 MHz, vertical & horizontal polarization**Final Result**

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
38.017500	23.63	30.00	6.37	1000.0	120.000	98.0	V	190.0	13.9
40.722000	26.57	30.00	3.43	1000.0	120.000	101.0	V	100.0	14.0
52.943550	22.21	30.00	7.79	1000.0	120.000	98.0	V	170.0	12.2
125.861100	18.08	33.50	15.42	1000.0	120.000	101.0	V	260.0	9.7
182.808300	25.25	33.50	8.25	1000.0	120.000	98.0	V	260.0	10.6
871.187700	21.36	36.00	14.64	1000.0	120.000	170.0	V	171.0	23.7

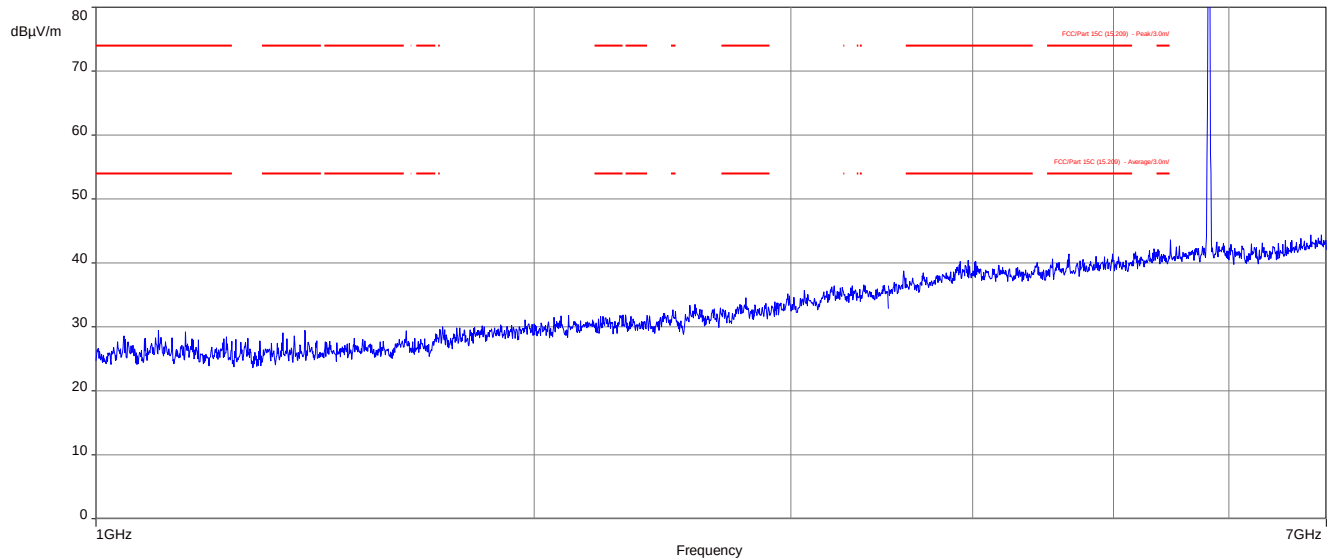
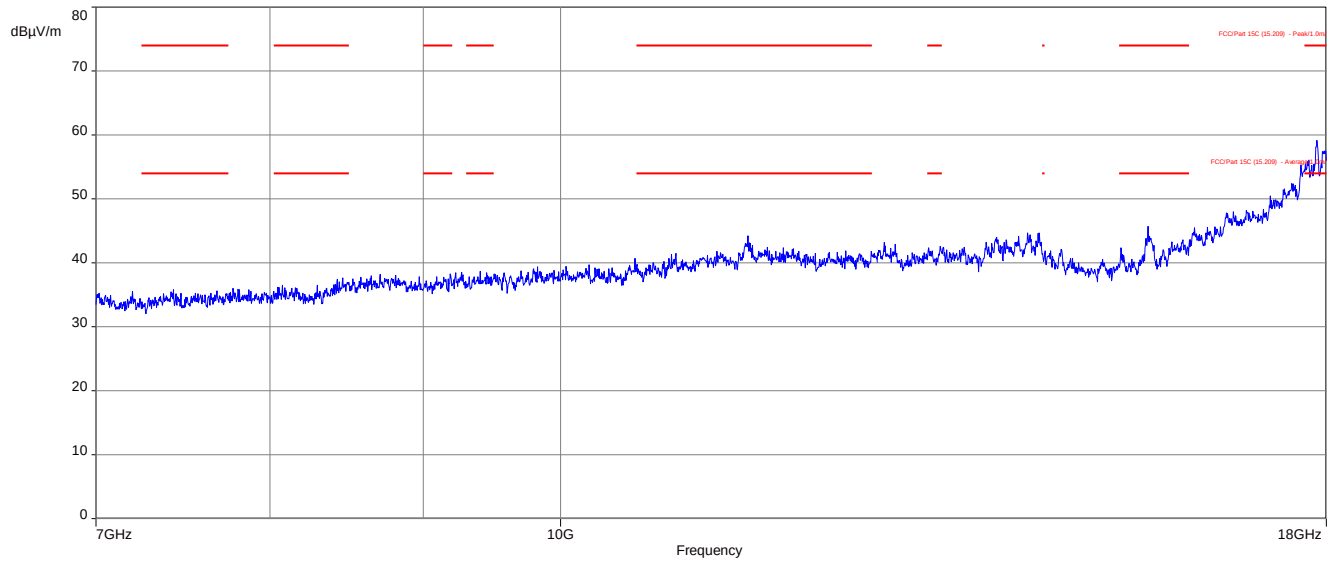
Plot 62: 1 GHz to 7 GHz, 5762 MHz, vertical & horizontal polarization**Plot 63:** 7 GHz to 18 GHz, 5762 MHz, vertical & horizontal polarization

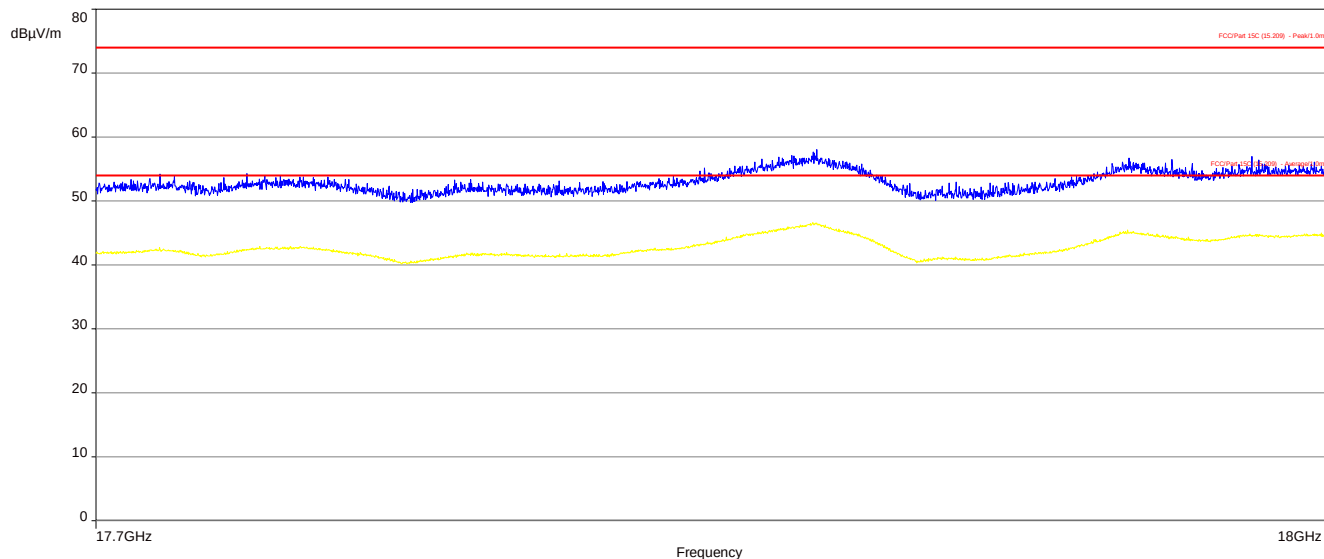
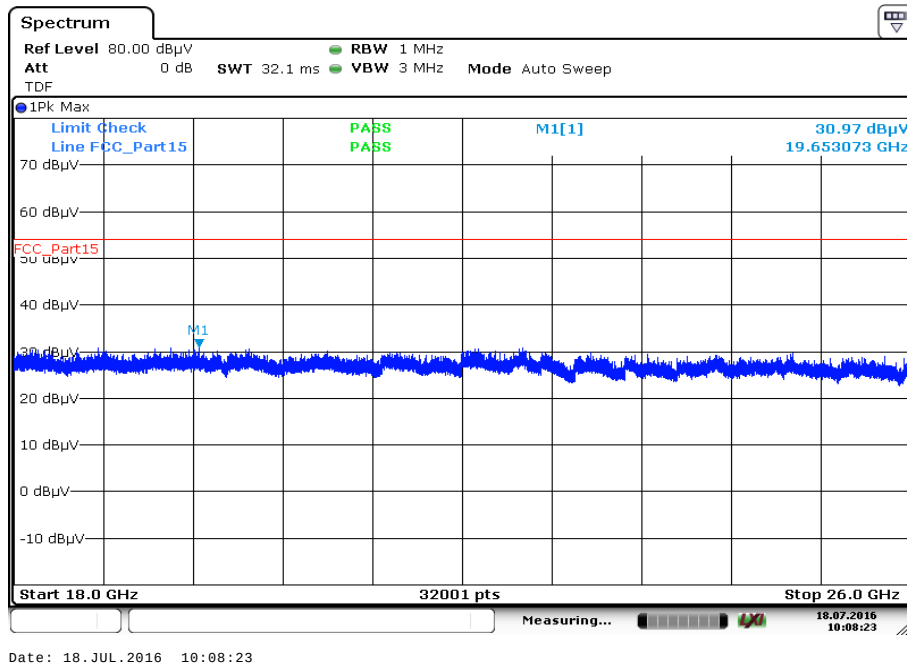
Plot 64: 17.7 GHz to 18 GHz, 5762 MHz, vertical & horizontal polarization**Plot 65:** 18 GHz to 26 GHz, 5762 MHz, vertical & horizontal polarization

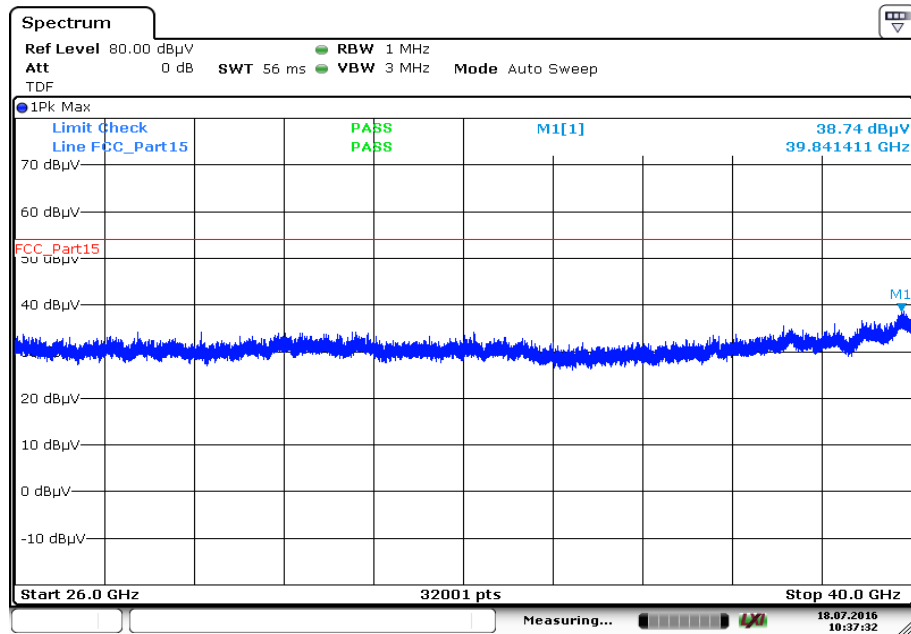
Plot 66: 26 GHz to 40 GHz, 5762 MHz, vertical & horizontal polarization

Plot 67: 30 MHz to 1 GHz, 5814 MHz, vertical & horizontal polarization**Final Result**

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
37.961550	24.43	30.00	5.57	1000.0	120.000	101.0	V	100.0	13.9
40.751400	26.12	30.00	3.88	1000.0	120.000	101.0	V	-9.0	14.0
52.980600	21.20	30.00	8.80	1000.0	120.000	98.0	V	190.0	12.2
125.890050	18.07	33.50	15.43	1000.0	120.000	101.0	V	280.0	9.7
182.805600	25.75	33.50	7.75	1000.0	120.000	98.0	V	260.0	10.6
947.910150	21.56	36.00	14.44	1000.0	120.000	98.0	V	280.0	24.3

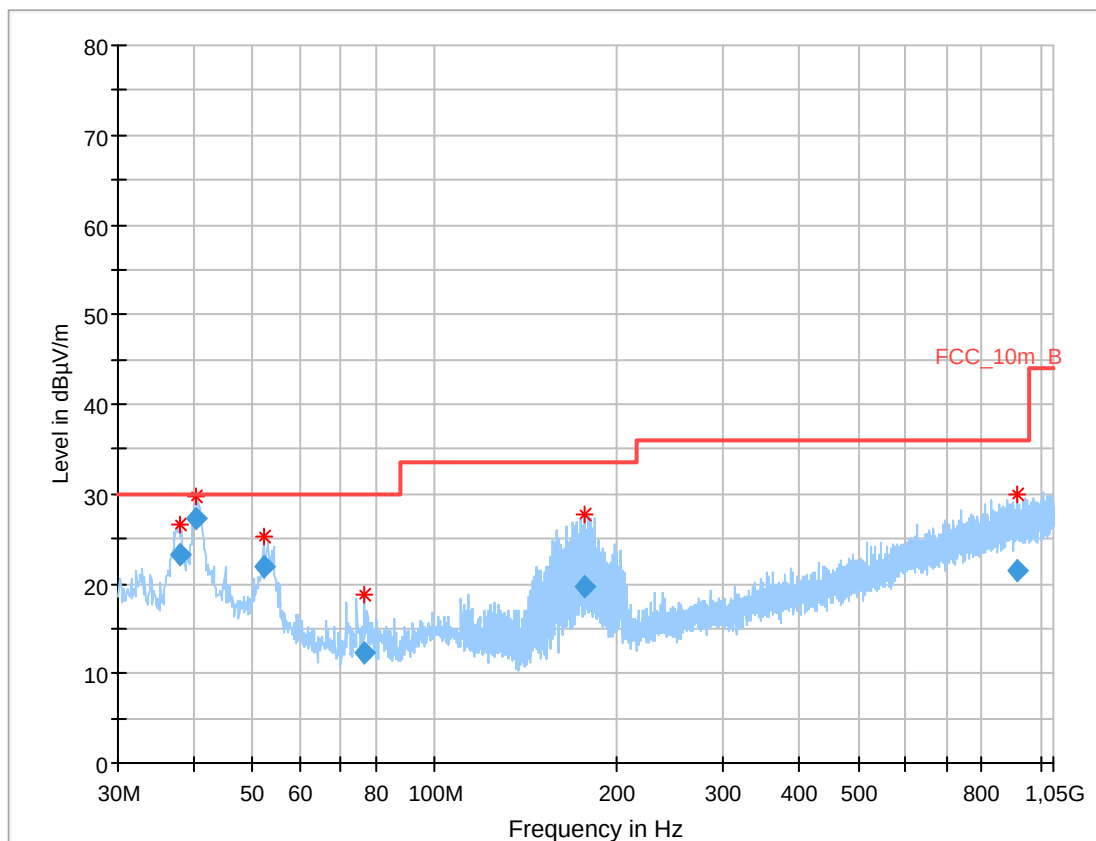
Plot 68: 1 GHz to 7 GHz, 5814 MHz, vertical & horizontal polarization**Plot 69:** 7 GHz to 18 GHz, 5814 MHz, vertical & horizontal polarization

Plot 70: 17.7 GHz to 18 GHz, 5814 MHz, vertical & horizontal polarization**Plot 71:** 18 GHz to 26 GHz, 5814 MHz, vertical & horizontal polarization

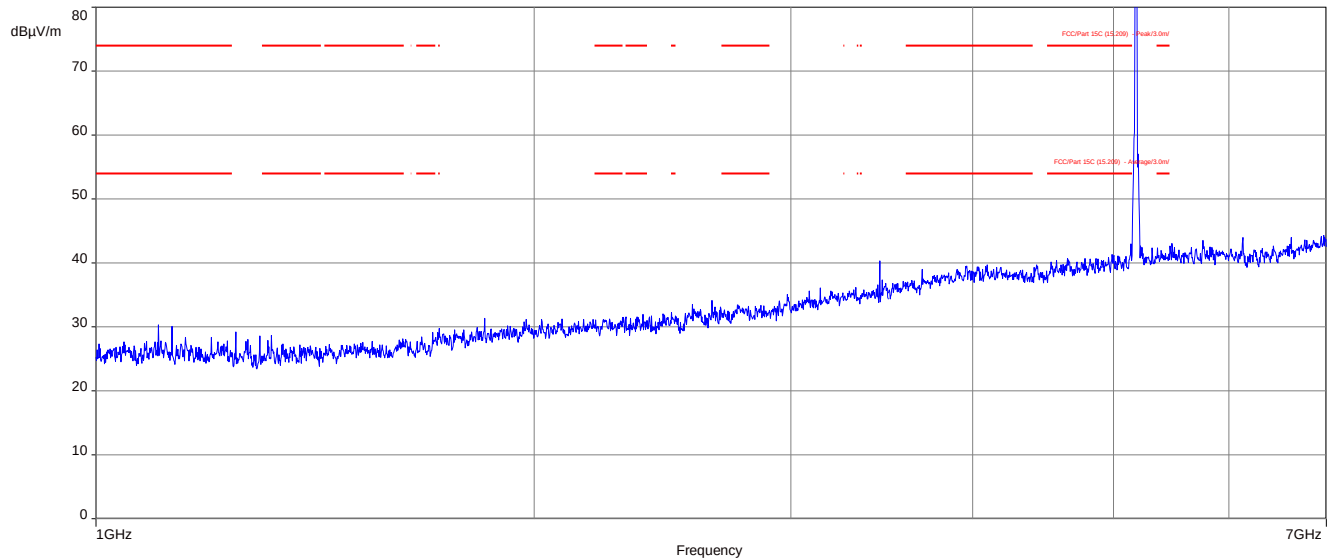
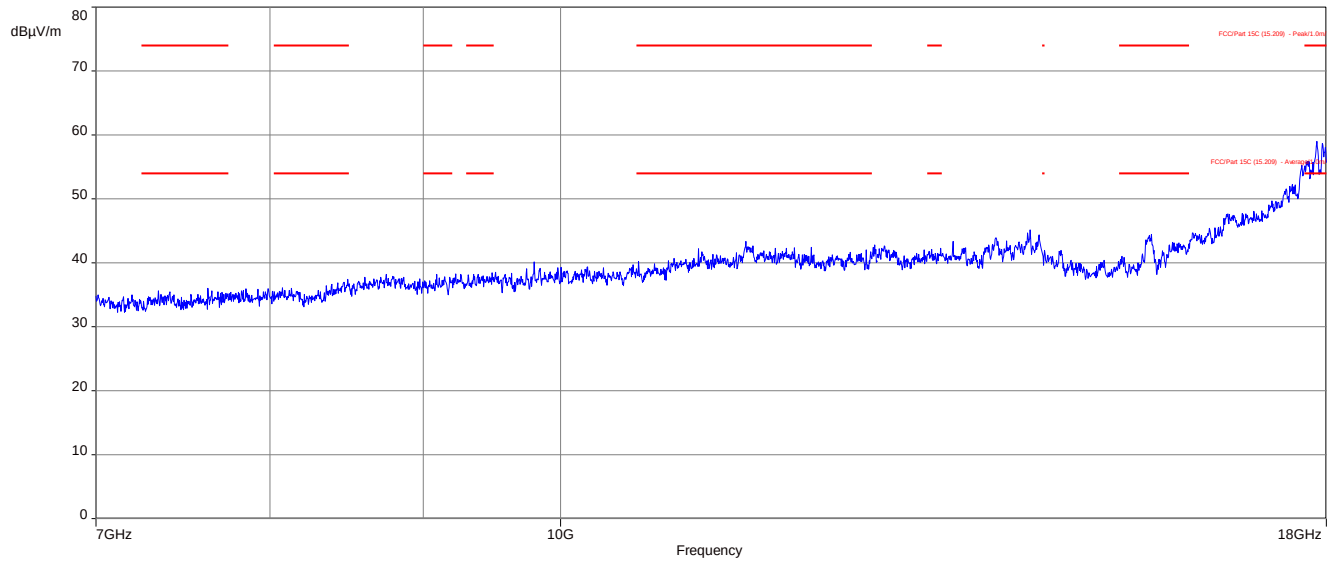
Plot 72: 26 GHz to 40 GHz, 5814 MHz, vertical & horizontal polarization

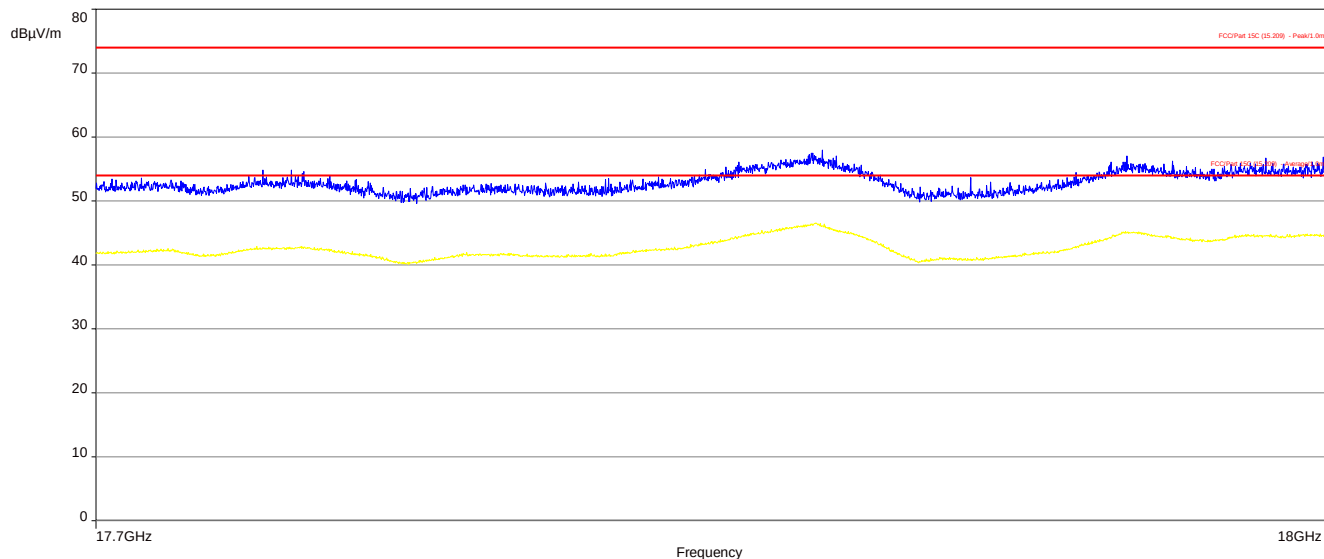
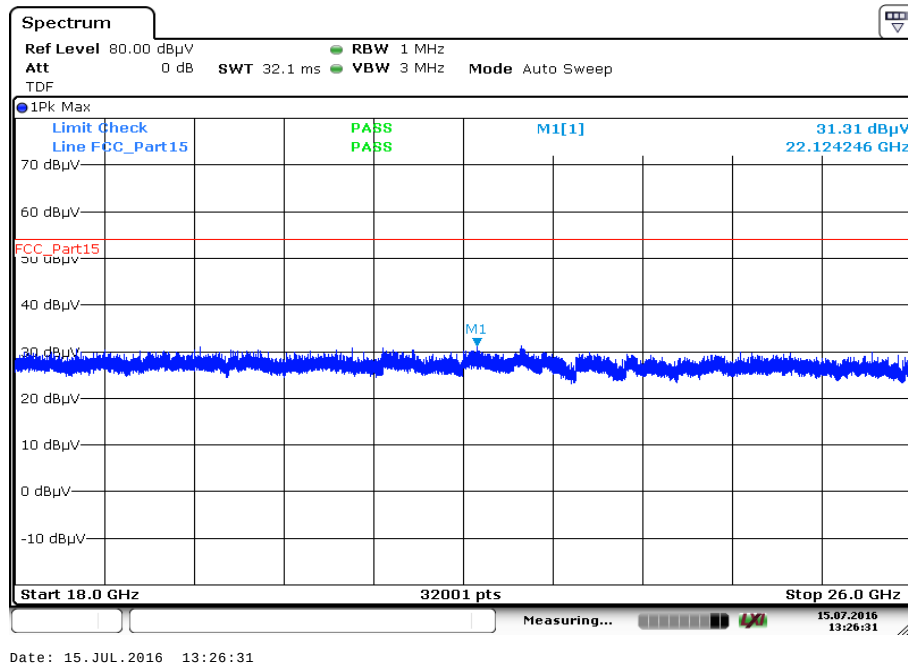
Date: 18.JUL.2016 10:37:32

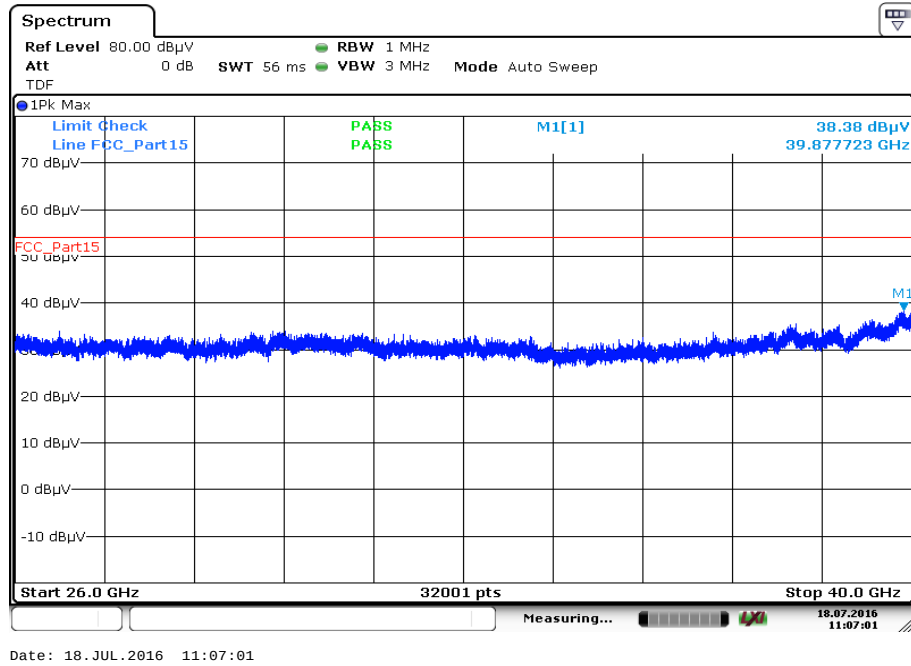
Plots: QPSK Antenna A

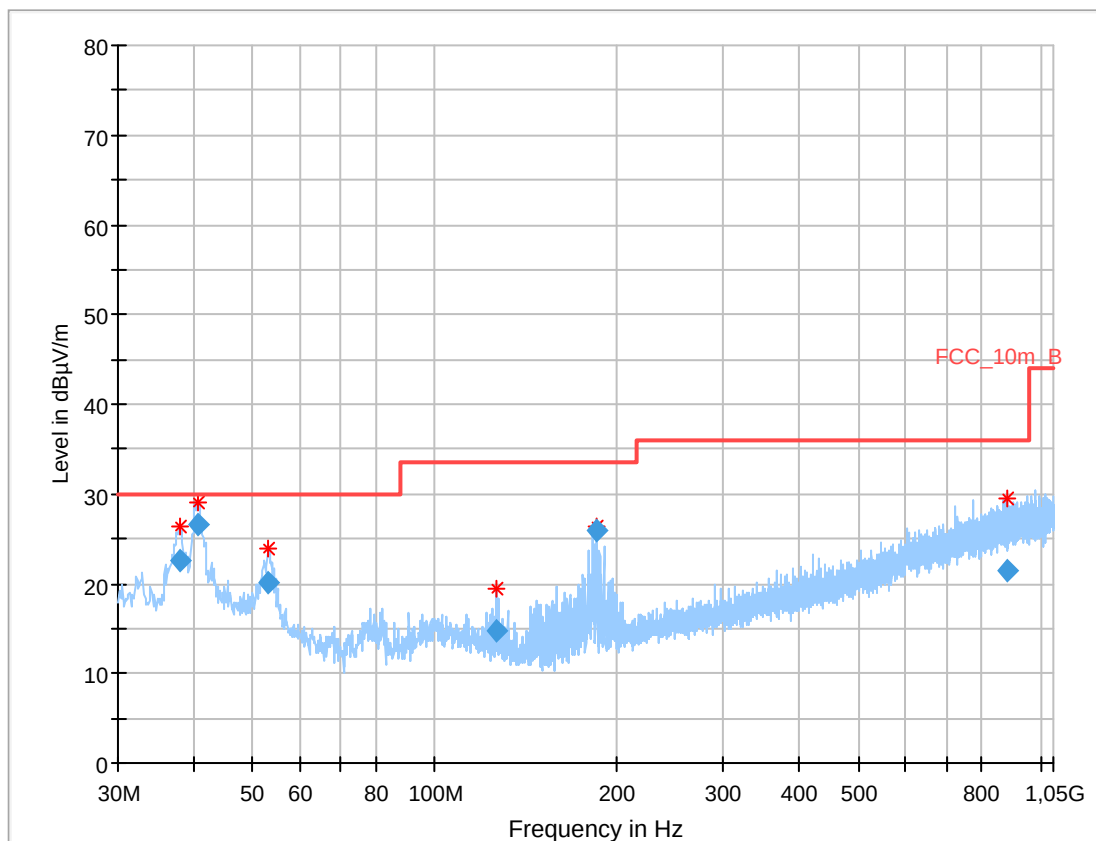
Plot 73: 30 MHz to 1 GHz, 5180 MHz, vertical & horizontal polarization

Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
37.987950	23.20	30.00	6.80	1000.0	120.000	101.0	V	-9.0	13.9
40.493850	27.36	30.00	2.64	1000.0	120.000	170.0	V	10.0	14.0
52.297350	21.99	30.00	8.01	1000.0	120.000	98.0	V	10.0	12.3
76.433100	12.30	30.00	17.70	1000.0	120.000	101.0	V	-10.0	8.2
177.032850	19.56	33.50	13.94	1000.0	120.000	170.0	V	10.0	10.2
913.950000	21.47	36.00	14.53	1000.0	120.000	170.0	V	100.0	24.2

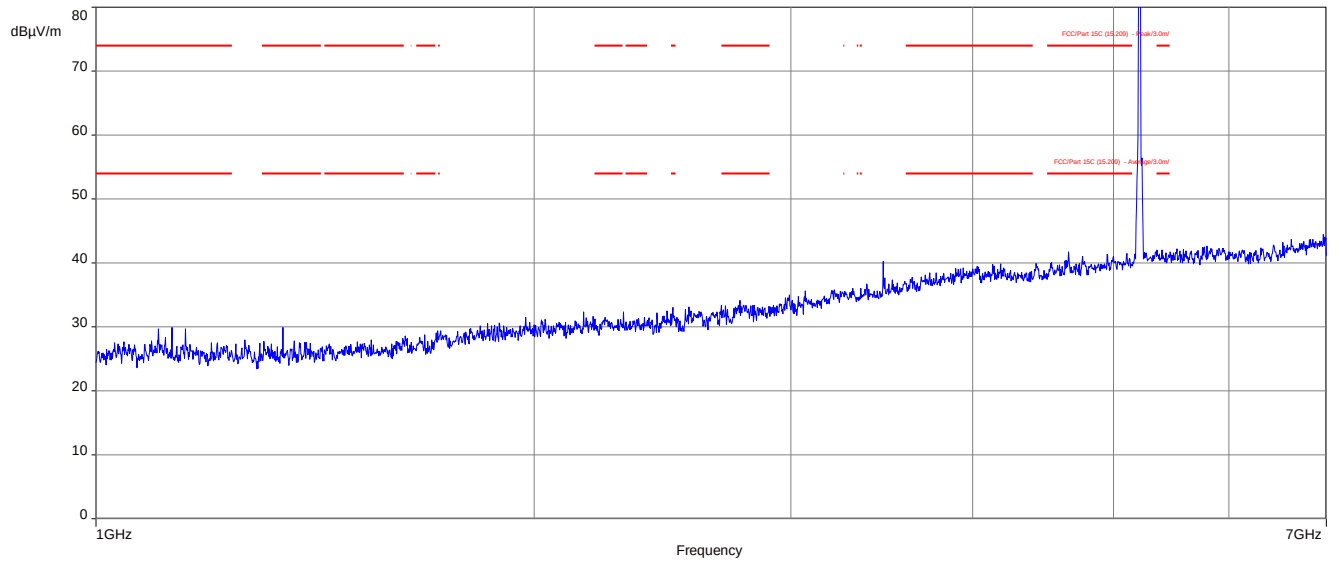
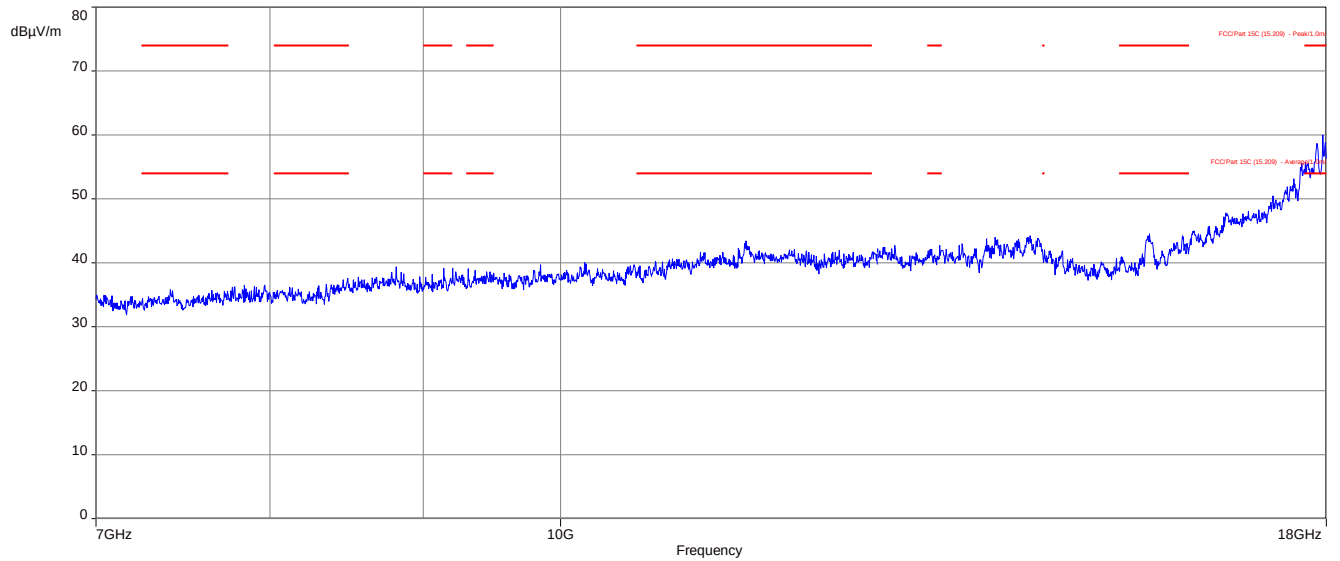
Plot 74: 1 GHz to 7 GHz, 5180 MHz, vertical & horizontal polarization**Plot 75:** 7 GHz to 18 GHz, 5180 MHz, vertical & horizontal polarization

Plot 76: 17.7 GHz to 18 GHz, 5180 MHz, vertical & horizontal polarization**Plot 77:** 18 GHz to 26 GHz, 5180 MHz, vertical & horizontal polarization

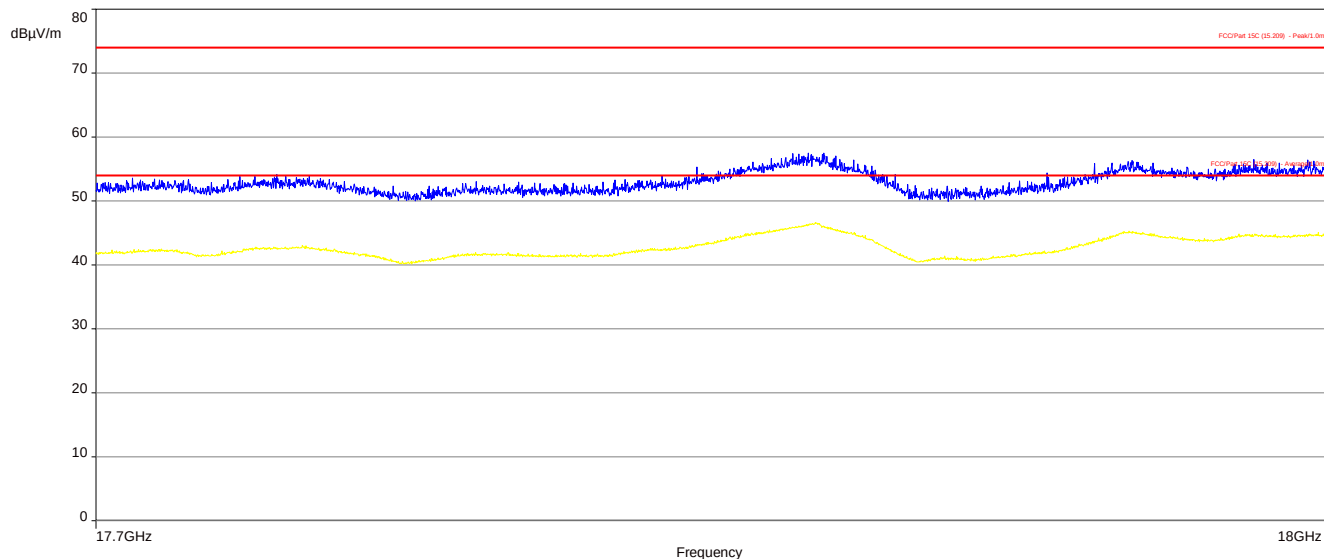
Plot 78: 26 GHz to 40 GHz, 5180 MHz, vertical & horizontal polarization

Plot 79: 30 MHz to 1 GHz, 5210 MHz, vertical & horizontal polarization**Final Result**

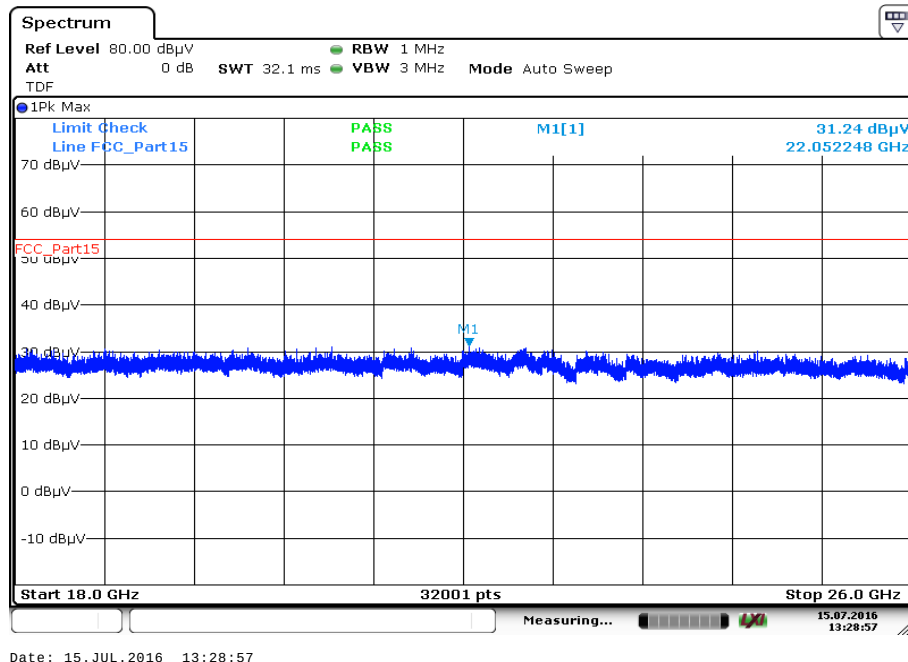
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
37.858650	22.63	30.00	7.37	1000.0	120.000	170.0	V	100.0	13.9
40.785750	26.64	30.00	3.36	1000.0	120.000	170.0	V	280.0	14.0
53.091900	20.13	30.00	9.87	1000.0	120.000	101.0	V	190.0	12.1
126.819900	14.72	33.50	18.78	1000.0	120.000	101.0	V	261.0	9.6
185.198250	25.92	33.50	7.58	1000.0	120.000	98.0	V	261.0	10.7
879.769650	21.37	36.00	14.63	1000.0	120.000	101.0	H	280.0	23.8

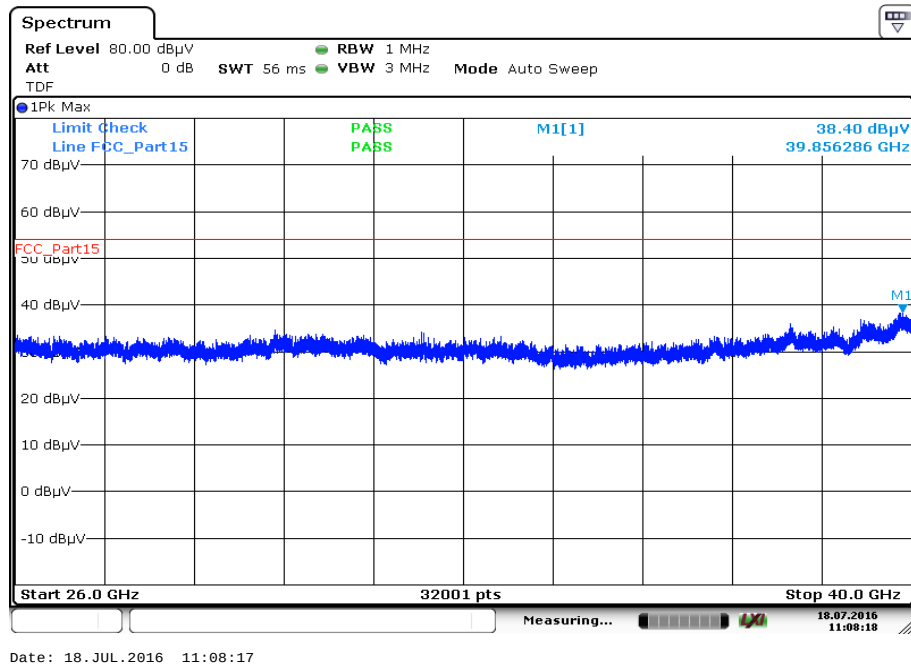
Plot 80: 1 GHz to 7 GHz, 5210 MHz, vertical & horizontal polarization**Plot 81:** 7 GHz to 18 GHz, 5210 MHz, vertical & horizontal polarization

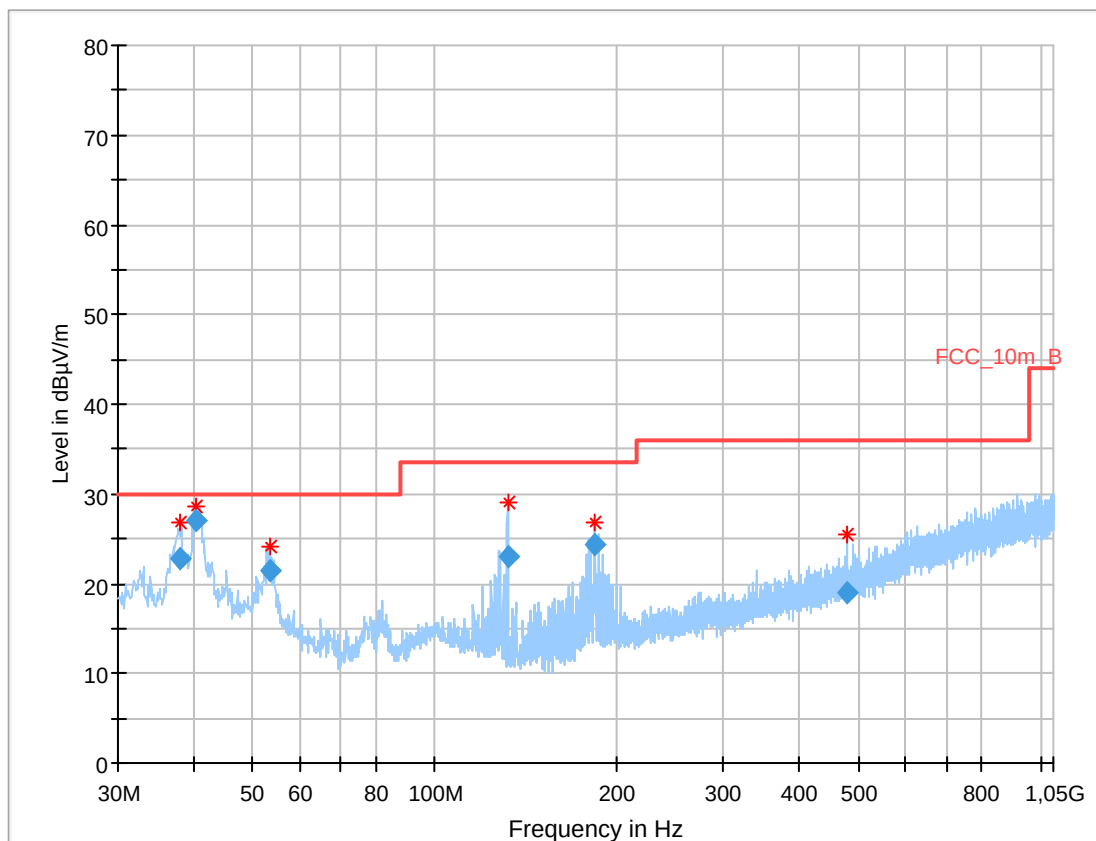
Plot 82: 17.7 GHz to 18 GHz, 5210 MHz, vertical & horizontal polarization



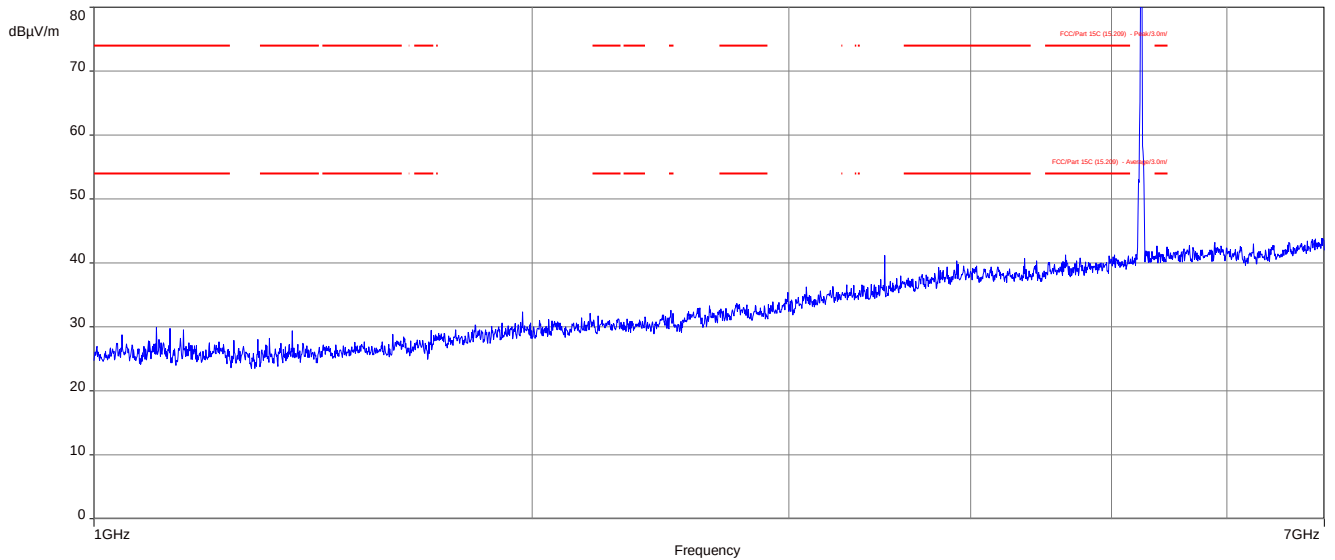
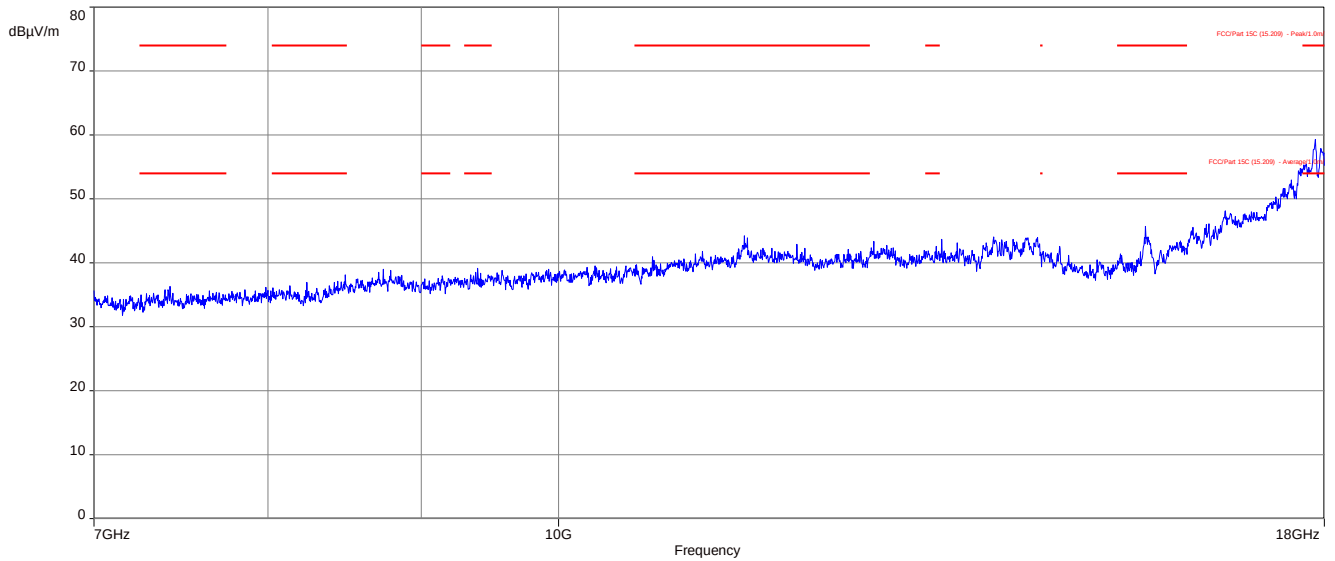
Plot 83: 18 GHz to 26 GHz, 5210 MHz, vertical & horizontal polarization



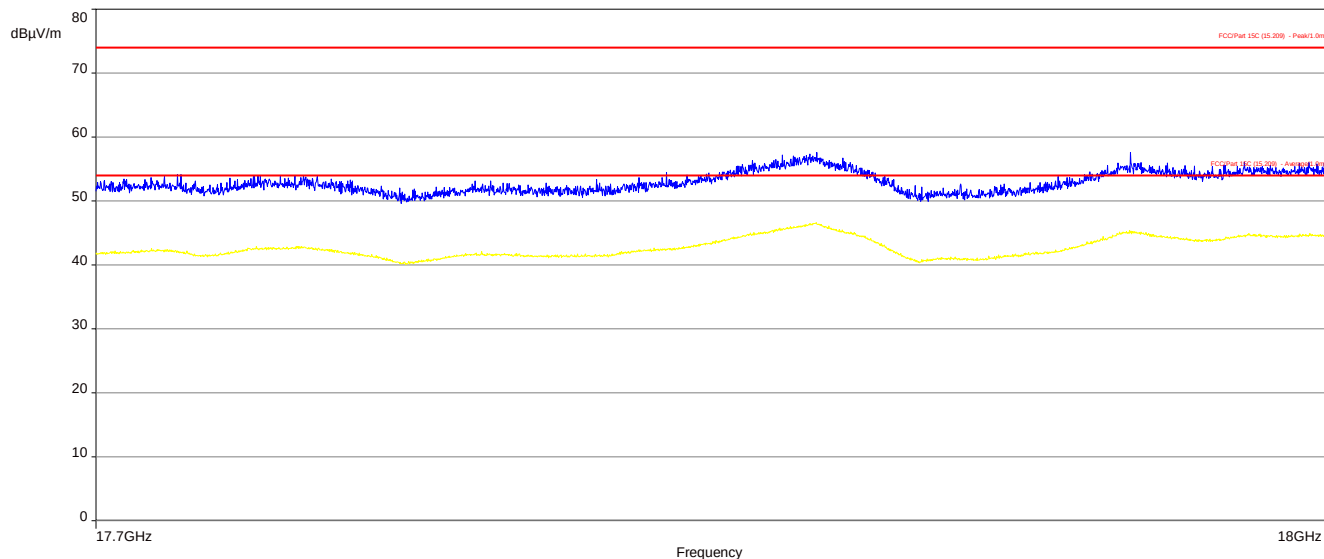
Plot 84: 26 GHz to 40 GHz, 5210 MHz, vertical & horizontal polarization

Plot 85: 30 MHz to 1 GHz, 5240 MHz, vertical & horizontal polarization**Final Result**

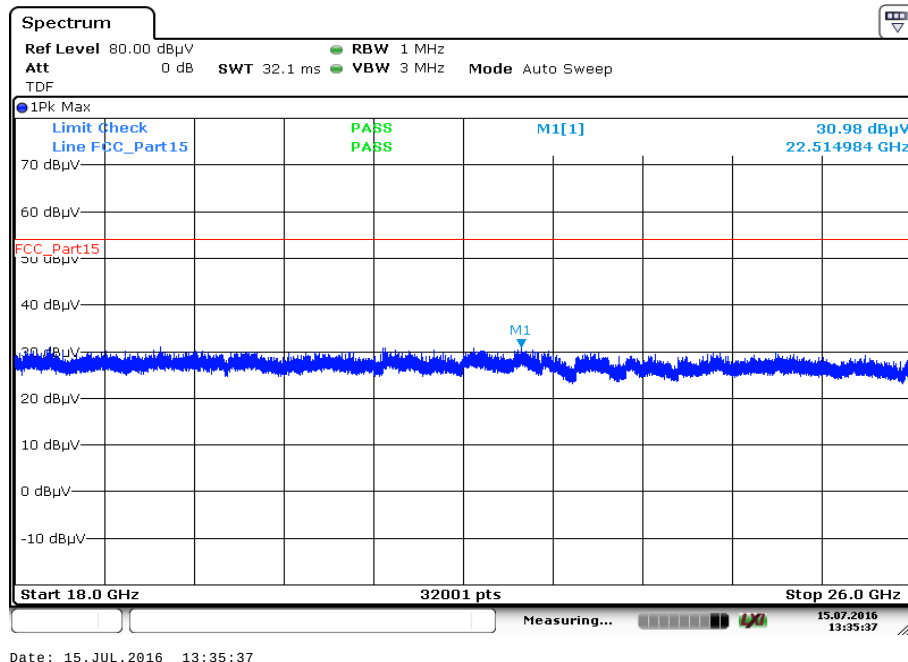
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
37.929900	22.75	30.00	7.25	1000.0	120.000	170.0	V	261.0	13.9
40.515450	27.06	30.00	2.94	1000.0	120.000	170.0	V	10.0	14.0
53.320500	21.35	30.00	8.65	1000.0	120.000	101.0	V	-10.0	12.1
132.005400	23.05	33.50	10.45	1000.0	120.000	98.0	V	80.0	9.3
183.236400	24.29	33.50	9.21	1000.0	120.000	98.0	V	260.0	10.6
479.974050	18.96	36.00	17.04	1000.0	120.000	170.0	H	280.0	18.3

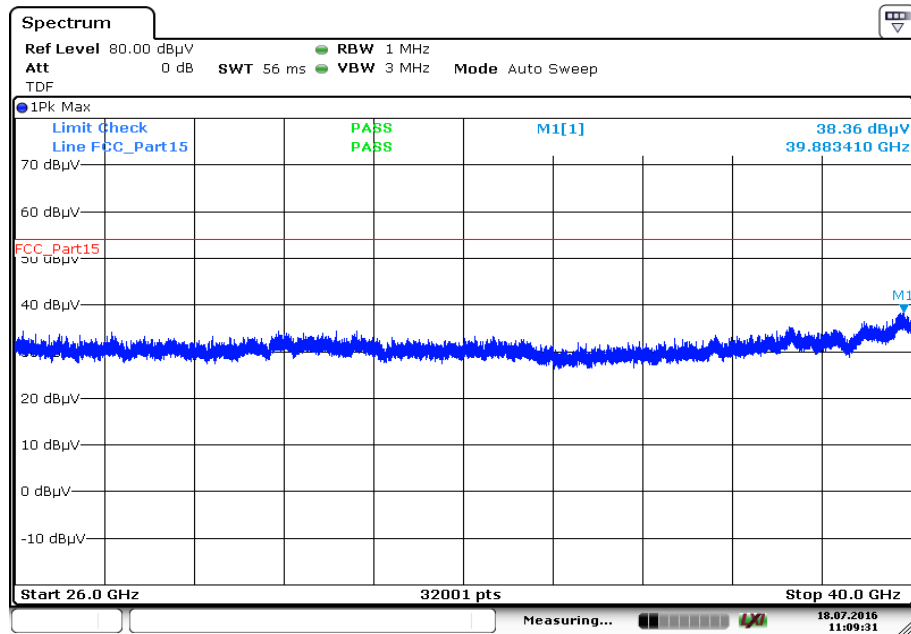
Plot 86: 1 GHz to 7 GHz, 5240 MHz, vertical & horizontal polarization**Plot 87:** 7 GHz to 18 GHz, 5240 MHz, vertical & horizontal polarization

Plot 88: 17.7 GHz to 18 GHz, 5240 MHz, vertical & horizontal polarization

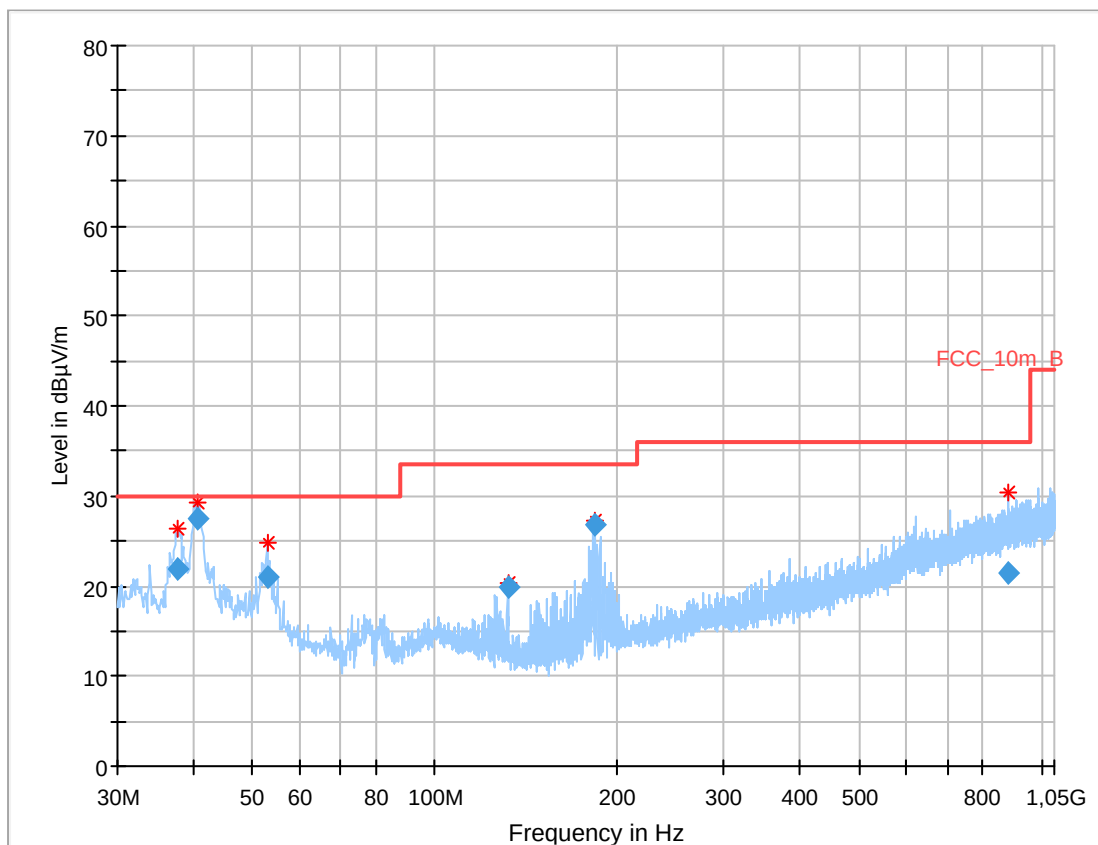


Plot 89: 18 GHz to 26 GHz, 5240 MHz, vertical & horizontal polarization



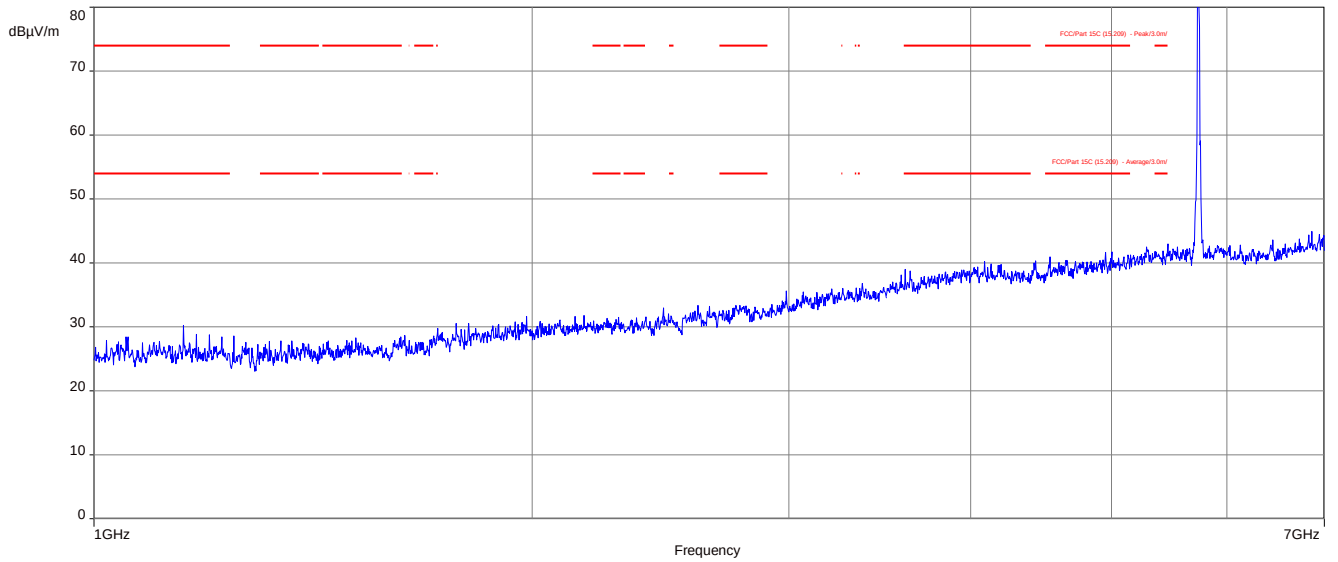
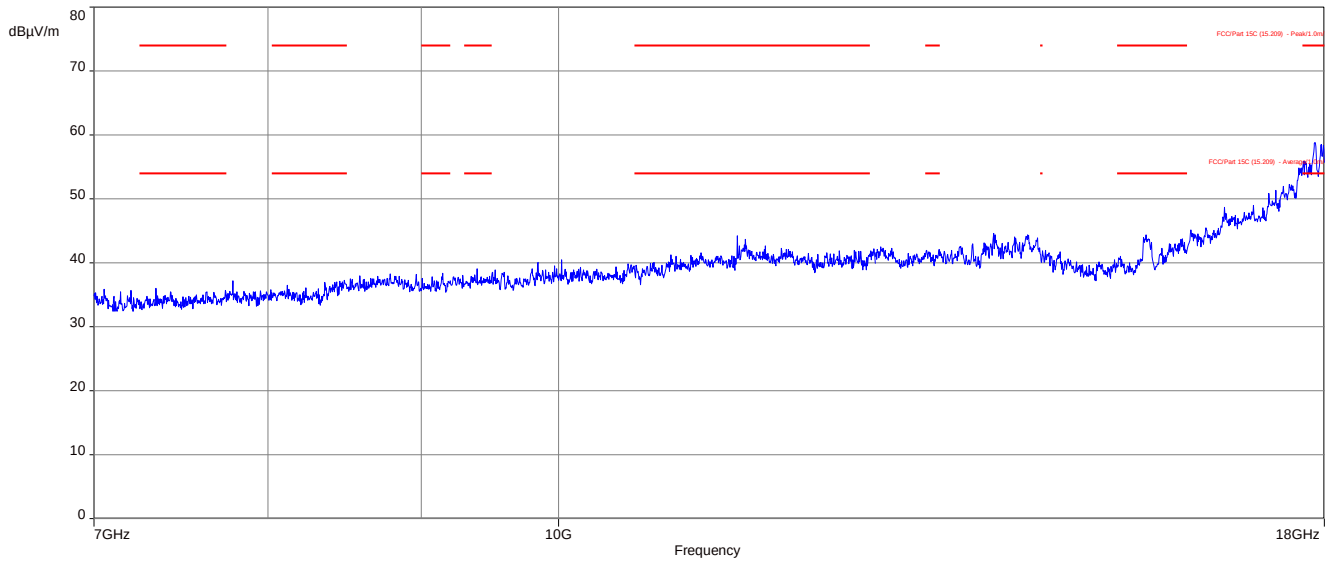
Plot 90: 26 GHz to 40 GHz, 5240 MHz, vertical & horizontal polarization

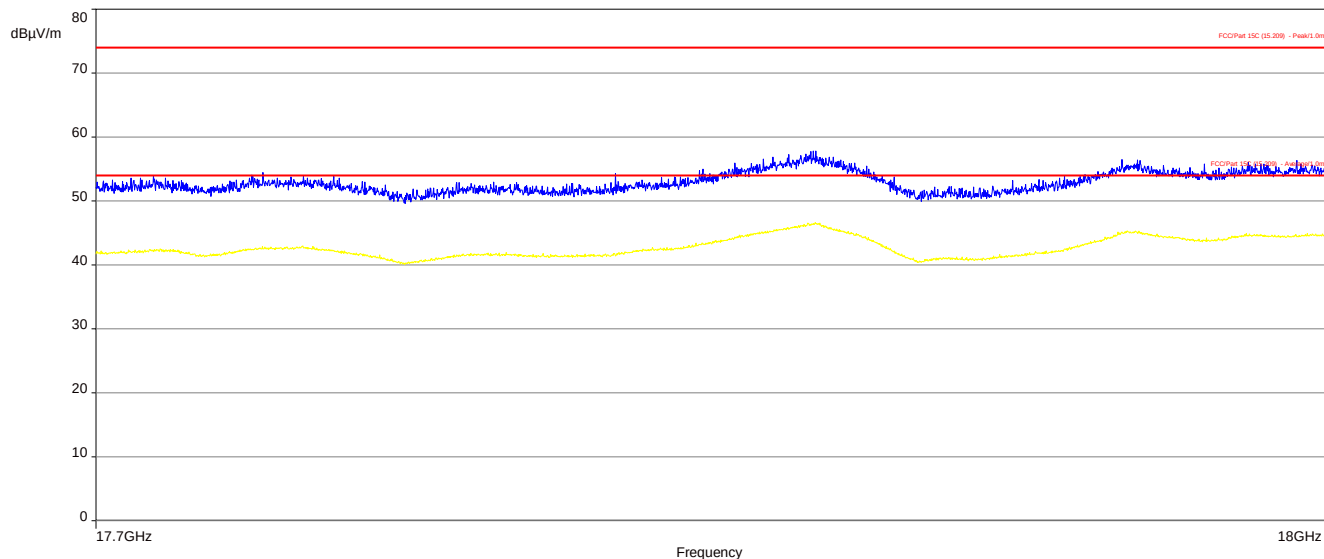
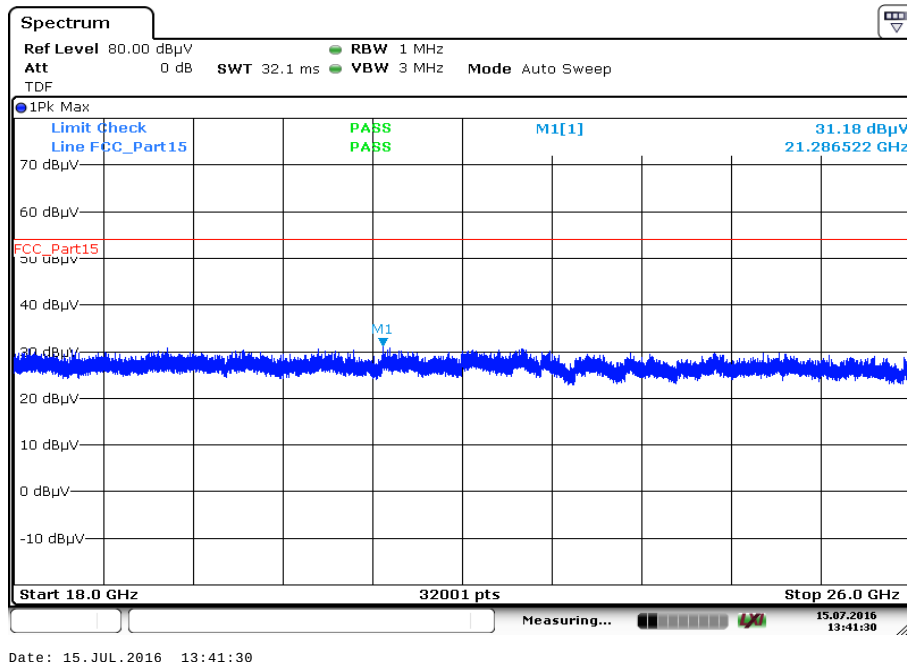
Date: 18.JUL.2016 11:09:31

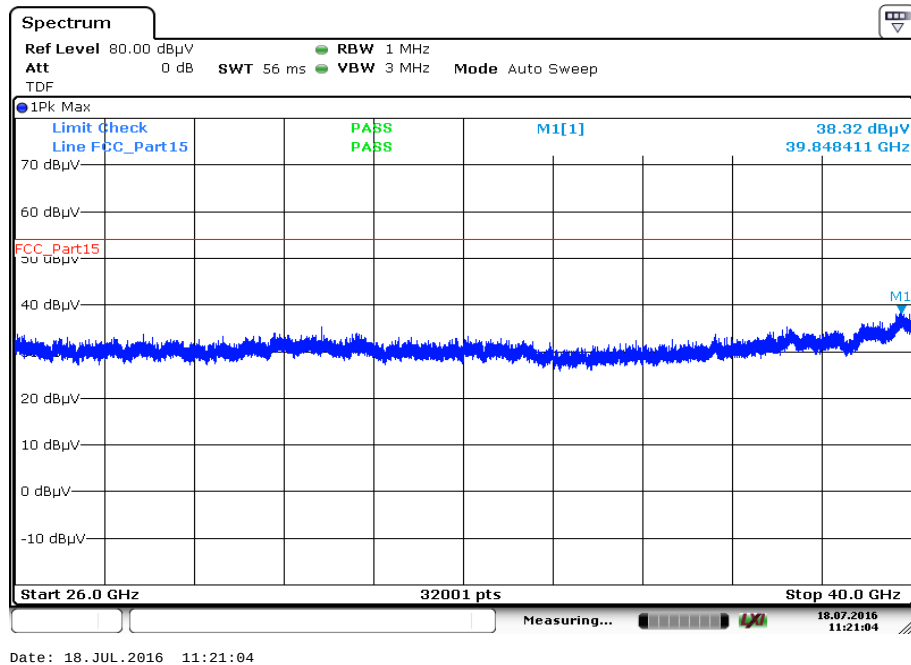
Plot 91: 30 MHz to 1 GHz, 5736 MHz, vertical & horizontal polarization

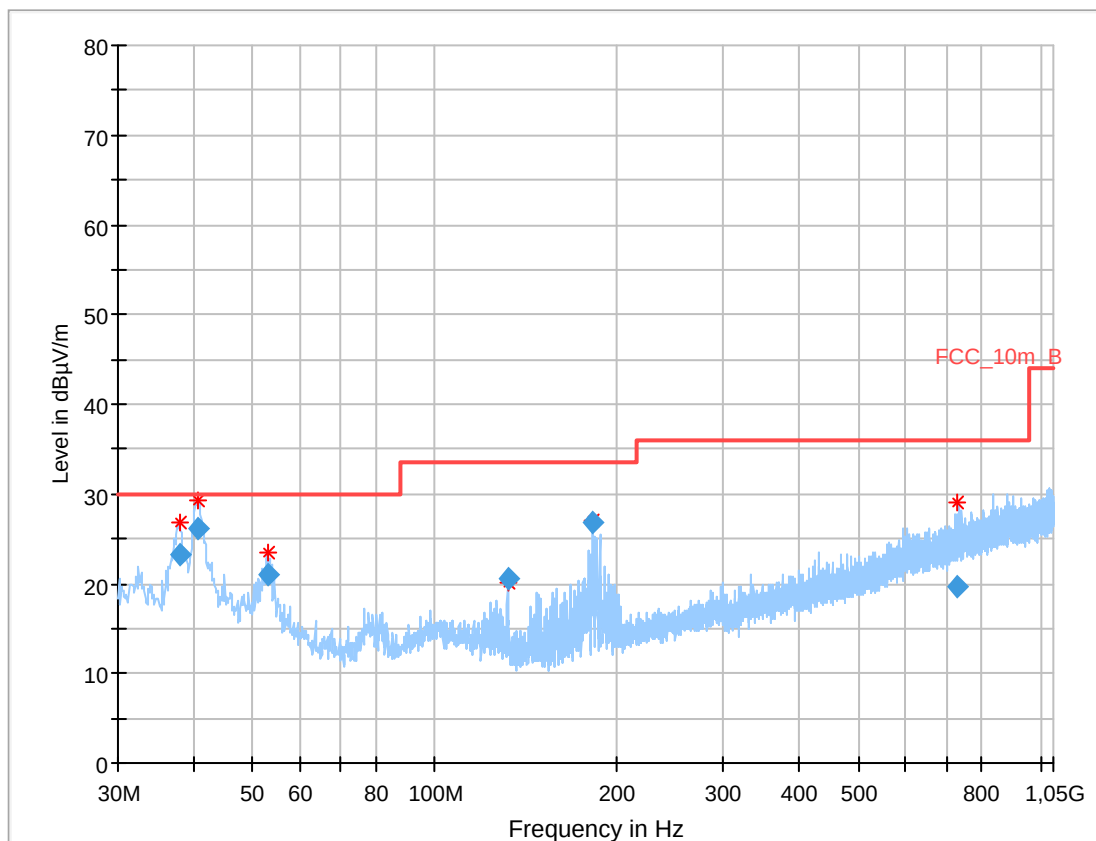
Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
37.661400	22.01	30.00	7.99	1000.0	120.000	170.0	V	100.0	13.9
40.583700	27.49	30.00	2.51	1000.0	120.000	101.0	V	10.0	14.0
52.988850	20.90	30.00	9.10	1000.0	120.000	101.0	V	-10.0	12.2
131.997450	19.99	33.50	13.51	1000.0	120.000	98.0	V	80.0	9.3
184.248900	26.71	33.50	6.79	1000.0	120.000	98.0	V	260.0	10.7
882.302850	21.35	36.00	14.65	1000.0	120.000	98.0	H	10.0	23.9

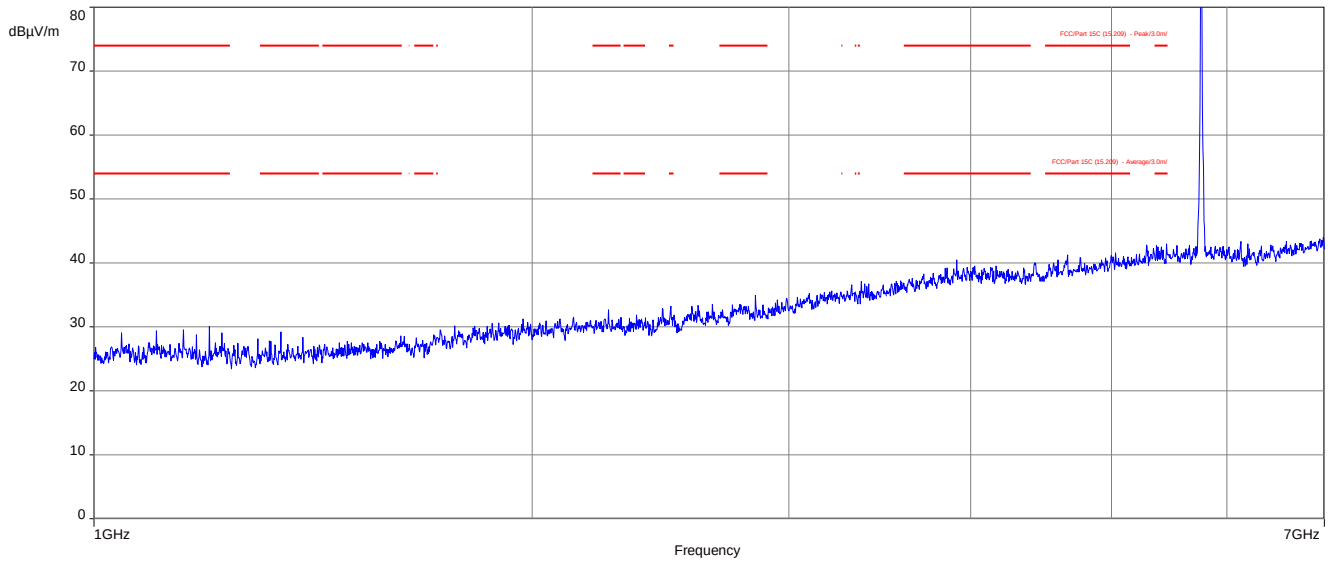
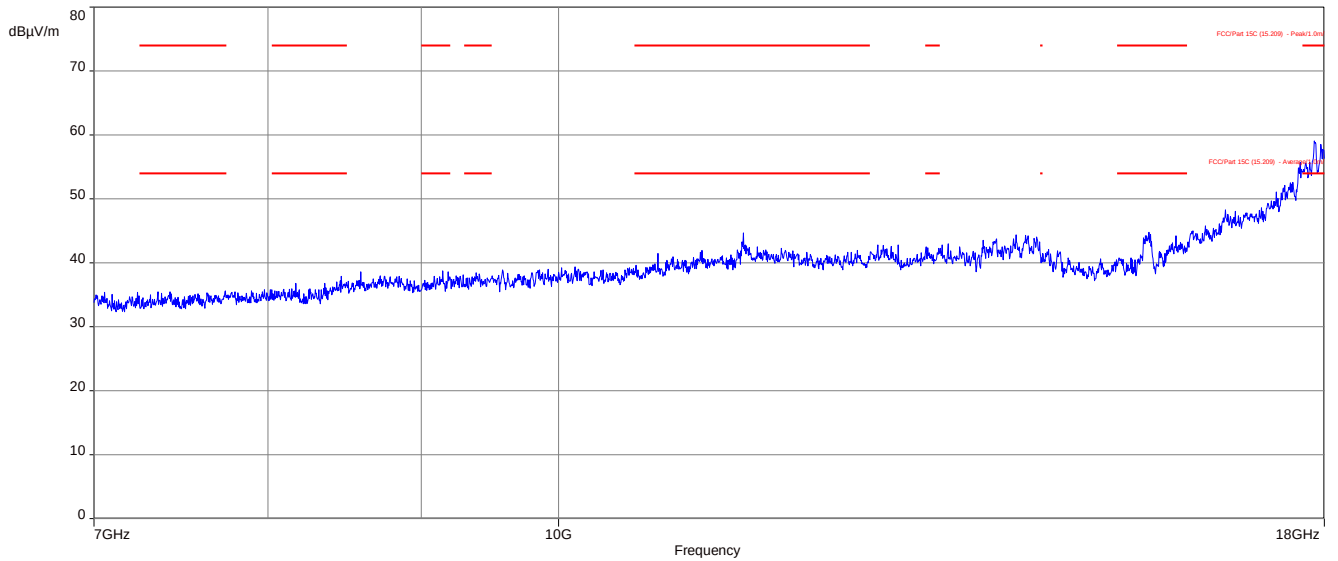
Plot 92: 1 GHz to 7 GHz, 5736 MHz, vertical & horizontal polarization**Plot 93:** 7 GHz to 18 GHz, 5736 MHz, vertical & horizontal polarization

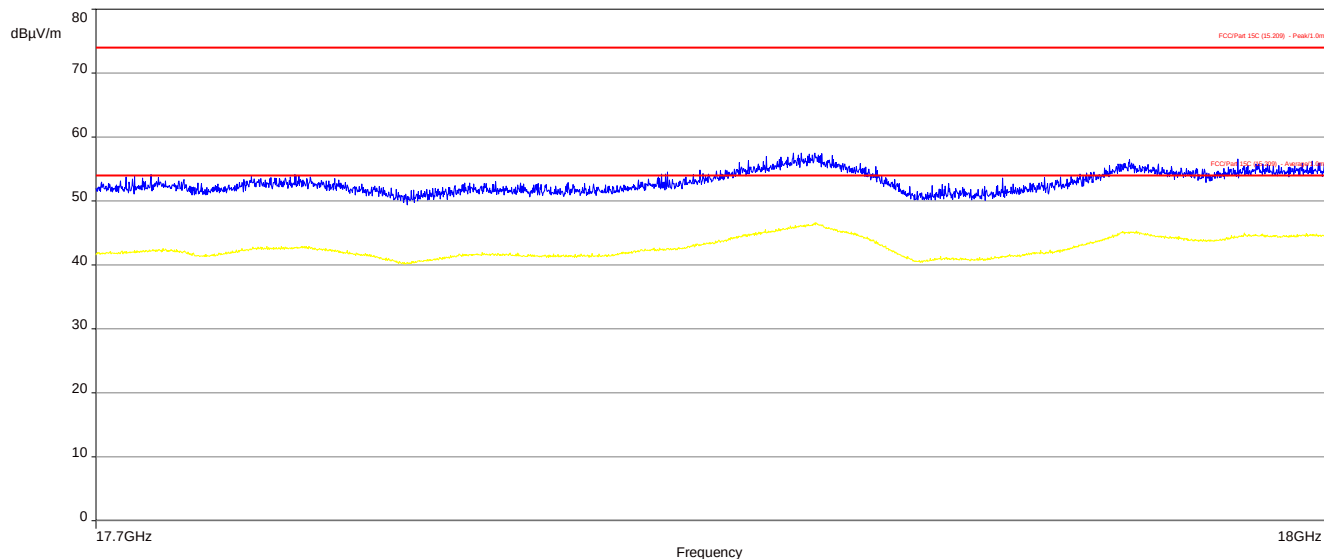
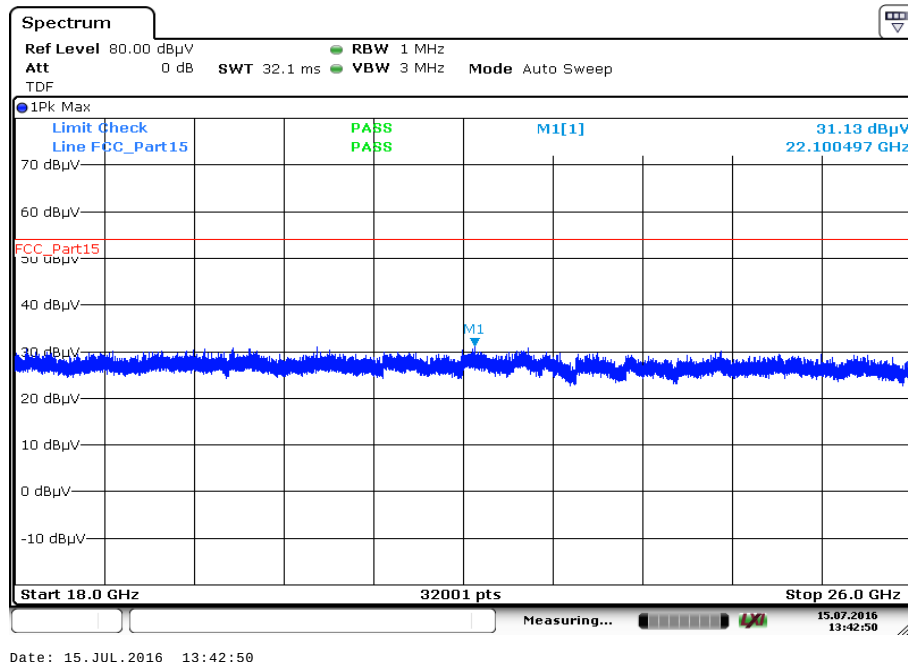
Plot 94: 17.7 GHz to 18 GHz, 5736 MHz, vertical & horizontal polarization**Plot 95:** 18 GHz to 26 GHz, 5736 MHz, vertical & horizontal polarization

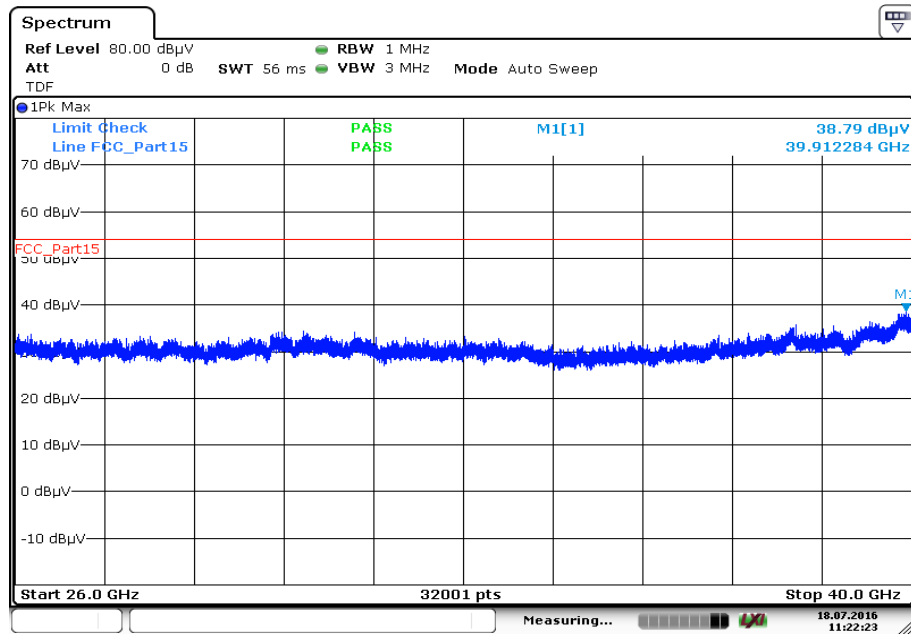
Plot 96: 26 GHz to 40 GHz, 5736 MHz, vertical & horizontal polarization

Plot 97: 30 MHz to 1 GHz, 5762 MHz, vertical & horizontal polarization**Final Result**

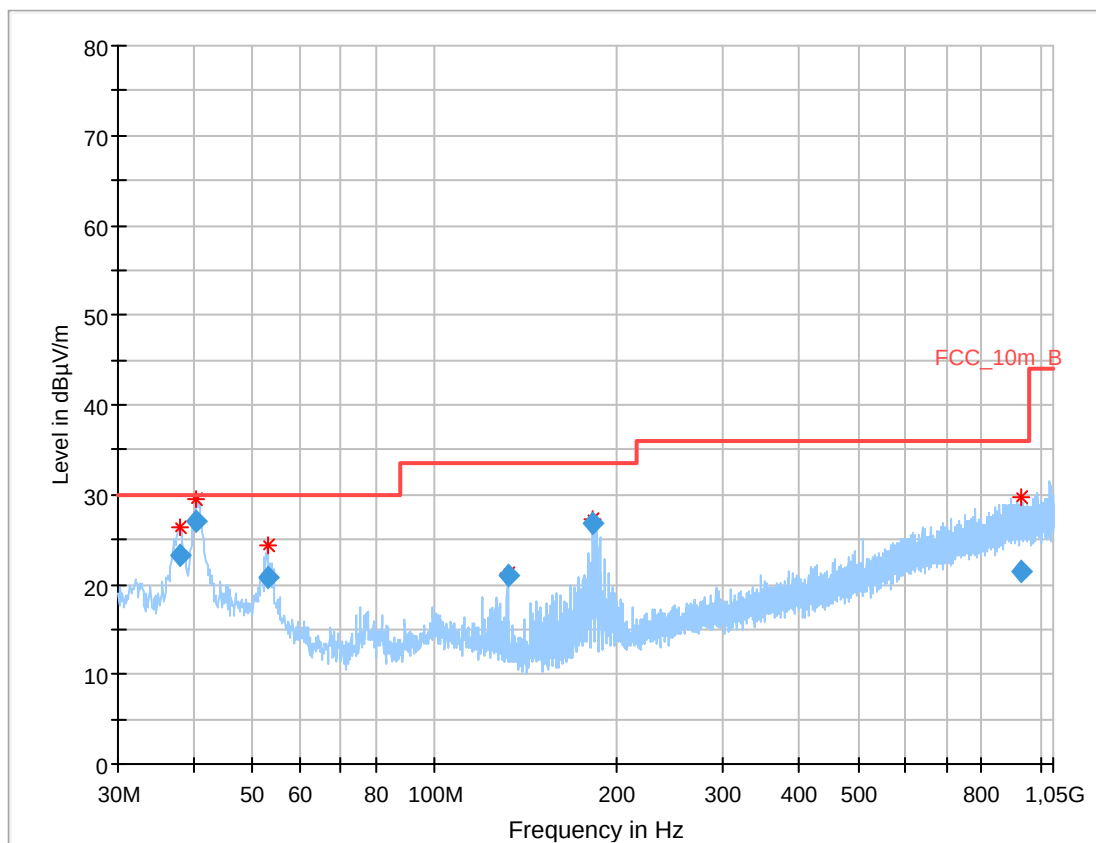
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
38.003700	23.29	30.00	6.71	1000.0	120.000	98.0	V	-10.0	13.9
40.805550	26.12	30.00	3.88	1000.0	120.000	100.0	V	100.0	14.0
52.965900	20.91	30.00	9.09	1000.0	120.000	98.0	V	-9.0	12.2
131.986050	20.51	33.50	12.99	1000.0	120.000	101.0	V	10.0	9.3
182.248200	26.74	33.50	6.76	1000.0	120.000	101.0	V	260.0	10.5
730.961700	19.68	36.00	16.32	1000.0	120.000	170.0	V	190.0	22.3

Plot 98: 1 GHz to 7 GHz, 5762 MHz, vertical & horizontal polarization**Plot 99:** 7 GHz to 18 GHz, 5762 MHz, vertical & horizontal polarization

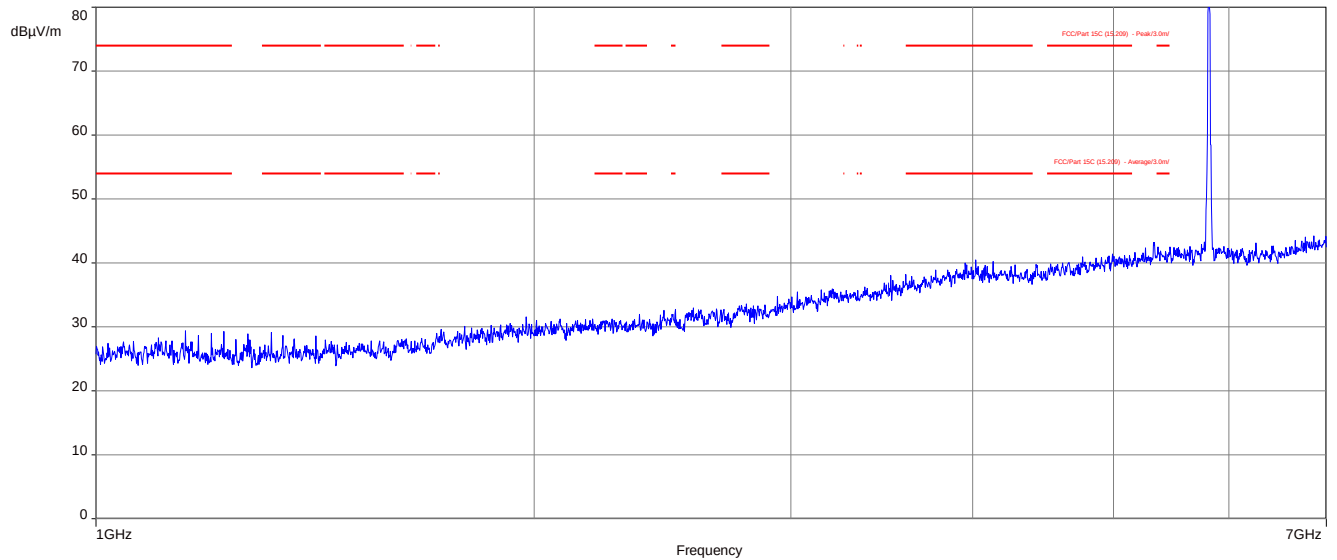
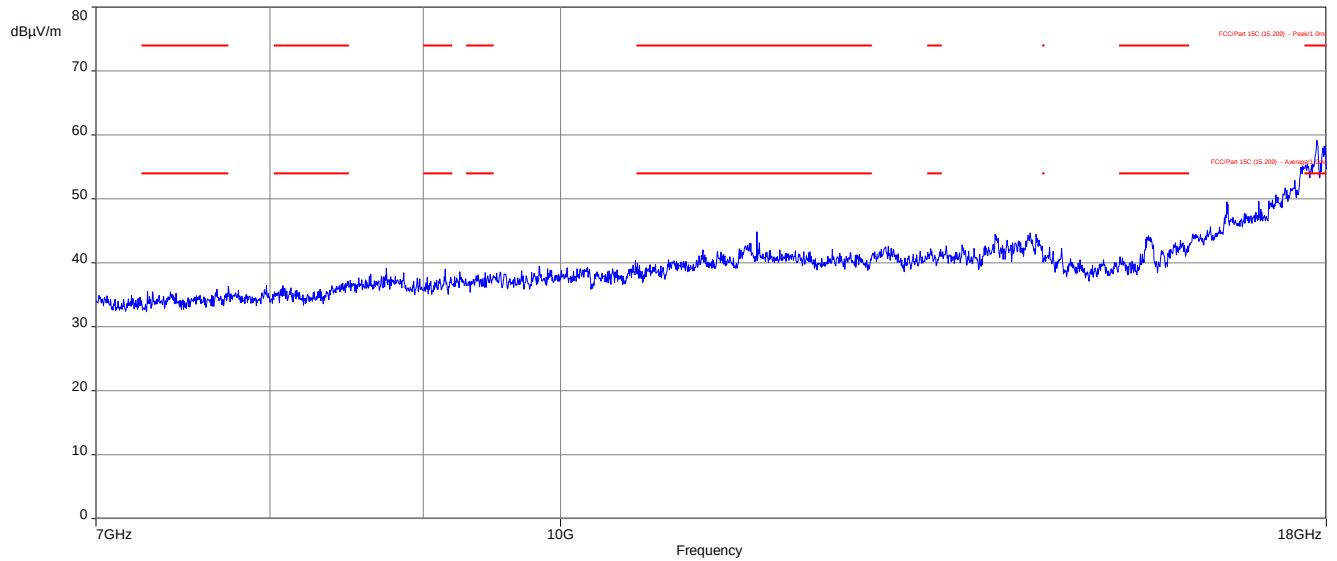
Plot 100: 17.7 GHz to 18 GHz, 5762 MHz, vertical & horizontal polarization**Plot 101:** 18 GHz to 26 GHz, 5762 MHz, vertical & horizontal polarization

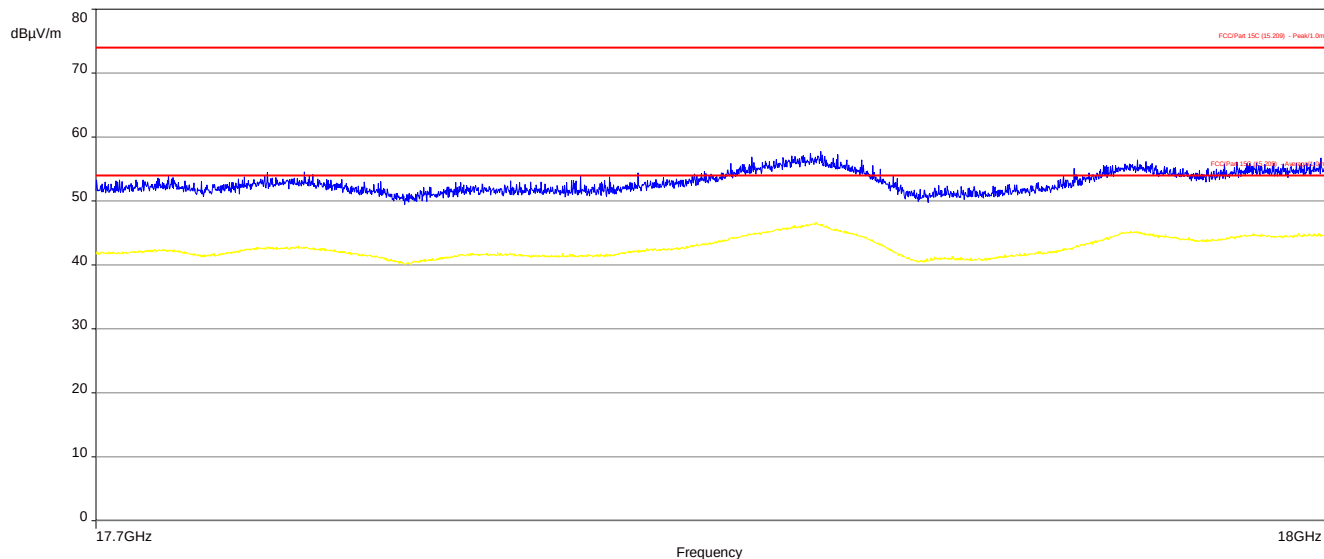
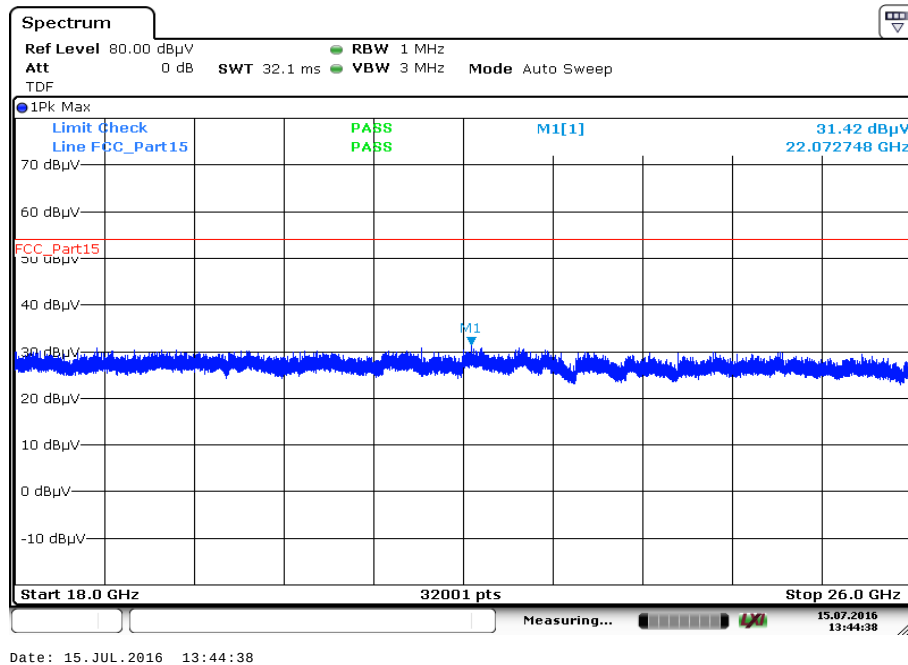
Plot 102: 26 GHz to 40 GHz, 5762 MHz, vertical & horizontal polarization

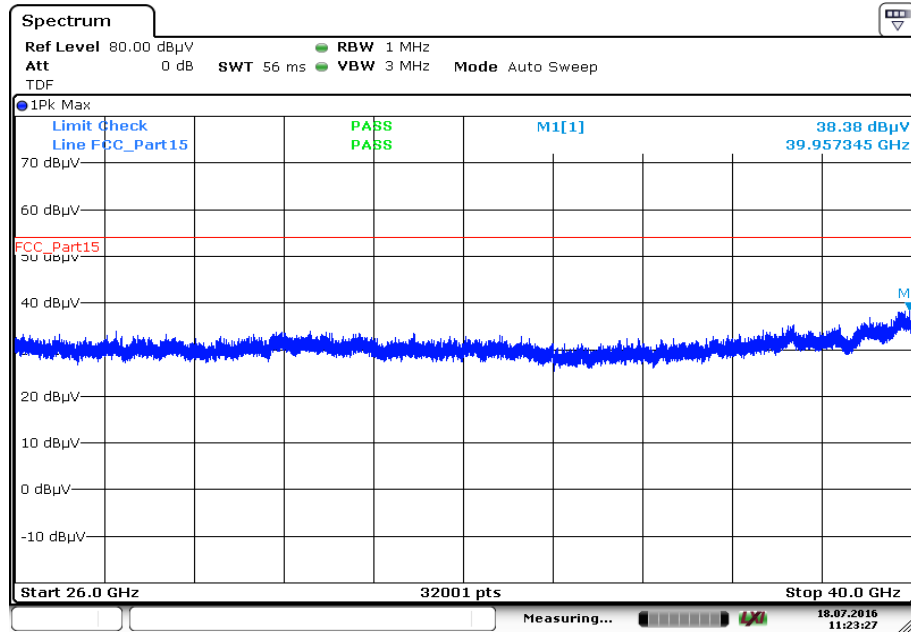
Date: 18.JUL.2016 11:22:23

Plot 103: 30 MHz to 1 GHz, 5814 MHz, vertical & horizontal polarization**Final Result**

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
37.879200	23.25	30.00	6.75	1000.0	120.000	98.0	V	170.0	13.9
40.475700	26.96	30.00	3.04	1000.0	120.000	101.0	V	261.0	14.0
53.084700	20.84	30.00	9.16	1000.0	120.000	98.0	V	-9.0	12.1
132.005100	21.09	33.50	12.41	1000.0	120.000	98.0	V	81.0	9.3
182.212650	26.87	33.50	6.63	1000.0	120.000	98.0	V	260.0	10.5
929.447250	21.42	36.00	14.58	1000.0	120.000	170.0	H	261.0	24.2

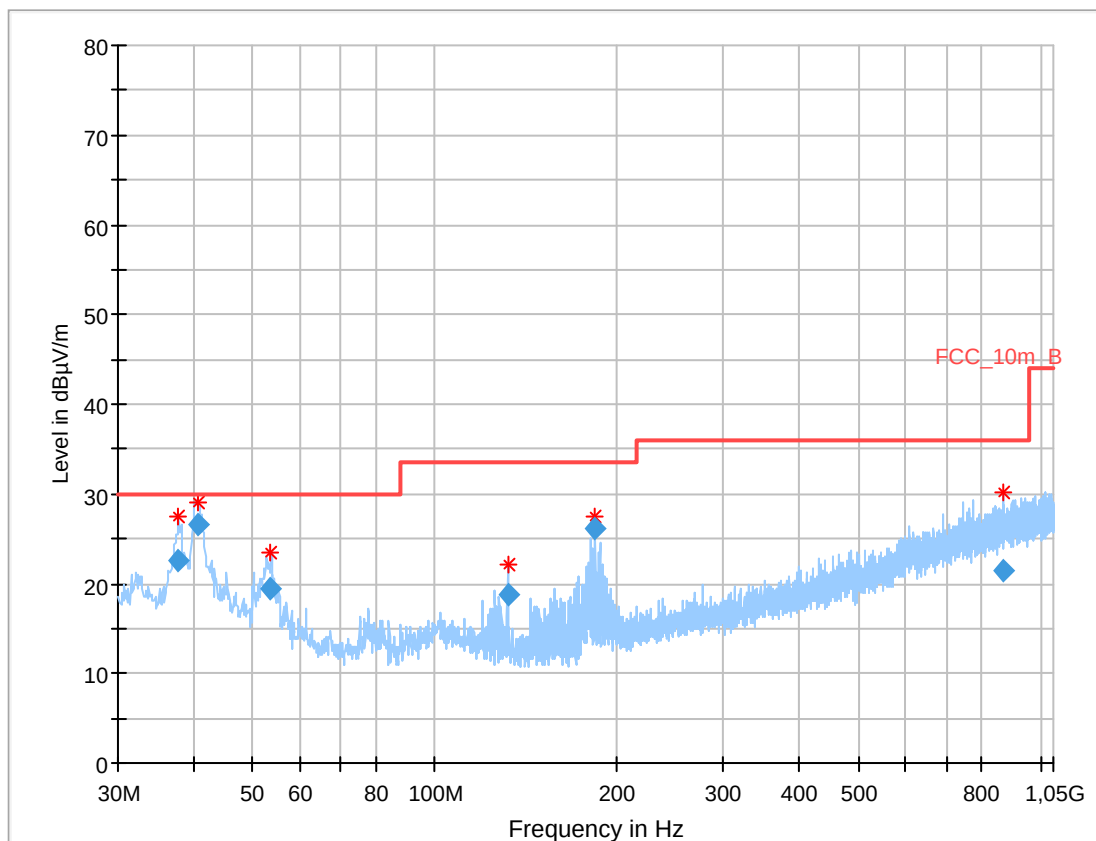
Plot 104: 1 GHz to 7 GHz, 5814 MHz, vertical & horizontal polarization**Plot 105:** 7 GHz to 18 GHz, 5814 MHz, vertical & horizontal polarization

Plot 106: 17.7 GHz to 18 GHz, 5814 MHz, vertical & horizontal polarization**Plot 107:** 18 GHz to 26 GHz, 5814 MHz, vertical & horizontal polarization

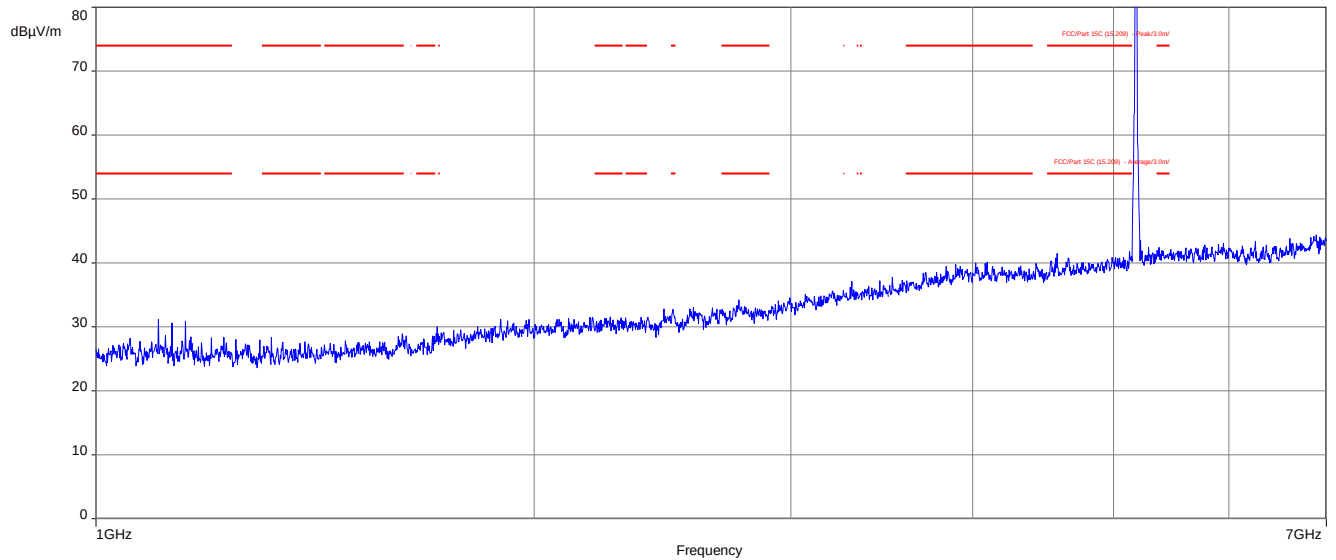
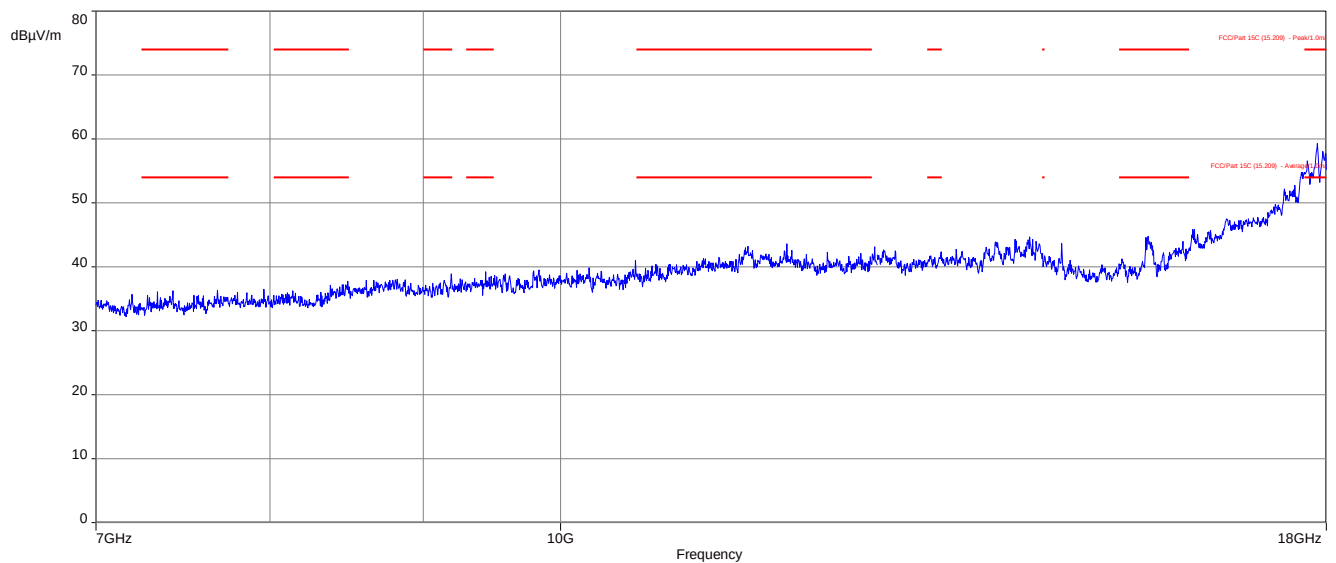
Plot 108: 26 GHz to 40 GHz, 5814 MHz, vertical & horizontal polarization

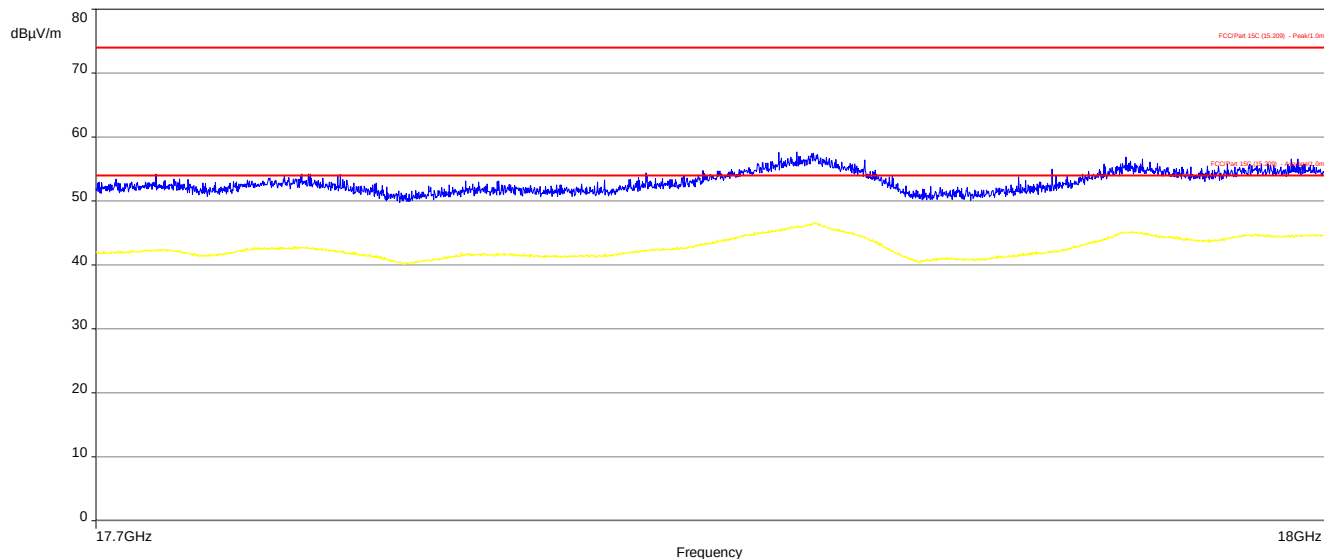
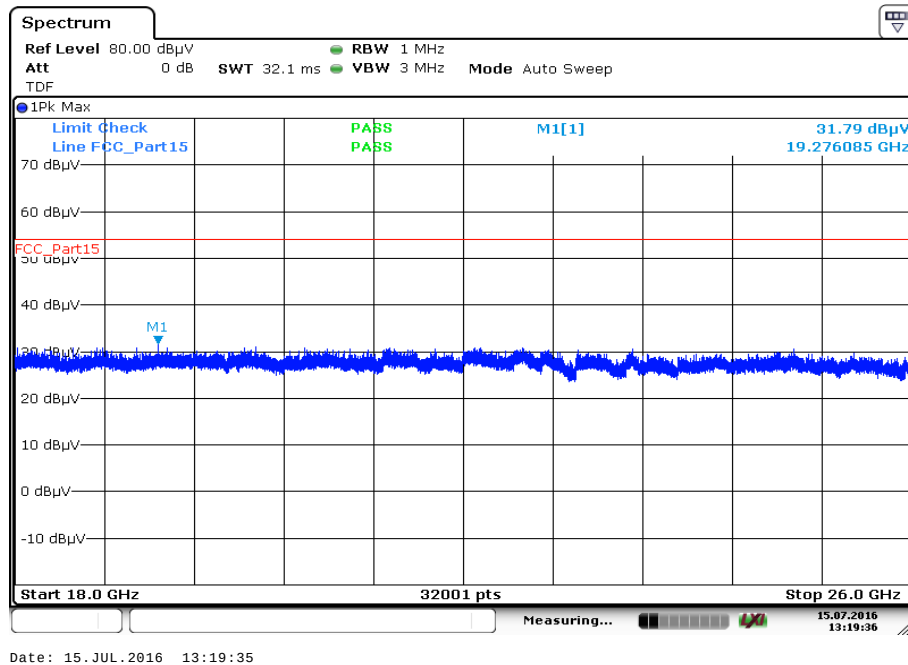
Date: 18.JUL.2016 11:23:27

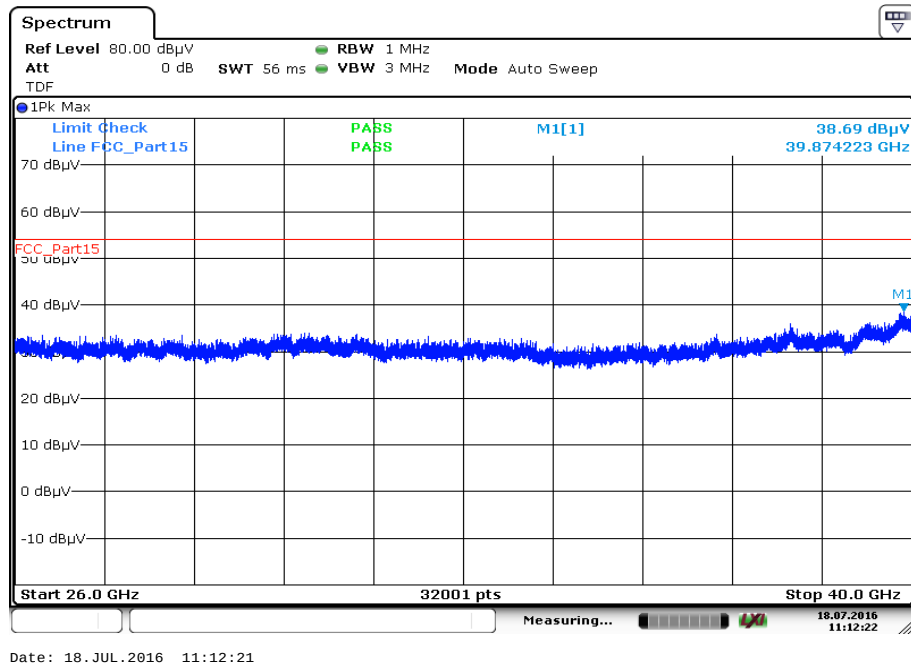
Plots: QPSK Antenna B

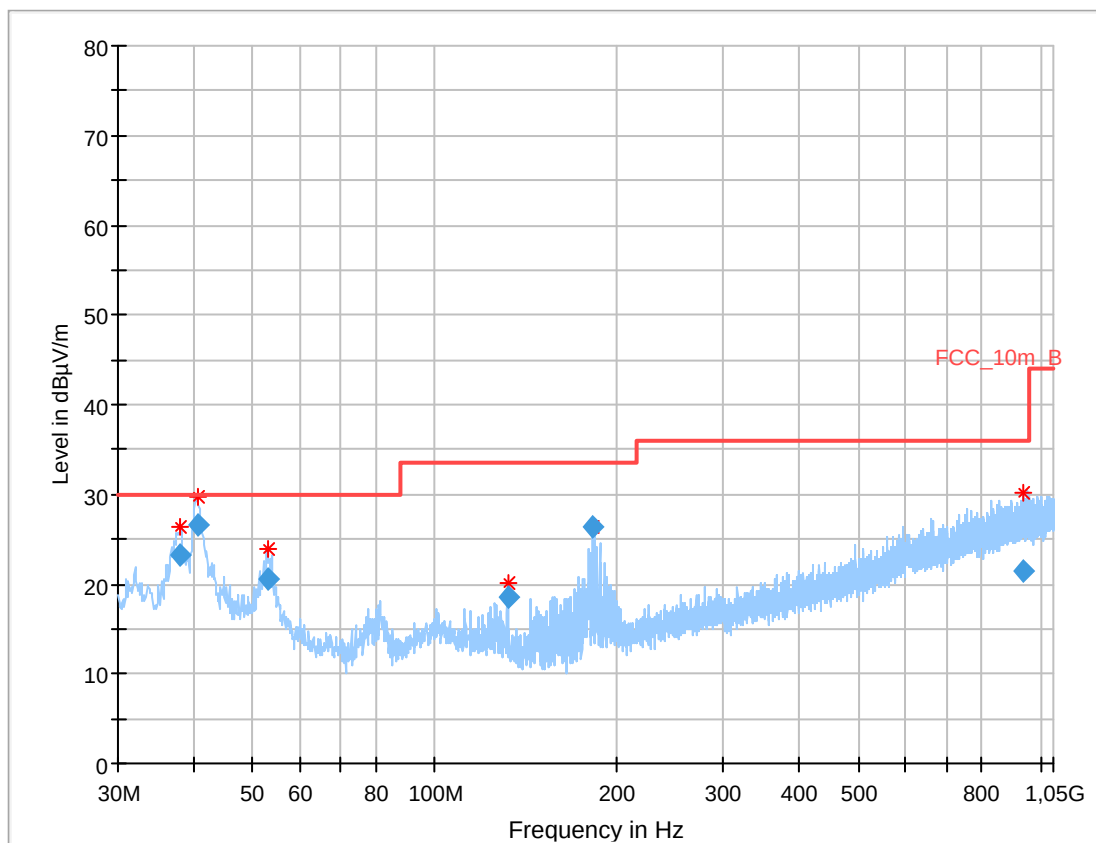
Plot 109: 30 MHz to 1 GHz, 5180 MHz, vertical & horizontal polarization

Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
37.660950	22.68	30.00	7.32	1000.0	120.000	101.0	V	-9.0	13.9
40.547700	26.63	30.00	3.37	1000.0	120.000	101.0	V	10.0	14.0
53.647500	19.41	30.00	10.59	1000.0	120.000	101.0	V	81.0	12.1
131.988300	18.74	33.50	14.76	1000.0	120.000	98.0	V	80.0	9.3
184.261350	26.13	33.50	7.37	1000.0	120.000	98.0	V	260.0	10.7
868.793550	21.37	36.00	14.63	1000.0	120.000	101.0	H	81.0	23.7

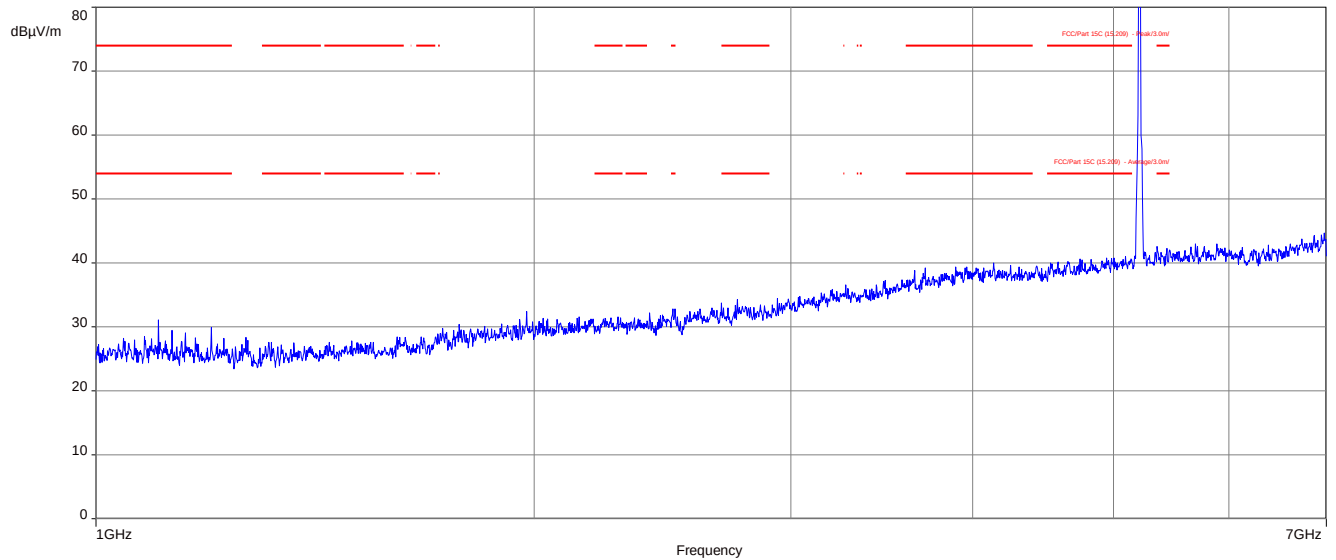
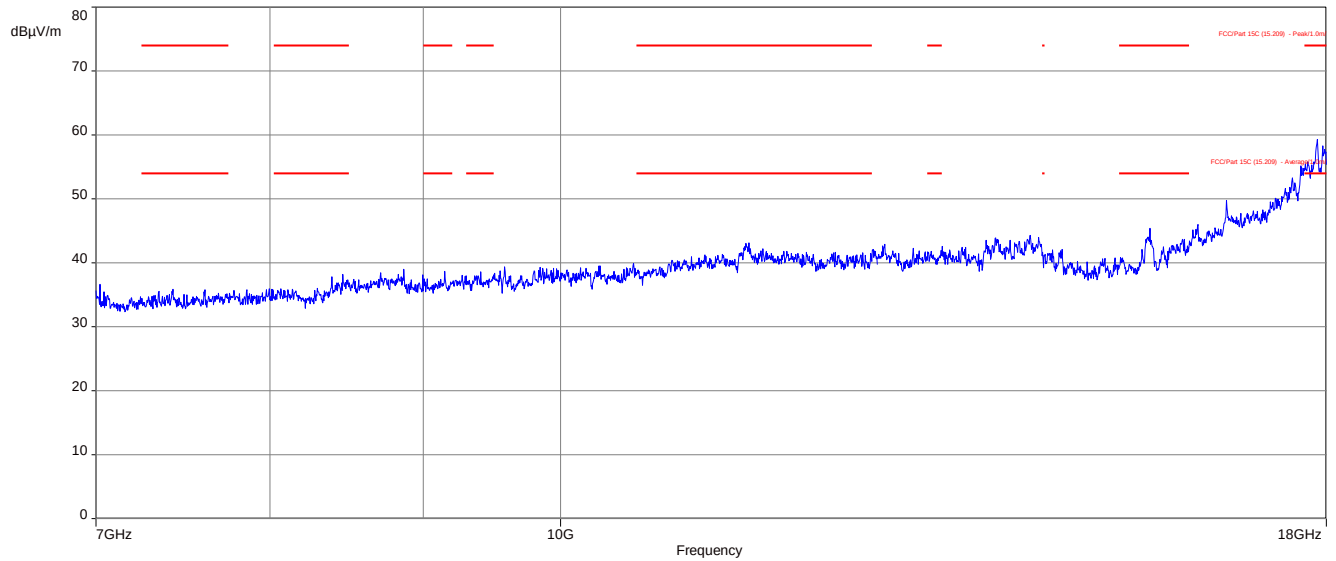
Plot 110: 1 GHz to 7 GHz, 5180 MHz, vertical & horizontal polarization**Plot 111:** 7 GHz to 18 GHz, 5180 MHz, vertical & horizontal polarization

Plot 112: 17.7 GHz to 18 GHz, 5180 MHz, vertical & horizontal polarization**Plot 113:** 18 GHz to 26 GHz, 5180 MHz, vertical & horizontal polarization

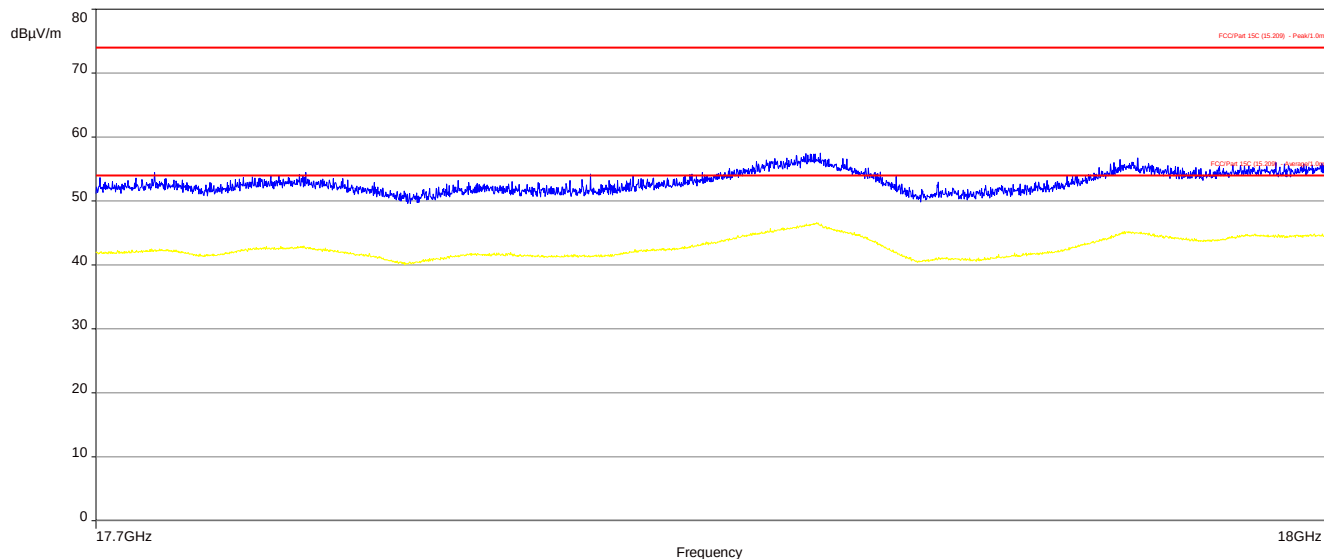
Plot 114: 26 GHz to 40 GHz, 5180 MHz, vertical & horizontal polarization

Plot 115: 30 MHz to 1 GHz, 5210 MHz, vertical & horizontal polarization**Final Result**

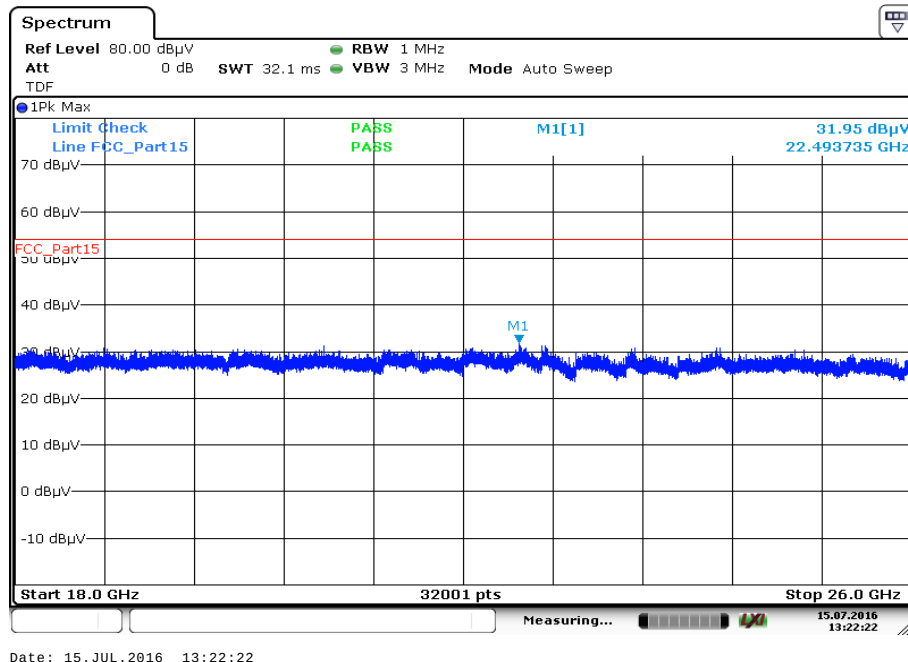
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
38.011800	23.27	30.00	6.73	1000.0	120.000	101.0	V	100.0	13.9
40.817400	26.62	30.00	3.38	1000.0	120.000	101.0	V	10.0	14.0
53.045250	20.64	30.00	9.36	1000.0	120.000	101.0	V	10.0	12.1
132.019050	18.51	33.50	14.99	1000.0	120.000	100.0	V	80.0	9.3
182.198250	26.46	33.50	7.04	1000.0	120.000	98.0	V	260.0	10.5
937.743450	21.49	36.00	14.51	1000.0	120.000	170.0	V	10.0	24.2

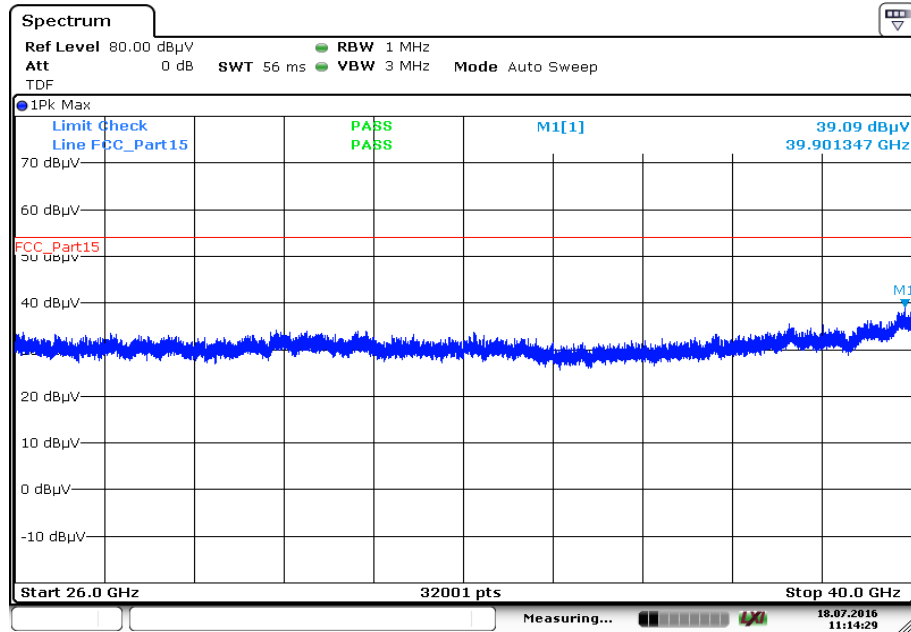
Plot 116: 1 GHz to 7 GHz, 5210 MHz, vertical & horizontal polarization**Plot 117:** 7 GHz to 18 GHz, 5210 MHz, vertical & horizontal polarization

Plot 118: 17.7 GHz to 18 GHz, 5210 MHz, vertical & horizontal polarization

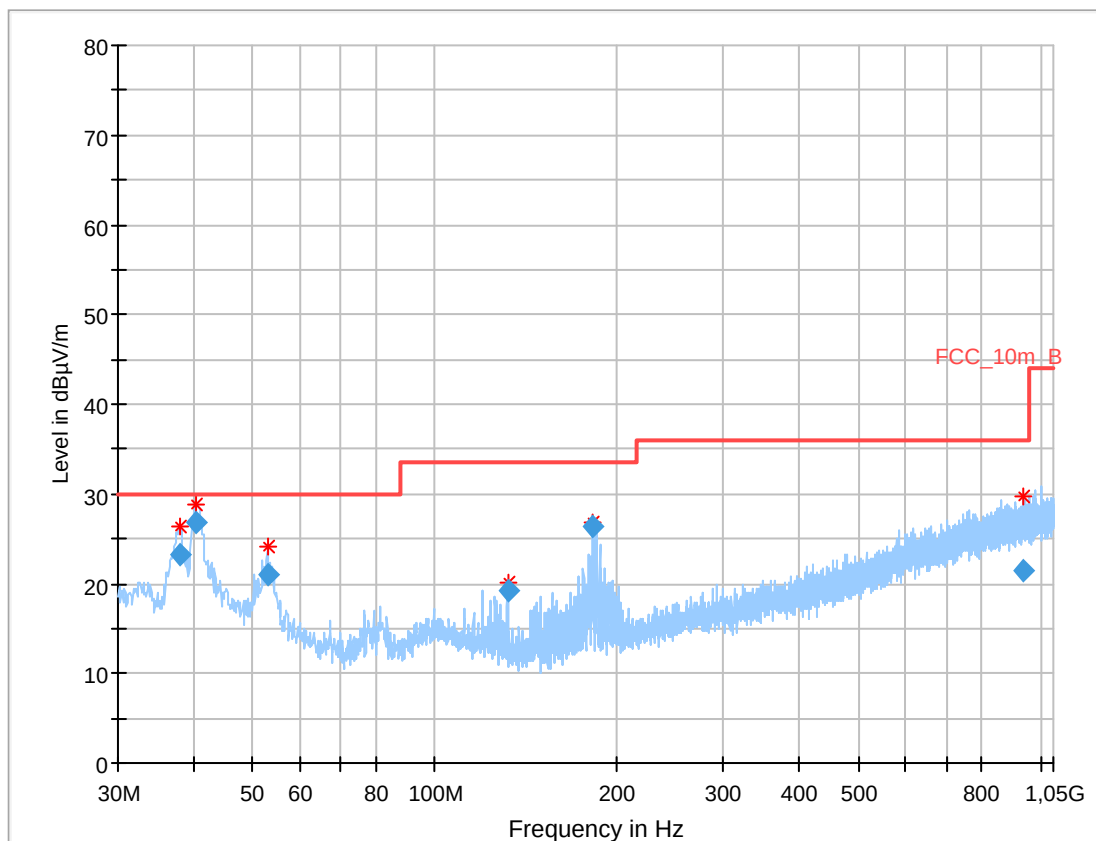


Plot 119: 18 GHz to 26 GHz, 5210 MHz, vertical & horizontal polarization

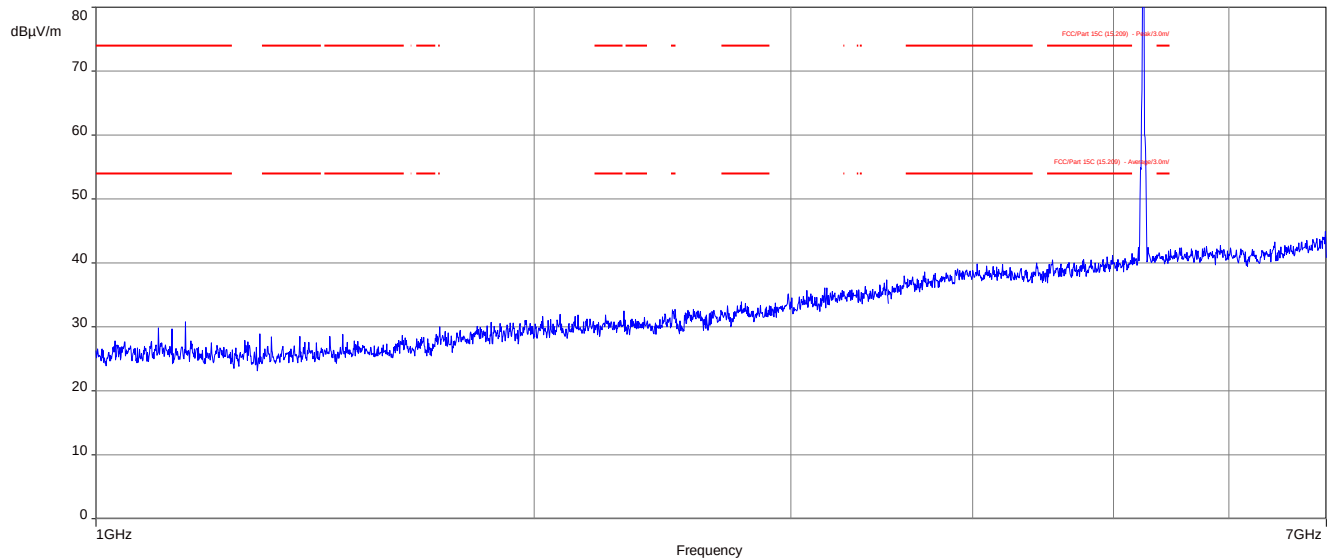
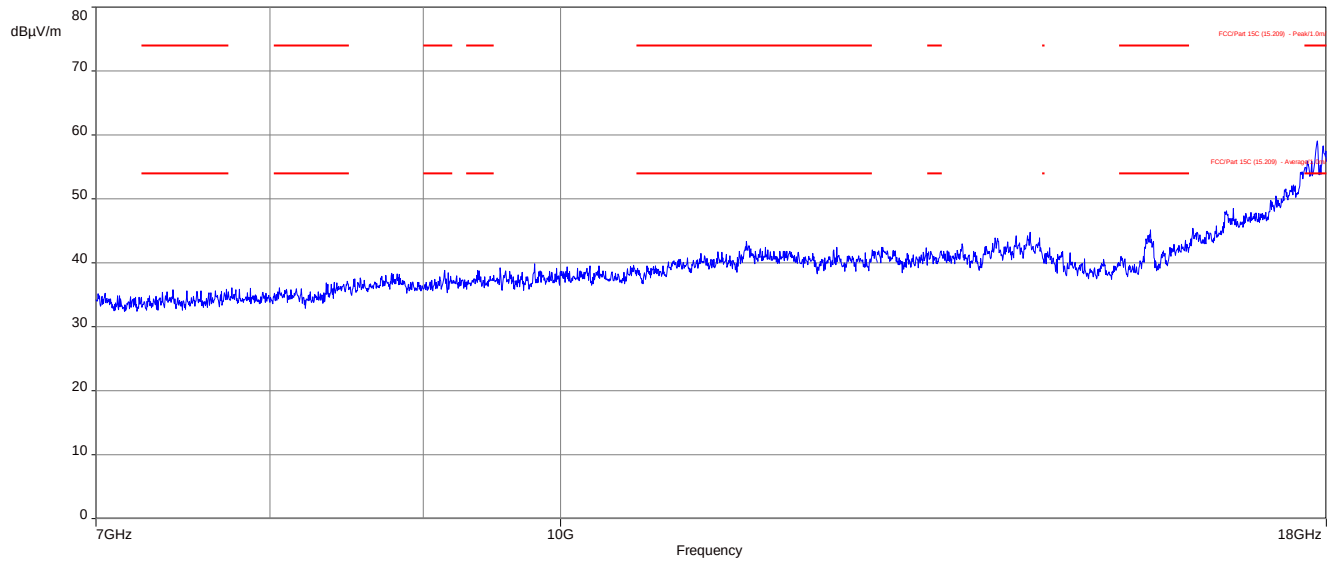


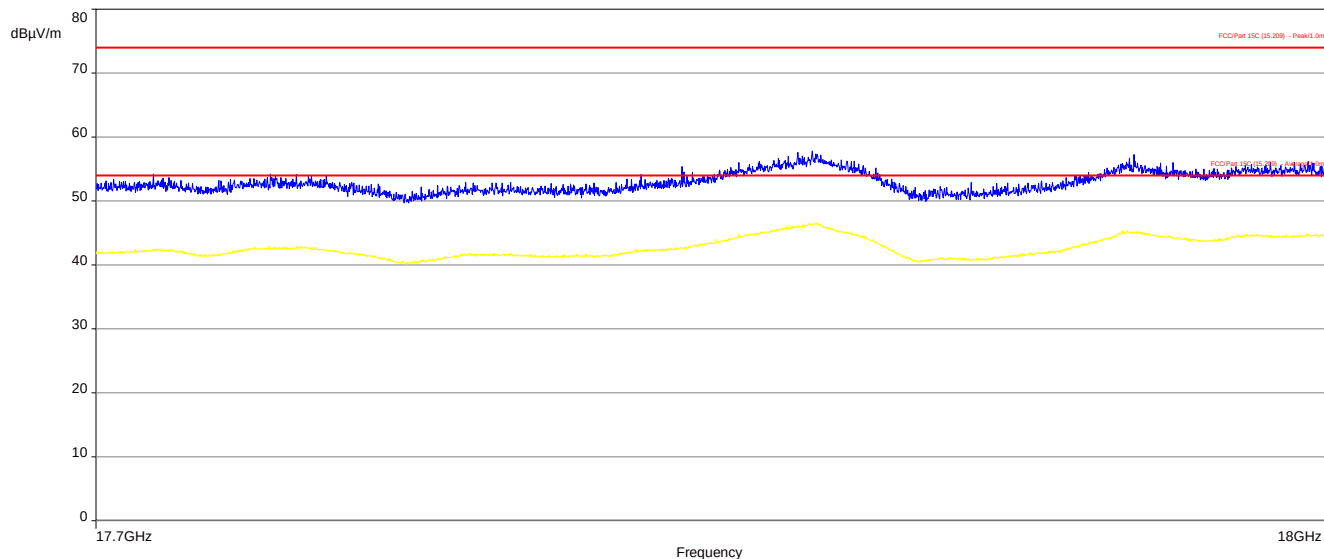
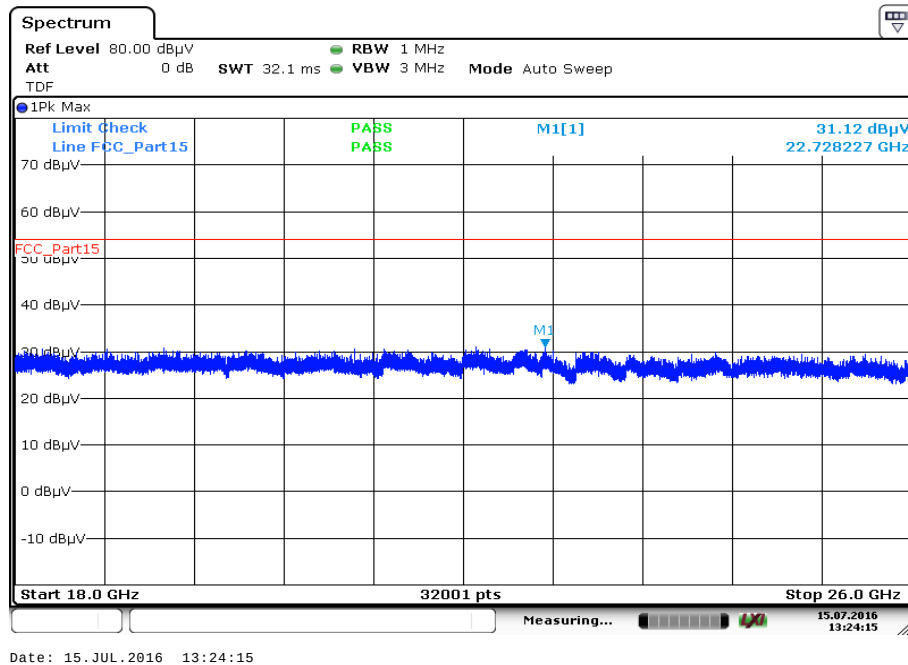
Plot 120: 26 GHz to 40 GHz, 5210 MHz, vertical & horizontal polarization

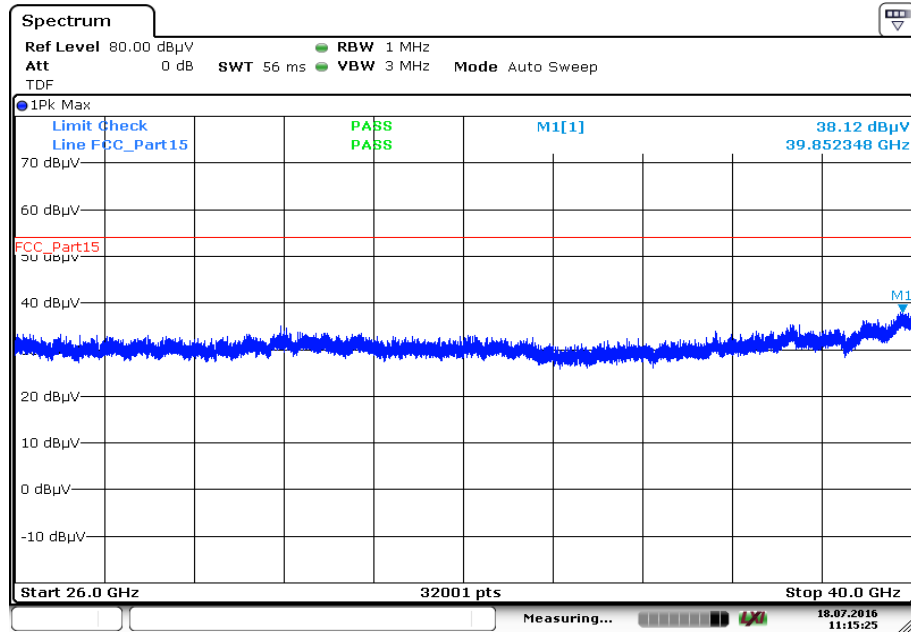
Date: 18.JUL.2016 11:14:29

Plot 121: 30 MHz to 1 GHz, 5240 MHz, vertical & horizontal polarization**Final Result**

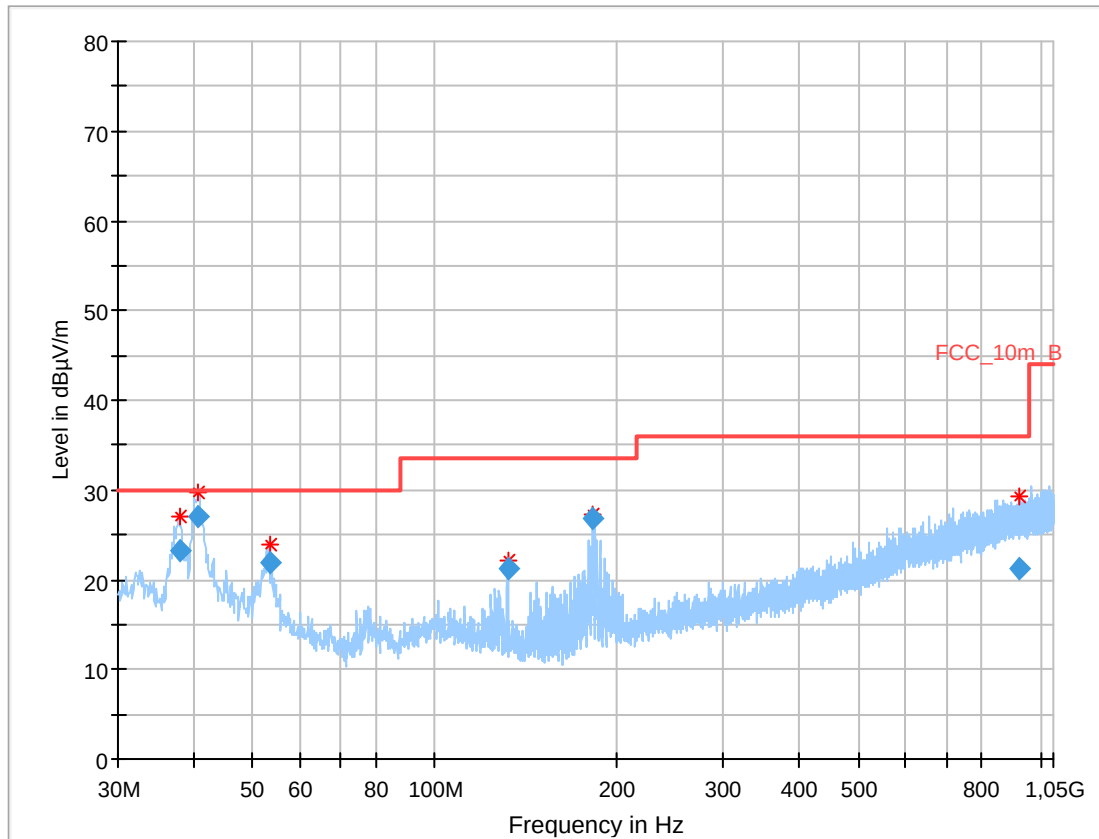
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
37.936950	23.25	30.00	6.75	1000.0	120.000	98.0	V	280.0	13.9
40.477200	26.83	30.00	3.17	1000.0	120.000	101.0	V	10.0	14.0
53.015250	20.99	30.00	9.01	1000.0	120.000	98.0	V	-9.0	12.2
131.987400	19.16	33.50	14.34	1000.0	120.000	98.0	V	10.0	9.3
182.227650	26.39	33.50	7.11	1000.0	120.000	98.0	V	261.0	10.5
937.696800	21.48	36.00	14.52	1000.0	120.000	170.0	V	190.0	24.2

Plot 122: 1 GHz to 7 GHz, 5240 MHz, vertical & horizontal polarization**Plot 123:** 7 GHz to 18 GHz, 5240 MHz, vertical & horizontal polarization

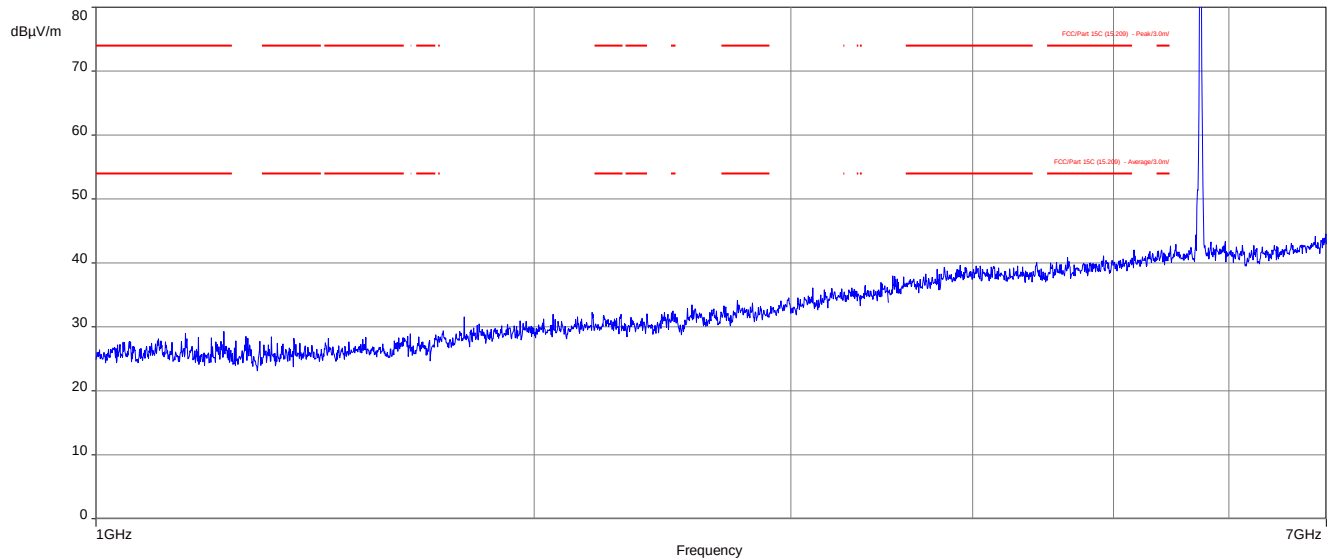
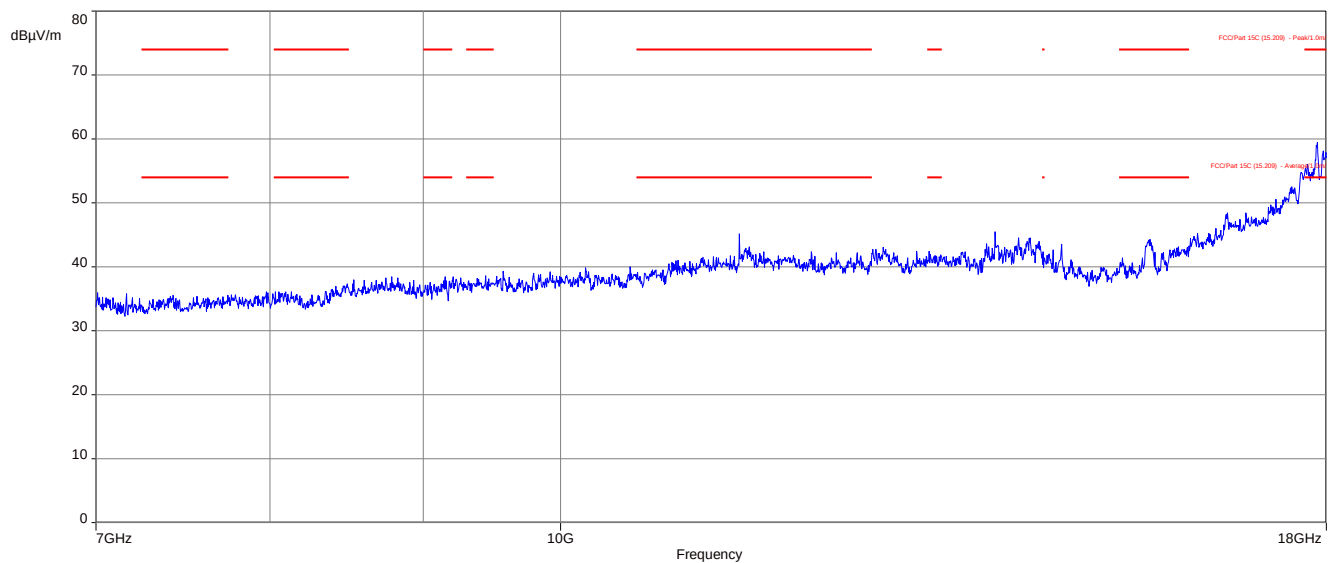
Plot 124: 17.7 GHz to 18 GHz, 5240 MHz, vertical & horizontal polarization**Plot 125:** 18 GHz to 26 GHz, 5240 MHz, vertical & horizontal polarization

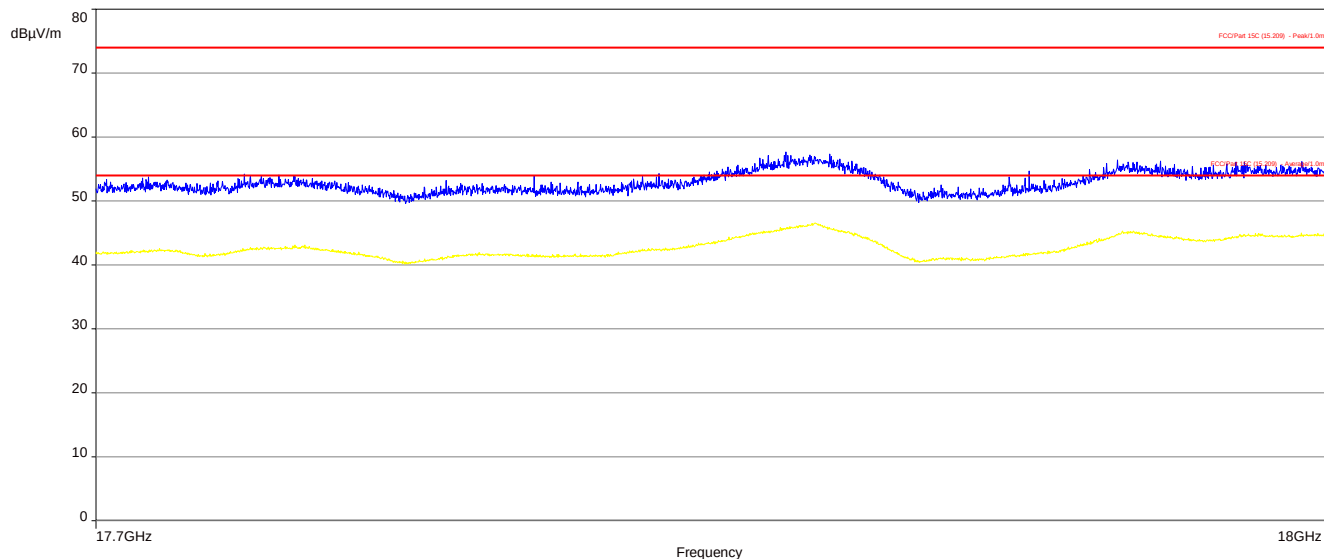
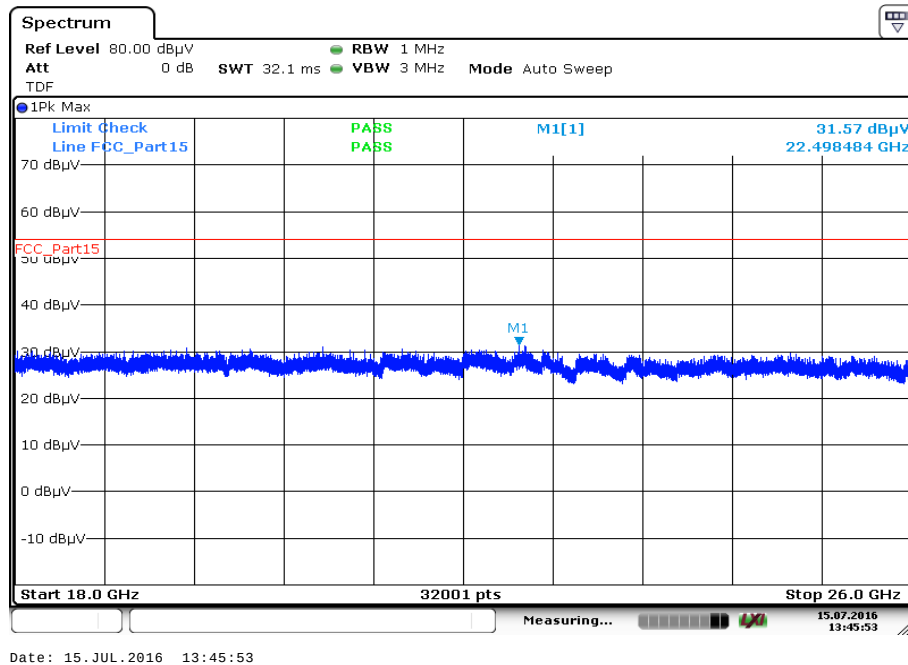
Plot 126: 26 GHz to 40 GHz, 5240 MHz, vertical & horizontal polarization

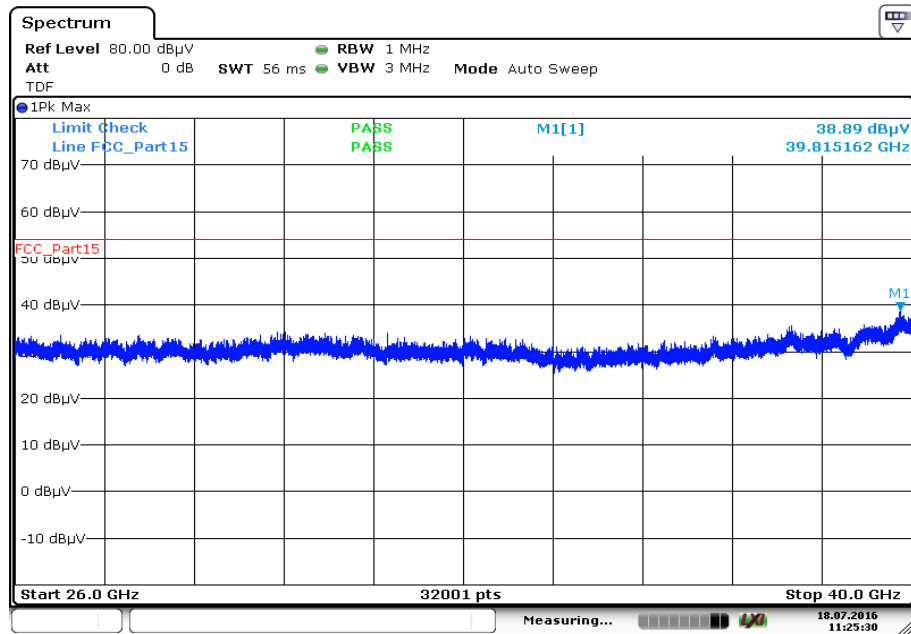
Date: 18.JUL.2016 11:15:25

Plot 127: 30 MHz to 1 GHz, 5736 MHz, vertical & horizontal polarization**Final Result**

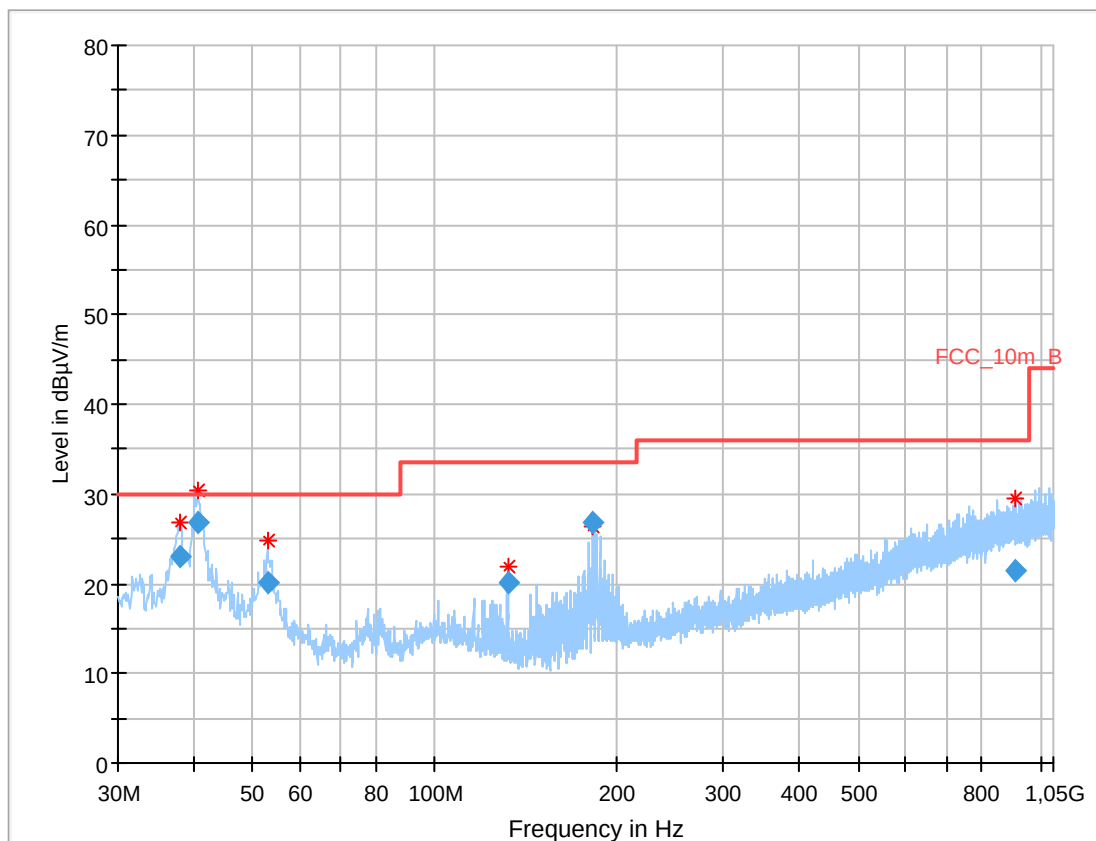
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
37.872600	23.20	30.00	6.80	1000.0	120.000	101.0	V	280.0	13.9
40.542600	27.13	30.00	2.87	1000.0	120.000	170.0	V	-9.0	14.0
53.371350	21.81	30.00	8.19	1000.0	120.000	101.0	V	-9.0	12.1
131.988000	21.25	33.50	12.25	1000.0	120.000	101.0	V	80.0	9.3
182.263350	26.86	33.50	6.64	1000.0	120.000	98.0	V	260.0	10.5
923.833950	21.34	36.00	14.66	1000.0	120.000	170.0	V	280.0	24.2

Plot 128: 1 GHz to 7 GHz, 5736 MHz, vertical & horizontal polarization**Plot 129:** 7 GHz to 18 GHz, 5736 MHz, vertical & horizontal polarization

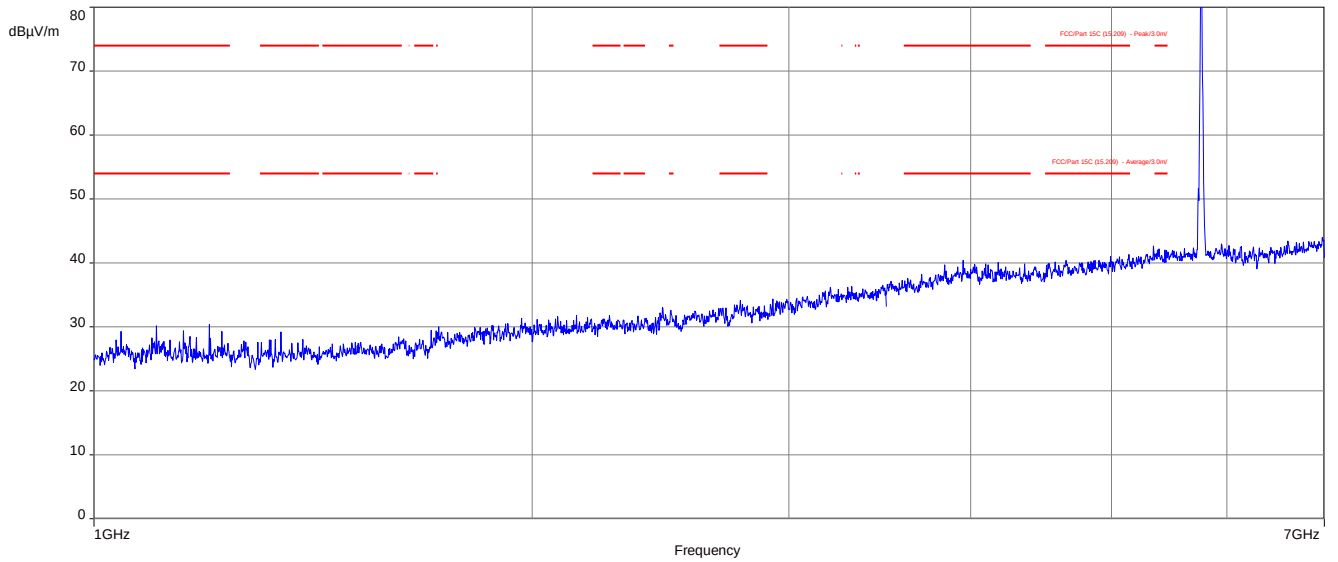
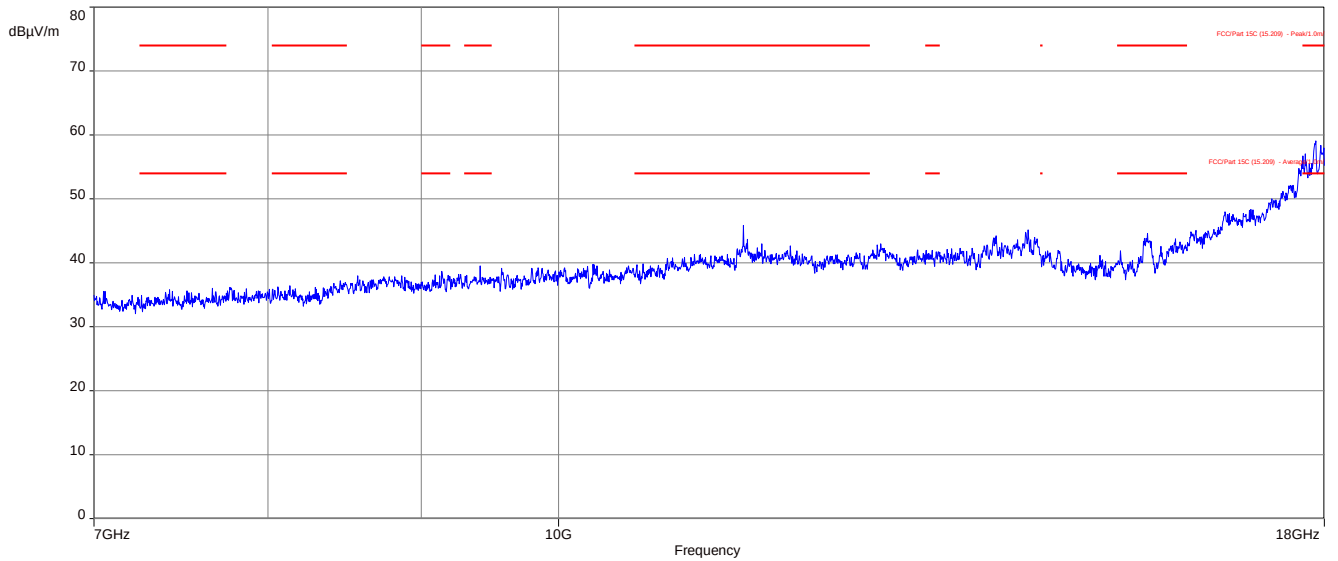
Plot 130: 17.7 GHz to 18 GHz, 5736 MHz, vertical & horizontal polarization**Plot 131:** 18 GHz to 26 GHz, 5736 MHz, vertical & horizontal polarization

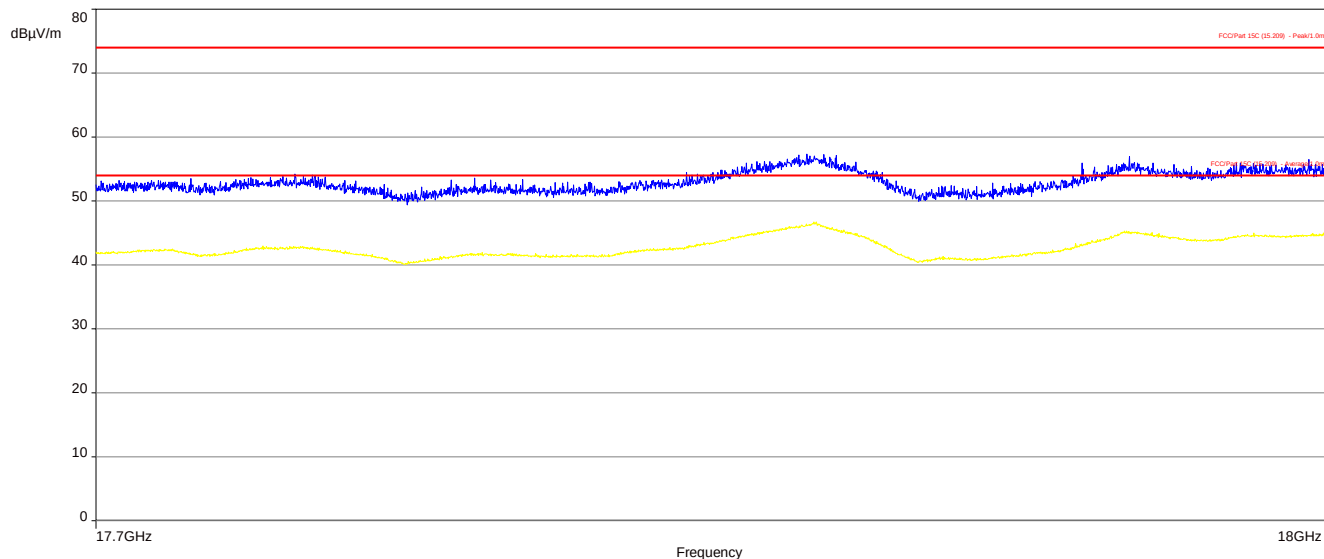
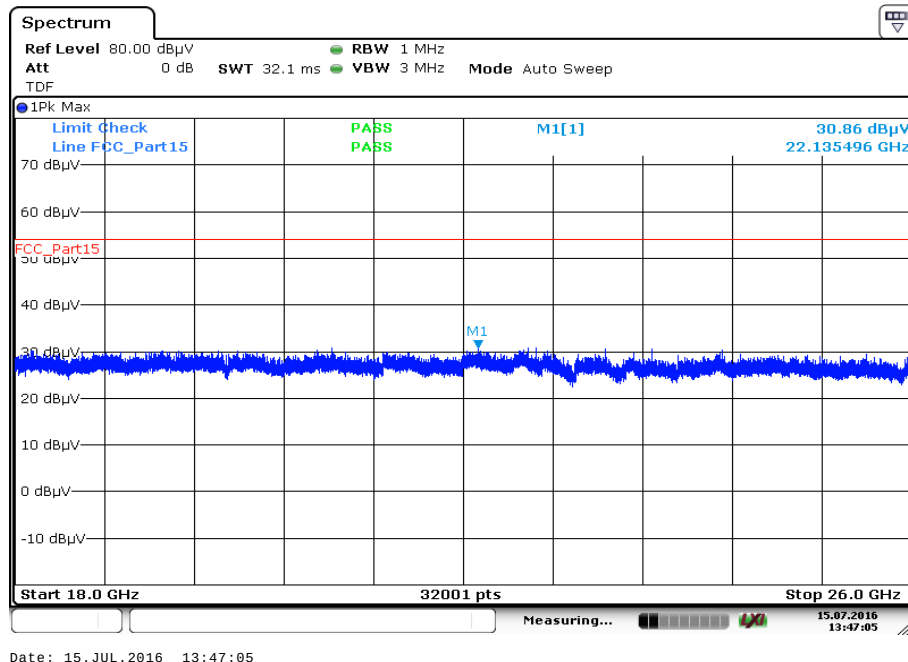
Plot 132: 26 GHz to 40 GHz, 5736 MHz, vertical & horizontal polarization

Date: 18.JUL.2016 11:25:29

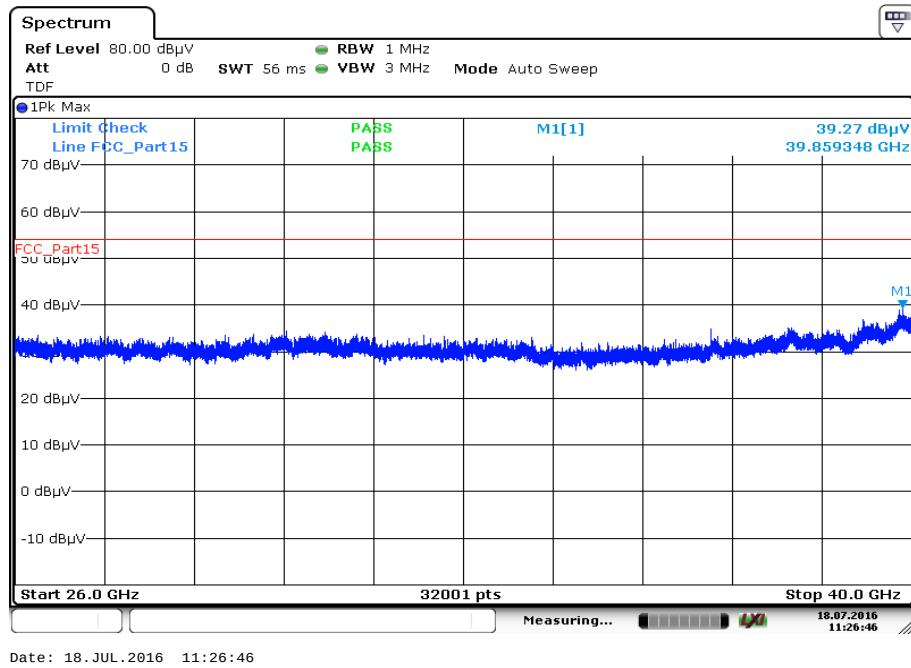
Plot 133: 30 MHz to 1 GHz, 5762 MHz, vertical & horizontal polarization**Final Result**

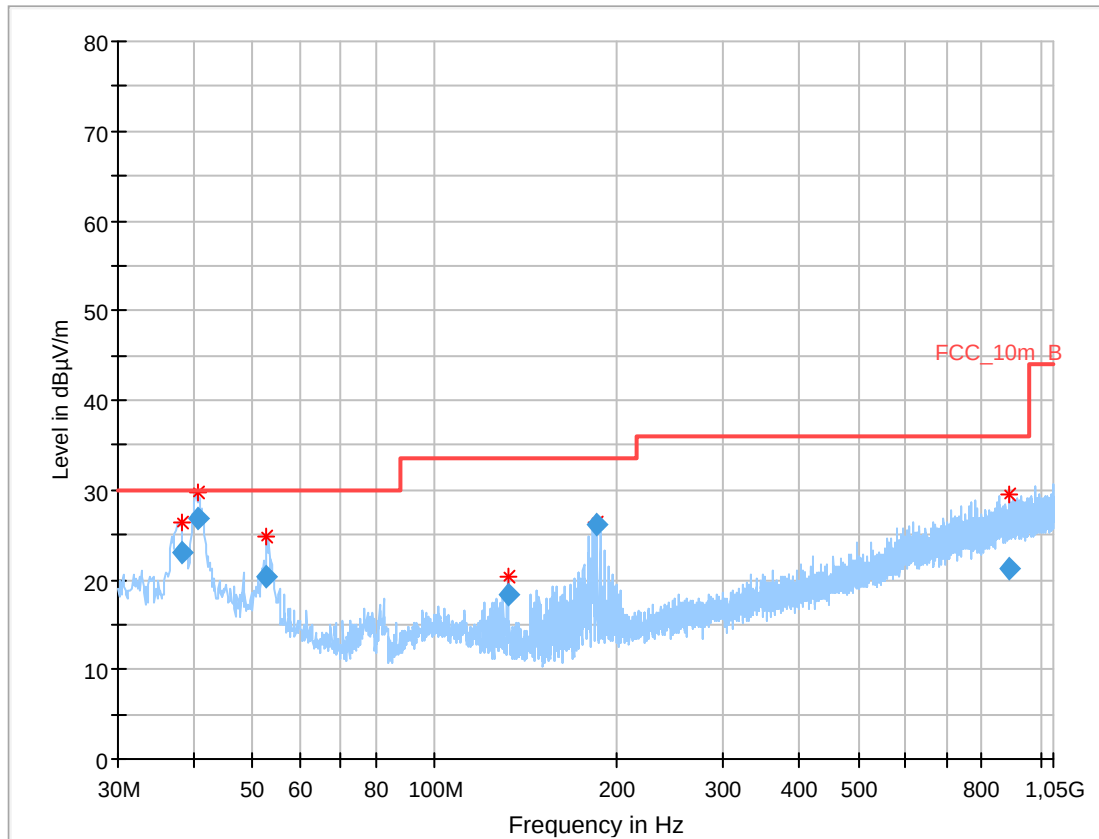
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
37.896450	22.99	30.00	7.01	1000.0	120.000	170.0	V	280.0	13.9
40.602150	26.83	30.00	3.17	1000.0	120.000	170.0	V	-9.0	14.0
53.188350	20.18	30.00	9.82	1000.0	120.000	98.0	V	10.0	12.1
131.999700	20.04	33.50	13.46	1000.0	120.000	101.0	V	81.0	9.3
182.235600	26.92	33.50	6.58	1000.0	120.000	101.0	V	260.0	10.5
908.496750	21.44	36.00	14.56	1000.0	120.000	170.0	V	261.0	24.1

Plot 134: 1 GHz to 7 GHz, 5762 MHz, vertical & horizontal polarization**Plot 135:** 7 GHz to 18 GHz, 5762 MHz, vertical & horizontal polarization

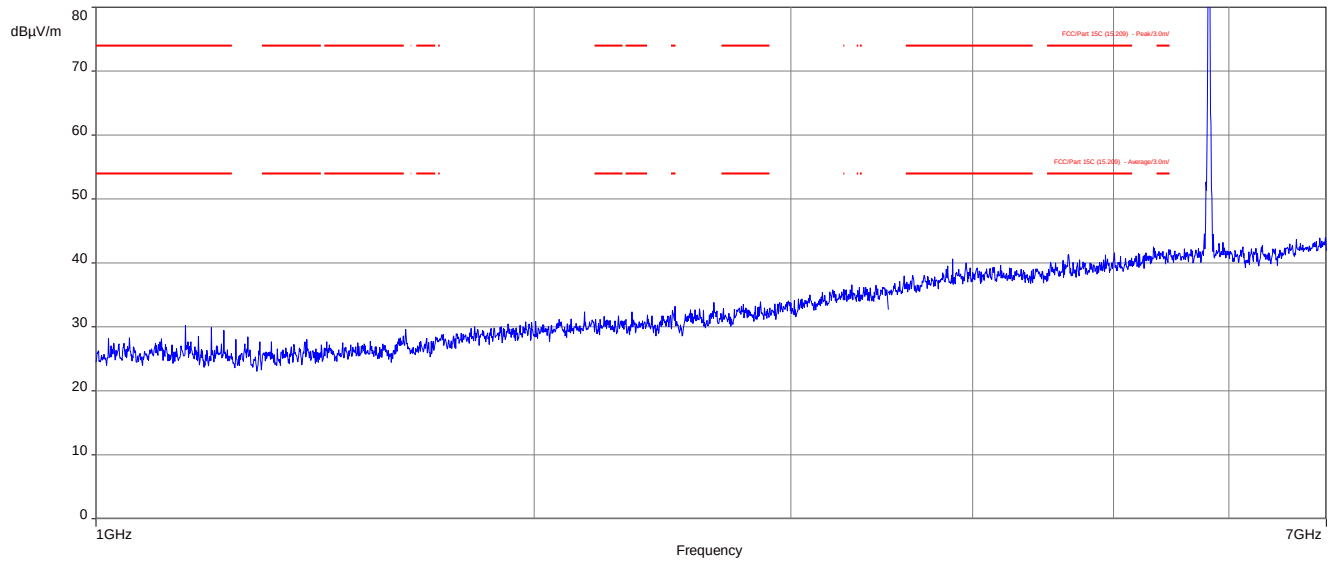
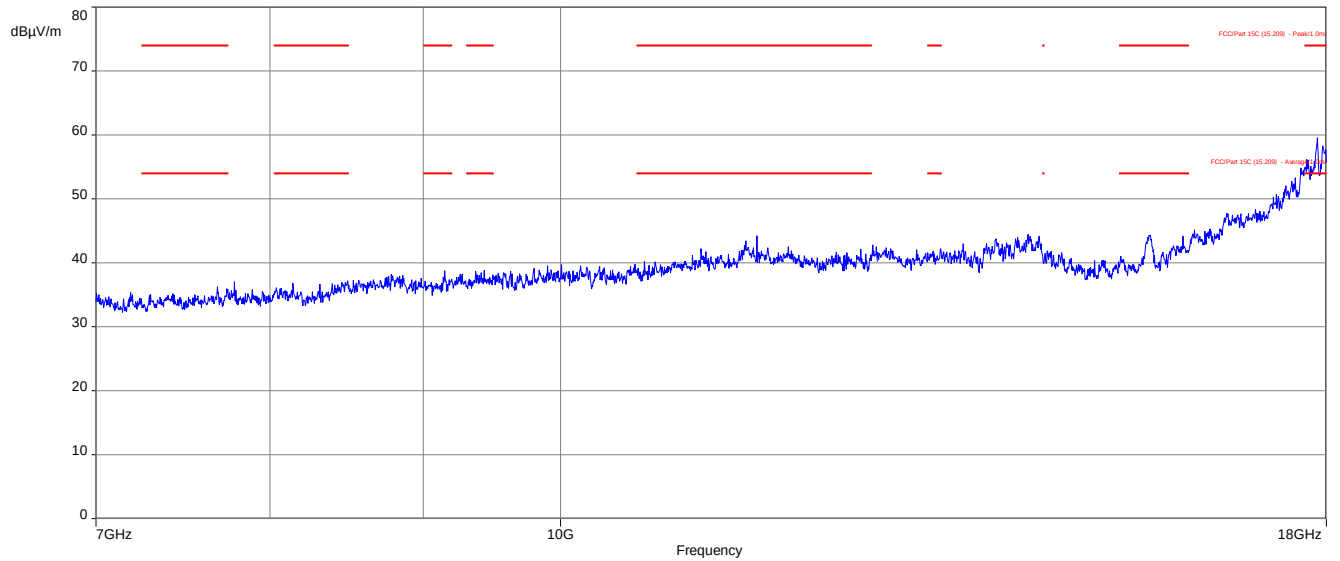
Plot 136: 17.7 GHz to 18 GHz, 5762 MHz, vertical & horizontal polarization**Plot 137:** 18 GHz to 26 GHz, 5762 MHz, vertical & horizontal polarization

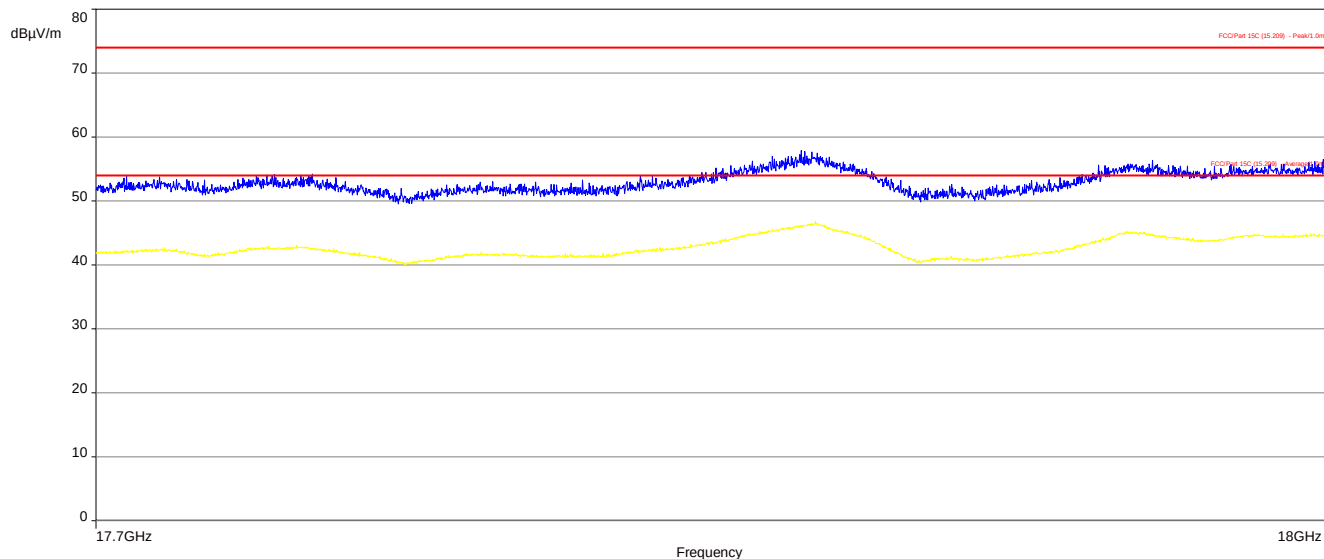
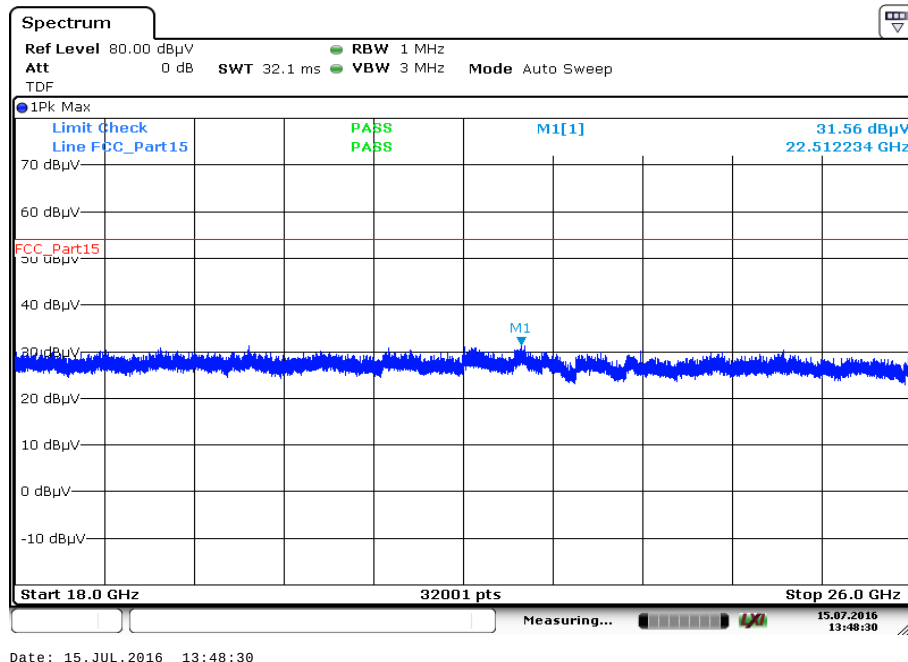
Date: 15. JUL. 2016 13:47:05

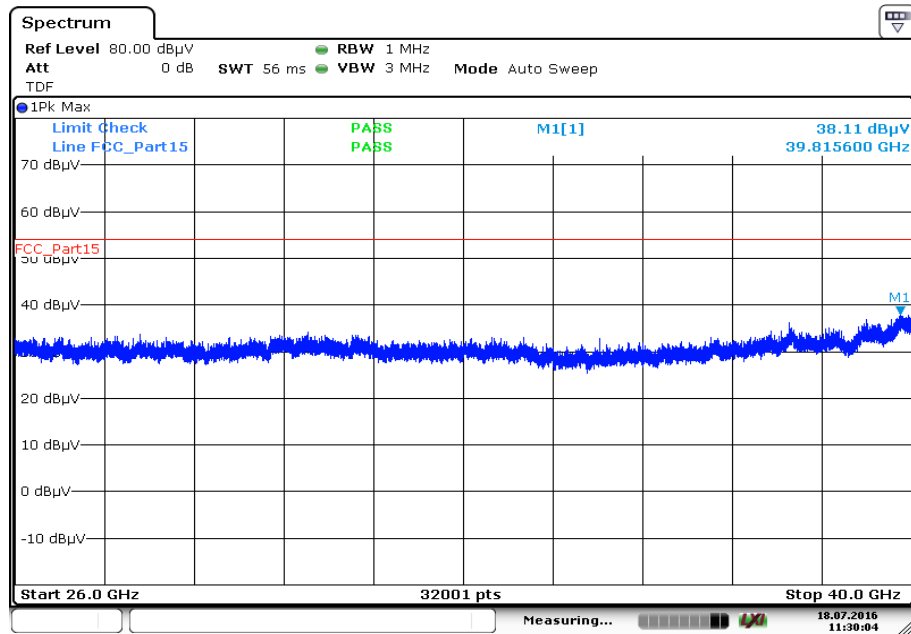
Plot 138: 26 GHz to 40 GHz, 5762 MHz, vertical & horizontal polarization

Plot 139: 30 MHz to 1 GHz, 5814 MHz, vertical & horizontal polarization**Final Result**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
38.137650	23.06	30.00	6.94	1000.0	120.000	101.0	V	280.0	14.0
40.656600	26.89	30.00	3.11	1000.0	120.000	170.0	V	261.0	14.0
52.851300	20.33	30.00	9.67	1000.0	120.000	101.0	V	-9.0	12.2
131.969250	18.40	33.50	15.10	1000.0	120.000	101.0	V	80.0	9.3
185.268000	26.11	33.50	7.39	1000.0	120.000	98.0	V	260.0	10.7
889.266000	21.33	36.00	14.67	1000.0	120.000	170.0	H	80.0	24.0

Plot 140: 1 GHz to 7 GHz, 5814 MHz, vertical & horizontal polarization**Plot 141:** 7 GHz to 18 GHz, 5814 MHz, vertical & horizontal polarization

Plot 142: 17.7 GHz to 18 GHz, 5814 MHz, vertical & horizontal polarization**Plot 143:** 18 GHz to 26 GHz, 5814 MHz, vertical & horizontal polarization

Plot 144: 26 GHz to 40 GHz, 5814 MHz, vertical & horizontal polarization

Date: 18.JUL.2016 11:30:04

12.10 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 7.2 – A
Measurement uncertainty:	See sub clause 9

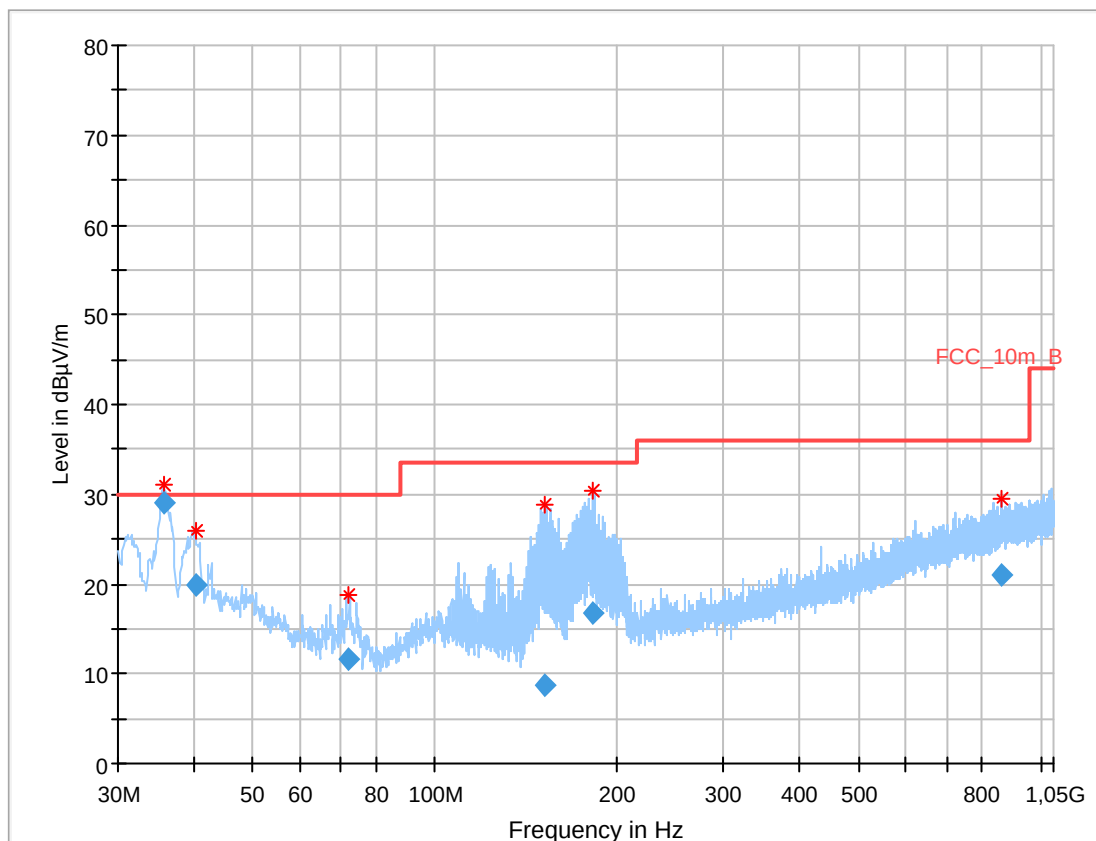
Limits:

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

Results:

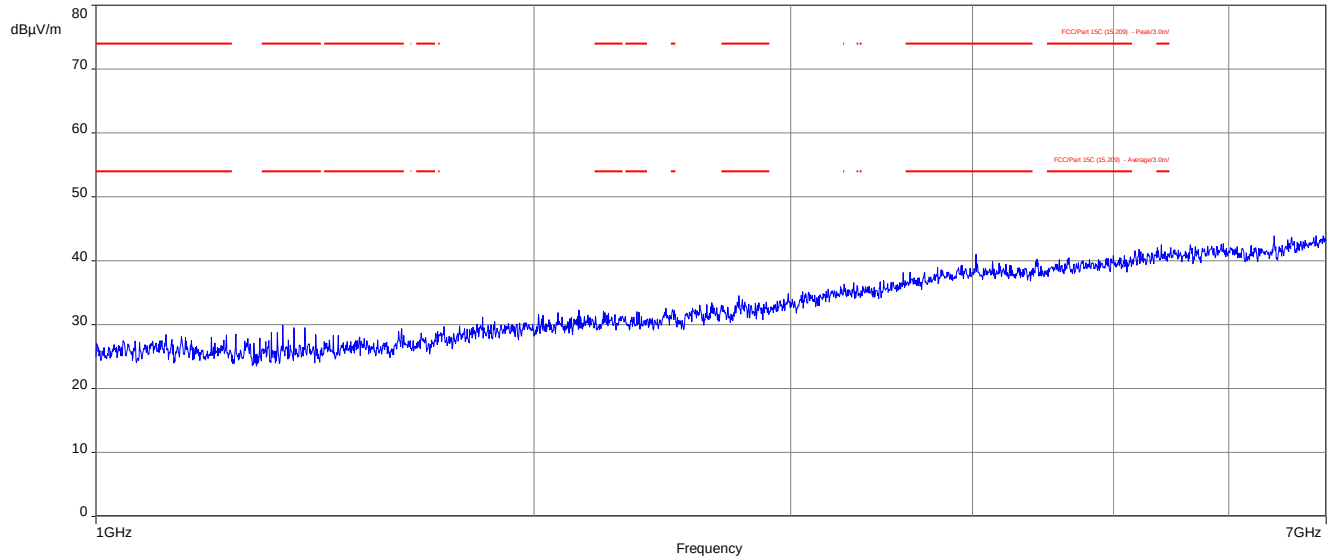
RX Spurious Emissions Radiated [dBμV/m]		
F [MHz]	Detector	Level [dBμV/m]
All emission 10 dB below the dedicated limit. For further information please take a look at the plots.		

Plots: Antenna A

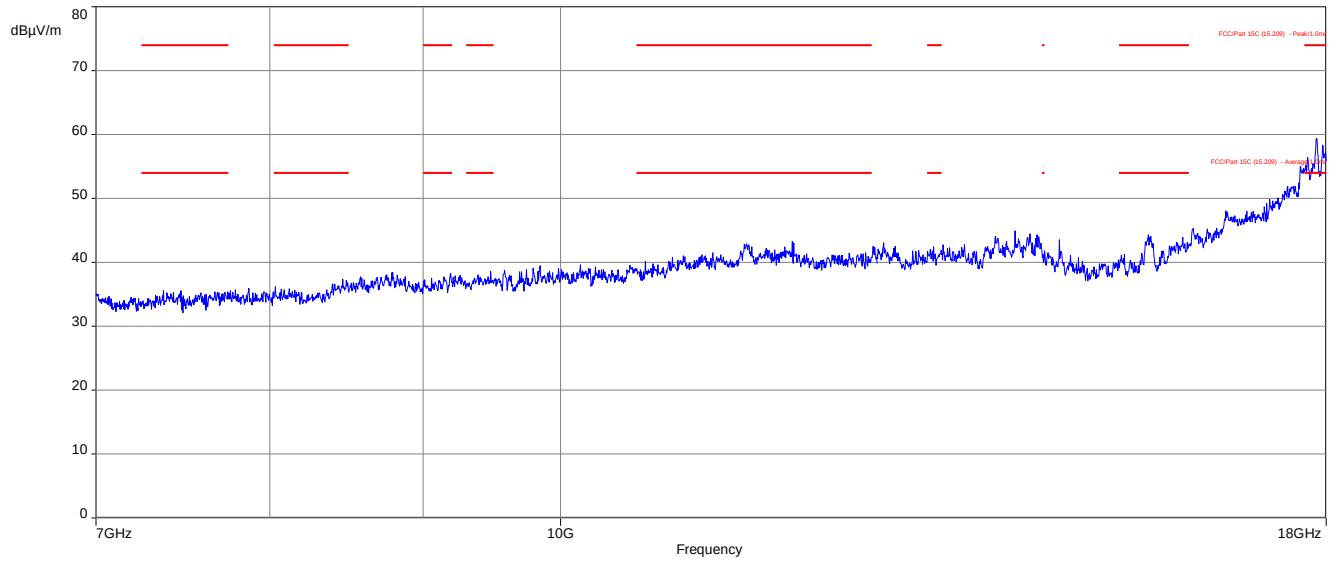
Plot 1: 30 MHz to 1 GHz, vertical & horizontal polarization

Final Result

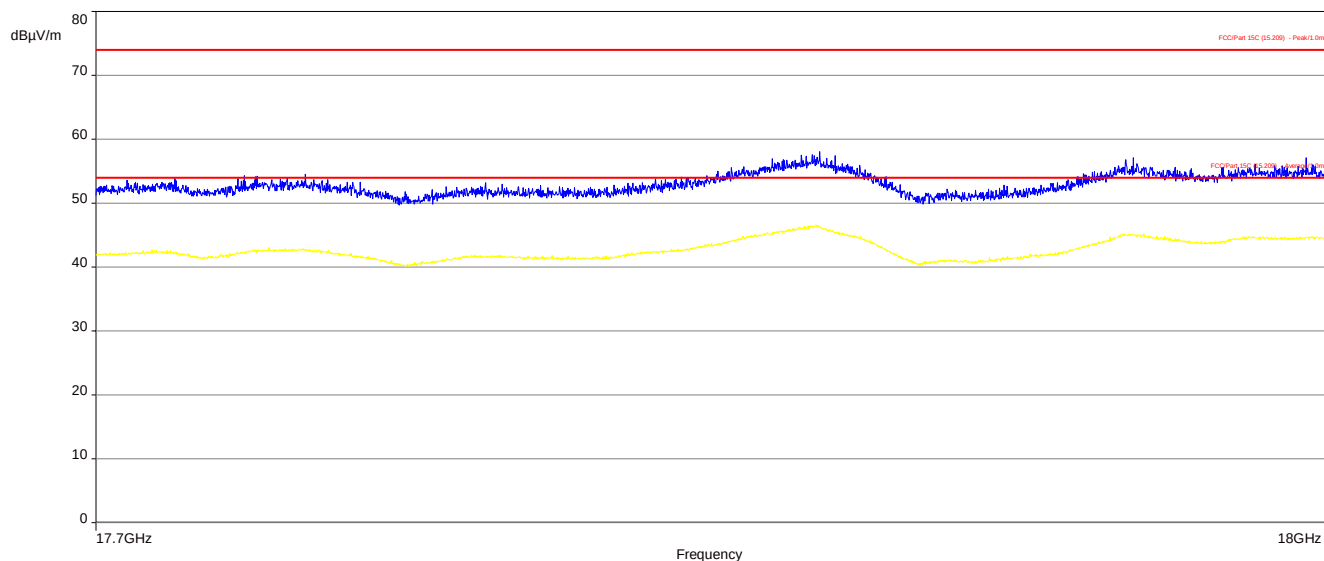
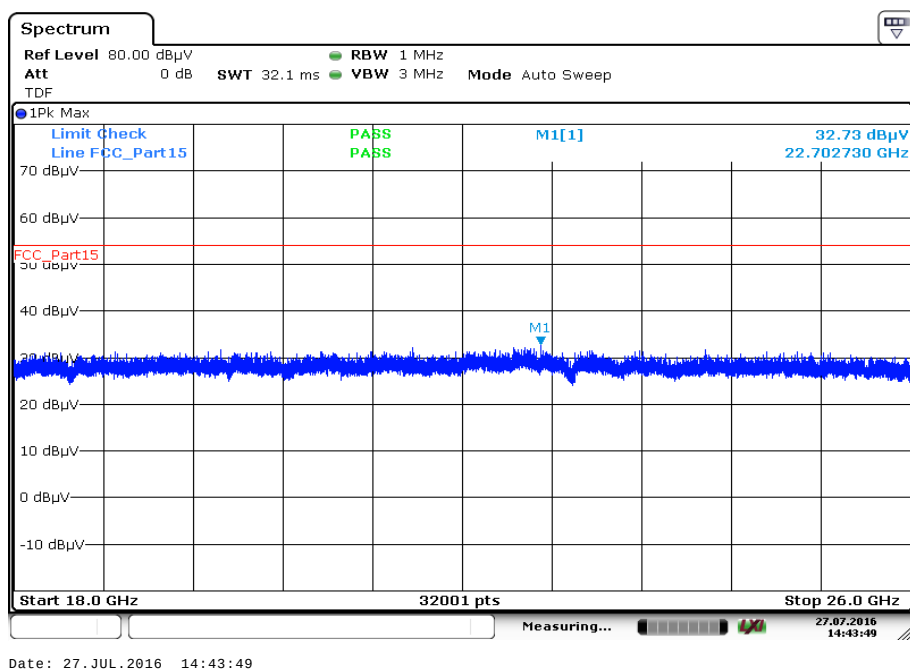
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
35.614950	28.95	30.00	1.05	1000.0	120.000	98.0	V	10.0	13.8
40.287150	19.78	30.00	10.22	1000.0	120.000	101.0	V	-9.0	14.0
71.975550	11.59	30.00	18.41	1000.0	120.000	101.0	V	171.0	8.4
151.949250	8.71	33.50	24.79	1000.0	120.000	101.0	V	260.0	8.9
181.942800	16.78	33.50	16.72	1000.0	120.000	101.0	V	260.0	10.5
858.967350	21.07	36.00	14.93	1000.0	120.000	170.0	V	-10.0	23.6

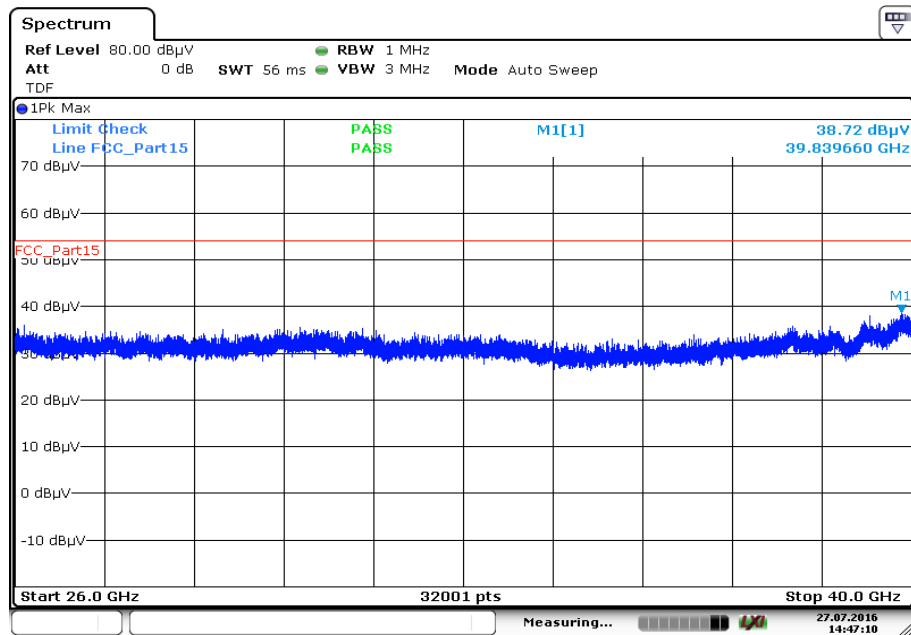
Plot 2: 1 GHz to 7 GHz, vertical & horizontal polarization



Plot 3: 7 GHz to 18 GHz, vertical & horizontal polarization

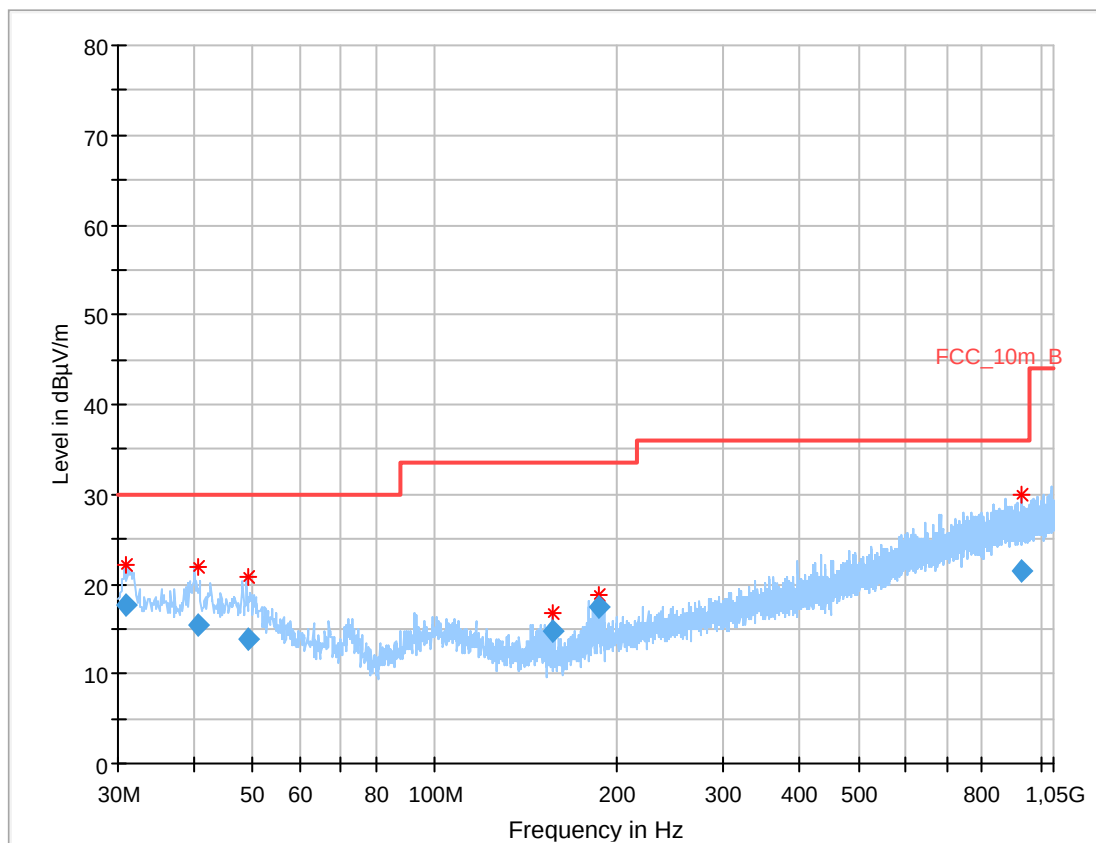


Plot 4: 17.7 GHz to 18 GHz, vertical & horizontal polarization**Plot 5:** 18 GHz to 26 GHz, vertical & horizontal polarization

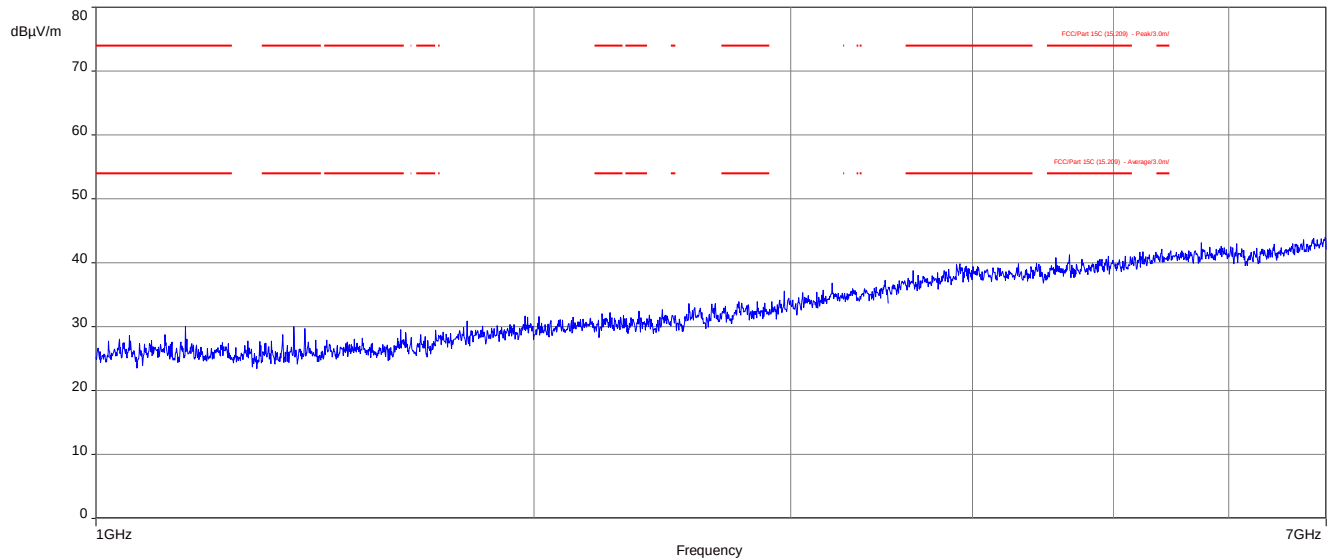
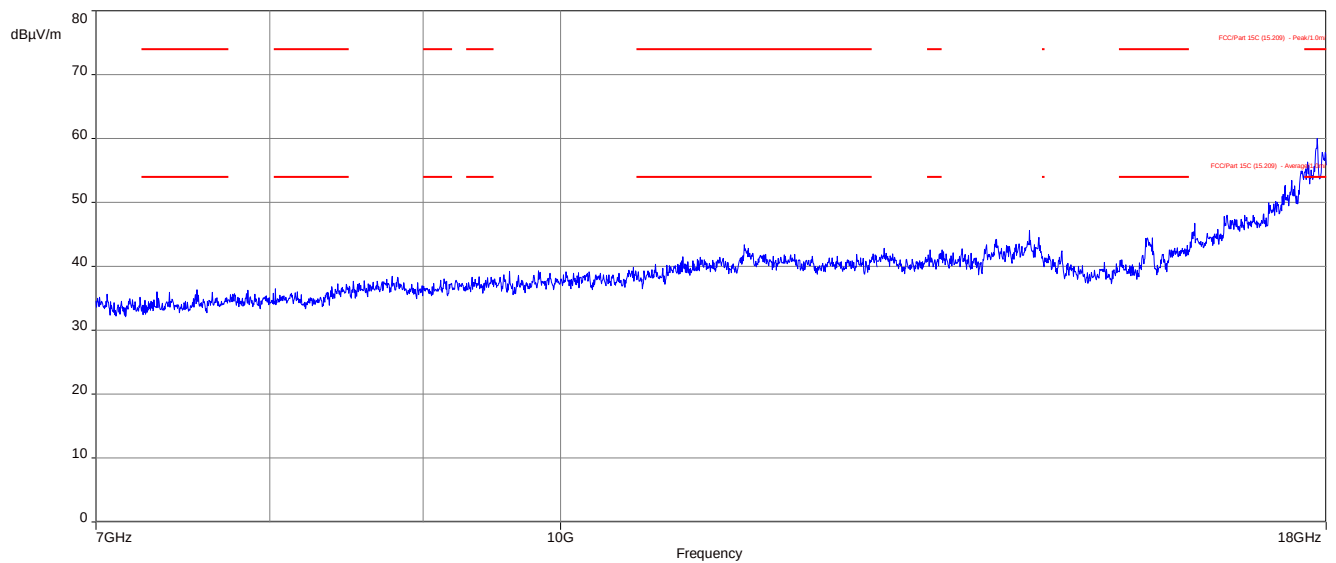
Plot 6: 26 GHz to 40 GHz, vertical & horizontal polarization

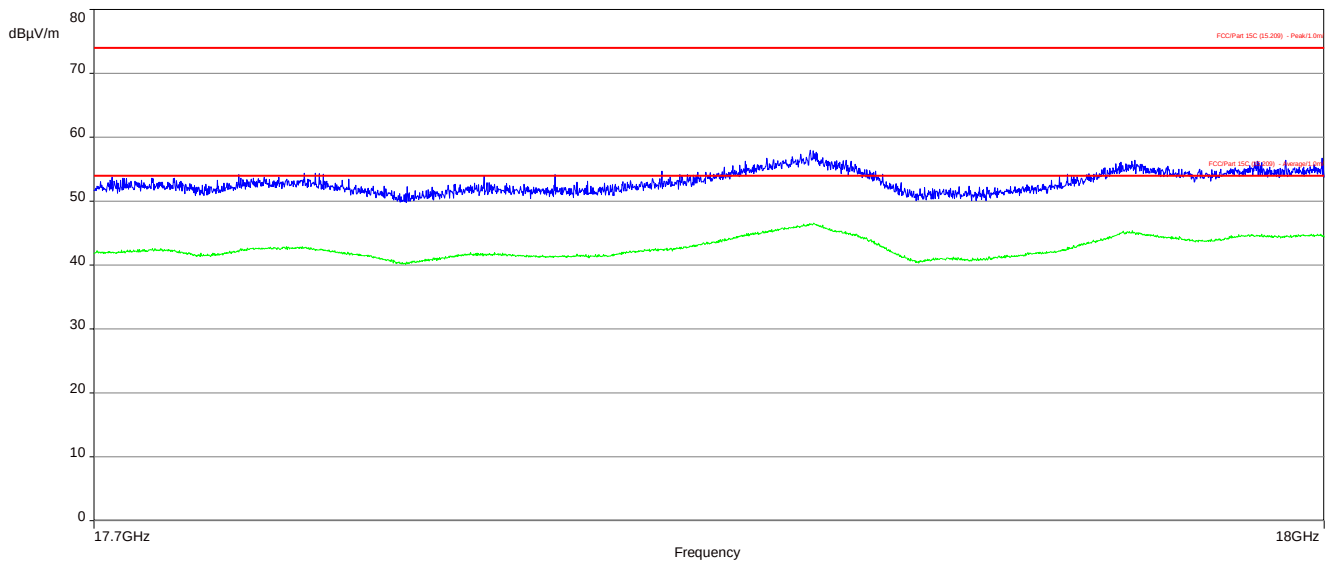
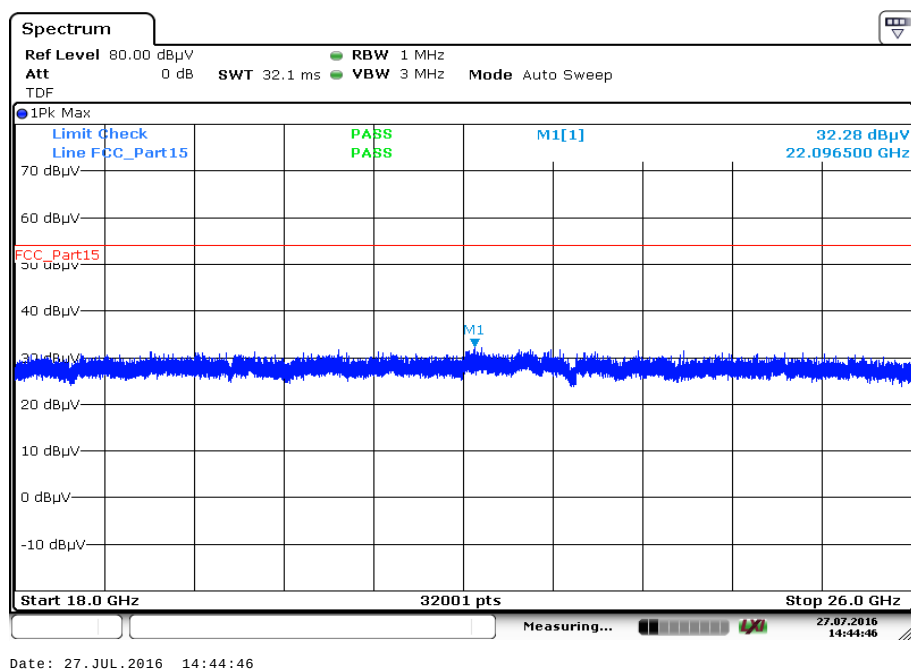
Date: 27.JUL.2016 14:47:10

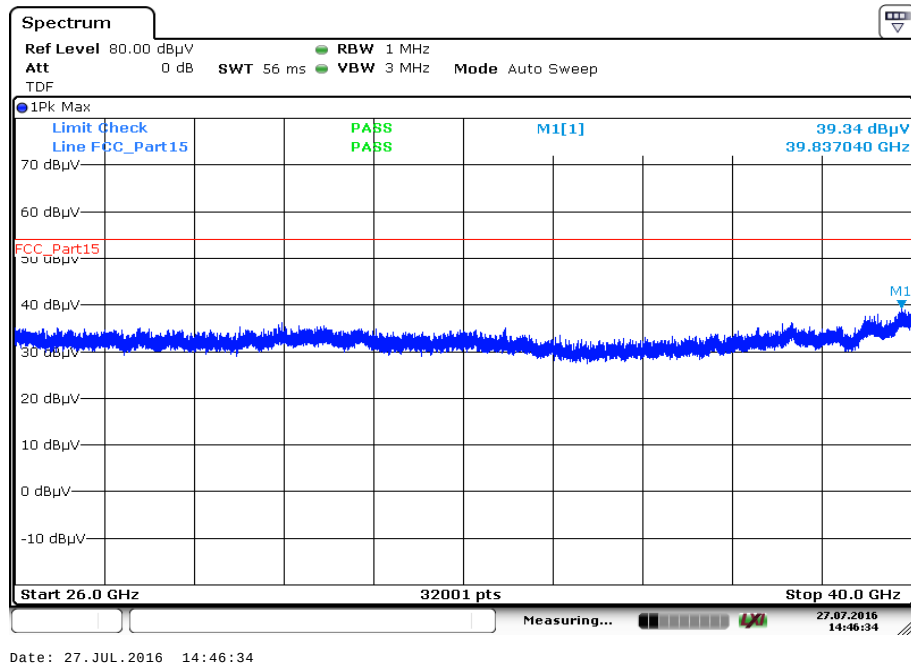
Plots: Antenna B

Plot 7: 30 MHz to 1 GHz, vertical & horizontal polarization

Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.951300	17.56	30.00	12.44	1000.0	120.000	101.0	V	10.0	13.4
40.723200	15.33	30.00	14.67	1000.0	120.000	101.0	V	171.0	14.0
49.348800	13.78	30.00	16.22	1000.0	120.000	101.0	V	260.0	12.8
155.990550	14.65	33.50	18.85	1000.0	120.000	98.0	V	100.0	9.0
186.098700	17.35	33.50	16.15	1000.0	120.000	98.0	V	260.0	10.8
930.281100	21.45	36.00	14.55	1000.0	120.000	170.0	V	260.0	24.2

Plot 8: 1 GHz to 7 GHz, vertical & horizontal polarization**Plot 9:** 7 GHz to 18 GHz, vertical & horizontal polarization

Plot 10: 17.7 GHz to 18 GHz, vertical & horizontal polarization**Plot 11:** 18 GHz to 26 GHz, vertical & horizontal polarization

Plot 12: 26 GHz to 40 GHz, vertical & horizontal polarization

12.11 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:

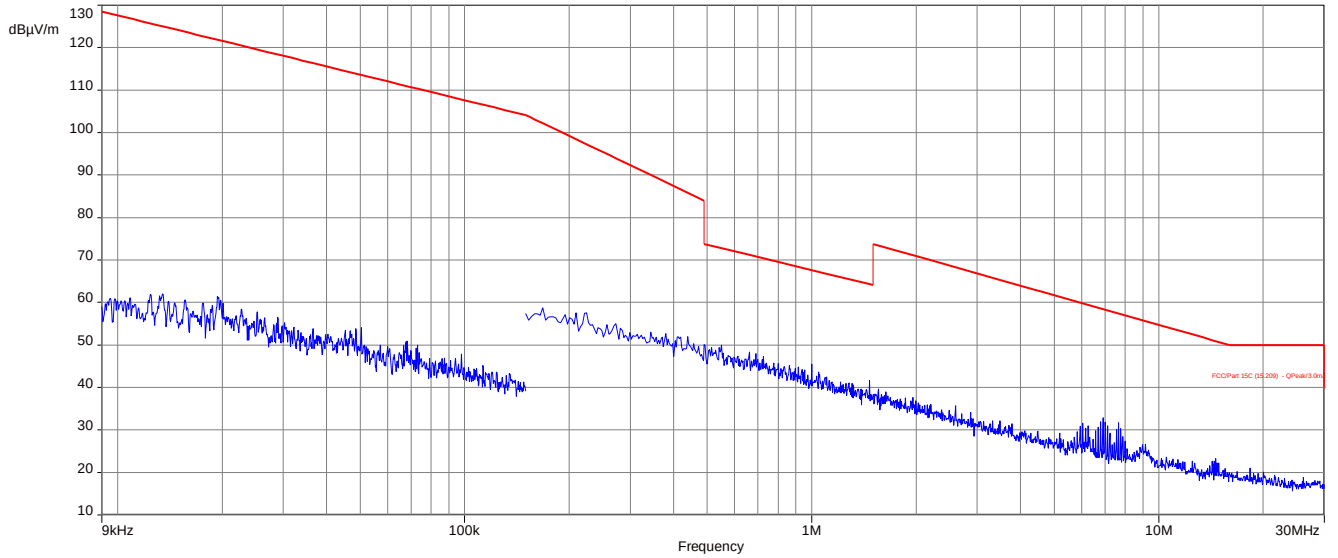
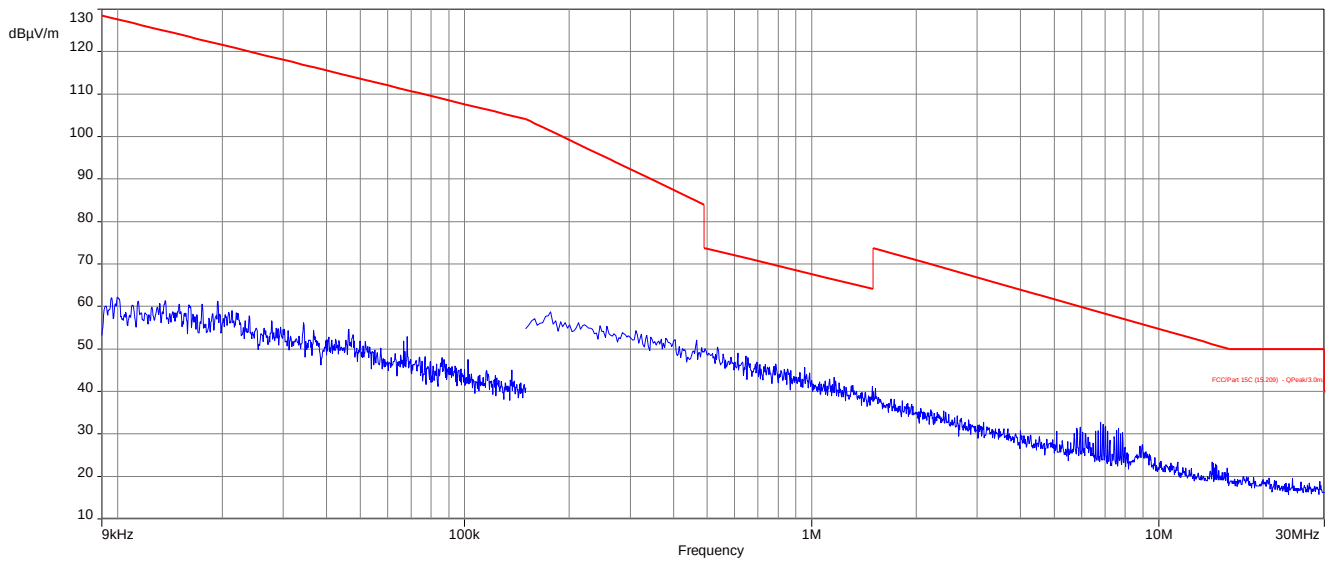
Measurement parameter	
Detector:	Peak / Quasi Peak
Sweep time:	Auto
Video bandwidth:	F < 150 kHz: 200 Hz F > 150 kHz: 9 kHz
Resolution bandwidth:	F < 150 kHz: 1 kHz F > 150 kHz: 100 kHz
Span:	9 kHz to 30 MHz
Trace – mode:	Max Hold
Test setup:	See sub clause 7.2 – B
Measurement uncertainty:	See sub clause 9

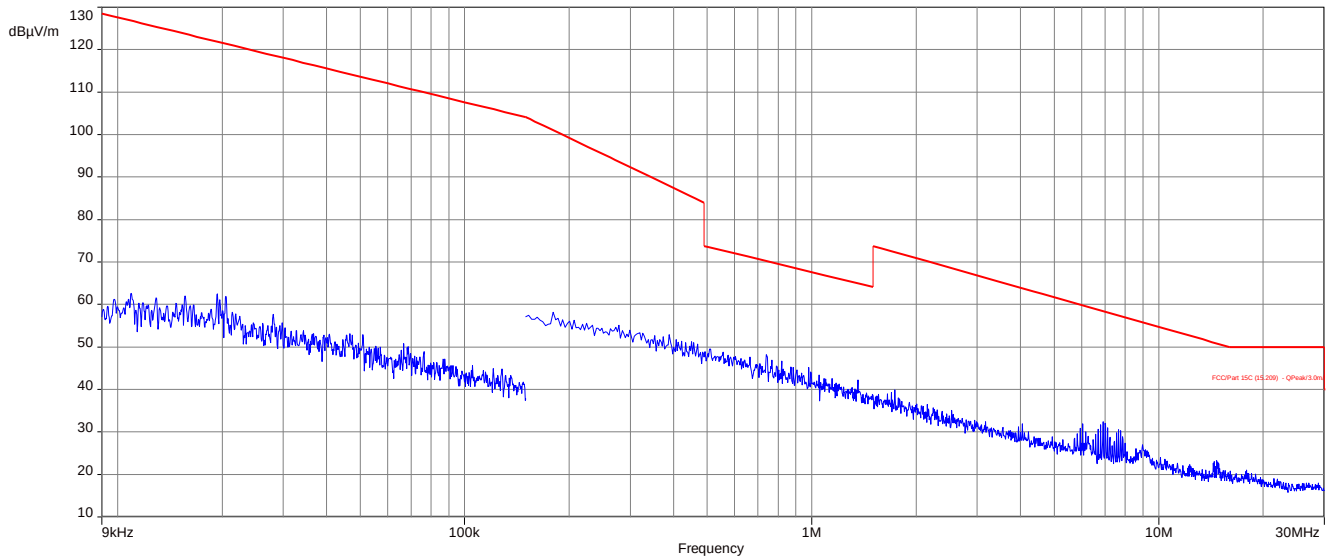
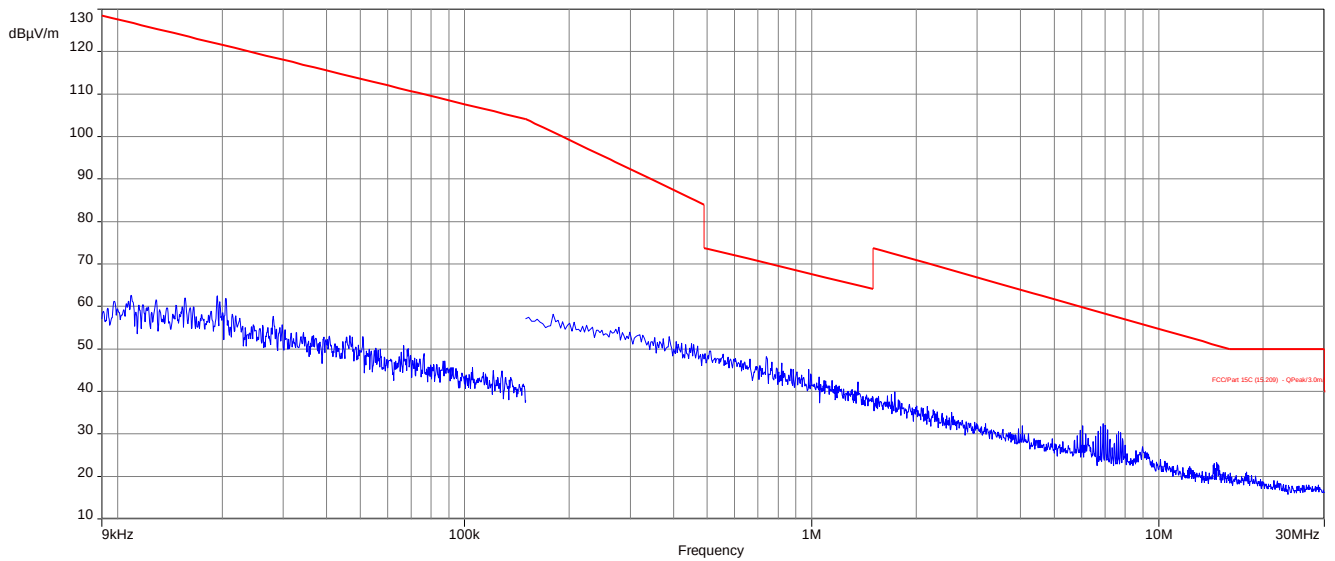
Limits:

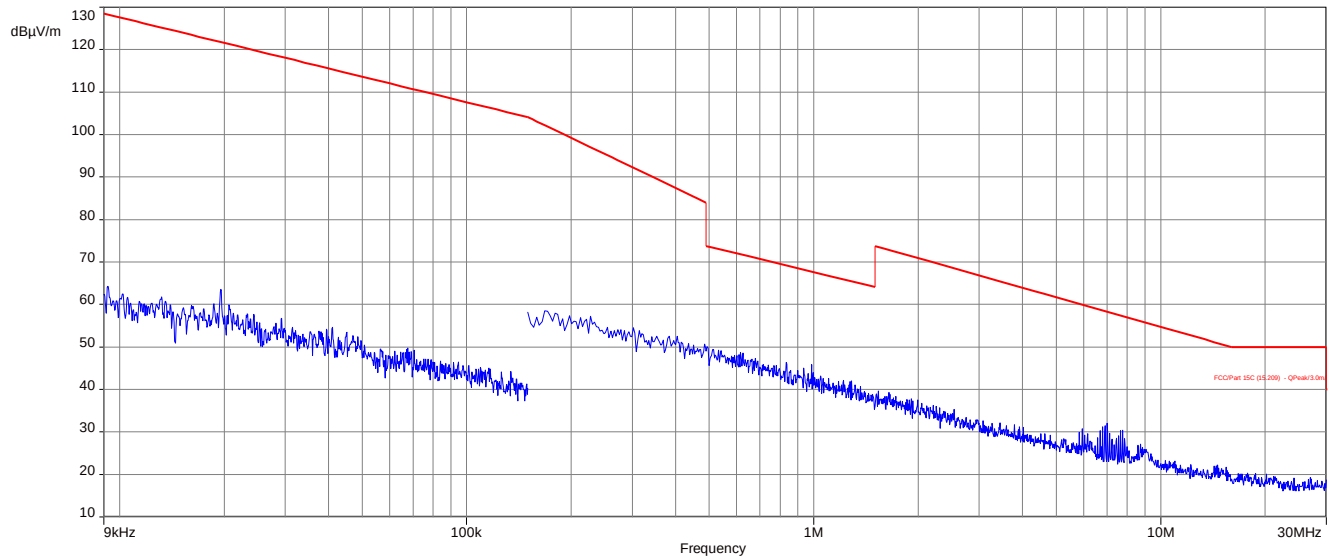
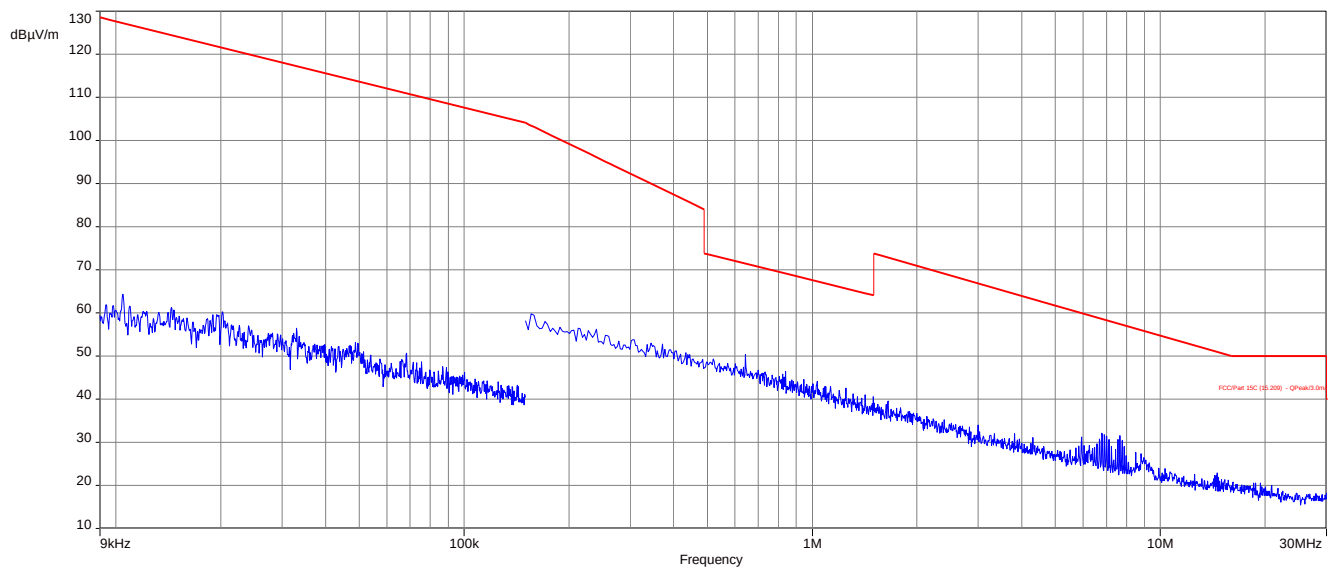
Spurious Emissions Radiated < 30 MHz		
Frequency (MHz)	Field Strength (dBμV/m)	Measurement distance
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30

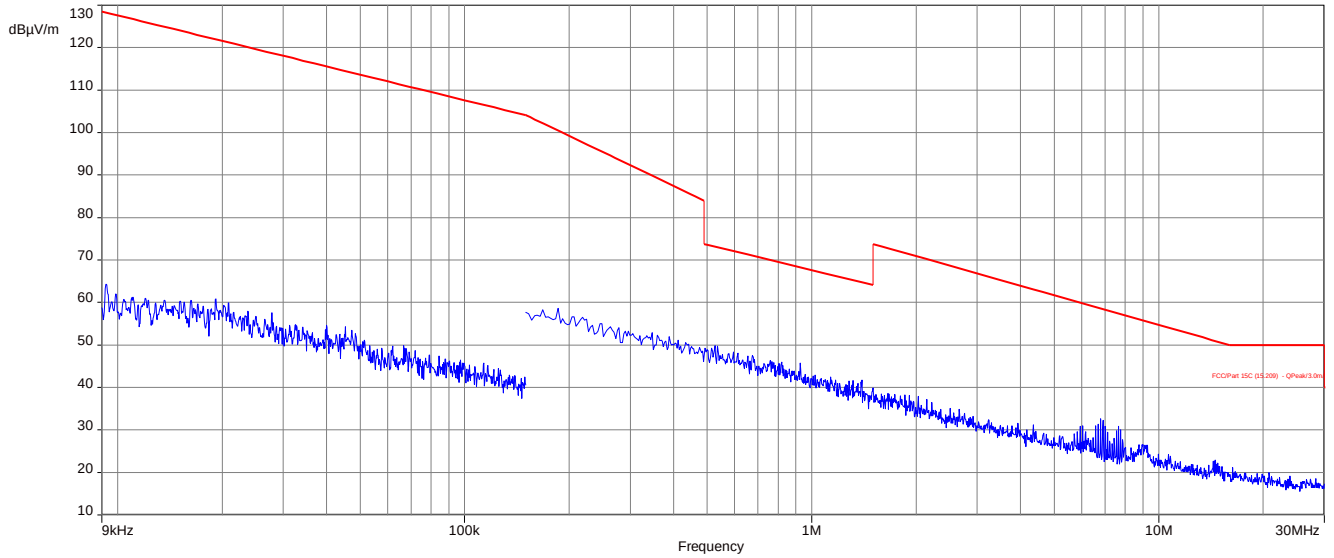
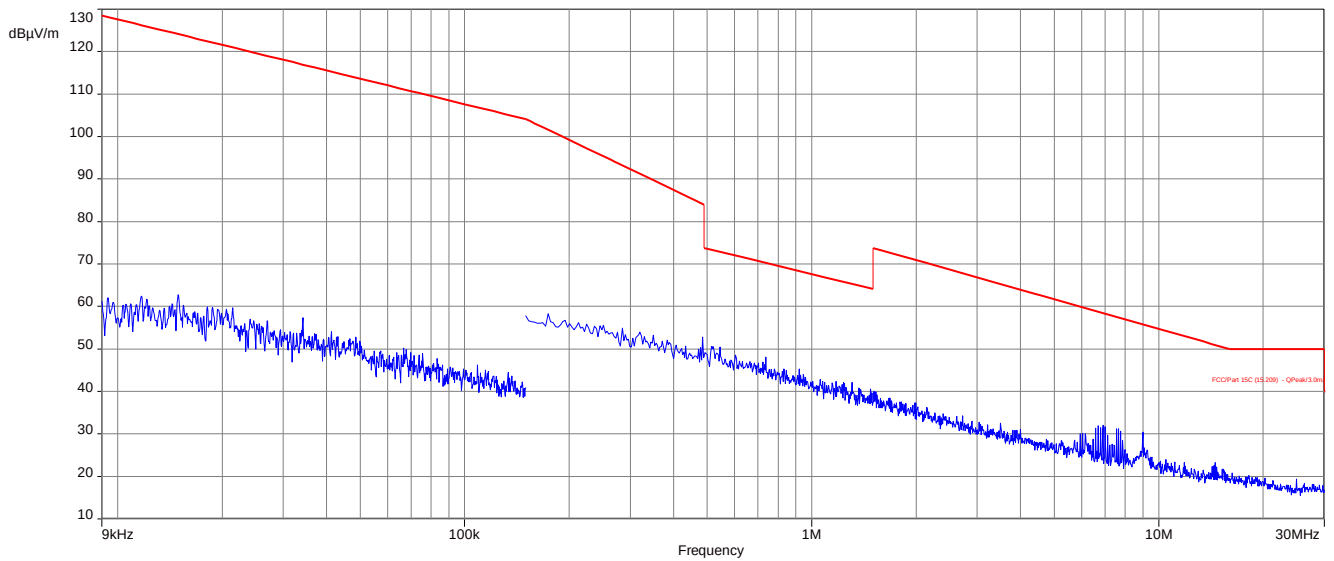
Results:

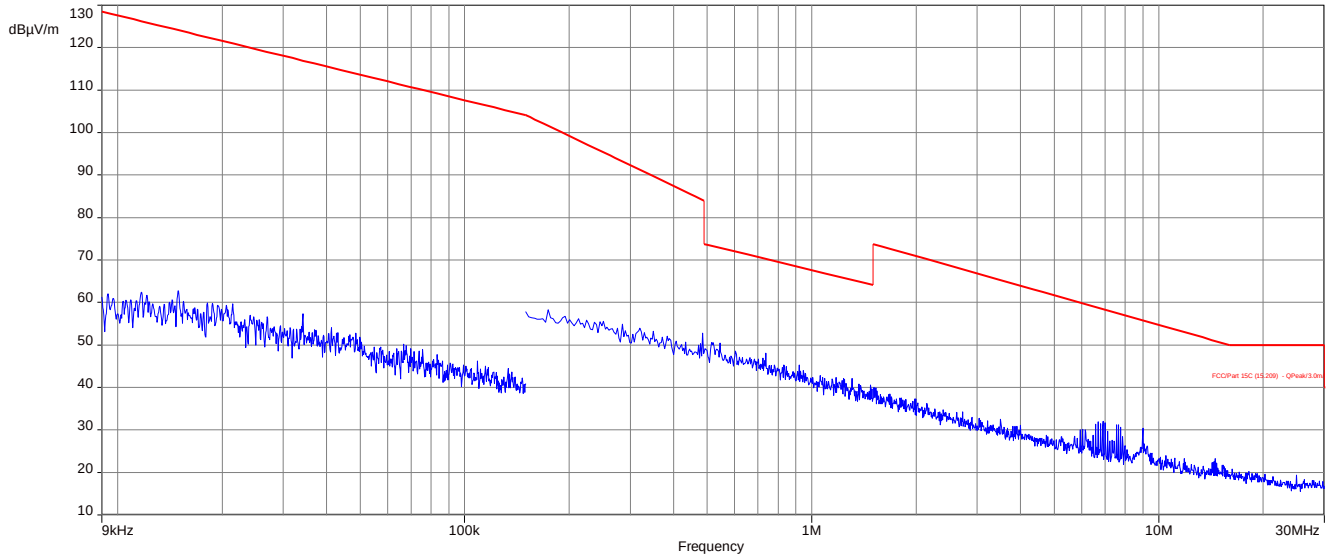
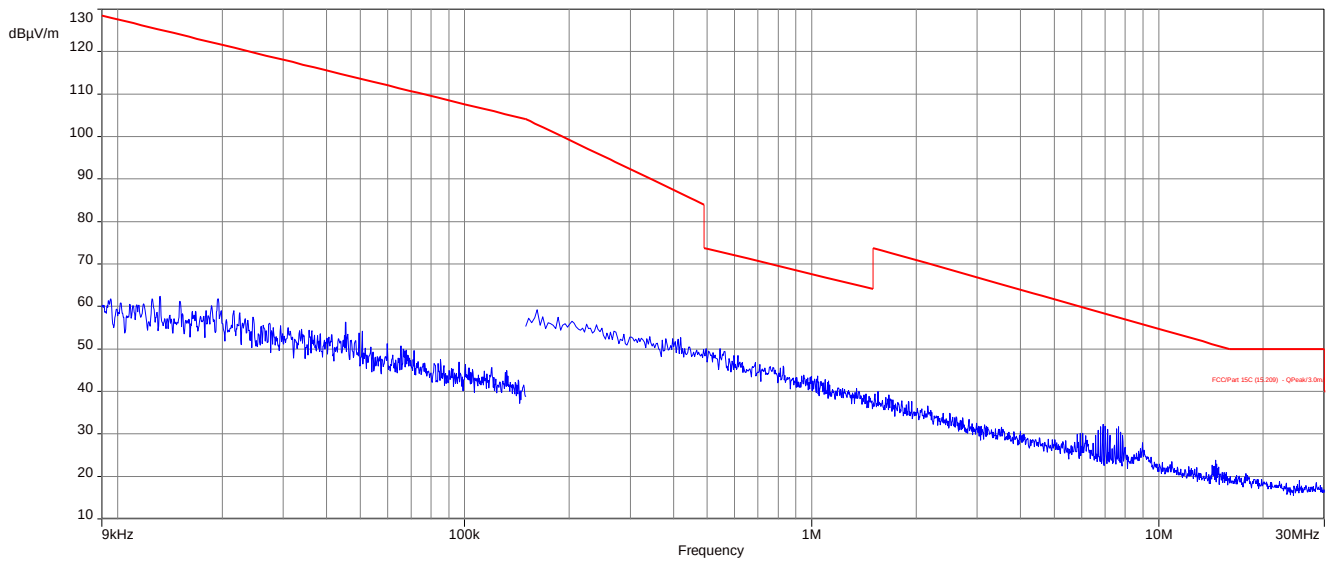
Spurious Emissions Radiated < 30 MHz [dBμV/m]		
F [MHz]	Detector	Level [dBμV/m]
All detected emissions are more than 20 dB below the limit.		

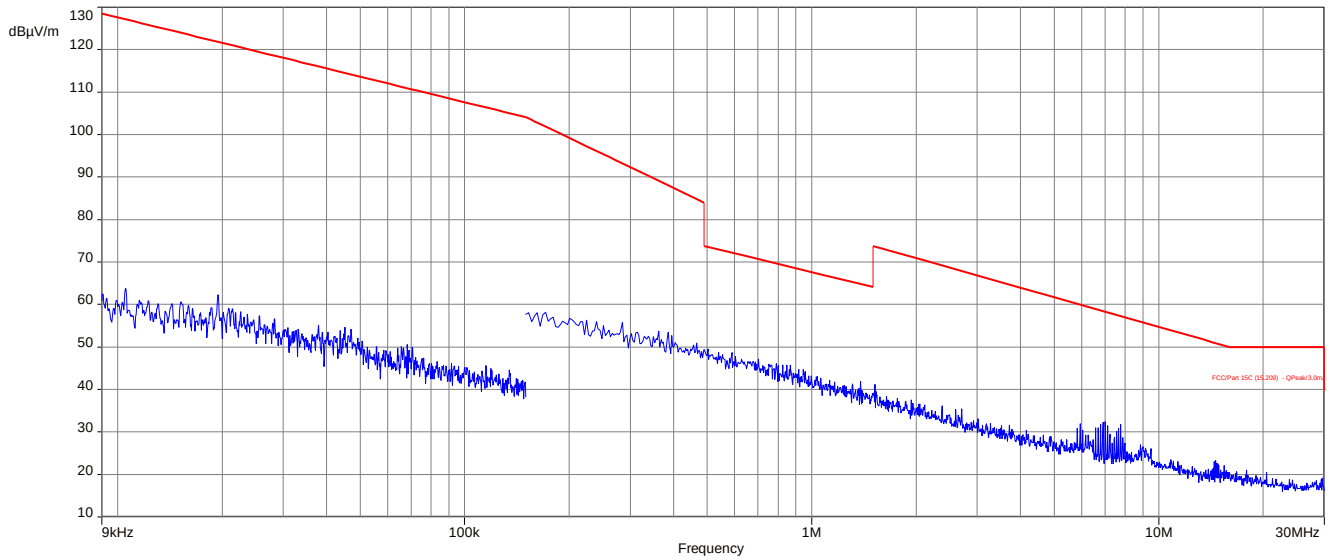
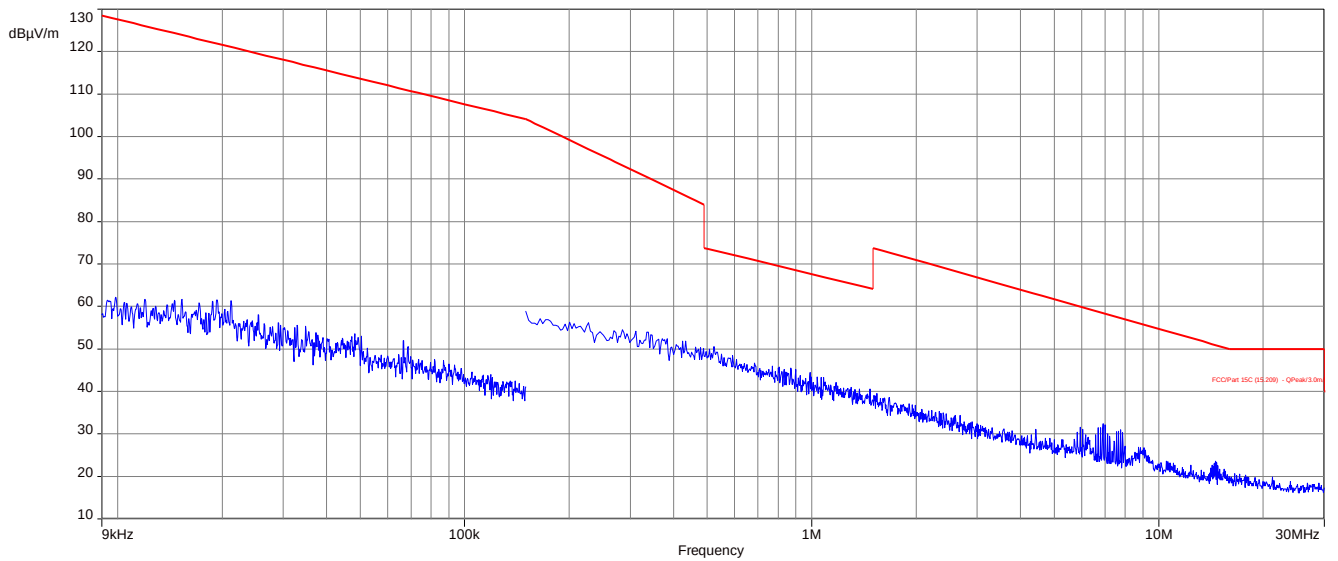
Plots: BPSK Antenna A**Plot 1:** 9 kHz to 30 MHz, 5180 MHz**Plot 2:** 9 kHz to 30 MHz, 5210 MHz

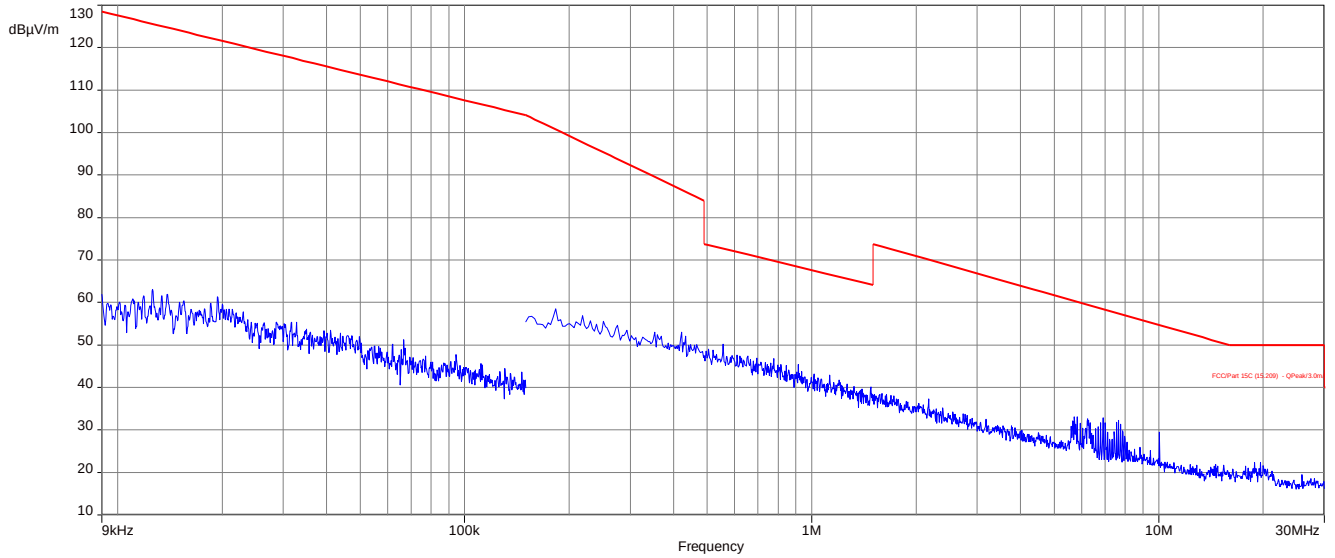
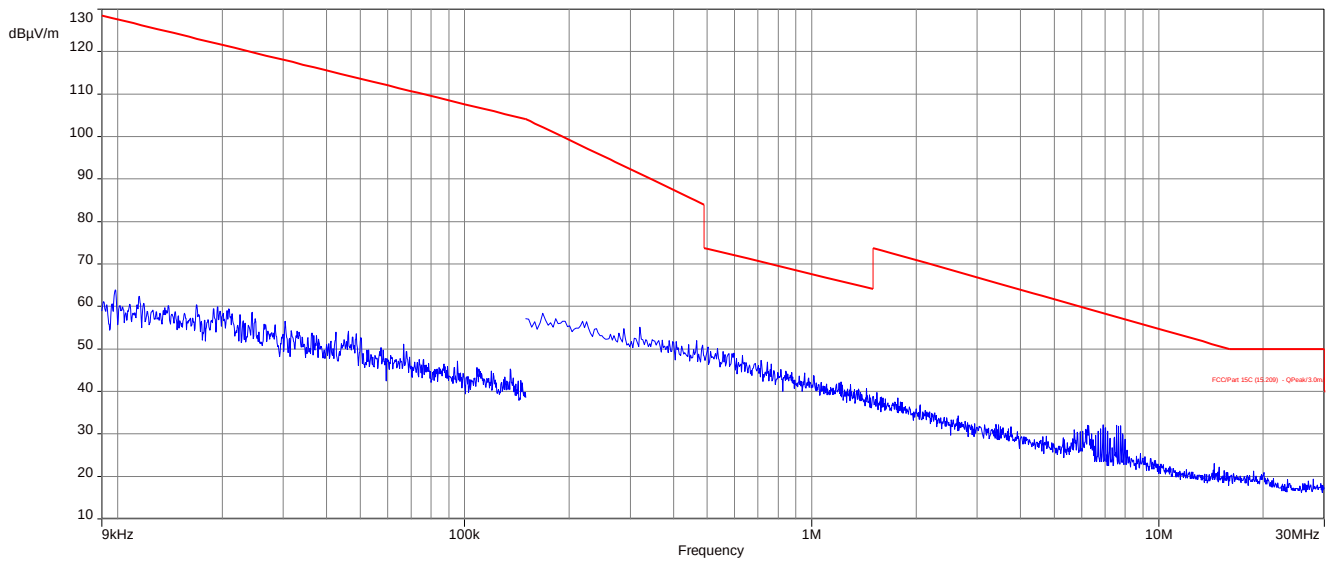
Plot 3: 9 kHz to 30 MHz, 5240 MHz**Plot 4:** 9 kHz to 30 MHz, 5736 MHz

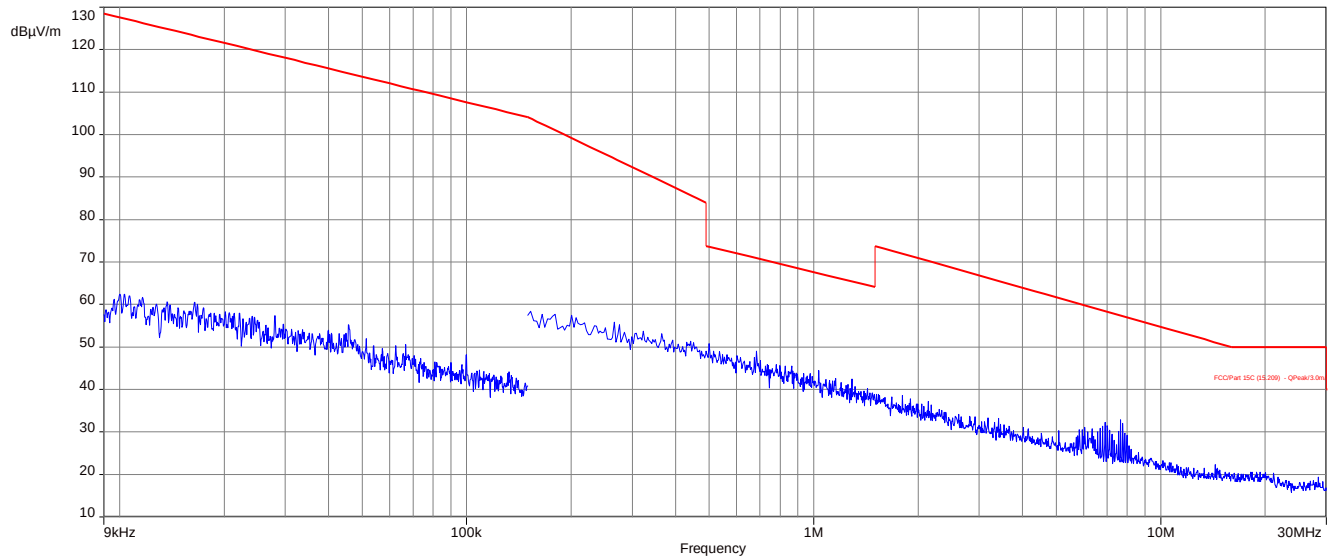
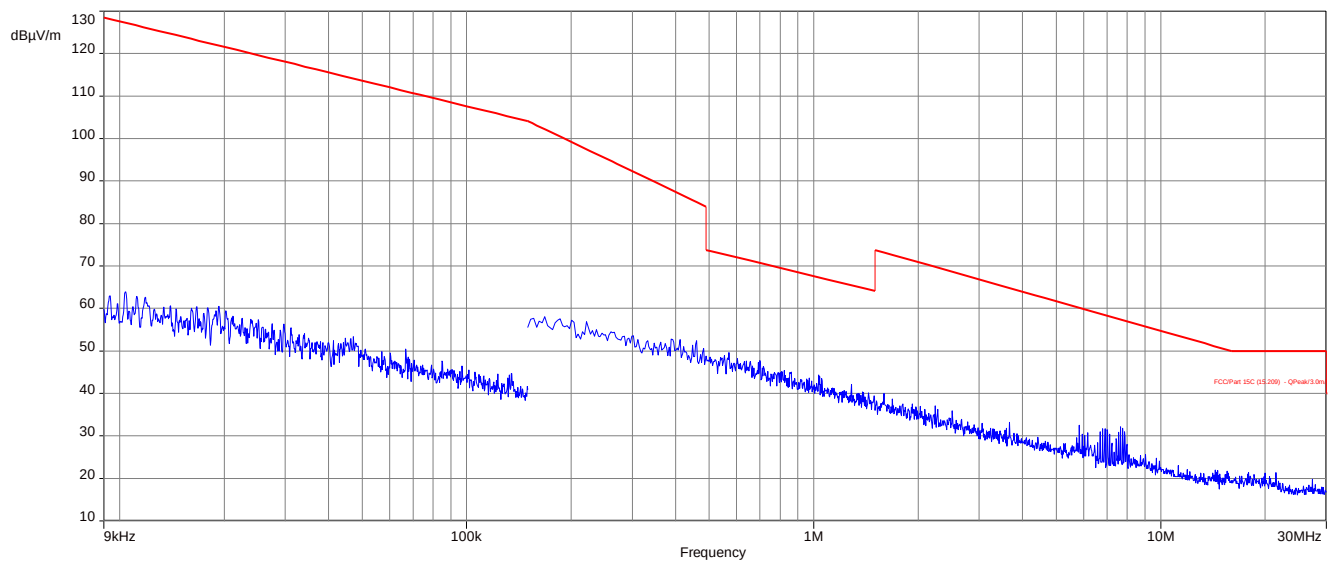
Plot 5: 9 kHz to 30 MHz, 5762 MHz**Plot 6:** 9 kHz to 30 MHz, 5814 MHz

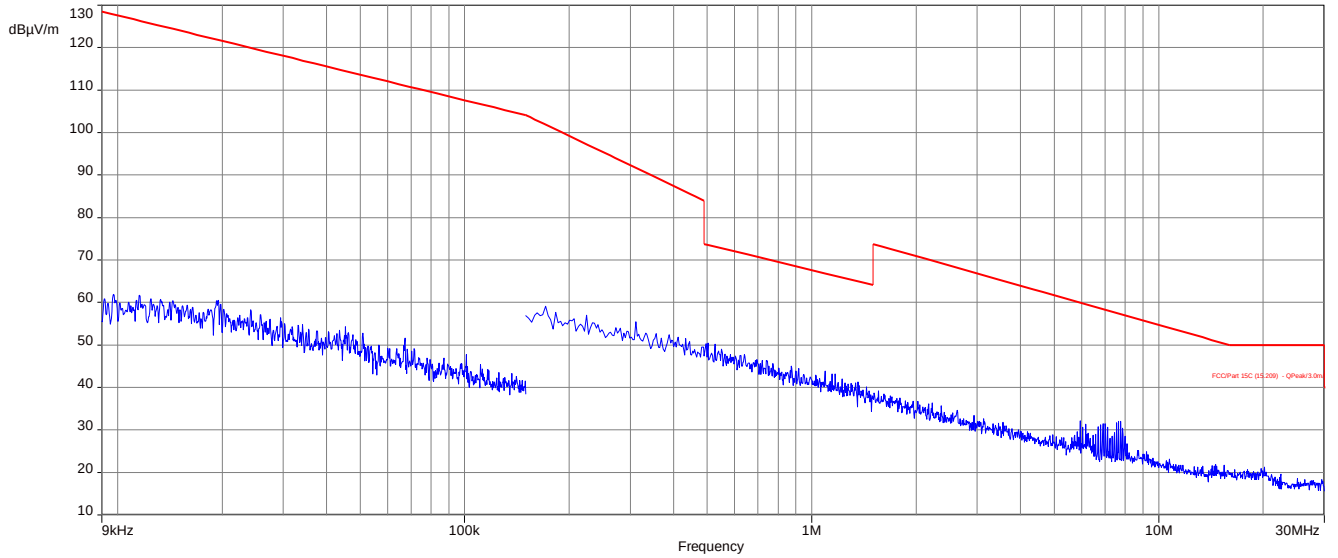
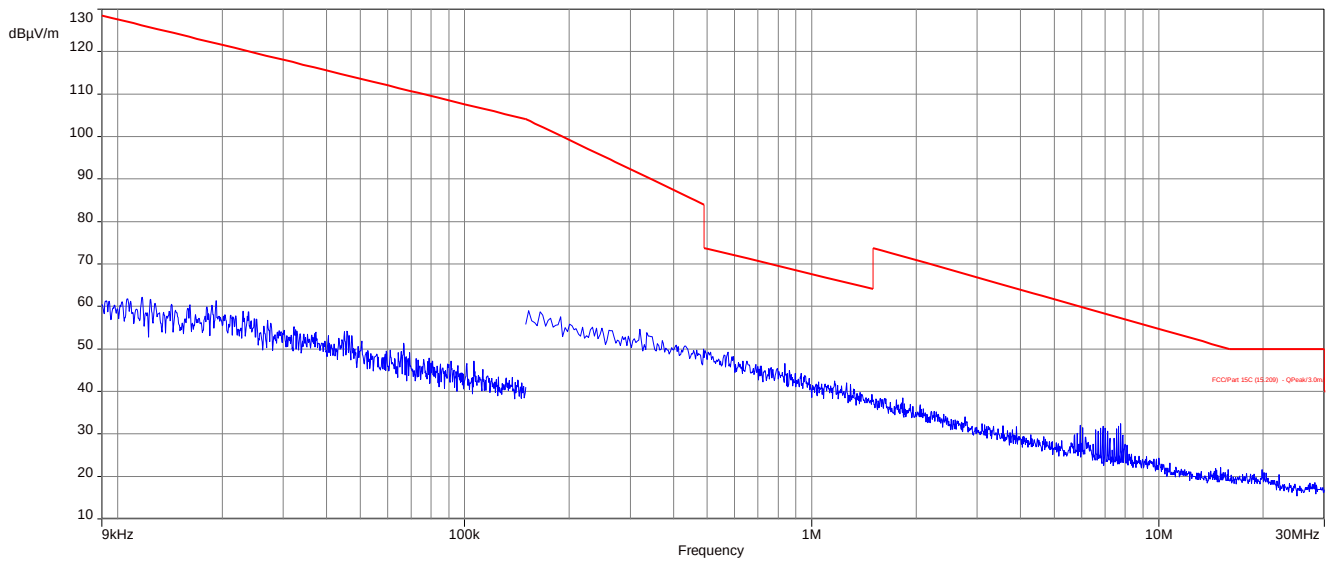
Plots: BPSK Antenna B**Plot 7:** 9 kHz to 30 MHz, 5180 MHz**Plot 8:** 9 kHz to 30 MHz, 5210 MHz

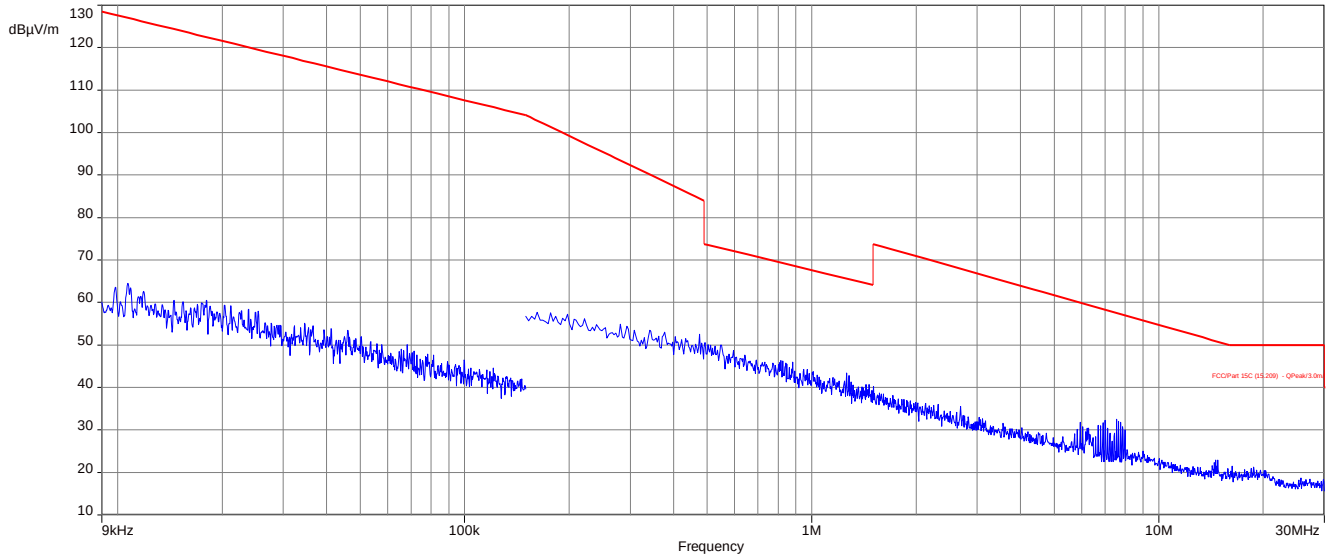
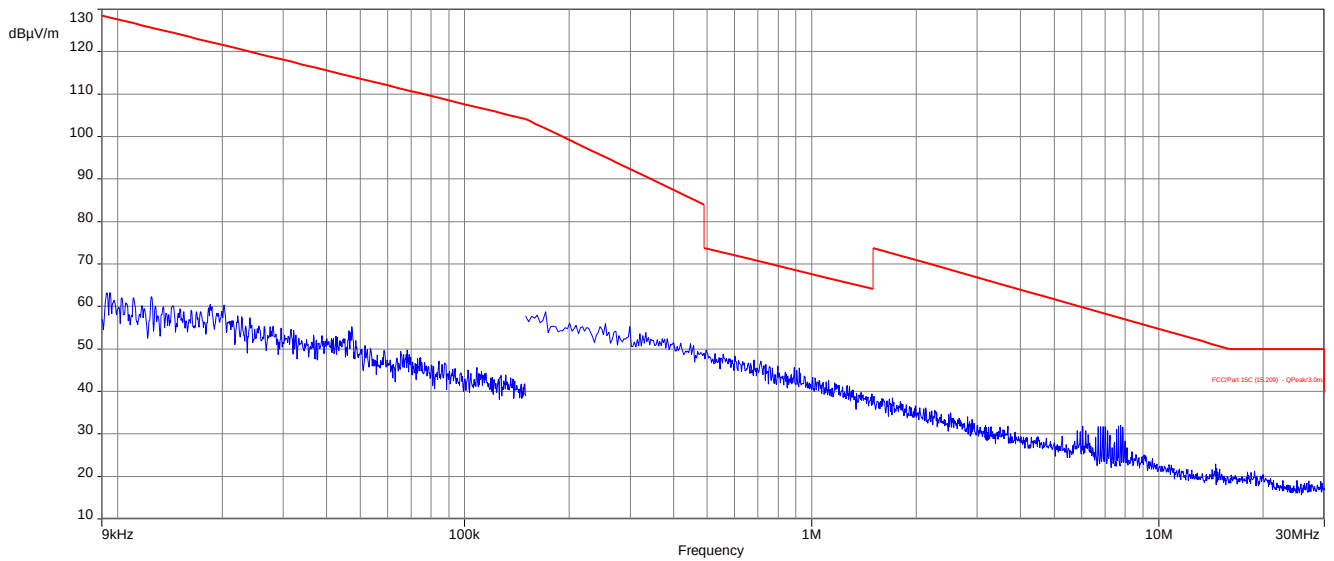
Plot 9: 9 kHz to 30 MHz, 5240 MHz**Plot 10:** 9 kHz to 30 MHz, 5736 MHz

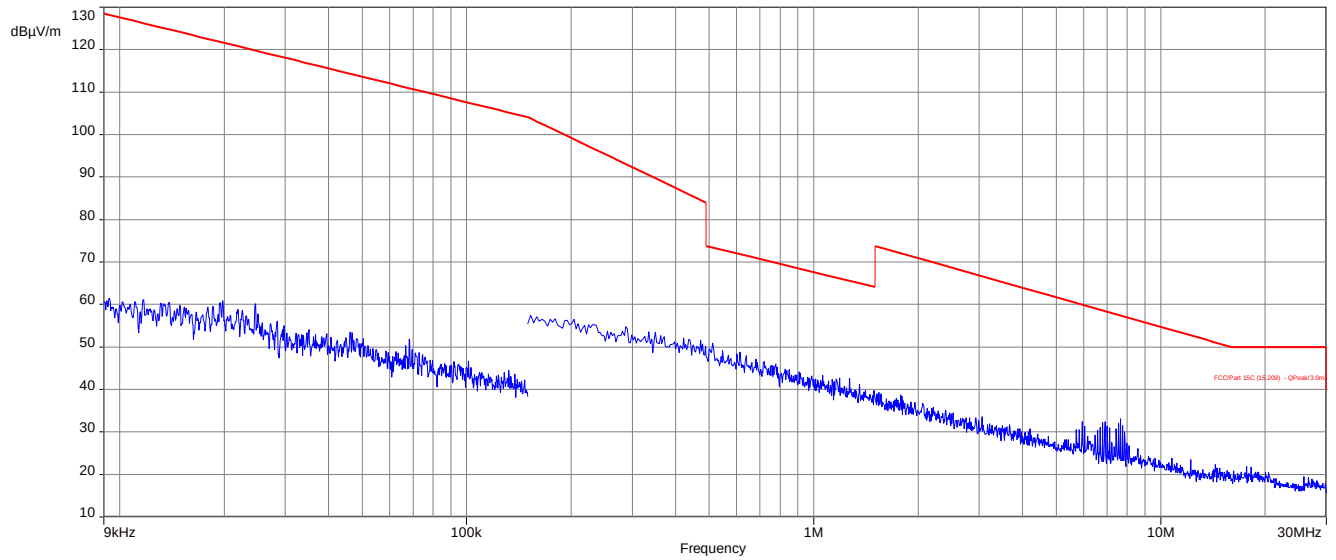
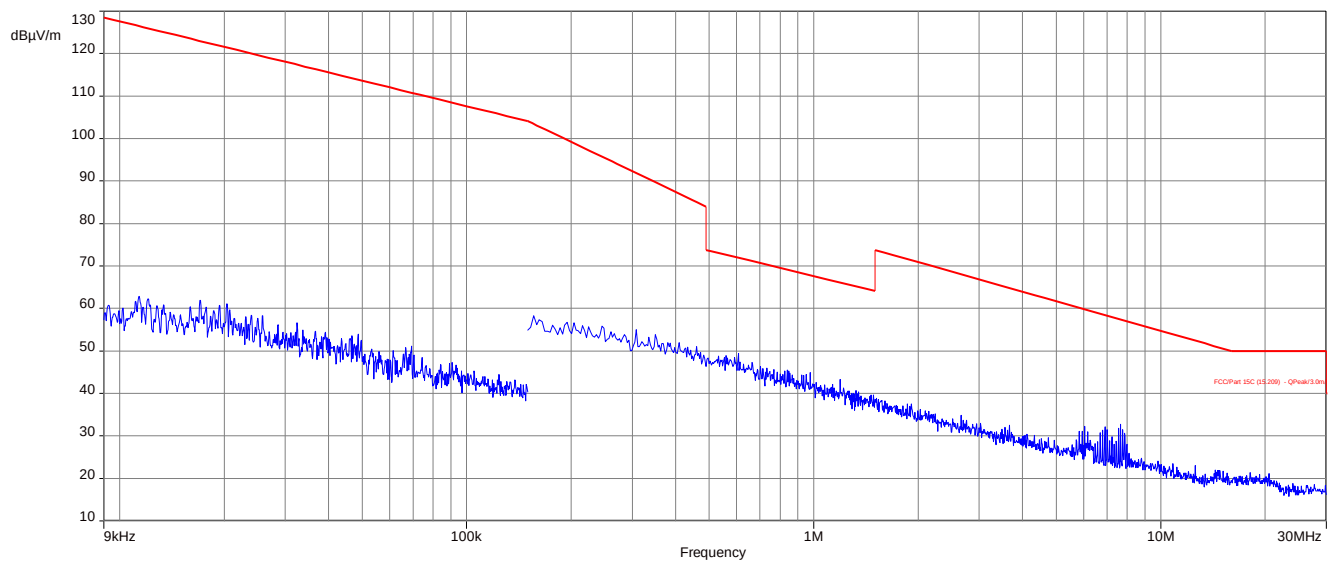
Plot 11: 9 kHz to 30 MHz, 5762 MHz**Plot 12:** 9 kHz to 30 MHz, 5814 MHz

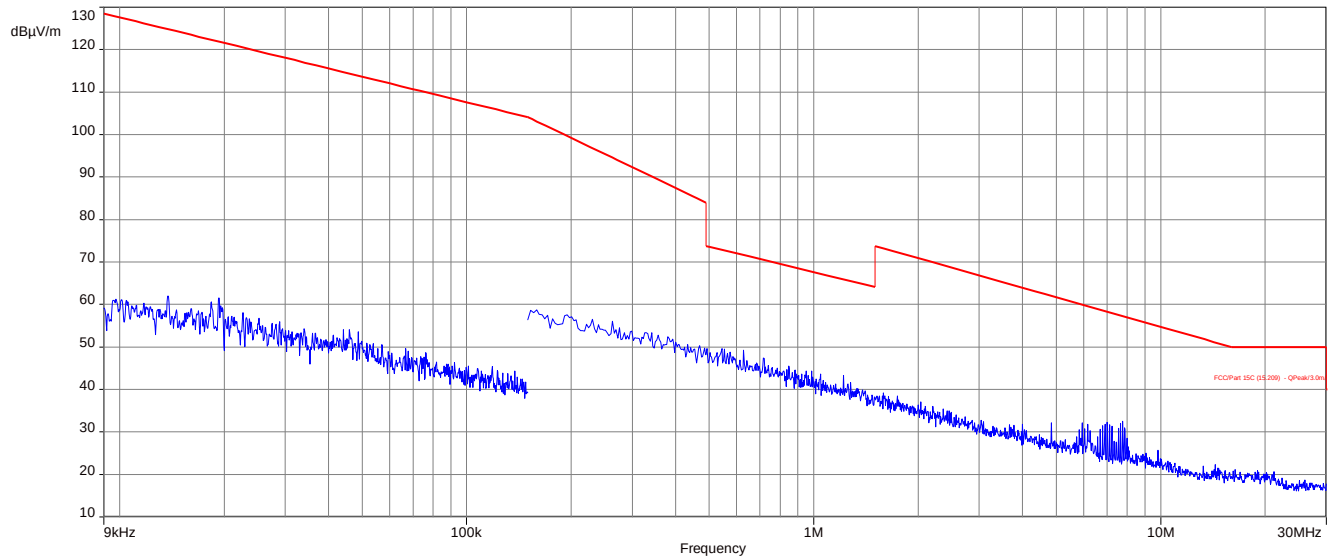
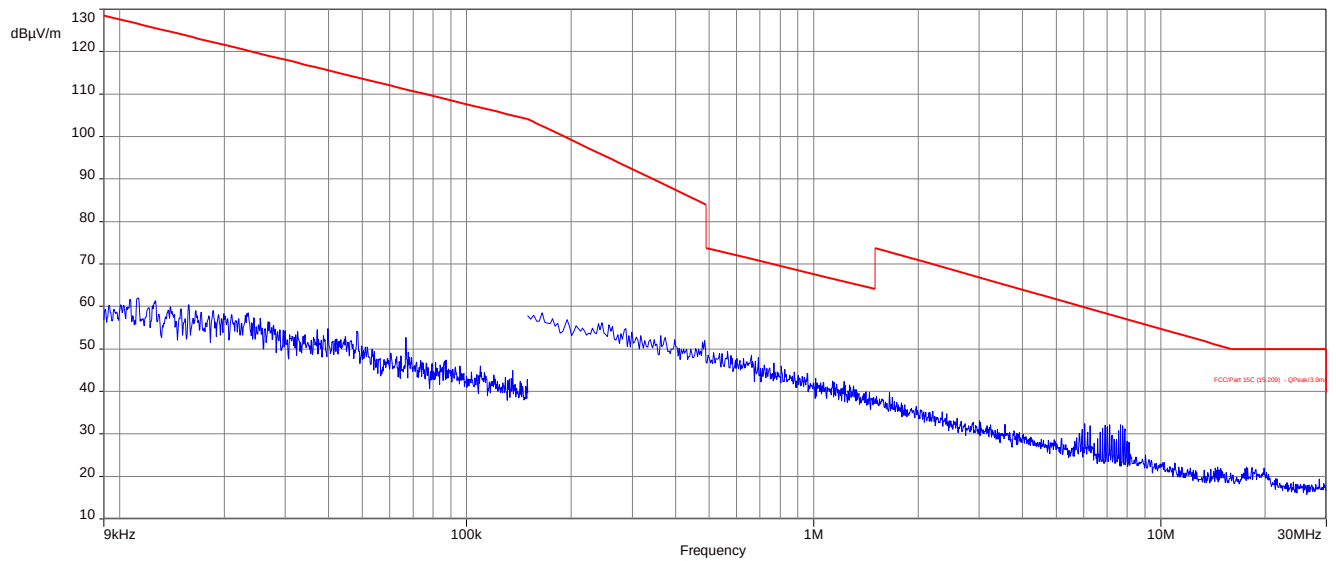
Plots: QPSK Antenna A**Plot 13:** 9 kHz to 30 MHz, 5180 MHz**Plot 14:** 9 kHz to 30 MHz, 5210 MHz

Plot 15: 9 kHz to 30 MHz, 5240 MHz**Plot 16:** 9 kHz to 30 MHz, 5736 MHz

Plot 17: 9 kHz to 30 MHz, 5762 MHz**Plot 18:** 9 kHz to 30 MHz, 5814 MHz

Plots: QPSK Antenna B**Plot 19:** 9 kHz to 30 MHz, 5180 MHz**Plot 20:** 9 kHz to 30 MHz, 5210 MHz

Plot 21: 9 kHz to 30 MHz, 5240 MHz**Plot 22:** 9 kHz to 30 MHz, 5736 MHz

Plot 23: 9 kHz to 30 MHz, 5762 MHz**Plot 24:** 9 kHz to 30 MHz, 5814 MHz

12.12 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 7.4 – A
Measurement uncertainty:	See sub clause 9

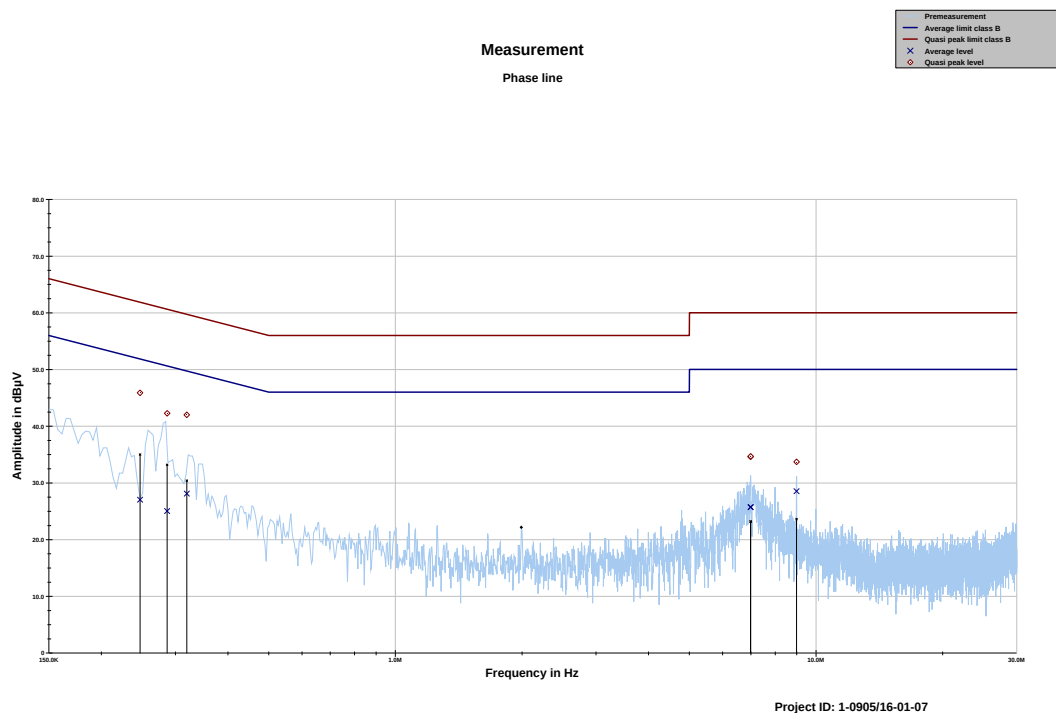
Limits:

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

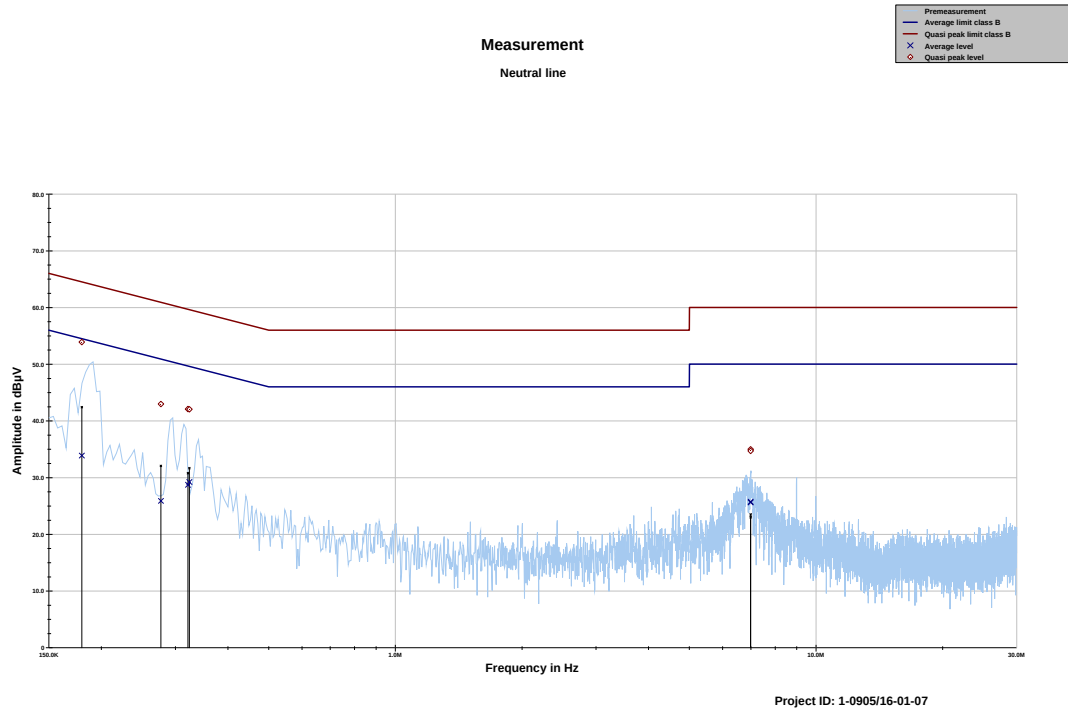
Results:

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

Plots:**Tx Mode / Antenna A****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
0.145856	58.88			37.50		
0.247211	45.88	15.97	61.850	27.04	26.18	53.223
0.286651	42.28	18.34	60.621	25.04	27.05	52.096
0.319280	42.01	17.71	59.726	28.10	23.06	51.163
6.991120	34.61	25.39	60.000	25.70	24.30	50.000
6.991387	34.68	25.32	60.000	25.76	24.24	50.000
8.990589	33.70	26.30	60.000	28.53	21.47	50.000

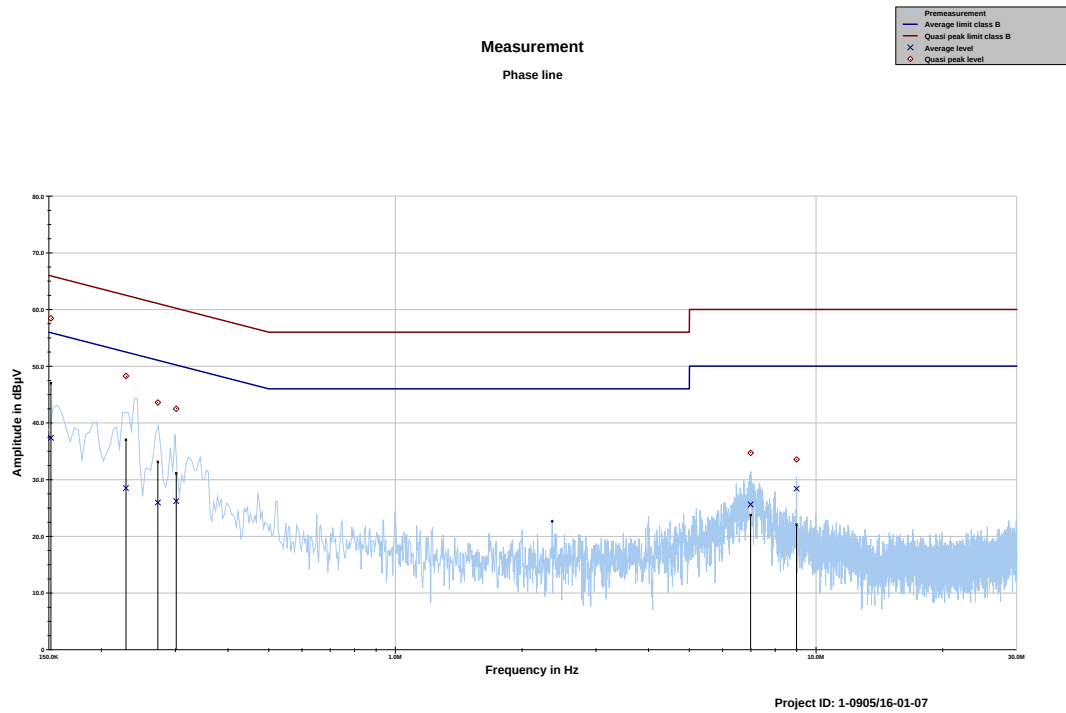
Plot 2: 150 kHz to 30 MHz, neutral line



Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin average	Limit AV
MHz	dBµV	dB	dBµV	dBµV	dB	dBµV
0.179733	53.89	10.61	64.498	33.89	21.26	55.150
0.277123	42.97	17.93	60.902	25.90	26.47	52.368
0.321368	42.09	17.58	59.671	28.73	22.37	51.104
0.323751	42.04	17.57	59.610	29.23	21.81	51.036
6.993639	34.99	25.01	60.000	25.74	24.26	50.000
6.994351	34.71	25.29	60.000	25.61	24.39	50.000

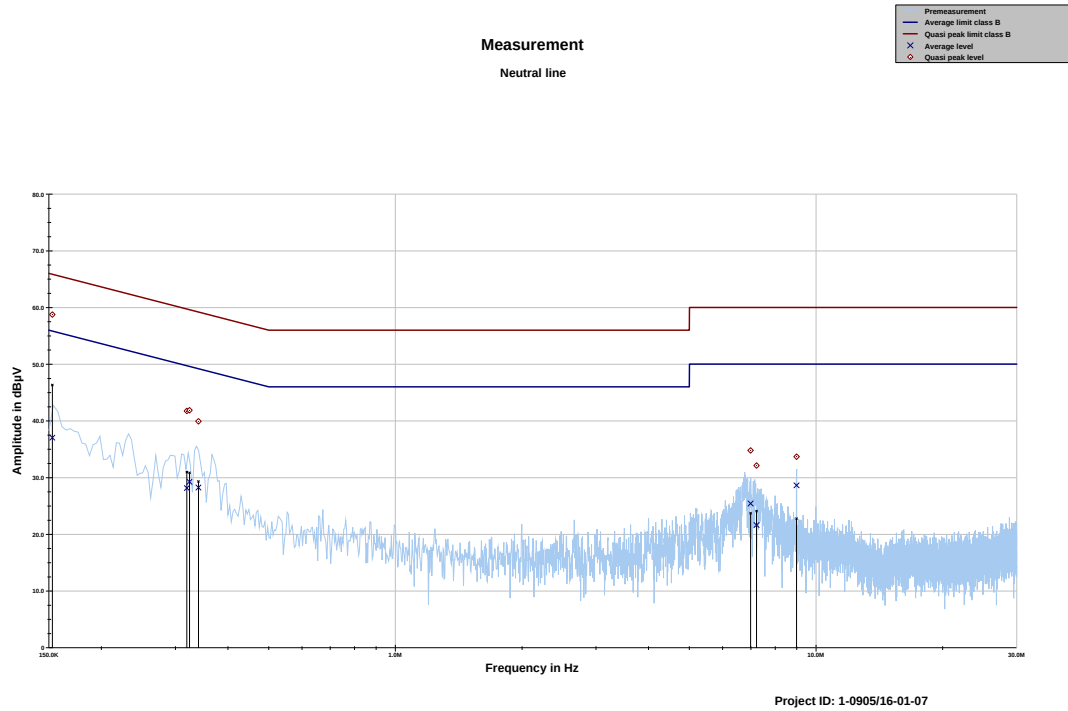
Tx Mode / Antenna B

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
0.151753	58.43	7.47	65.904	37.36	18.59	55.950
0.228733	48.27	14.22	62.496	28.50	25.25	53.750
0.272495	43.61	17.43	61.042	25.96	26.54	52.500
0.301184	42.49	17.72	60.210	26.18	25.50	51.680
6.994416	34.70	25.30	60.000	25.64	24.36	50.000
8.991307	33.57	26.43	60.000	28.41	21.59	50.000

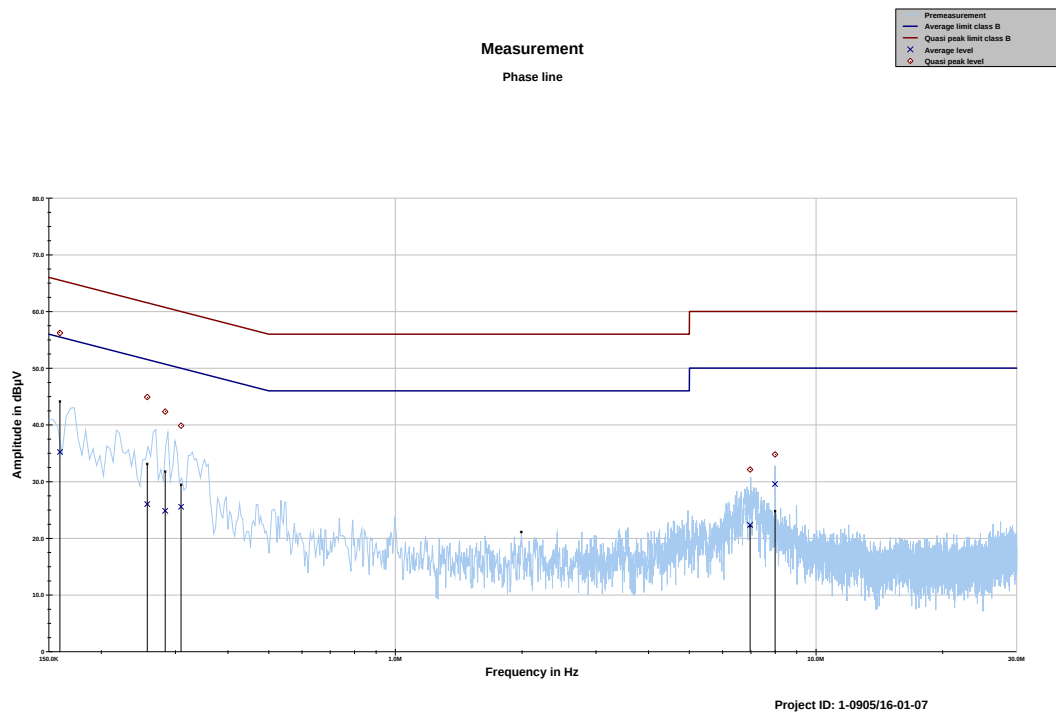
Plot 2: 150 kHz to 30 MHz, neutral line



Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin average	Limit AV
MHz	dBµV	dB	dBµV	dBµV	dB	dBµV
0.152910	58.76	7.08	65.840	37.04	18.87	55.917
0.319344	41.74	17.98	59.724	28.16	23.00	51.162
0.323901	41.88	17.73	59.606	29.26	21.78	51.031
0.340251	39.92	19.27	59.197	28.26	22.31	50.564
6.989897	34.79	25.21	60.000	25.43	24.57	50.000
7.221560	32.14	27.86	60.000	21.63	28.37	50.000
8.991442	33.69	26.31	60.000	28.63	21.37	50.000

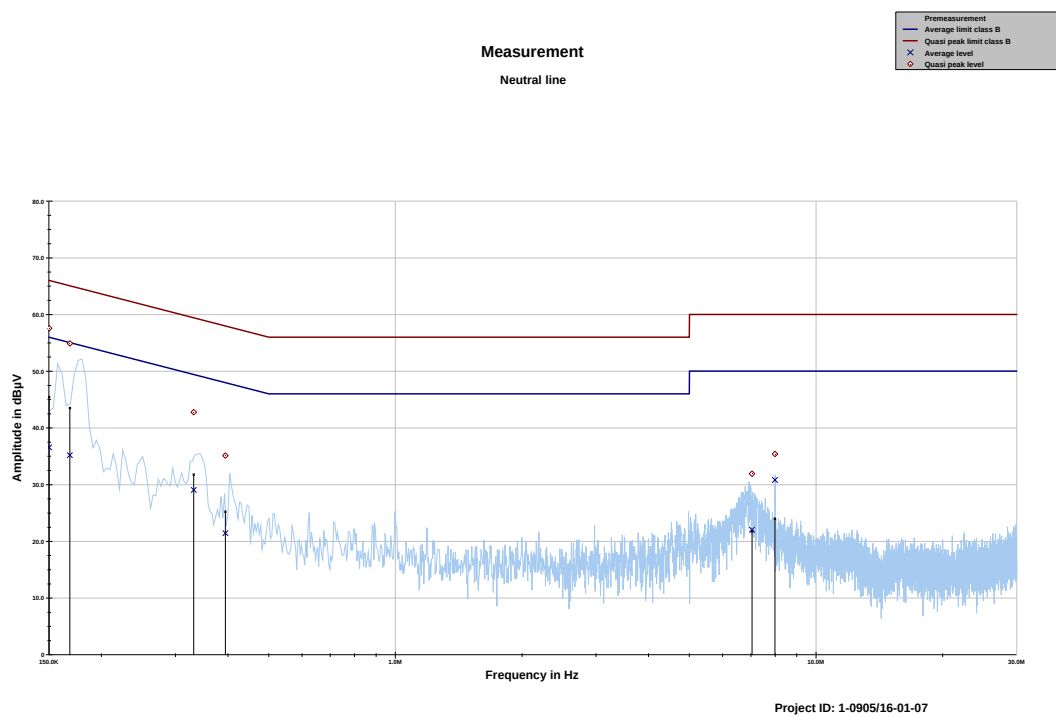
Rx Mode

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
0.159433	56.21	9.28	65.493	35.24	20.49	55.730
0.257136	44.91	16.61	61.523	26.05	26.89	52.939
0.283625	42.34	18.37	60.709	24.86	27.33	52.182
0.309436	39.86	20.13	59.986	25.57	25.87	51.445
6.973422	32.13	27.87	60.000	22.36	27.64	50.000
7.993326	34.79	25.21	60.000	29.57	20.43	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
0.150291	57.58	8.41	65.984	36.57	19.42	55.992
0.168360	54.89	10.15	65.041	35.18	20.30	55.475
0.331678	42.77	16.64	59.409	29.06	21.75	50.809
0.394384	35.12	22.85	57.971	21.42	27.59	49.018
7.043932	31.91	28.09	60.000	22.04	27.96	50.000
7.989330	35.39	24.61	60.000	30.81	19.19	50.000

13 Observations

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

Annex A Document history

Version	Applied changes	Date of release
	Initial release	2016-08-04

Annex B Further information

Glossary

AVG	-	Average
DUT	-	Device under test
EMC	-	Electromagnetic Compatibility
EN	-	European Standard
EUT	-	Equipment under test
ETSI	-	European Telecommunications Standard Institute
FCC	-	Federal Communication Commission
FCC ID	-	Company Identifier at FCC
HW	-	Hardware
IC	-	Industry Canada
Inv. No.	-	Inventory number
N/A	-	Not applicable
PP	-	Positive peak
QP	-	Quasi peak
S/N	-	Serial number
SW	-	Software
PMN	-	Product marketing name
HMN	-	Host marketing name
HVIN	-	Hardware version identification number
FVIN	-	Firmware version identification number

Annex C Accreditation Certificate

Front side of certificate



Back side of certificate



Note:

The current certificate including annex can be received from CETECOM ICT Services GmbH on request.