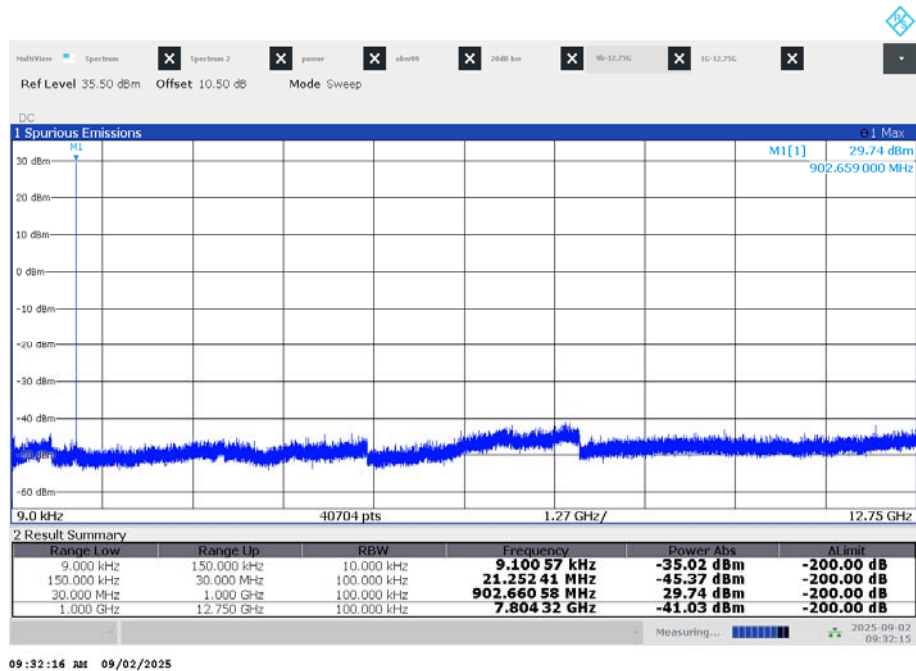
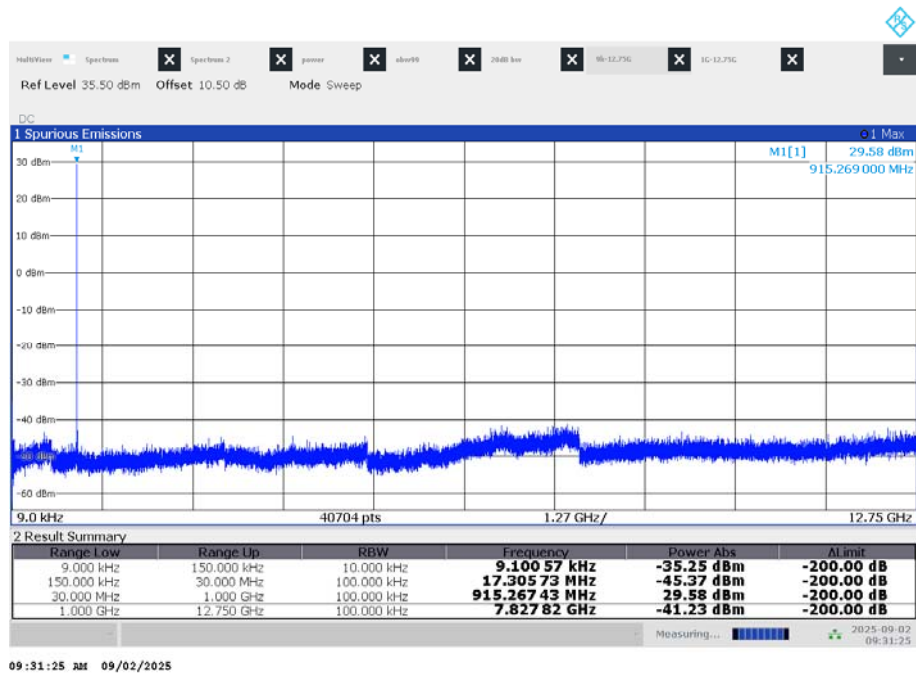


12.8.4 Plots Miller 8 (185) modulation:

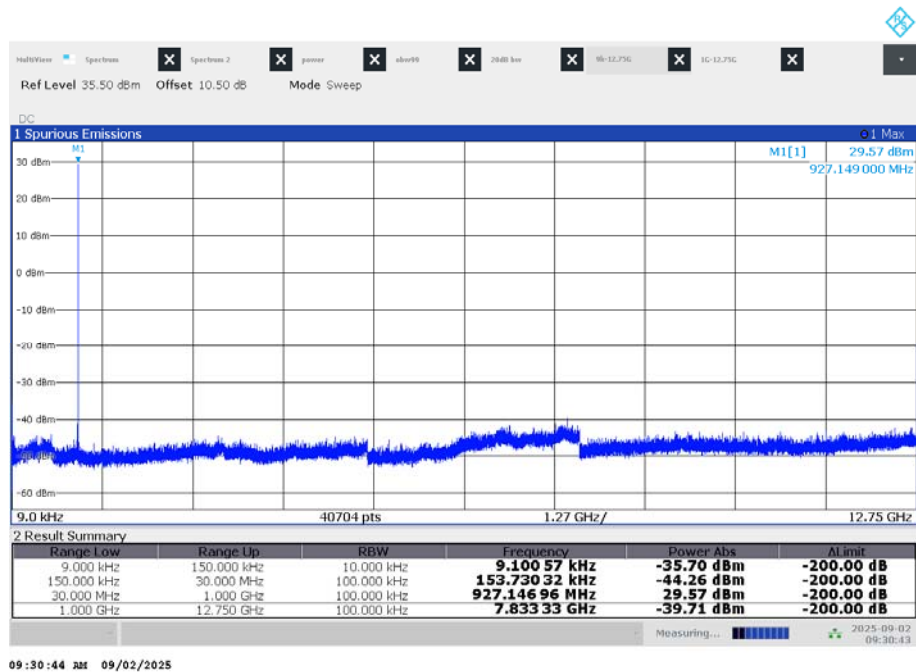
Plot 1: 902.75 MHz, 9 kHz – 12.75 GHz



Plot 2: 915.25 MHz, 9 kHz – 12.75 GHz



Plot 3: 927.25 MHz, 9 kHz – 12.75 GHz



12.9 Spurious Emissions Radiated < 30 MHz

Description:

Measurement of the radiated spurious emissions in transmit mode below 30 MHz. The measurement is performed in the mode with the highest output power. The limits are recalculated to a measurement distance of 3 m according the ANSI C63.10.

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
Used equipment:	See chapter 7.2 B
Measurement uncertainty:	See chapter 9

Limits:

FCC		
Frequency (MHz)	Field strength (μV/m)	Measurement distance (m)
0.009 – 0.490	2400/(F/kHz)	300
0.490 – 1.705	24000/(F/kHz)	30
1.705 – 30	30 (29.5 dBμV/m)	30

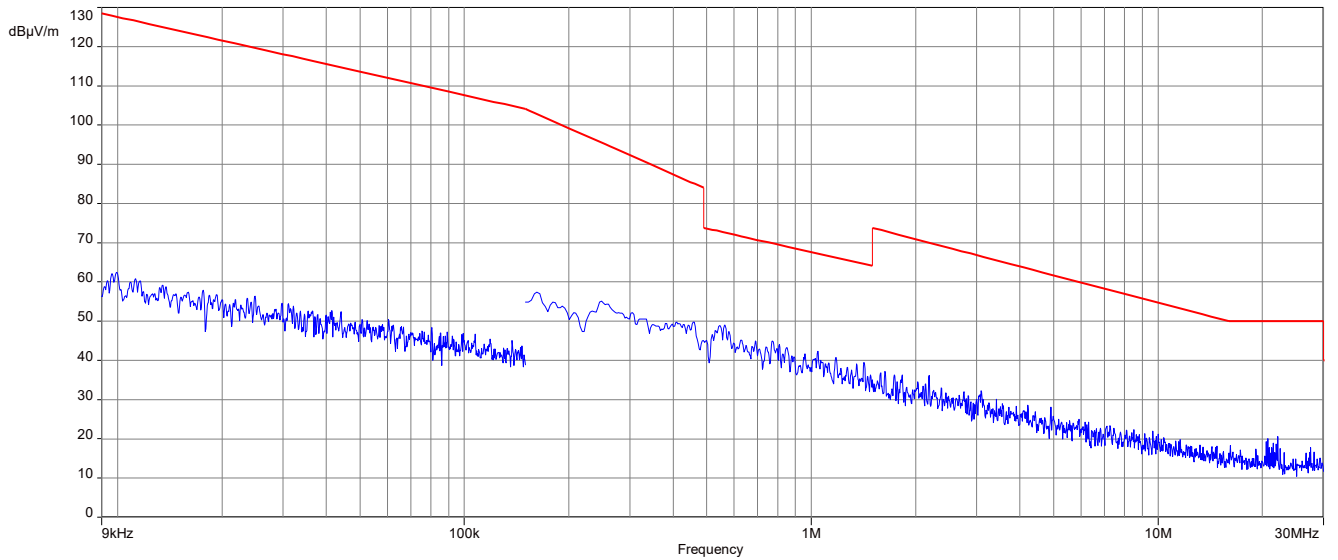
ISED		
Frequency (MHz)	Field strength (μA/m)	Measurement distance (m)
0.009 – 0.490	6.37/F (F in kHz)	300
0.490 – 1.705	63.7/F (F in kHz)	30
1.705 – 30	0.08 (-22 dBμA/m)	30

Result:

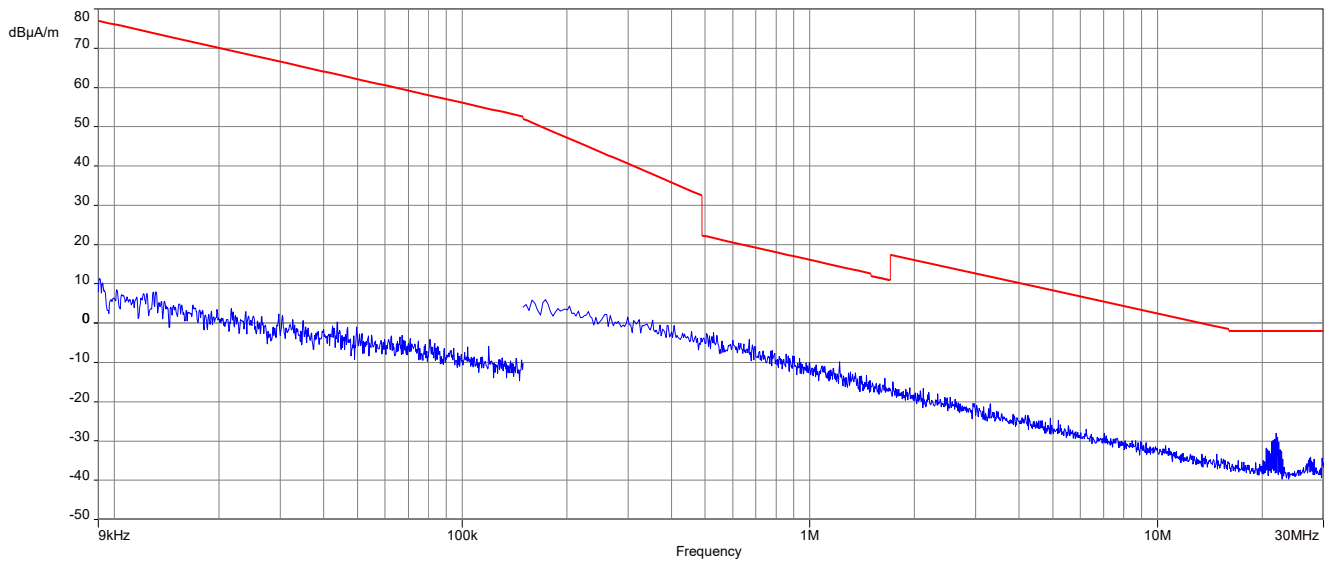
SPURIOUS EMISSIONS LEVEL								
902.75 MHz			915.25 MHz			927.25 MHz		
Frequency	Detector	Level	Frequency	Detector	Level	Frequency	Detector	Level
All emissions were more than 10 dB below the limit.								

12.9.1 Plots set. 1 - ANT805 (FM0 (103)):

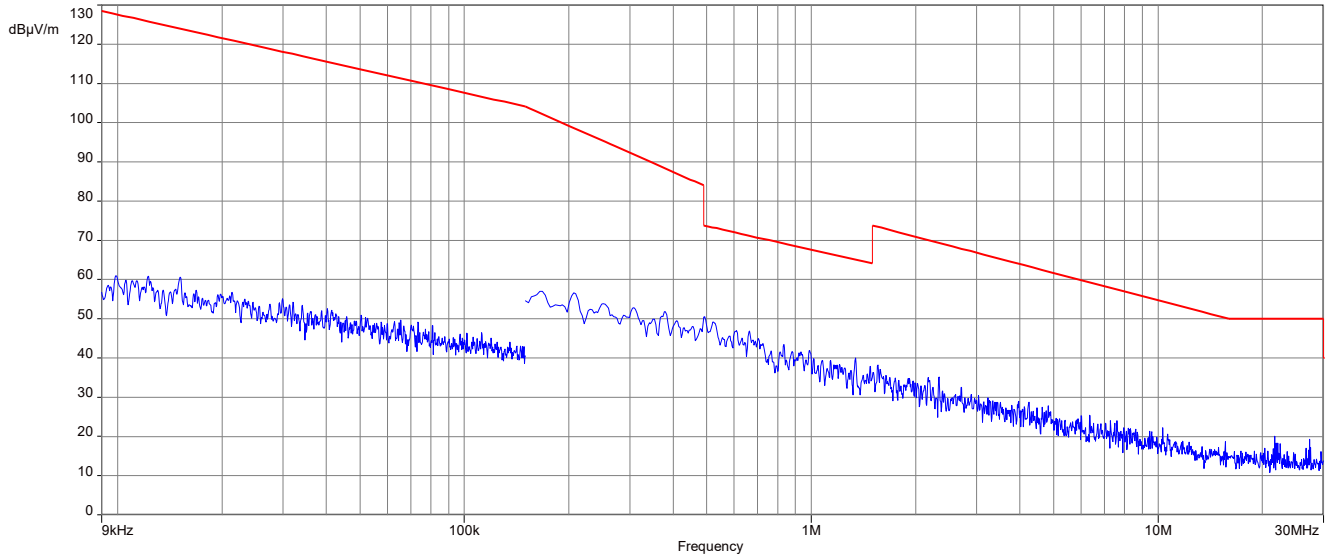
Plot 1: tx 902.75 MHz FCC



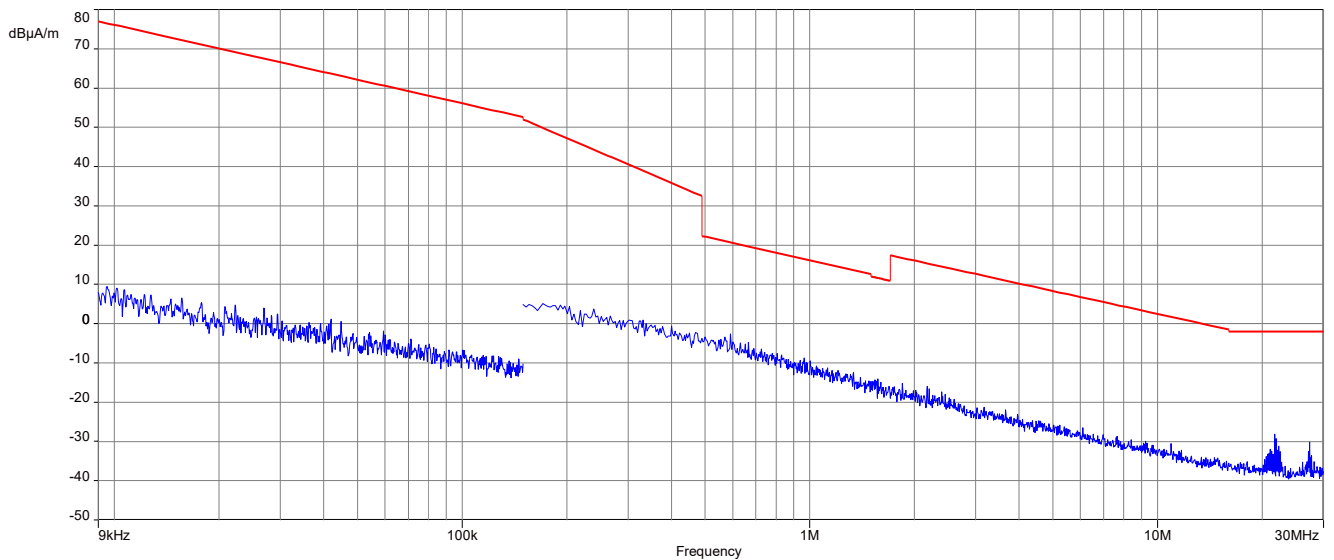
Plot 2: tx 902.75 MHz ISSED



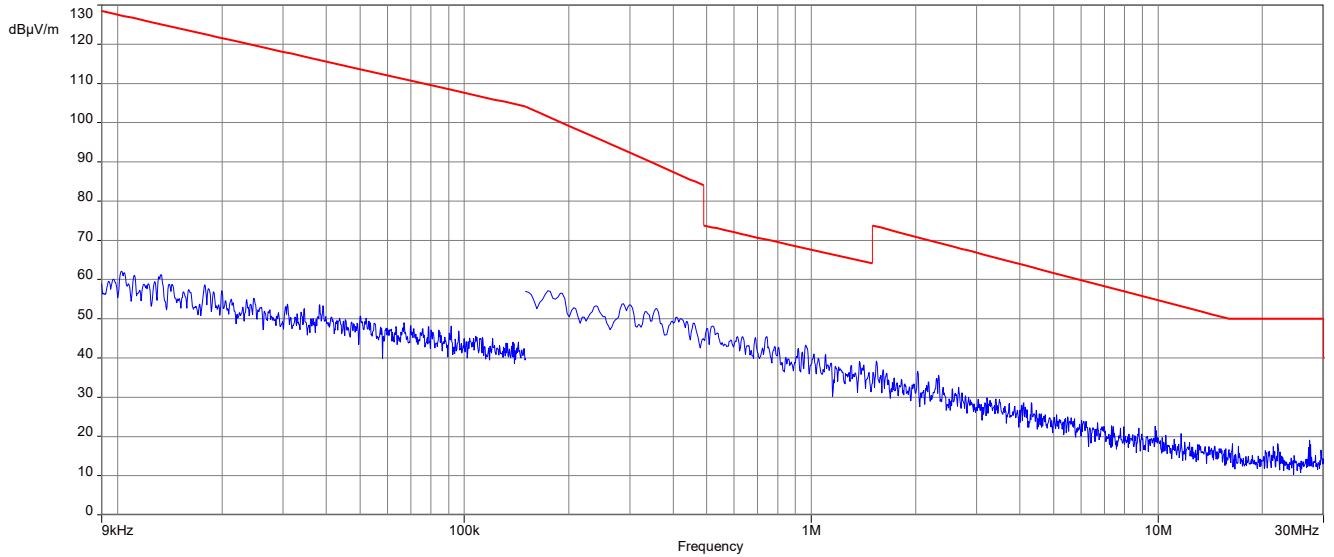
Plot 3: tx 915.25 MHz FCC



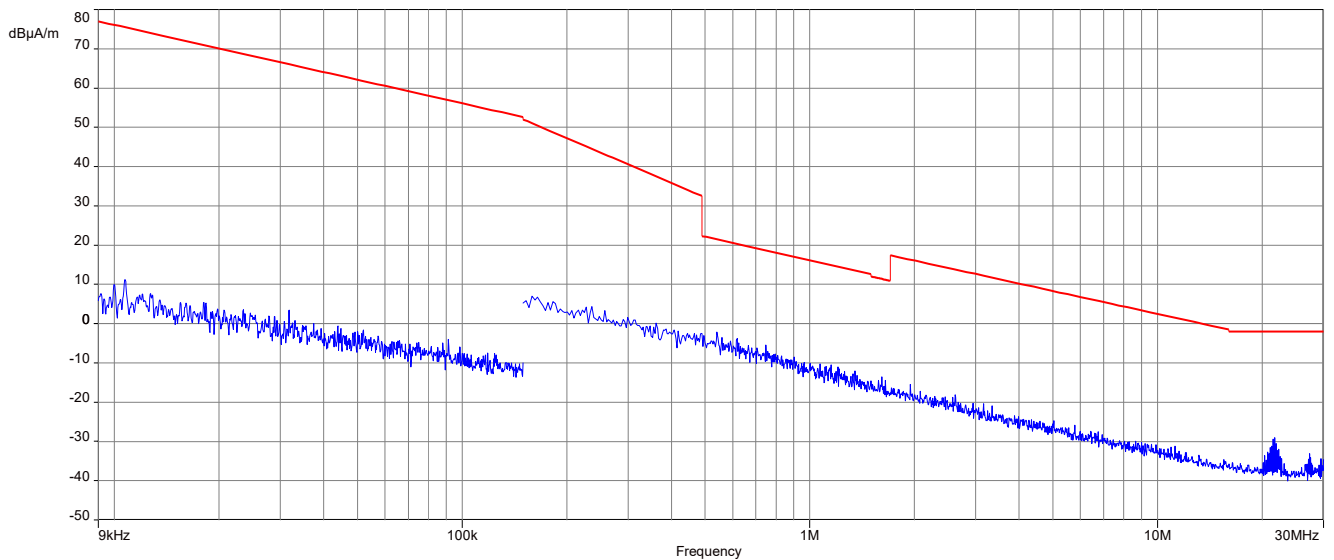
Plot 4: tx 915.25 MHz ISED



Plot 5: tx 927.25 MHz FCC

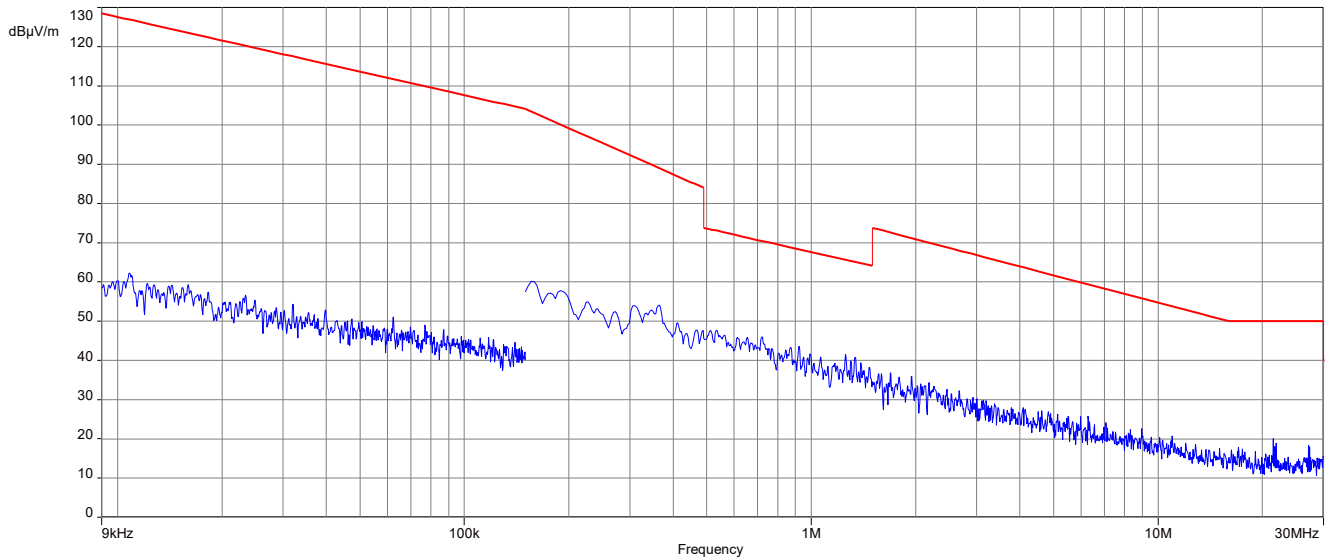


Plot 6: tx 927.25 MHz ISSED

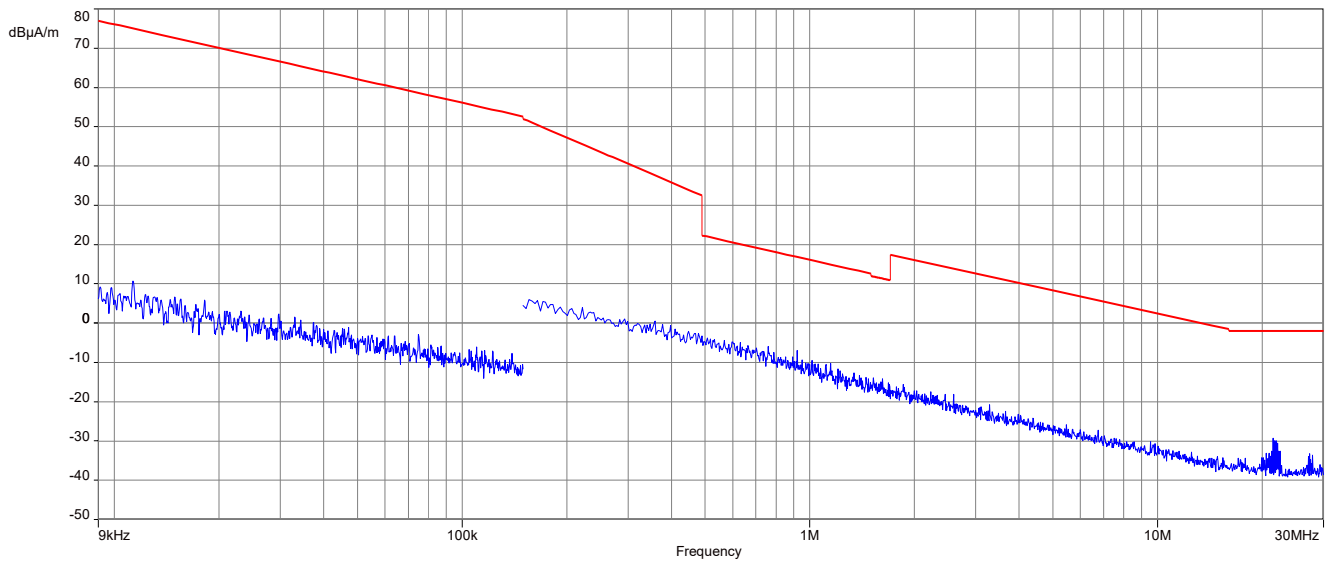


12.9.2 Plots set. 2 - ANT815 (FM0 (103)):

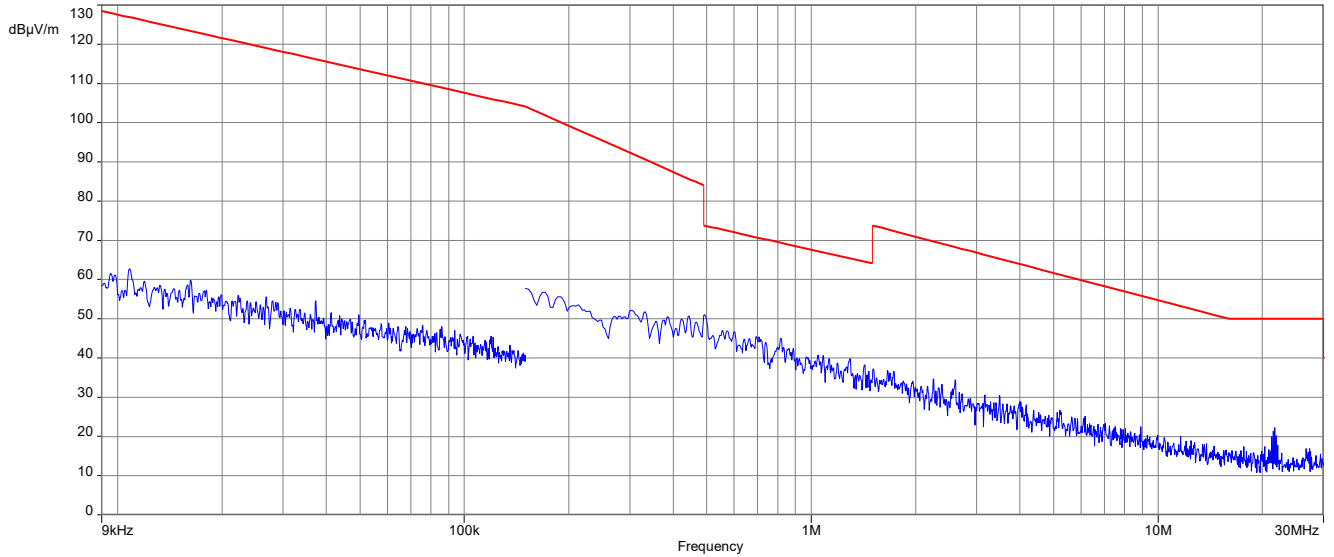
Plot 1: tx 902.75 MHz FCC



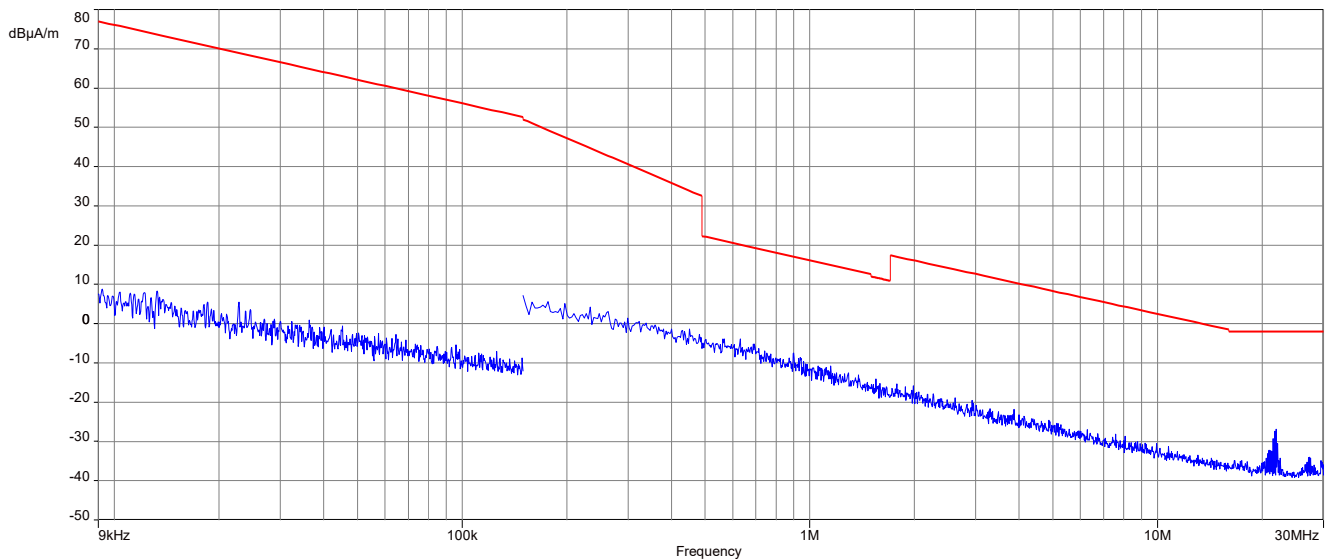
Plot 2: tx 902.75 MHz ISED



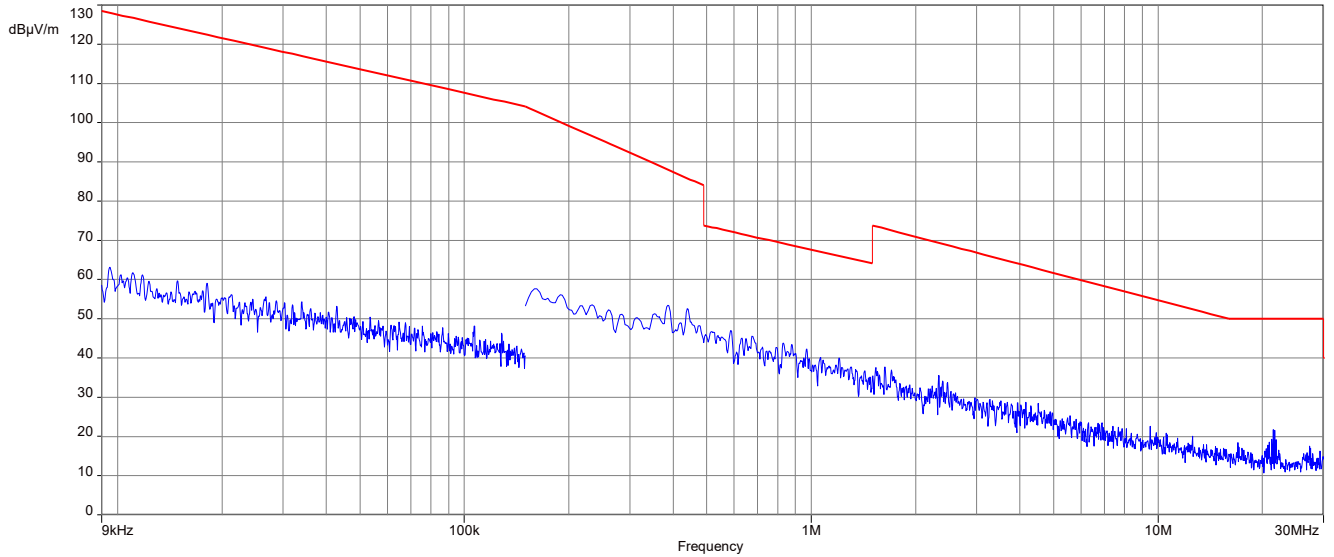
Plot 3: tx 915.25 MHz FCC



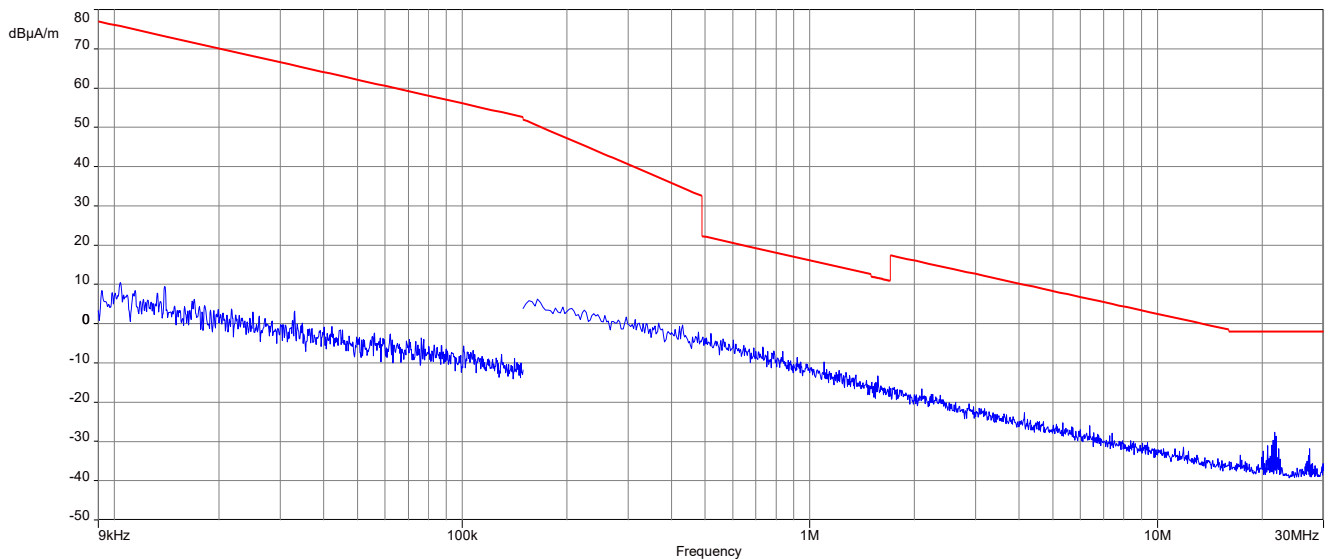
Plot 4: tx 915.25 MHz ISED



Plot 5: tx 927.25 MHz FCC

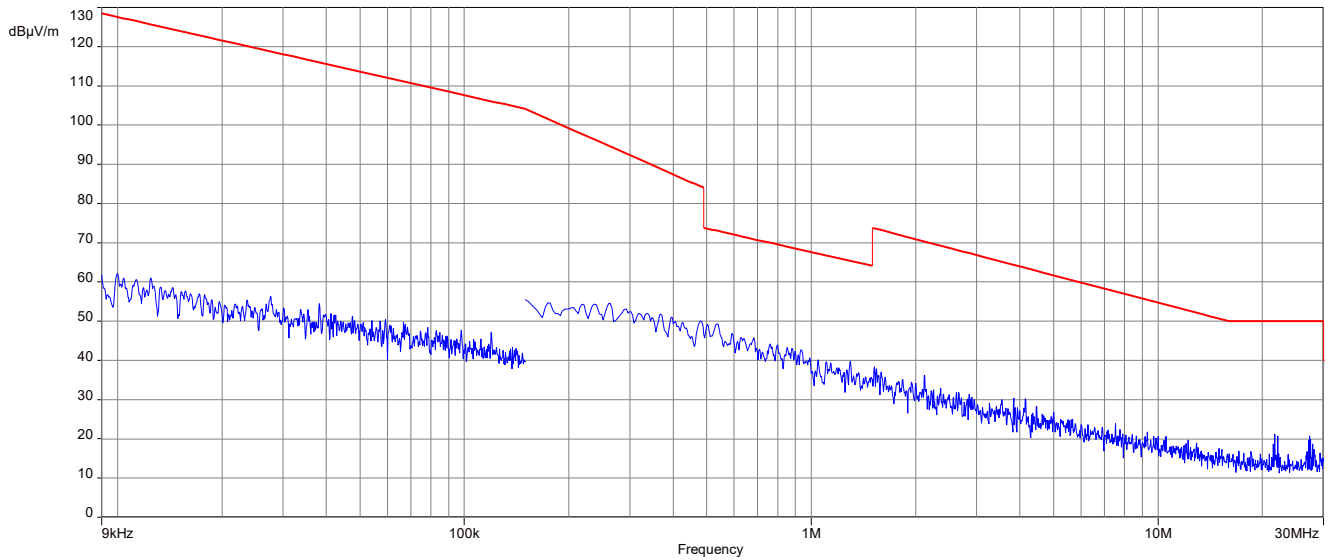


Plot 6: tx 927.25 MHz ISSED

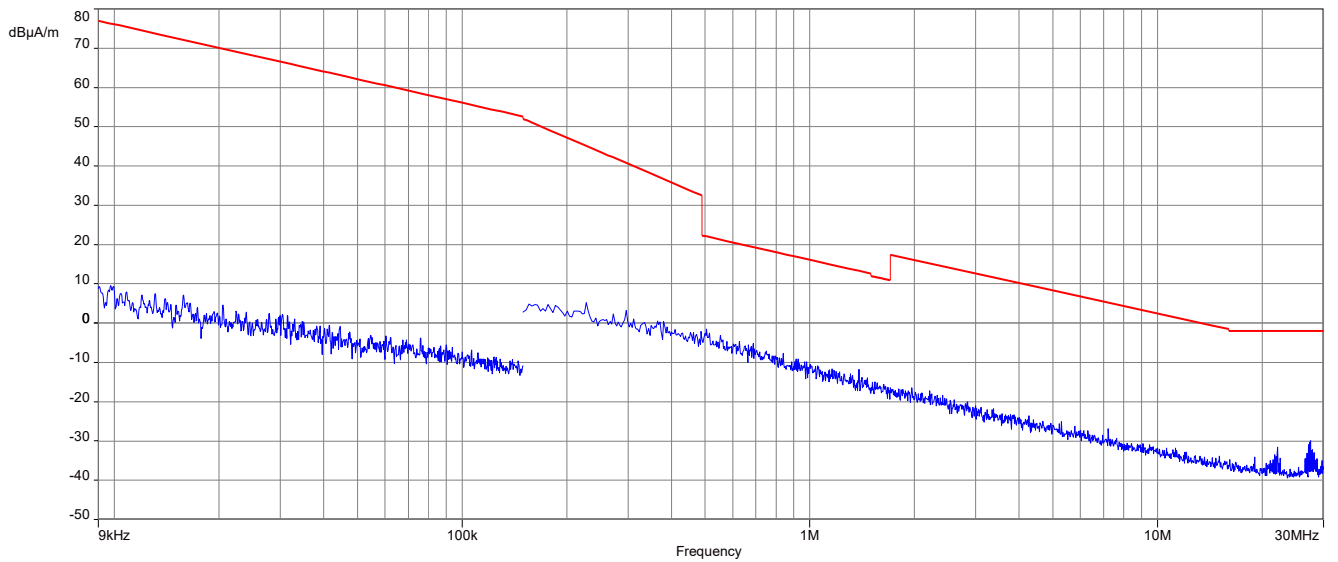


12.9.3 Plots set. 3 - ANT920 (FM0 (103)):

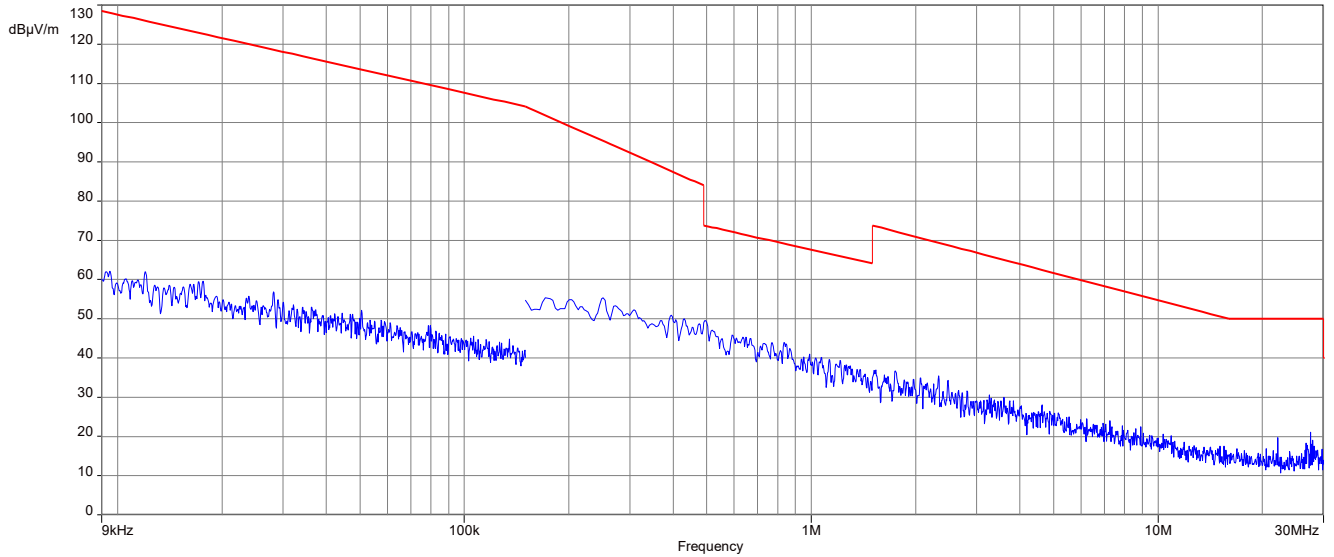
Plot 1: tx 902.75 MHz FCC



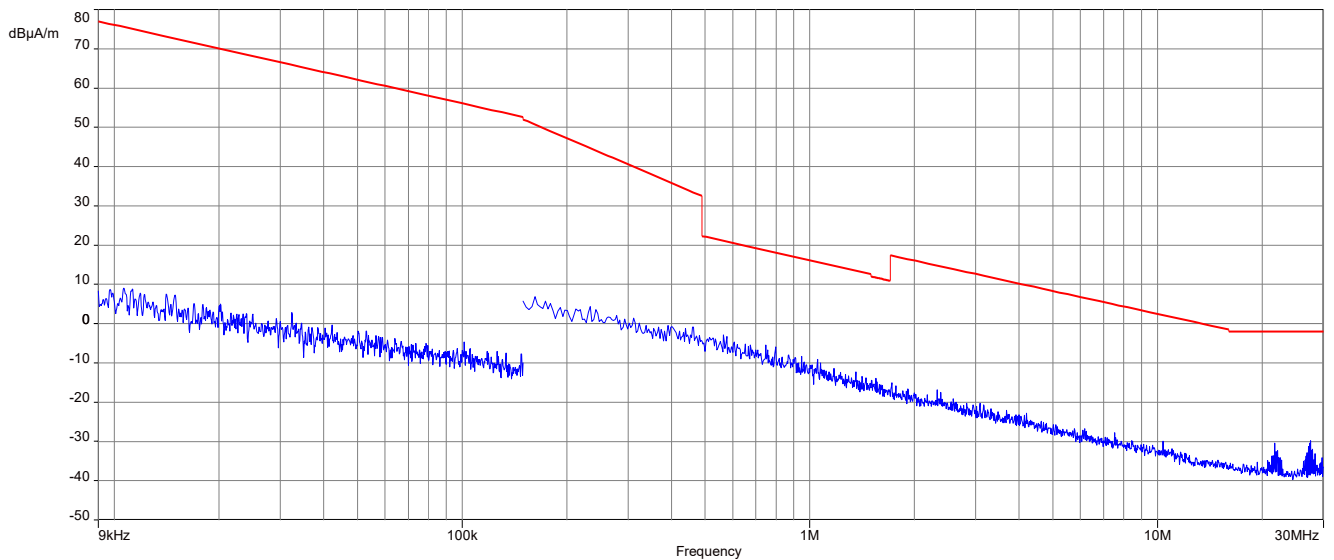
Plot 2: tx 902.75 MHz ISSED



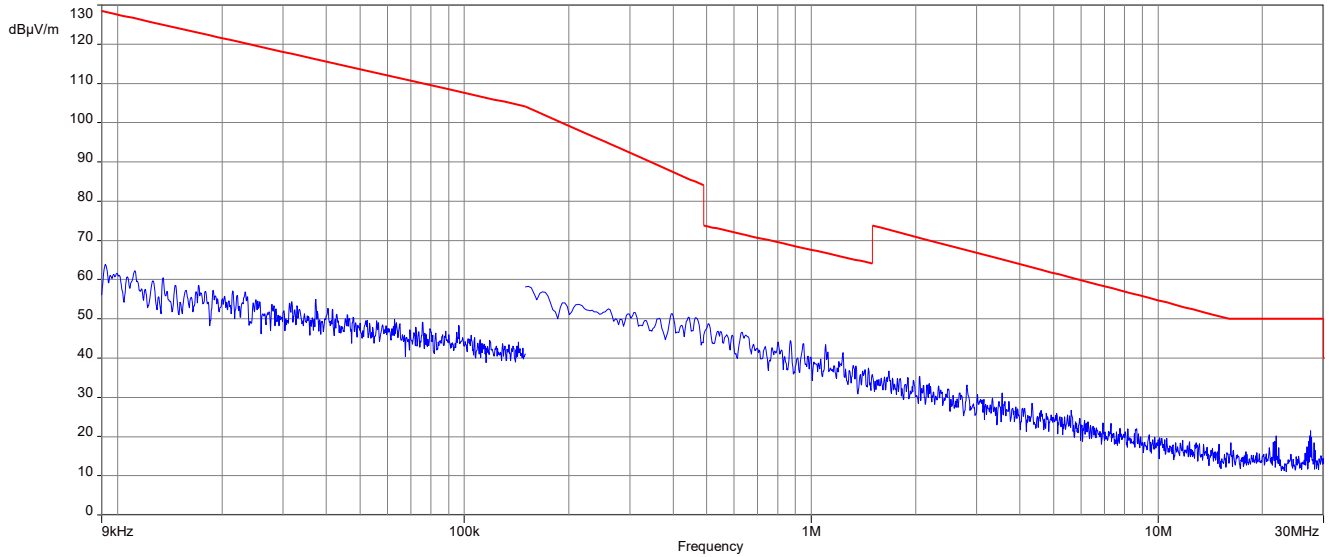
Plot 3: tx 915.25 MHz FCC



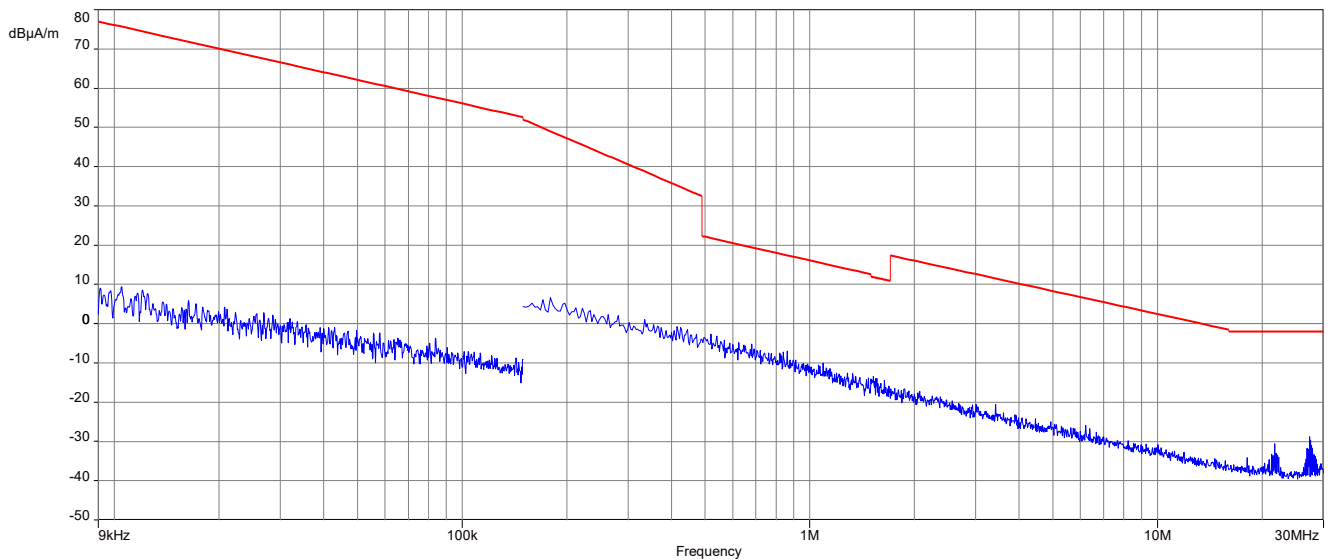
Plot 4: tx 915.25 MHz ISSED



Plot 5: tx 927.25 MHz FCC

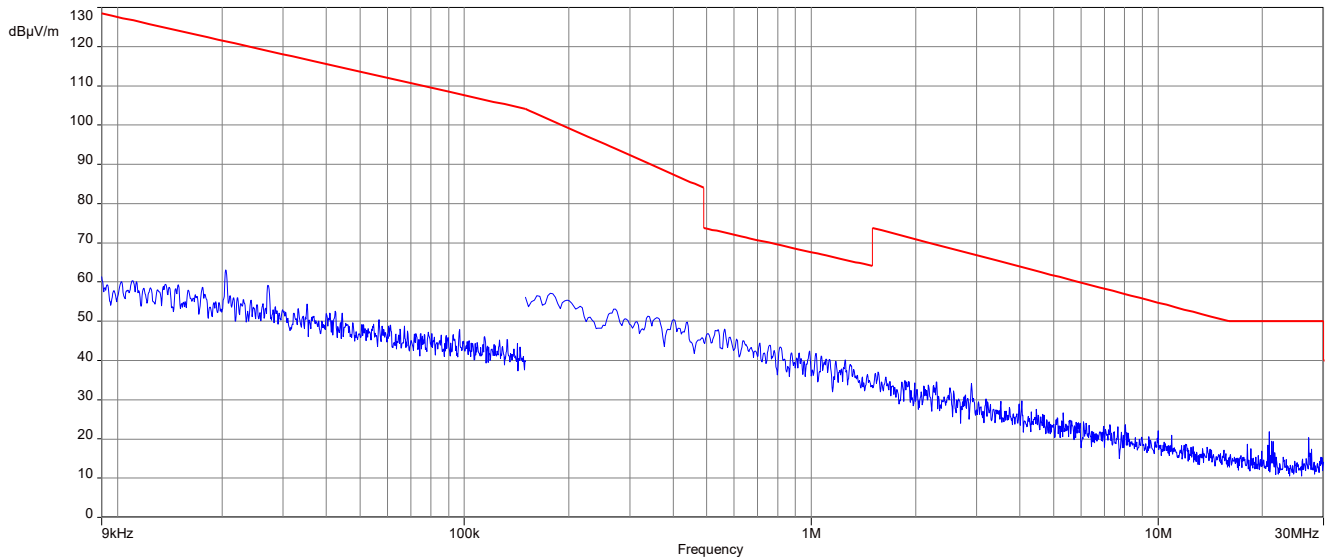


Plot 6: tx 927.25 MHz ISED

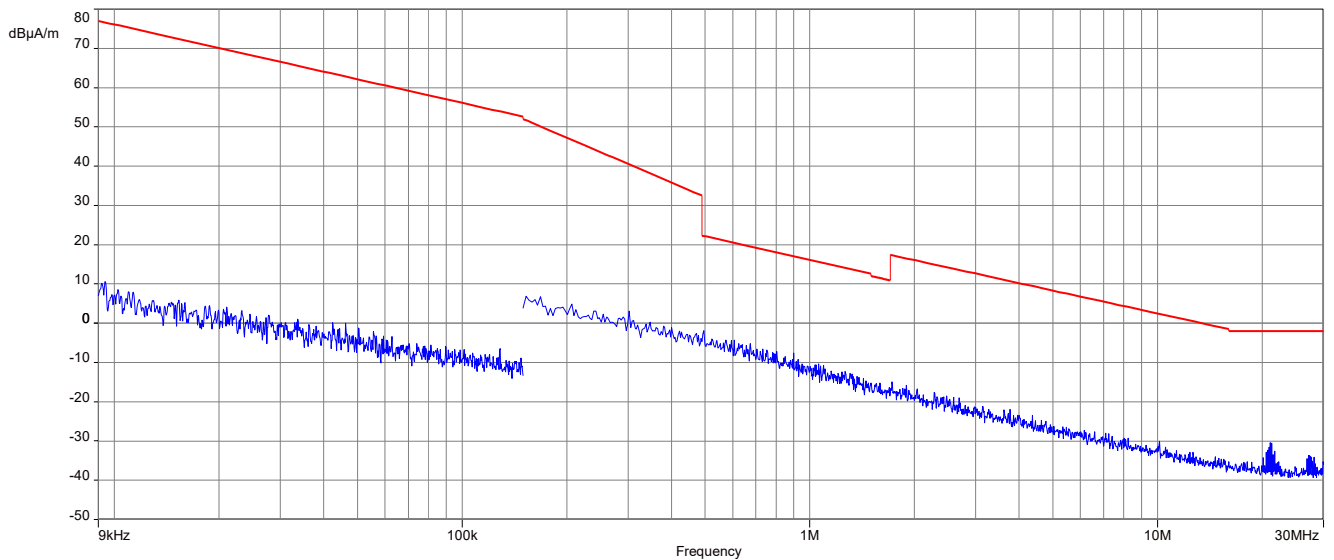


12.9.4 Plots set. 4 - ANT950 (FM0 (103)):

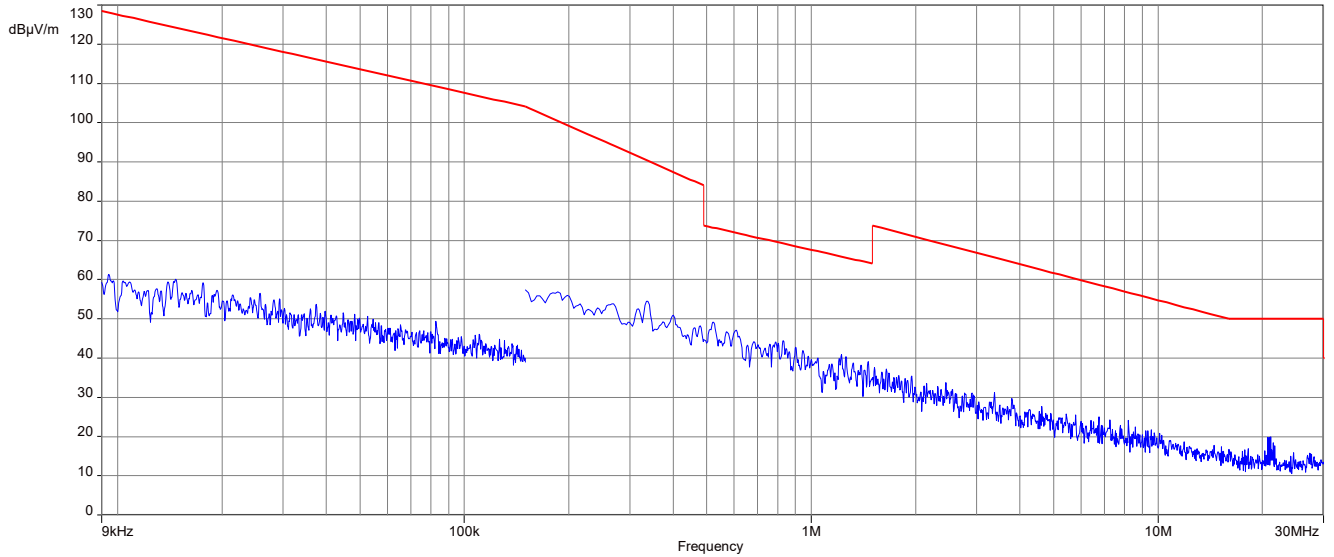
Plot 1: tx 902.75 MHz FCC



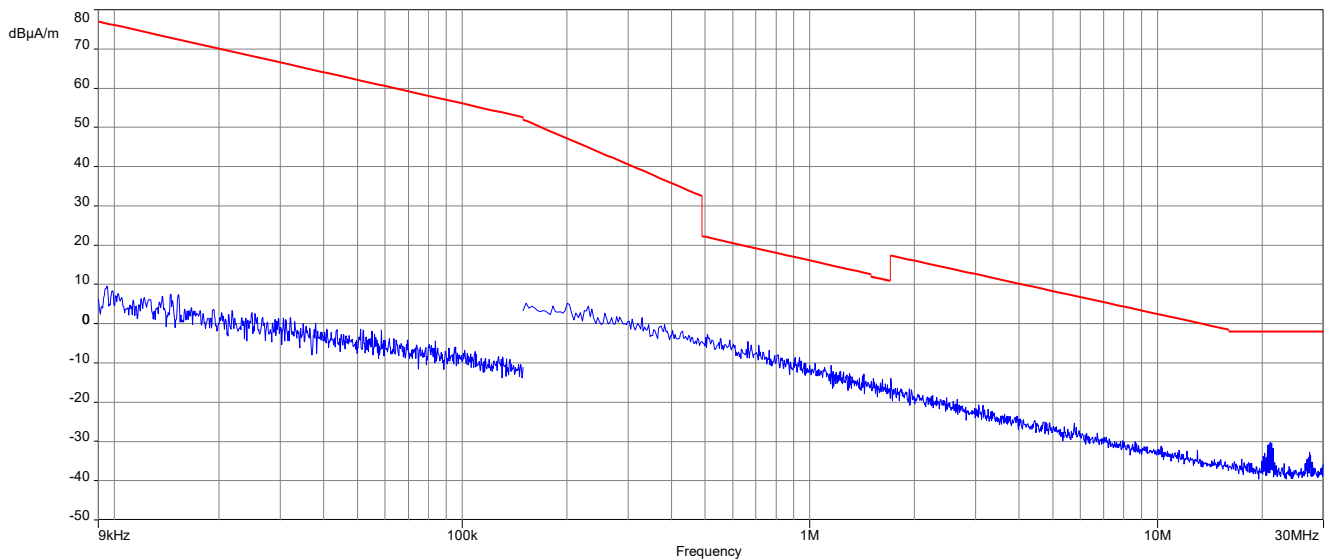
Plot 2: tx 902.75 MHz ISED



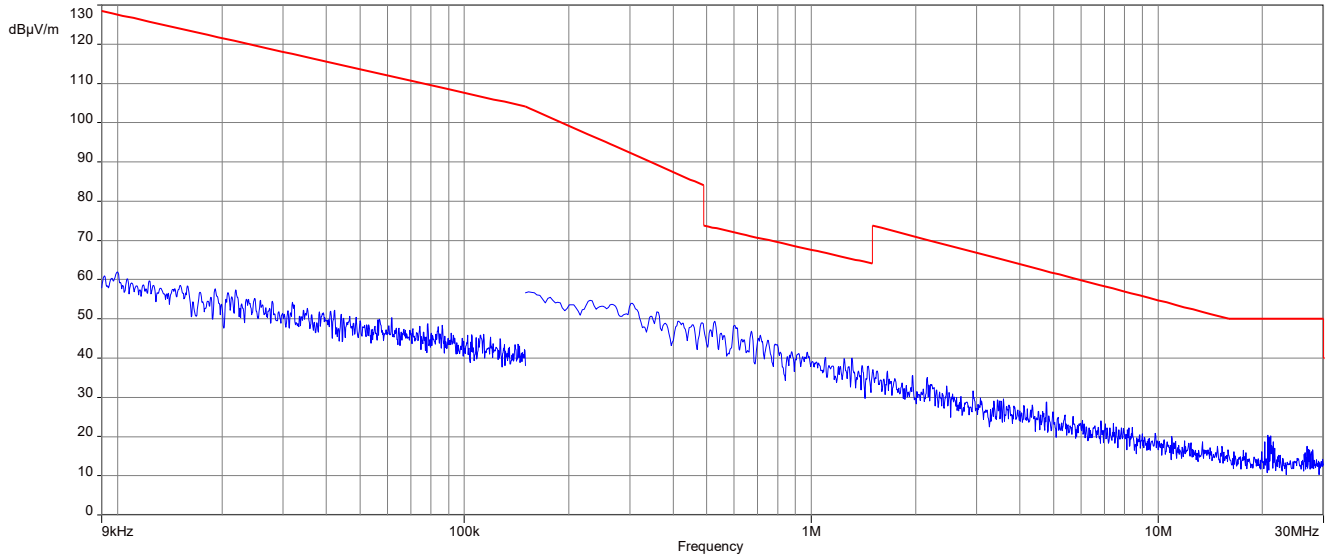
Plot 3: tx 915.25 MHz FCC



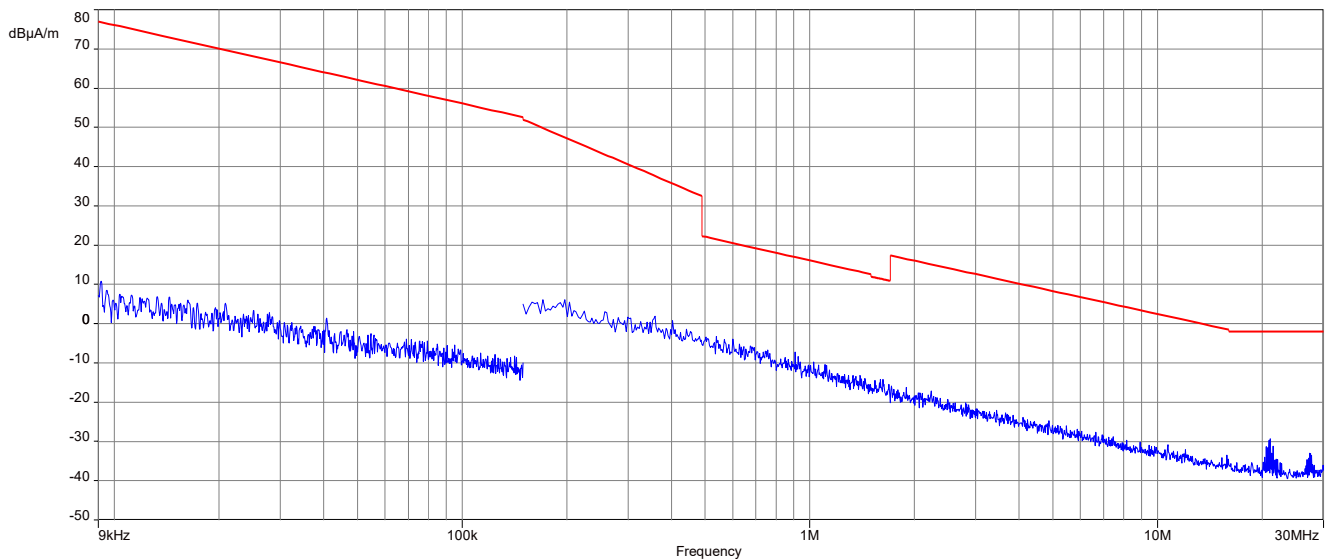
Plot 4: tx 915.25 MHz ISED



Plot 5: tx 927.25 MHz FCC

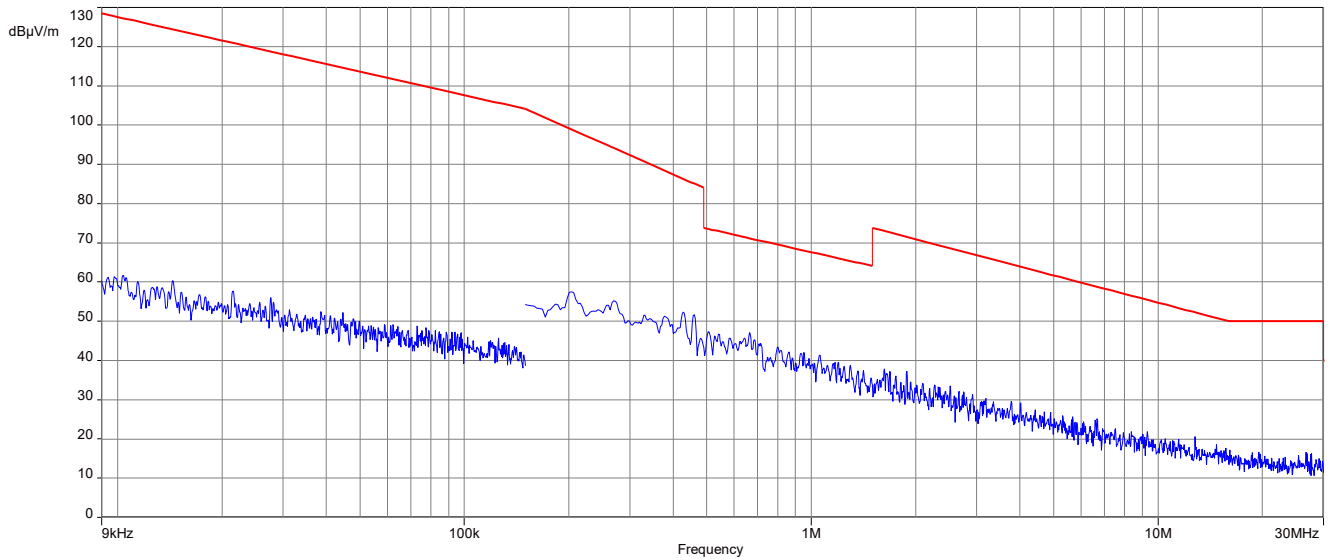


Plot 6: tx 927.25 MHz ISED

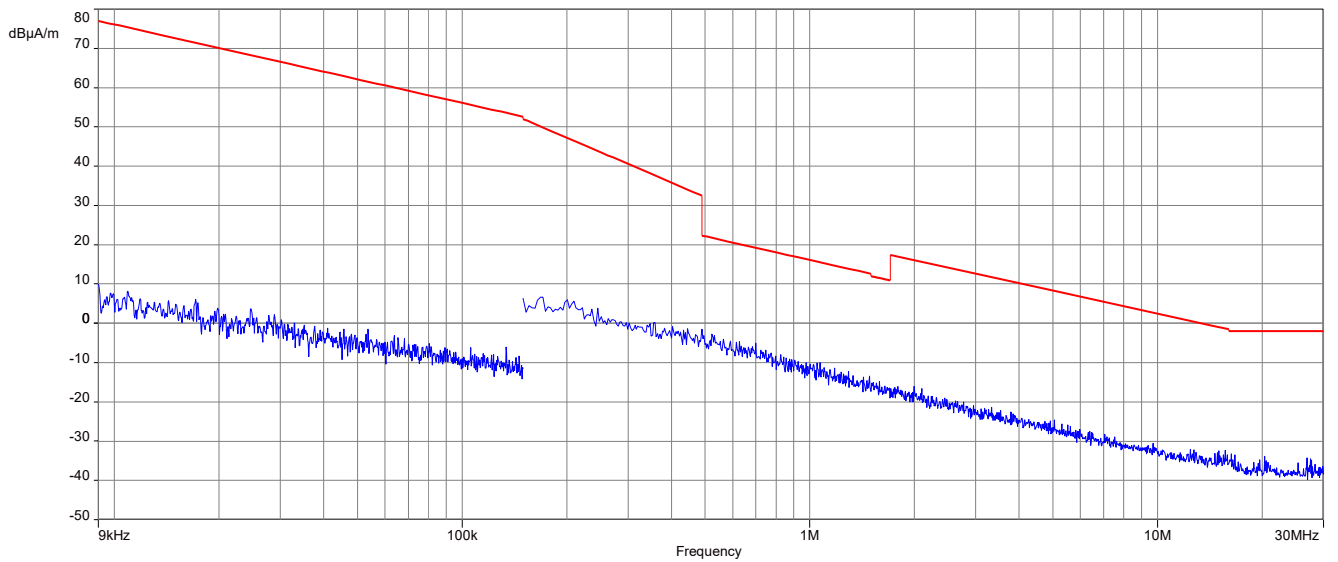


12.9.5 Plots set. 5 - ANT960 (FM0 (103)):

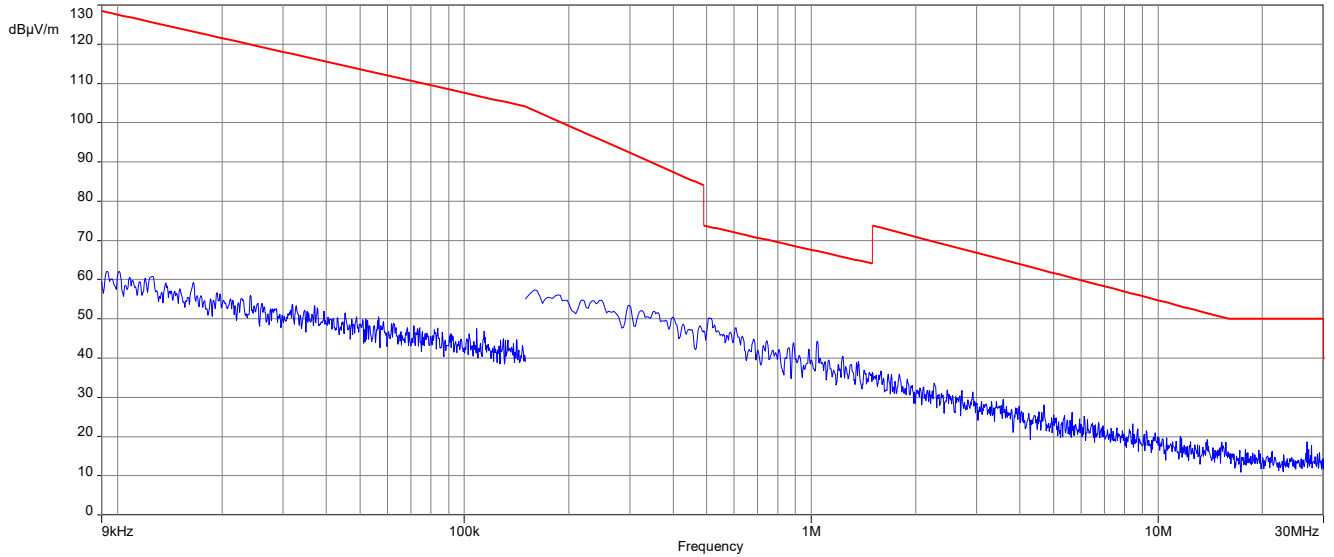
Plot 1: tx 902.75 MHz FCC



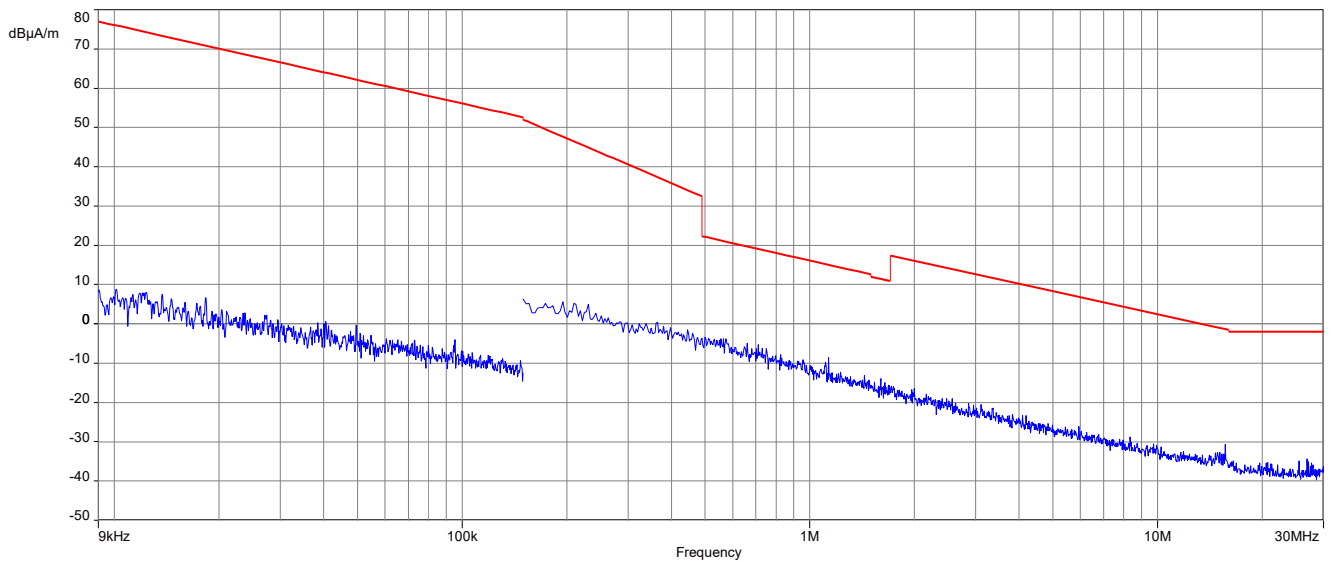
Plot 2: tx 902.75 MHz ISED



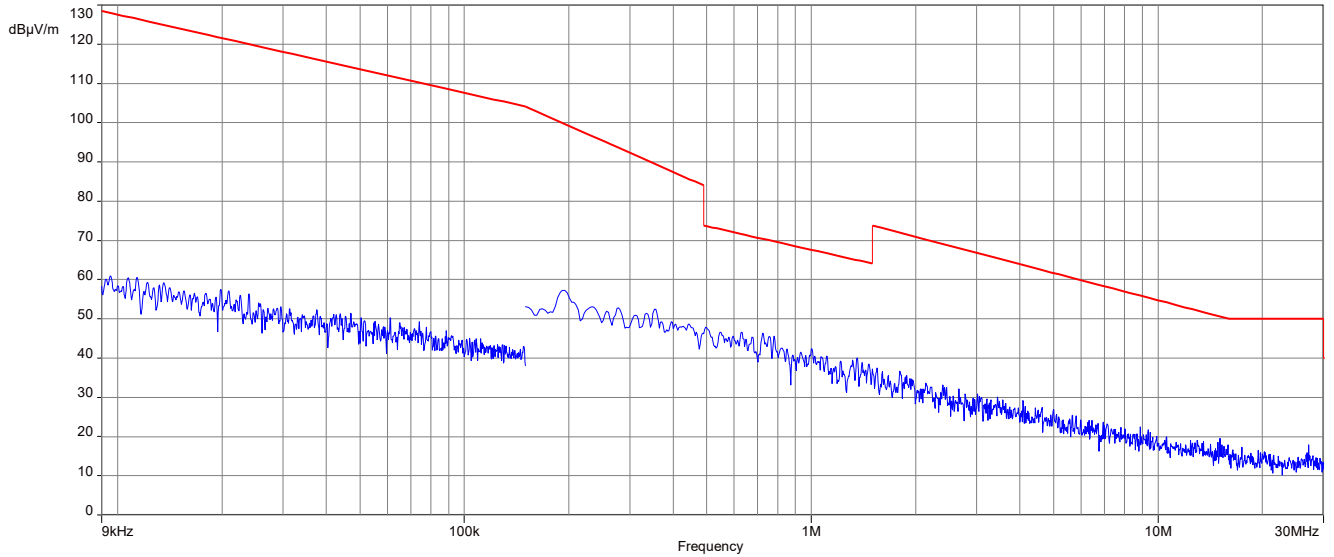
Plot 3: tx 915.25 MHz FCC



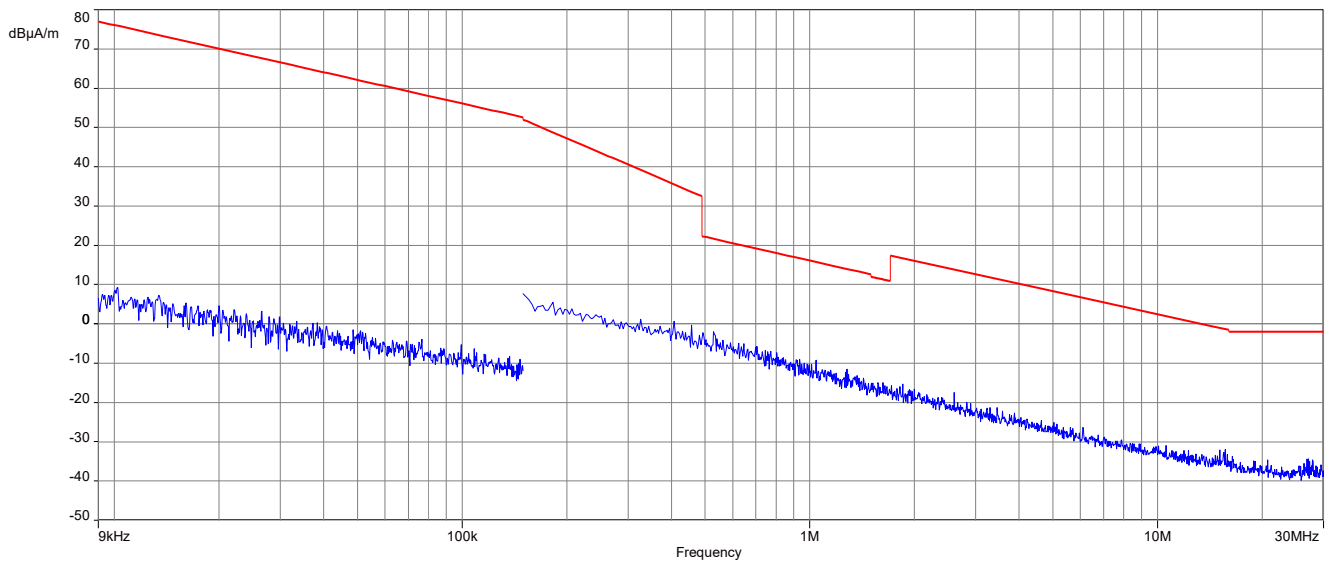
Plot 4: tx 915.25 MHz ISED



Plot 5: tx 927.25 MHz FCC

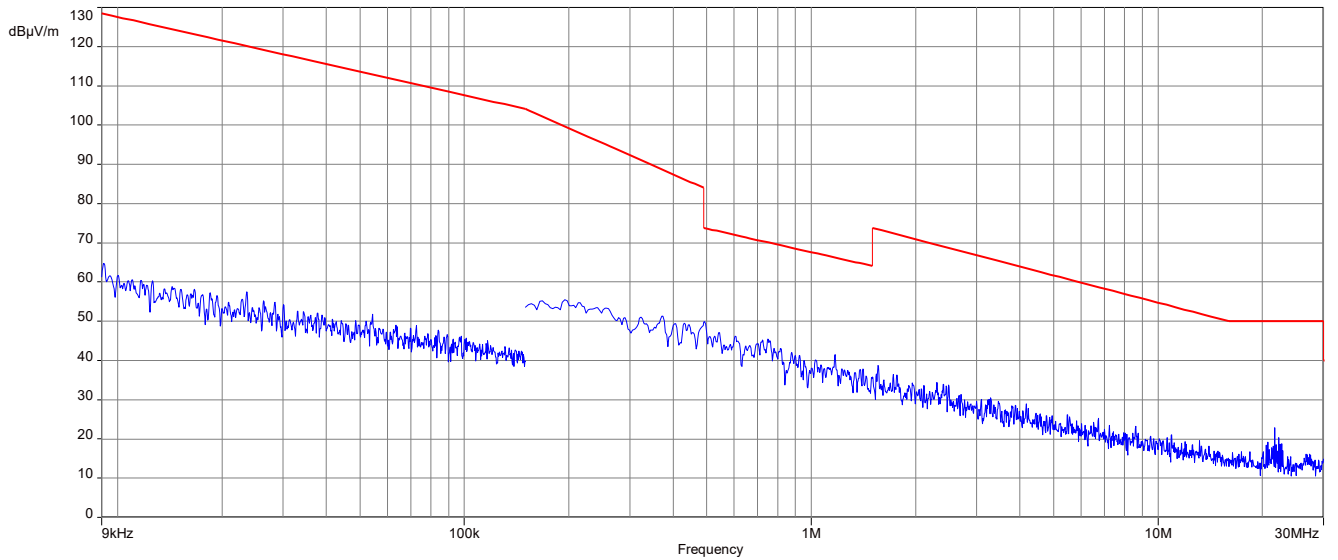


Plot 6: tx 927.25 MHz ISED

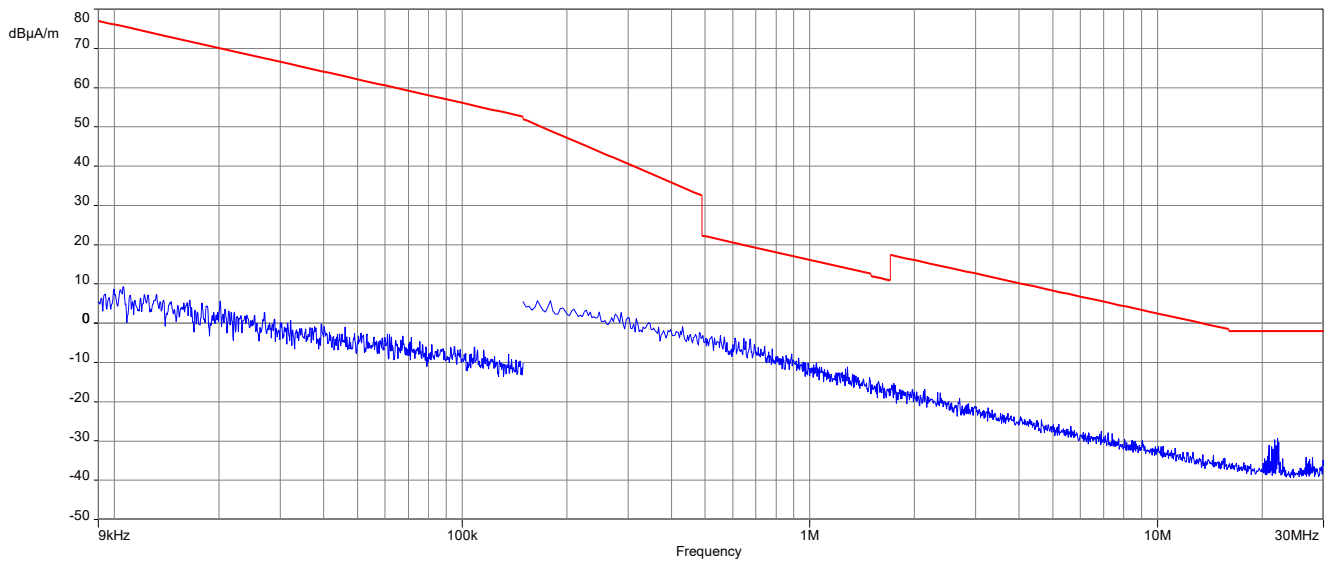


12.9.6 Plots set. 6 - ANT970 (FM0 (103)):

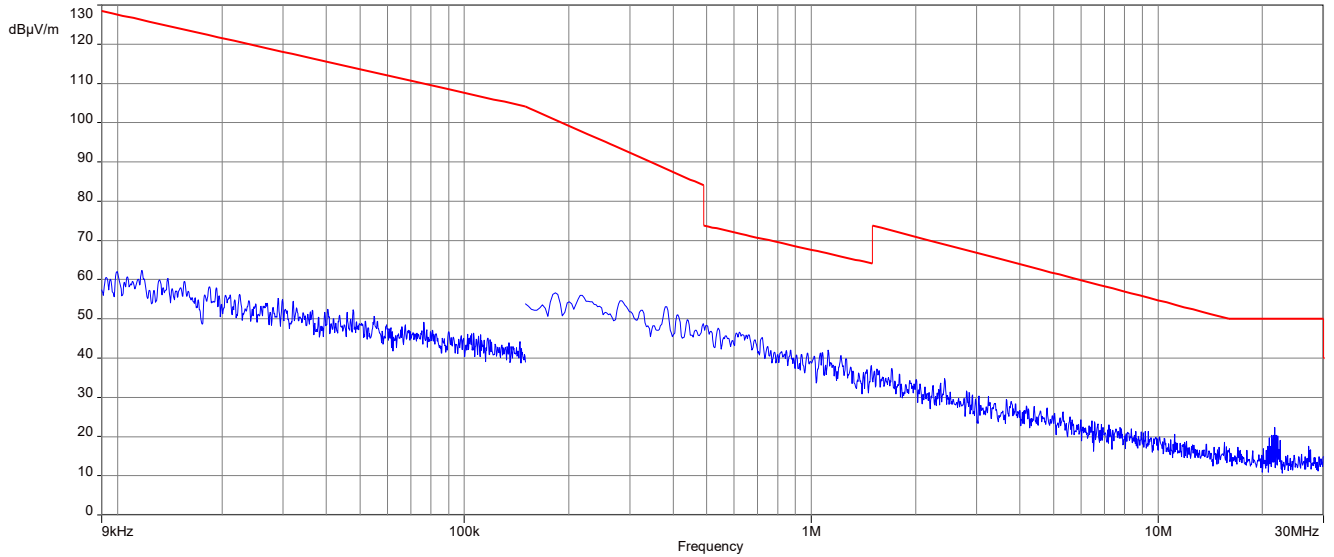
Plot 1: tx 902.75 MHz FCC



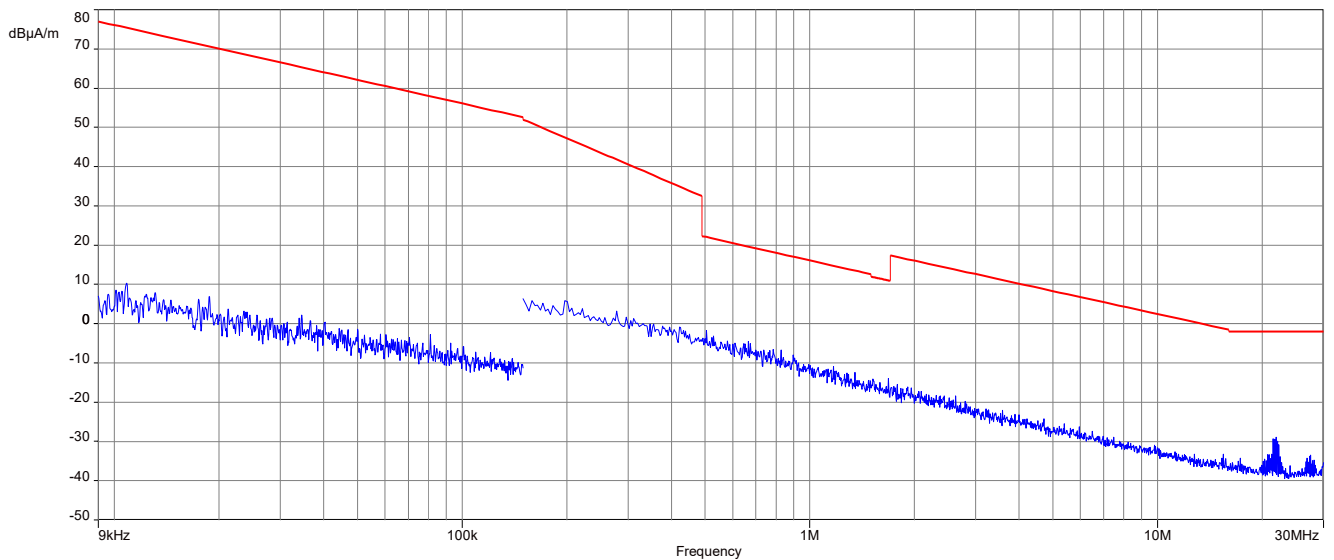
Plot 2: tx 902.75 MHz ISED



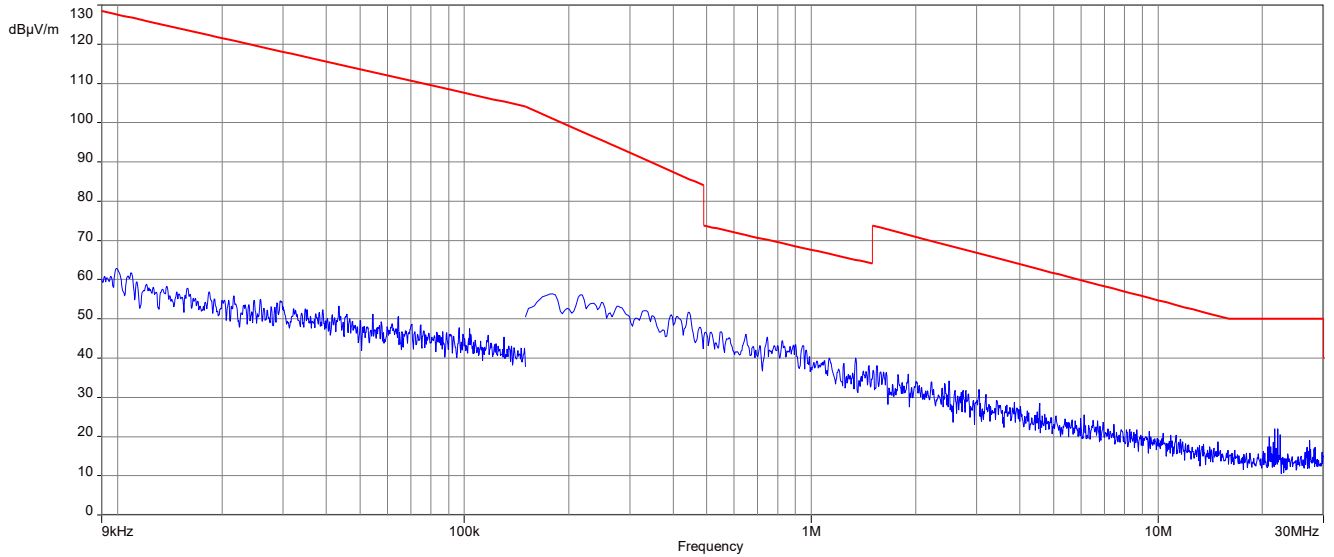
Plot 3: tx 915.25 MHz FCC



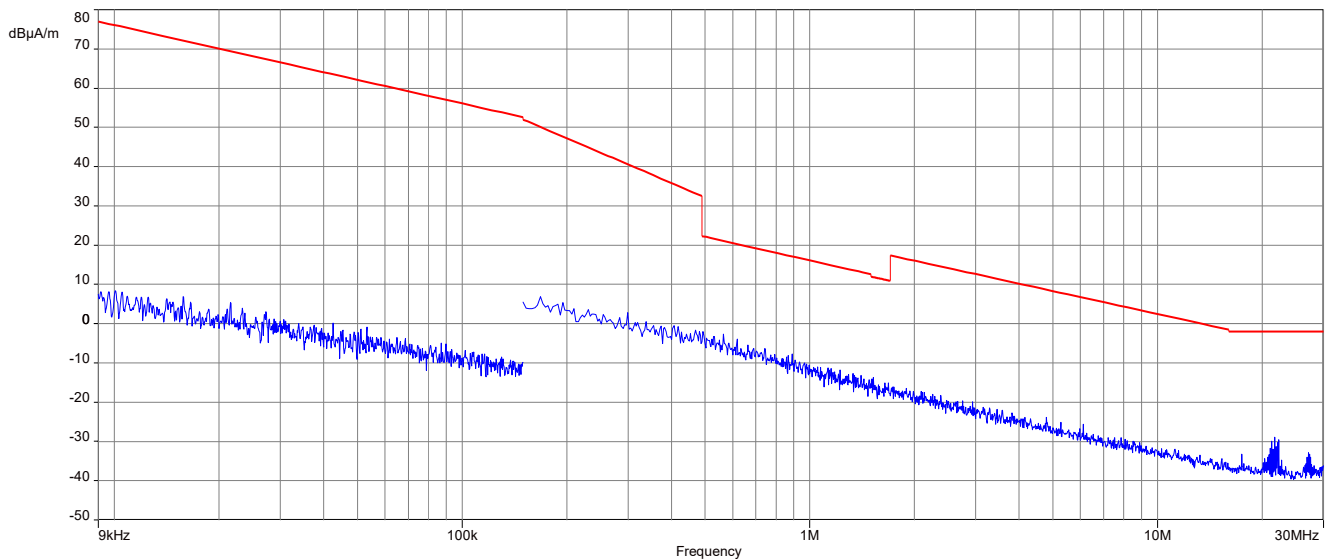
Plot 4: tx 915.25 MHz ISED



Plot 5: tx 927.25 MHz FCC

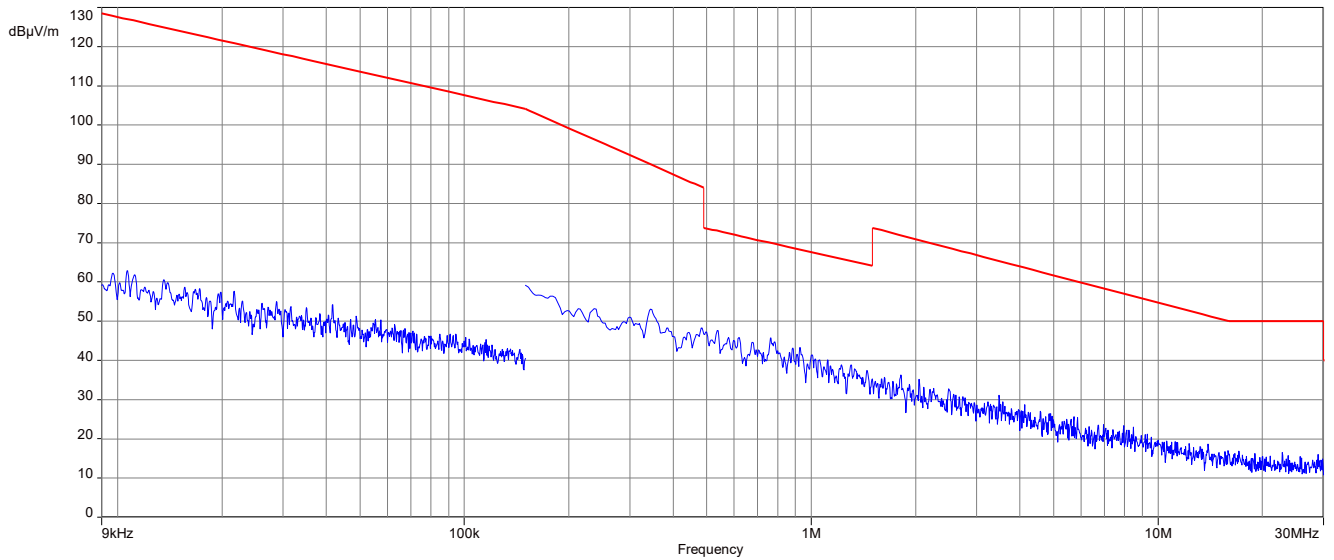


Plot 6: tx 927.25 MHz ISSED

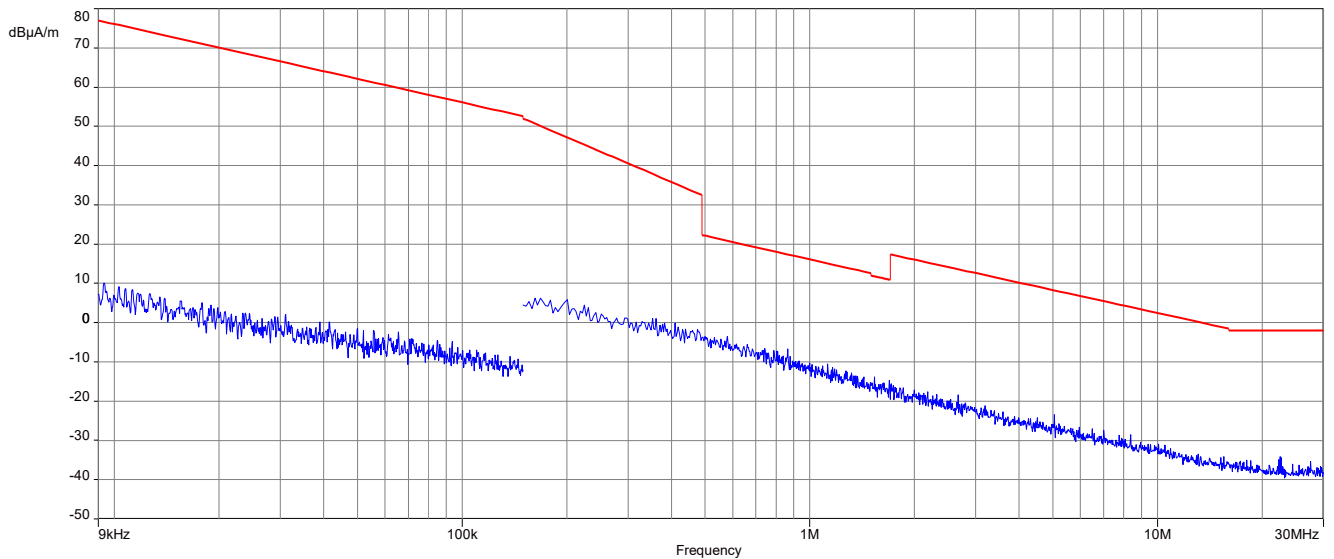


12.9.7 Plots set. 7 - ANT950 (FM0 (103)):

Plot 1: tx 915.25 MHz FCC

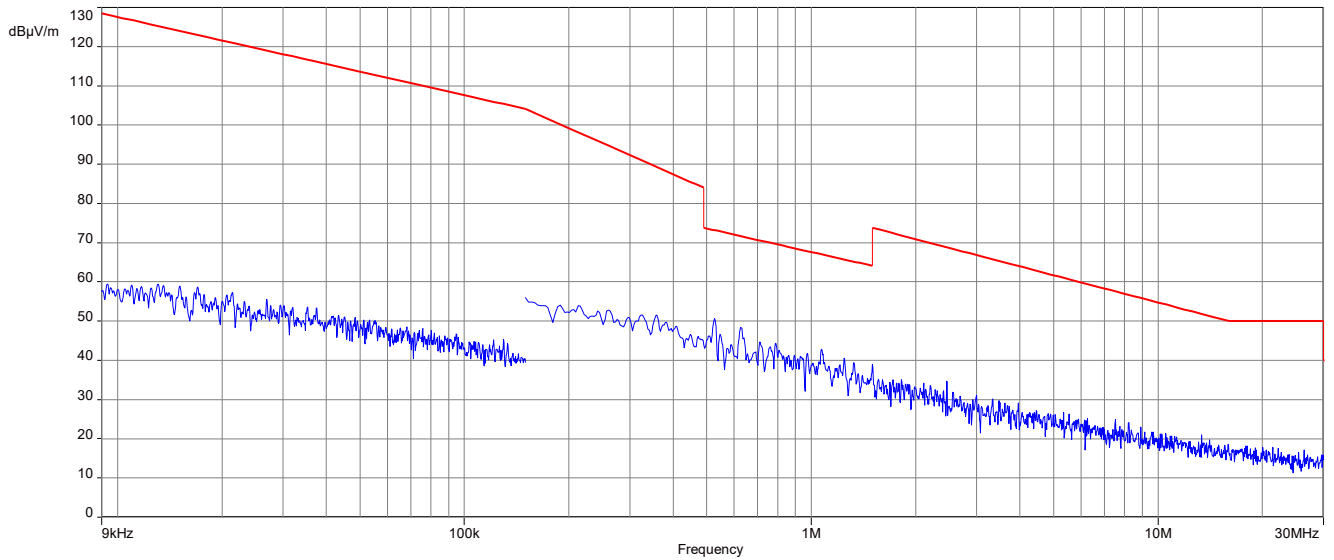


Plot 2: tx 915.25 MHz ISSED

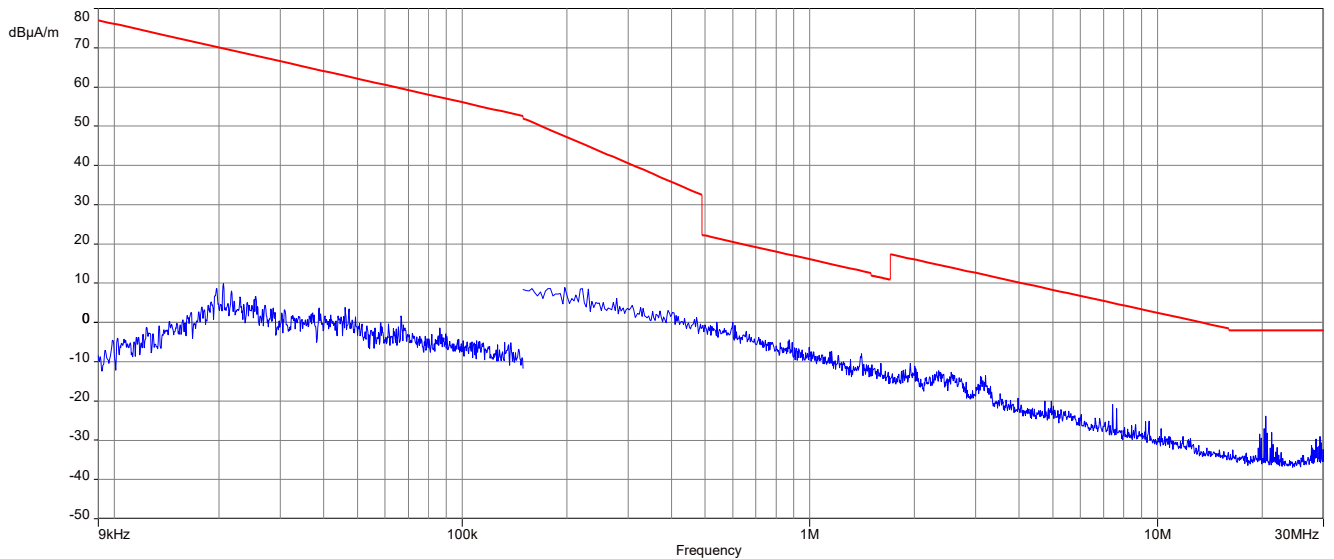


12.9.8 Plots set. 10 - ANT960 (FM0 (103)):

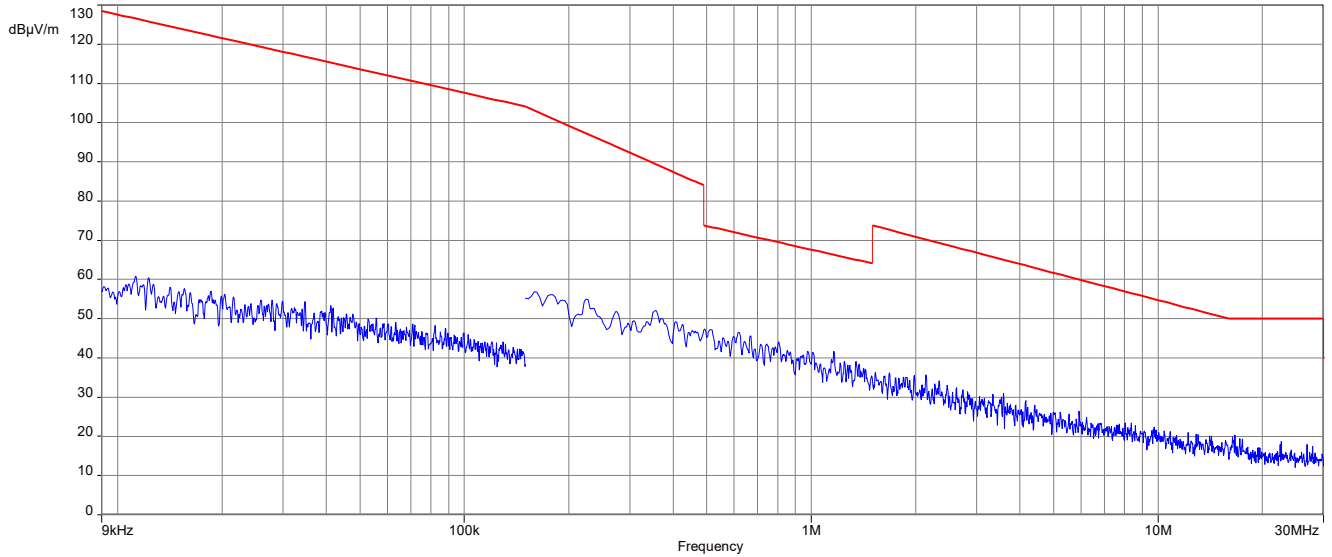
Plot 1: tx 902.75 MHz FCC



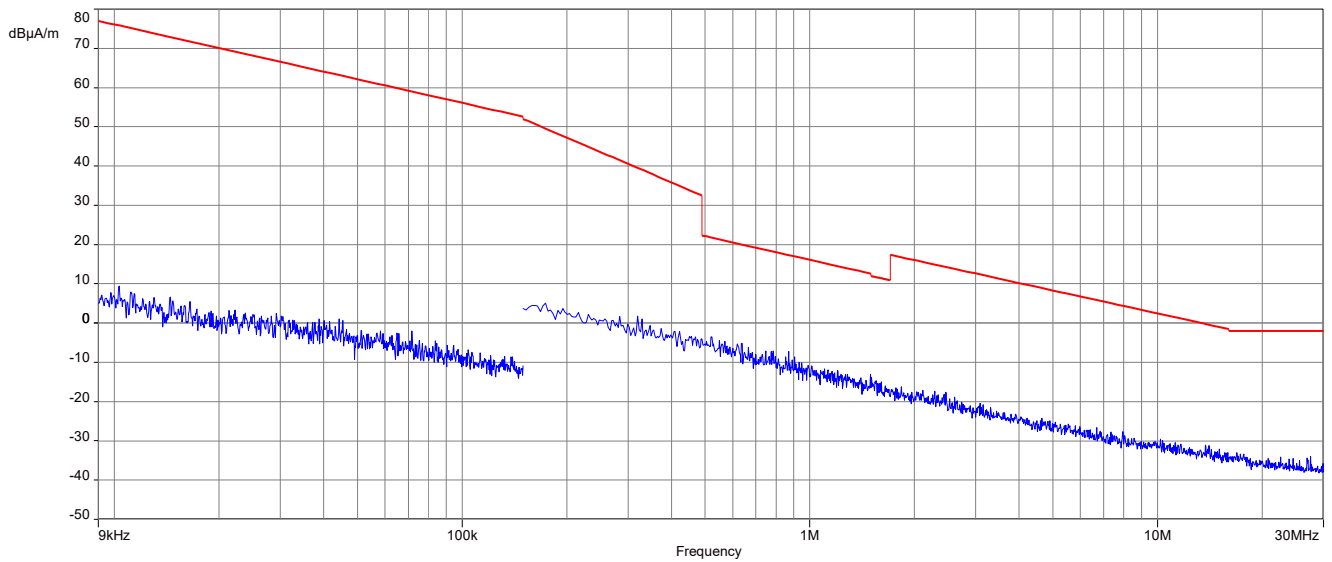
Plot 2: tx 902.75 MHz ISED



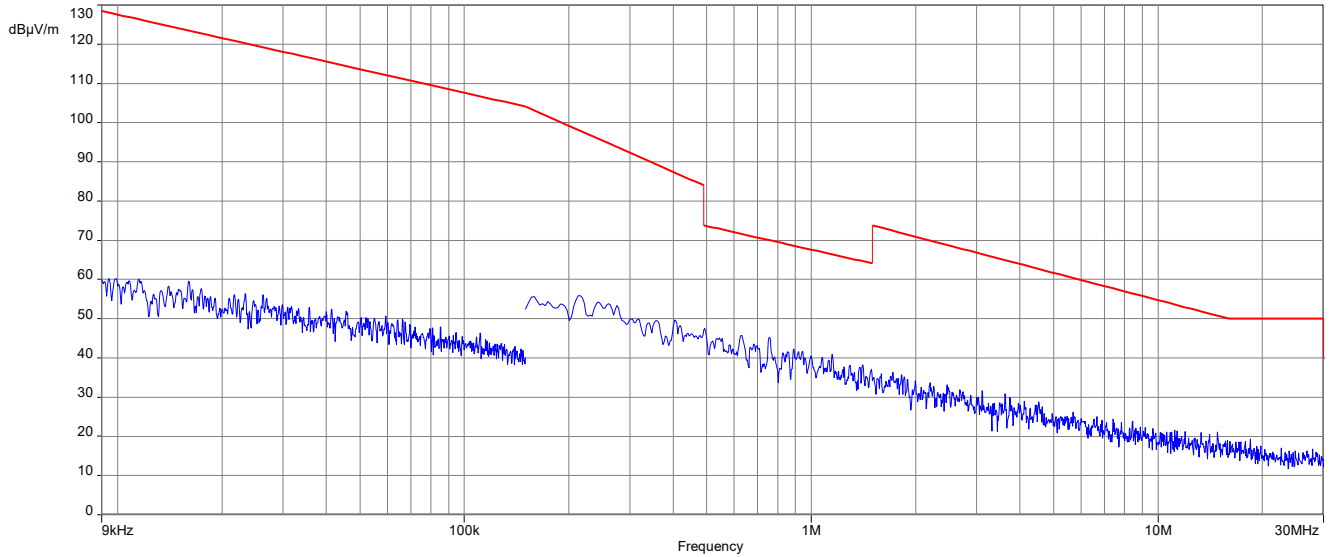
Plot 3: tx 915.25 MHz FCC



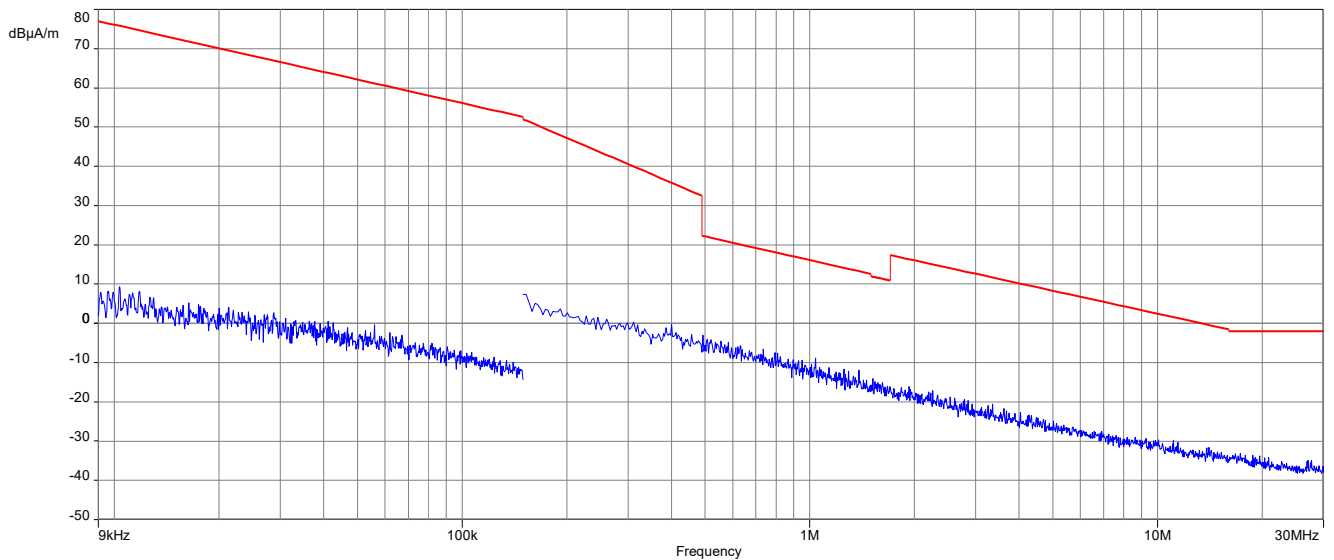
Plot 4: tx 915.25 MHz ISED



Plot 5: tx 927.25 MHz FCC

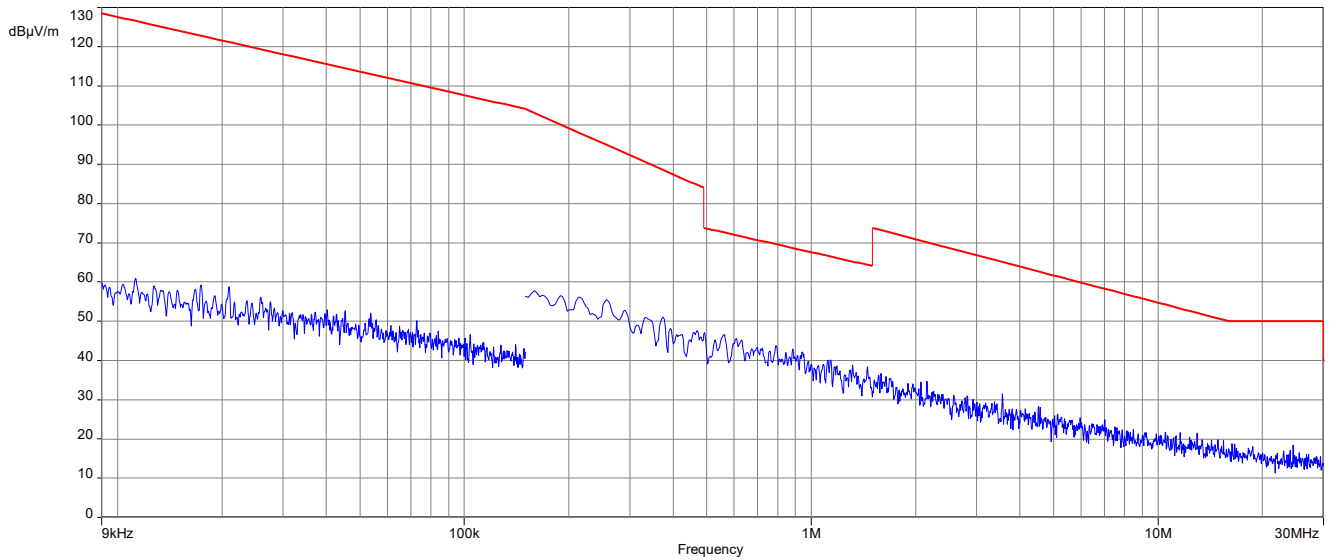


Plot 6: tx 927.25 MHz ISSED

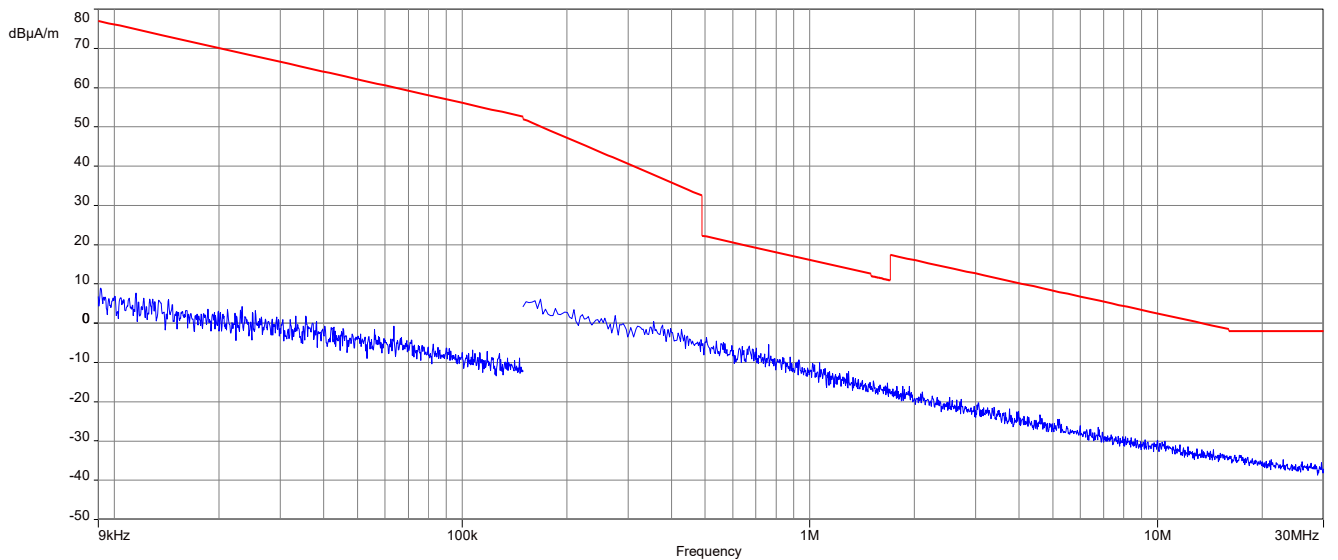


12.9.9 Plots set. 11 - ANT950 (FM0 (103)):

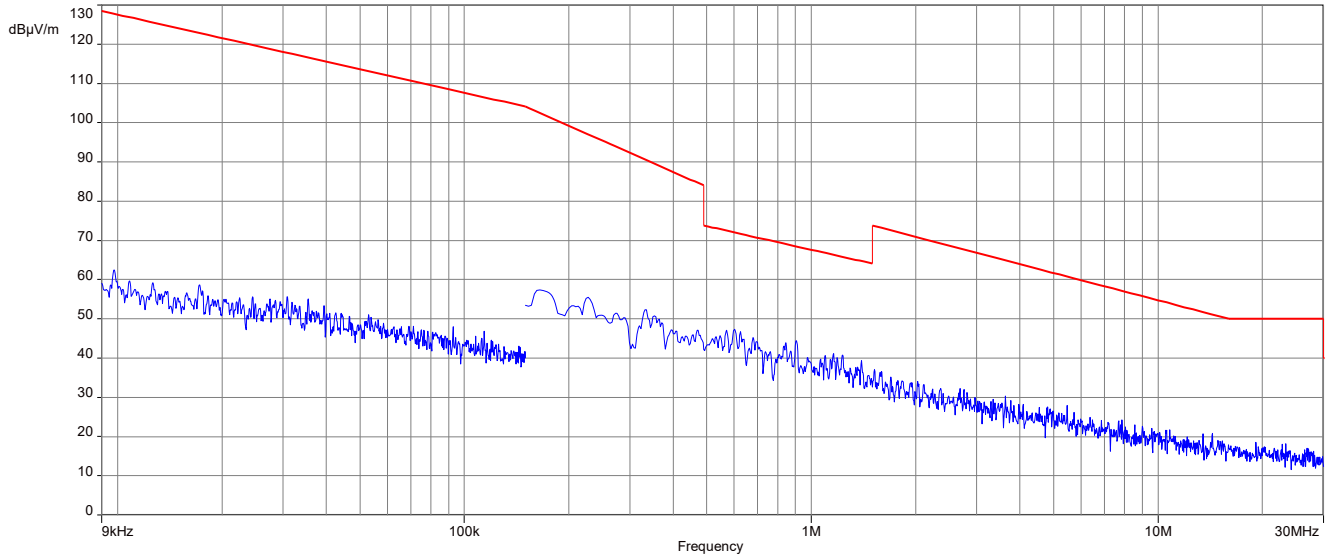
Plot 1: tx 902.75 MHz FCC



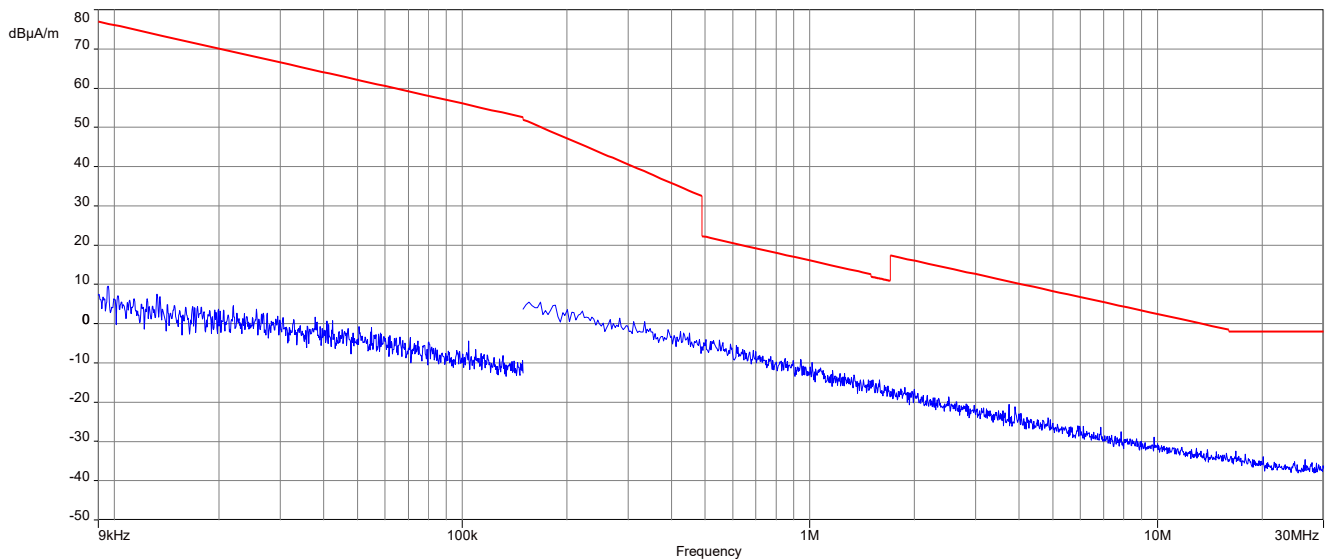
Plot 2: tx 902.75 MHz ISSED



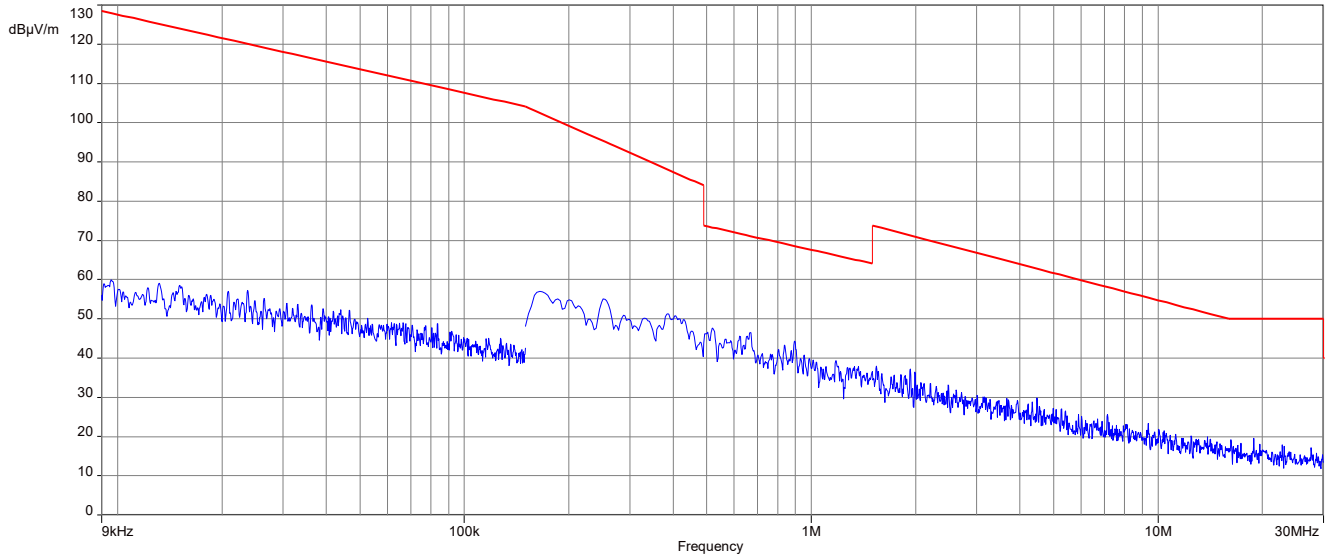
Plot 3: tx 915.25 MHz FCC



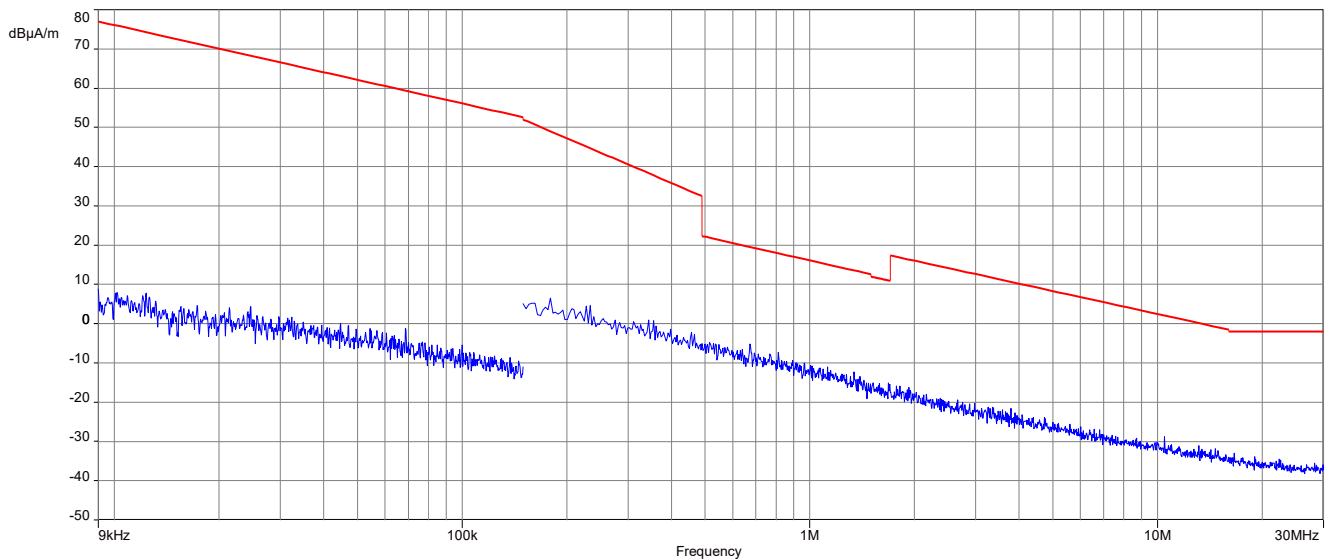
Plot 4: tx 915.25 MHz IS639



Plot 5: tx 927.25 MHz FCC



Plot 6: tx 927.25 MHz ISED



12.10 Spurious Emissions Radiated > 30 MHz

12.10.1 Spurious emissions radiated 30 MHz to 1 GHz

Description:

Measurement of the radiated spurious emissions in transmit mode. The measurement is performed at channel low, mid and high.

Measurement:

Measurement parameters	
Detector	Peak / Quasi Peak
Sweep time	Auto
Resolution bandwidth	3 x VBW
Video bandwidth	120 kHz
Span	30 MHz to 1 GHz
Trace mode	Max hold
Measured modulation	DSB-ASK
Test setup	See sub clause 7.1 A
Measurement uncertainty	See sub clause 9

Limits:

FCC	ISED
Compliance of radiated emissions	
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, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).	

Section 15.205 Restricted bands of operation.

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

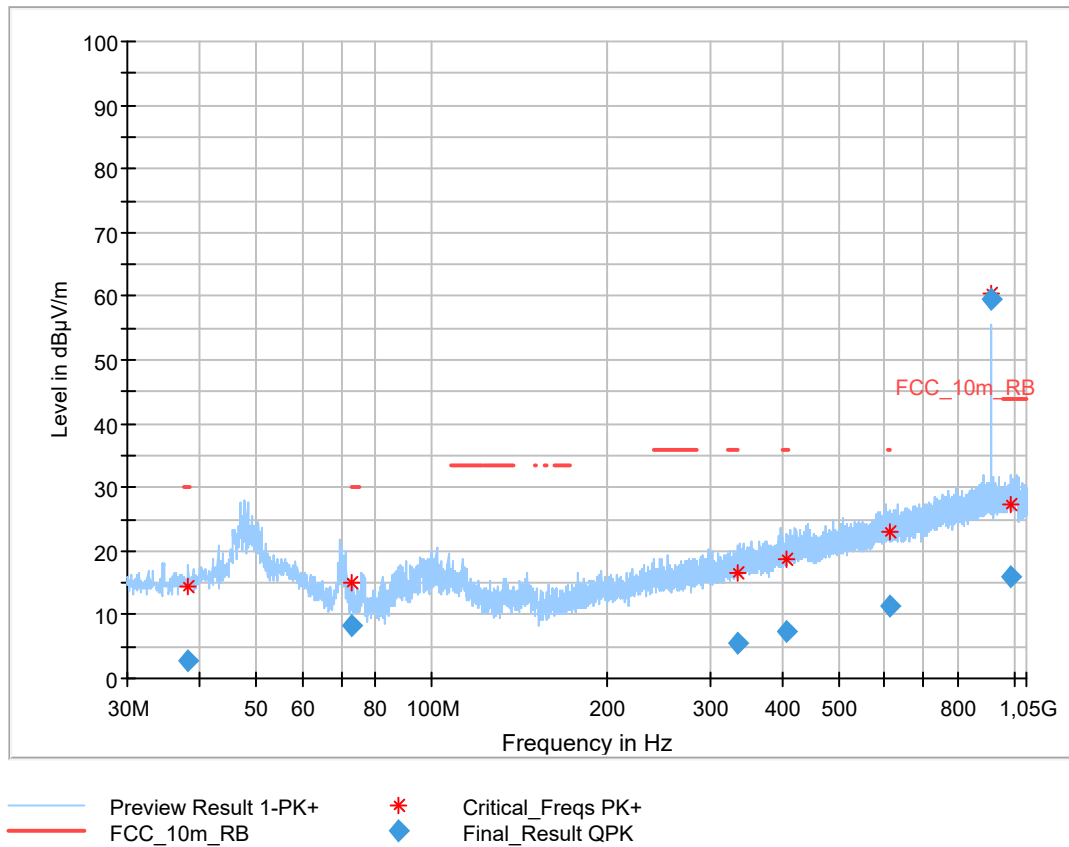
MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41			

Results radiated:

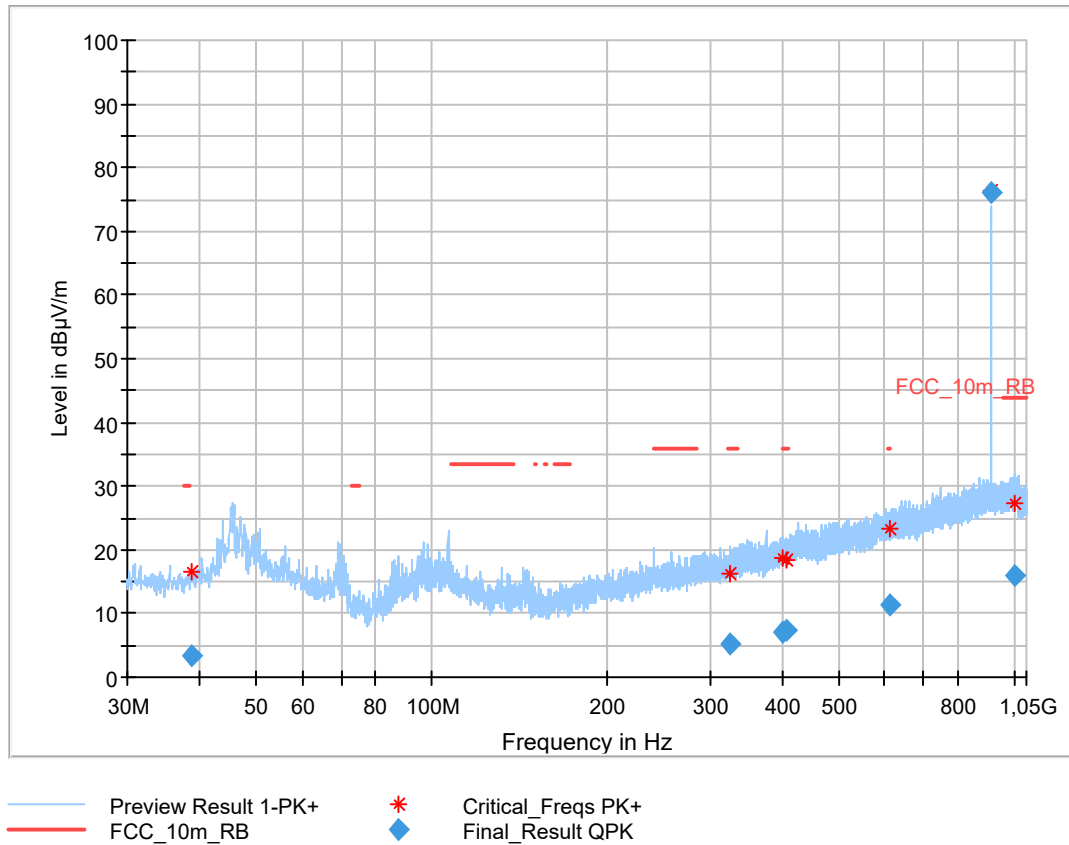
See result table below the plots. All measurements are done using modulation FM0 (103).

Plots:

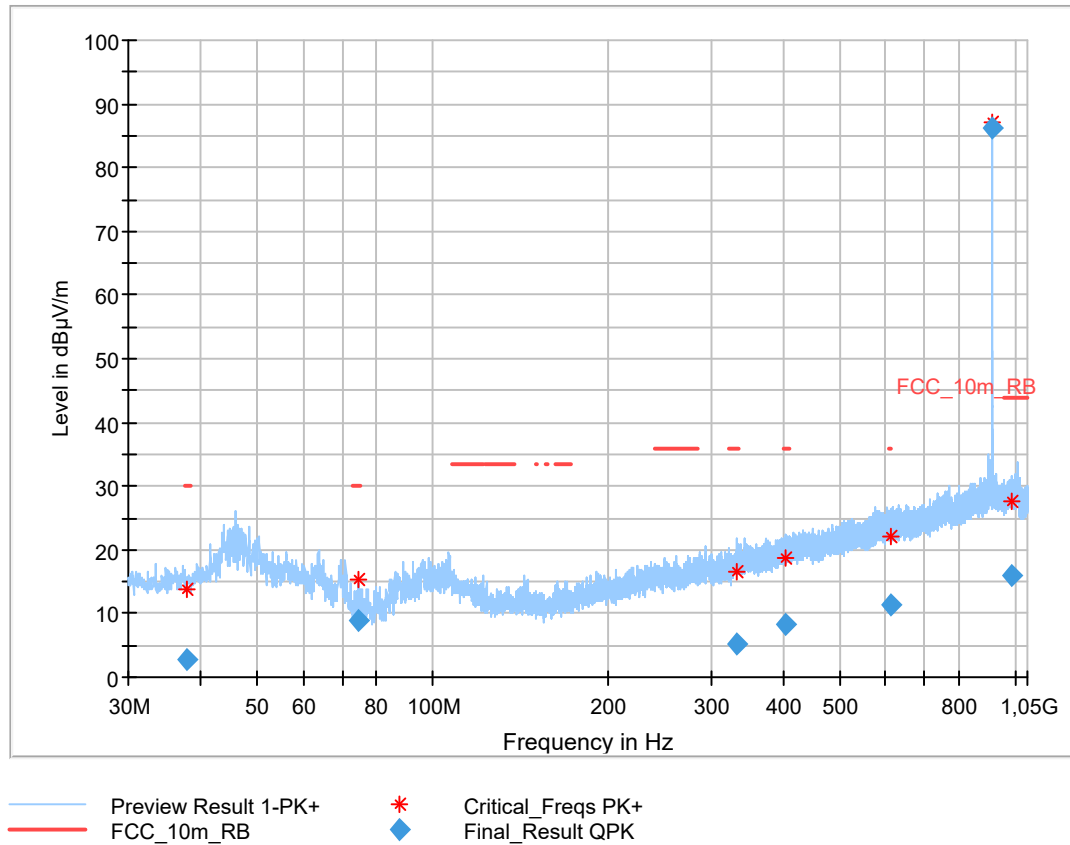
Plot1: set. 1 - ANT805 (FM0 (103)): 30 MHz – 1 GHz, horizontal & vertical polarization, tx 915.25 MHz

**Final_Result**

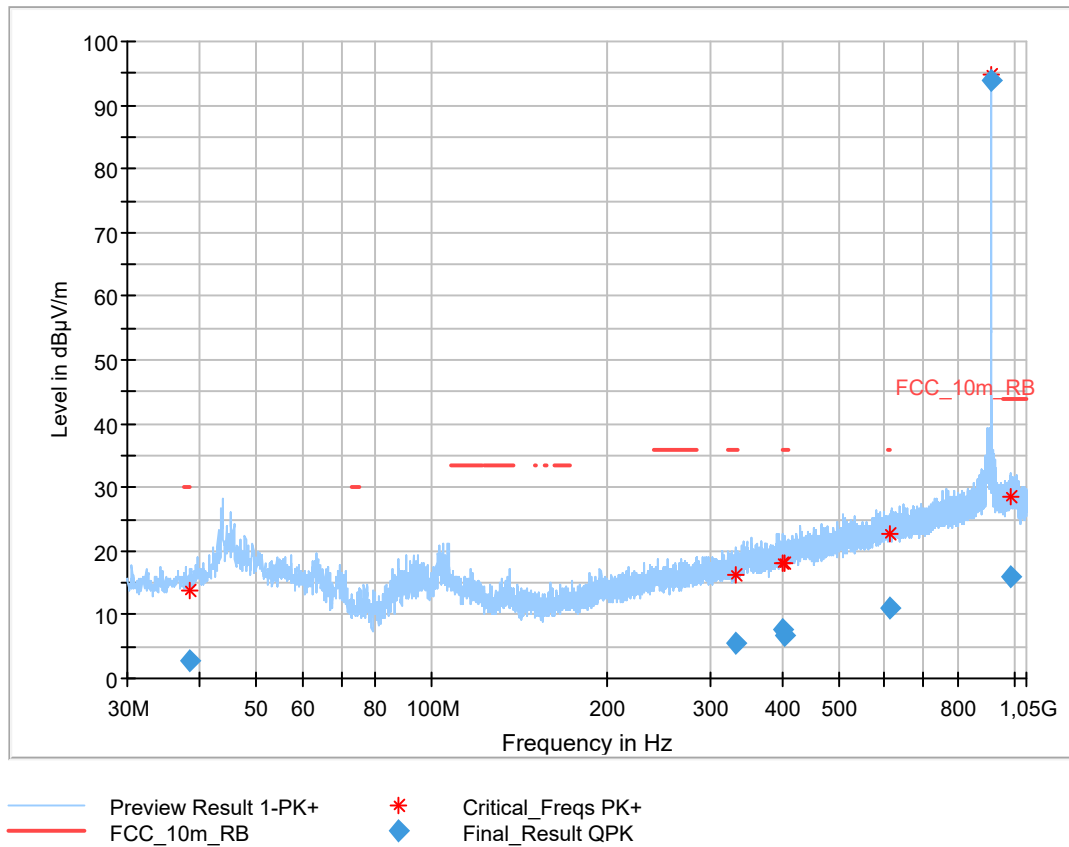
Frequency (MHz)	QuasiPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
38.177	2.91	30.0	27.1	1000	120.0	165.0	H	-28	14
73.108	8.23	30.0	21.8	1000	120.0	195.0	V	205	9
334.278	5.47	36.0	30.5	1000	120.0	195.0	H	4	16
407.383	7.24	36.0	28.8	1000	120.0	147.0	H	3	18
613.893	11.25	36.0	24.8	1000	120.0	136.0	V	77	22
989.243	16.02	44.0	28.0	1000	120.0	178.0	H	-14	26

Plot 2: set. 2 – ANT815 (FM0(103)): 30 MHz – 1 GHz, horizontal & vertical polarization, tx 915.25 MHz**Final_Result**

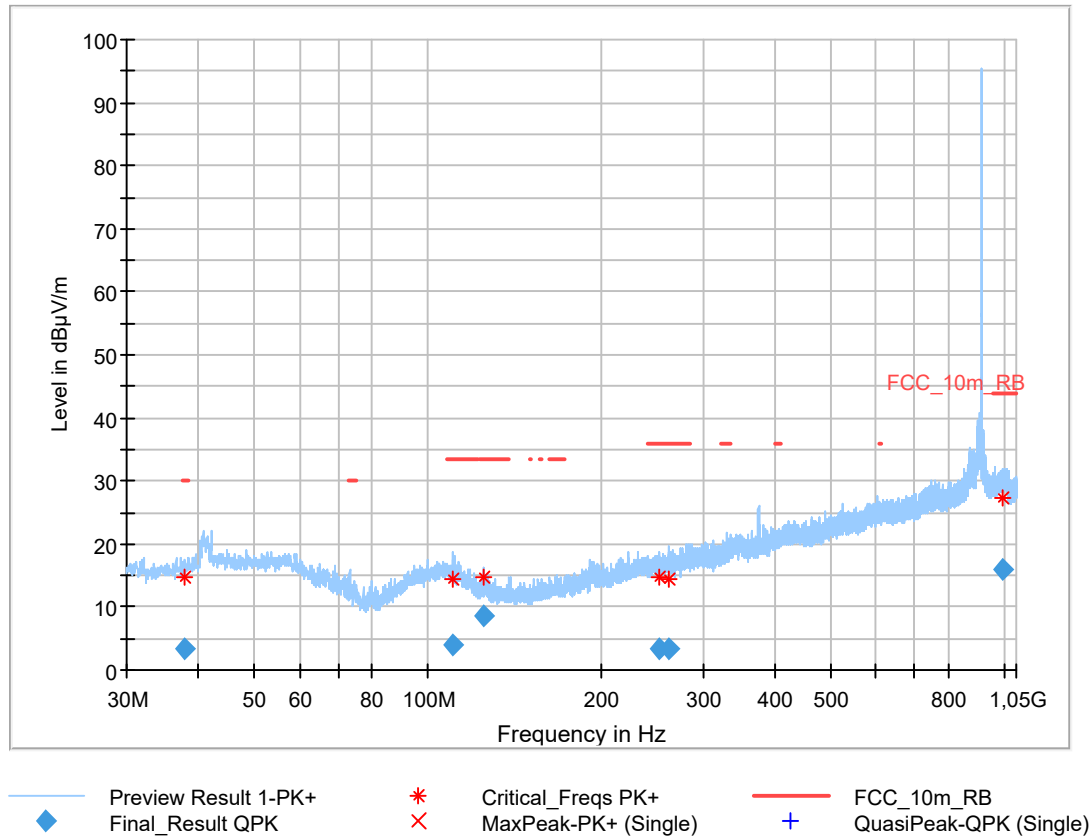
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
38.555	3.25	---	---	1000	120.0	151.0	H	289	14
325.977	5.17	36.0	30.8	1000	120.0	195.0	H	90	16
401.275	7.00	36.0	29.0	1000	120.0	195.0	V	233	18
407.987	7.29	36.0	28.7	1000	120.0	195.0	V	-23	18
612.721	11.22	36.0	24.8	1000	120.0	190.0	H	106	22
979.494	15.92	44.0	28.1	1000	120.0	200.0	V	182	26

Plot 3: set. 3 – ANT920 (FM0(103)): 30 MHz – 1 GHz, horizontal & vertical polarization, tx 915.25 MHz**Final_Result**

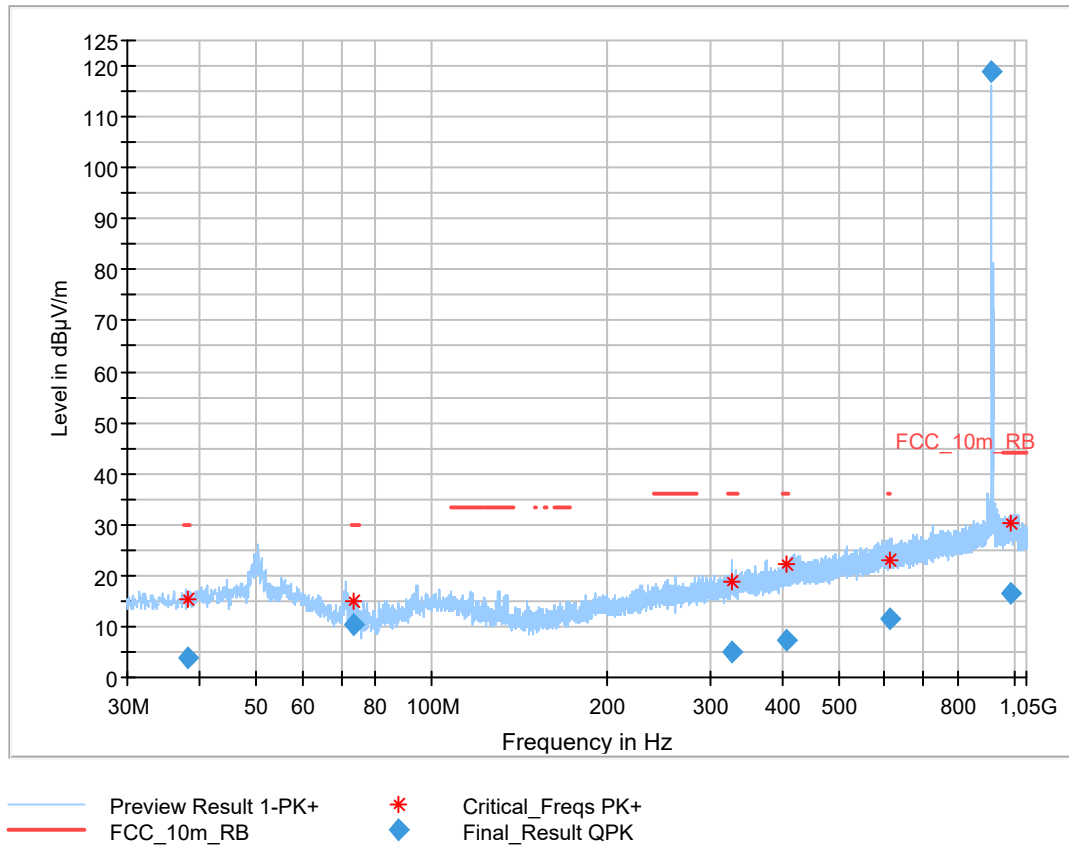
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.766	2.61	30.0	27.4	1000	120.0	195.0	H	-34	14
74.534	8.84	30.0	21.2	1000	120.0	195.0	V	202	9
332.470	5.21	36.0	30.8	1000	120.0	195.0	H	7	16
404.791	8.16	36.0	27.8	1000	120.0	112.0	V	177	18
613.407	11.20	36.0	24.8	1000	120.0	195.0	H	-23	22
983.752	15.92	44.0	28.1	1000	120.0	195.0	V	37	26

Plot 4: set. 4 – ANT950 (FM0(103)): 30 MHz – 1 GHz, horizontal & vertical polarization, tx 915.25 MHz**Final_Result**

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
38.297	2.89	---	---	1000	120.0	168.0	V	-4	14
334.045	5.42	36.0	30.6	1000	120.0	135.0	V	-12	16
401.615	7.52	36.0	28.5	1000	120.0	195.0	H	127	18
403.343	6.82	36.0	29.2	1000	120.0	195.0	V	37	18
612.815	11.19	36.0	24.8	1000	120.0	129.0	H	37	22
984.539	15.87	44.0	28.1	1000	120.0	195.0	H	101	26

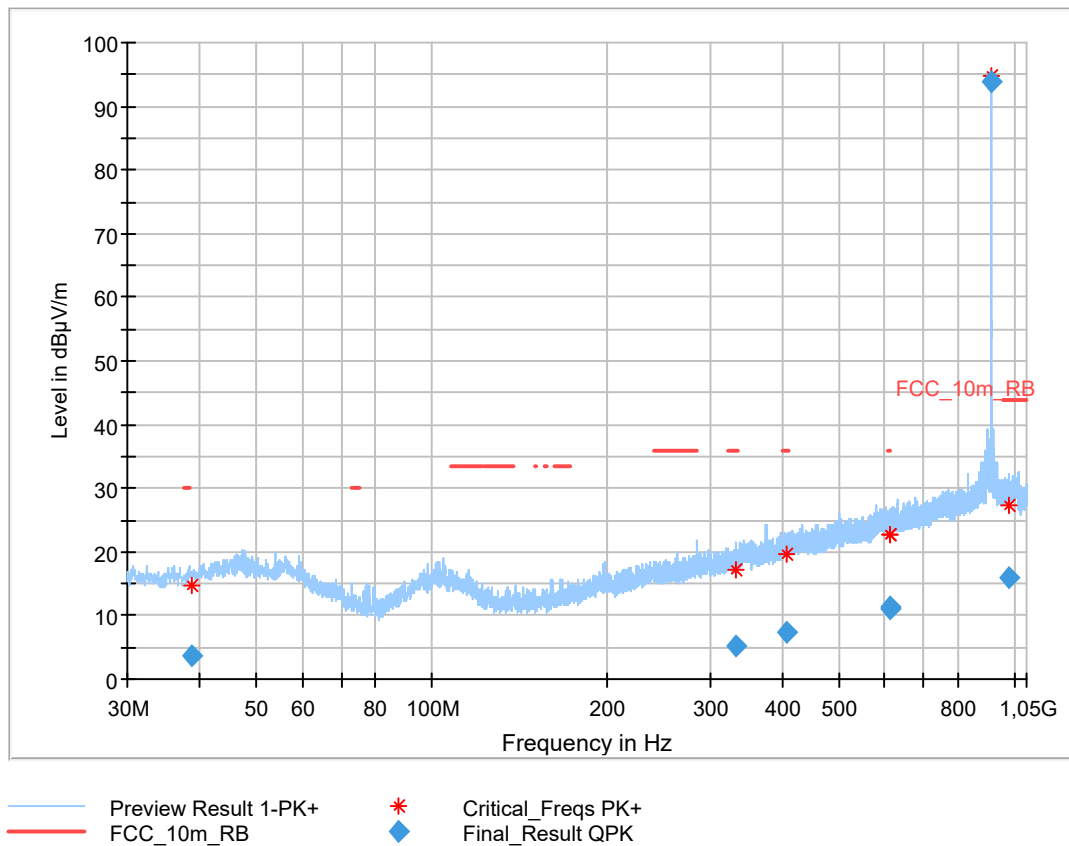
Plot 5: set. 5 – ANT960 (FM0(103)):30 MHz – 1 GHz, horizontal & vertical polarization, tx 915.25 MHz**Final_Result**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.672	3.26	30.0	26.7	1000	120.0	380.0	H	225	14
110.802	4.10	33.5	29.4	1000	120.0	200.0	V	32	13
124.973	8.52	33.5	25.0	1000	120.0	155.0	V	285	10
251.636	3.27	36.0	32.7	1000	120.0	400.0	H	56	14
261.934	3.46	36.0	32.5	1000	120.0	165.0	V	162	14
994.798	15.85	44.0	28.2	1000	120.0	400.0	H	297	26

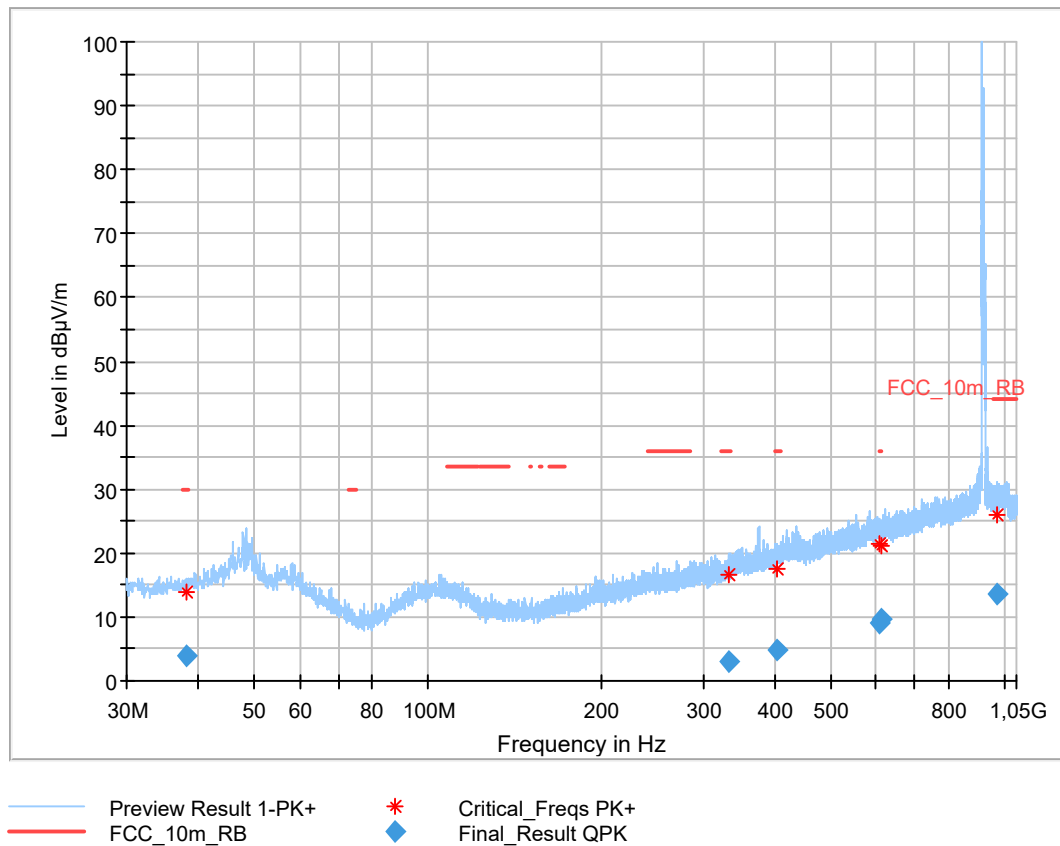
Plot 6: set. 6 – ANT970 (FM0(103)): 30 MHz – 1 GHz, horizontal & vertical polarization, tx 915.25 MHz


Final_Result

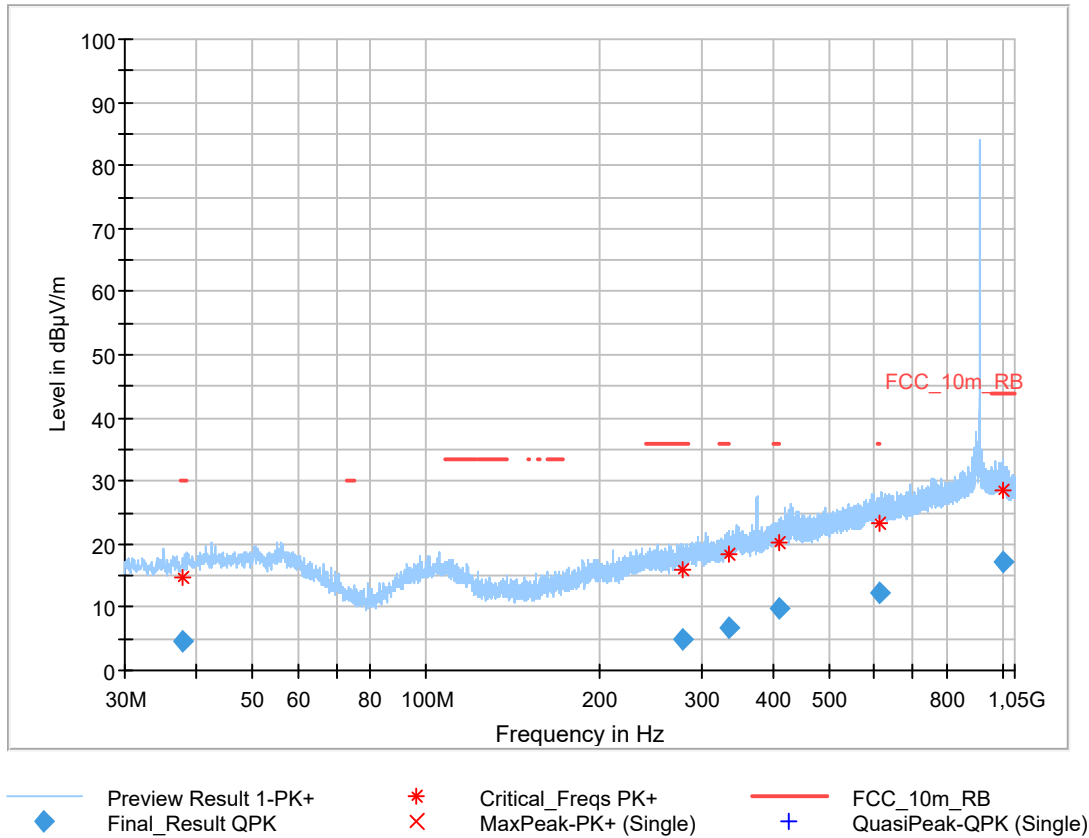
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.995	3.83	30.0	26.2	1000	120.0	181.0	V	177	14
73.191	10.36	30.0	19.6	1000	120.0	195.0	V	237	9
327.070	5.10	36.0	30.9	1000	120.0	195.0	V	118	16
407.068	7.38	36.0	28.6	1000	120.0	195.0	H	77	18
614.091	11.45	---	---	1000	120.0	195.0	V	92	22
989.435	16.49	44.0	27.5	1000	120.0	120.0	V	76	26

Plot 7: set. 7 – ANT950 (FM0(103)): 30 MHz – 1 GHz, horizontal & vertical polarization, tx 915.25 MHz**Final_Result**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
38.779	3.64	---	---	1000	120.0	200.0	V	52	14
333.484	5.35	36.0	30.7	1000	120.0	353.0	H	10	16
408.010	7.47	36.0	28.5	1000	120.0	200.0	H	225	18
610.534	11.19	36.0	24.8	1000	120.0	387.0	H	338	22
613.031	11.33	36.0	24.7	1000	120.0	200.0	H	255	22
979.494	15.92	44.0	28.1	1000	120.0	200.0	V	182	26

Plot 8: set. 10 – ANT960 (FM0(103)): 30 MHz – 1 GHz, horizontal & vertical polarization, tx 915.25 MHz**Final_Result**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.958	3.81	30.0	26.2	1000	120.0	200.0	V	193	14
333.505	3.10	36.0	32.9	1000	120.0	400.0	H	95	16
402.139	4.96	36.0	31.0	1000	120.0	344.0	V	240	18
608.386	9.21	36.0	26.8	1000	120.0	396.0	H	103	22
612.835	9.74	36.0	26.3	1000	120.0	200.0	V	71	22
970.651	13.56	44.0	30.4	1000	120.0	400.0	V	231	25

Plot 9: set. 11 – ANT960 (FM0(103)): 30 MHz – 1 GHz, horizontal & vertical polarization, tx 915.25 MHz

*carrier frequency notched

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.701	4.52	30.0	25.5	1000	120.0	200.0	H	211	14
278.208	5.00	36.0	31.0	1000	120.0	109.0	V	173	15
334.401	6.61	36.0	29.4	1000	120.0	305.0	V	56	16
409.523	9.91	36.0	26.1	1000	120.0	400.0	V	57	18
613.226	12.28	36.0	23.7	1000	120.0	206.0	V	175	22
999.334	17.10	44.0	26.9	1000	120.0	200.0	H	121	26

12.10.2 Spurious emissions radiated above 1 GHz

Description:

Measurement of the radiated spurious emissions in transmit mode. The measurement is performed in the mode with the highest output power.

Measurement parameters	
Detector	Peak / RMS
Sweep time	Auto
Resolution bandwidth	1 MHz
Video bandwidth	3 x RBW
Span	1 GHz to 12.75 GHz
Trace mode	Max hold
Measured modulation	DSB-ASK
Test setup	See sub clause 7.2 C (1 GHz – 12.75 GHz)
Measurement uncertainty	See sub clause 9

The modulation with the highest output power was used to perform the transmitter spurious emissions. If spurious were detected a re-measurement was performed on the detected frequency with each modulation.

Limits:

ANSI C63.10
The average emission shall be determined by using Video averaging (VBW = 10 Hz). If the dwell time of the hopping signal is less than 100 ms (per channel), the VBW=10 Hz reading may be adjusted by a factor: $F = 20 \log(\text{dwell time}/100 \text{ ms})$

FCC	ISED
TX spurious emissions 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 §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).	

Section 15.205 Restricted bands of operation.

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

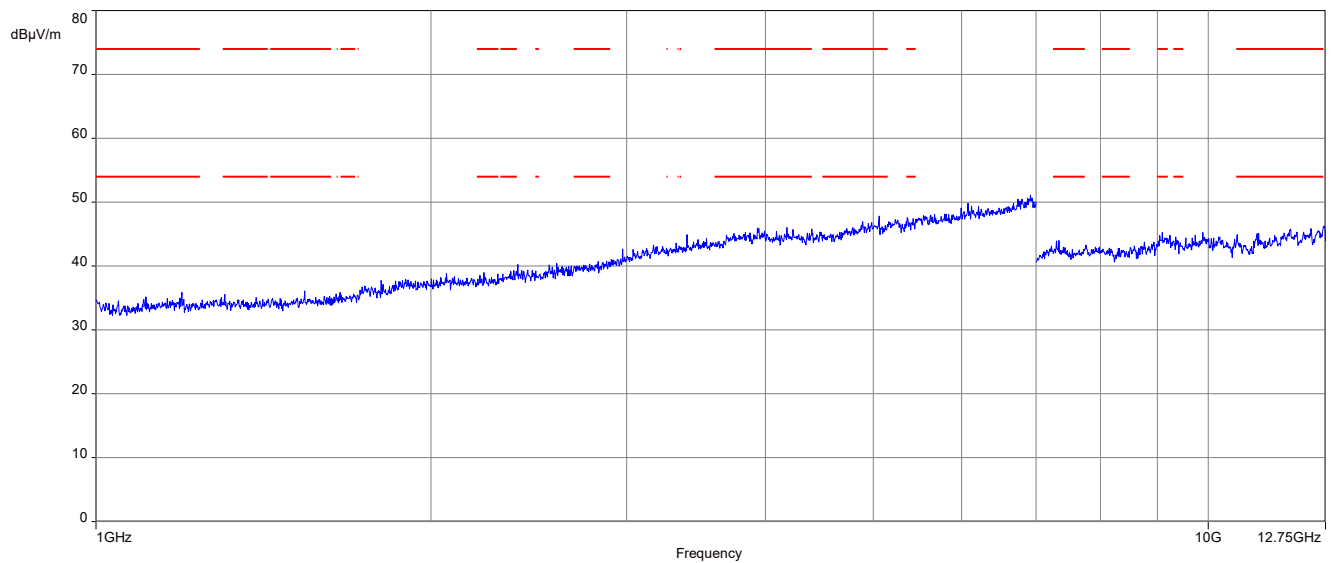
MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41			

Result: See Plots!

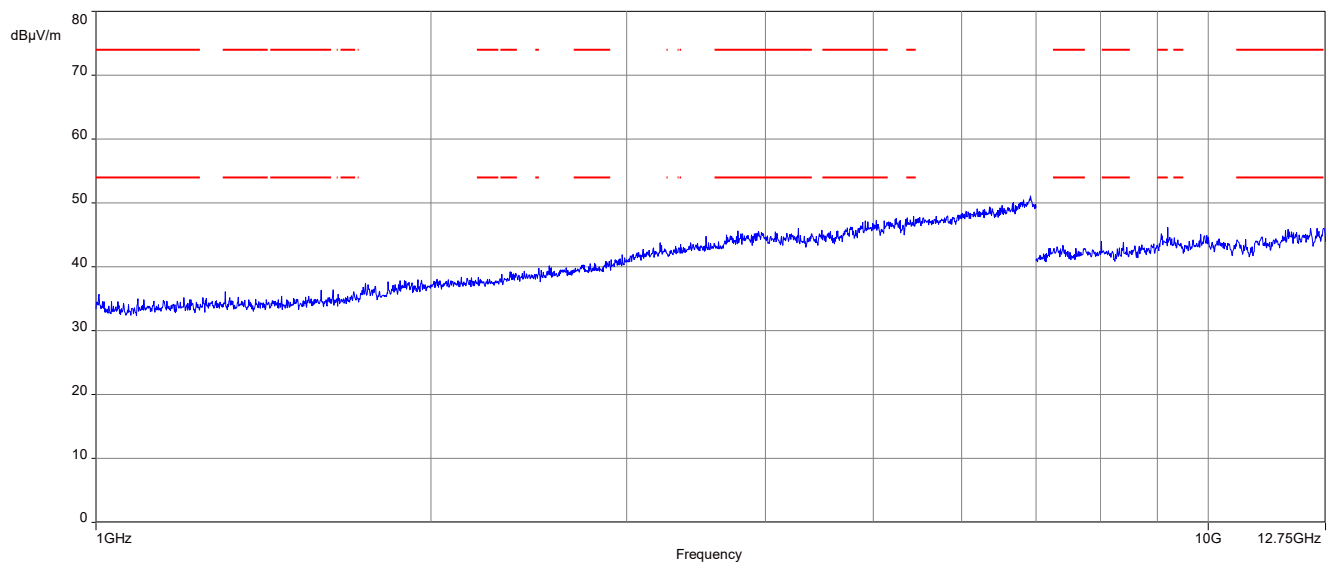
12.10.2.1 Plots set. 1 - ANT805 (FM0 (103)):

TX spurious emissions radiated [dB μ V/m]								
902.75 MHz			915.25 MHz			927.25 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]
no peaks detected			no peaks detected			no peaks detected		

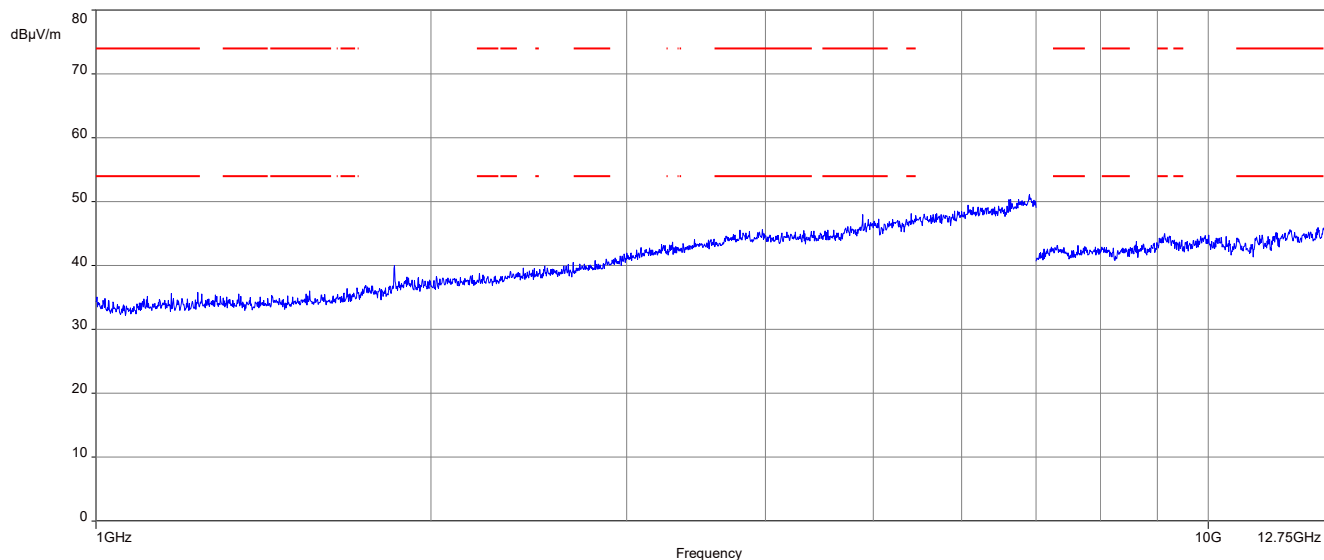
Plot 1: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 902.75 MHz



Plot 2: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 915.25 MHz



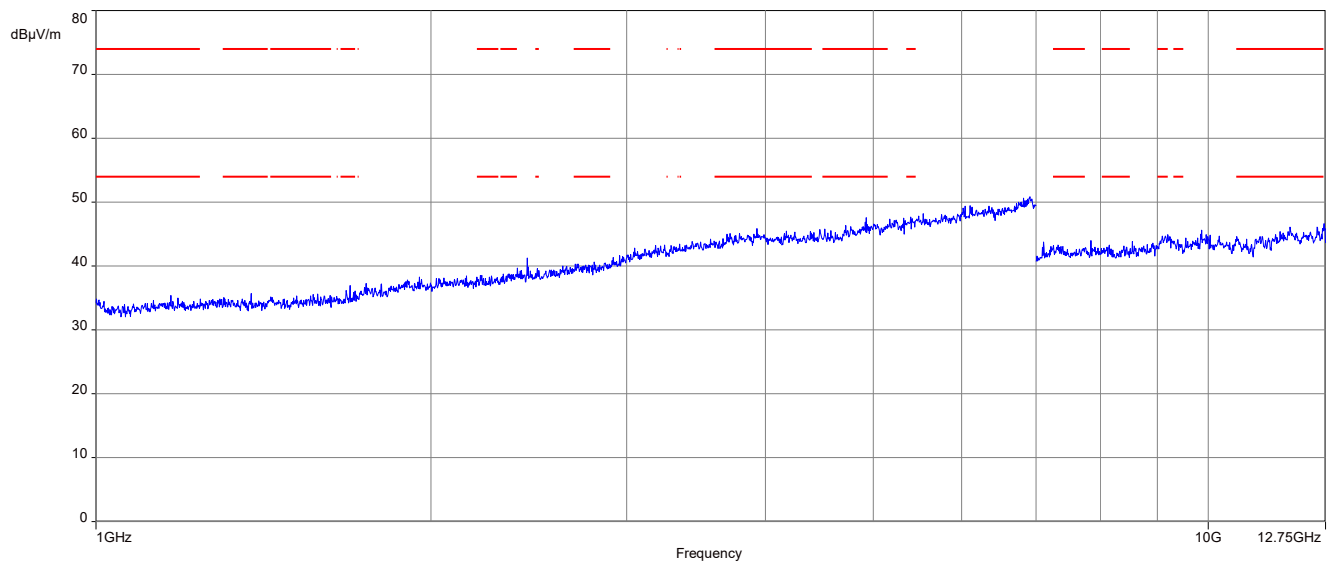
Plot 3: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 927.25 MHz



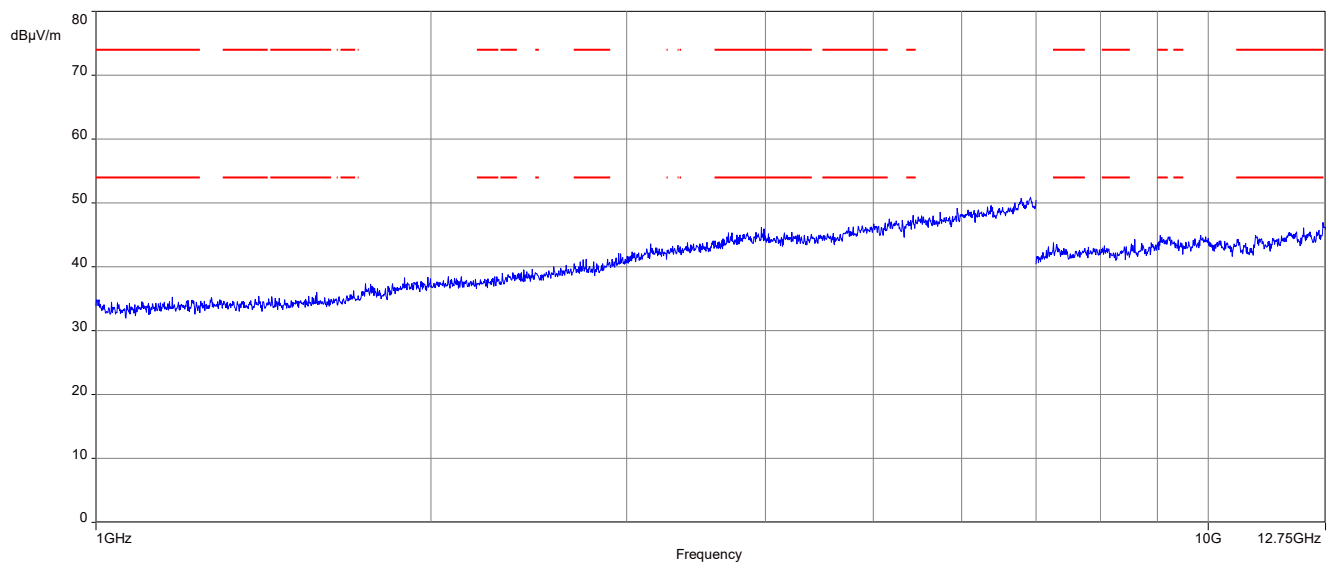
12.10.2.2 Plots set. 2 - ANT815 (FM0 (103)):

TX spurious emissions radiated [dB μ V/m]								
902.75 MHz			915.25 MHz			927.25 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]
no peaks detected			no peaks detected			no peaks detected		

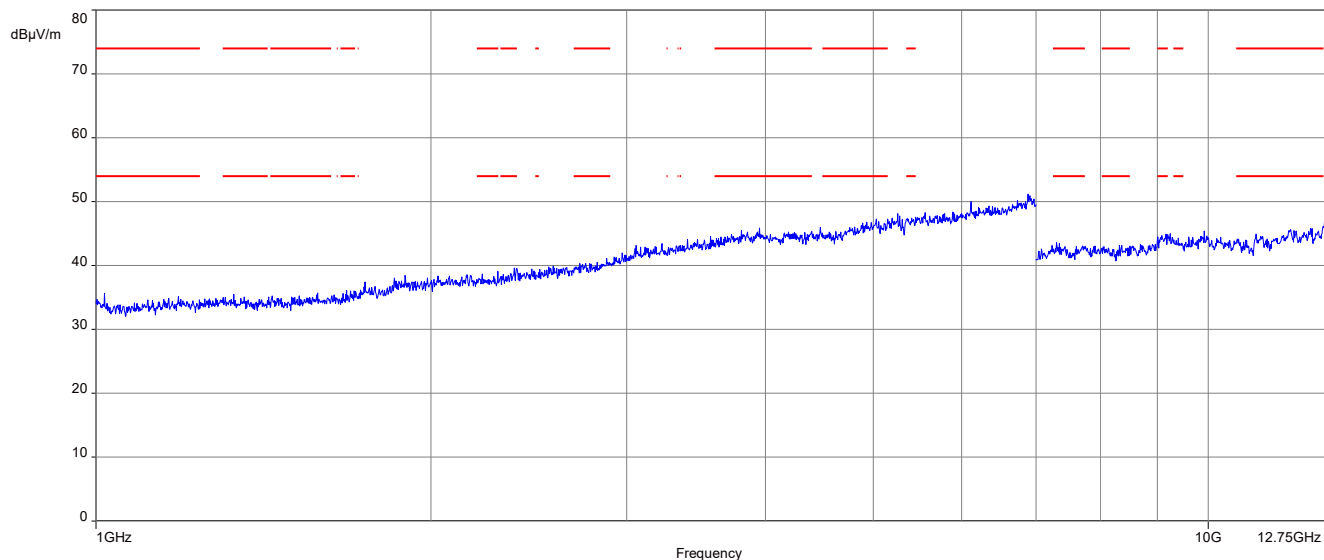
Plot 1: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 902.75 MHz



Plot 2: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 915.25 MHz



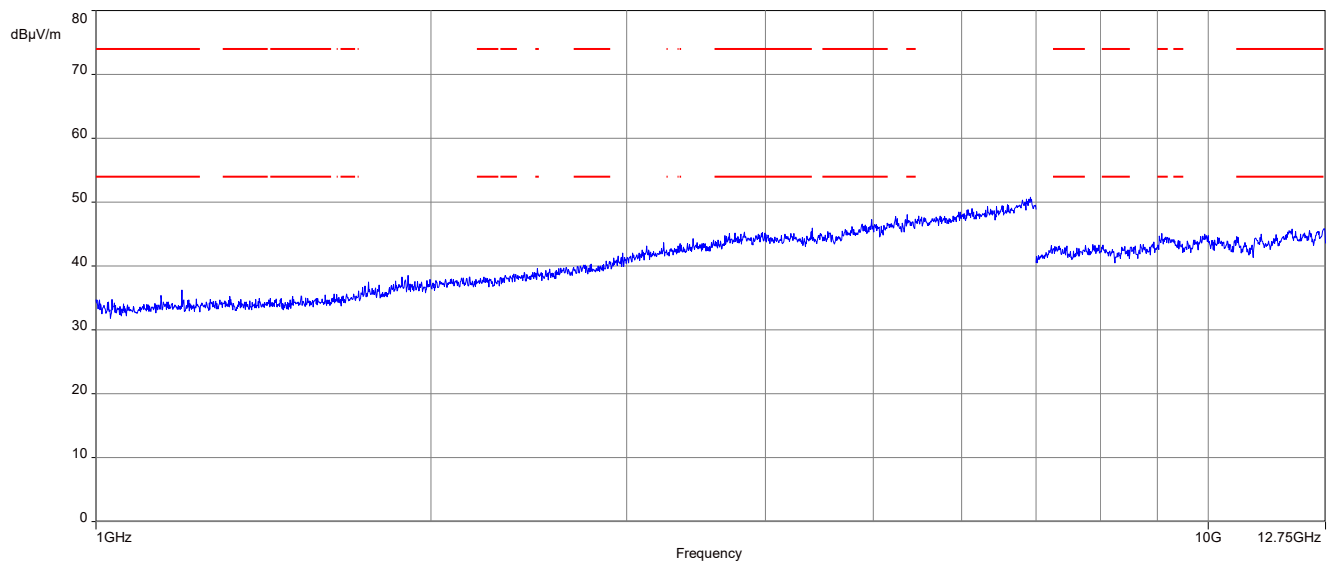
Plot 3: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 927.25 MHz



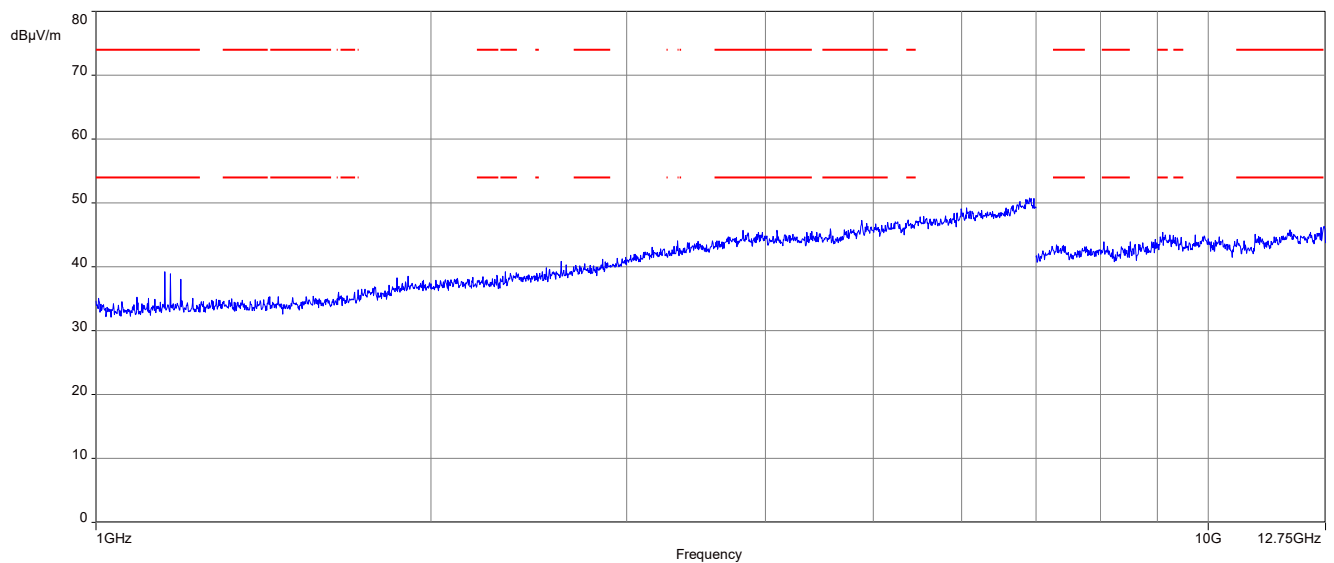
12.10.2.3 Plots set. 3 - ANT920 (FM0 (103)):

TX spurious emissions radiated [dB μ V/m]								
902.75 MHz			915.25 MHz			927.25 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]
no peaks detected			no peaks detected			no peaks detected		

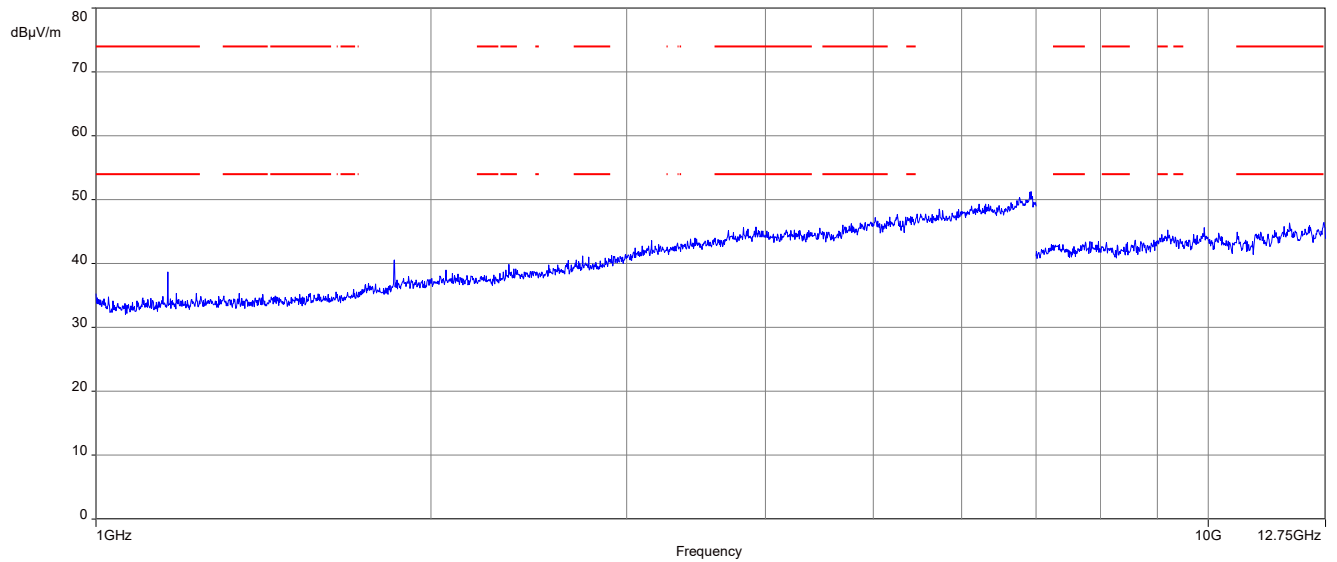
Plot 1: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 902.75 MHz



Plot 2: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 915.25 MHz



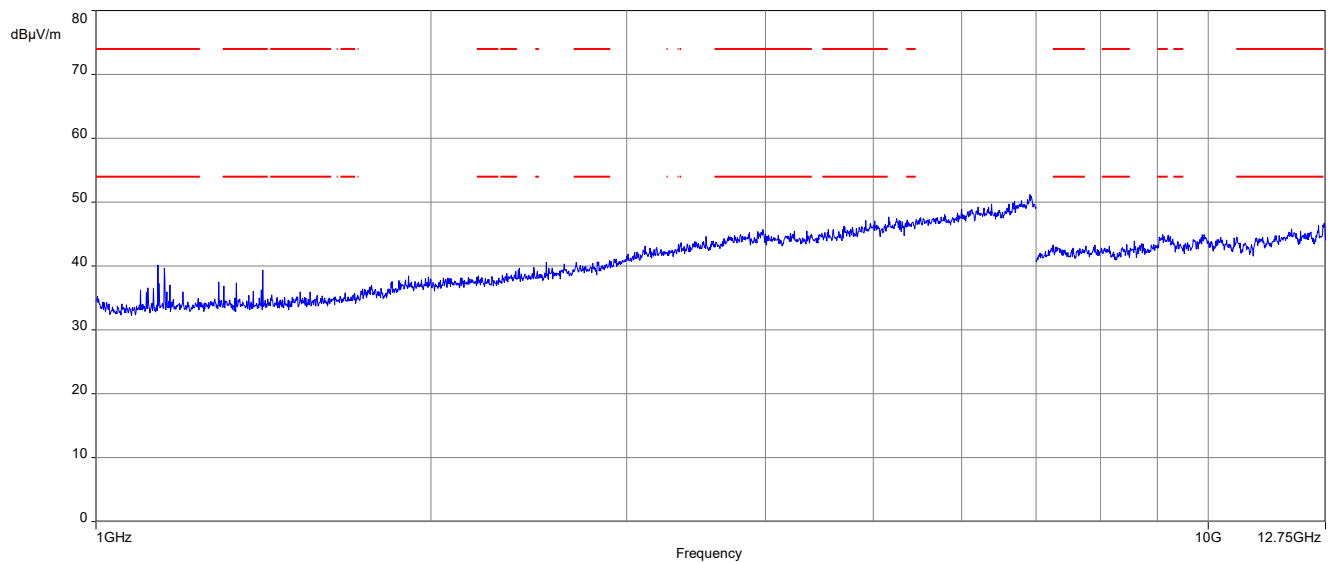
Plot 3: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 927.25 MHz



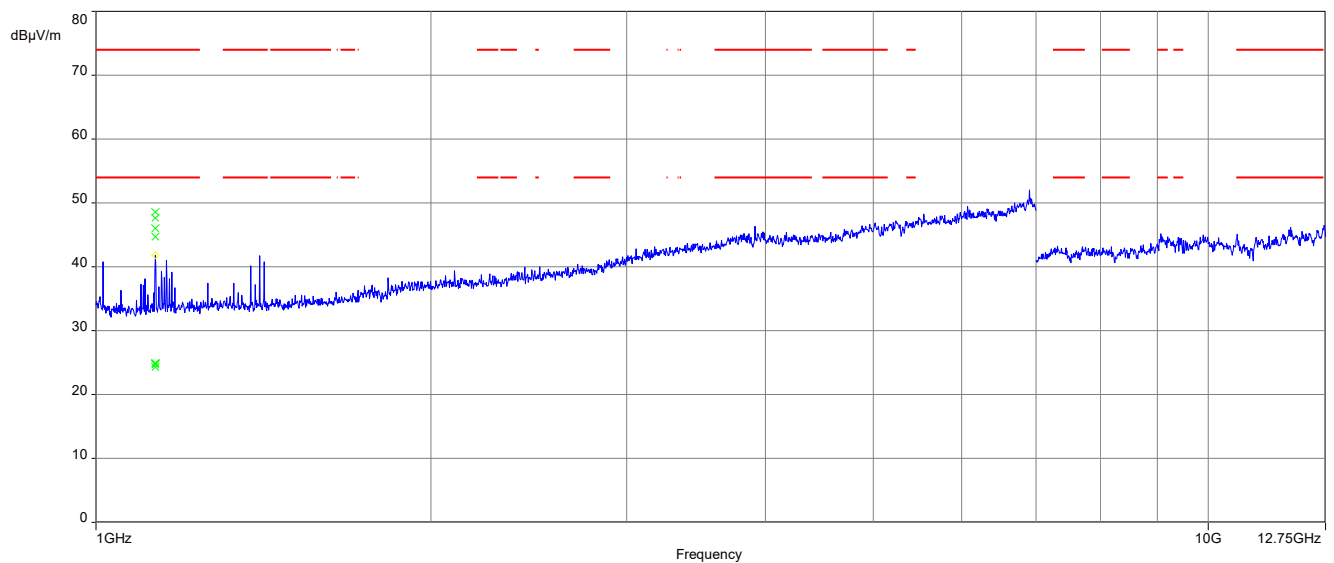
12.10.2.4 Plots set. 4 - ANT950 (FM0 (103)):

TX spurious emissions radiated [dB μ V/m]								
902.75 MHz			915.25 MHz			927.25 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]
no peaks detected			1131.4	Peak	48.63	no peaks detected		
				AVG	24.97			

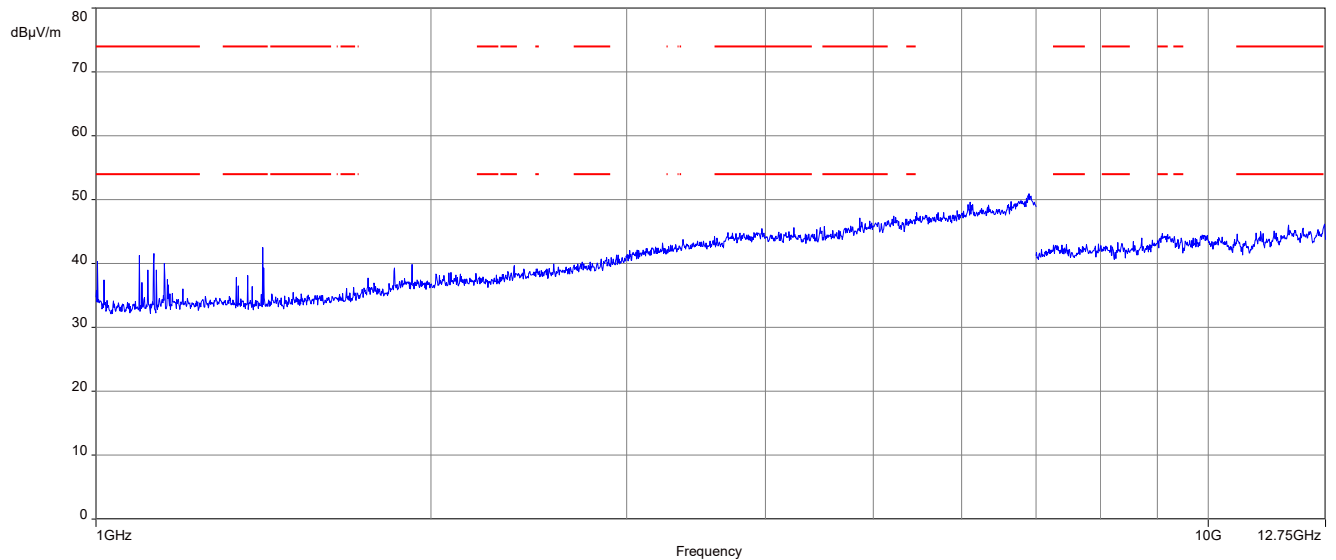
Plot 1: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 902.75 MHz



Plot 2: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 915.25 MHz



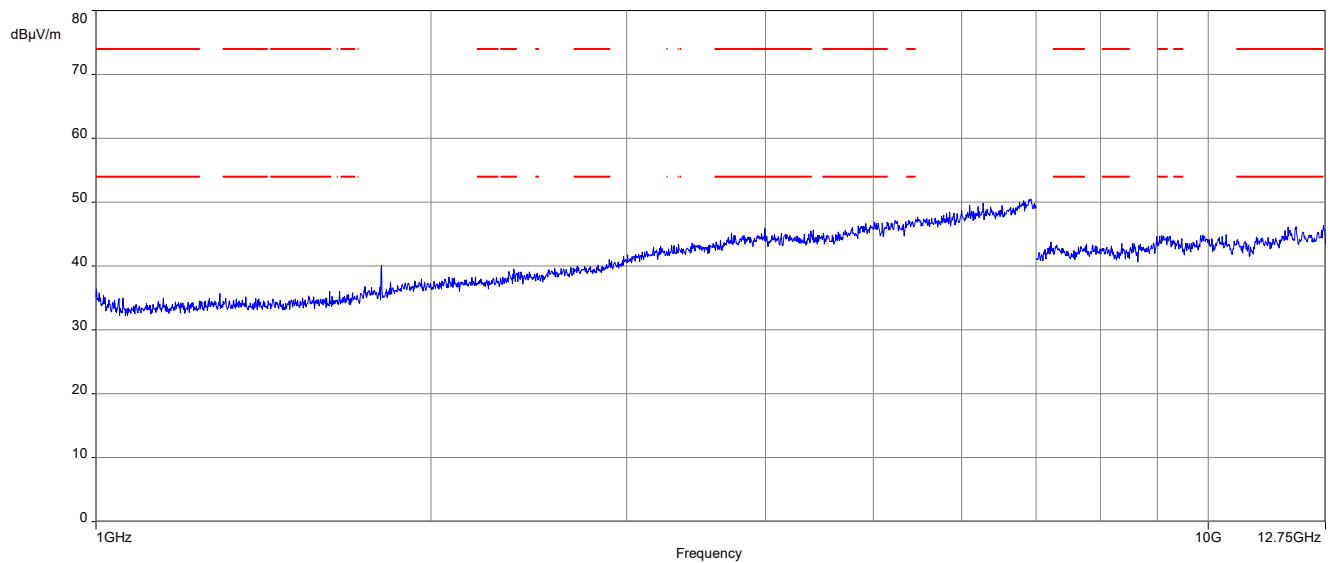
Plot 3: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 927.25 MHz



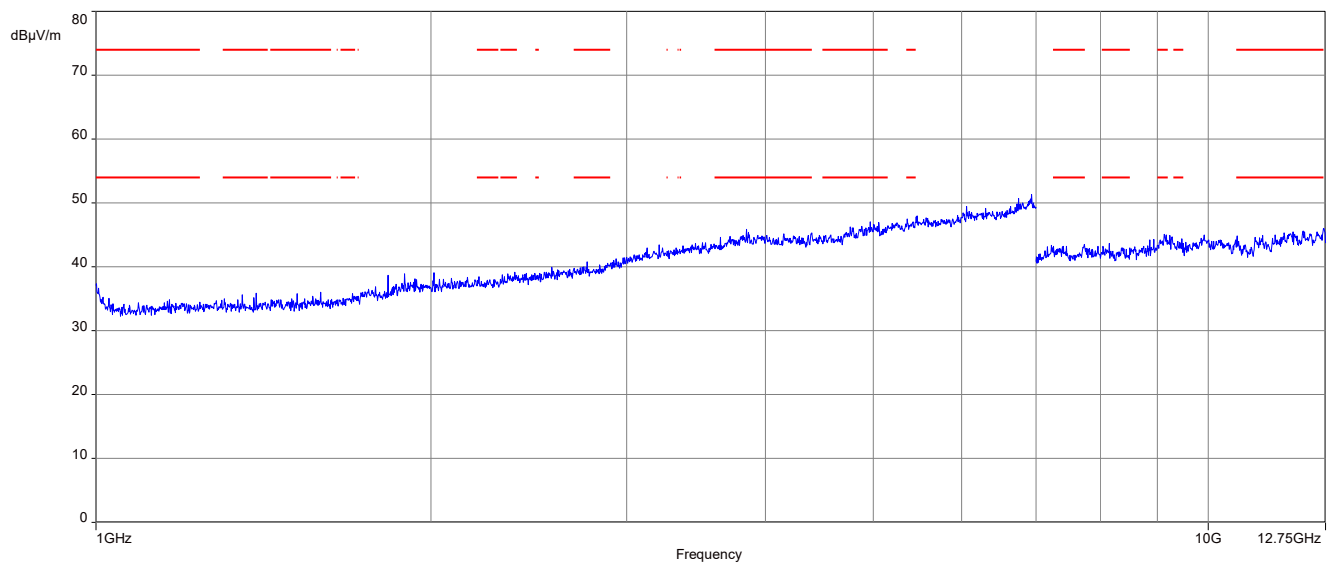
12.10.2.5 Plots set. 5 - ANT960 (FM0 (103)):

TX spurious emissions radiated [dB μ V/m]								
902.75 MHz			915.25 MHz			927.25 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]
no peaks detected			no peaks detected			no peaks detected		

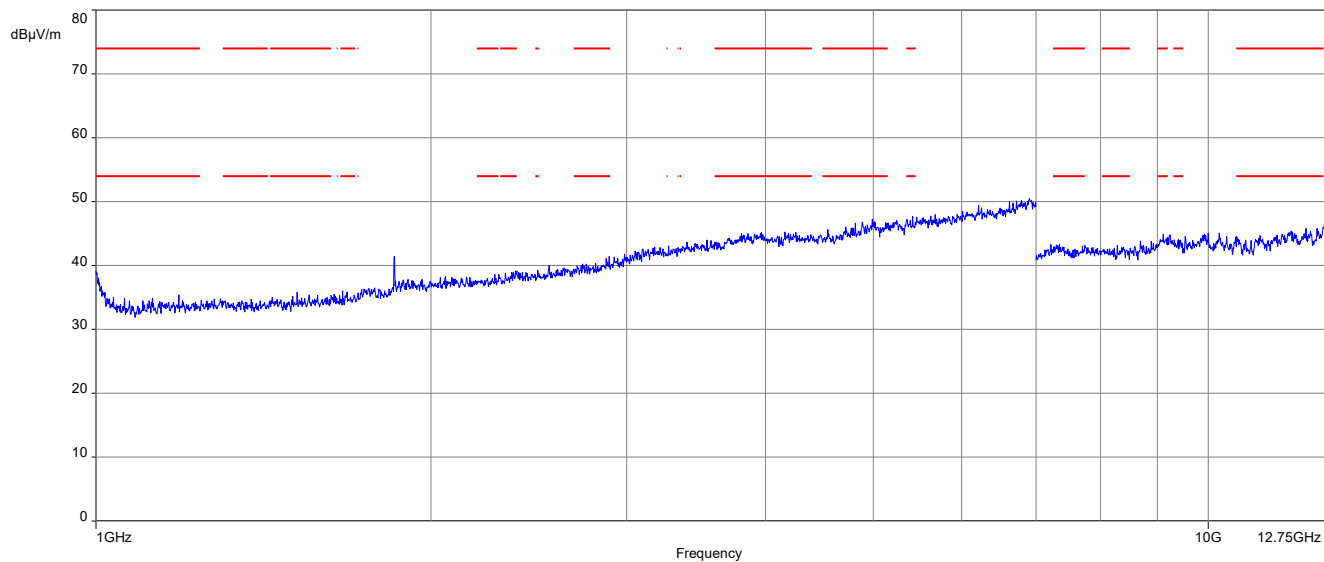
Plot 1: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 902.75 MHz



Plot 2: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 915.25 MHz



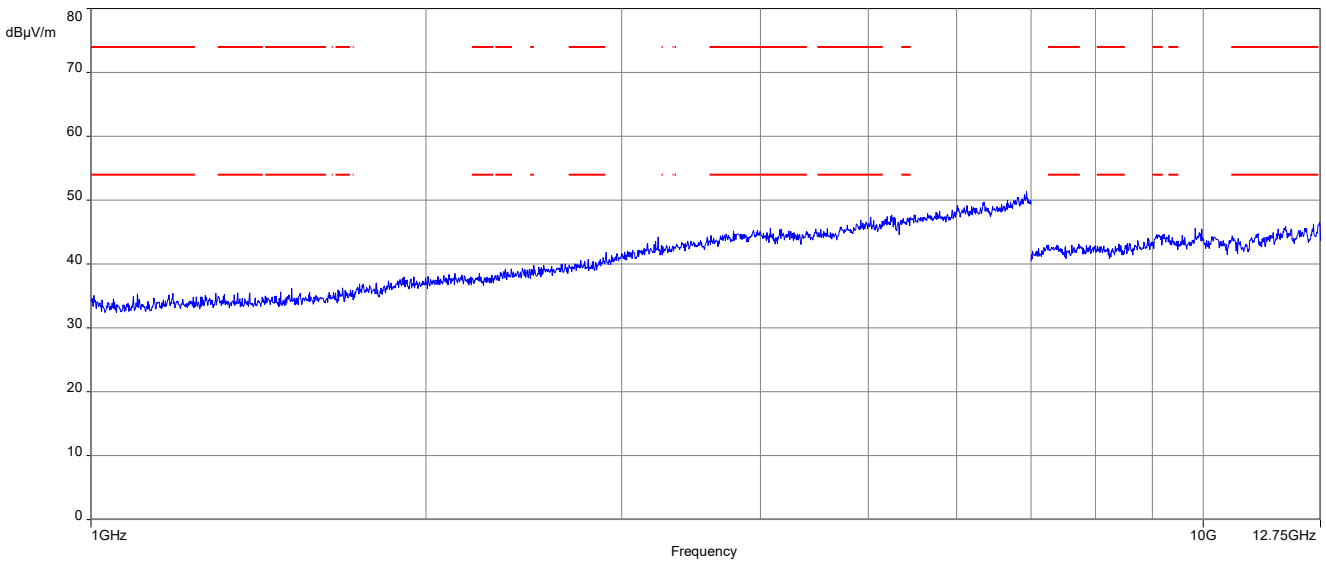
Plot 3: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 927.25 MHz



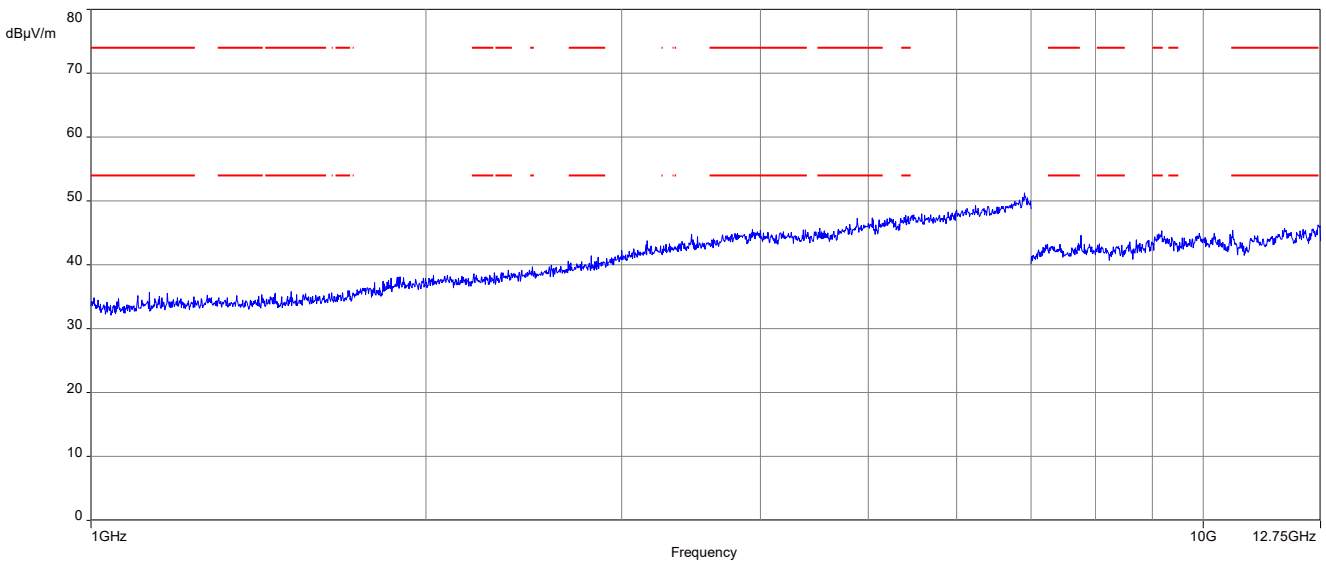
12.10.2.6 Plots set. 6 - ANT970 (FM0 (103)):

TX spurious emissions radiated [dBμV/m]								
902.75 MHz			915.25 MHz			927.25 MHz		
F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]
no peaks detected			no peaks detected			no peaks detected		

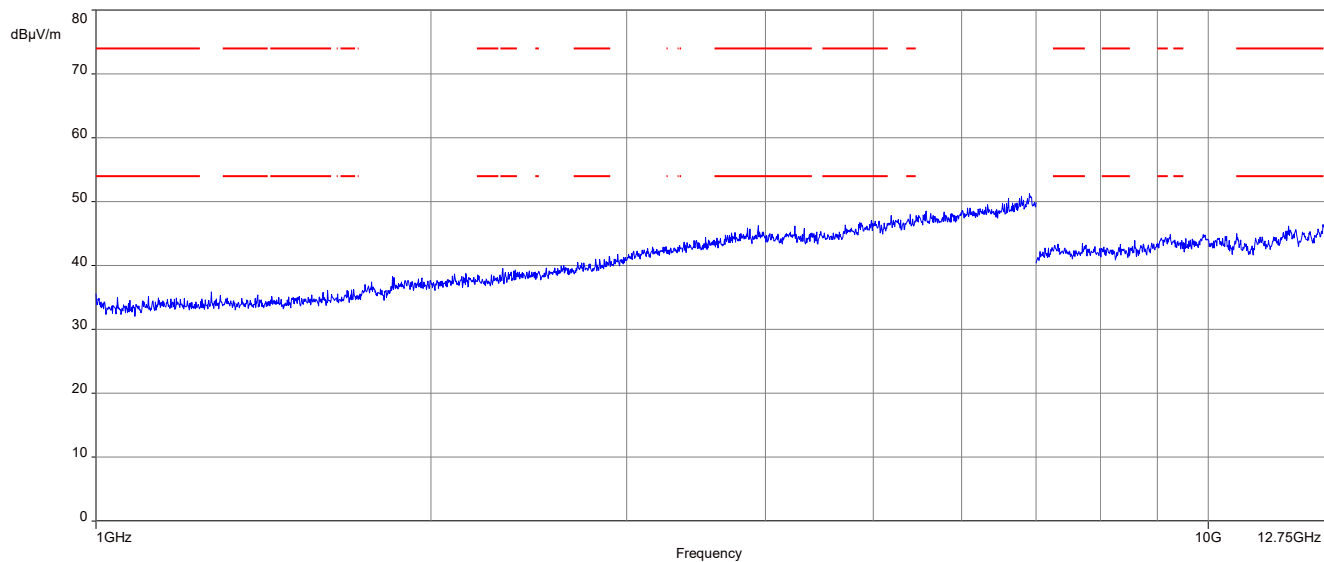
Plot 1: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 902.75 MHz



Plot 2: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 915.25 MHz



Plot 3: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 927.25 MHz

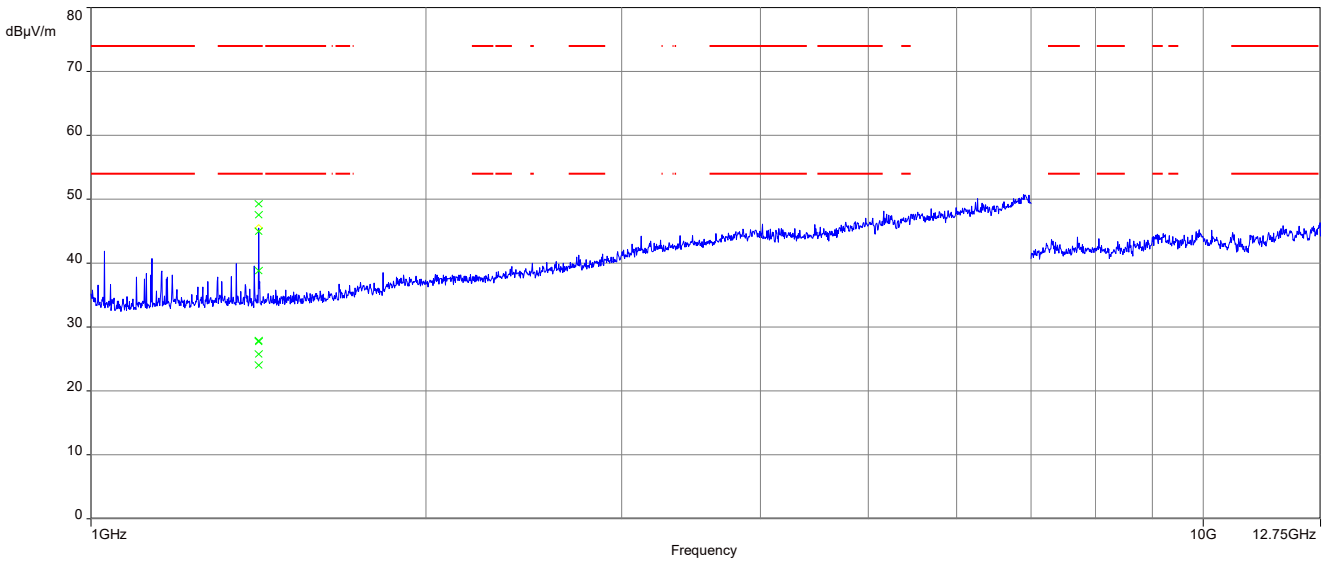


12.10.2.7 Plots set. 7 - ANT950 (FM0 (103)):

Plot DC powered:

TX spurious emissions radiated [dBµV/m]								
902.75 MHz			915.25 MHz			927.25 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
not tested			1415.8	Peak	49.28	not tested		
				AVG	27.91			

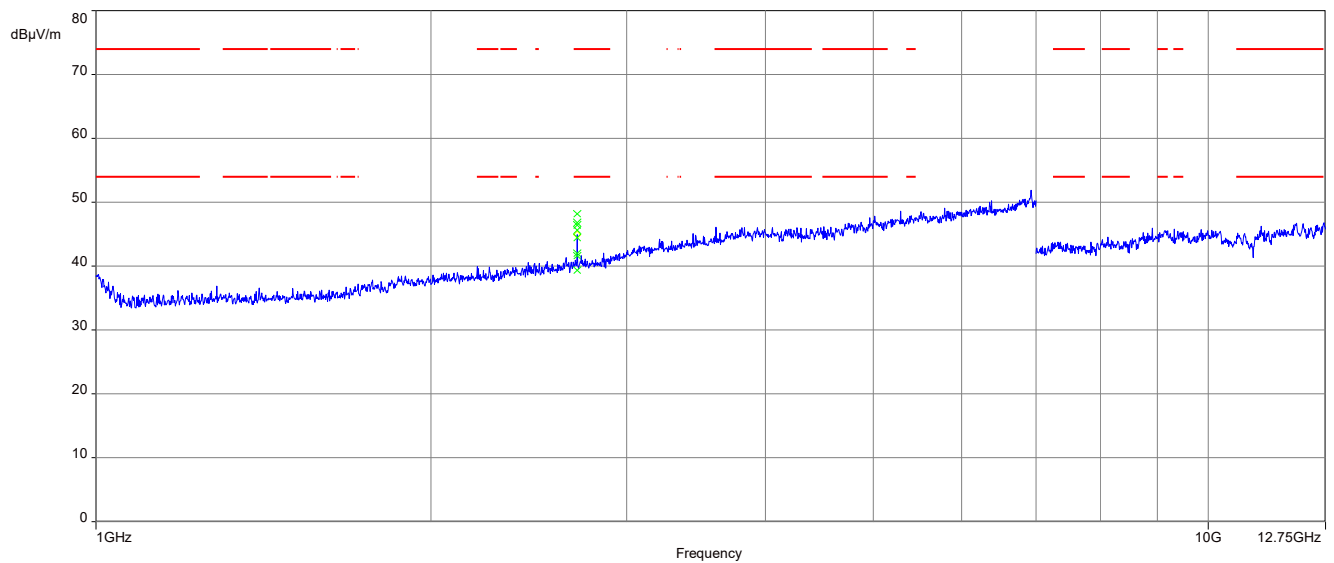
Plot: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 915.25 MHz



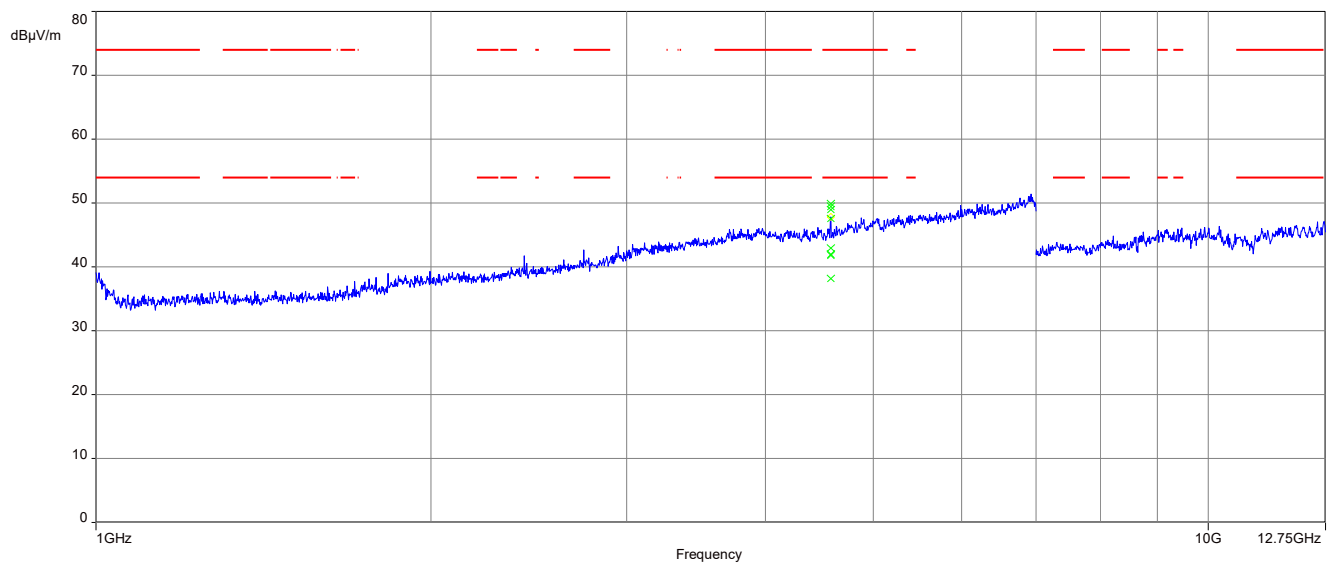
12.10.2.8 Plots set. 10 - ANT960 (FM0 (103)):

TX spurious emissions radiated [dB μ V/m]								
902.75 MHz			915.25 MHz			927.25 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]
2708.2	PEAK	48.20	4576.6	PEAK	49.89	-/-	-/-	-/-
	AVG	44.46		AVG	42.97		-/-	-/-

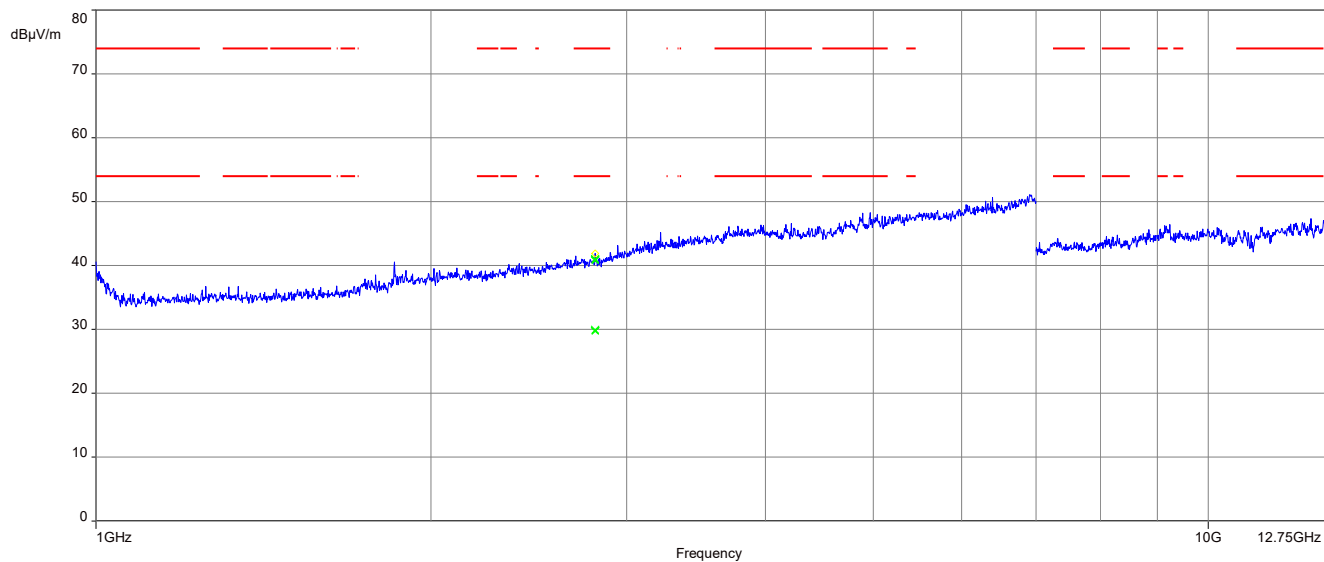
Plot 1: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 902.75 MHz



Plot 2: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 915.25 MHz

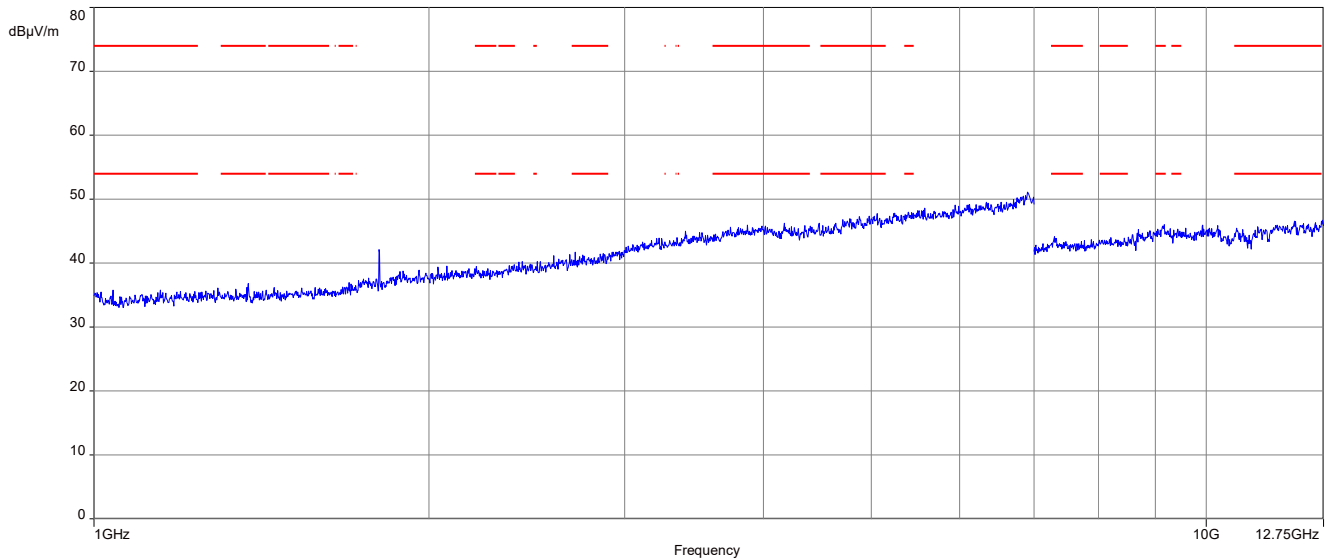


Plot 3: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 927.25 MHz

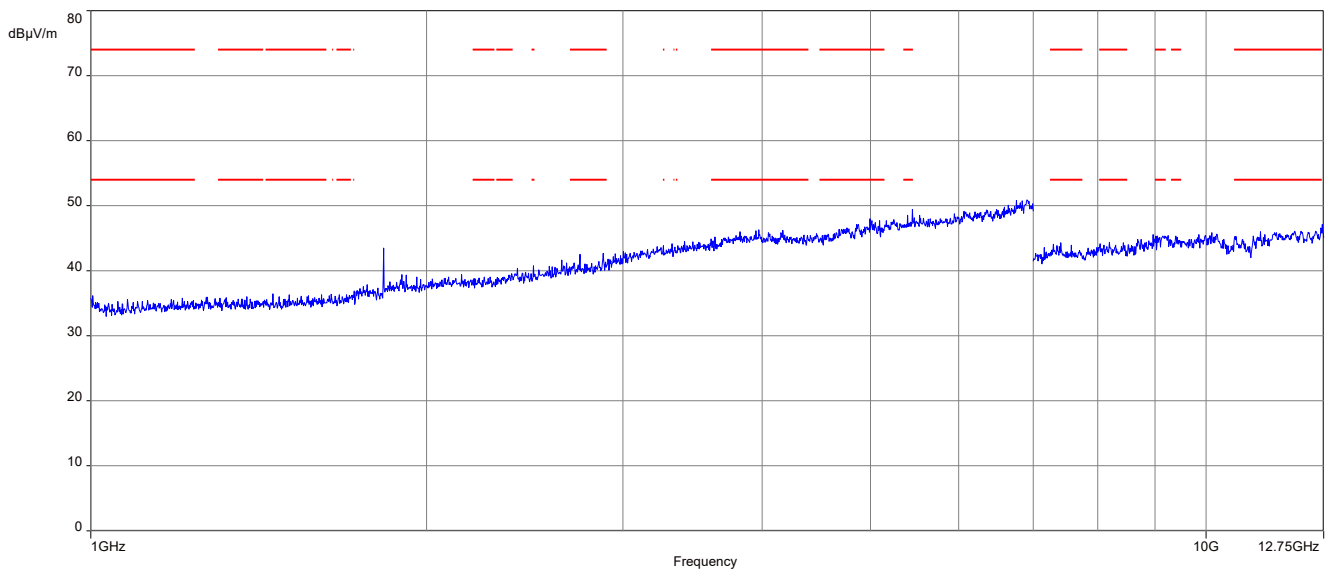


12.10.2.9 Plots set. 11 - ANT950 (FM0 (103)):

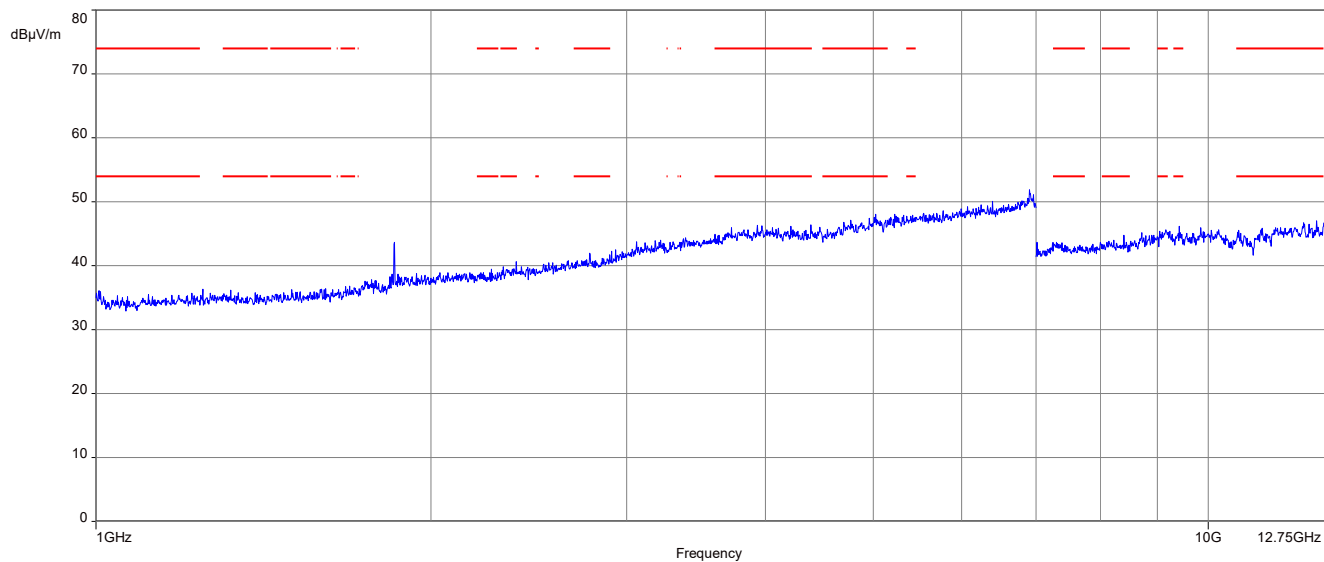
Plot 1: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 902.75 MHz



Plot 2: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 915.25 MHz



Plot 3: 1 GHz – 12.75 GHz, horizontal & vertical polarization, 927.25 MHz



13 Spurious emissions conducted below 30 MHz (AC conducted)

Description:

Measurement of the conducted spurious emissions in transmit mode below 30 MHz. The EUT is set to single channel mode and the transmit frequency is 915.75 MHz. According KDB 174176 the antenna port was terminated with 50 Ohm. This measurement is representative for all channels and modes. Both power lines, phase and neutral line, are measured. Found peaks are remeasured with average and quasi peak detection to show compliance to the limits.

Measurement parameters	
Detector	Peak - Quasi peak / average
Sweep time	Auto
Resolution bandwidth	F < 150 kHz: 200 Hz F > 150 kHz: 9 kHz
Video bandwidth	F < 150 kHz: 1 kHz F > 150 kHz: 100 kHz
Span	9 kHz to 30 MHz
Trace mode	Max hold
Measured modulation	PR-ASK
Test setup	See sub clause 7.3 A
Measurement uncertainty	See sub clause 9

Limits:

FCC		ISED
TX 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

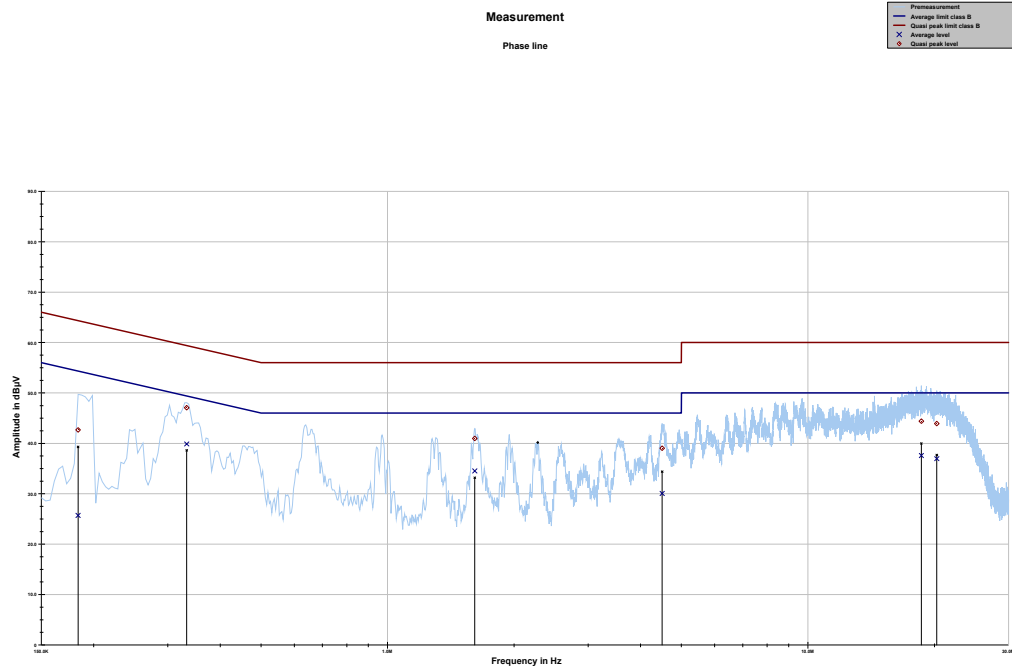
*Decreases with the logarithm of the frequency

Results:

See result table below the plots.

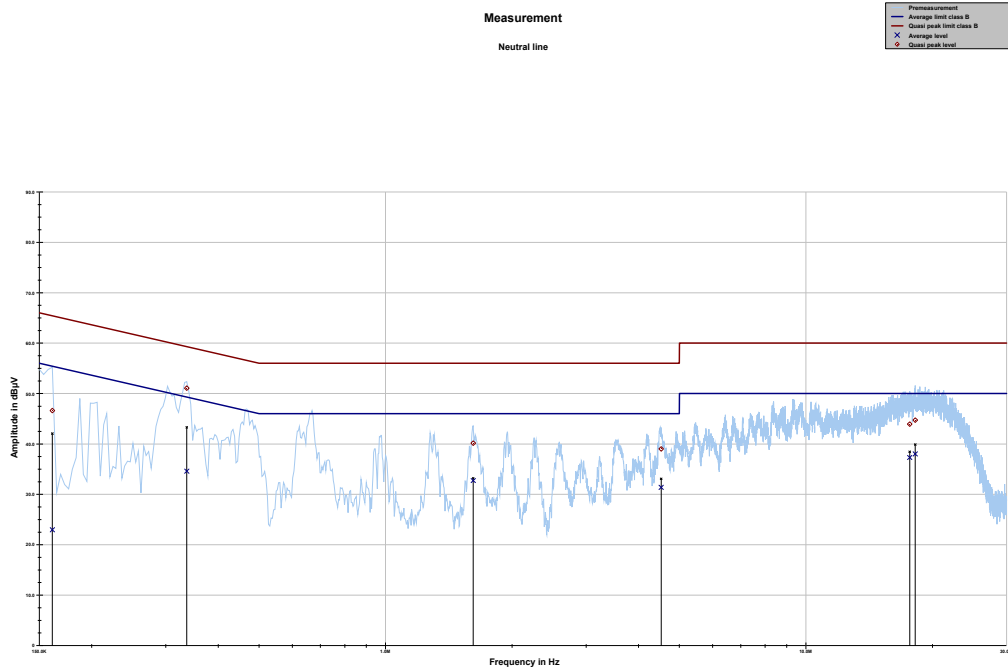
13.1 Plots set. 8 - DC powered:

Plot 1: AC 120V/60Hz, 150 kHz to 30 MHz, phase line



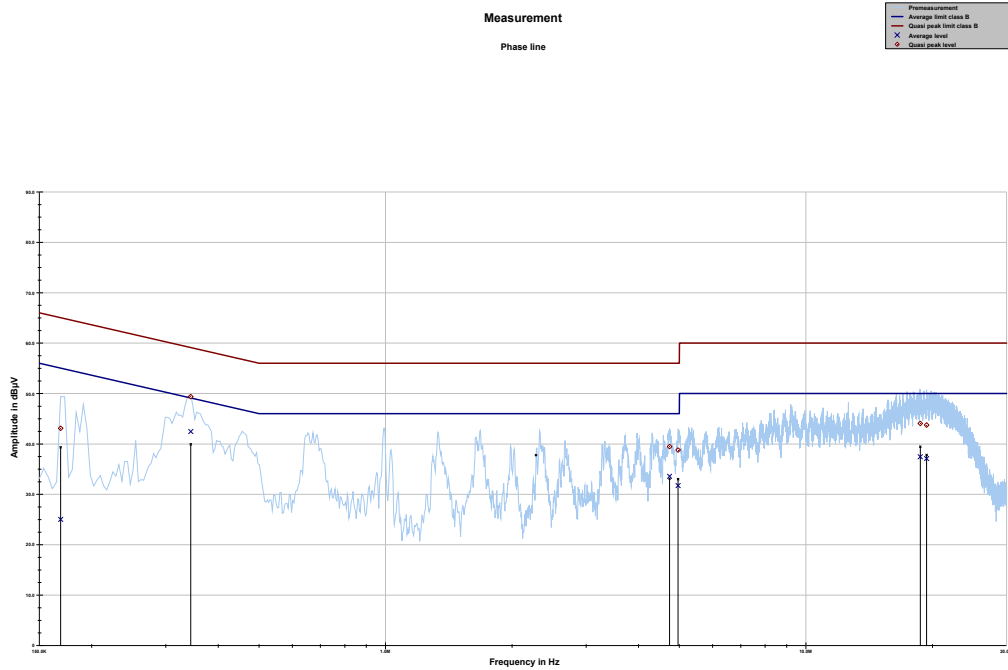
Project ID: 1-0619/25-01-02

Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin Average	Limit AV
MHz	dBµV	dB	dBµV	dBµV	dB	dBµV
0.183581	42.65	21.67	64.322	25.68	29.36	55.041
0.332831	47.05	12.33	59.380	39.87	10.91	50.776
1.612650	40.95	15.05	56.000	34.51	11.49	46.000
4.500637	39.02	16.98	56.000	30.05	15.95	46.000
18.615956	44.39	15.61	60.000	37.57	12.43	50.000
20.261437	43.91	16.09	60.000	36.96	13.04	50.000

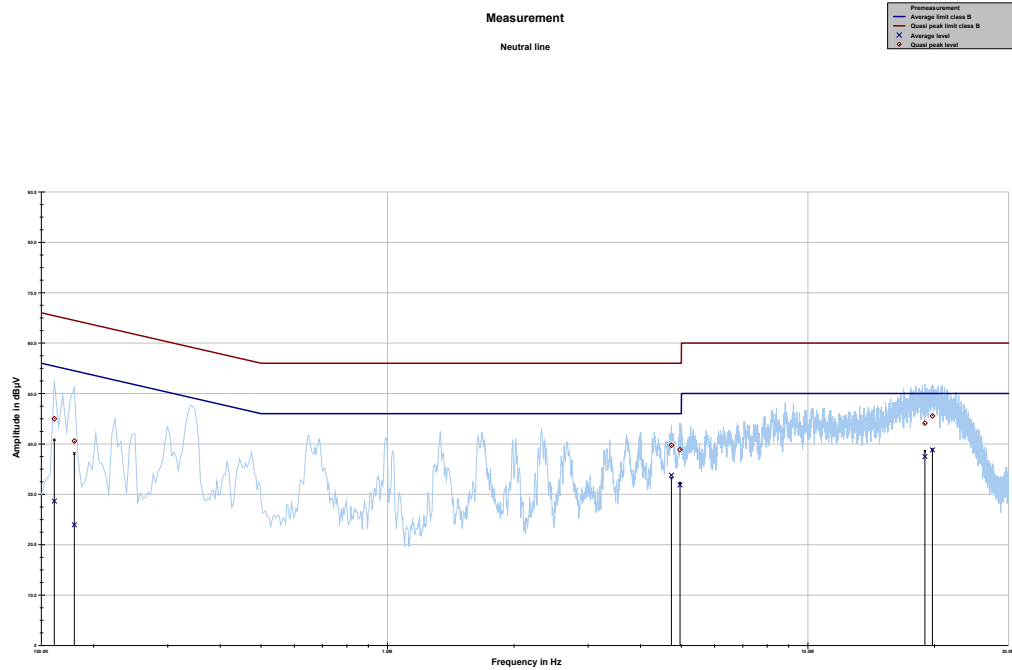
Plot 2: AC 120V/60Hz, 150 kHz to 30 MHz, neutral line

Project ID: 1-0619/25-01-02

Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin Average	Limit AV
MHz	dBµV	dB	dBµV	dBµV	dB	dBµV
0.161194	46.60	18.81	65.402	22.96	32.72	55.680
0.336562	51.05	8.24	59.288	34.58	16.09	50.670
1.616381	40.15	15.85	56.000	32.73	13.27	46.000
4.526756	39.00	17.00	56.000	31.38	14.62	46.000
17.657025	43.93	16.07	60.000	37.30	12.70	50.000
18.201787	44.72	15.28	60.000	38.00	12.00	50.000

Plot 1: AC 240V/60Hz, 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
0.168656	43.11	21.92	65.026	25.02	30.45	55.467
0.344025	49.37	9.74	59.106	42.45	8.01	50.456
4.739438	39.46	16.54	56.000	33.58	12.42	46.000
4.967044	38.78	17.22	56.000	31.73	14.27	46.000
18.709238	44.05	15.95	60.000	37.45	12.55	50.000
19.369669	43.75	16.25	60.000	37.09	12.91	50.000

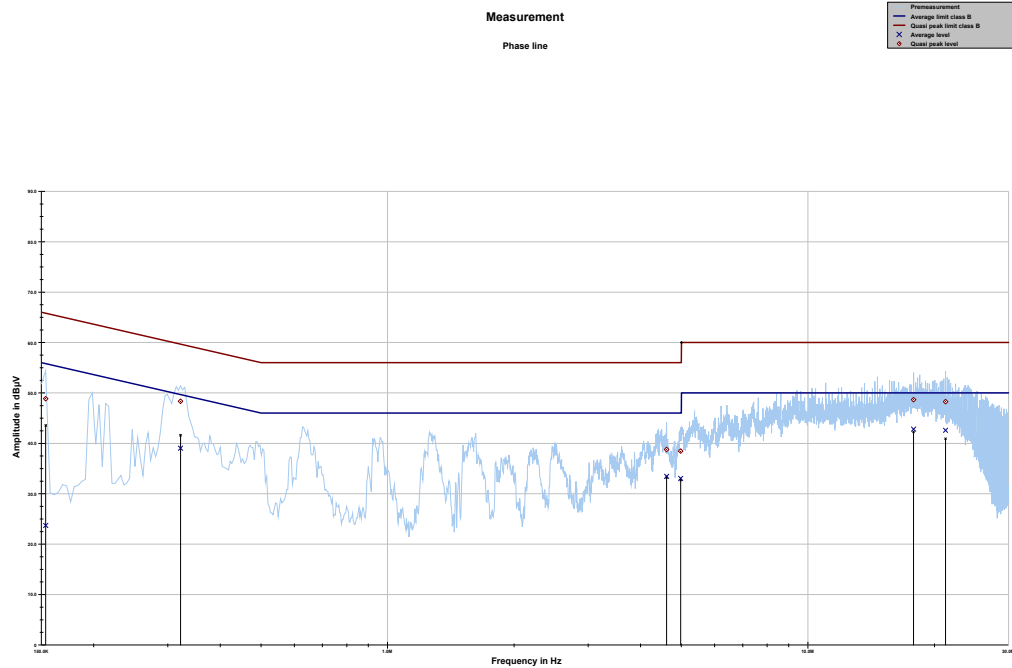
Plot 2: AC 240V/60Hz, 150 kHz to 30 MHz, neutral line

Project ID: 1-0619/25-01-02

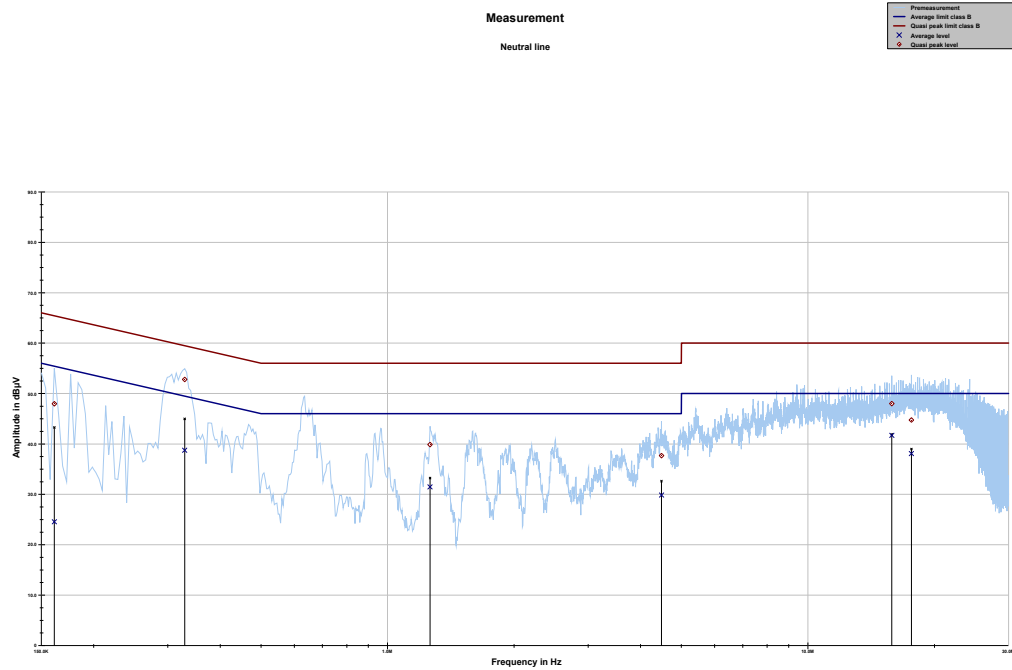
Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin Average	Limit AV
MHz	dBµV	dB	dBµV	dBµV	dB	dBµV
0.161194	44.97	20.43	65.402	28.64	27.04	55.680
0.179850	40.58	23.92	64.493	23.93	31.22	55.147
4.735706	39.74	16.26	56.000	33.79	12.21	46.000
4.963312	38.86	17.14	56.000	31.86	14.14	46.000
18.985350	44.11	15.89	60.000	37.51	12.49	50.000
19.780106	45.55	14.45	60.000	38.79	11.21	50.000

13.2 Plots set. 9 - PoE powered

Plot 1: AC 120V/60Hz, 150 kHz to 30 MHz, phase line

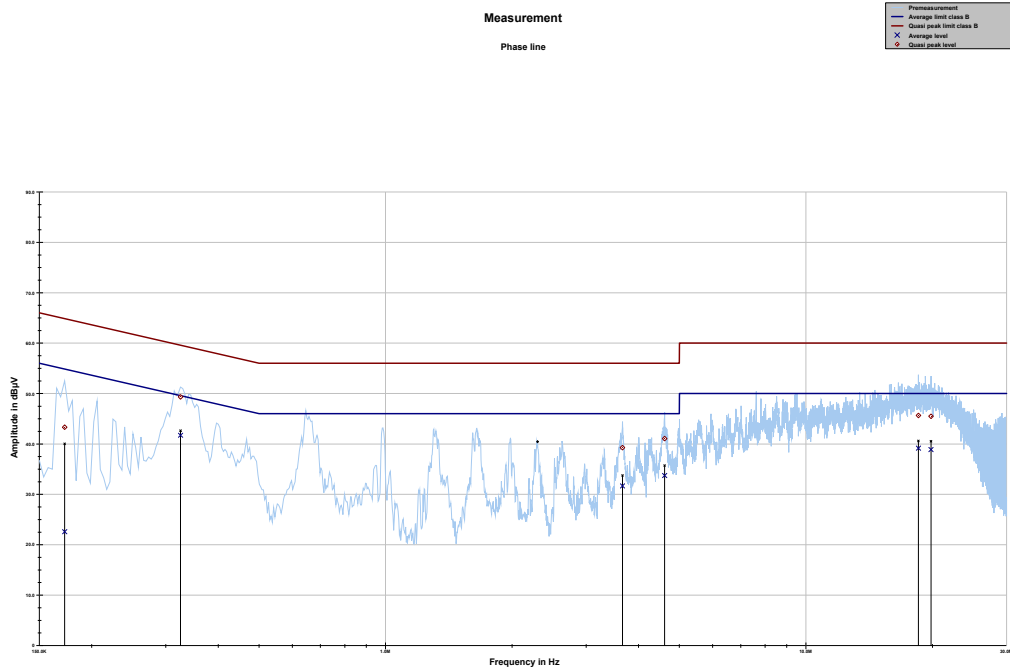


Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin Average	Limit AV
MHz	dBμV	dB	dBμV	dBμV	dB	dBμV
0.153731	48.84	16.96	65.796	23.69	32.20	55.893
0.321638	48.34	11.33	59.664	39.02	12.07	51.096
4.612575	38.75	17.25	56.000	33.43	12.57	46.000
4.981969	38.45	17.55	56.000	33.03	12.97	46.000
17.839856	48.66	11.34	60.000	42.81	7.19	50.000
21.250219	48.28	11.72	60.000	42.57	7.43	50.000

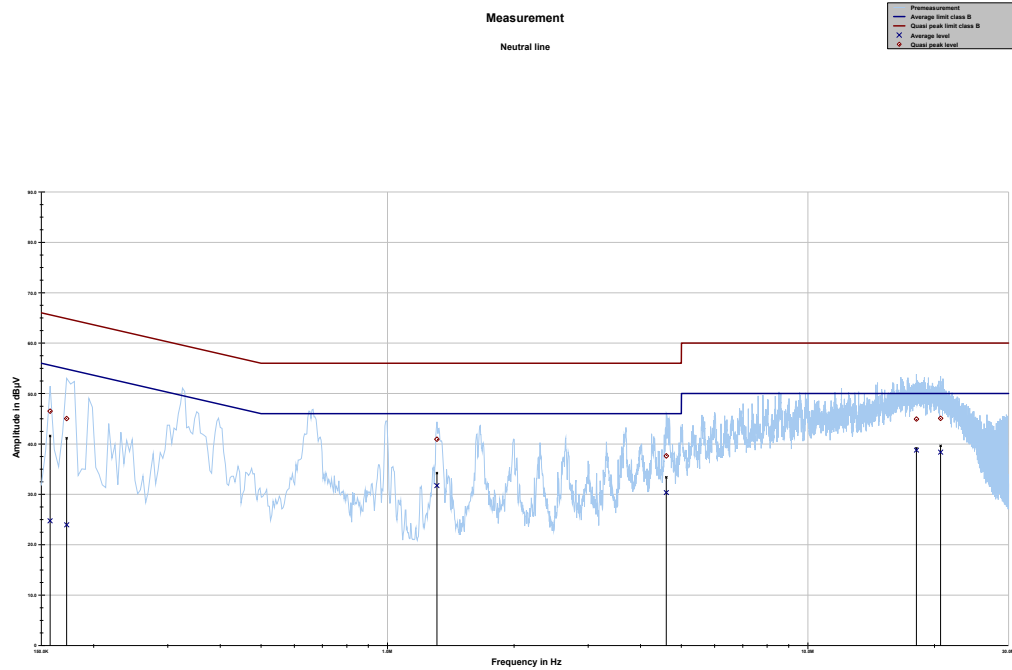
Plot 2: AC 120V/60Hz, 150 kHz to 30 MHz, neutral line

Project ID: 1-0619/25-01-02

Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin Average	Limit AV
MHz	dBμV	dB	dBμV	dBμV	dB	dBμV
0.161194	47.94	17.46	65.402	24.55	31.13	55.680
0.329100	52.79	6.68	59.474	38.74	12.15	50.883
1.261912	39.86	16.14	56.000	31.47	14.53	46.000
4.485712	37.67	18.33	56.000	29.84	16.16	46.000
15.832444	47.99	12.01	60.000	41.69	8.31	50.000
17.630906	44.74	15.26	60.000	38.08	11.92	50.000

Plot 1: AC 240V/60Hz, 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
0.172387	43.30	21.55	64.845	22.57	32.79	55.360
0.325369	49.32	10.24	59.569	41.70	9.28	50.989
3.661106	39.25	16.75	56.000	31.66	14.34	46.000
4.612575	41.05	14.95	56.000	33.72	12.28	46.000
18.522675	45.65	14.35	60.000	39.15	10.85	50.000
19.839806	45.47	14.53	60.000	38.88	11.12	50.000

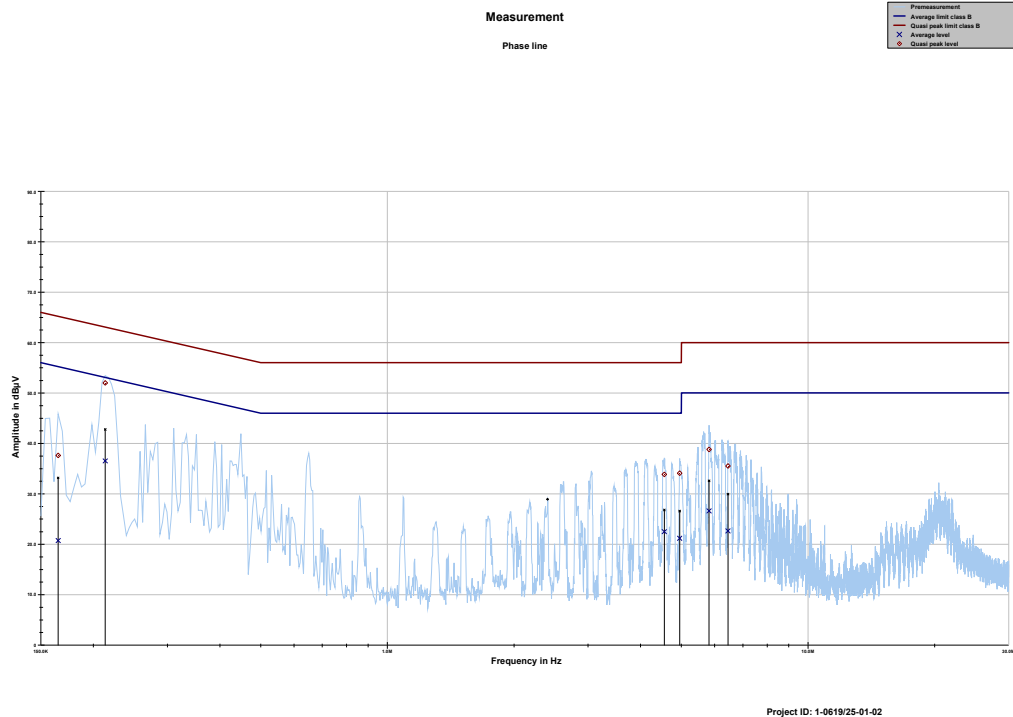
Plot 2: AC 240V/60Hz, 150 kHz to 30 MHz, neutral line

Project ID: 1-0619/25-01-02

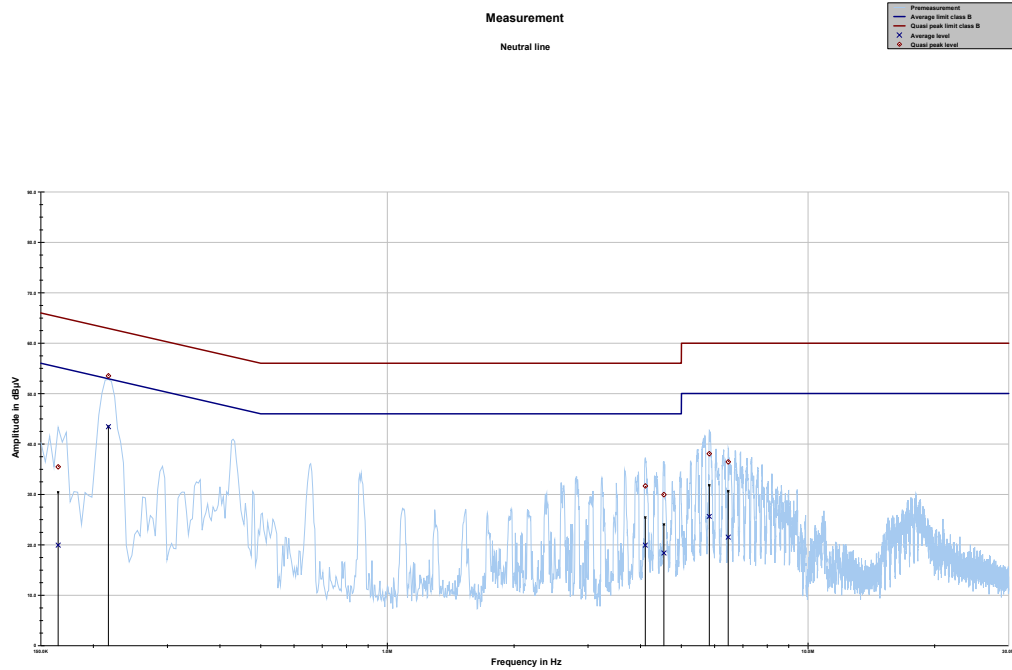
Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin Average	Limit AV
MHz	dBµV	dB	dBµV	dBµV	dB	dBµV
0.157463	46.49	19.10	65.597	24.75	31.04	55.787
0.172387	45.02	19.82	64.845	23.94	31.42	55.360
1.310419	40.92	15.08	56.000	31.73	14.27	46.000
4.605112	37.62	18.38	56.000	30.35	15.65	46.000
18.123431	44.92	15.08	60.000	38.76	11.24	50.000
20.683069	45.07	14.93	60.000	38.35	11.65	50.000

13.3 Plots set. 11 - DC powered

Plot 1: AC 120V/60Hz, 150 kHz to 30 MHz, phase line

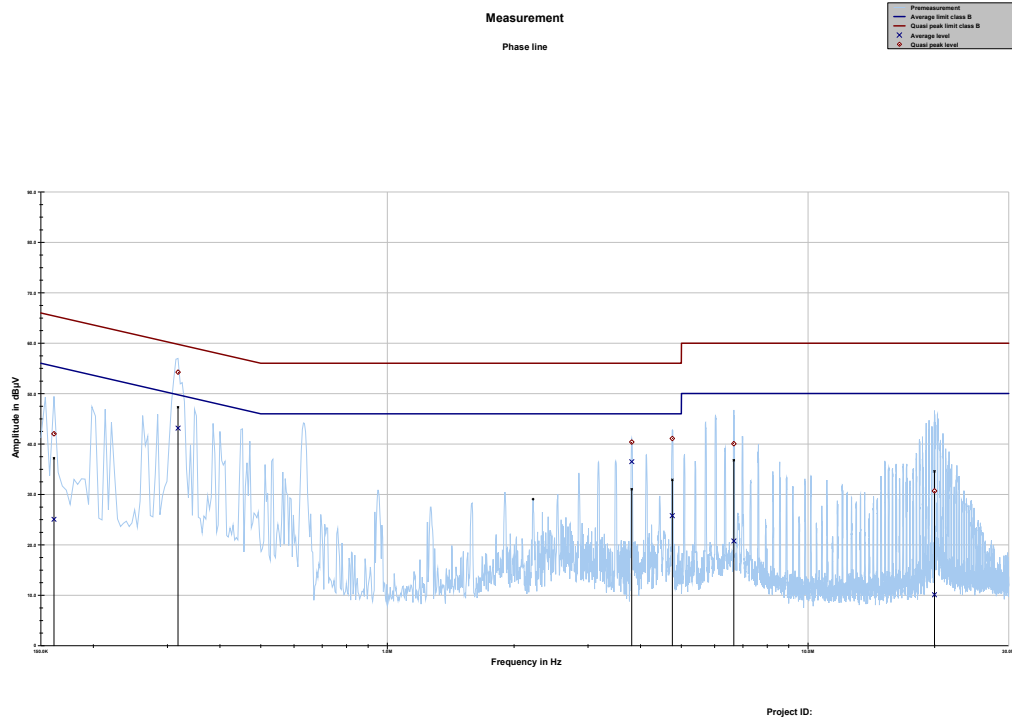


Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin average	Limit AV
MHz	dBμV	dB	dBμV	dBμV	dB	dBμV
0.164925	37.62	27.60	65.212	20.73	34.85	55.574
0.213431	51.99	11.08	63.071	36.53	17.65	54.188
4.552875	33.84	22.16	56.000	22.50	23.50	46.000
4.952119	34.09	21.91	56.000	21.18	24.82	46.000
5.817769	38.80	21.20	60.000	26.61	23.39	50.000
6.452081	35.50	24.50	60.000	22.64	27.36	50.000

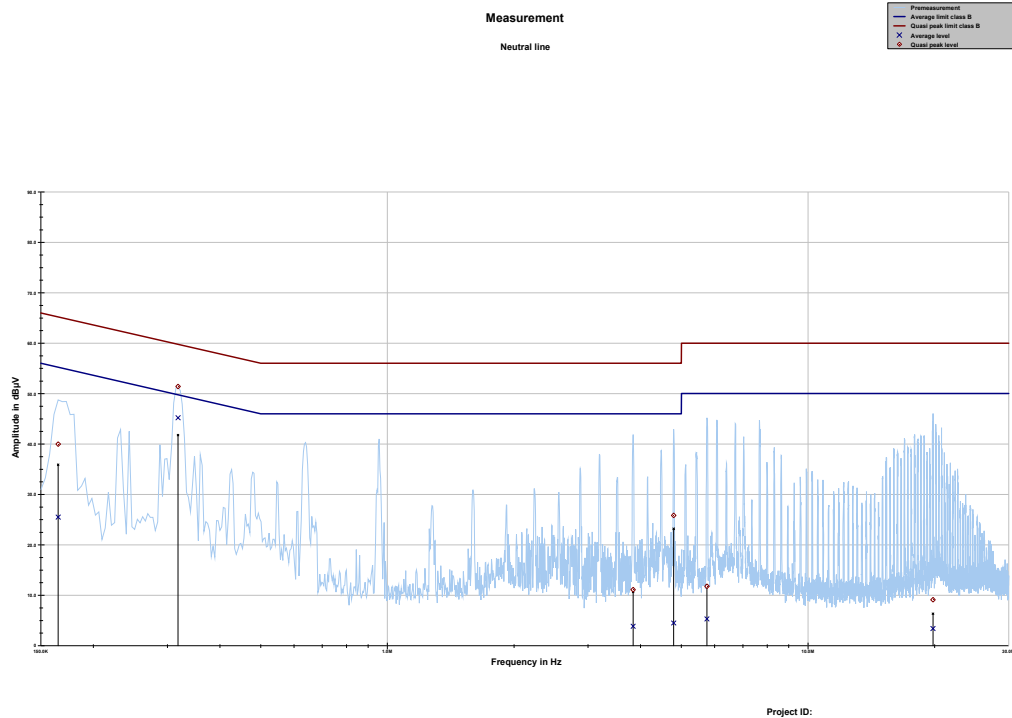
Plot 2: AC 120V/60Hz, 150 kHz to 30 MHz, neutral line

Project ID: 1-0619/25-01-02

Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin Average	Limit AV
MHz	dBµV	dB	dBµV	dBµV	dB	dBµV
0.164925	35.48	29.74	65.212	19.95	35.63	55.574
0.217163	53.50	9.42	62.927	43.43	10.65	54.081
4.105125	31.67	24.33	56.000	19.94	26.06	46.000
4.545413	29.96	26.04	56.000	18.38	27.62	46.000
5.825231	38.08	21.92	60.000	25.63	24.37	50.000
6.463275	36.44	23.56	60.000	21.52	28.48	50.000

Plot 1: AC 240V/60Hz, 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
0.161194	42.03	23.37	65.402	25.06	30.62	55.680
0.317906	54.25	5.51	59.761	43.15	8.06	51.203
3.810356	40.38	15.62	56.000	36.49	9.51	46.000
4.758094	41.09	14.91	56.000	25.78	20.22	46.000
6.661031	40.06	19.94	60.000	20.76	29.24	50.000
19.981594	30.69	29.31	60.000	10.11	39.89	50.000

Plot 2: AC 240V/60Hz, 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
0.164925	39.97	25.24	65.212	25.50	30.07	55.574
0.317906	51.41	8.36	59.761	45.21	5.99	51.203
3.840206	11.11	44.89	56.000	3.84	42.16	46.000
4.795406	25.83	30.17	56.000	4.49	41.51	46.000
5.750606	11.76	48.24	60.000	5.31	44.69	50.000
19.824881	9.11	50.89	60.000	3.39	46.61	50.000

14 Glossary

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

15 Document history

Version	Applied changes	Date of release
R01	-/-	2026-02-26

END OF TEST REPORT