Ref. No: 140800349HZH-EMF1

TEST REPORT
EN 62493: 2010
Assessment of lighting equipment related to human exposure to electromagnetic fields

Report Number	140800349HZH-EMF1
Date of issue	October 14, 2014
Total number of pages	28
Testing laboratory	Intertek Testing Services Hangzhou
Address	16 No. 1 Ave., Xiasha Economic Development District, Hangzhou 310018, China
Applicant's name	Ningbo Hede Lighting Co., Ltd.
Address	NO.388 YONG AN XI LU, KAN DUN STREET, CIXI, NINGBO, P. R. China
Test specification:	
Standard	EN 62493:2010
Test procedure	EMF Test Report
Non-standard test method	N/A
Test item description	Outdoor Lighting, fixed
Trade Mark	--
Manufacturer	Ningbo Hede Lighting Co., Ltd.
Model/Type reference	Refer to HZ10120238-001+A2, HZ10120073-001+A3, HZ10040255-001+A2 and HZ10090387-001+A2
Ratings	Refer to HZ10120238-001+A2, HZ10120073-001+A3, HZ10040255-001+A2 and HZ10090387-001+A2
Testing procedure and testing location:	
Testing location	Intertek Testing Services Hangzhou
Address	16 No. 1 Ave., Xiasha Economic Development District, Hangzhou 310018, China
Tested by (+signature)	Offa Zhou
Approved by (+ signature)	Leo Ye

Test item particulars.....:	
Classification of installation and use……..:	Luminaire for normal use
Classification of installation and use……..:	Appliance inlet and outlet
Possible test case verdicts:	
- test case does not apply to the test object……..:	N/A
- test object does meet the requirement..... :	P (Pass)
- test object does not meet the requirement..... :	F (Fail)
Testing..... :	
Date of receipt of test item ..... :	September 11, 2014
Date (s) of performance of tests..... :	October 14, 2014

General remarks:

The test results presented in this report relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

"(see Enclosure #)" refers to additional information appended to the report.

"(see appended table)" refers to a table appended to the report.

Throughout this report a ☒ comma / ☐ point is used as the decimal separator.

General product information:

The EUT covered in the report is fixed outdoor lighting for outdoor use.

All models are similar construction; it is just different of size, shape, fixed mode and with or without sensor.

The models with S mean they have infrared sensor.

More details refer to HZ10120238-001+A2, HZ10120073-001+A3, HZ10040255-001+A2 and HZ10090387-001+A2.

Therefore, models CIE028S, CIE053S, CIE013S, CIE014S and CIE007S-1-450 which equip different infrared sensors and have maximum power were chosen to test and the worst test data is listed in the report as representative.

During the test, incandescent lamps were used as load.

EN 62493			
Clause	Requirement + Test Result	Result-Remark	Verdict

4.2	**APPLICATION OF LIMITS (Test summary)**		
	Specific absorption rate (SAR)		
a)	CISPR 15 clause 4.3.1 Disturbance voltage mains terminals 20 kHz – 30 MHz	*)	P
b)	CISPR 15 clause 4.4 Radiated electromagnetic disturbances 100 kHz – 30 MHz	*)	P
c)	CISPR 15 clause 4.4.2 Radiated electromagnetic disturbances 30 MHz – 300 MHz	*)	P
*)	☒See Annex ☐Only measurement of d) below. See measurement results below. In this case this test report does not show compliance with EN 62493.		—
	Induced current density		
d)	Induced current density 20 kHz – 10 MHz	See measurement results below	P

4.2.d	**INDUCED CURRENT DENSITY**		

	Power supply system utilised:		—
	Voltage ..... :	230V~	—
	Frequency..... :	50Hz	—
	Environmental conditions:		—
	Temperature ..... :	20°C	—
	Humidity..... :	40%	—
	EuT operation mode:		—
	☒Normal operation		—
	☐Other operation		—

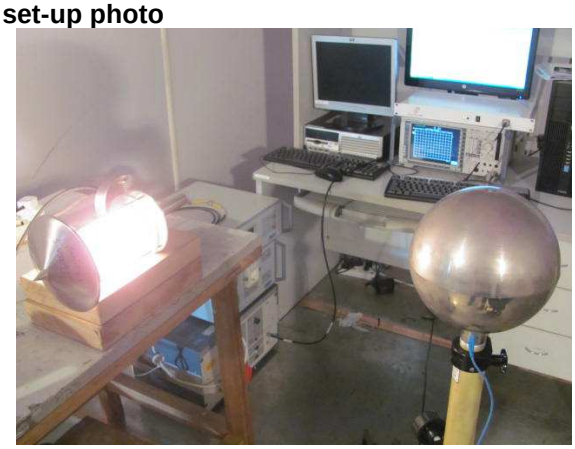
EN 62493			
Clause	Requirement + Test Result	Result-Remark	Verdict

4.2.d	MEASUREMENT RESULTS			
	Measuring with “Van der Hoofden” test head			
Location of EuT	Measuring distance	Result (F)	Limit (F)	Verdict
Side	50cm	0.0279	0,85	P

4.2.d	EQUIPMENT USED DURING TEST		
Equipment	Manufacturer	Type	EC No.
EMI test receiver	R&S	ESCI	EH 2003
Van der Hoofden test-head	SCHWARZBECK	VDHH 9502	EH 2308

EN 62493			
Clause	Requirement + Test Result	Result-Remark	Verdict

Test set-up photo





Annex:

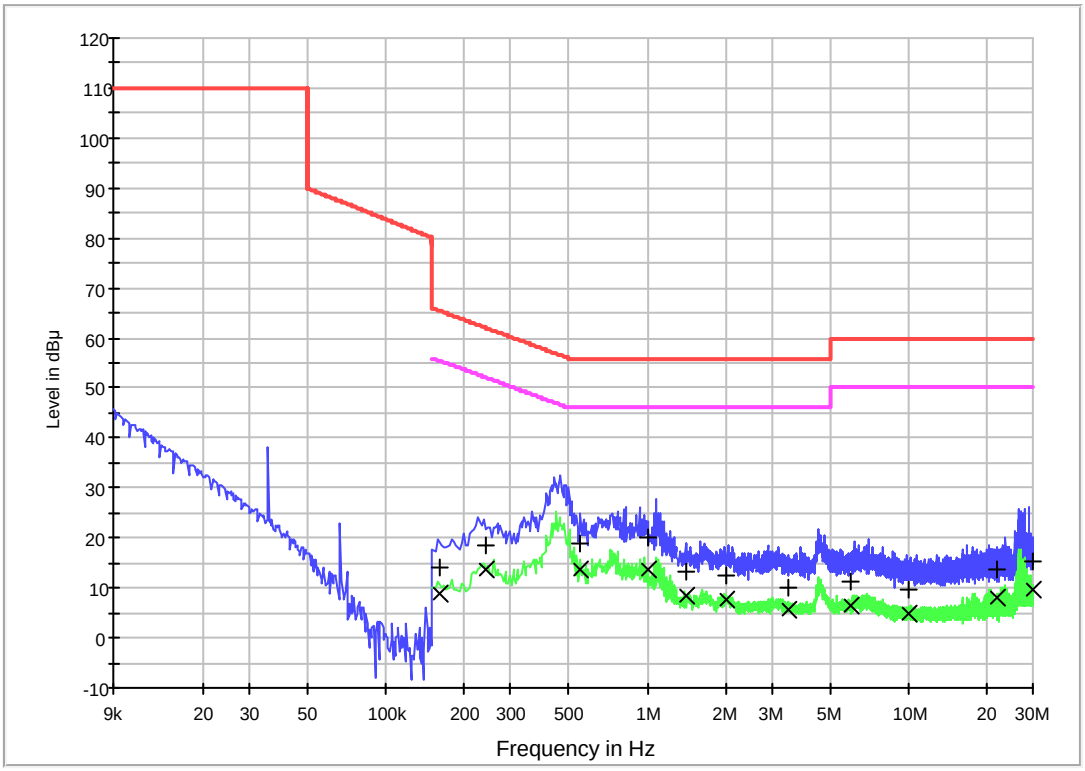
Disturbance voltage mains terminals:

Temperature: 20°C Humidity: 40%

CIE028S

L line:

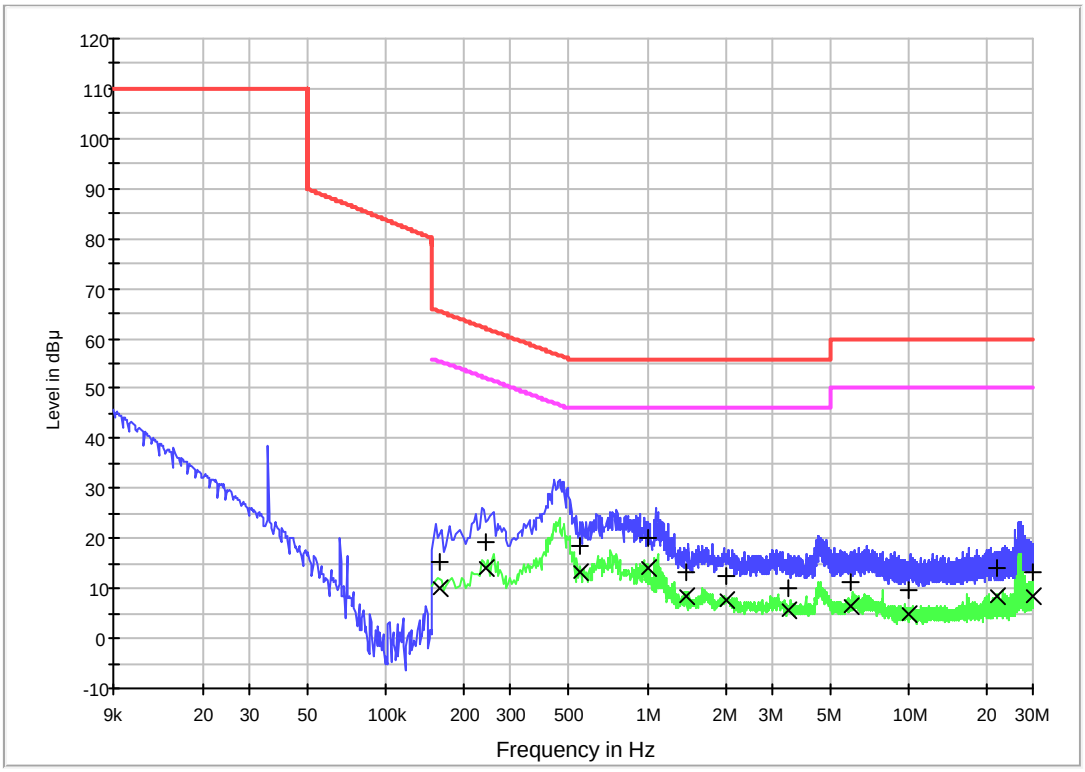
EN 55015(a) Voltage on Mains



Frequency (MHz)	QuasiPeak (dB µ V)	Margin - QPK (dB)	Limit - QPK (dB µ V)	Average (dB µ V)	Margin - AVG (dB)	Limit - AVG (dB µ V)
0.160000	14.00	51.46	65.46	8.69	46.77	55.46
0.240000	18.55	43.55	62.10	13.65	38.45	52.10
0.550000	19.09	36.91	56.00	13.76	32.24	46.00
1.000000	20.04	35.97	56.00	13.75	32.25	46.00
1.400000	13.40	42.60	56.00	8.57	37.43	46.00
2.000000	12.46	43.54	56.00	7.55	38.45	46.00
3.500000	10.11	45.89	56.00	5.66	40.34	46.00
6.000000	11.09	48.91	60.00	6.52	43.48	50.00
10.000000	9.60	50.40	60.00	4.83	45.17	50.00
22.000000	13.71	46.29	60.00	8.05	41.95	50.00
30.000000	15.10	44.90	60.00	9.67	40.33	50.00

N line:

EN 55015(a) Voltage on Mains

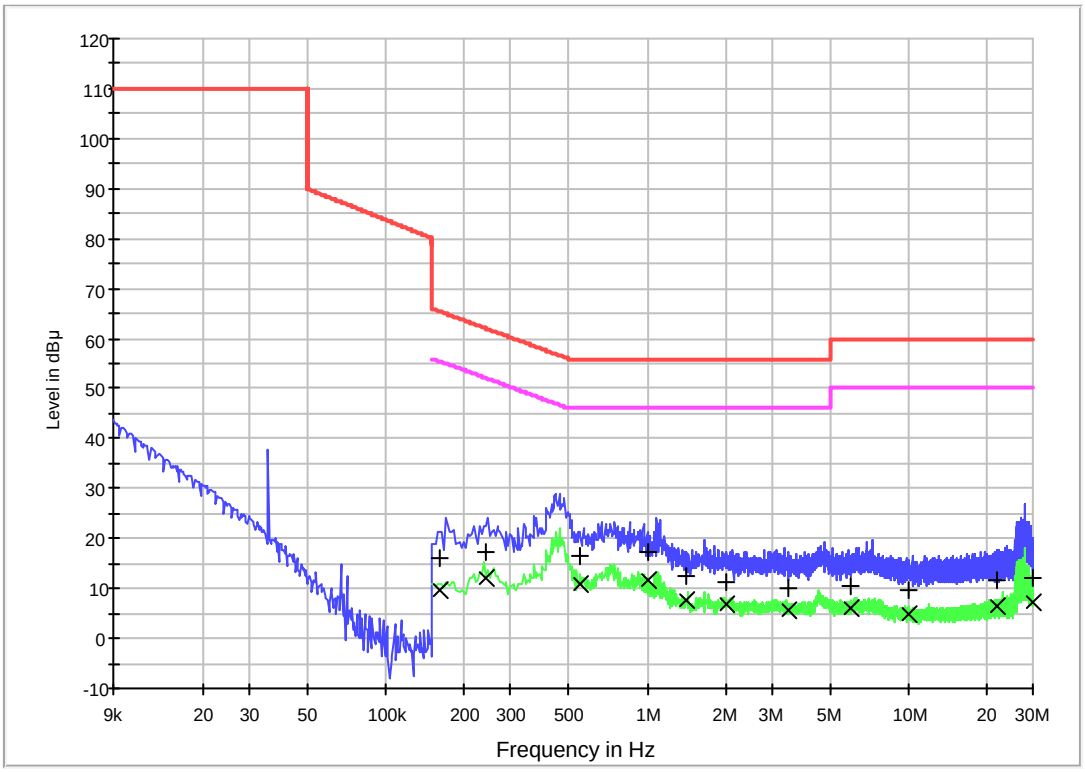


Frequency (MHz)	QuasiPeak (dB µ V)	Margin - QPK (dB)	Limit - QPK (dB µ V)	Average (dB µ V)	Margin - AVG (dB)	Limit - AVG (dB µ V)
0.160000	15.47	50.00	65.46	9.97	45.49	55.46
0.240000	19.38	42.72	62.10	14.19	37.90	52.10
0.550000	18.45	37.55	56.00	13.12	32.88	46.00
1.000000	19.94	36.06	56.00	13.91	32.09	46.00
1.400000	13.14	42.86	56.00	8.49	37.51	46.00
2.000000	12.36	43.64	56.00	7.74	38.26	46.00
3.500000	10.01	45.99	56.00	5.51	40.49	46.00
6.000000	11.07	48.93	60.00	6.39	43.61	50.00
10.000000	9.64	50.36	60.00	4.94	45.06	50.00
22.000000	14.24	45.76	60.00	8.26	41.74	50.00
30.000000	13.38	46.62	60.00	8.43	41.57	50.00

CIE053S

L line:

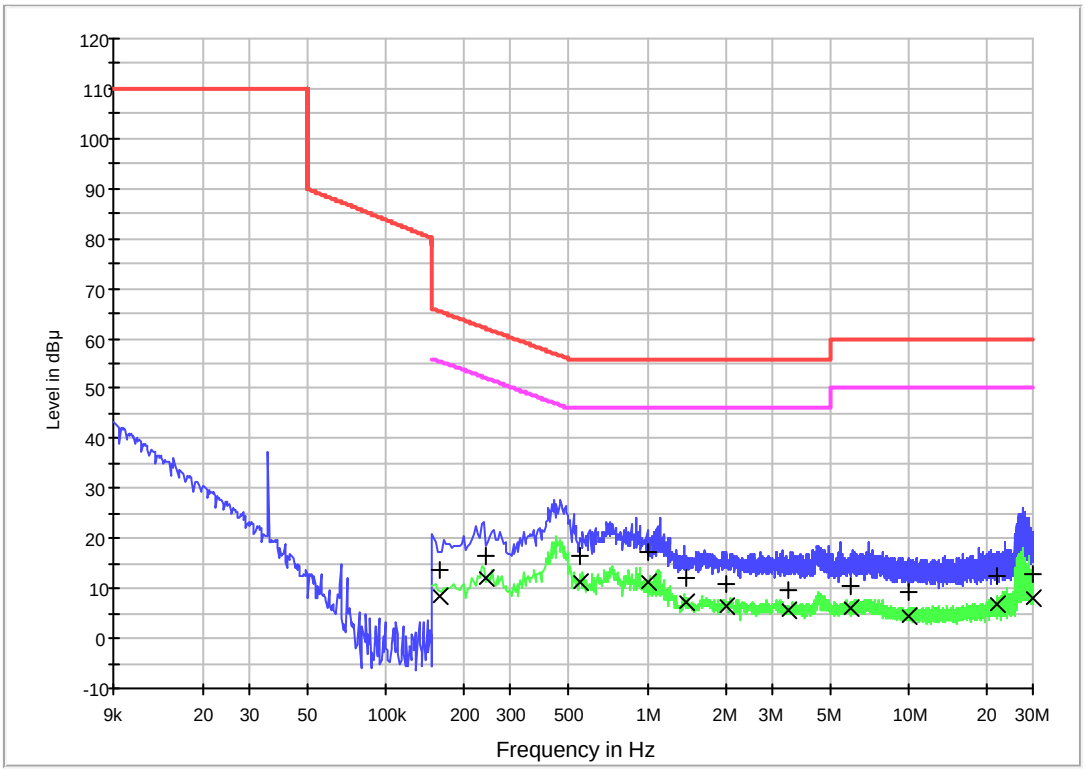
EN 55015(a) Voltage on Mains



Frequency (MHz)	QuasiPeak (dB µ V)	Margin - QPK (dB)	Limit - QPK (dB µ V)	Average (dB µ V)	Margin - AVG (dB)	Limit - AVG (dB µ V)
0.160000	16.14	49.32	65.46	9.58	45.89	55.46
0.240000	17.21	44.88	62.10	12.26	39.83	52.10
0.550000	16.33	39.67	56.00	11.04	34.96	46.00
1.000000	17.48	38.52	56.00	11.80	34.20	46.00
1.400000	12.55	43.45	56.00	7.54	38.46	46.00
2.000000	11.38	44.62	56.00	6.72	39.28	46.00
3.500000	10.20	45.80	56.00	5.71	40.29	46.00
6.000000	10.55	49.45	60.00	6.10	43.90	50.00
10.000000	9.47	50.53	60.00	4.76	45.24	50.00
22.000000	11.60	48.40	60.00	6.55	43.45	50.00
30.000000	11.94	48.06	60.00	7.10	42.90	50.00

N line:

EN 55015(a) Voltage on Mains

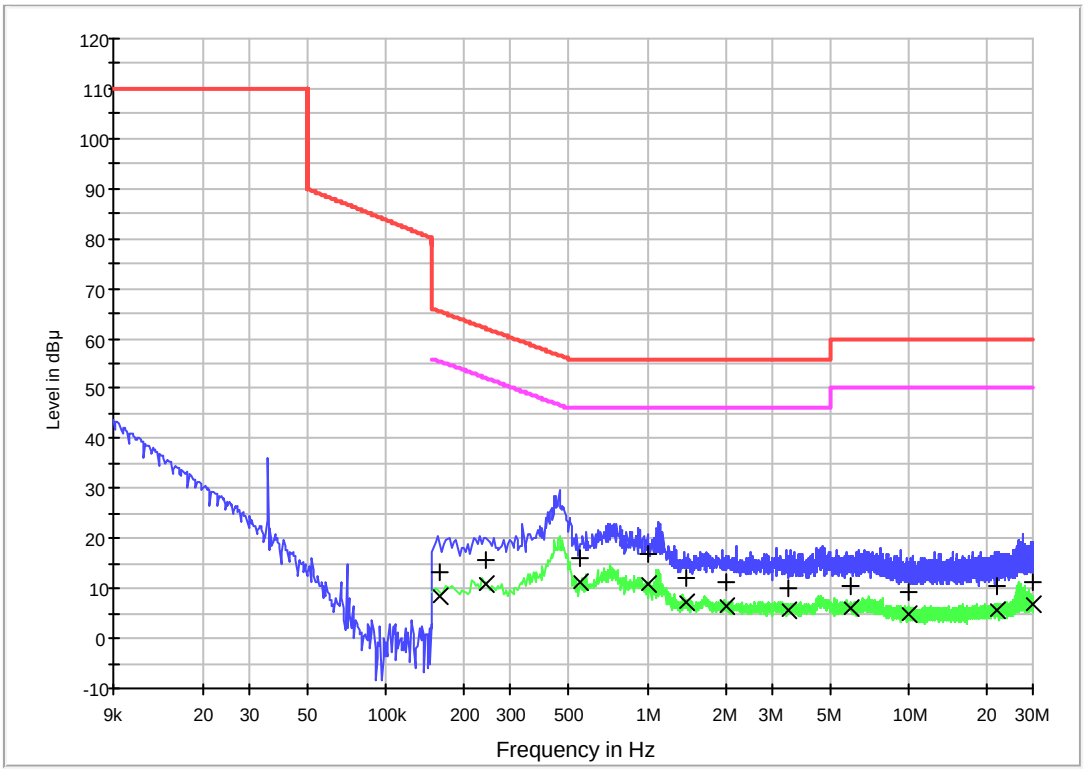


Frequency (MHz)	QuasiPeak (dB µ V)	Margin - QPK (dB)	Limit - QPK (dB µ V)	Average (dB µ V)	Margin - AVG (dB)	Limit - AVG (dB µ V)
0.160000	13.75	51.72	65.46	8.58	46.88	55.46
0.240000	16.50	45.59	62.10	11.90	40.20	52.10
0.550000	16.40	39.61	56.00	11.16	34.84	46.00
1.000000	17.25	38.75	56.00	11.36	34.64	46.00
1.400000	12.10	43.90	56.00	7.29	38.71	46.00
2.000000	11.00	45.00	56.00	6.45	39.55	46.00
3.500000	9.77	46.24	56.00	5.51	40.49	46.00
6.000000	10.43	49.58	60.00	6.02	43.98	50.00
10.000000	9.27	50.73	60.00	4.59	45.41	50.00
22.000000	12.34	47.66	60.00	7.01	42.99	50.00
30.000000	13.01	46.99	60.00	8.07	41.94	50.00

CIE013S

L line:

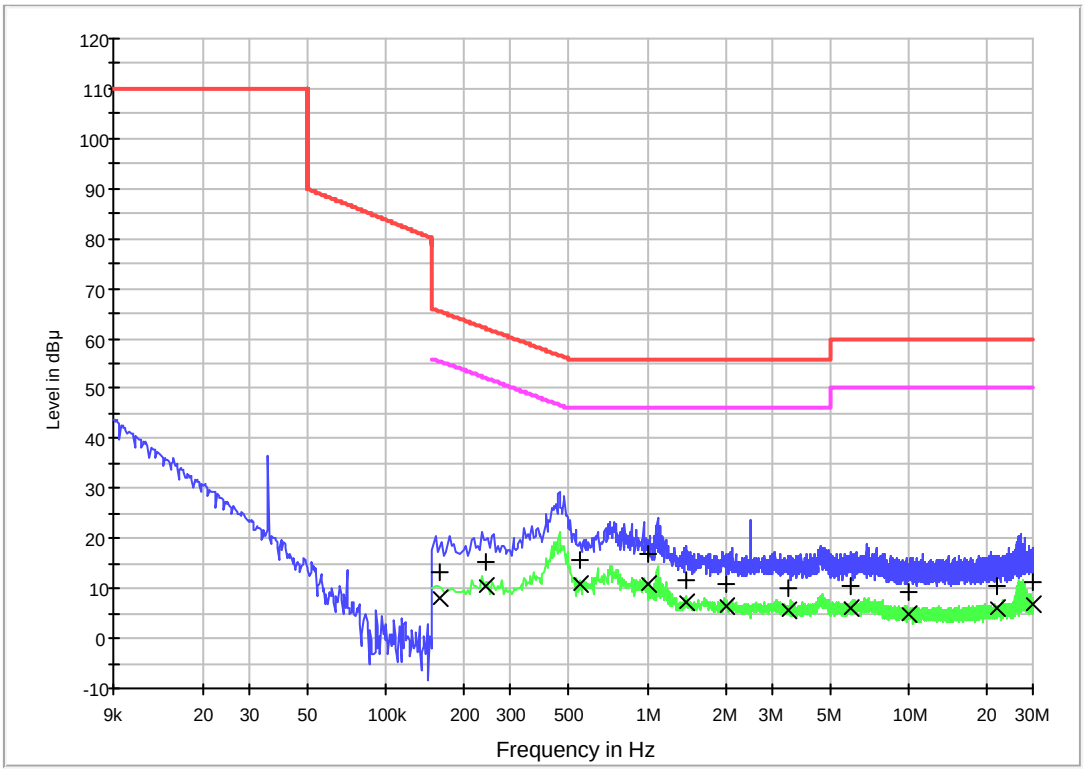
EN 55015(a) Voltage on Mains



Frequency (MHz)	QuasiPeak (dB µ V)	Margin - QPK (dB)	Limit - QPK (dB µ V)	Average (dB µ V)	Margin - AVG (dB)	Limit - AVG (dB µ V)
0.160000	13.33	52.13	65.46	8.38	47.08	55.46
0.240000	15.57	46.53	62.10	10.75	41.35	52.10
0.550000	16.24	39.76	56.00	11.23	34.77	46.00
1.000000	16.78	39.22	56.00	10.93	35.07	46.00
1.400000	11.96	44.04	56.00	7.08	38.92	46.00
2.000000	11.09	44.91	56.00	6.39	39.61	46.00
3.500000	10.08	45.92	56.00	5.65	40.35	46.00
6.000000	10.49	49.51	60.00	6.18	43.82	50.00
10.000000	9.34	50.66	60.00	4.84	45.16	50.00
22.000000	10.27	49.73	60.00	5.65	44.35	50.00
30.000000	11.33	48.67	60.00	6.67	43.33	50.00

N line:

EN 55015(a) Voltage on Mains

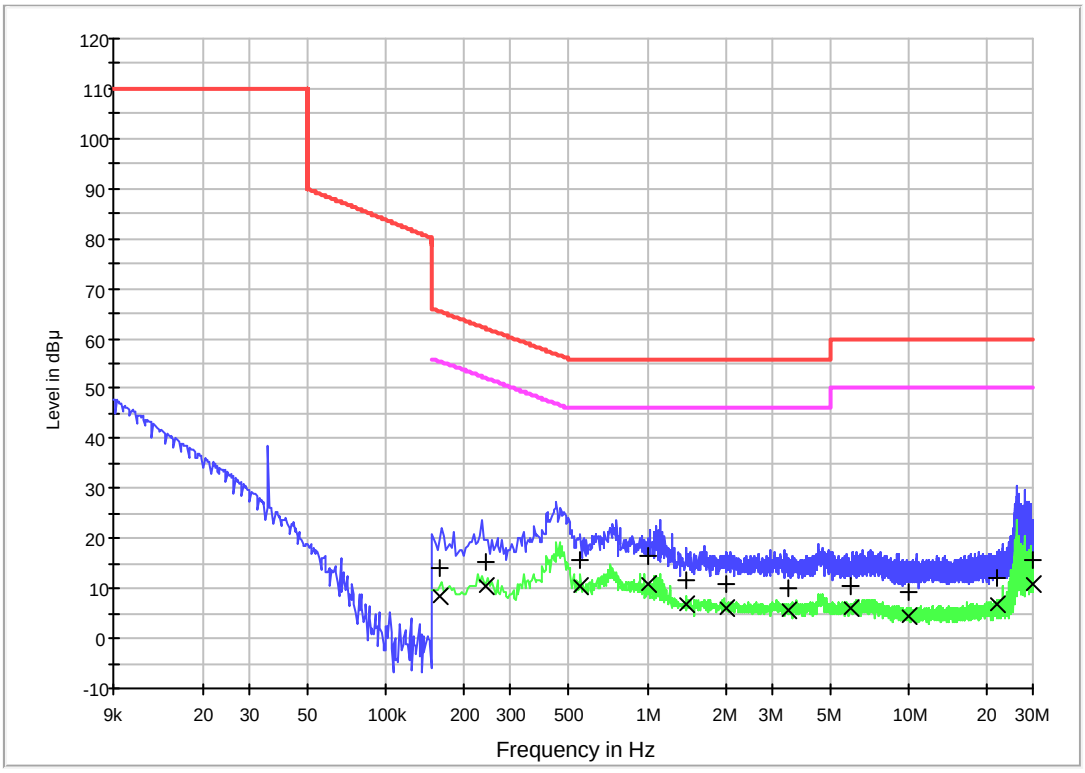


Frequency (MHz)	QuasiPeak (dB µ V)	Margin - QPK (dB)	Limit - QPK (dB µ V)	Average (dB µ V)	Margin - AVG (dB)	Limit - AVG (dB µ V)
0.160000	13.34	52.13	65.46	8.14	47.33	55.46
0.240000	15.09	47.01	62.10	10.60	41.50	52.10
0.550000	15.79	40.21	56.00	10.67	35.33	46.00
1.000000	16.86	39.14	56.00	10.92	35.08	46.00
1.400000	11.71	44.30	56.00	7.08	38.92	46.00
2.000000	10.94	45.06	56.00	6.39	39.61	46.00
3.500000	10.04	45.96	56.00	5.65	40.35	46.00
6.000000	10.51	49.49	60.00	6.02	43.98	50.00
10.000000	9.30	50.70	60.00	4.81	45.19	50.00
22.000000	10.39	49.61	60.00	5.89	44.11	50.00
30.000000	11.34	48.66	60.00	6.75	43.25	50.00

CIE014S

L line:

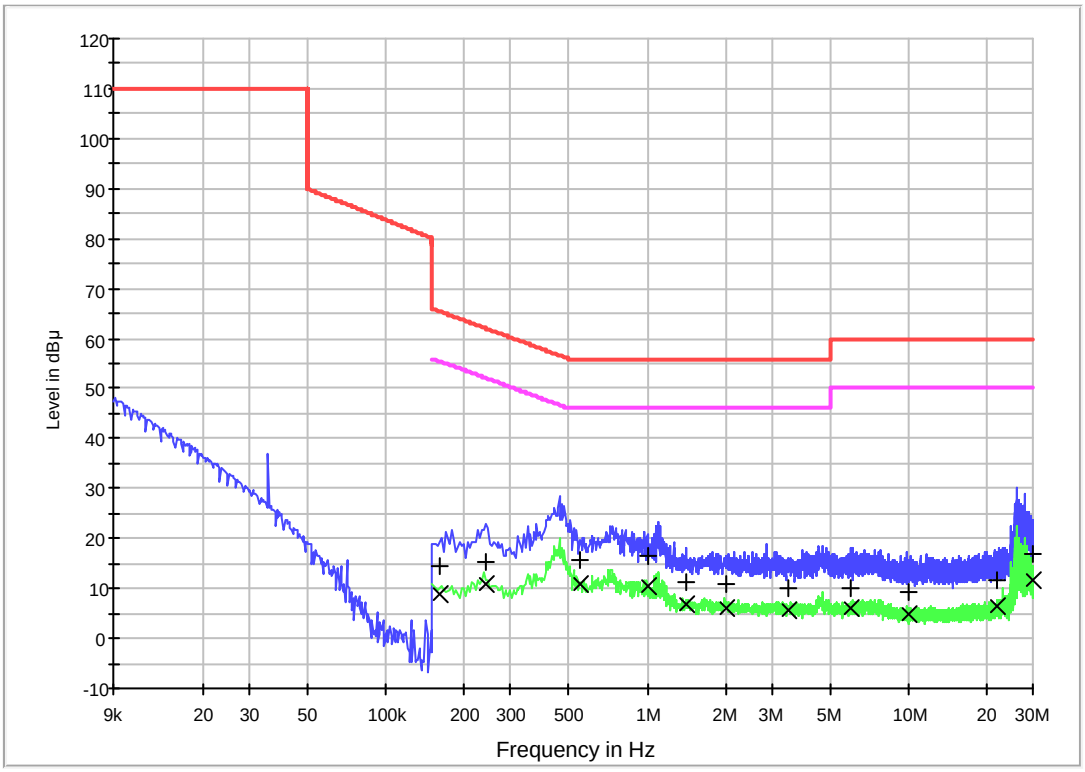
EN 55015(a) Voltage on Mains



Frequency (MHz)	QuasiPeak (dB µ V)	Margin - QPK (dB)	Limit - QPK (dB µ V)	Average (dB µ V)	Margin - AVG (dB)	Limit - AVG (dB µ V)
0.160000	14.10	51.36	65.46	8.65	46.82	55.46
0.240000	15.16	46.94	62.10	10.65	41.45	52.10
0.550000	15.62	40.38	56.00	10.59	35.41	46.00
1.000000	16.65	39.35	56.00	10.73	35.27	46.00
1.400000	11.64	44.36	56.00	6.95	39.05	46.00
2.000000	10.78	45.22	56.00	6.16	39.84	46.00
3.500000	9.92	46.08	56.00	5.53	40.47	46.00
6.000000	10.58	49.42	60.00	5.99	44.01	50.00
10.000000	9.34	50.66	60.00	4.64	45.36	50.00
22.000000	11.96	48.04	60.00	6.99	43.01	50.00
30.000000	15.86	44.14	60.00	10.81	39.20	50.00

N line:

EN 55015(a) Voltage on Mains

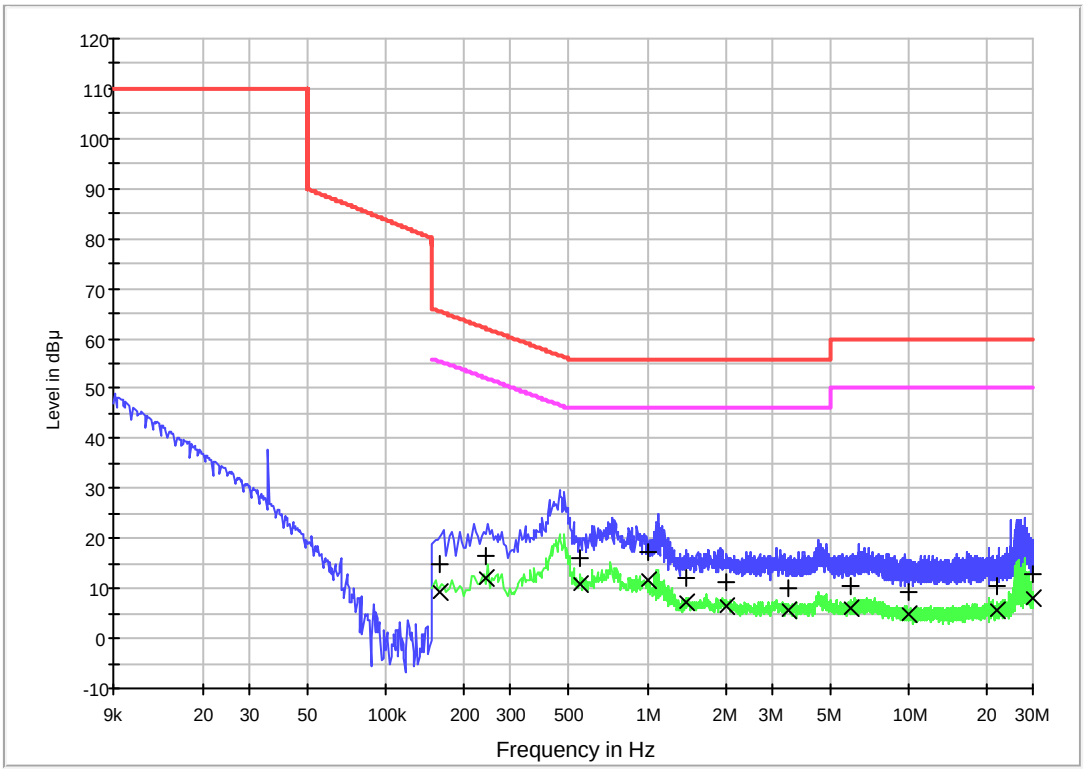


Frequency (MHz)	QuasiPeak (dB µ V)	Margin - QPK (dB)	Limit - QPK (dB µ V)	Average (dB µ V)	Margin - AVG (dB)	Limit - AVG (dB µ V)
0.160000	14.31	51.16	65.46	8.75	46.71	55.46
0.240000	15.35	46.74	62.10	10.81	41.29	52.10
0.550000	15.79	40.21	56.00	10.71	35.29	46.00
1.000000	16.36	39.64	56.00	10.59	35.41	46.00
1.400000	11.40	44.60	56.00	6.88	39.12	46.00
2.000000	10.78	45.22	56.00	6.18	39.82	46.00
3.500000	9.95	46.05	56.00	5.54	40.46	46.00
6.000000	10.19	49.81	60.00	5.91	44.09	50.00
10.000000	9.35	50.65	60.00	4.65	45.35	50.00
22.000000	11.64	48.36	60.00	6.56	43.44	50.00
30.000000	16.87	43.13	60.00	11.60	38.40	50.00

CIE007S-1-450

L line:

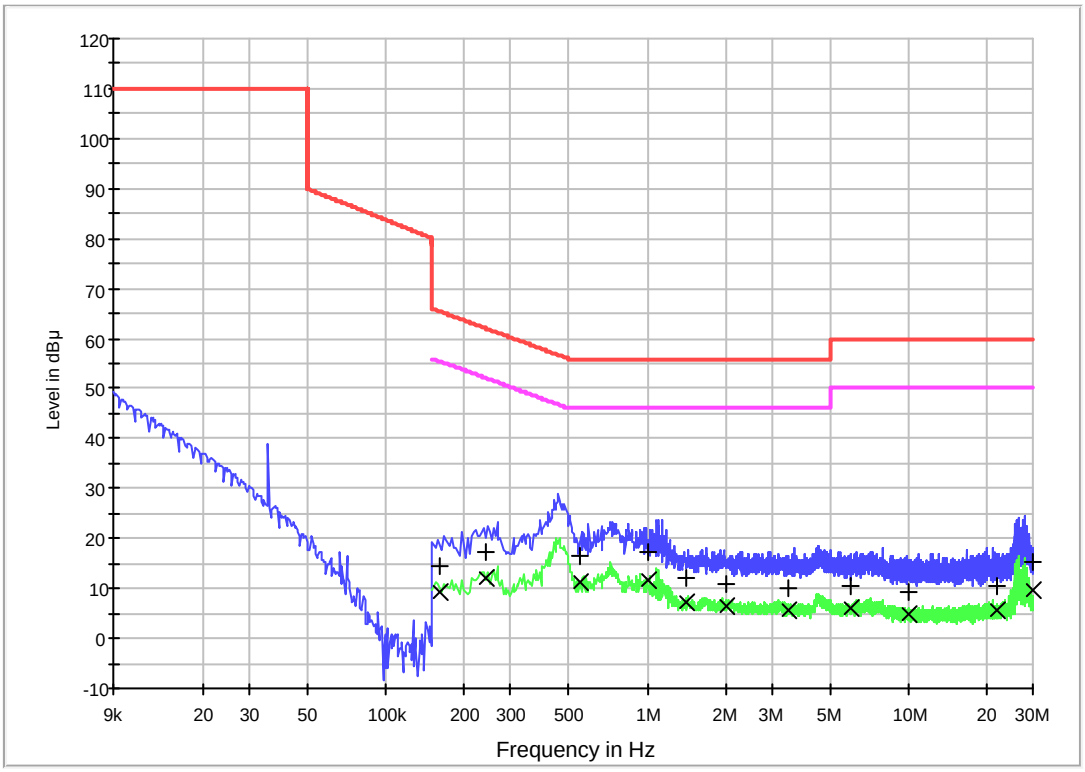
EN 55015(a) Voltage on Mains



Frequency (MHz)	QuasiPeak (dB µ V)	Margin - QPK (dB)	Limit - QPK (dB µ V)	Average (dB µ V)	Margin - AVG (dB)	Limit - AVG (dB µ V)
0.160000	15.05	50.41	65.46	9.19	46.28	55.46
0.240000	16.58	45.52	62.10	12.02	40.08	52.10
0.550000	16.15	39.85	56.00	10.82	35.18	46.00
1.000000	17.29	38.71	56.00	11.58	34.42	46.00
1.400000	12.01	43.99	56.00	7.38	38.62	46.00
2.000000	11.09	44.91	56.00	6.40	39.60	46.00
3.500000	9.89	46.11	56.00	5.59	40.41	46.00
6.000000	10.49	49.51	60.00	6.05	43.95	50.00
10.000000	9.34	50.66	60.00	4.79	45.21	50.00
22.000000	10.32	49.68	60.00	5.66	44.34	50.00
30.000000	13.04	46.96	60.00	8.15	41.85	50.00

N line:

EN 55015(a) Voltage on Mains



Frequency (MHz)	QuasiPeak (dB µ V)	Margin - QPK (dB)	Limit - QPK (dB µ V)	Average (dB µ V)	Margin - AVG (dB)	Limit - AVG (dB µ V)
0.160000	14.62	50.84	65.46	9.13	46.34	55.46
0.240000	17.10	44.99	62.10	11.99	40.10	52.10
0.550000	16.40	39.61	56.00	11.25	34.75	46.00
1.000000	17.37	38.63	56.00	11.58	34.42	46.00
1.400000	12.10	43.90	56.00	7.23	38.77	46.00
2.000000	11.00	45.00	56.00	6.44	39.56	46.00
3.500000	9.95	46.05	56.00	5.71	40.29	46.00
6.000000	10.34	49.66	60.00	5.87	44.13	50.00
10.000000	9.25	50.75	60.00	4.72	45.28	50.00
22.000000	10.34	49.66	60.00	5.79	44.21	50.00
30.000000	15.08	44.92	60.00	9.69	40.31	50.00

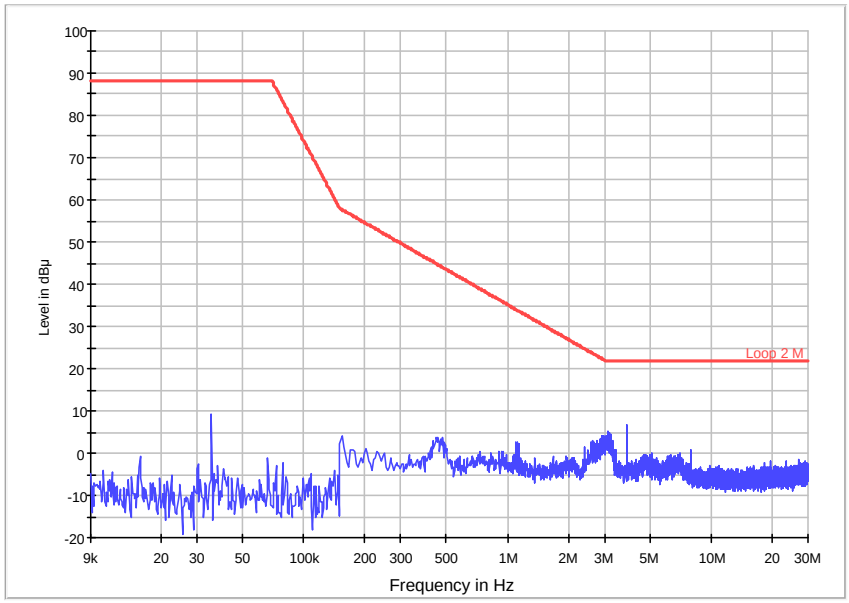
Radiated electromagnetic disturbances:

Temperature: 20°C Humidity: 40%

CIE028S

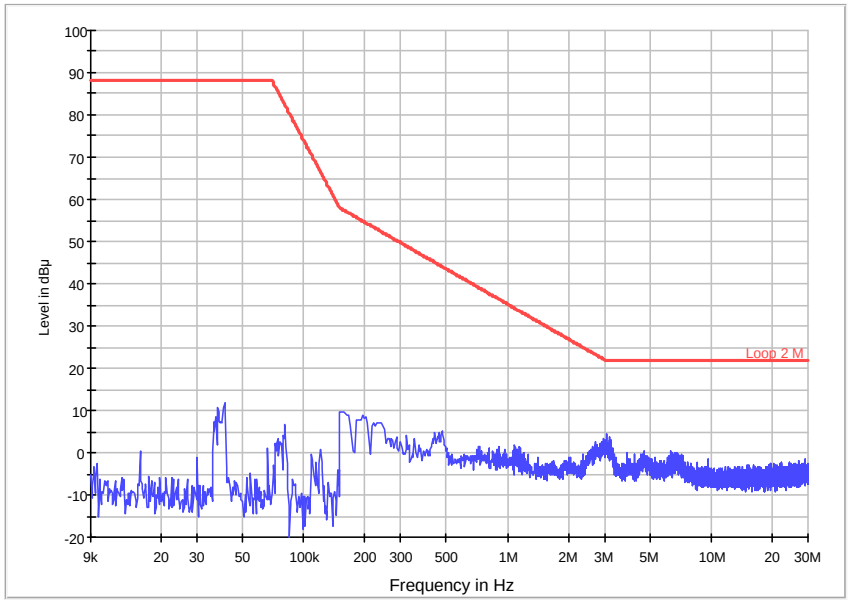
X direction

TripleLoop(a)



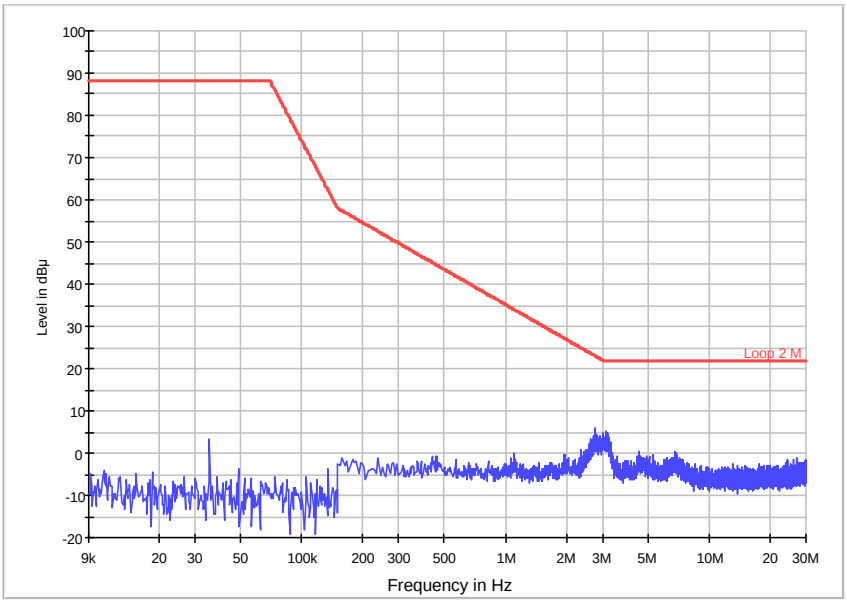
Y direction

TripleLoop(a)



Z direction

TripleLoop(a)



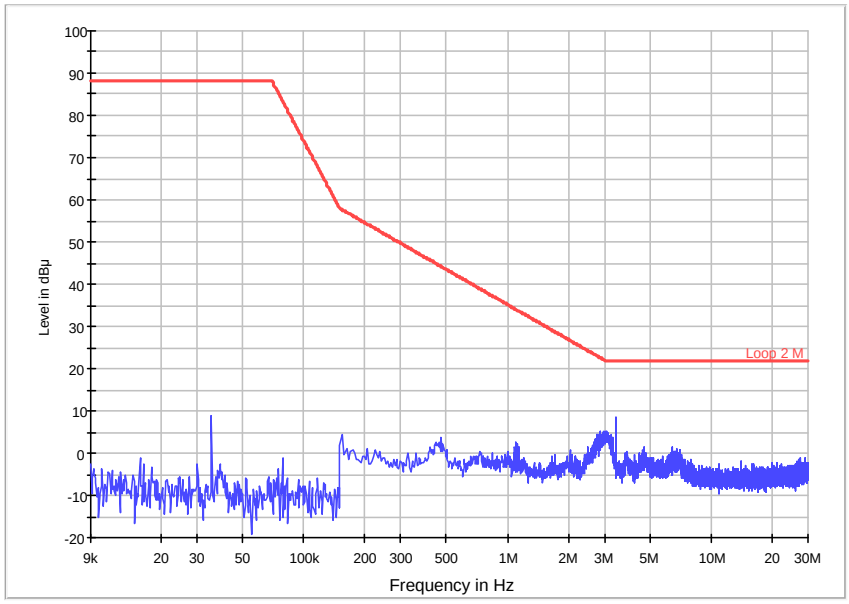
Frequency /MHz	Quasi-peak (dBµA) Disturbance level			Permitted limit
	X direction	Y direction	Z direction	
0.009	*	*	*	88.00
0.05	*	*	*	88.00
0.10	*	*	*	73.96
0.24	*	*	*	52.40
0.55	*	*	*	42.52
1.00	*	*	*	35.39
1.40	*	*	*	31.39
2.00	*	*	*	27.14
3.50	*	*	*	22.00
6.00	*	*	*	22.00
10.00	*	*	*	22.00
22.00	*	*	*	22.00
30.00	*	*	*	22.00

Notes: * means the disturbance power level 10dB lower than the relevant limit.

CIE053S

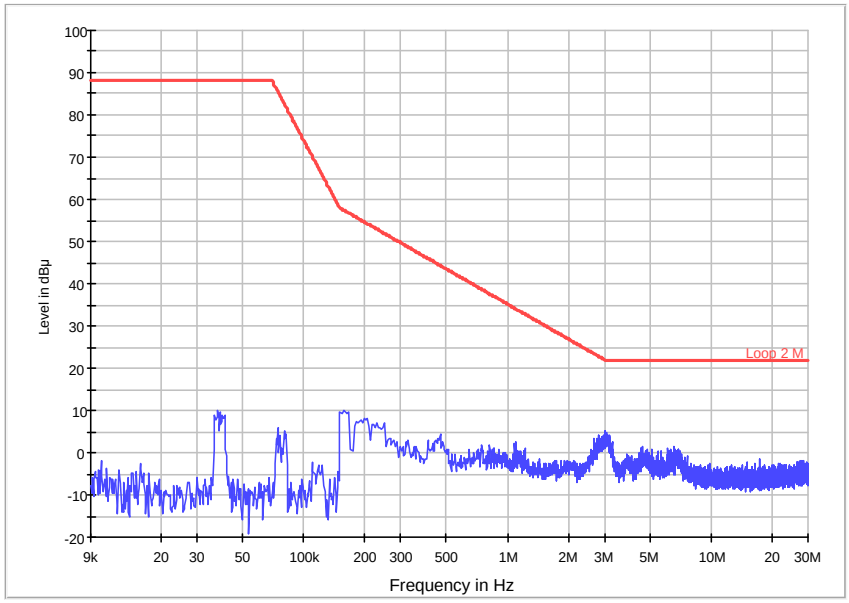
X direction

TripleLoop(a)



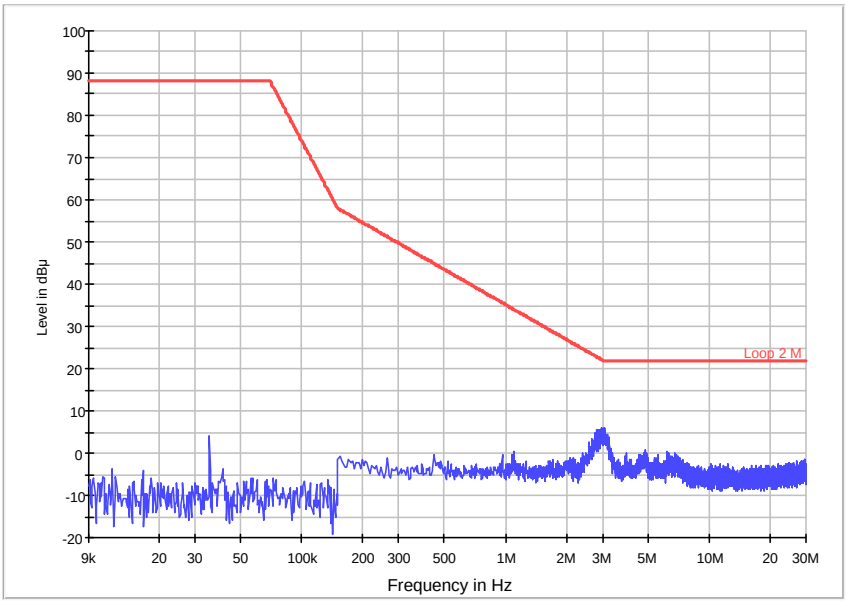
Y direction

TripleLoop(a)



Z direction

TripleLoop(a)



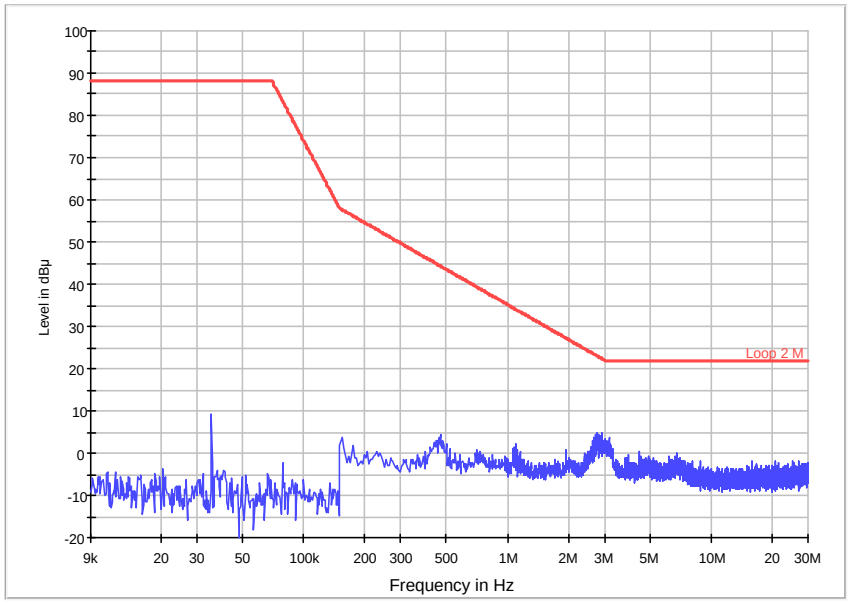
Frequency /MHz	Quasi-peak (dBµA) Disturbance level			Permitted limit
	X direction	Y direction	Z direction	
0.009	*	*	*	88.00
0.05	*	*	*	88.00
0.10	*	*	*	73.96
0.24	*	*	*	52.40
0.55	*	*	*	42.52
1.00	*	*	*	35.39
1.40	*	*	*	31.39
2.00	*	*	*	27.14
3.50	*	*	*	22.00
6.00	*	*	*	22.00
10.00	*	*	*	22.00
22.00	*	*	*	22.00
30.00	*	*	*	22.00

Notes: * means the disturbance power level 10dB lower than the relevant limit.

CIE013S

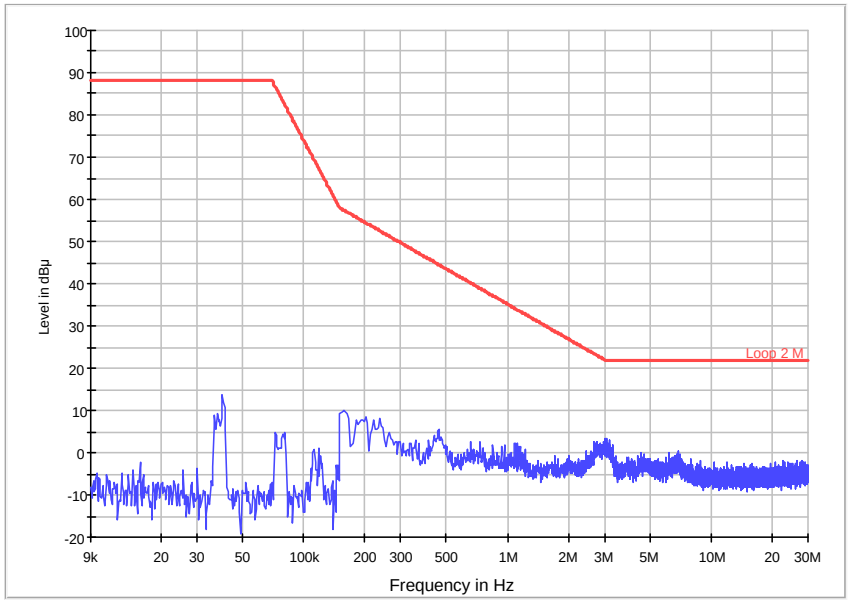
X direction

TripleLoop(a)



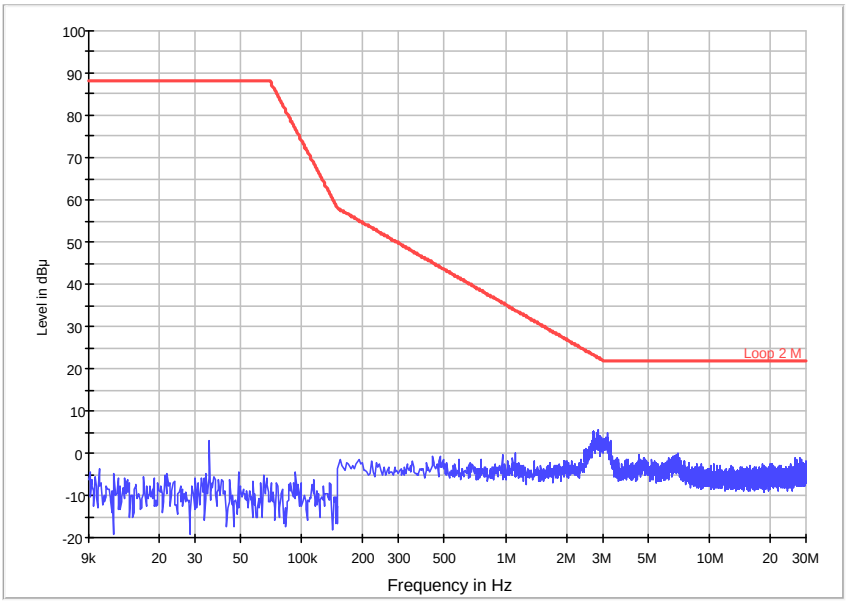
Y direction

TripleLoop(a)



Z direction

TripleLoop(a)



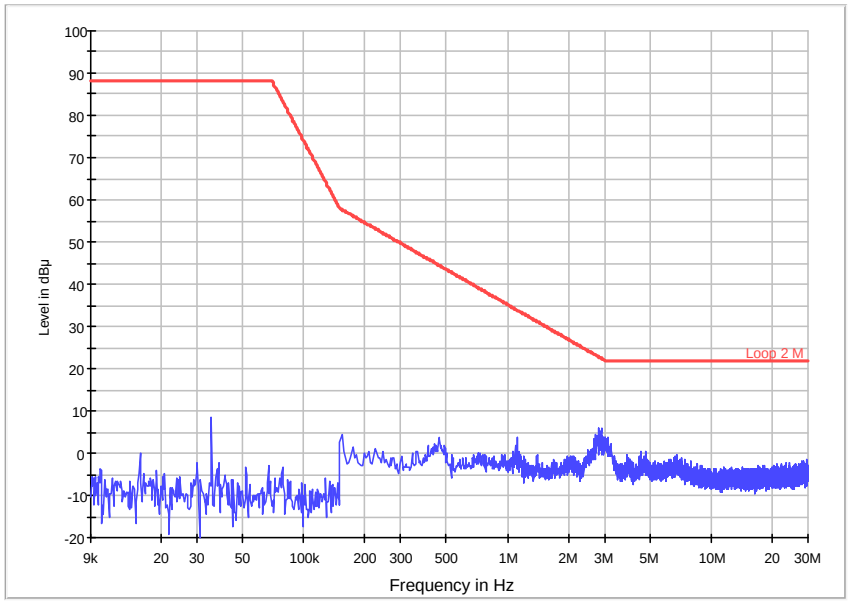
Frequency /MHz	Quasi-peak (dBµA) Disturbance level			Permitted limit
	X direction	Y direction	Z direction	
0.009	*	*	*	88.00
0.05	*	*	*	88.00
0.10	*	*	*	73.96
0.24	*	*	*	52.40
0.55	*	*	*	42.52
1.00	*	*	*	35.39
1.40	*	*	*	31.39
2.00	*	*	*	27.14
3.50	*	*	*	22.00
6.00	*	*	*	22.00
10.00	*	*	*	22.00
22.00	*	*	*	22.00
30.00	*	*	*	22.00

Notes: * means the disturbance power level 10dB lower than the relevant limit.

CIE014S

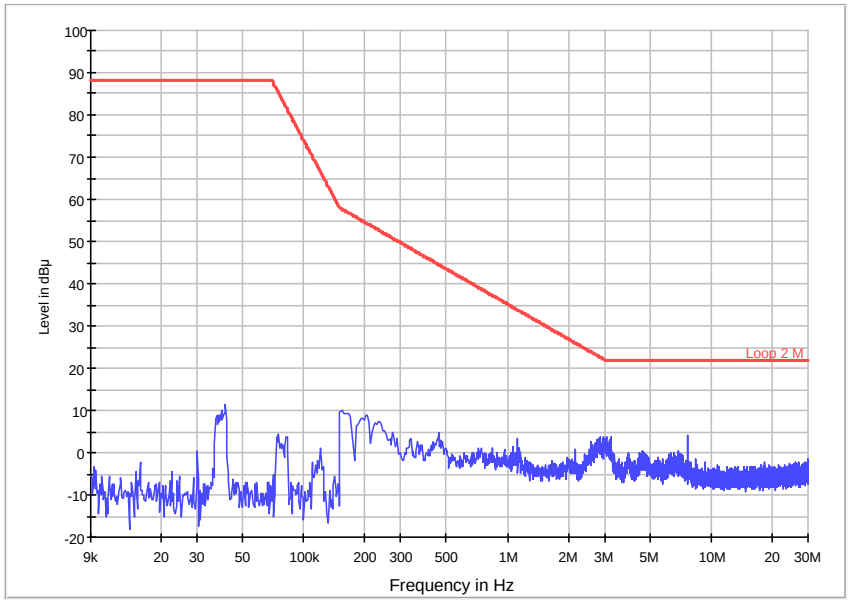
X direction

TripleLoop(a)



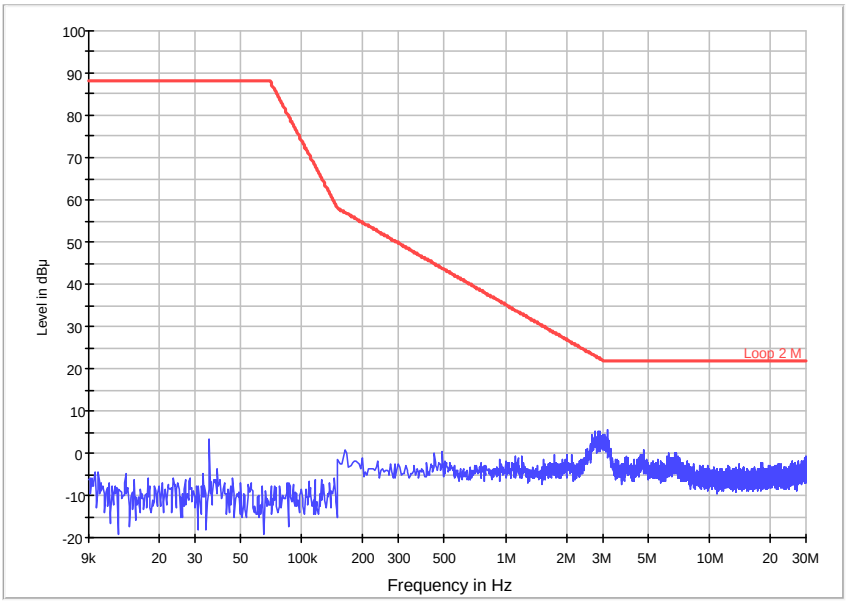
Y direction

TripleLoop(a)



Z direction

TripleLoop(a)



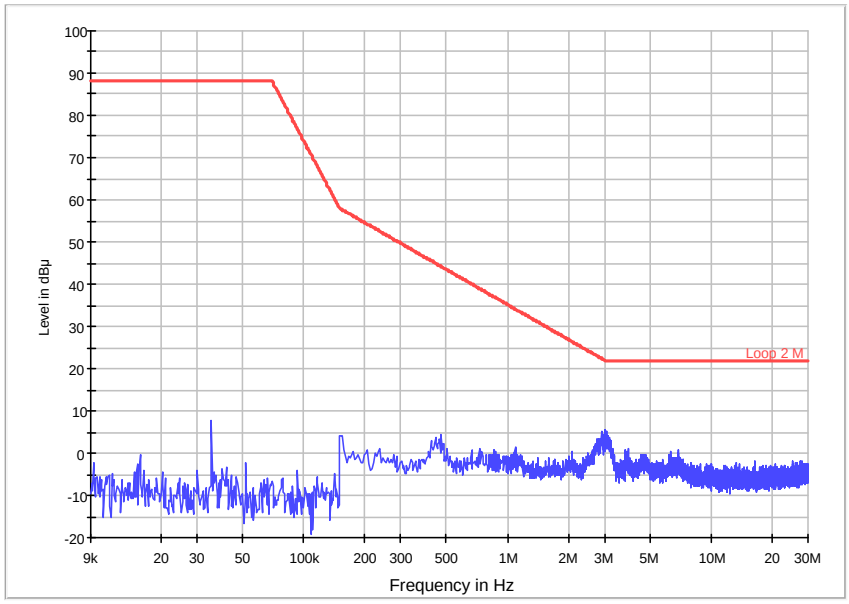
Frequency /MHz	Quasi-peak (dBµA) Disturbance level X direction	Y direction	Z direction	Permitted limit
0.009	*	*	*	88.00
0.05	*	*	*	88.00
0.10	*	*	*	73.96
0.24	*	*	*	52.40
0.55	*	*	*	42.52
1.00	*	*	*	35.39
1.40	*	*	*	31.39
2.00	*	*	*	27.14
3.50	*	*	*	22.00
6.00	*	*	*	22.00
10.00	*	*	*	22.00
22.00	*	*	*	22.00
30.00	*	*	*	22.00

Notes: * means the disturbance power level 10dB lower than the relevant limit.

CIE007S-1-450

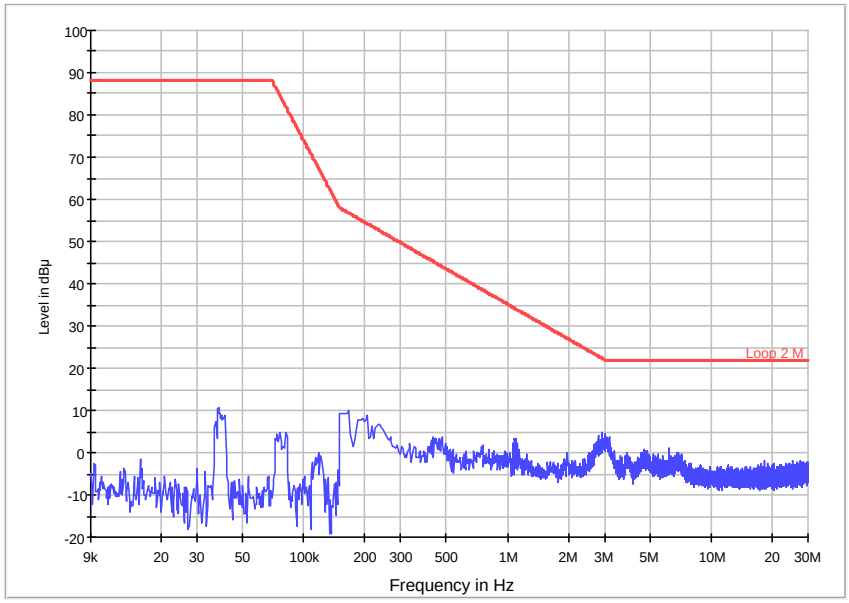
X direction

TripleLoop(a)



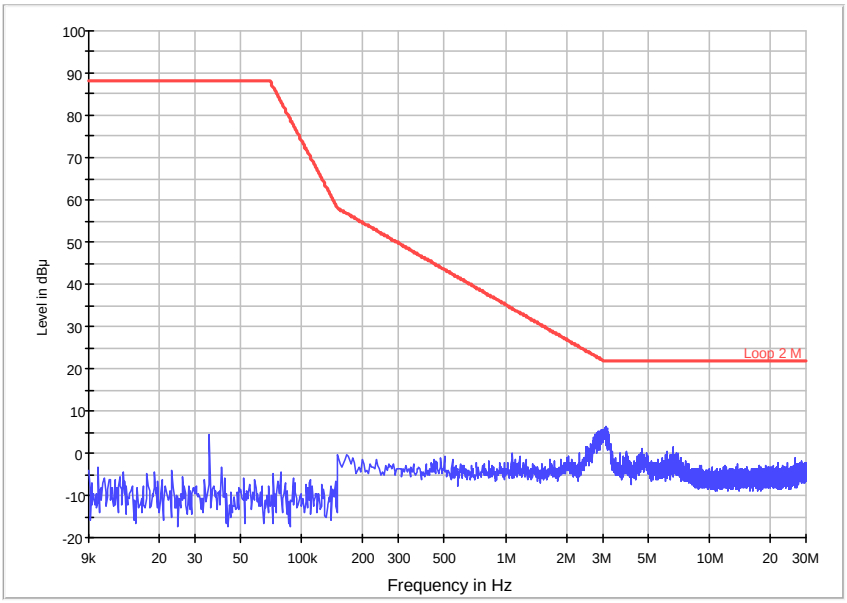
Y direction

TripleLoop(a)



Z direction

TripleLoop(a)



Frequency /MHz	Quasi-peak (dBµA) Disturbance level			Permitted limit
	X direction	Y direction	Z direction	
0.009	*	*	*	88.00
0.05	*	*	*	88.00
0.10	*	*	*	73.96
0.24	*	*	*	52.40
0.55	*	*	*	42.52
1.00	*	*	*	35.39
1.40	*	*	*	31.39
2.00	*	*	*	27.14
3.50	*	*	*	22.00
6.00	*	*	*	22.00
10.00	*	*	*	22.00
22.00	*	*	*	22.00
30.00	*	*	*	22.00

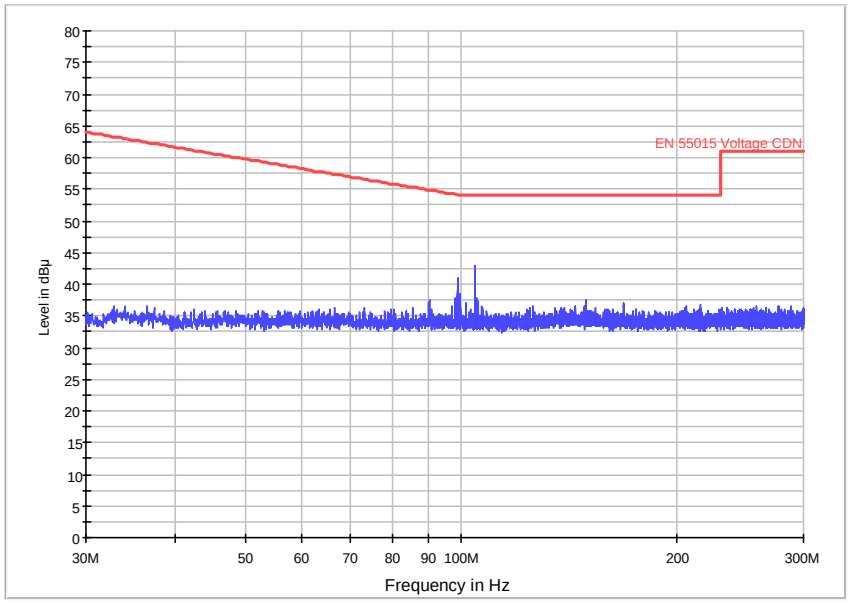
Notes: * means the disturbance power level 10dB lower than the relevant limit.

Radiated electromagnetic disturbances:

Temperature: 20°C Humidity: 40%

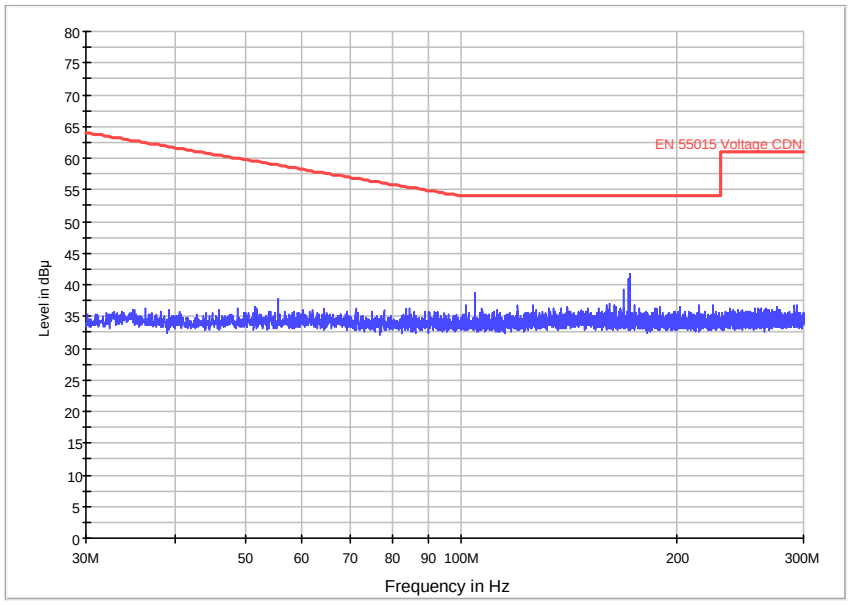
CIE028S

EN 55015 CDN M3



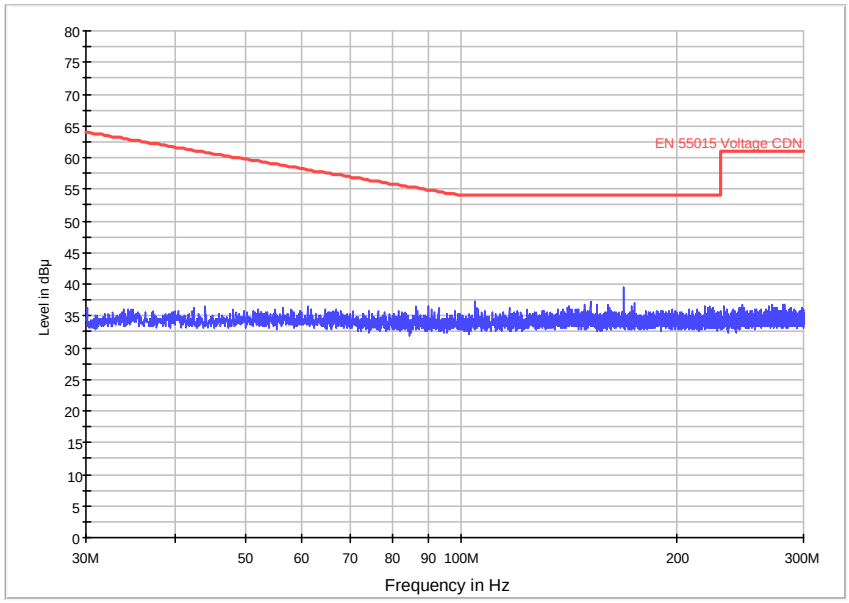
CIE053S

EN 55015 CDN M3



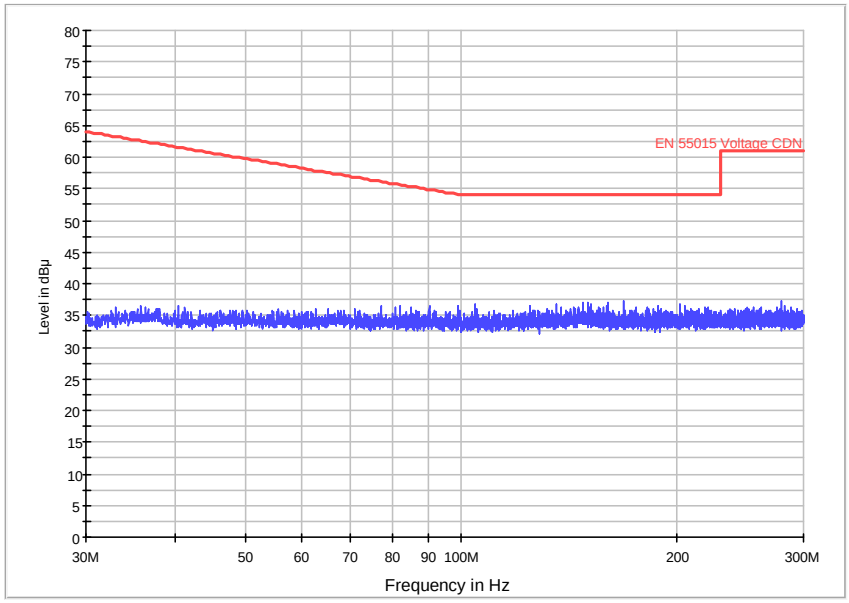
CIE013S

EN 55015 CDN M2



CIE014S

EN 55015 CDN M3



CIE007S-1-450

EN 55015 CDN M3