

CDN EMCL-35

EM-Coupling clamp

IEC / EN 61000-4-6

- For the coupling during immunity tests according to IEC/EN 61000-4-6
- Frequency range 10 kHz – 1 GHz
- Suitable for cables up to 35 mm, for thinner cables up to 20 mm: use CDN EMCL-20



For cable diameter up to 35 mm, calibration unit and calibration data are supplied with each unit!



Overview

EM coupling clamps are always used when the use of coupling / decoupling networks (CDN) does not seem suitable or appropriate. This applies, for example, to unshielded cables consisting of a large number of individual conductors.

With the electromagnetic coupling path, both capacitive and inductive coupling into the cable connected to the test object is achieved.

The EM coupling clamp has a directivity of ≥ 10 dB above 10 MHz, so that a defined impedance between the asymmetrical connection point of the auxiliary / additional equipment and the reference ground plane is no longer required. Above 10 MHz, the behavior of the EM coupling link is therefore similar to that of coupling/decoupling networks.

Key facts

- EM-coupling clamps for immunity tests on cables up to 35 mm diameter
- Low insertion loss: less than 15 W amplifier power is required to achieve the highest test level of 10 V
- Supplied as standard with calibration set and individual calibration data



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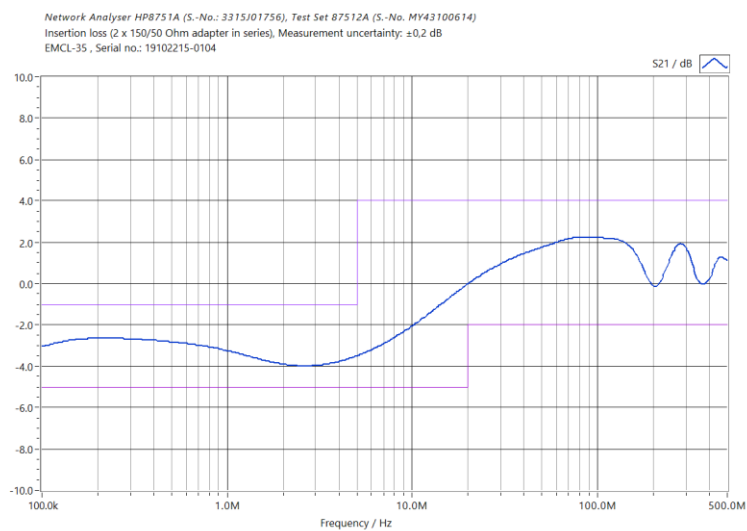
Technical data I

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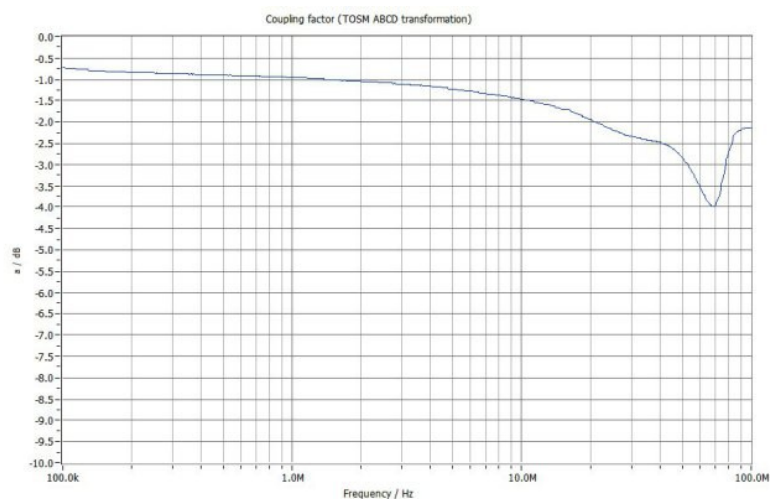
Frequency range	10 kHz – 1 GHz	Connector	N-type female
Nominal impedance	50 Ohm	Cable diameter max.	< 35 mm
Max. input level		Dimensions (L x W x H)	665 x 160 x 135 mm
0.01 (10 kHz) – 100 MHz	100 W, 15 min	Weight	approx. 14 kg
100 – 230 MHz	100 W, 5 min		
230 – 1000 MHz	50 W, 3 min		

Technical data II

Typical coupling factor



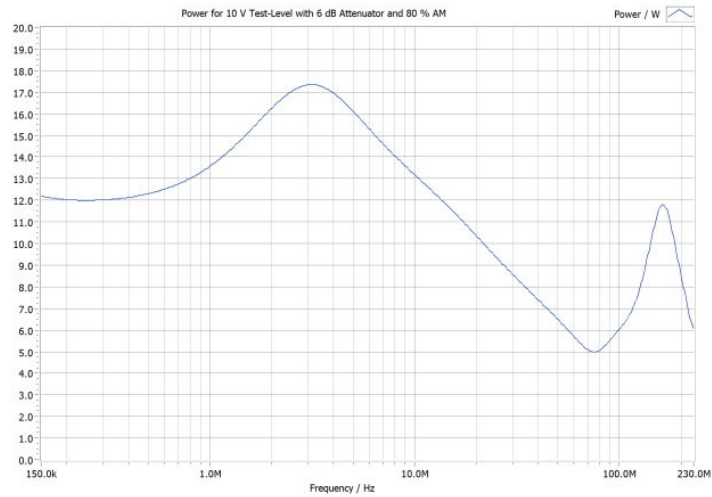
Typical decoupling factor (transformed)



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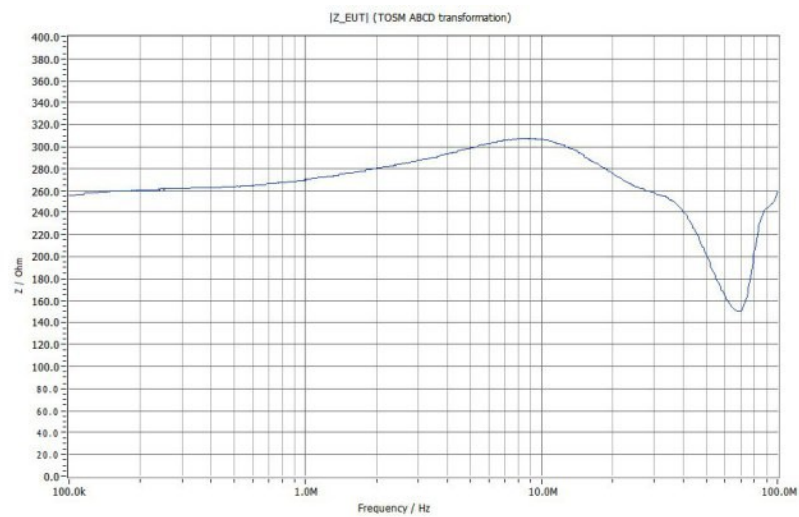
EM-Coupling clamp

Measured amplifier power



Measured amplifier power to achieve the highest level required in EN 61000-4-6 of 10 V.
Measurement was carried out with 6 dB attenuator and 80% amplitude modulation.

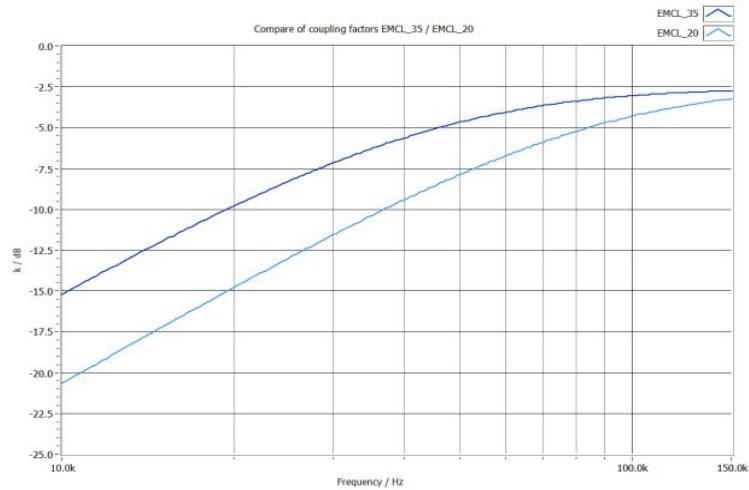
Typical clamp impedance (transformed)



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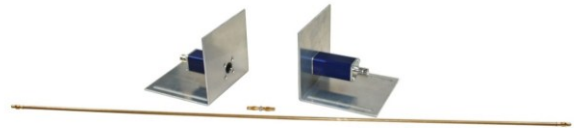
Comparison of coupling factors EMCL 35 / 20



The high coupling factor of the EMCL-35 allows a test according to level 3 (10V) of IEC 61000-4-6 already at 10 kHz with the test generator CDG 7000-75-10.

Calibration set / calibration data (included in delivery)

- 2 mounting brackets incl. 50/150 Ohm transition
- 1 piece BNC termination, 50 Ohm, 1 W
- 1 adapter with banana plugs for calibration of the network analyzer, length 34 mm
- 1 piece brass rod 4 mm with banana plugs for setting the test level, length 672 mm
- N male to BNC female



Options

CDG 7006-20W	Attenuator 6 dB, 20 W, BNC connector male / female
CDG 7006-100W	Attenuator 6 dB, 100 W, BNC connector male / female
CDN ABCL-20	Decoupling clamp for additional decoupling during immunity testing according to IEC / EN 61000-4-6, 100 kHz - 1000 MHz, cable diameter max. 20 mm.
CDN ABCL-35	Decoupling clamp for additional decoupling during immunity testing according to IEC / EN 61000-4-6, 100 kHz - 1000 MHz, cable diameter max. 35 mm.

All information regarding appearance and technical data correspond to the current state of development at the time of release of this data sheet. Errors and technical changes excepted.

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