CMAD 20B
COMMON MODE ABSORPTION DEVICE

- **Frequency range 1 MHz to 1 GHz**
- **Frequency range 30 MHz to 200 MHz (CISPR 16-1-4)**
- **Max. cable diameter 20 mm**
- **Conform with CISPR 16-1-4**

Reproducible emissions measurements require a defined line termination for the frequency range where connected lines provide a significant influence on the emissions. The key parameter is the asymmetrical impedance (common-mode impedance), which can be seen as the common mode impedance to the reference ground.

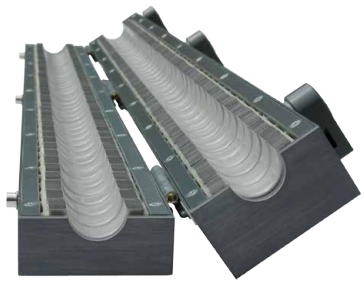
The CMAD (Common Mode Absorption Device) is specified in CISPR 16-1-4 and its use is defined in CISPR 16-2-3 and CISPR 11 edition 6.0. It improves the asymmetrical line termination in the frequency range 30 MHz to 200 MHz and improves measurement reproducibility. The CMAD needs to be clipped on lines leaving the test area. No more than three CMADs should be used for one setup.

The CMAD 20B replaces the CMAD 20A and Lüthi FTC 40X15E. It offers smaller dimensions as CMAD 20A and single holders for the ferrite core halves in difference to Lüthi FTC 40X15E.

CMAD 20B, open, top view

Technical specifications

Frequency range as required in CISPR 16-1-4:	30 MHz to 200 MHz
Frequency range for general use:	1 MHz to 1000 MHz
Maximum cable diameter:	20 mm
Dimension (LxWxH):	670 mm x 78 mm x 58 mm
Weight:	approx. 3.4 kg



CMAD 20B, open, side view

Model No. and options

Part number	Description
257259	CMAD 20B Common Mode Absorption Device (CISPR 16-1-4, CISPR 16-2-3, CISPR 11 ed. 6.0) cable sizes up to 20 mm, incl. traceable calibration (certificate according ISO17025)
247651	CAL CMAD20A Calibration fixture for CMAD 20A, CMAD 20B, Lüthi FTC 40x15 E according CISPR 16-1-4

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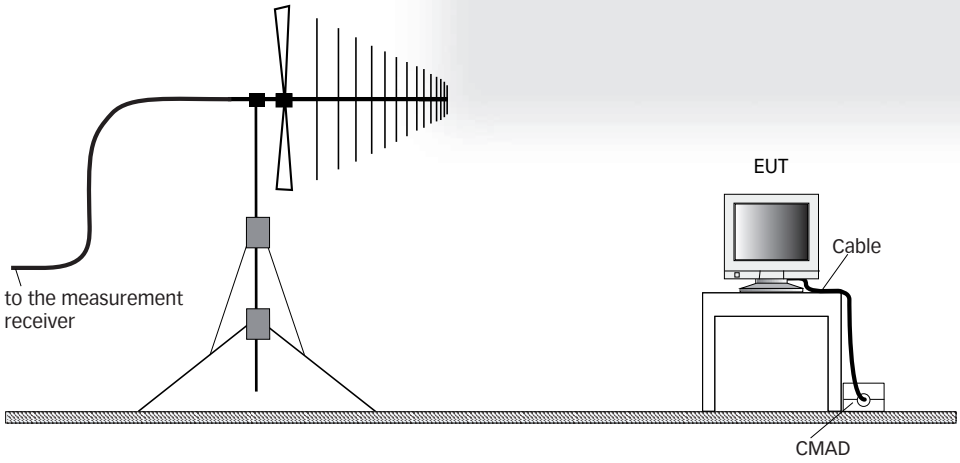
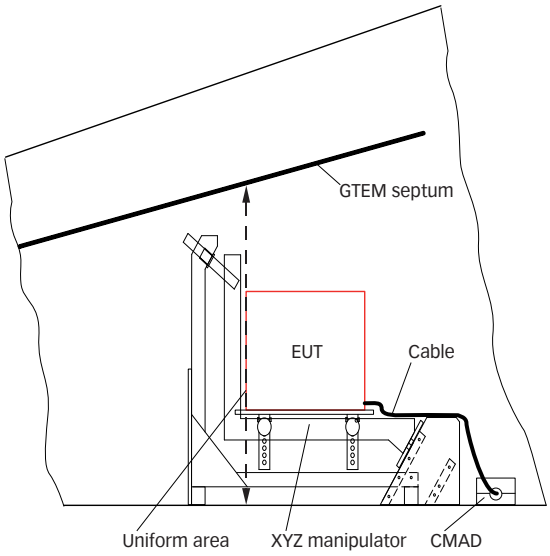
CMAD 20B
COMMON MODE ABSORPTION DEVICE

Typical set-up in a chamber



Typical set-up in a GTEM cell



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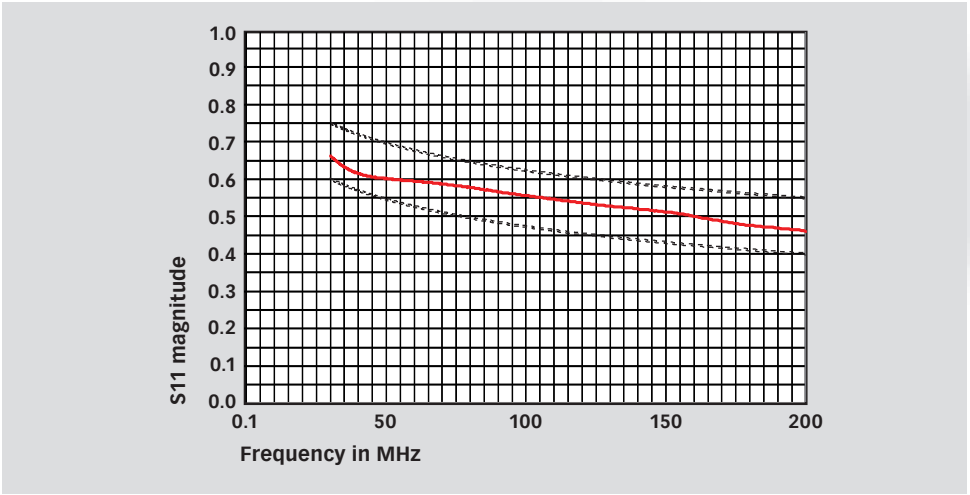
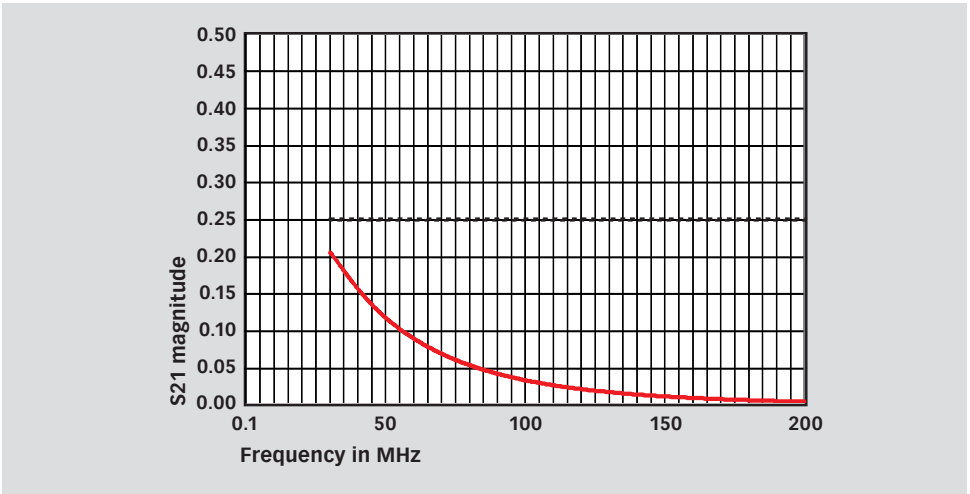
CMAD 20B
COMMON MODE ABSORPTION DEVICE

Typical S11 magnitude, ---- CISPR 16-1-4 limits



Typical S21 magnitude, ---- CISPR 16-1-4 limit



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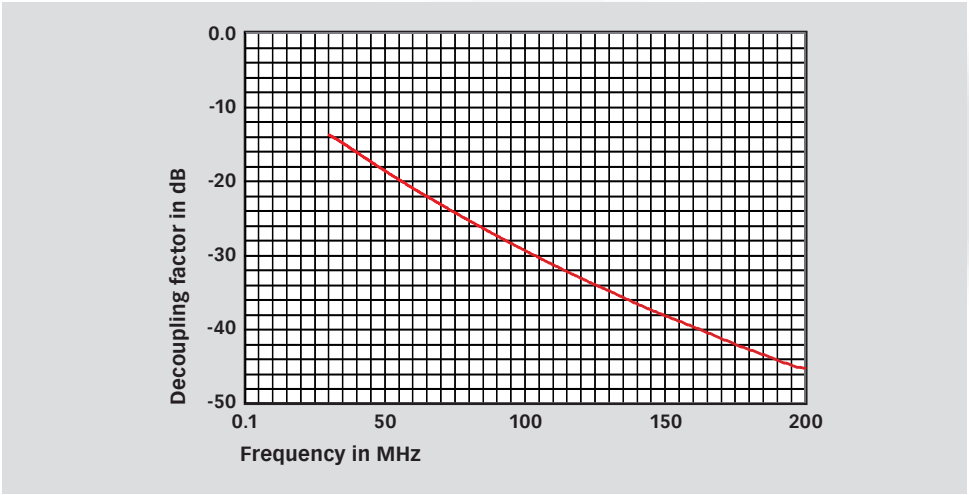
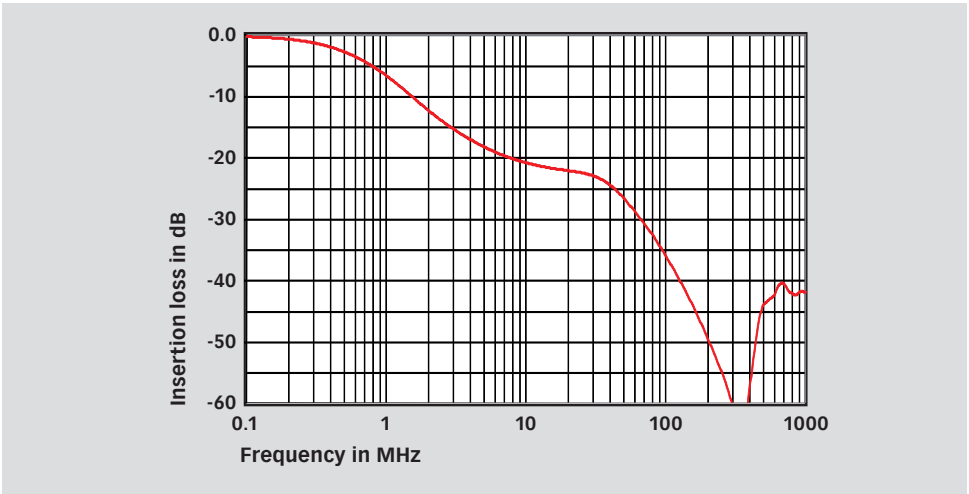
CMAD 20B
COMMON MODE ABSORPTION DEVICE

Typical decoupling factor, TRL calibration method in accordance to CISPR 16-1-4



Typical insertion loss in a 50 Ω system



Teseq GmbH
Landsberger Str. 255 · 12623 Berlin · Germany
T +49 30 56 59 88 35 F +49 30 56 59 88 34
info.rf.cts@ametek.com **www.teseq.com**

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