



Advanced Test Equipment Corp.

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Coupling Decoupling Network CDN-USB-AE

Features

Frequency range 150 MHz to 230 MHz

Meets CISPR 16-1-2 requirements

USB cables with type A connector

Individual calibration

Three Year Warranty



Description

Com-Power CDN-USB-AE is a part of the series of Coupling/Decoupling Networks designed specifically for testing product for conducted immunity per IEC/EN 61000-4-6.

The CDN-USB-AE is designed for testing products that uses USB cables for communication. It has a USB type A on the EUT side and USB Type B on the AE side. The CDN-USB-AE can handle up to 1 Amp of current.

The RF disturbance signal coupling port is female BNC. It can handle up to 40V of RF Input Voltage. The bottom surface of the CDN is not painted for easy and effective grounding.

All Com-Power CDNs are individually calibrated. The Com-Power CDN-USB-AE fully complies with the requirements contained in the IEC 61000-4-6 and CISPR 16-1-2.

All Com-Power CDNs can be purchased separately or as part of the CIS series conducted immunity test system. This is a pre-packaged solution that includes an ACS series power amplifier and all accessories required for the test.

Application

During conducted Immunity testing, CDNs are utilized to provide a means of coupling RF common mode signals to each line. In addition, CDNs provide the required common mode impedance to the EUT, isolation to the auxiliary equipment via common mode decoupling of the disturbance signals and provide uninterrupted communication between the EUT and auxiliary equipment.

Before you begin testing with the CDN-USB-AE you will need to establish calibrated drive levels corresponding to your desired test levels. During drive level calibration, the RF signal level being injected to the CDN is adjusted incrementally until the voltage level measured at the 150Ω to 50Ω adapter (ADA-515-2) connected to the EUT port of the CDN is approximately equal to the Umr value given in the table below. The ADA-515-2 and accessories needed for this test are available from Com-Power.

Test Levels Open Circuit Voltage	Umr
1	0.167
3	0.5
10	1.67

Umr= Voltage level measured at the output of the 150Ω to 50Ω adapter (ADA-515-2)

Rev. D01.14

Specifications

Product Name	Coupling Decoupling Network (CDN)
Compliant Test Standards	IEC / EN 61000-4-6
Application	USB cable with type A connector
Frequency Range	150 kHz to 230 MHz
RF Input Voltage	40V (Max)
RF Input Connector	50Ω BNC (Female)
Voltage Rating	30 V AC / 30 V DC (Line to Ground)
Current Rating	1 Amp (Max)
EUT and AE Connections	EUT: Type A, AE: Type B
Common Mode Impedance	150 kHz - 26 MHz: $150\Omega \pm 20\Omega$ 26 MHz - 80 MHz: $150\Omega + 60\Omega / - 45\Omega$ 80 MHz - 230 MHz: $150\Omega + 60\Omega / - 60\Omega$
Voltage Division Factor	9.5 dB +2 / -1
Decoupling of Common Mode Disturbance	≥ 50 dB (EUT/AE)
Dimensions	8.5 x 4.5 x 3.5 inches 21.5 x 11.4 x 8.8 cm
Weight	2 lbs. 0.9 kg
Accessories Available from Com-Power for setting test levels and running the test	ADA-USB-AE shorting adapters ADA-515-2 150Ω to 50Ω adapters TEP-050 50Ω Terminator 1, 3, 6, 10, 20, 30 dB Power Attenuators Directional Coupler ACS series Power Amplifiers



Shorting Adapter ADA-USB-AE
(Front and back view)



ADA-515-2 Adapter
(Front and back view)



TEP-050 Terminator

All values are typical values unless otherwise specified.
Specifications are subject to change without notice.

Typical Data

