LISN-UP-A
Troubleshoot Conducted Voltage Emissions

• Tool for EMC Engineers for troubleshooting the source of conducted voltage emissions on power mains
• The LISN-UP-A separates the individual conducted voltage emissions into their differential and common mode components for quick identification

Description

The LISN-UP-A is a 3-port device that takes the outputs of a dual LISN or the single output of two individual identical LISNs and separates the conducted Common Mode (Asymmetric) voltage emission from the Differential Mode (Symmetric) conducted voltage emissions. A built-in switch allows for quick switching between these modes which are directed to the LISN-UP-A output port connected to an EMI Receiver or Spectrum Analyzer as shown in Figure 1. This device is based upon "Diagnosis and Reduction of Conducted Noise Emissions" by C.R. Paul and K.B. Hardin, IEEE EMCS Symposium Record 1988, Seattle, WA pages 19-23.

The LISN-UP-A is supplied with calibration data for individual correction factors (insertion loss) for the Differential Mode and the Common Mode measurements. The LISN-UP-A displays high rejection of the Differential Mode when measuring the Common Mode and high rejection of the Common Mode when measuring the Differential Mode. An example of these correction factors and rejection capabilities are shown in Figure 2.

Technical Specifications

• Frequency Range (Common and Differential Modes): 9kHz to 30MHz
• Input connectors (2): Type N (female)
• Output connector (switchable): Type N (female)
• Size: 22cm x 10cm x 10cm
• Weight: 0.8kg
Figure 1. Test setup for using a LISN-UP-A.

Figure 2. Typical correction factors (insertion loss) and mode rejection capabilities (the CM and DM rejection characteristics may vary unit to unit).