

## Line Injection Method as per IEC 96-1 and EN 50289-1-6

SAMEER-CEM, Chennai establishes a new test facility for characterisation the shielded cable. Another first time in India from SAMEER-CEM. A Cable Jig containing launcher and coupler is designed, developed & validated at SAMEER-CEM. This design is based on the Line Injection Method as per IEC 96-1 and EN 50289-1-6. This is a boon for the Indian industry to characterize the shielded cables without the need to cross the borders.



currently supports measurement of cables with characteristic impedance of 50Ω. However the facility can be extended to include other characteristic impedances also based on the requirement.



Cable Surface Transfer Impedance measurement setup

## The Shielding Effectiveness

One major consideration with the design and use of coaxial cables, connectors and accompanying cable assemblies in modern electronic systems is the amount of radio frequency (RF) or microwave leakage coupling into both the systems and subsystems via the connecting cables. This is determined by both the coupling performance and shielding effectiveness (SE) that is expressed as transfer impedance in  $\Omega/m$ .

Several methods exist for measuring this shielding effectiveness of the cable. The most important methods described in IEC 96-1 and EN 50289-1-6 to measure shielding effectiveness of the cable screen is the Line Injection Method.



## The Test Facility

The test facility consists of the in-house developed test jig with the launcher and the coupler with the signal source and the measuring receiver that can currently support up to 1GHz starting from 10 kHz. The facility

## Technical Specifications

Frequency Range: 10kHz-1GHz

Dimensions\* : 0.5mm(typical diameter)

Impedance\*\* : 50Ω

Standard : IEC 96-1, and BSEN 50289-1-6

\* Cable jig can be designed to carry out measurement on cable of various dia

\*\* Cable of different characteristic impedance also can be tested

## Development Team

Shri. Sanjay Baisakhiya, Scientist D.

Shri. A. Saravanan, Project Assistant

For more information please contact our customer care cell at

## Contact @

ccc@scemcd.gov.in

Phone : +91 44 2254 1897

Fax : +91 44 2254 1424

