Society of Cable Telecommunications Engineers

ENGINEERING COMMITTEE
Interface Practices Subcommittee

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Test Method for Transfer Impedance

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1.0 SCOPE

This procedure is for the measurement of transfer impedance of coaxial drop cables from 5 MHz to 1,000 MHz.

2.0 EQUIPMENT

2.1. Terminated Triaxial Test Fixture (See Figure 6.)

2.2. Signal Source (Swept Frequency Oscillator)

2.3. Detector, Display

(Note: A spectrum analyzer with a tracking generator may be used or a network analyzer with a signal source may be used for the signal source, detector and display.)

2.4. Loads

2.5. Attenuators

2.6. Optional Power Attenuators (used in conjunction with the optional RF Amplifier)

2.7. Optional RF Power Amplifier

2.8. Coaxial “T” (For velocity of propagation measurements)

3.0 CALIBRATION

The frequency of the signal source and loss of the attenuators shall conform to appropriate laboratory standards including traceability to recognized measurement standards.

4.0 SPECIMEN PREPARATION & INSTALLATION

4.1. Measure the cable so that it will be long enough to fit through the chamber and toroids and connect to the fittings at the end of the test fixture.

4.2. Carefully remove two small “windows” of jacket from the specimen. Each window should be approximately 0.5 to 1 cm (3/16 to 3/8 inch) long and approximately 0.5 cm (3/16 inch) wide. The windows should be placed 1.00 meter (39.37 inches) apart and each 0.5 meter (19.69 inches) from the center of the sample so that the chamber probes, which are spaced 1 meter apart, can make electrical contact with the outer conductor of the specimen. Care must be taken not