

## Annex 55A Augmented link segment (informative)

### 55A.1 Augmented link segment transmission parameters

TIA TR42 has initiated Project SP-3-4426-AD10 to develop an augmented Category 6 cabling. The resulting requirements will be presented in a new revision or addendum to the TIA-568-B standard.

The augmented link segment transmission parameters will be specified in this subclause. The augmented link segment transmission parameters meet or exceed the Class E link segment transmission parameters specified in 55.7.2 with the following exceptions: insertion loss and PS ANEXT.

#### 55A.1.1 Insertion Loss

The insertion loss of an augmented link segment is less than

$$1.05 \left( 1.8 \times \sqrt{f} + 0.01 \times f + \frac{0.2}{\sqrt{f}} \right) + 4 \times 0.02 \times \sqrt{f} \quad (\text{dB})$$

at all frequencies from 1 MHz to 500 MHz. This includes the attenuation of the balanced cabling pairs, including the cords and connecting hardware losses within each duplex channel. The insertion loss specification is met when the duplex channel is terminated in 100  $\Omega$ .

#### 55A.1.2 Coupling parameters between link segments

Noise coupled between the disturbed duplex channel in a link segment and the disturbing duplex channels in other link segments is referred to as alien crosstalk noise.

Editor's Note: Text needs to be added to clearly identify the alien crosstalk dependencies.

##### 55A.1.2.1 PS ANEXT

For a 100 meter augmented link segment, the PS ANEXT loss between a disturbed duplex channel in a link segment and the disturbing duplex channels in other link segments is greater than

$$PSANEXT \geq \begin{cases} 60 - 10 \log_{10} \left( \frac{f}{100} \right) \quad (\text{dB}) & 1 \leq f \leq 100 \\ 60 - 15 \log_{10} \left( \frac{f}{100} \right) \quad (\text{dB}) & 100 < f \leq 500 \end{cases}$$

The PS ANEXT for an augmented link segment assumes the maximum insertion loss as specified in 55A.1.1.

Editor's note: PSANEXT limits need to be added with reference to test methods.

##### 55A.1.2.2 Multiple Disturber Alien Far-End Crosstalk (MDAFEXT) loss (ffs)

##### 55A.1.2.3 Multiple -Disturber Power Sum Alien Far-End Crosstalk (PS AFEXT) loss (ffs)