
10GBASE-T

Cabling Ad Hoc Report

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Cabling Model Development - Alien Crosstalk

- **Measurement objectives-**
- **Develop Alien Crosstalk Limits based on measurement configurations that are representative of the installed cabling**
 - conduit fill capacity
 - tie-wrap separation distances
- **Cabling**
 - Category 5e or Category 6 - (UTP or ScTP)

Measurement Data

- **Measurement Data**

- **Frequency characterization: $1 \text{ MHz} \leq f \leq 625 \text{ MHz}$**
- **401 points minimum, linear sweep**
- **Operating temperature: measurements at 20 °C.**
- **Data Format:**
 - + **Report: Magnitude (dB) versus frequency (two columns)**
 - + **Save: real and imaginary (two columns)
 versus frequency (one column)**
 - + **either Excel or Excel compatible**

Measurement Procedure

1. Lay-out seven 90 meter 4-pair cables along a nonconducting surface or supported in an aerial span. Tie-wrap every 5 ft - (90 meters)

- Measure NEXT between all of the seven 4-Pair cable pair combinations**
- Mark measured end**
- Calculate Power Sum**

2. Remove tie-wraps. Pull the seven 90 meter 4-Pair cables into a conduit with a length of ≥ 30 meters; pull from measured end marked in step (1). Pull-out a maximum of 1 meter of cable for attachment to the measurement equipment. Conduit size designator= (1 in) diameter.

- Measure NEXT (measured end marked in step (1) between all of the seven 4-Pair cable pair combinations.**
- Calculate Power Sum**

Measurement Procedure

3. Pull-out 5 meters of the seven 90 meter 4-Pair Cables from the conduit and tie-wrap every meter.

- Measure NEXT (measured end marked in step (1)) between all of the seven 4-Pair cable pair combinations**
- Calculate Power Sum**

4. Terminate (marked end) cable pairs to adjacent Category compatible connecting hardware patch panel positions. Use a 1 meter test cord.

- Measure NEXT between all of the seven 4-Pair cabling pair combinations**
- Calculate Power Sum**

Ad Hoc Cabling Measurement Results

- **Shadi AbuGhazaleh - Hubbell**
- **Michel Bohbot - Nordx/CDT**

Alien Crosstalk Mitigation

- **Ron Nordin- Panduit**
- **Paul Vanderlaan - Belden**