

Thoughts about the MDI connector

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IEEE 802.3cg

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IEC 63171 demystified

- IEC 63171:
 - Generic definitions, requirements and tests
 - Signal integrity parameters up to 600 MHz, fitted for IEEE 802.3bp
 - Status: CD (~similar to D 1.x)
- IEC 63171-1
 - Specific design „LC-style“
 - Voltage withstand 1000/1500V
 - With explicit requirements and tests, mostly similar to IEC 63171
 - Status CDV (~similar to D 2.x)
- IEC 63171-6
 - Specific design „Industrial-SPE“
 - Voltage withstand 1000/1500V
 - With explicit requirements and tests, mostly similar to IEC 63171
 - Status CDV (~similar to D 2.x)
- Conclusion:
 - Projects are only pre-mature and subjected to changes
 - Signal integrity not fitted for IEEE 802.3cg and therefore non-economic

Rationale for non describing any MDI connector

- See: Horrmeier_3cg_01_0119
- In short:
 - Different applications need different interface solutions, e.g pcb terminal blocks
 - Neither IEC 63171-1 nor IEC 63171-6 connectors are suitable for an interface inside the device, e.g. SMD Pick and Place
- Describing a connector to be used as a reference plane is senseless as long as different variants are allowed
- Neither IEC 63171-1 nor IEC 63171-6 or the generic document IEC 63171 describes signal integrity parameters fitted to the needs of IEEE 802.3cg
- Industry uses already different connectors for x-BASE-T and can handle it, for instance see ISO/IEC 11801 series
- Situation is different to the status 20 years ago, where an popular and widely used telecom connector was chosen for the same application space

Recommendations

- Connectors should not be defined by IEEE 802.3cg
- Connectors should be defined by user groups according to their needs, e.g. ODVA, PNO, APL
- Leave the standard as concluded in Vienna