

Text as it appears in D3.1

96.9 Environmental Specifications

96.9.1 General Safety

All equipment subject to this clause shall conform to IEC 60950-1 (for IT and motor vehicle applications) and to ISO 26262 (for motor vehicle applications only, if required by the given application). All equipment subject to this clause may be additionally required to conform to any applicable local, state, or national motor vehicle standards or as agreed to between the customer and supplier.

96.9.2 Network Safety

All cabling and equipment subject to this clause is expected to be mechanically and electrically secure in a professional manner. In automotive applications, all 100BASE-T1 cabling shall be routed in way to provide maximum protection by the motor vehicle sheet metal and structural components, following SAE J1292, ISO 14229, and ISO 15764.

96.9.2.1 Environmental Safety

The 100BASE-T1 PHY is designed to operate in the automotive environment. All equipment subject to this clause shall conform to the potential environmental stresses with respect to their mounting location, as defined in the following specifications:

- a) general loads: ISO 16750-1
- b) electrical loads: ISO 16750-2, ISO 7637-2:2008, and ISO 8820-1
- c) mechanical loads: ISO 16750-3, ASTM D4728, and ISO 12103-1
- d) climatic loads: ISO 16750-4 and IEC 60068-2-1/27/30/38/52/64/78
- e) chemical loads: ISO 16754-5 and ISO 20653

Automotive environmental conditions are generally more severe than those found in many commercial environments. The targeted application environment(s) require careful analysis prior to implementation.

96.9.2.2 Electromagnetic Compatibility

A system integrating the 100BASE-T1 PHY shall comply with all applicable local and national codes, or as agreed to between the customer and the supplier, for the limitation of electromagnetic interference. A 100BASE-T1 PHY shall be tested according to IEC CISPR 25 test methods defined to measure the PHY's EMC performance in terms of RF immunity and RF emissions. When used in an automotive environment, a 100BASE-T1 PHY shall meet the following motor vehicle EMC requirements:

- a) Radiated/Conducted Emissions: IEC CISPR 25, IEC 61967-1/4, and IEC 61000-4-21
- b) Radiated/Conducted Immunity: ISO 11452, IEC 62132-1/4, and IEC 61000-4-21
- c) Electrostatic Discharge: ISO 10605 and IEC 61000-4-2/3
- d) Electrical Disturbances: IEC 62215-3 and ISO 7637-2/3

Exact test setup and test limit values may be adapted to each specific application, subject to agreement between the customer and the supplier.

Text as it would appear with implementation of comments r01-30, r01-36, r01-37, r01-44, r01-45

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Automotive environmental conditions are generally more severe than those found in many commercial environments. The targeted application environment(s) require careful analysis prior to implementation.

96.9.2.2 Electromagnetic Compatibility

A system integrating the 100BASE-T1 PHY shall comply with applicable local and national codes. In addition, the system may need to comply with more stringent requirements as agreed upon between customer and supplier, for the limitation of electromagnetic interference. In automotive applications, a 100BASE-T1 PHY shall be tested according to IEC CISPR 25 test methods, and shall meet the following motor vehicle EMC requirements:~~A system integrating the 100BASE-T1 PHY shall comply with all applicable local and national codes, or as agreed to between the customer and the supplier, for the limitation of electromagnetic interference. A 100BASE-T1 PHY shall be tested according to IEC CISPR 25 test methods defined to measure the PHY's EMC performance in terms of RF immunity and RF emissions. When used in an automotive environment, a 100BASE-T1 PHY shall meet the following motor vehicle EMC requirements:~~

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