

CAN FD ringing suppression

CiA has organized a CAN FD plugfest in Nuremberg. Several companies tested their products on interoperability using different network topologies.

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Full house: Experts from Japan, India, Switzerland, and of course Germany performed several CAN FD test scenarios (Photo: Thilo Schumann)

THE MARCH 2015 PLUGFEST FOR CAN FD was attended by micro-controller vendors (Renesas, Spansion, STM), interface board and toolmakers (Bosch, Etas, HMS, Peak, Vector), as well as oscilloscope providers (Teledyne Lecroy, Keysight, Rohde & Schwarz). Additionally, Denso and NXP participated with their ringing suppression circuitry respectively the CAN shield approach. Representatives of Daimler, Opel, and Volkswagen participated in the plugfest, too.

One of the tests used three-star cabling; another one was based on a long cable (up to 270 m) bus topology. The multiple network star test was performed with and without the ringing suppression circuitry. In this test, the CAN shield was proved as well.

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The CAN shield circuitry filters CAN FD messages, so that a Classical CAN controller will not sent error frames when CAN FD frames are on the bus. In another test, controllers supporting the ISO CAN FD protocol as standardized in ISO 11898-1 were connected to a simple bus with short stubs. During all tests, the bus analyzing tools and the oscilloscopes checked the busload and the integrity of the bus signals.