

CAN Newsletter Online

OSCILLOSCOPE

CAN XL decoder software

Keysight Technologies has introduced the D9010AUTP software package for its Infiniium oscilloscopes. Besides other automotive network protocols it can trigger and decode CAN XL frames.



Oscilloscope screenshot of a decoded CAN XL frame (Source: Keysight)

The released oscilloscope software supports all three CAN protocol approaches: Classical CAN, CAN FD, and CAN XL. It enables engineers to verify and debug CAN XL networks. CAN XL is the third-generation CAN protocol in development by the nonprofit CAN in Automation (CiA) group. It improves the CAN FD protocol with enlarged payload data (up to 2048 byte) and faster bit rate (10 Mbit/s or even a little bit more).

CAN XL provides two modes of transceiver operation. Keysight's decoder software triggers and decodes the SIC mode signal in the arbitration phase, as well as the FAST mode signal in the data phase, correctly. It also handles CAN interface comprising CAN XL nodes implemented with the CAN high-speed, CAN SIC, and CAN SIC XL transceivers.

"In-vehicle networking technologies play a pivotal role in transmitting data fast and reliably from sensors to AI decision making units, as well as in-between safety relevant electronic control units and electronic systems within the car," said Thomas

Goetzl from Keysight. "The variety of automotive serial bus standards reflects the diverse needs and requirements of the automotive industry, and Keysight is excited to continue providing industry-first solution offerings that support additional capabilities and use cases."

The introduced software is compatible with Infiniium oscilloscopes using software version 11.30 or higher for MXR/EXR/UXR models and version 6.72 or higher for other Infiniium scope models enabling users to set up the oscilloscope to show protocol decodes in less than 30 seconds, stated the company. With the CAN-dbc file symbolic trigger and decode capability, engineers can test all kinds of CAN physical layers including SIC (CiA 601-4) and SIC XL (CiA 610-3). Both SIC variants are submitted for integration into next edition of the ISO 11898-2 standard. Trigger options include voltage levels, decode thresholds, sample rate, memory depth, hold-off, etc.

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