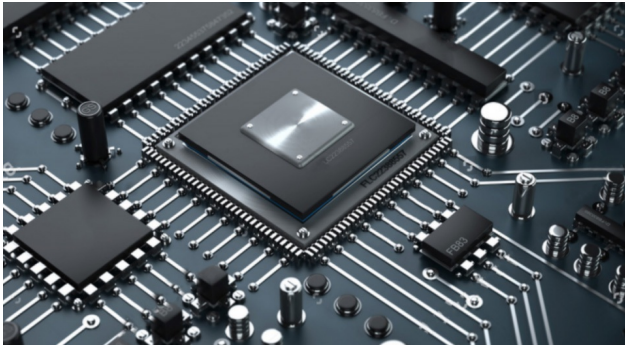


COOPERATION

CANopen FD stack supports stand-alone CAN FD controller

Emotas and DCD-Semi have announced that Emotas' CANopen FD protocol stack supports DCD's DCAN FD stand-alone CAN FD controller. Thus the CANopen FD stack can now also be used in FPGA systems with the DCAN FD IP core.



(Source: Emotas)

The CANopen FD stack is developed in ANSI-C and it is MISRA-C:2004 conform. The stack is delivered in source code and provides CANopen FD features defined in CiA 1301.

The DCAN FD is a stand-alone controller for CAN, used in automotive and industrial applications. It's been designed in accordance to ISO 11898-1:2015 and conforms both to Bosch Classical CAN specification and CAN FD. Because in automotive, safety is the key issue, that's why DCAN-FD provides error detection functions, which increase communication reliability and unique fault confinement, which guarantees network-wide data consistency, Emotas explained.

Because of its fundamental role in all aspects of security and safety, trustworthy implementations are crucial. According to the company, DCD-Semi's IP core supports this. The improved protocol overcomes Classical CAN limits: data can be transmitted faster than 1 Mbit/s and the payload (data field) is up to 64 byte long and not limited to 8 byte anymore. When only one node is transmitting, the bit-rate can be increased, because no nodes need to be synchronized.

Of course, before the transmission of the ACK slot bit, the nodes need to be re-synchronized. The core has an CPU (central processing unit) interface (8/16/32-bit configurable data width), with small or big endian addressing scheme. Hardware message filtering and the receive FIFO enable back-to-back message reception, with minimum CPU load. The DCAN FD is provided as HDL source code, allowing target use in FPGA and ASIC technologies.

[CW](#)