The Embedded Software Tools Company

Bluetooth Debugger for Embedded Software Development and Test

Embedded applications run in diverse environments. How to test the embedded software for mobile controls? A question many companies developing embedded systems are facing today. How to detect sporadic software bugs while the machine is in use? A wireless debugger, build in an embedded systems is needed to set breakpoints and record data during runtime, which is then transmitted wirelessly to the PC where the testing is done. Development time may be shorter, because tests and analysis perform under real field conditions. Additionally to flexible test conditions, such debugger provides galvanic isolation that is required in test systems, where big potential fluctuations are possible.

The target system (currently there is support for ARM/Cortex-M based systems) connects to the debugger via a JTAG interface. The debugger then communicates via Bluetooth with an iSYSTEM Bluetooth USB dongle connected to the PC, where the debug software runs. Communication reliably works at a distance up to 10m. Its compact size enables manufacturers to place the debugger directly in the hardware housing, allowing the hardware to move freely. This allows debugging the application from a safe distance, as well as it provides galvanic separation from the hardware in which the application is running. This is important in cases, where high voltages are used or where the grounds may be at different potentials. Traditionally, a wired debugger might cause an unwanted current flow, which could result in unwanted hardware / application behavior or even damage to the hardware.

To control the wireless debugger hardware iSYSTEM provides a software package: iSYSTEM's integrated development and test environment winIDEA adds debugging and testing functionality (unit, integration and system test with the integrated test tool testIDEA) as well as capabilities for graphical display of large data sets (daqIDEA).

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