**Arm Keil MDK v6 is the most comprehensive software development solution for Arm-based microcontrollers and includes all components that you need to create, build, and debug embedded applications. Keil MDK includes the following features:**

|  |  |
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| **Tools** | * **Keil Studio, an IDE that is a set of VS Code extensions. It is available in the cloud and on the desktop.** * **µVision (Windows only), which supports all Cortex-M devices.** * **Arm Compiler for Embedded including assembler, linker, and highly optimized run-time libraries that are tailored to Arm Cortex-M based devices for optimum code size and performance. A functional safety qualified version is included in MDK-Professional.** * **Arm Debugger, a command-line debug tool.** * **CMSIS-Toolbox, a set of command line tools that create and build projects based on CMSIS-Packs.** * **Arm Virtual Hardware Fixed Virtual Platforms, our modelling technology for Arm Cortex-M-based cores and subsystems.** |
| **Middleware** | **MDK-Middleware provides free-to-use software components for communication peripherals in microcontrollers (TCP/IP, USB, and file system).** |
| **CMSIS-Packs** | **CMSIS-Packs can be added anytime which makes new device support and middleware updates independent from the toolchain:**   * **Device and board support is added via packs listed on the CMSIS-Pack index.** * **Other software components delivered in CMSIS-Packs.** * **CMSIS offers software packs that contain components for core support, DSP and NN libraries, and a free-to-use real-time operating system.** |
| **Functional Safety (FuSa)** | **The Arm FuSa Run-Time System is a set of embedded software components qualified for use in the most safety-critical applications in automotive, railway, medical, and industrial systems. It is part of MDK-Professional, together with components like the Arm Compiler for Embedded FuSa and a FuSa C library.** |
| **Debug Probes** | **MDK supports many different debug and trace adapters:**   * **ULINKpro for instruction trace-based code coverage and performance analysis** * **ULINKplus for power-aware debugging** * **ULINK2/ME for simple run/stop debugging** * **and a variety of third-party debug adapters.** |

