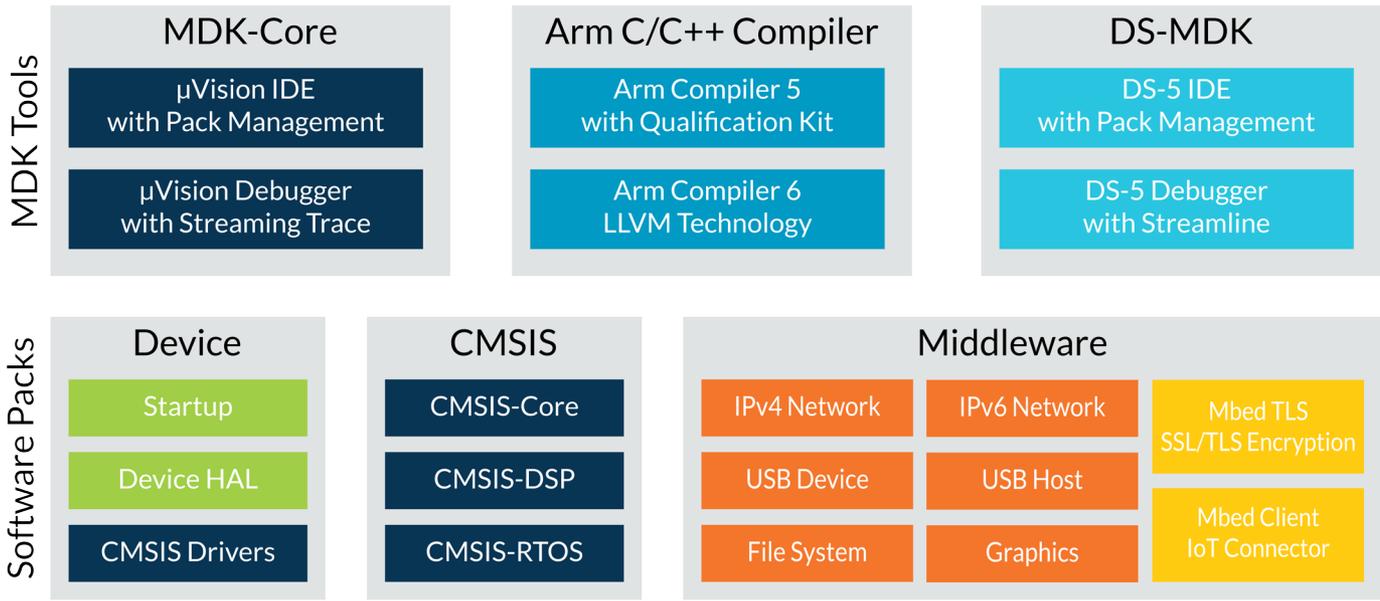


# Arm Keil MDK

## Microcontroller Development Kit



Arm® Keil® MDK is the most comprehensive software development solution for Arm Cortex®-based microcontrollers. Every MDK edition includes IDE, C/C++ compiler, debugger, software pack management, and CMSIS.



MDK-Core offers leading support for over 3,750 Cortex-M based devices including the new Arm Cortex-M23/M33 cores. The  $\mu$ Vision debugger includes event recorder and component viewer to show run-time behavior of software components. Together with the ULINKpro™ debug adapter, it offers full instruction trace and complete code coverage information.

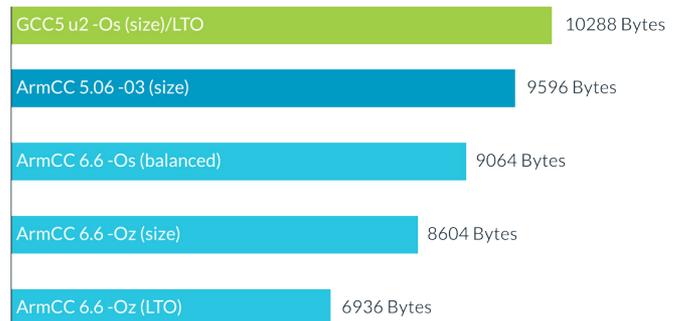
DS-MDK contains the Eclipse-based DS-5 IDE/debugger and supports 32-bit Cortex-A processors or hybrid systems with 32-bit Cortex-A and Cortex-M. Streamline performance analyzer helps to get the best out of the system's resources and create high performance, energy efficient products.

Software packs can be added any time to MDK-Core or DS-MDK making new device support and middleware updates independent from the toolchain. They contain device support, CMSIS libraries, software components, middleware, board support, code templates, and example projects.

MDK middleware provides royalty-free, tightly-coupled software components that are specifically designed for communication peripherals in microcontrollers.

The industry-leading Arm C/C++ Compilers with assembler, linker, and highly optimized run-time libraries are tailored for optimum code size and performance. Arm Compiler 5 is certified for functional safety applications and offers long-term maintenance and support.

Arm Compiler 6 offer the best code size currently on the market. It offers various optimization levels including Link Time Optimization. This diagram shows the code size.

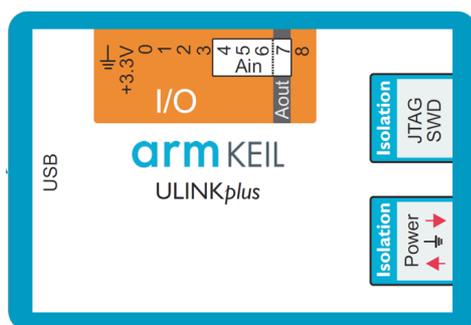


[developer.arm.com/armcompiler6](http://developer.arm.com/armcompiler6)

# MDK editions and ULINK debug adapters

	Professional	Plus	Essential	Lite
<b>µVision</b>				
IDE with Editor, Pack Installer	✓	✓	✓	✓
Debugger	✓	✓	✓	32 KB
Fixed Virtual Platforms Simulation Models	✓			
<b>DS-MDK (Windows® host + Linux® host)</b>				
Support for heterogenous systems (Linux Cortex-A, RTOS Cortex-M)	✓	✓		
Streamline system analysis	✓			
<b>Arm Compiler</b>				
C/C++ Compilation Tools	✓	✓	✓	32 KB
Extended Maintenance and Qualification Kit	✓			
<b>Arm processor support</b>				
Arm Cortex-M0 .. Cortex-M7	✓	✓	✓	✓
Arm Cortex-M23/33 Non-Secure	✓	✓	✓	
Arm Cortex-M23/33 Secure + Non-Secure	✓	✓		
Armv8-M architecture + FastModel	✓			
Arm SecurCore™ (SC000, SC300)	✓	✓		
Arm7, Arm9, Arm Cortex-R4	✓	✓		
<b>RTOS and Middleware</b>				
CMSIS-RTOS RTX with full source code	✓	✓	✓	✓
Middleware (IPv4 Network, USB Device, File System, Graphics)	✓	✓		
Middleware (IPv6 Network, USB Host, IoT Connectivity)	✓			

[www.keil.com/editions](http://www.keil.com/editions)



ULINKplus is a universal debug and trace adapter that enables test automation, software optimization for ultra-low-power applications, and isolation for debugging sensitive hardware systems. The compact enclosure allows usage in harsh environments and provides standard target connectors for JTAG, power measurement, and general purpose I/O.

Features	ULINKpro	ULINKplus	ULINK2
Run control	✓	✓	✓
Memory and breakpoint	✓	✓	✓
Data trace	✓	✓	✓
Instruction trace	✓		
<b>Performance</b>			
JTAG clock speed	50 MHz	50 MHz	50 MHz
Memory read/write	1 MB/s	3 MB/s	25 KB/s
Data and event trace	100 Mbit/s	50 Mbit/s	1 Mbit/s
Instruction trace	800 Mbit/s		
<b>Analysis tools</b>			
Component viewer	✓	✓	✓
Event recorder	✓	✓	✓
Power measurement		✓	
General purpose I/Os		✓	
Performance analyzer	✓		
Execution profiler	✓		
Code coverage	✓		

[www.keil.com/ulink](http://www.keil.com/ulink)

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