# DAVE™ (Version 4) – Development Platform for XMC™ Microcontrollers

## Professional Free-of-Charge Development Platform for Code Generation

Free of charge Eclipse based IDE using GNU C-compiler providing extensive, configurable, and reusable code repository for XMC™ industrial microcontroller powered by ARM® Cortex®-M processors.

Application oriented code repository merged with graphical system design methods and automatic code generator to guide XMC™ microcontroller user along the entire process – from evaluation-to-production (E2P). XMC™ Lib and DAVE™ generated code can be used with other 3rd party tool chains.

## DAVE™ (Version 4) – Development Platform for XMC™ Microcontrollers subcategories

+ Expand all subcategories

› XMC™ Library for Embedded Coder®

\+ DAVE™ (Version 3) – Legacy

› DAVE™ (Version 2) – Legacy

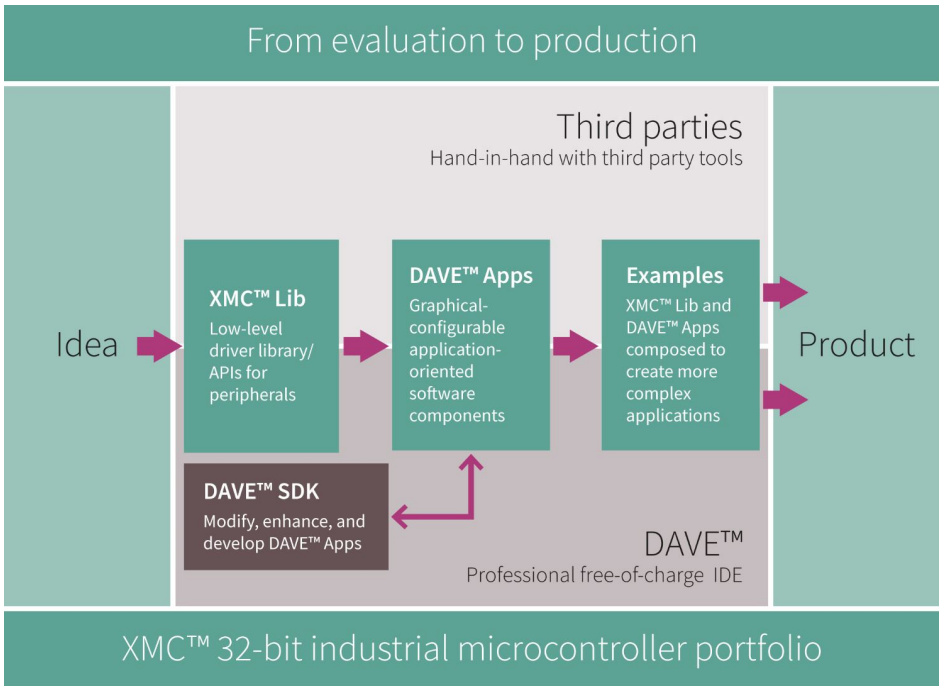
› DAVE™ Bench & DAVE™ Drive – Legacy

› MatrikonOPC UA Embedded Software Development Kit for XMC4000 MCU Family

› Embedded Graphics Library for TFT Displays

› µC/Probe™ XMC™ for Infineon industrial microcontrollers powered by Micrium®

**About DAVE™**




DAVE™ (Version 4) – professional free-of-charge integrated development environment (IDE) supporting the whole development process from evaluation-to-production (E2P).

**DAVE™ Highlights**

| | |
|---|---|
| **Videos and Trainings** | **Knowledge Base** |
| **Documents** | **eTicket** |
| **Forum** | **Ecosystem** |
| **Email Support** | **Development Kits** |
| **XMC™ MCUs** | **Rapid Prototyping Tools**<br>• XMC™ Flasher Tool<br>• XMC™ Link, Functional Isolated Debug Probe<br>• XMC™ Pinout Tool<br>• Others |

- Component based programming
- GUI based configuration
- Code repository
- Hardware resource manager
- Code generation
- Support 3 rd party tools
- Expert support
- DAVE™ SDK

| | | |
|---|---|---|
| **DAVE™** | Download | Free Eclipse based integrated development environment (IDE) includ comprehensive code repository, hardware resource management, ar *A complete download package is provided, including IDE, XMC™ Lib,* DAVE™ Release Note |
| **DAVE™ SDK** | | Development environment to modify and enhance existing DAVE™ A DAVE™ SDK is available as separate tool and installer. Release Note All DAVE™ APPs can be downloaded as individual DAVE™ SDK proje |
| **XMC™ Lib** | Download | Ready to use APIs for peripherals which are tested for GNU-, ARM-, IA Altium, ARM/KEIL, Atollic, IAR Systems, iSystems and Rowley compile Low level driver libraries for XMC™ peripherals (APIs), CMSIS / MISRA XMC™ Lib – Release Note |

| System: | Timer/PWM: | Analog-mixed Signal: | Communication: |
|---|---|---|---|
| | • CCU4<br>• CCU8<br>• HRPWM<br>• POSIF | • ACMP<br>• ADC<br>• DAC<br>• DSD | |

- DMA
- ERU
- FCE
- FLASH
- GPIO
- MATH
- PAU
- PRNG
- RTC
- SCU
- WDT

- CAN
- I2C
- I2S
- SPI
- UART
- USB
- USIC
- Ethernet
- EtherCAT®

**DAVE™ APPs**

Download

Graphical User Interface (GUI) configurable application oriented softv
Level Driver); arranged in a library (APIs)
DAVE™ Release Note APPS

| **General Purpose and System DAVE™ APPs:** | **Application Specif DAVE™ APPs:** |
|---|---|
| **General Purpose:**<br>• Timer/PWM (Capture, Compare)<br>• ADC<br>• DAC<br>• GPIO<br><br>**System:**<br>• Interrupt<br>• DMA<br>• AES<br>• CRC<br>• RTOS<br>• File System<br>• Emulated EEPROM | **Motor Control:**<br>• Asynchronous Motors (FOC, Frequency Control)<br>• PMSM, BLDC (FOC, Scalar, Hall Sensor)<br>• PWM Generation<br>  ◦ Space Vector<br>  ◦ Block Commutation<br>• Position Detection (Hall, Encoder, Resolver)<br>• Drive Automation<br><br>**Power Conversion:**<br>• Buck Converter<br>  ◦ Peal Current Control<br>• Voltage Control<br>• PWM Generation using HRPMW<br><br>**Communication:** |

| | | | |
|---|---|---|---|
| | | | • USIC<br>◦ UART<br>◦ SPI<br>◦ I2C<br>◦ USB<br>◦ Ethernet |
| **DAVE™ EXAMPLES** | Download | XMC™ Lib (Low Level Driver for XMC™ MCUs) and DAVE™ APPs com | |
| **3 rd PARTIES** | | XMC™ Lib and DAVE™ APPs are tested with GCC, ARM®, TASKING, IAI<br>Can be used with Altium, Atollic, ARM/KEIL, DAVE™, IAR Systems, iSy | |
| **XMC™ MCUs** | | A wide portfolio of more than hundred different feature / performanc<br>32-bit ARM® Cortex®–M0/M4F | |
| **Rapid Prototyping Tools** | | XMC™ Flasher Tool<br>Easy-to-use and free-of-charge tool to connect and flash XMC™ MCU | |
| | | XMC™ Link, Functional Isolated Debug Probe<br>Functional Isolated Debug Probe, based on SEGGER J-Link Technolog | |
| | | XMC™ Pinout Tool<br>Graphical Pinout allocation tool for rapid prototyping | |

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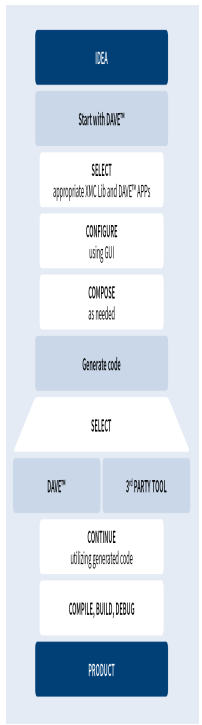
|---|---|---|---|
| **Basic Facts:** | | |  |

- Free Eclipse CDT based DAVE™
- DAVE™ IDE (Integrated Development Environment)
- Using GNU C-Compiler
- Resource solver – automatic assignment of chip resources
- Code generation plug-in with graphical user interfaces (GUI) using XMC™ Lib (Low Level Driver), DAVE™ APPs, and EXAMPLES
- Comprehensive and extensive code library repository
  *Offering basic system, peripherals, and advanced application-oriented components for Motor Control, Power Conversion, Lighting, Communication, and many more*
- Debugger inclusive Flash loader
- 3 rd party tools:
  - ARM®/KEIL™
  - Atollic
  - IAR Systems
  - Rowley Associates
  - TASKING
- Supporting all XMC™ MCU devices

# DAVE™ (Version 4) – Development Platform for XMC™ Microcontrollers

DAVE™ – Free Eclipse based code development platform/IDE offering code repository, graphical system design methods, and automatic code generator to guide XMC™ microcontroller user along the entire process – from evaluation to production (E2P). XMC™ Lib and DAVE™ generated code is tested and released for use with 3rd party tool.

# DAVE™ (Version 4) – Development Platform for XMC™ Microcontrollers

## Application Notes

| Title | Size | Date | Version |
|---|---|---|---|
| AP24026 - EMC and System-ESD Design Guidelines for Board Layout › EN | 2.9 MB | 15 Mar 2016 | 03_05 |
| AP32306 - XMC1000/XMC4000 - Event Request Unit(ERU) › EN | 725 KB | 30 Jul 2015 | 01_00 |
| Application Note - XMC1300/XMC1400 - Quasi-resonant control with XMC1000 › EN | 1.4 MB | 30 Jun 2016 | 01_00 |
| AP32277 - XMC1000 - ASC Bootstrap loader › EN | 1.2 MB | 19 Feb 2016 | 01_03 |
| AP32235 - XMC4000 - ASC Bootstrap Loader › EN | 924 KB | 19 Feb 2016 | 01_03 |
| AP32235 - XMC4000 - ASC Bootstrap Loader - Example Code › EN | 22.2 MB | 19 Feb 2016 | 01_03 |
| AP32288 - XMC1000/XMC4000 - Capture Compare Unit 8(CCU8) › EN | 1.2 MB | 23 Mar 2016 | 01_01 |
| AP32307 - XMC1000 - Math Coprocessor(MATH) › EN | 993 KB | 29 Jul 2015 | 01_00 |
| AP32303 - XMC1000/XMC4000 - Universal Serial Interface Channel(USIC) › EN | 1.8 MB | 29 Jul 2015 | 01_00 |
| AP32300 - XMC4000 - Controller Area Network Controller(MultiCAN) › EN | 992 KB | 29 Jul 2015 | 01_00 |
| AP32300 - XMC4000 - Controller Area Network Controller(MultiCAN) - Example Code › EN | 1 MB | 29 Jul 2015 | 01_00 |
| AP32302 - XMC4000 - Delta Sigma Demodulator(DSD) › EN | 1 MB | 29 Jul 2015 | 01_00 |
| AP32302 - XMC4000 - Delta Sigma Demodulator(DSD) - Example Code › EN | 909 KB | 29 Jul 2015 | 01_00 |
| AP32301 - XMC4000 - Digital to Analog Converter(DAC) › EN | 667 KB | 29 Jul 2015 | 01_00 |

| | | | |
|---|---|---|---|
| AP32301 - XMC4000 - Digital to Analog Converter(DAC) - Example Code › EN | 900 KB | 29 Jul 2015 | 01_00 |
| AP32287 - XMC1000/XMC4000 - Capture Compare Unit 4(CCU4) › EN | 1.1 MB | 23 Mar 2016 | 01_01 |
| AP32290 - XMC4000 - General Purpose Direct Memory Access(GPDMA) › EN | 726 KB | 29 Jul 2015 | 01_00 |
| AP32290 - XMC4000 - Genereal Purpose Direct Memory Access(GPDMA) - Example Code › EN | 891 KB | 29 Jul 2015 | 01_00 |
| AP32305 - XMC4000 - Versatile Analog to Digital Converter(VADC) › EN | 6 MB | 02 Aug 2016 | 01_02 |
| AP32314 - XMC1000 - Tunable White LED Lamp Control with RGB LED Lighting Shield › EN | 2.5 MB | 19 Aug 2015 | 01_00 |
| AP32313 – XMC1000 - Driving LED Strip Lights with the RGB LED Lighting Shield › EN | 623 KB | 19 Aug 2015 | 01_00 |
| AP32289 - XMC1000/XMC4000 - Position Interface(POSIF) › EN | 1.3 MB | 29 Jul 2015 | 01_00 |
| AP32275 - XMC1000 - Brightness and Color Control Unit(BCCU) › EN | 3.6 MB | 29 Jul 2015 | 01_01 |
| Working with DAVE APPs and moving from DAVE v3 to V4 › EN | 5.5 MB | 08 May 2015 | 01_00 |
| Application Note - XMC1000 - Pseudo Digital-to-Analog Converter (DAC) with XMC1000 › EN | 1 MB | 18 Jan 2016 | 01_00 |
| Application Note - XMC1000 - Boot mode handling for XMC1000 › EN | 1.3 MB | 11 Feb 2016 | 01_00 |
| Server Fan Control Reference Design › EN | 1.2 MB | 27 May 2015 | 01_00 |
| XMC1302 Application Note - Server Fan - Reference Design › EN | 1.2 MB | 30 Apr 2015 | 01_00 |
| Server Fan Control Reference Design - PCB files › EN | 525 KB | 27 May 2015 | 01_00 |

## Product Brochure

| Title | Size | Date | Version |
|---|---|---|---|
| DAVE™ Presentation › EN | 1.7 MB | 16 Mar 2016 | 01_00 |

## User Manual

| Title | Size | Date | Version |
|---|---|---|---|
| DAVE™ SDK – Software Development Quick Start › EN | 1.4 MB | 24 Apr 2015 | 01_00 |

## Getting Started

| Title | Size | Date | Version |
|---|---|---|---|
| DAVE™ Quick Start › EN | 1.9 MB | 11 May 2016 | 02_00 |
| Micrium® µC/Probe™ XMC™ getting started › EN | 3 MB | 24 Aug 2016 | 01_00 |
| DAVE™ Introduction Notes › EN | 773 KB | 23 Jul 2015 | 02_00 |

## Training

| Title | Size | Date | Version |
|---|---|---|---|
| Tooling - XMC4000 boot mode options › EN | 690 KB | 18 Aug 2016 | 01_00 |
| Tooling - Import DAVE™ version 4 Generated Library Sources into Atollic TrueSTUDIO® for ARM® › EN | 1.2 MB | 25 Aug 2016 | 01_00 |
| Tooling - Infineon Flash Programmer Memtool for XMC1000 Family › EN | 2 MB | 25 Aug 2016 | 01_00 |
| Tooling - Installation and Quick Start of iSYSTEM's winIDEA Open in DAVE™ version 4 › EN | 1.5 MB | 25 Aug 2016 | 01_00 |
| Application - Lighting - LED Brightness and Color Control with XMC1 › EN | 4.3 MB | 05 Aug 2015 | 01_00 |
| Tooling - Lauterbach µTrace® for Cortex®-M with XMC4000 and XMC1000 Family › EN | 1.3 MB | 25 Aug 2016 | 01_00 |
| Tooling - XMC™ Programmers and Flash Tools › EN | 847 KB | 23 Feb 2016 | 01_00 |
| Tooling - Import DAVE™ version 4 Generated Library Sources into Rowley CrossWorks® for ARM® › EN | 1 MB | 25 Aug 2016 | 01_00 |
| Application - Power Conversion - XMC™ in Power Conversion Applications › EN | 1.9 MB | 20 Jul 2016 | 01_02 |
| Tooling - Integrate XMC Lib LLD in 3rd Parties Tool Chains (Keil, IAR, Atollic and Rowley) › EN | 1.5 MB | 25 Aug 2016 | 01_01 |
| Tooling - Import DAVE™ version 4 Generated Library Sources into IAR Embedded Workbench® for ARM® › EN | 1.1 MB | 25 Aug 2016 | 01_00 |
| Application - Motor Control - XMC in Motor Control | 2.8 MB | 14 Jun 2016 | 01_00 |

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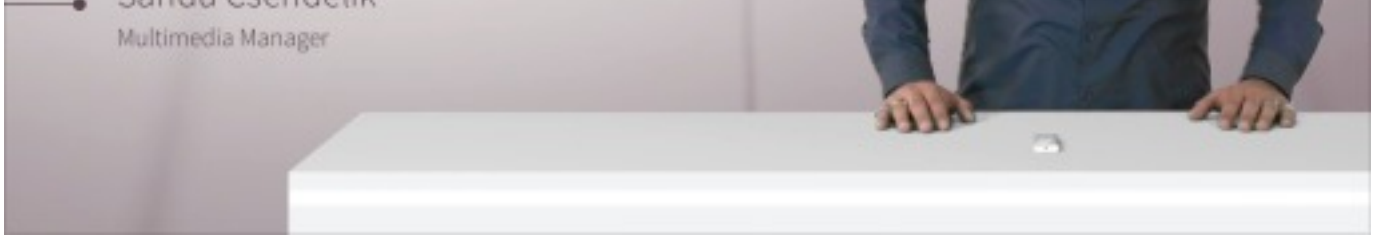
|---|---|---|---|
| Applications › EN | | | |
| System - XMC1000 System › EN | 1.5 MB | 06 Jun 2016 | 01_02 |
| Tooling - Import DAVE™ version 4 Generated Library Sources to ARM® MDK using CMSIS® PACK › EN | 1.4 MB | 25 Aug 2016 | 01_00 |

## Additional Technical Information

| Title | Size | Date | Version |
|---|---|---|---|
| Release Notes DAVE™ Device Pack › EN | 160 KB | 18 May 2016 | 21_14 |
| Release Notes DAVE™ SDK › EN | 221 KB | 18 May 2016 | 04_28 |
| List of DAVE™ APPs › EN | 16 KB | 29 Apr 2016 | 04_28 |
| XMC™ LIB-Peripheral libraries-CMSIS files-project examples including ETH Example with LWIP stack › EN | 52.6 MB | 18 May 2016 | 02_16 |
| USB LUFA Library, a light weighted USB stack including examples for XMC4000 › EN | 9.7 MB | 10 May 2016 | 01_02 |
| Release Notes DAVE™ Device Description › EN | 282 KB | 18 May 2016 | 04_28 |
| Release Notes DAVE™ › EN | 270 KB | 29 Apr 2016 | 04_26 |
| Release Notes XMC™ Lib › EN | 388 KB | 29 Apr 2016 | 02_16 |
| Release Notes DAVE™ APPs › EN | 629 KB | 29 Apr 2016 | 04_28 |

# DAVE™ (Version 4) – Development Platform for XMC™ Microcontrollers

**DAVE™ - SDK Webcast on Hardware Resource Modelling**




**30.09.2015 | Views: 82.911**

In this webcast the main concept of DAVE™ Hardware Resource Modelling will be explained. We will show simple examples on how to require and constraint HW resources. Introducing DAVE™ Device Description Explorer will also be in focus during the LIVE session.

**Newest videos** | **Most watched videos**

1 2 3 ... 4 »

**30.09.2015 | Views: 82.911**

## DAVE™ - SDK Webcast on Hardware Resource Modelling

In this webcast the main concept of DAVE™ Hardware Resource Modelling will be explained. We will show simple examples ...

**23.09.2015 | Microcontroller | Views: 4.058**

## DAVE™ SDK - Manifest Structures & Dynamic UI

In this webcast the innovative UI execution model will be explained. Examples of how to add or modify the behaviour of ...


**16.06.2015 | Views: 6.273**

## DAVE™ (Version 4) - Project Management

Learn how to manage your DAVE™ project - import, export, copy and delete projects from workspace, and also tips ...


**16.06.2015 | Views: 1.505**

## DAVE™ (Version 4) - Auto Code Generation and Target Programming

Ease of code generation using DAVE™ auto code generator, and how to download and run a simple demo on the target ...


**16.06.2015 | Views: 1.062**

## DAVE™ (Version 4) - Resource Solver, Pin Assignment and Signal Connection

Learn the innovative feature of DAVE™, the resource solver, which supports automatic resource assignment of ...

1 2 3 ... 4 »

# DAVE™ (Version 4) – Development Platform for XMC™ Microcontrollers

## Microcontroller

Please visit the Infineon forums: www.infineonforums.com

| | | | Last Post |
|---|---|---|---|
| **Microcontroller Forum**<br>Microcontroller Forum | RSS | Threads: 1,957<br>Posts: 6,821 | I2C Master App not letting me...<br>by hfegetude<br>Today, 03:00 AM |
| **XMC Forum** | RSS | Threads: 1,458<br>Posts: | I2C Master App not letting me... |

# DAVE™ (Version 4) – Development Platform for XMC™ Microcontrollers

## Self Service

**Please state your question**

**Proposals**

Send E-Mail

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1. Technical Support
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3. Chip Card and Security Distis
4. Supplier Service, Supplier Page, page regsitration
5. Radar chips (differentiate between a. 24GHz and 60GHz Industrial radar, b. 24GHz Automotive radar, c. 77GHz Automotive radar)
6. 绿色产品
7. Product Counterfeit Step 1

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DAVE™ (Version 4) – Development Platform for XMC™ Microcontrollers

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[please select]

Please post your technical question as detailed as possible*

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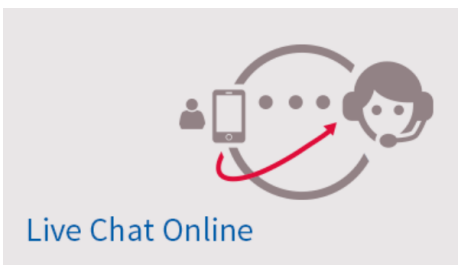


# DAVE™ (Version 4) – Development Platform for XMC™ Microcontrollers

## Software

| Title | Size | Date | Version |
|---|---|---|---|
| AP32306 - XMC1000/XMC4000 - Event Request Unit(ERU) - Example Code › EN | 664 KB | 29 Jul 2015 | 01_00 |
| AP32277 - XMC1000 - ASC Bootstrap Loader - Example Code › EN | 20.5 MB | 18 Apr 2016 | 01_03 |
| AP32288 - XMC1000/XMC4000 - Capture Compare Unit 8(CCU8) - Example Code › EN | 985 KB | 28 Apr 2016 | 01_02 |
| AP32307 - XMC1000 - Math Coprocessor(MATH) - Example Code › EN | 692 KB | 29 Jul 2015 | 01_00 |
| AP32303 - XMC1000/XMC4000 - Universal Serial Interface Channel(USIC) - Example Code › EN | 1 MB | 29 Jul 2015 | 01_00 |

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|---|---|---|---|---|
| | AP32287 - XMC1000/XMC4000 - Capture Compare Unit 4(CCU4) - Example Code › EN | 749 KB | 28 Apr 2016 | 01_02 |
| | AP32275 - XMC1000 - Brightness and Color Control Unit(BCCU) - Example Code › EN | 1.9 MB | 29 Jul 2015 | 01_00 |