

## Product Brief

# iMOTION™ MADK platform

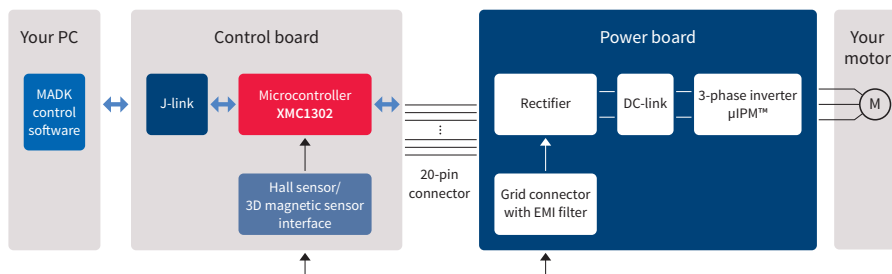
Complete and scalable system solution for motor drives

Infineon Technologies introduces the new iMOTION™ Modular Application Design Kit (MADK) platform for evaluation and testing compact and flexible 3 phase motor drive system solutions.

The iMOTION™ MADK evaluation platform covers 115/230 V motor drive applications up to 300 W. The platform is offering a modular and scalable system solution with 2 different control board options and a range of power boards. One control board option is a standard ARM® Cortex®-M0 Microcontroller XMC1302 with tailored motor control peripherals and MATH hardware accelerator. Another option is an iMOTION™ IRMCK099 digital motion control IC with integrated Motor Control Engine (MCE).

The first iMOTION™ MADK evaluation kits combine two control board options with four different power boards. Using iMOTION™ MADK standardized M1 platform Interface, different control and power boards can be combined in a system that perfectly matches the requirements of the application. This modular approach with a standardized interface between the different controller and power boards allows users to mix and match for a maximum flexibility and scalability during evaluation and development phase at affordable cost.

### Block diagram with XMC1302 based MADK



### Key benefits

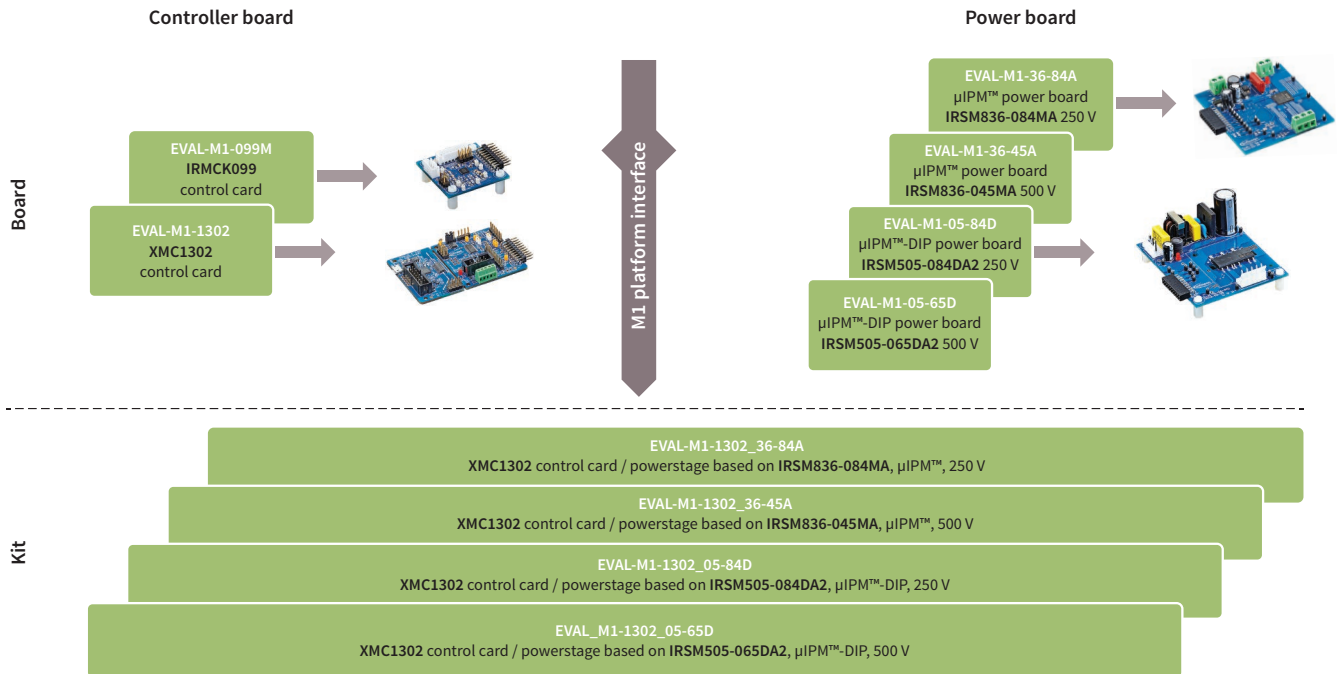
- > Easy to set up a complete motor drive system in less than 1 hour
- > Fast time to market – reduced design time & effort
- > Standard MADK platform M1 interface enables modularity, flexibility and scalability
- > Scalable power levels with μIPM™ and μIPM™-DIP

### Key features

- > MCU control card with XMC1302 MCU and SEGGER J-Link debug interface
  - μC Probe-based GUI for motor parametrization and tuning with XMC1302
  - FOC motor control Software for XMC1302
  - Fully supported by Infineon's free-of-charge DAVE™ IDE and other 3rd party ARM® IDEs (For XMC 1302)
- > Alternatively IRMCK099 Control Card with MCE TOOL V2
  - MCE Designer GUI for motor parametrization and tuning with IRMCK099
  - Hardware implemented FOC algorithm
- > 4 different power boards with μIPM™ or μIPM™-DIP with integrated 500 V or 250 V MOSFET & 600 V Gate-Driver

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Full compatibility within M1 platform interface

## MADK platform evaluation boards & kits

Evaluation board/kit	Content	OPN	SP number
Eval-M1-05-65D	IRSM505-065DA2 μIPM-DIP, mounted on the board, 3-pole & 5-pole connector	EVALM10565DTOB01	SP001591474
Eval-M1-05-84D	IRSM505-084DA2 μIPM-DIP, mounted on the board, 3-pole & 5-pole connector	EVALM10584DTOB01	SP001591850
Eval-M1-36-45A	IRSM836-045A μIPM, mounted on the board	EVALM13645ATOBO1	SP001592052
Eval-M1-36-84A	IRSM836-084A μIPM, mounted on the board	EVALM13684ATOBO1	SP001592062
Eval-M1-099M	IRMCK099 mounted on the board & MCE TOOL V2 & required. wires	EVALM1099MTOBO1	SP001591856
Eval-M1-1302	XMC1302, mounted on the board	EVALM11302TOBO1	SP001591894
Eval-M1-1302_05-65D	Eval-M1-1302, Eval-M1-05-65D, USB cable, 3-pole & 5-pole connector	EVALM113020565DTOBO1	SP001591902
Eval-M1-1302_05-84D	Eval-M1-1302, Eval-M1-05-84D, USB cable, 3-pole & 5-pole connector	EVALM113020584DTOBO1	SP001591814
Eval-M1-1302_36-45A	Eval-M1-1302, Eval-M1-36-45A, USB cable	EVALM113023645ATOBO1	SP001592034
Eval-M1-1302_36-84A	Eval-M1-1302, Eval-M1-36-84A, USB cable	EVALM113023684ATOBO1	SP001592044

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