



## MIC24055 click

PID: MIKROE-2835

Weight: 35 g

**MIC24055 click** is the buck regulator that can deliver continuous output current up to 8A and can step down voltages from up to 19V which makes this click board easy to use with many power sources commonly available. The amount of current it can deliver and the steady, ripple-free regulated voltage, make this click board a perfect choice for powering up devices which require high current, regulated power supply, such as servers and workstations, routers, telecom equipment and every other electronic device with similar power demands.

**MIC24055 click** is equipped with the MIC24055, high-efficiency buck regulator from Microchip. This IC can work with the wide range of input voltages, from 4.5V up to 19V. The regulated voltage at the output can be set from 1V to 4.8V by the means of the feedback (FB) pin and the second chip on board - MCP4921, a single channel 12-bit DAC by Microchip, equipped with the SPI interface. By programming the output of this DAC through the SPI interface routed to the mikroBUS socket pins, it is possible to easily set up the output voltage of the buck regulator. MikroElektronika libraries make it possible to perform this task easily, as seen in the example application.




## Specifications

Type	Buck
Applications	The MIC24055 click can be used for powering up devices which require regulated power source with sufficient current, such as servers and work stations, routers, telecom equipment and every other electronic device with similar power demands.
On-board modules	Microchip's MIC24055 constant-frequency synchronous buck regulator. Microchip's MCP4921 single channel, 12-bit DAC with the SPI interface.
Key Features	Continuous output current up to 8A, wide input range from 4.5V to 19V, power good (PG) output, short circuit protection, under-voltage protection, fast transient response.
Interface	Analog,GPIO,SPI
Input Voltage	3.3V
Click board size	L (57.15 x 25.4 mm)

## Pinout diagram

This table shows how the pinout on **MIC24055 click** corresponds to the pinout on the mikroBUS™ socket (the latter shown in the two middle columns).

Notes	Pin					Pin	Notes
Analog In	<b>AN</b>	1	AN	PWM	16	NC	
MIC24055 Enable	<b>EN</b>	2	RST	INT	15	<b>INT</b>	Power Good Out
DAC Chip Select	<b>CS</b>	3	CS	RX	14	NC	
SPI Clock	<b>SCK</b>	4	SCK	TX	13	NC	
	NC	5	MISO	SCL	12	NC	
SPI SDI	<b>MOSI</b>	6	MOSI	SDA	11	NC	
Power Supply	<b>+3.3V</b>	7	3.3V	5V	10	NC	
Ground	<b>GND</b>	8	GND	GND	9	<b>GND</b>	Ground

## MIC24055 click electrical specifications

Description	Min	Typ	Max	Unit
VIN	4.5		19	V
VOUT	1		4.8	V
Continuous output current			8	A

## Onboard settings and indicators

Label	Name	Default	Description
PWR	Power LED	-	Power LED indicator
TB1	VIN	-	Connector for connecting external VIN
TB2	VOUT	-	Connector for connecting the load

## Software support

We provide a library for MIC24055 click on our LibStock page, as well as a demo application (example), developed using MikroElektronika compilers. The demo can run on all the main MikroElektronika development boards.

### Library Description

The library contains functions for basic control of the onboard DAC.

### Key functions:

`void mic24055_dacOutput (uint16_t valueDAC)` - Directly sets the DAC output voltage

`void mic24055_setVout (uint16_t voltage)` - Sets the output voltage

### Examples Description

The application is composed of three sections :

- System Initialization - Initializes pin and peripherals
- Application Initialization - Initializes the click driver
- Application Task - Slowly alternates the click output between two values

```
mic24055_setVout(500);  
mikrobus_logWrite("Setting Vout to 500mV",_LOG_LINE);  
Delay_ms(3000);  
mic24055_setVout(2300);  
mikrobus_logWrite("Setting Vout to 2300mV",_LOG_LINE);  
Delay_ms(3000);
```

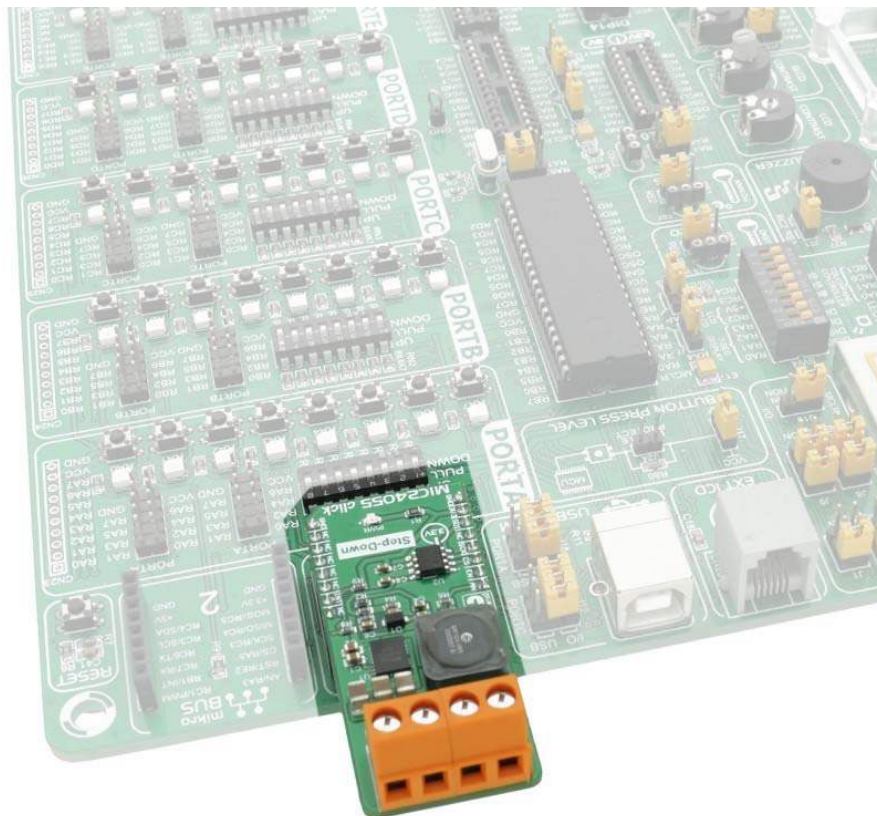
The full application code, and ready to use projects can be found on our LibStock page.

Other MikroElektronika libraries used in the example:

- UART

### Additional notes and information

Depending on the development board you are using, you may need USB UART click, USB UART 2 click or RS232 click to connect to your PC, for development systems with no UART to USB interface available on the board. The terminal available in all MikroElektronika compilers, or any other terminal application of your choice, can be used to read the message.



<https://www.mikroe.com/mic24055-click> 12-20-17