MIKROELEKTRONIKA D.O.O, Batajnički drum 23, 11000 Belgrade, Serbia
VAT: SR105917343 Registration No. 20490918
Phone: + 381 11 78 57 600 Fax: + 381 11 63 09 644 E-mail: office@mikroe.com
www.mikroe.com

ATA6571 Click

PID: MIKROE-4381

ATA6571 Click is a compact add-on board that contains a transceiver designed for high-speed CAN applications. This board features the ATA6571, a standalone high-speed CAN FD transceiver that interfaces a CAN protocol controller and the physical two-wire CAN bus from Microchip. It offers several operating modes with diagnostic and fail-safe features that enable enhanced system reliability. Its advanced low-power management with local and remote Wake-Up support makes it possible to achieve low current consumption in Standby and Sleep mode. This Click board™ is suitable for all types of high-speed CAN networks, especially in nodes requiring low-power mode with wake-up capability via the CAN bus.

ATA6571 Click is supported by a mikroSDK compliant library, which includes functions that simplify software development. This Click board™ comes as a fully tested product, ready to be used on a system equipped with the mikroBUS™ socket.

How does it work?

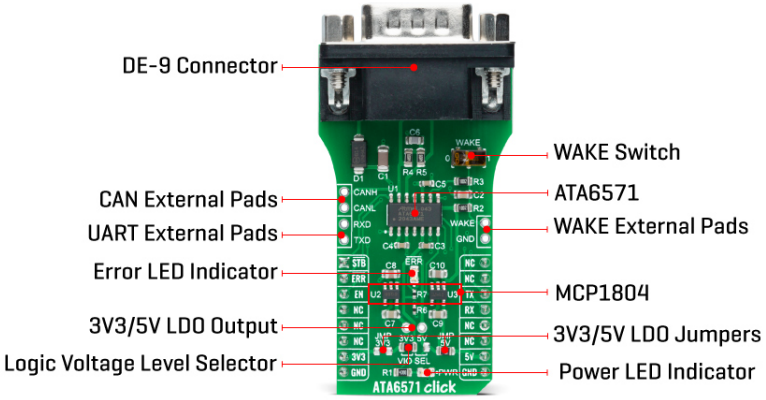
ATA6571 Click is based on the ATA6571, a standalone high-speed CAN FD transceiver up to 5 Mbit/s that interfaces a Controller Area Network (CAN) protocol controller and the physical two-wire CAN bus from Microchip. It offers improved Electromagnetic Compatibility (EMC) and ESD performance. Its advanced low-power management with local and remote Wake-Up support makes it possible to achieve low current consumption in Standby and Sleep mode, even when the internal I/O and transceiver supplies are switched off. The ATA6571 supports functional safety-related applications. Internal Safety Mechanisms prevent device malfunction due to undervoltage and overtemperature, detect bus dominant and recessive clamping, and prevent blocking of the CAN bus due to permanent dominant or recessive states of RXD and TXD.

Mikroe produces entire development toolchains for all major microcontroller architectures.
Committed to excellency, we are dedicated to helping engineers bring the project development up to speed and achieve outstanding results.

ISO 27001: 2013 certification of informational security management system.
ISO 14001: 2015 certification of environmental management system.
OHSAS 18001: 2008 certification of occupational health and safety management system.

ISO 9001: 2015 certification of quality management system (QMS).

MIKROELEKTRONIKA D.O.O, Batajnički drum 23, 11000 Belgrade, Serbia
VAT: SR105917343 Registration No. 20490918
Phone: + 381 11 78 57 600 Fax: + 381 11 63 09 644 E-mail: office@mikroe.com
www.mikroe.com



The ATA6571 has one pin used for waking up the device from Sleep mode. This pin is connected to an external switch labeled as WAKE to generate a local Wake-Up function. A Wake-Up event on the CAN bus switches the inhibit output pin INH to the High level. The INH pin provides an internal switch towards the battery supply voltage and control external voltage regulators, the MCP1804 from Microchip. Through SMD jumpers labeled as JMP3V3 and JMP5V, the LDOs output voltages can be used to power up the mikroBUS™ 3.3V and 5V power rails. However, it should be noted that Mikroe does not advise powering up their systems this way. That is why these jumpers are left unpopulated by default.

The ATA6571 communicates with MCU using the UART interface with the default baud rate of 9600 bps for the data transfer. In addition to UART communication pins from the mikroBUS™ socket, the user can connect the TX/RX signals directly through the UART External header on the left edge of the board. This Click board™ comes equipped with the standard DB-9 connector, making interfacing with the CAN bus simple and easy. Besides, the user can connect the CAN signals directly through the CAN External header, also on the left edge of the board.

In addition to these features, the ATA6571 also uses several GPIO pins connected to the mikroBUS™ socket. The EN pin routed on the CS pin of the mikroBUS™ is used for Enable Control. Together with the STB pin routed on the AN pin of the mikroBUS™ socket, which represents Standby Mode Control, the EN pin controls the operating mode of the device. It also provides a pull-down to force the transceiver into Recessive mode if EN is disconnected. Next to these pins, the ATA6571 uses another pin labeled as ERR routed on the RST pin of the mikroBUS™ used as Error Indication. This pin reflects the device status and can be visually displayed using the LED indicator labeled as ERR.

This Click board™ is designed to operate with both 3.3V and 5V logic voltage levels selected via the VIO SEL jumper. It allows for both 3.3V and 5V capable MCUs to use the UART communication lines properly. However, the Click board™ comes equipped with a library that contains easy to use functions and an example code that can be used, as a reference, for further development.

Specifications

Type	CAN,CAN FD
Applications	Can be used for all types of high-speed CAN networks, especially in nodes requiring low-

Mikroe produces entire development toolchains for all major microcontroller architectures.
Committed to excellency, we are dedicated to helping engineers bring the project development up to speed and achieve outstanding results.

ISO 27001: 2013 certification of informational security management system.
ISO 14001: 2015 certification of environmental management system.
OHSAS 18001: 2008 certification of occupational health and safety management system.

ISO 9001: 2015 certification of quality management system (QMS).

MIKROELEKTRONIKA D.O.O, Batajnički drum 23, 11000 Belgrade, Serbia
VAT: SR105917343 Registration No. 20490918
Phone: + 381 11 78 57 600 Fax: + 381 11 63 09 644 E-mail: office@mikroe.com
www.mikroe.com

	power mode with wake-up capability via the CAN bus.
On-board modules	ATA6571 Click is based on the ATA6571, a standalone high-speed CAN FD transceiver up to 5 Mbit/s that interfaces a Controller Area Network (CAN) protocol controller and the physical two-wire CAN bus from Microchip.
Key Features	High-Speed CAN Transceiver, improved EMC Compatibility and ESD performance, very low power consumption, remote wake-up support, protection and diagnostic functions, and more.
Interface	UART
Feature	No ClickID
Compatibility	mikroBUS™
Click board size	L (57.15 x 25.4 mm)
Input Voltage	3.3V or 5V,External

Pinout diagram

This table shows how the pinout on ATA6571 Click corresponds to the pinout on the mikroBUS™ socket (the latter shown in the two middle columns).

Notes	Pin	mikroBUS™				Pin	Notes
Standby Mode Control	**STB**	1	AN	PWM	16	NC	
Error Indication	**ERR**	2	RST	INT	15	NC	
Enable Control	**EN**	3	CS	RX	14	**TX**	UART TX
	NC	4	SCK	TX	13	**RX**	UART RX
	NC	5	MISO	SCL	12	NC	
	NC	6	MOSI	SDA	11	NC	
Power Supply	**3.3V**	7	3.3V	5V	10	**5V**	Power Supply
Ground	**GND**	8	GND	GND	9	**GND**	Ground

Onboard settings and indicators

Label	Name	Default	Description
LD1	PWR	-	Power LED Indicator
LD2	ERR	-	Error LED Indicator
JP1	VIO SEL	Left	Power Supply Voltage Selection 3V3/5V: Left position 3V3, Right position 5V
JMPR1-JMPR2	JMP3V3-JMP5V	JMP5V Populated	3V3/5V LDO Jumpers
SW1	WAKE	Down	Wake-Up Switch

ATA6571 Click electrical specifications

Description	Min	Typ	Max	Unit

Mikroe produces entire development toolchains for all major microcontroller architectures.
Committed to excellency, we are dedicated to helping engineers bring the project development up to speed and achieve outstanding results.

ISO 27001: 2013 certification of informational security management system.
ISO 14001: 2015 certification of environmental management system.
OHSAS 18001: 2008 certification of occupational health and safety management system.

ISO 9001: 2015 certification of quality management system (QMS).

MIKROELEKTRONIKA D.O.O, Batajnički drum 23, 11000 Belgrade, Serbia
VAT: SR105917343 Registration No. 20490918
Phone: + 381 11 78 57 600 Fax: + 381 11 63 09 644 E-mail: office@mikroe.com
www.mikroe.com

Supply Voltage VIO	-0.3	-	5.5	V
Battery Supply Voltage	4.5	-	28	V
Communication Data Rates	-	-	5	Mbit/s
Voltage between CANH and CANL pins	-27	-	+42	V
Operating Temperature Range	-40	-	+150	°C

Software Support

We provide a library for the ATA6571 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 covers all the necessary functions to control ATA6571 Click board™. Library performs a standard UART interface communication.

Key functions:

- void ata6571_set_operation_mode (uint8_t op_mode) - Set device operation mode function.
- void ata6571_write_byte (uint8_t input) - Write Single Byte.
- uint8_t ata6571_read_byte(void) - Read Single Byte.

Examples description

The application is composed of three sections :

- System Initialization - Initializes UART used for communcation and another UART bus used for data logging.
- Application Initialization - Initializes UART driver. In addition to this module is palced inside normal working mode cappable of tranmission and reception of data.
- Application Task - (code snippet) - This is an example which demonstrates the use of ATA6571 Click board™. Tranismiter/Receiver task depend on uncommented code Receiver logging each received byte to the UART for data logging, while transmiter send message each 2 seconds.

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

Other mikroE Libraries used in the example:

- UART

Additional notes and informations

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.

mikroSDK

Mikroe produces entire development toolchains for all major microcontroller architectures.
Committed to excellency, we are dedicated to helping engineers bring the project development up to speed and achieve outstanding results.

ISOQAR REGISTERED
UKAS MANAGEMENT SYSTEMS
ISO 27001: 2013 certification of informational security management system.
ISO 14001: 2015 certification of environmental management system.
OHSAS 18001: 2008 certification of occupational health and safety management system.
TÜV SÜD ISO 9001
ISO 9001: 2015 certification of quality management system (QMS).

MIKROELEKTRONIKA D.O.O, Batajnički drum 23, 11000 Belgrade, Serbia
VAT: SR105917343 Registration No. 20490918
Phone: + 381 11 78 57 600 Fax: + 381 11 63 09 644 E-mail: office@mikroe.com
www.mikroe.com

This Click board™ is supported with mikroSDK - MikroElektronika Software Development Kit. To ensure proper operation of mikroSDK compliant Click board™ demo applications, mikroSDK should be downloaded from the LibStock and installed for the compiler you are using.

For more information about mikroSDK, visit the official page.

Resources

mikroBUS™

mikroSDK

Click board™ Catalog

Click boards™

Downloads

ATA6571 click 2D and 3D files

MCP1804 datasheet

ATA6571 datasheet

ATA6571 click example on Libstock

ATA6571 click schematic

Mikroe produces entire development toolchains for all major microcontroller architectures.
Committed to excellency, we are dedicated to helping engineers bring the project development up to speed and achieve outstanding results.

ISO 27001: 2013 certification of informational security management system.
ISO 14001: 2015 certification of environmental management system.
OHSAS 18001: 2008 certification of occupational health and safety management system.

ISO 9001: 2015 certification of quality management system (QMS).