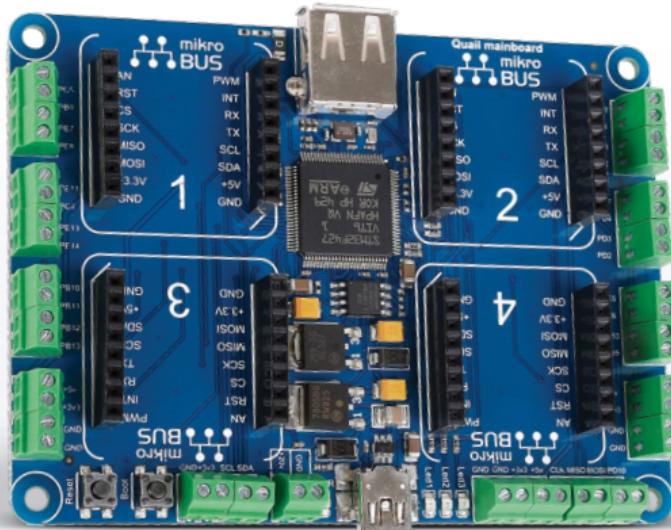
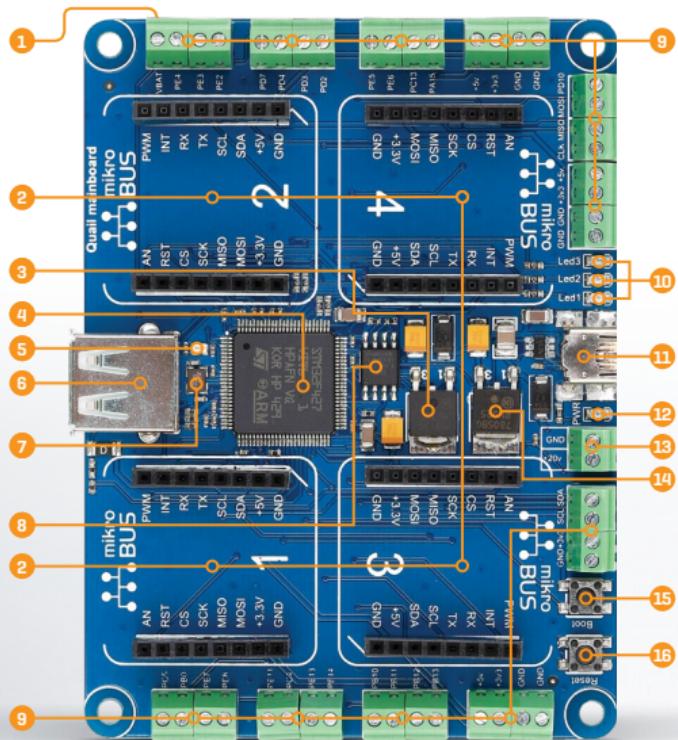




click™ boards meet .NET Micro framework



## What's on board



- 1 RTC battery connector
- 2 mikroBUS™ sockets 1, 2, 3 and 4
- 3 3.3V voltage regulator
- 4 100pin STM32F427 MCU
- 5 32.768 KHz crystal oscillator
- 6 USB A connector
- 7 12 MHz crystal oscillator
- 8 Flash memory [64 Mbit]
- 9 Connecting terminals
- 10 Additional indication LEDs
- 11 USB Mini-B connector
- 12 Power indication LED
- 13 External power supply (+20V max)
- 14 5V voltage regulator
- 15 BOOT button
- 16 RESET button

## System specification



via USB cable  
[5V DC]



72 x 97 mm  
[2.83 x 3.82 inch]



≈ 50g  
4 sockets  
available



## What is the Quail board?

Quail is a hardware development board equipped with four mikroBUS™ sockets and a 32-bit ARM® Cortex®-M4 STM32 microcontroller. The edges of the board are lined with screw terminals and USB ports for additional connectivity.

## What's it for?

Quail offers a simplified way of developing hardware prototypes with C# managed code. It brings together MikroElektronika click™ boards and Microsoft's .NET Micro Framework for embedded devices (NETMF). MikroElektronika is constantly expanding the range of click™ boards to include all sorts of sensors, transceivers, displays... and the MikroBUS.NET team is supporting them with high-quality drivers to make them compatible with NETMF and the Microsoft Visual Studio IDE.



## 1. Install the required software

To start using Quail, download the following three pieces of software:

### The Microsoft .NET Micro Framework

Open source platform that enables you to write managed C# code for embedded applications.

[www.netmf.com](http://www.netmf.com)

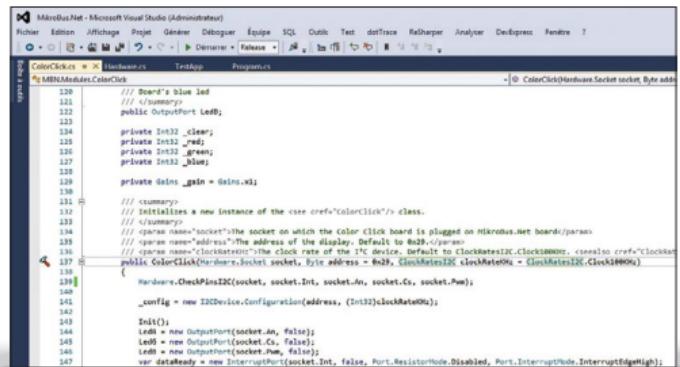
### Visual Studio Community 2013

A full-featured free cross-platform IDE from Microsoft.

[www.visualstudio.com](http://www.visualstudio.com)

### MBN Core Assembly

[www.mikrobusnet.org/downloads-2](http://www.mikrobusnet.org/downloads-2)



```
Microsoft Visual Studio (Administrator)
Fichier Édition Affichage Projet Générer Déboguer Équipe SQL Outils Test dmTrace ReSharper Analyseur Désassembler Fenêtres ?
Ouvrir un autre projet... Fichier Nouveau... Projet... Démarrer... Démarrer avec l'application... Options... Personnaliser... Aide... Aide en ligne... V

ColorClick.cs  Fichier.cs Test.cs Propriétés
MikroBusNet\ColorClick\

120     /// Board's blue led
121     private const int LedB = 122;
122     public OutputPort LedB;
123
124     private int32 _clear;
125     private int32 _red;
126     private int32 _green;
127     private int32 _blue;
128
129     private static int32 _min = 0x10000000;
130
131     //I2C
132     //Initializes a new instance of the class ColorClick.
133     //The socket on which the Color Click board is plugged on Mikrobus.NET board</param>
134     //The I2C address of the display. Default to 0x80</param>
135     //The clock rate of the I2C device. Default to ClockRateI2C.ClockRate00<param name="ClockRateI2C">ClockRate00</param>
136     public ColorClick(Hardware.Socket socket, byte address = 0x80, ClockRateI2C clockRate00 = ClockRateI2C.ClockRate00);
137
138     Hardware.CheckPinsI2C(socket, socket.Int, socket.An, socket.Cs, socket.Pm);
139
140     _config = new I2DDevice.Configuration(address, (int32)clockRate00);
141
142     _Init();
143
144     LedB = new OutputPort(socket.An, false);
145     LedB = new OutputPort(socket.Cs, false);
146     LedB = new OutputPort(socket.Pm, false);
147     var dataReady = new InterruptPort(socket.Int, false, Port.ResistorMode.Disabled, Port.InterruptMode.InterruptEdgeHigh);
```

Visual Studio Community 2013

## 2. Get the click™ boards and corresponding drivers

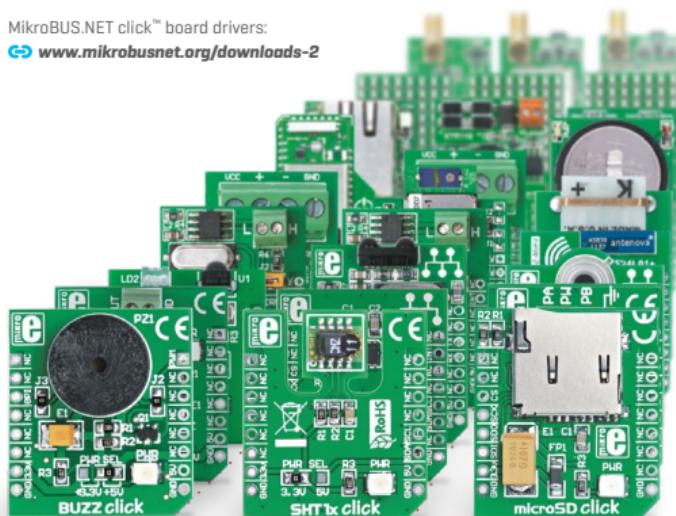
Buzzer, Relays, WiFi, RFid, OLED, Speech recognition - **you name it, we got it!** There are more than a hundred click™ boards available. About 50 are supported so far with mikroBUS. NET drivers. More drivers are coming up all the time but if you're in a hurry instructions for building your own drivers are also available.

All available click™ boards:

↳ [www.mikroe.com/click](http://www.mikroe.com/click)

MikroBUS.NET click™ board drivers:

↳ [www.mikrobusnet.org/downloads-2](http://www.mikrobusnet.org/downloads-2)



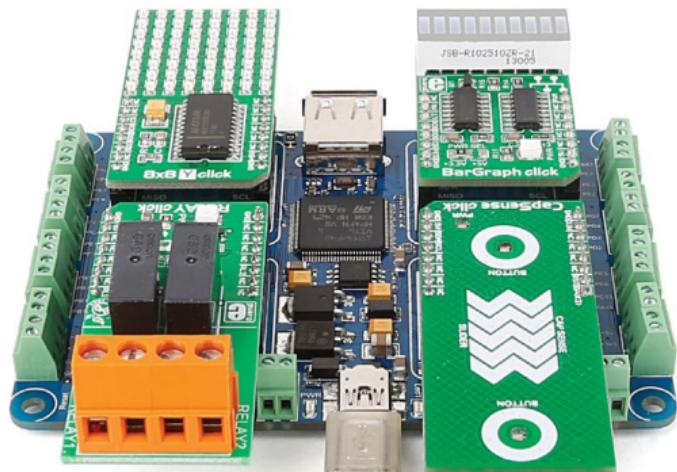
click™ add-on boards

## 3. Building your first application

After you're done setting up the development environment with steps 1 and 2, you are ready to start building your first application.

A detailed walkthrough on how to start a project in Visual Studio, include the necessary drivers and reference the needed assemblies in your source code is available at:

↳ [www.mikrobusnet.org/getting-started/writing-an-application](http://www.mikrobusnet.org/getting-started/writing-an-application)



click™ boards mounted on Quail

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If you want to learn more about our products, please visit our web site at [www.mikroe.com](http://www.mikroe.com).

If you are experiencing some problems with any of our products or just need additional information, please place your ticket at [www.mikroe.com/support](http://www.mikroe.com/support).

If you have any questions, comments or business proposals, do not hesitate to contact us at [office@mikroe.com](mailto:office@mikroe.com)

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# MikroBUS ONET

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For more information and  
Quail-related updates directly from  
the MikroBUS.NET team, visit:  
[www.mikrobusnet.org/project/quail](http://www.mikrobusnet.org/project/quail)

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