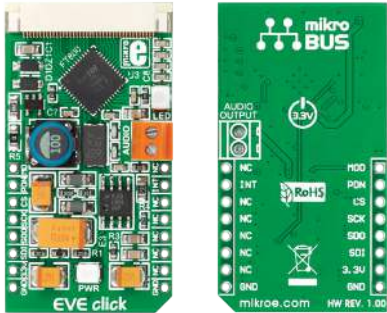# EVE click™

1. Introduction

EVE Click™ is an accessory board in **mikroBUS™** form factor. It's a compact and easy solution for adding graphics controller to your design. It features **FT800Q** graphics controller, flat cable connector, **LM4864** audio amplifier, LED diode as well as screw terminals. EVE Click™ communicates with the target board microcontroller via **mikroBUS™** SPI (MISO, MOSI, SCK, CS), INT, RST and AN lines. The board is designed to use 3.3V power supply only. LED diode (GREEN) indicates the presence of power supply.
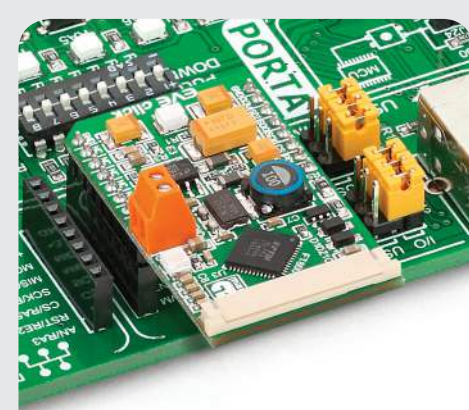
2. Soldering the headers

Before using your click board™, make sure to solder 1x8 male headers to both left and right side of the board. Two 1x8 male headers are included with the board in the package.

1

Turn the board upside down so that bottom side is facing you upwards. Place shorter parts of the header pins in both soldering pad locations.
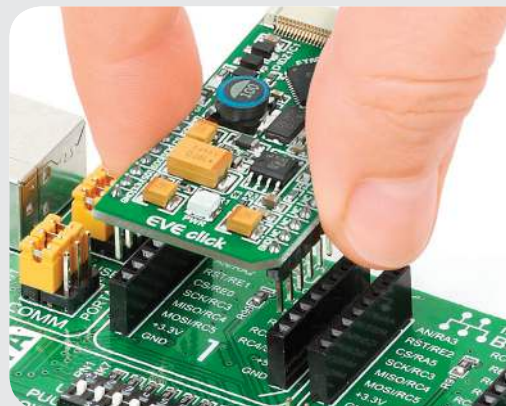
2

Turn the board upward again. Make sure to align the headers so that they are perpendicular to the board, then solder the pins carefully.

3

3. Plugging the board in

Once you have soldered the headers your board is ready to be placed into desired mikroBUS™ socket. Make sure to align the cut in the lower-right part of the board with the markings on the silkscreen at the mikroBUS™ socket. If all of the pins are aligned correctly, push the board all the way into the socket.

4. Essential features

EVE Click™ with it's **FT800Q** IC is embedded video engine controller that combines display, audio and touch-screen features. It has SPI interface to main board microcontroller (up to 30 MHz), video RGB parallel output interface, mono audio channel output with PWM (via screw terminals), sound synthesizer, PWM backlight dimming control, 4-wires touch-screen with touch force sensing, several power modes and many more.
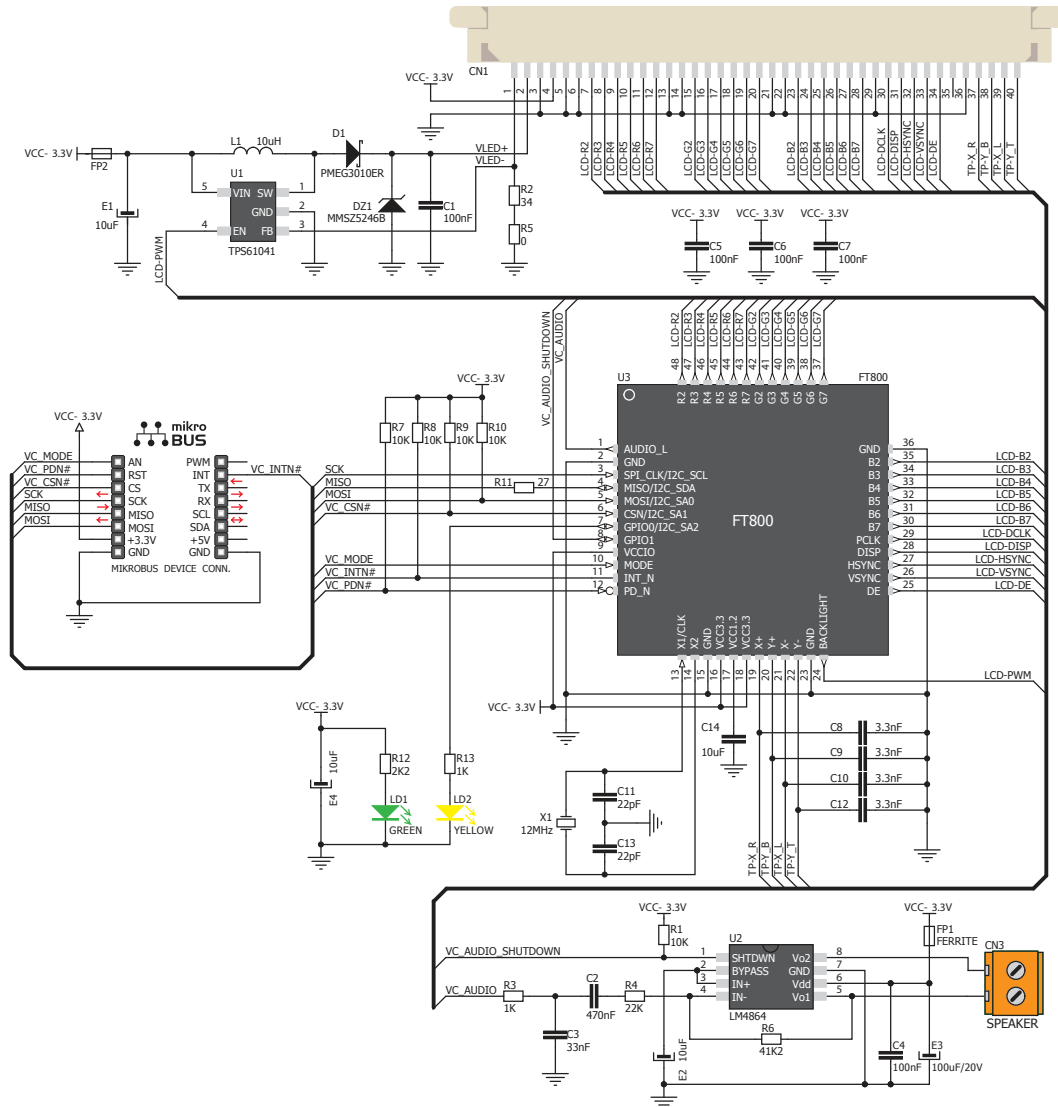
click™ BOARD

www.mikroe.com

EVE click Manual
ver. 1.00

0 100000 023846

5. EVE Click™ Board Schematic

VCC- 3.3V FP2

VCC- 3.3V CN1

L1 10uH D1 PMEG3010ER VLED+ VLED-

U1 VIN SW / GND / EN FB TPS61041
E1 10uF
DZ1 MMSZ5246B
C1 100nF
R2 34
R5 0
LCD-PWM

VCC- 3.3V C5 100nF C6 100nF C7 100nF

LCD-R2 LCD-R3 LCD-R4 LCD-R5 LCD-R6 LCD-R7 LCD-G2 LCD-G3 LCD-G4 LCD-G5 LCD-G6 LCD-G7 LCD-B2 LCD-B3 LCD-B4 LCD-B5 LCD-B6 LCD-B7 LCD-DCLK LCD-DISP LCD-HSYNC LCD-VSYNC LCD-DE TP-X_R TP-Y_B TP-X_L TP-Y_T

VCC- 3.3V mikroBUS

VC_MODE / AN / PWM
VC_PDN# / RST / INT / VC_INTN#
VC_CSN# / CS / TX
SCK / SCK / RX
MISO / MISO / SCL
MOSI / MOSI / SDA
+3.3V / +5V
GND / GND
MIKROBUS DEVICE CONN.

R7 10K R8 10K R9 10K R10 10K
R11 27

SCK
MISO
MOSI
VC_CSN#

VC_MODE
VC_INTN#
VC_PDN#

VCC- 3.3V

U3 FT800

R2 R3 R4 R5 R6 R7 G2 G3 G4 G5 G6 G7 (48 47 46 45 44 43 42 41 40 39 38 37)
LCD-R2 LCD-R3 LCD-R4 LCD-R5 LCD-R6 LCD-R7 LCD-G2 LCD-G3 LCD-G4 LCD-G5 LCD-G6 LCD-G7

1 AUDIO_L
2 GND
3 SPI_CLK/I2C_SCL
4 MISO/I2C_SDA
5 MOSI/I2C_SA0
6 CSN/I2C_SA1
7 GPIO0/I2C_SA2
8 GPIO1
9 +3.3V
10 VCCIO
11 MODE
12 INT_N
PD_N

36 GND
35 B2 LCD-B2
34 B3 LCD-B3
33 B4 LCD-B4
32 B5 LCD-B5
31 B6 LCD-B6
30 B7 LCD-B7
29 PCLK LCD-DCLK
28 DISP LCD-DISP
27 HSYNC LCD-HSYNC
26 VSYNC LCD-VSYNC
25 DE LCD-DE

X1/CLK X2 GND VCC3.3 VCC1.2 VCC3.3 X+ Y+ X- Y- GND BACKLIGHT
(13 14 15 16 17 18 19 20 21 22 23 24)

VCC- 3.3V

VC_AUDIO_SHUTDOWN
VC_AUDIO

R12 2K2 R13 1K
E4 10uF
LD1 GREEN LD2 YELLOW

C14 10uF
C8 3.3nF
C9 3.3nF
C10 3.3nF
C12 3.3nF

C11 22pF
C13 22pF
X1 12MHz

TP-X_R TP-Y_B TP-X_L TP-Y_T

LCD-PWM

VCC- 3.3V R1 10K

VCC- 3.3V FP1 FERRITE CN3

U2 LM4864
1 SHTDWN
2 BYPASS
3 IN+
4 IN-
8 Vo2
7 GND
6 Vdd
5 Vo1

VC_AUDIO_SHUTDOWN
VC_AUDIO R3 1K C2 470nF R4 22K
C3 33nF E2 10uF
R6 41K2
C4 100nF E3 100uF/20V

SPEAKER

6. Flat cable connector

The board contains 40 pin flat cable connector which is used for 4.3" TFT display (480x272 pixel) with touch panel (not included in the package).

7. Code Examples

Once you have done all the necessary preparations, it's time to get your click board up and running. We have provided the examples for mikroC, mikroBasic and mikroPascal compilers on our **Libstock** website. Just download them and you are ready to start.

LIBSTOCK.com

8. Support

MikroElektronika offers **Free Tech Support (www.mikroe.com/esupport)** until the end of product lifetime, so if something goes wrong, we are ready and willing to help!

MikroElektronika
DEVELOPMENT TOOLS | COMPILERS | BOOKS