

# Digital control kit

## KIT\_600W\_LLCDI\_CTRL

From **analog** to **digital** control

# Digital control kit KIT\_600W\_LLC\_DI\_CTRL for EVAL\_600W\_12V\_LLC



**Ordering code:**  
**KIT\_600W\_LLC\_DI\_CTRL**

This adapter kit is intended for use when replacing an analog control card with its digital alternative. The kit offers as a replacement option Infineon's XMC4200 microcontroller ARM® Cortex®.

## **Board components**

- > XMC™ microcontroller (XMC4200-Q48K256AB)
- > Voltage regulator (IFX91041EJV33)
- > Silicon transistor (BC846PN)

## **To be used with the following boards**

- > [EVAL\\_600W\\_12V\\_LLC\\_C7](#)
- > [EVAL\\_600W\\_12V\\_LLC\\_P7](#)

# Product features

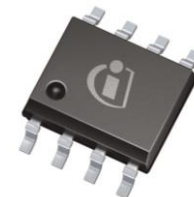
## BC846PN

- > High current gain
- > Low collector-emitter saturation voltage
- > Two (galvanic) internal isolated NPN/PNP transistor in one package
- > Qualified according AEC Q101



## IFX91041EJ V33

- > Wide supply voltage operation range
- > Low current consumption
- > Current limitation and
- > Overtemperature protection
- > Enable, soft start, sync
- > Features



## XMC4200-Q48K256AB

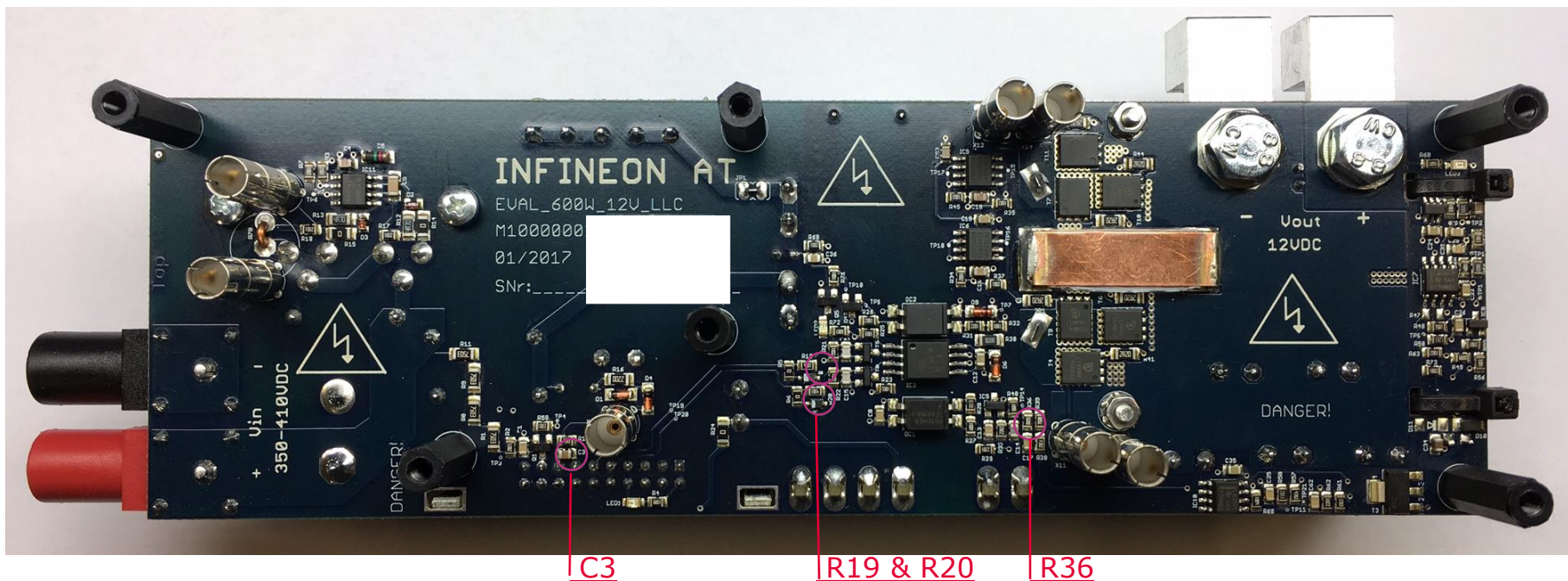
- > ARM® Cortex®-M4, 80 MHz, incl. single cycle DSP MAC and floating point unit (FPU)
- > 8-channel DMA + dedicated DMA for USB
- > USB 2.0 full-speed device
- > CPU Frequency: 80 MHz
- > eFlash: 256 kB including hardware ECC
- > 40 kB SRAM
- > Package: PG-LQFP-48



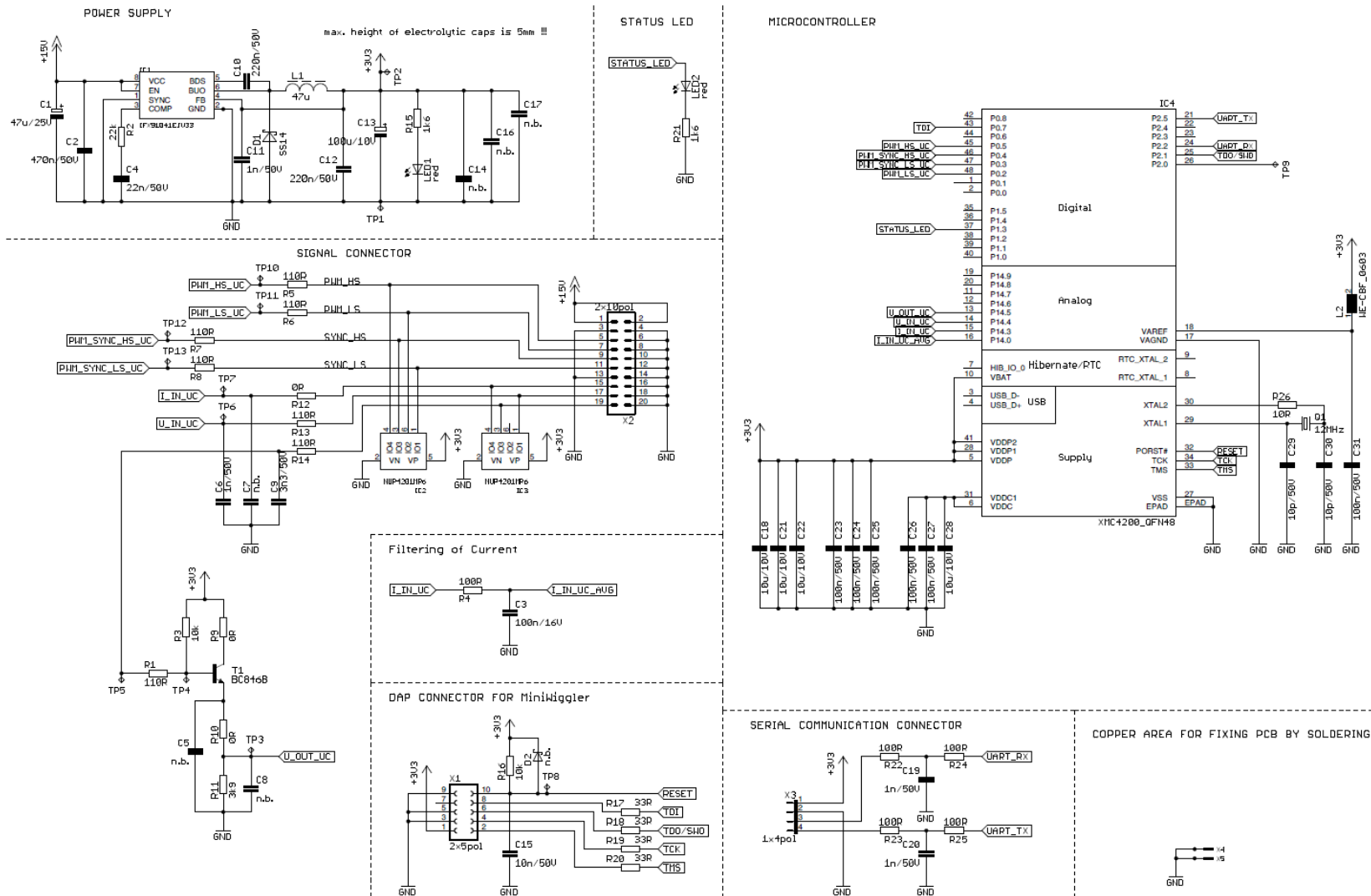
# Bill of material (Rework)

Part	Value	Pieces	Tolerance	Device	Assembling info.	Manufacturer
C3	10n/50V	1		C-EU_C0805*	Replace with 10n/50V	
R19	330R	1	±1%	R-EU_R0805 *	Replace with 330R	
R20	330R	1	±1%	R-EU_R0805 *	Replace with 330R	
R36	n.a.	1		R-EU_R0805 *	disassemble	
IC1	Board	1		KIT_600W_LLC_DI_CTRL	See above	Infineon

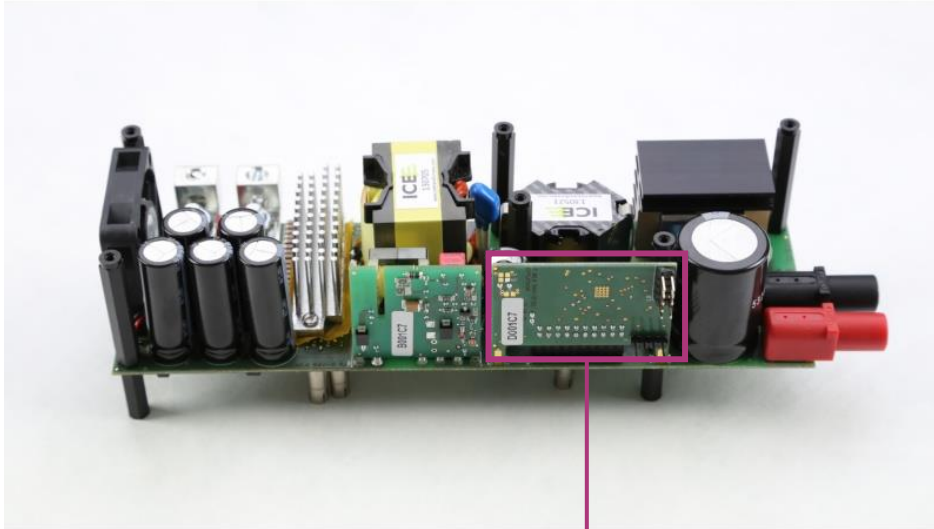
\* All needed replacement material is included in the KIT\_600W\_LLC\_DI\_CTRL.



# Schematic



# Base board EVAL\_600W\_12V\_LLC\_xx with control card KIT\_600W\_LLC\_DI\_CTRL



**Digital control card:**  
KIT\_600W\_LLC\_DI\_CTRL

## Ordering code:

EVAL\_600W\_12V\_LLC\_C7

EVAL\_600W\_12V\_LLC\_P7

Infineon's 600 W 12 V LLC boards showcase how to design a half-bridge LLC stage of a server SMPS with the target to meet 80+ Titanium standard efficiency requirements. The **KIT\_600W\_LLC\_DI\_CTRL** can be used with any of Infineon's EVAL\_600W\_12V\_LLC boards, replacing the analog control card.

## Application note:

- › [Evaluation Board EVAL\\_600W\\_12V\\_LLC\\_C7 d with 600V CoolMOS™ C7](#)
- › [Evaluation Board EVAL\\_600W\\_12V\\_LLC\\_P7 with 600V CoolMOS™ P7](#)

[www.infineon.com/600W-LLC-eval](http://www.infineon.com/600W-LLC-eval)



## Technical Material

- > Application Notes
- > Simulation Models
- > Datasheets
- > PCB Design Data

> [www.infineon.com/600W-LLC-eval](http://www.infineon.com/600W-LLC-eval)

## Evaluation Boards

- > Evaluation Boards
- > Demoboards
- > Reference Designs

> [www.infineon.com/evaluationboards](http://www.infineon.com/evaluationboards)

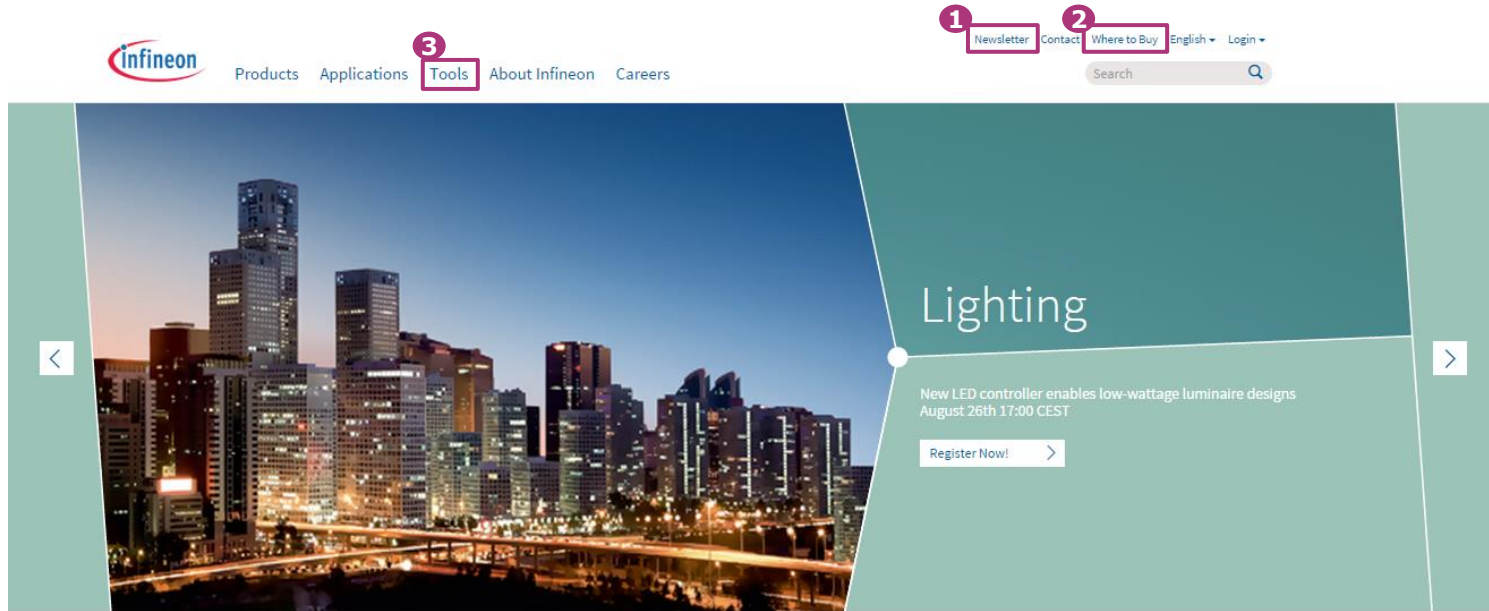
## Videos

- > Technical Videos
- > Product Information Videos

> [www.infineon.com/mediacenter](http://www.infineon.com/mediacenter)

# Support

## Online tools and services



- 1 **Subscribe to Newsletter**
- 2 **Where to Buy**
- 3 **Tools, Finders and Selectors**
- 4 **Support**

- Products
  - Applications
  - Tools
  - Support** (4)
  - Technology
- Power
  - Automotive System IC
  - ESD & EMI
  - Microcontroller
  - RF & Wireless Control
  - Security IC
  - Sensor
  - Smart Card IC
  - Interface
  - Transistor & Diode
- Power Overview
  - Power MOSFET
  - IGBT
  - Smart Low-Side & High-Side Switches
  - Linear Voltage Regulator
  - DC-DC Converter
  - LED Driver | Lighting ICs
  - Silicon Carbide (SiC)
  - High Power Thyristors & Diodes
  - Motor Control & Gate Driver
  - AC-DC Supply

News & Tweets





Part of your life. Part of tomorrow.

