

Digital control kit

KIT_600W_LLCDI_CTRL

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

Di Domenico Francesco (IFAT PMM ACDC AE)
Florian Zechner (IFAT PMM ACDC AE)



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

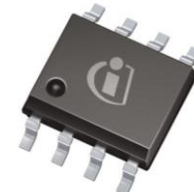
BC846PN

- > 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

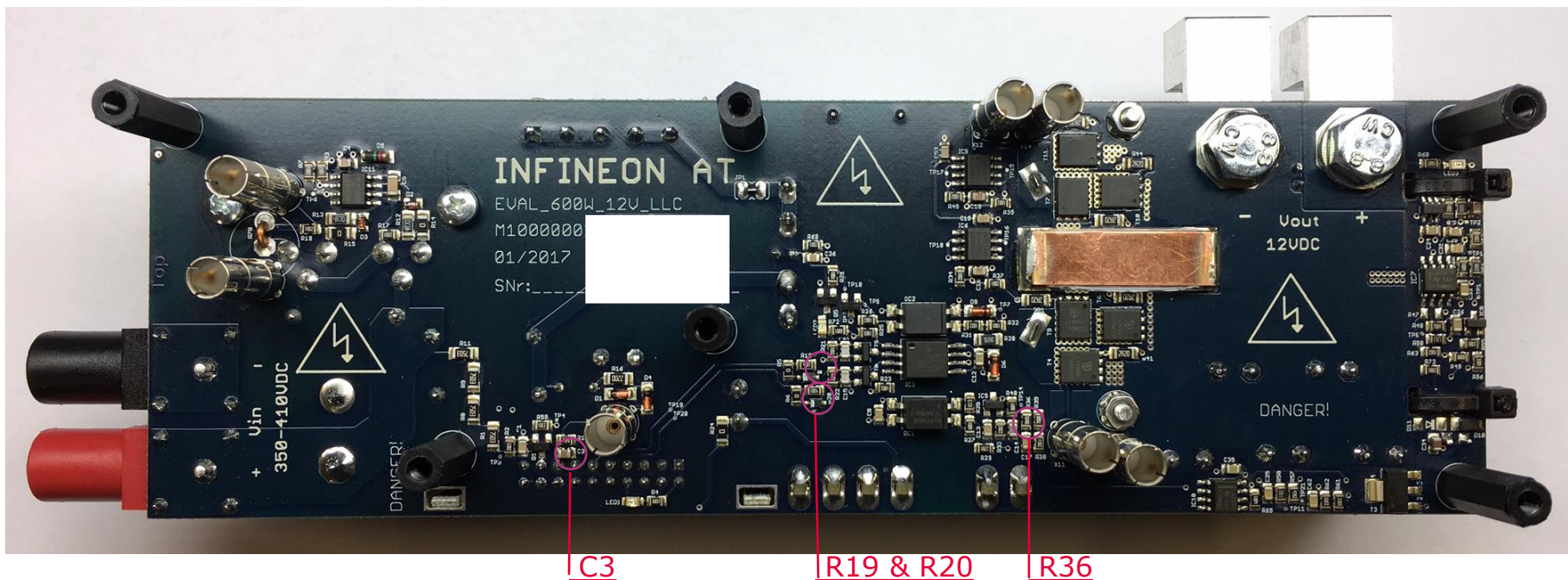
- > ARM® Cortex®-M4, 80 MHz, incl. single cycle DSP MAC and floating point unit (FPU)
- > 8-channel DMA + dedicated DMA for USB
- > USB 2.0 full-speed device
- > CPU Frequency: 80 MHz
- > eFlash: 256 kB including hardware ECC
- > 40 kB SRAM
- > Package: PG-LQFP-48



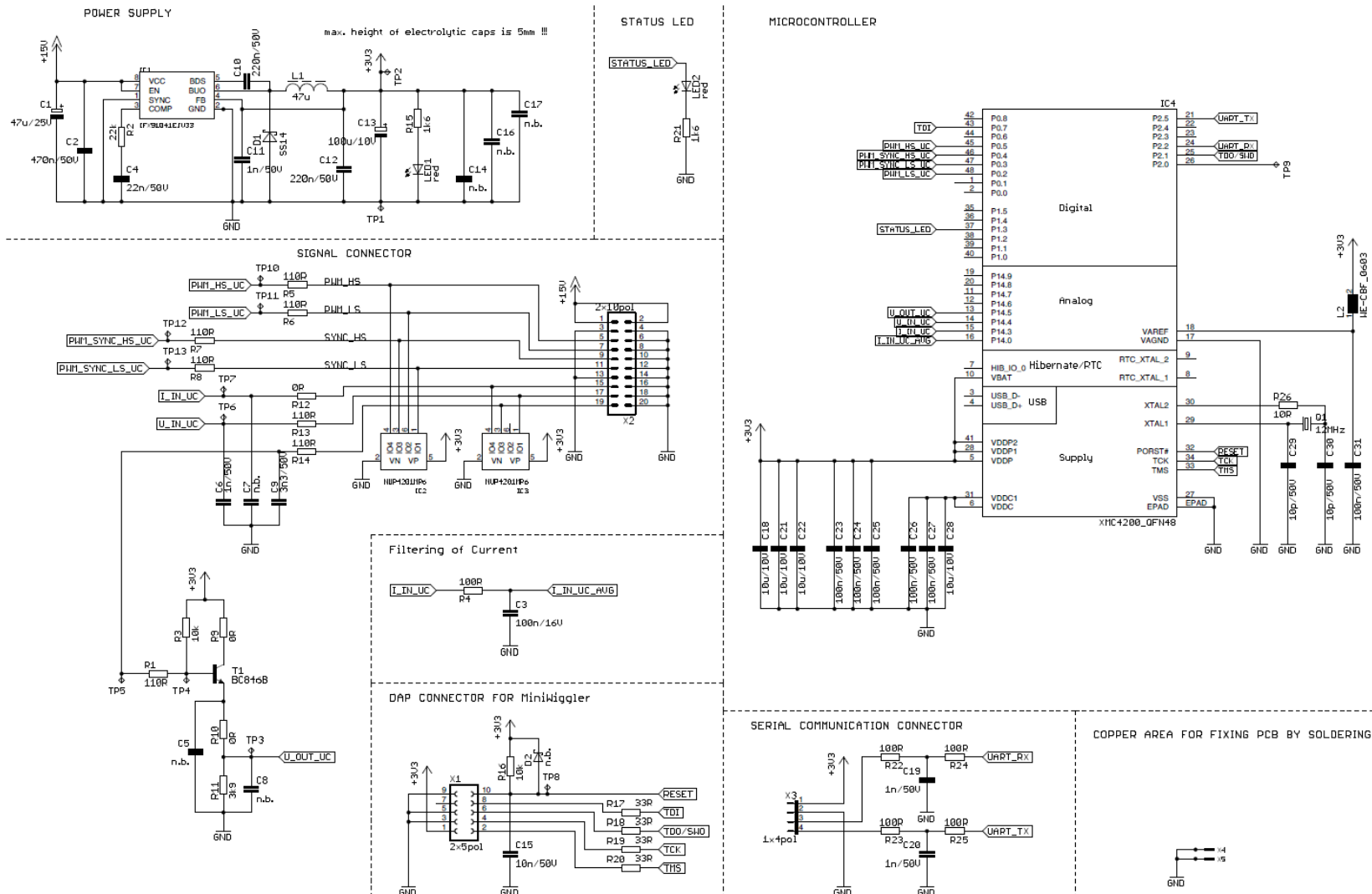
Bill of material (Rework)

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



Technical Material

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

> www.infineon.com/600W-LLC-eval

Evaluation Boards

- > Evaluation Boards
- > Demoboards
- > Reference Designs

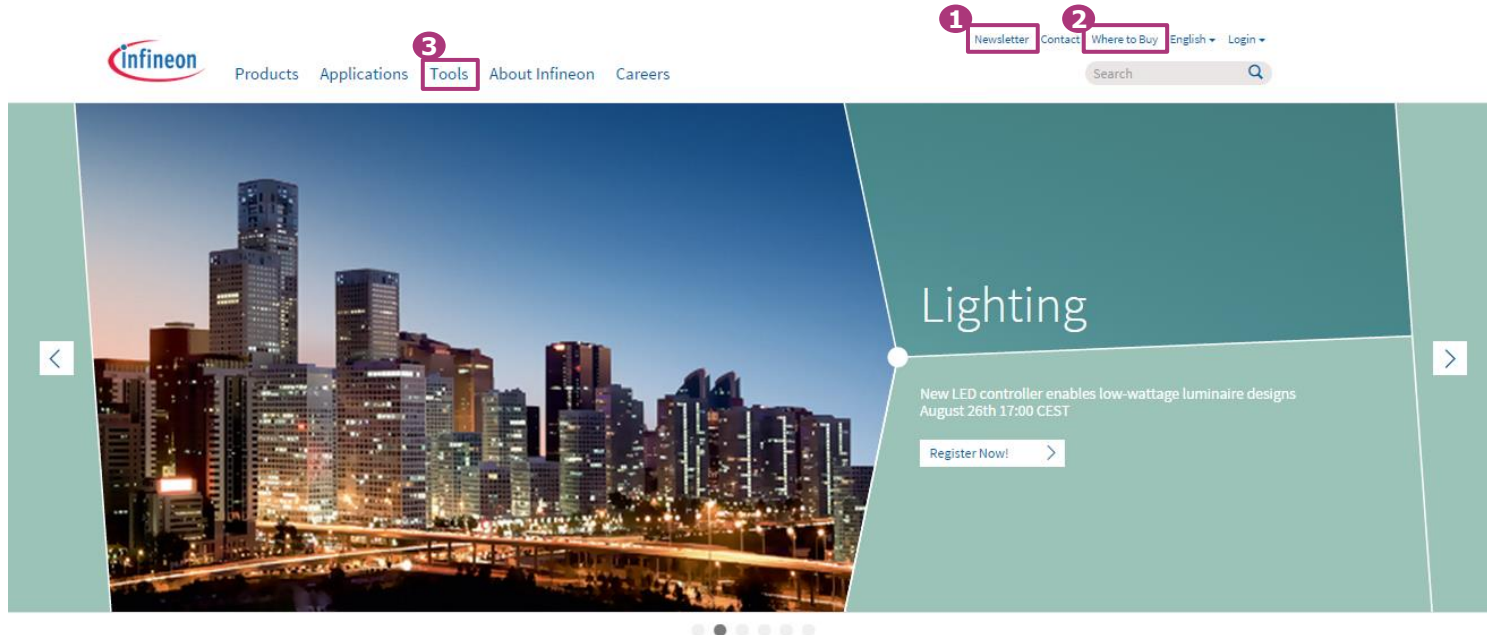
> www.infineon.com/evaluationboards

Videos

- > Technical Videos
- > Product Information Videos

> www.infineon.com/mediacenter

Support Online tools and services



News & Tweets



Part of your life. Part of tomorrow.

