

# Analog control kit

## KIT\_600W\_LLC\_AN\_CTRL

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

for EVAL\_600W\_12V\_LLC evaluation boards

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# Analog control kit KIT\_600W\_LLC\_AN\_CTRL for EVAL\_600W\_12V\_LLC



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

This adapter kit is intended for use when replacing a digital control card with its analog alternative. The kit offers as a replacement option Infineon's LLC resonant mode controller ICE2HS01G.

## **Board components**

- > LLC Resonant mode controller ICE2HS01G

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

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

# Product features

## ICE2HS01G

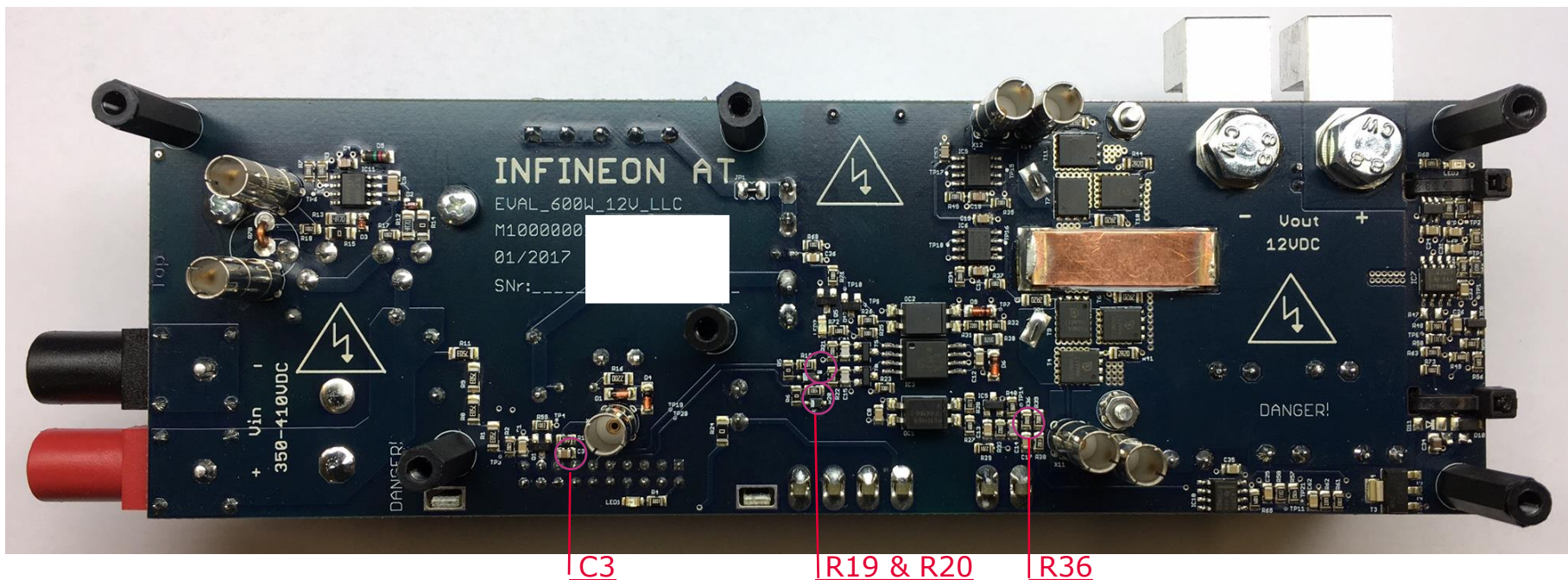
- › Resonant mode controller for half-bridge LLC resonant converter with synchronous rectification drives
- › 20pin DSO package
- › 30 kHz to 1 MHz switching frequency
- › Adjustable minimum switching frequency with high accuracy
- › 50% duty cycle for both primary and secondary gate drives
- › Adjustable dead time with high accuracy
- › Driving signal for synchronous rectification, which supports full operation of half-bridge LLC resonant converter
- › Internal and external disable function for synchronous rectification
- › Mains input under voltage protection with adjustable hysteresis
- › Three levels of overcurrent protection for enhanced dynamic performance
- › Open-loop/over load protection with adjustable blanking time and restart time
- › Adjustable over-temperature protection with latch-off
- › External latch-off enable pin



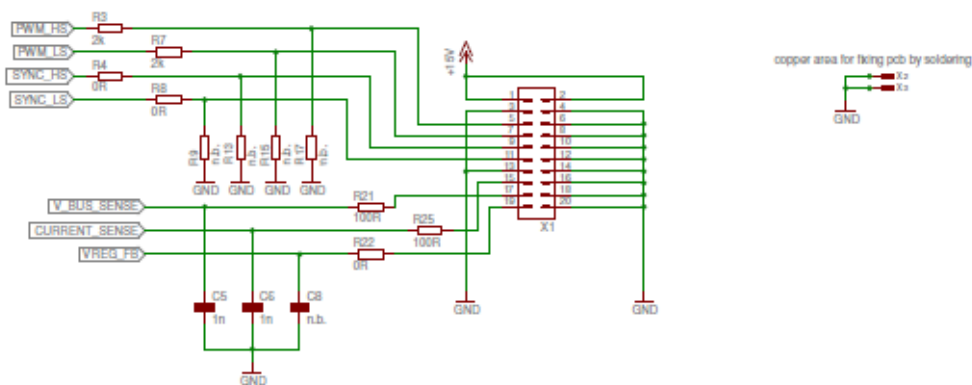
# Bill of material (rework on mainboard)

| Part | Value    | Pieces | Tolerance | Device               | Assembling info.      | Manufacturer    |
|------|----------|--------|-----------|----------------------|-----------------------|-----------------|
| C3   | 470n/50V | 1      |           | C-EU_C0805*          | Replace with 470n/50V |                 |
| R19  | 4K3      | 1      | ±1%       | R-EU_R0805 *         | Replace with 4K3      |                 |
| R20  | 4K3      | 1      | ±1%       | R-EU_R0805 *         | Replace with 4K3      |                 |
| R36  | 56R      | 1      |           | R-EU_R0805 *         | Assemble 56R          |                 |
| IC1  | Board    | 1      |           | KIT_600W_LLC_AN_CTRL |                       | <b>Infineon</b> |

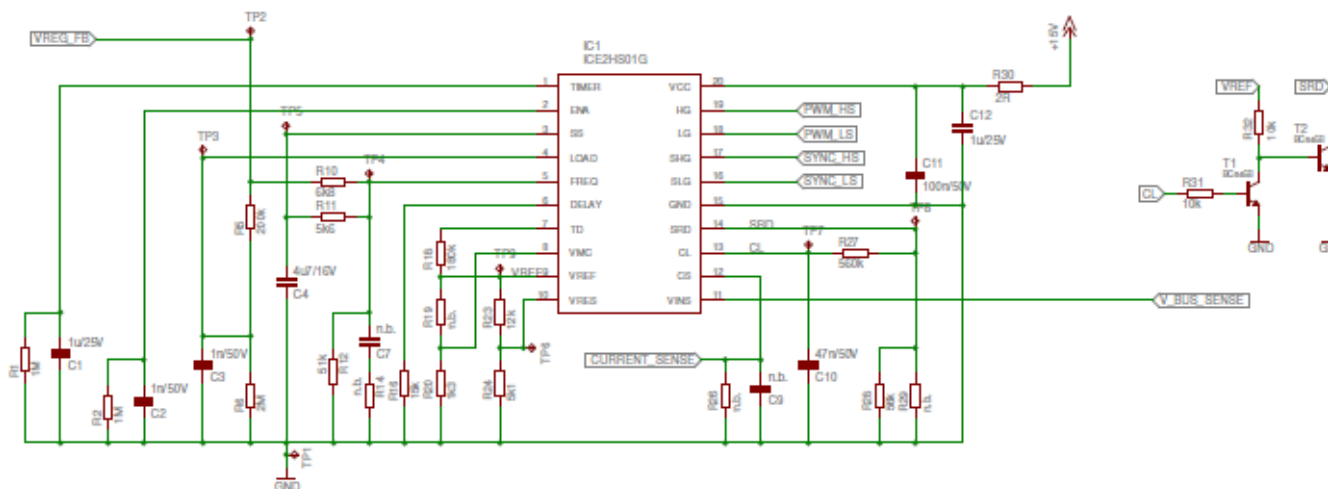
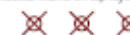
\* All needed replacement material is included in the KIT.



# Schematic



fiducial marks on top layer



# Base board EVAL\_600W\_12V\_LLC\_xx showing analog and digital control card



## 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\_AN\_CTRL** can be used with any of Infineon's EVAL\_600W\_12V\_LLC Boards, replacing the digital 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)

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