EVALAG5300 Rev 3 Evaluation Board User Manual

Rev 1.1 – June 2016

1 Table of Contents

2 Table of Figures

3 Introduction

This manual is intended to be a guide to using the “EVALAG5300 Rev3.0” evaluation board with a Silvertel Ag5300 Powered Device (PD) module.

4 Board Description

The input data and power is supplied to the board through connector J101. The data is passed through to the peripheral equipment via J100, with the power from the PD module supplied via J3 to J5 (see Figure 1 & 4).

The EVALAG5300 on-board bridge rectifiers will ensure that the correct input polarity is applied to the PD.

4.1 Input Selection and Classification

The EVALAG5300 board will automatically direct the power from J101 to the Ag5300’s input. LED2 will be illuminated when PoE power is being applied to the board. LK1 can be removed if you do not want LED2 to illuminate.

If the need for a V-Capacitor filtering arrangement is needed for further noise reductions, C2 and C3 can be fitted with LK4 present. C2 and C3 values can be 1nF to 22nF and will need to be capable of handling the 1500Vdc impulse test because these capacitors cross the isolation barrier.

The Ag5300 Classification is fixed at Class 4 and does not need any external programming components.

When the EVALAG5300 board is connected to an IEEE802.3at (PoE+) compliant PSE such as a Phihong POE36U-1AT-R; the PSE will detect Class 4 and output 2-Event classification pulses. In turn the Ag5300 detects these pulses and activates the AT-DET detect output. This output is connected to an opto-isolator to cross the isolation barrier and LED 3 will be illuminated.

Note: The EVALAG5300 does not have an on-board PHY or µ-controller; so does not perform the Data Link Layer (DLL) classification communications back to the PSE (to confirm its power requirement). Many IEEE802.3at PSEs (such as the Phihong POE36U-1AT-R) do not need this and will automatically supply full Type 2 power at start-up. But there are several Switches (e.g. Cisco) that will only output Type 1 power level (<15.4W), until they receive DLL confirmation that the PD is Type 2 and supports the higher power level.

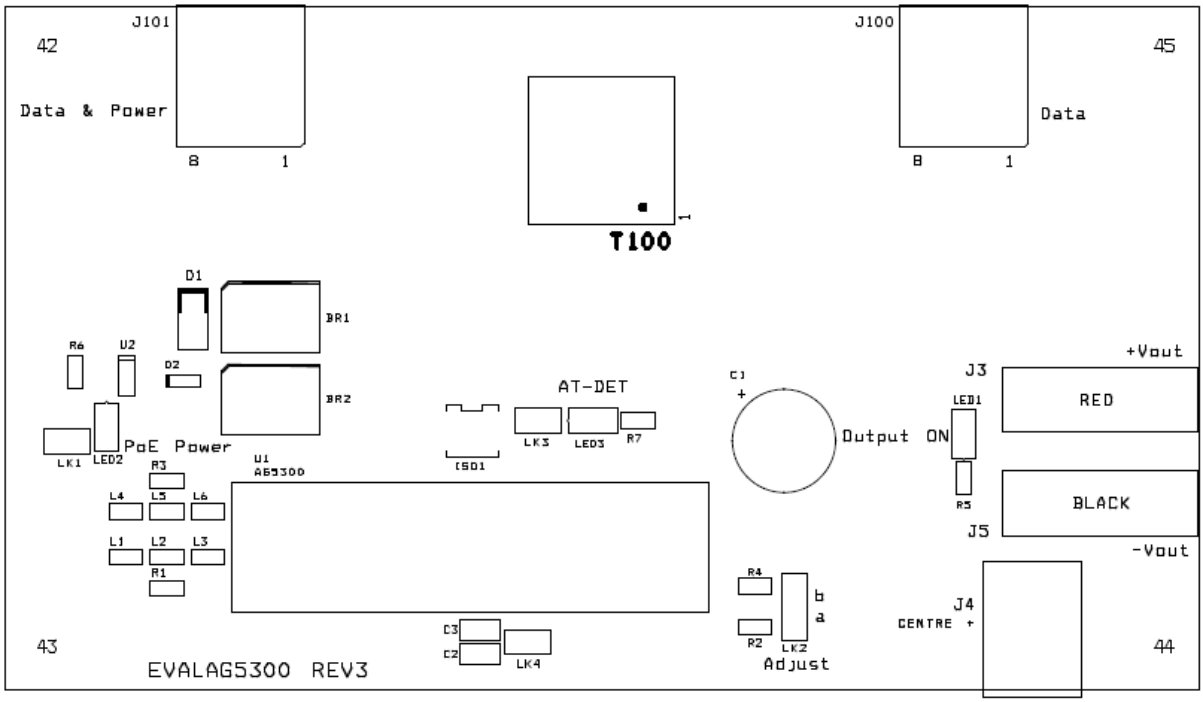

Figure 1: Board Layout

4.2 Output adjustment

The Ag5300 output has an ADJ pin, which allows the output voltage to be increased or decreased from its nominal value.

The EVALAG5300 board has an adjust link LK2 and two resistors R2 (68K) and R4 (0R) which allows the Ag5300 output to be adjusted to its maximum and minimum values.

To increase the output voltage (to its maximum) connect a link to LK2 in the top position so the link is between the middle and top pin. To reduce the output voltage (to its minimum) connect a link between the bottom pin and middle pin of LK2. If the output voltage needs to be set to a different value (within the adjustment range) then connect different resistors instead of the (0R) or (68K) link.

5 Typical Set-up

Figure 2 shows the basic set up using the EVALAG5300 evaluation board with a Midspan or Endspan.

The equipment required: -

- Midspan or Endspan PSE (Power Sourcing Equipment)
- Peripheral (or Test) Equipment
- CAT5e cables
- Output power cable
- Mains cable

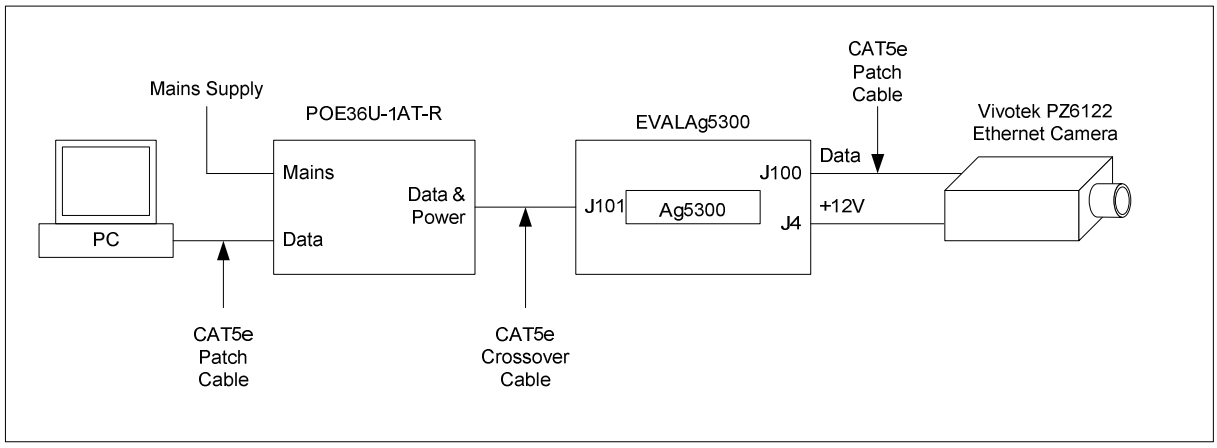

Figure 2: Basic set-up

6 Using the Board

6.1 Typical Application

Figure 3 shows an example set-up using an Ag5300 powered by a Phihong POE36U-1AT-R Midspan and supplying +12V to a Vivotek PZ6122 (or PZ6112) ethernet camera.

The PC ethernet port is connected to the data input of the Phihong POE36U-1AT-R (PSE) via a short Cat5e patch cable. The Data & Power output from the Phihong POE36U-1AT-R is connected to the input of the EVALAG5300 evaluation board (J101) via a CAT5e crossover cable (up to 100m). The data output of the EVALAG5300 evaluation board is connected to the data port of the ethernet camera via a short CAT5e patch cable. The +12V (parallel configuration) power output from the EVALAG5300 evaluation board (J4) connects to the dc input of the Vivotek PZ6122 ethernet camera.

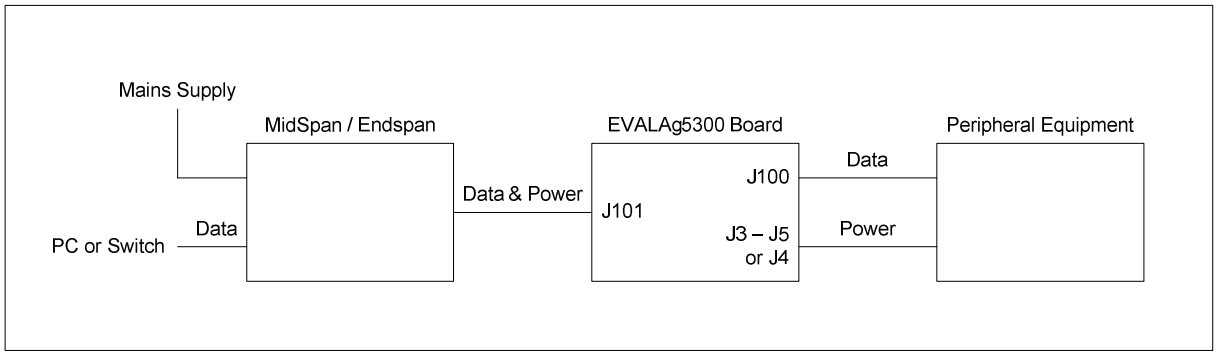

Figure 3: Example set-up

6.2 EVALAG5300 REV 3R - Evaluation Board Schematic

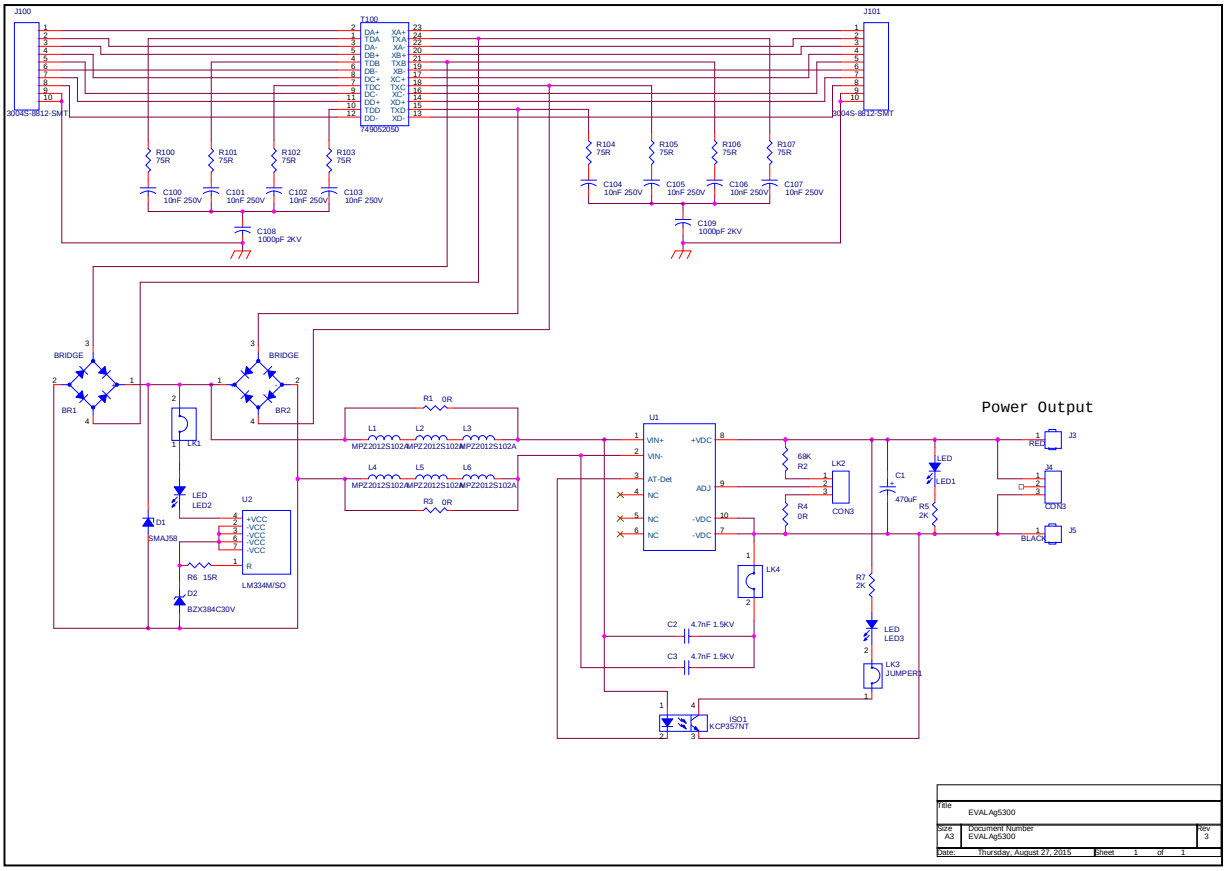

Figure 4: Board Schematic

6.3 Link settings

LK1 – Connects input power LED circuit
LK2 – Output adjust select
LK3 – IEEE802.3at PSE detection LED
LK4 – Option for V-Cap link to be fitted

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Power Management IC Development Tools ***category:***

Click to view products by Silvertel ***manufacturer:***

Other Similar products are found below :

EVB-EP5348UI MIC23451-AAAYFL EV MIC5281YMME EV 124352-HMC860LP3E DA9063-EVAL ADP122-3.3-EVALZ ADP130-0.8-EVALZ ADP130-1.8-EVALZ ADP1740-1.5-EVALZ ADP1870-0.3-EVALZ ADP1874-0.3-EVALZ ADP199CB-EVALZ ADP2102-1.25-EVALZ ADP2102-1.875EVALZ ADP2102-1.8-EVALZ ADP2102-2-EVALZ ADP2102-3-EVALZ ADP2102-4-EVALZ AS3606-DB BQ25010EVM BQ3055EVM ISLUSBI2CKIT1Z LM2734YEVAL LP38512TS-1.8EV EVAL-ADM1186-1MBZ EVAL-ADM1186-2MBZ ADP122UJZ-REDYKIT ADP166Z-REDYKIT ADP170-1.8-EVALZ ADP171-EVALZ ADP1853-EVALZ ADP1873-0.3-EVALZ ADP198CP-EVALZ ADP2102-1.0-EVALZ ADP2102-1-EVALZ ADP2107-1.8-EVALZ ADP5020CP-EVALZ CC-ACC-DBMX-51 ATPL230A-EK MIC23250-S4YMT EV MIC26603YJL EV MIC33050-SYHL EV TPS60100EVM-131 TPS65010EVM-230 TPS71933-28EVM-213 TPS72728YFFEVM-407 TPS79318YEQEVM ISL85033EVAL2Z UCC28810EVM-002 XILINXPWR-083