Silvertel

Ag9800M Evaluation Board User Manual

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3   Introduction

This manual is intended to be a guide to using the "EVALAG9800M evaluation board" with a Silvertel Ag9800M Powered Device (PD) module.

Because the Ag9800M is a surface mount device, it will be solder directly onto the evaluation board before being shipped. So when ordering the evaluation board you will need to select the variant that you require: -

3.3V	-	Ag9803M
5.0V	-	Ag9805M
12.0V	-	Ag9812M

4 Board Description

The data is supplied to the EVALAG9800M board through connector J1 and is passed through to the peripheral equipment via J2.

The EVALAG9800M evaluation board is design to handle 10/100BASE-T Ethernet data rates.

The Power Sourcing Equipment (PSE) delivers power to the EVALAG9800M evaluation board power via J1.

The output power from the EVALAG9800M evaluation board to the peripheral equipment is supplied via J3, J4 & J5 (see Figure 1).
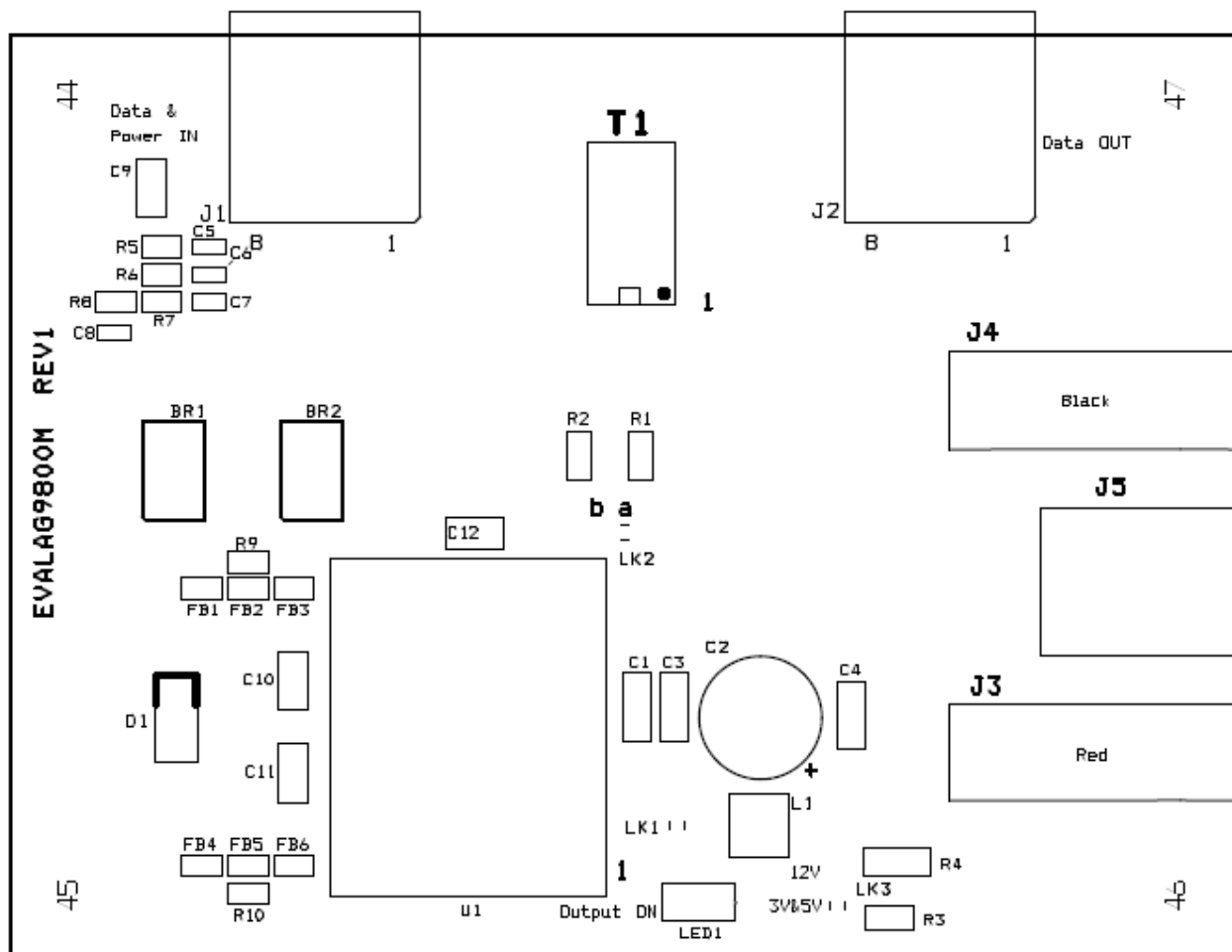When the PD module output is ON - LED1 will be illuminated.

Figure 1: Board Layout

4.1 Input Selection

The PSE output is automatically extracted from either the spare pairs or from the centre taps of T1 (which is IEEE802.3af compliant).

BR1 and BR2 are fitted to ensure that the PSE output polarity is correctly delivered to the VIN+ and VIN- (input) pins of the Ag9800M module.

4.2 Input Filter

The EVALAG9800M evaluation board has the build option to reduce emissions, see apps notes "ANX-POE-EMI" and ANX-POE-HDBaseT" on our website for more information.

4.3 Input Termination

EVALAG9800M evaluation board has the build option to add input data termination, see the apps note "ANX-POE-Data-Termination" on our website for more information.

4.4 Class Programming

The Ag9800M is internally set to Class 0, so the EVALAG9800M evaluation board does not have any class programming.

4.5 Data Output

The output data is transmitted from the evaluation board via J2.

4.6 Power Output

The Ag9800M output is delivered from connectors J3 (positive) and J4 (negative). In addition to these the output voltage is also available from J5 (the centre pin is positive).

LED1 is illuminated when the Ag9800M output is ON.

The link LK3 needs to be set to the either "3V&5V" or "12V".

4.7 Output Adjustment

The output voltage of the Ag9800M can be adjusted by connecting the ADJ pin to either the -VDC or the +VDC pins. LK2 can be used to adjust the output voltage (see Figure 1).

On the EVALAG9800M evaluation board R1 and R2 are fitted with a 0 Ohm link to give its full adjustment, see the output adjustment section in the datasheet for more information.

With LK2 fitted in position "a" (centre to right) the output voltage will be decreased.

With LK2 fitted in position "b" (centre to left) the output voltage will be increased.

4.8 Output Filter

The EVALAG9800M evaluation board has an output PI filter fitted, to reduce the output ripple. The PI filter is disabled when the link LK1 is fitted, but can be activated by simply removing the link LK1 (see Figure1).

5   Equipment Required

Figure 2 shows the full set up using the EVALAG9800M board to supply data and power to an Ethernet camera.

The equipment required: -

  ➢ PC
  ➢ EVALAG6100 Board
  ➢ EVALAG9800M Board
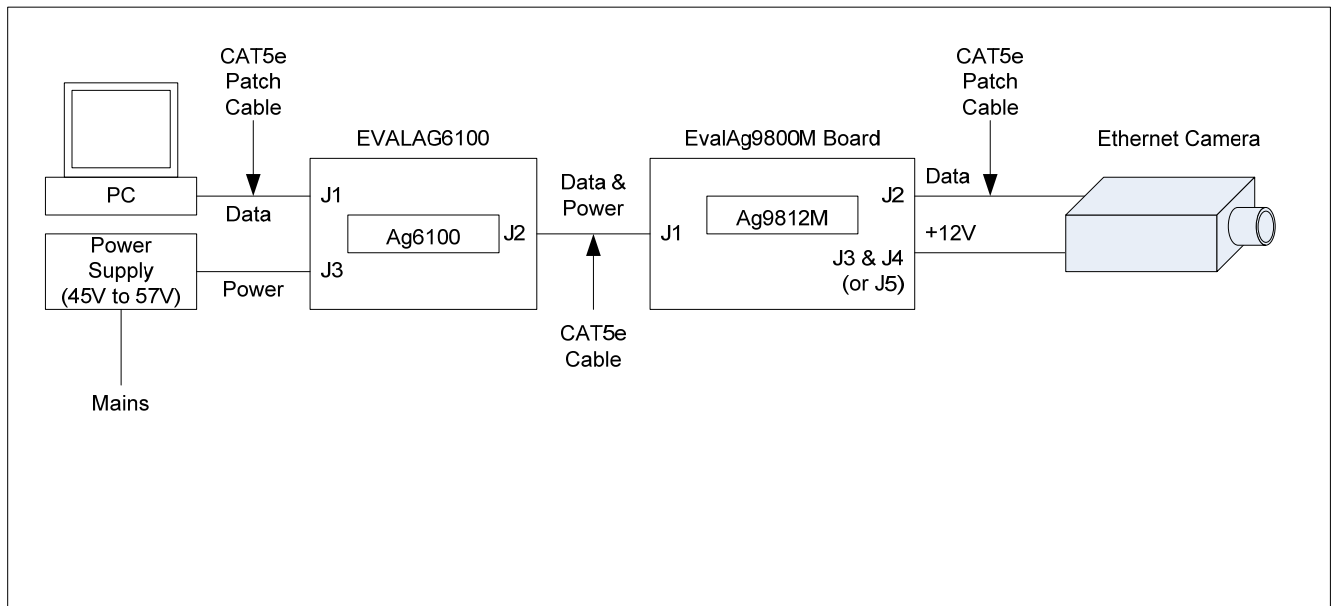 ➢ Power Supply (45Vdc to 57Vdc)
  ➢ Ethernet Camera
  ➢ CAT5e Cables
  ➢ 12V Camera Cable

Figure 2: Full Test Set-up Using Ethernet Camera