Silvertel

Ag7100-Ag6100 Evaluation Board User Manual

Rev 1.0 – July 2015

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3 Introduction

This manual is intended to be a guide to using the "Ag7100 – Ag6100 evaluation board".

4 Board Description

4.1 Modules

This evaluation board will work with the following Silvertel modules: -

Ag7100   -   Ag6100

4.2 Configuration Options

This board can be configured to work with either one or both of the modules shown in Section 4.1. Figure 1 shows the position of the component and connectors on the board.
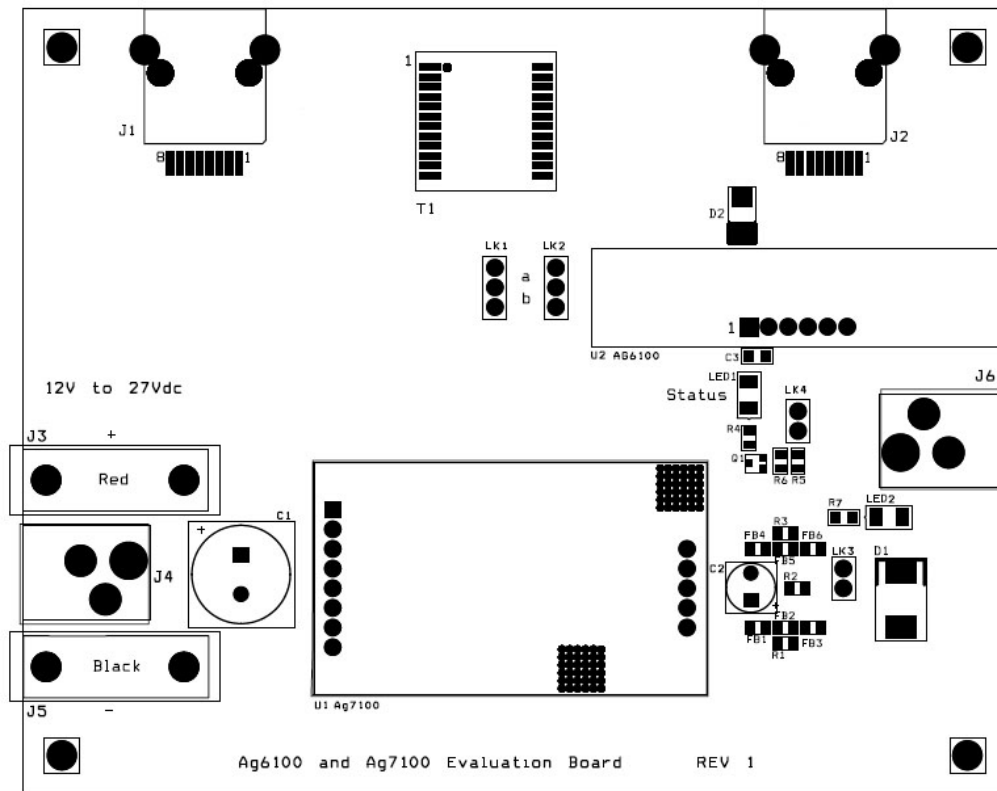

Figure 1: Board Layout

4.2.1 Ag6100 & Ag7100 (Full Configuration)

This board can be fully configured with both Ag6100 (U2) and Ag7100 (U1) modules. In this configuration, the board is powered from a 12V to 27V dc supply. Connected to J3 (positive) & J5 (negative), or J4* (centre pin is positive), see Figure 2. This supply powers the Ag7100, which will boost the voltage to 57V (or 48V if LK3 is fitted). The output of the Ag7100 then powers the Ag6100, which is an IEEE802.3at compliant PSE (Power Sourcing Equipment) to deliver PoE (Power over Ethernet) or PoE+.

The RJ45 connector J1 connects to a data port on a PC, Switch or HD-BaseT device.

The RJ45 connector J2 connects to a PoE (or PoE+) peripheral, to deliver both data and power.

When the board is powered LED2 will be illuminated.

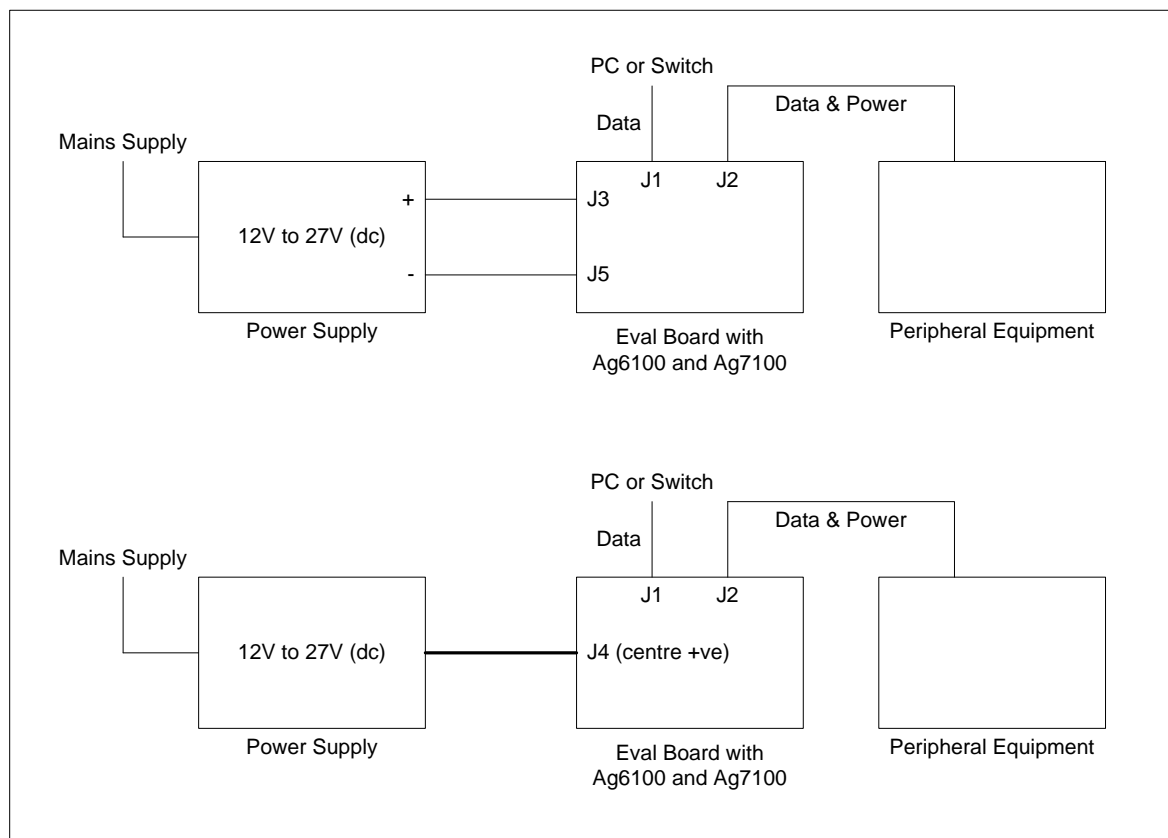When the Ag6100 is connected to an IEEE compliant Powered Device (PD), the Status LED1 will be illuminated.

Figure 2: Full Board Configuration

4.2.2 Ag6100 (Only)

If you already have a 48V to 57V dc supply and you just want to use the Ag6100. U1 can be removed and the board powered by connecting this supply to J6* (centre pin is Positive), see Figure 3.

When the board is powered LED2 will be illuminated.

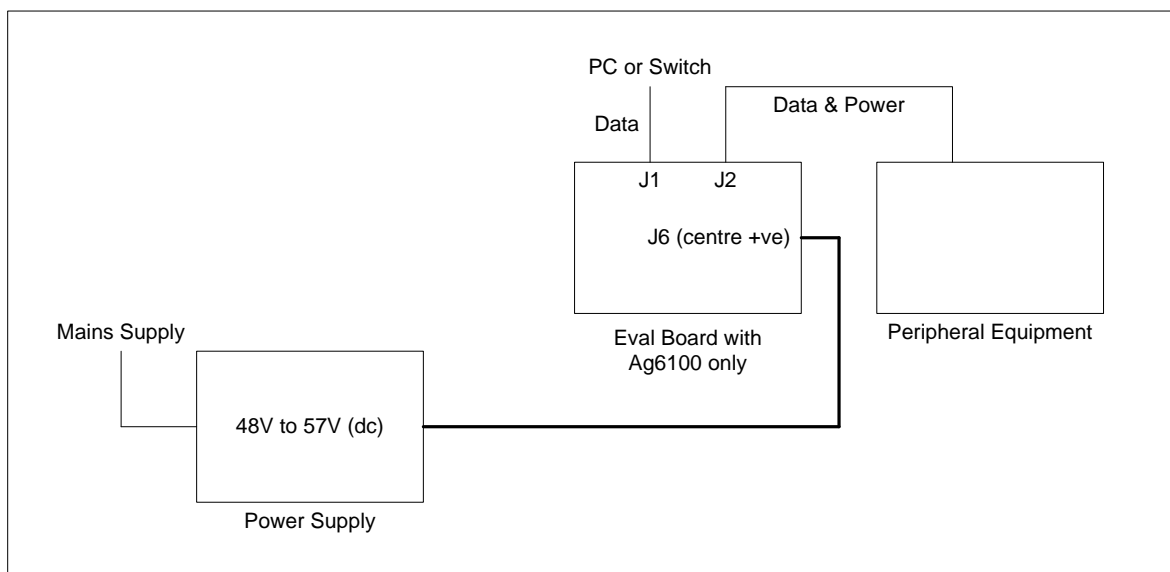When the Ag6100 is connected to an IEEE compliant Powered Device (PD), the Status LED1 will be illuminated.

Figure 3: Ag6100 Only Configuration

4.2.3 Ag7100 (Only)

Alternatively if you just require a boost converter; then U2 can be removed. A 12V to 27V dc supply can be connected to J3 – J5 (or J4) and the Ag7100 output can be extracted from J6 (again centre pin is positive), see Figure 4.

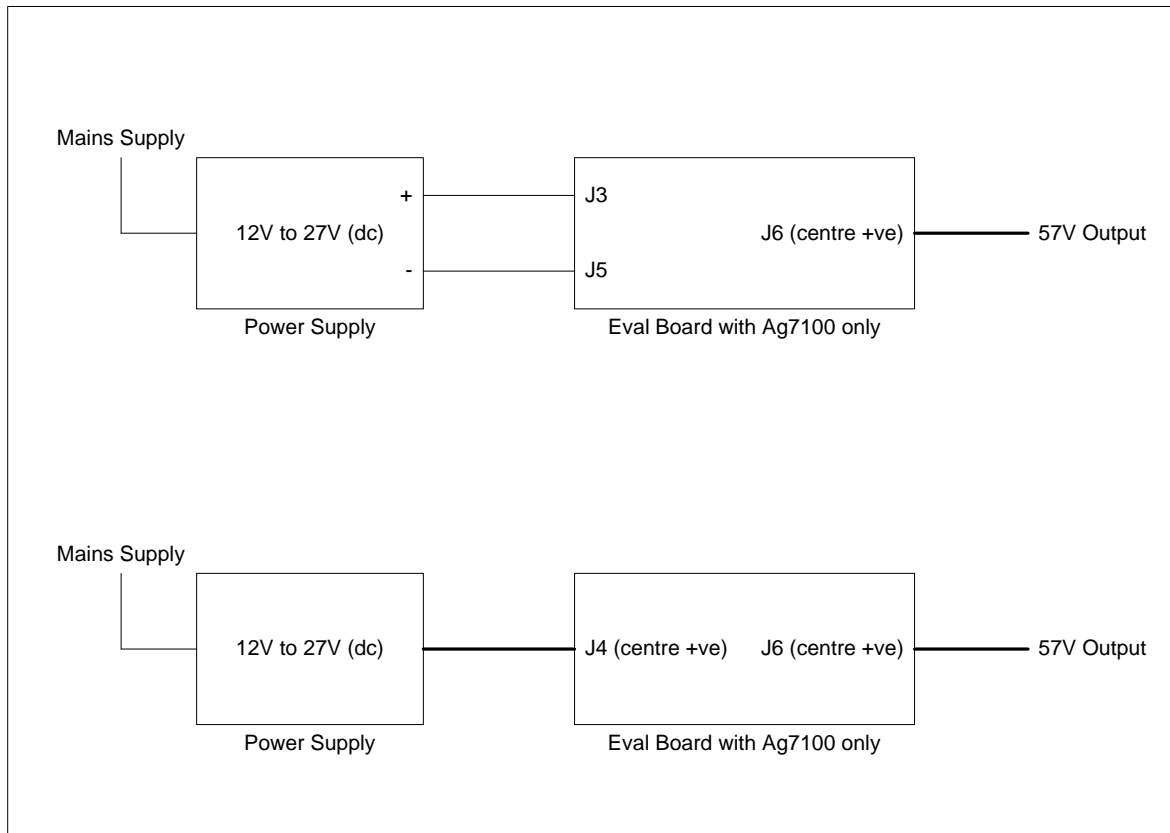When the board is powered LED2 will be illuminated.

Figure 4: Ag7100 Only Configuration

*Note: Connectors J4 and J6 are DC Power Jacks, that accept a plug with a 5.5mm outer diameter and 2.5mm inner diameter, see Figure 5.

Figure 5: Plug for J4 & J6

4.3 Ag6100 Output Power

The output power from the Ag6100 can be connected to the centre taps of T1 using the links – LK1 & LK2, see Figure 6.

With the links in position "a", the Ag6100 output is connected to centre taps of the pairs 4 & 5 (positive) and 7 & 8 (negative).

With the links in position "b", the Ag6100 output is connected to centre taps of the pairs 1 & 2 (positive) and 3 & 6 (negative).
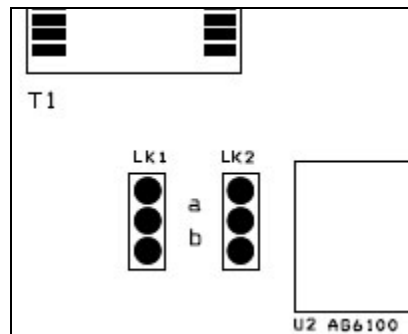
Figure 6: Ag6100 Output Power Links

4.4 Ag7100 Output Adjustment

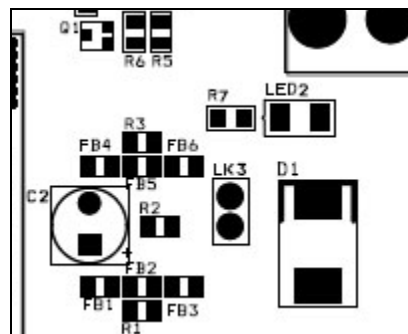The Ag7100 output is set to 57V by default. This can be adjusted down to its minimum of 48V by connecting LK3, see Figure 7.

Figure 7: Ag7100 Output Adjustment