Silvertel

Ag31X
Evaluation Board
User Manual

Version 1.0 – Dec 14

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3 Introduction

This manual is intended to be a guide to using the “EVALAg31X evaluation board” with a Silvertel Ag311 or Ag312 wireless power transmitter module.

Because the Ag311 and Ag312 are provided without pins and the evaluation board required a different configuration for each part, it will be soldered directly onto the evaluation board before being shipped.

4 Board Description

The EVALAg31X evaluation board should be powered using a DC Power supply delivering between +18.5V to +19.5V for the Ag311 and between 4.75V and 5.25V for the Ag312. The positive supply should be connected to either the center pin of J2 or pin 1 & 2 of J1 and 0V to either the outer ring of J2 or pin 5 & 6 of J1.

4.1 Operation

The EVALAg31X polls for a Power receiver placed on the power transfer Primary coil L1, at intervals of 500ms. When an EVALAg301 or Qi compatible receiving device has been placed on the coil, The EVALAg31X will negotiate with the receiver and establish a wireless power transfer contract. When this happens D2 will be illuminated and D1 will remain **not** illuminated.

When a new power transfer contract is established a 500ms beep will be produced by BUZ to audibly indicate it has correctly connected.

In case of an Error D1 will be illuminated and D2 will **not** be illuminated. These errors include:-

- Non compatible receiver / metal object placed on primary coil
- Non recoverable Communications error
- Receiver over loaded
- Receiver regulation error

When the power receiver indicates a non-error related end of power transfer, such as battery fully charged, both D1 & D2 will be illuminated.

If pin 2 of J3 is pulled low (or shorted to pin 1 of J3) power transmission will be halted and disabled indicating an error with D1 illuminated and D3 will **not** be illuminated. When this pull down or short circuit is removed the Ag311/Ag312 will return to normal operation.

If the link on J4 is removed, all status outputs are disabled so D1 and D2 will **not** be illuminated and BUZ will remain silent.

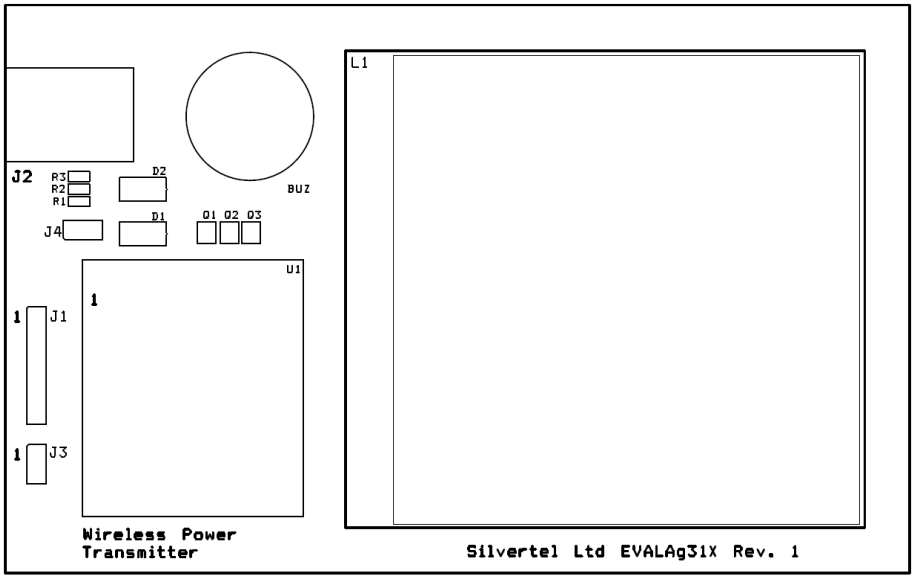

Figure 1: EVALAg31X Board Layout

5 Test Setup

5.1 Basic set-up Ag311

Figure 2 shows the basic set up using the EVALAG301 evaluation board powered by the EVALAG31X evaluation board with the Ag311 fitted. The EVALAG301 should have the load connected before placing it on the primary coil of the EVALAG31X.

The equipment required: -

- Power supply Input +19V IN e.g. 19V laptop power supply
- Output power cable and load

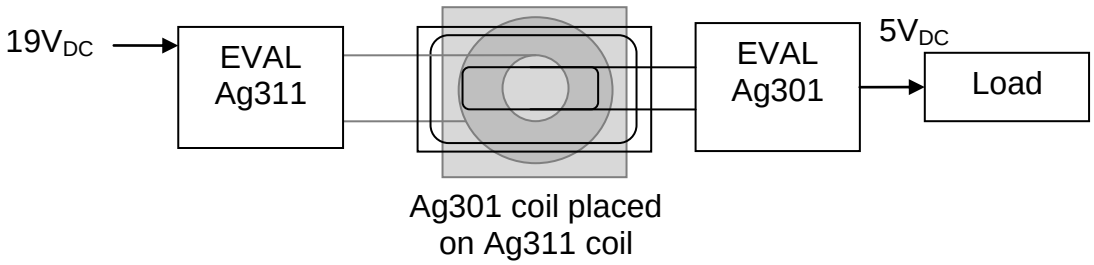

Figure 2: Basic set-up Ag311

5.2 Basic set-up Ag312

Figure 3 shows the basic set up using the EVALAG301 evaluation board powered by the EVALAG31X evaluation board with the Ag312 fitted. The EVALAG301 should have the load connected before placing it on the primary coil of the EVALAG31X.

The equipment required: -

- Power supply Input +5V IN e.g. 2-3 amp 5V USB charger
- Output power cable and load

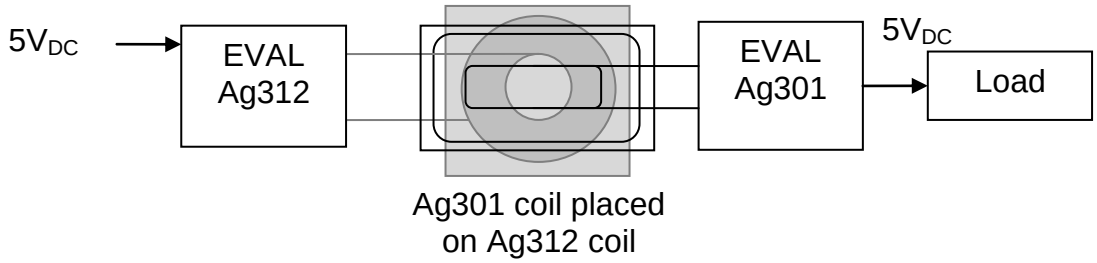

Figure 3: Basic set-up Ag312

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