DT0093
Design tip

How to mount the new balun BALF-NRG-02D3 without the top side marking

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Main components	
BALF-NRG-02D3	50 W / Conjugate match to BlueNRG-1/2xx transceiver, with integrated harmonic filter
BlueNRG-1 / BlueNRG-2	Bluetooth® low energy wireless system-on-chip

Purpose and benefits

STMicroelectronics' BALF-NRG-02D3 is an ultra-miniature balun. The BALF-NRG-02D3 integrates a matching network and a harmonics filter. Matching impedance has been customized for ST's BlueNRG-1 and BlueNRG-2 Bluetooth® transceivers (for both QFN and WLCSP versions). It uses STMicroelectronics' IPD technology on a non-conductive glass substrate, which optimizes RF performance.

The BALF-NRG-02D3 samples are not yet a final product, and thus have no coating or marking on the top side, so it is crucial to accurately indicate the orientation to the board manufacturer, in order to ensure correct functionality.

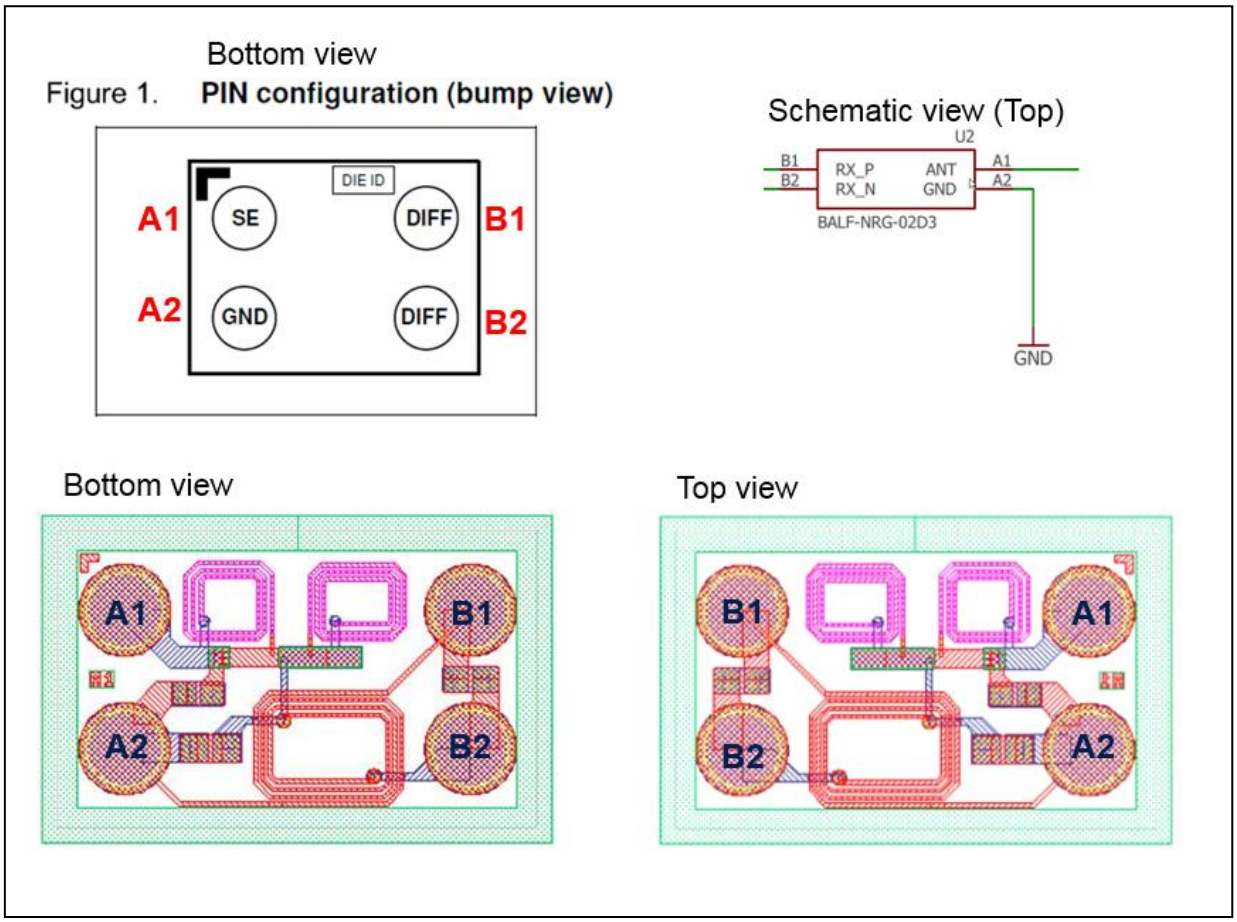
Description

One way to quickly check the balun version with these samples is to put a drop of alcohol on top of the IPD balun. This will remove all surface imperfections and the glass substrate will become transparent. You should be able to see the "L" mark under a microscope.

To remove all doubt, please refer to the layout view of the U2 balun in bumps-side view, bottom view, and top view (Figure 1).

It is possible to see the "**L**" mark which indicates SE-single end bump (A1).

Figure 1. Pin configuration (bottom and top view)



Support material

Related design support material
STEVAL-IDB007V1 evaluation platform based on the BlueNRG-1
Documentation
Datasheet: BALF-NRG-02D3; 50 Ω nominal input / conjugate match to BlueNRG transceiver with integrated harmonic filter
Datasheet: BlueNRG-1, Bluetooth® low energy wireless system-on-chip
Datasheet: BlueNRG-2, Bluetooth® low energy wireless system-on-chip

Revision history

Date	Version	Changes
07-Dec-2017	1	Initial release

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