

ZLUSBEVAL3Z

USB to PMBus™ Adapter

AN1900

Rev 1.00

September 29, 2014

The Intersil USB to PMBus Adapter (often referred to as a “dongle”) is used to connect a demonstration board with a PMBus interface to a PC. The USB to PMBus adapter is powered from the USB output of the host PC. The USB interface utilizes the USB Mini format, and the output uses a standard 2 row, 6 pin header on 0.100 inch centers. The PMBus command set is accessed by using the PowerNavigator™ evaluation software from a PC running Microsoft Windows. PowerNavigator software is downloaded from the Intersil website using the following link: <http://www.intersil.com/powernavigator.html>

**Ordering Information**

| PART NUMBER | DESCRIPTION                    |
|-------------|--------------------------------|
| ZLUSBEVAL3Z | USB to PMBus Adapter and Cable |

**USB to PMBus Adapter Quick Start Guide**

- Connect the USB Mini provided between the host computer and the USB to PMBus adapter
- Connect USB to PMBus adapter to demonstration board to test or evaluate
- Apply input power (labeled VIN) to the demonstration board
- Using the host PC’s internet browser, connect to the following website: <http://www.intersil.com/powernavigator.html>
- Follow the instructions on the website.
- Once the PowerNavigator software is installed, double-click on the PowerNavigator icon and follow the software’s instructions

**Technical Details**

A typical application set-up is shown in [Figure 1](#). For those wishing to make discrete connections to an application board, a pictorial diagram of the output pin signals is shown in [Figure 2](#). A schematic of the USB to PMBus Adapter internal circuitry is provided in [Figure 3](#). The Bill Of Materials is detailed on [page 3](#).

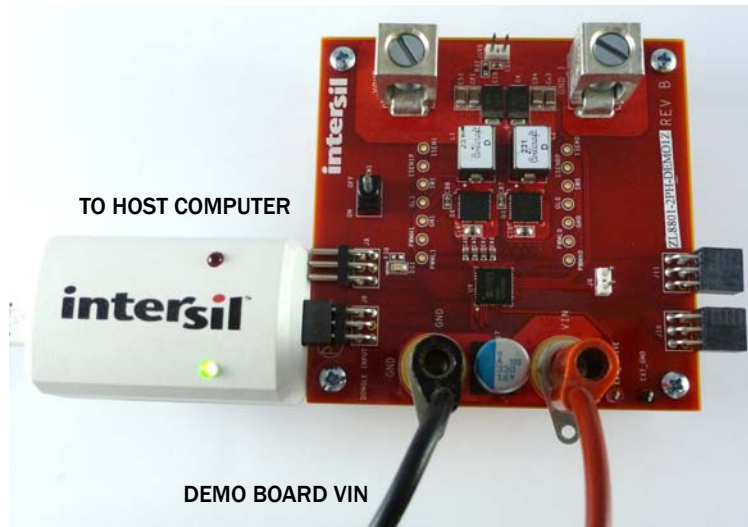


FIGURE 1. USB TO PMBus TYPICAL SET-UP

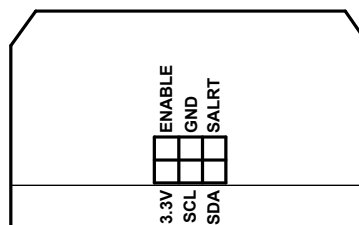


FIGURE 2. PIN CONFIGURATION DIAGRAM

# ZLUSBEVAL3Z Schematic

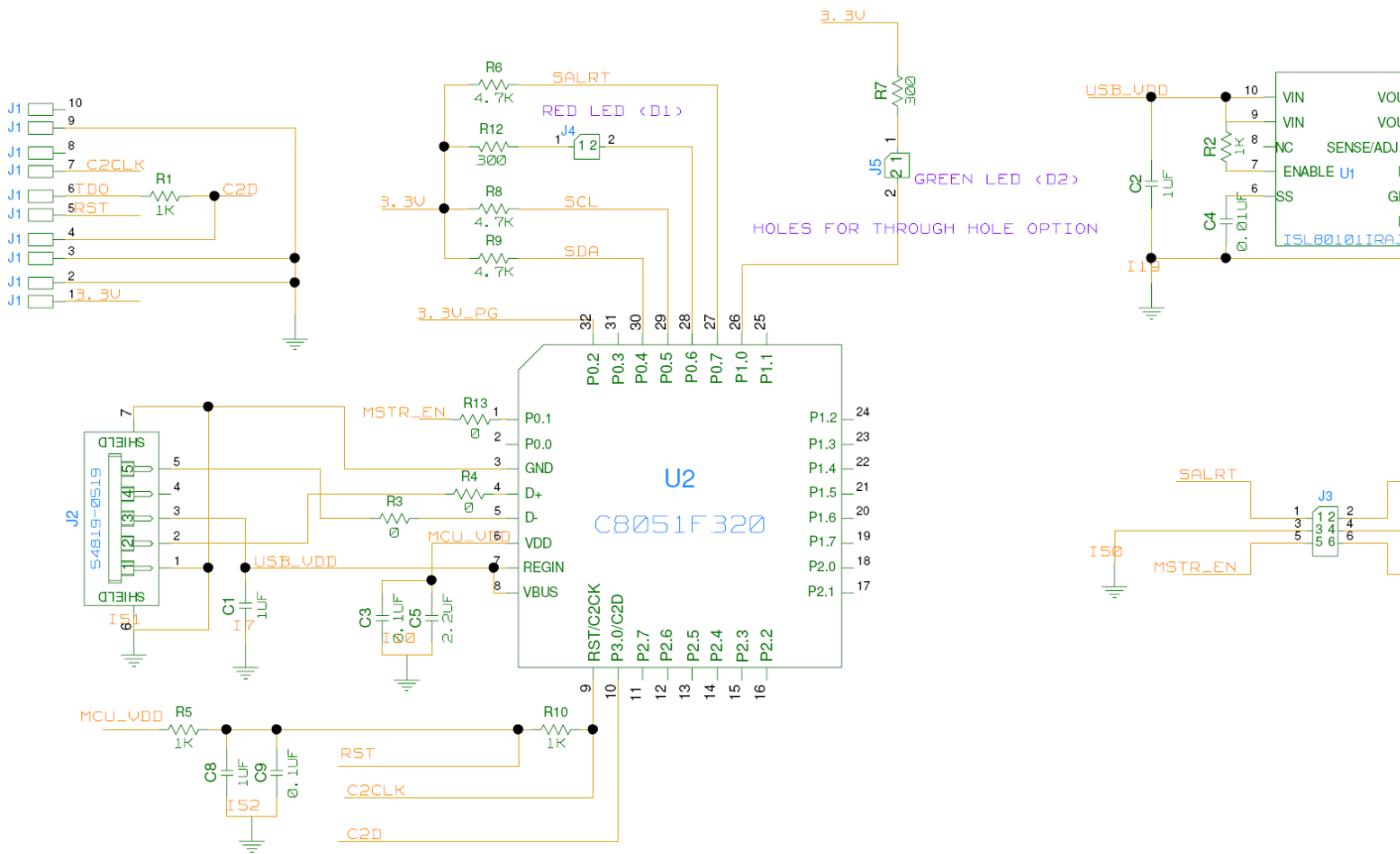


FIGURE 3. USB TO PMBus ADAPTER SCHEMATIC

## USB to PMBus Bill Of Materials

| PART #              | REF DES         | QTY | VALUE        | TOL. | VOLTAGE | POWER | PACKAGE TYPE | MANUFACTURER        | DESCRIPTION  |
|---------------------|-----------------|-----|--------------|------|---------|-------|--------------|---------------------|--|
| 54819-0519          | J2              | 1   |              |      |         |       | VER1         | MOLEX               | GRAY USB TYPE B MINI-B Header Assembly                   |
| TSW-105-07-T-D      | J1              | 1   |              |      |         |       | 10           | MOLEX               | 10 PIN DUAL ROW VERTICAL PCB MALE CONNECTOR              |
| C0805C106K8PACTU    | C7              | 1   | 10 $\mu$ F   | 10%  | 10V     |       | 805          | KEMET               | Multilayer Cap   |
| C1608X7R1C105K      | C1, C2, C8      | 3   | 1 $\mu$ F    | 10%  | 16V     |       | 603          | TDK                 | Multilayer Cap   |
| C8051F320           | U2              | 1   |              |      |         |       | LQFP         | SILICON LABRATORIES | General Purpose MicroControllers - PREPROGRAMMED         |
| H1044-00103-16V10   | C4              | 1   | 0.01 $\mu$ F | 10%  | 16V     |       | 402          | GENERIC             | Multilayer Cap   |
| H1044-00104-16V10   | C3, C6, C9      | 3   | 0.1 $\mu$ F  | 10%  | 16V     |       | 402          | GENERIC             | Multilayer Cap   |
| H2510-00R00-1/16W   | R3, R4, R13     | 3   | 0            | 0%   |         | 1/16W | 402          | GENERIC             | Thick Film Chip Resistor                                 |
| H2510-01001-1/16W1  | R1, R2, R5, R10 | 4   | 1k           | 1%   |         | 1/16W | 402          | GENERIC             | Thick Film Chip Resistor                                 |
| H2510-01002-1/16W1  | R11             | 1   | 10k          | 1%   |         | 1/16W | 402          | GENERIC             | Thick Film Chip Resistor                                 |
| H2510-03000-1/16W1  | R7, R12         | 2   | 300          | 1%   |         | 1/16W | 402          | GENERIC             | Thick Film Chip Resistor                                 |
| H2510-04701-1/16W1  | R6, R8, R9      | 3   | 4.7k         | 1%   |         | 1/16W | 402          | GENERIC             | Thick Film Chip Resistor                                 |
| ISL80101IR33Z       | U1              | 1   |              |      | 3.3V    |       | DFN          | INTERSIL            | HIGH PERFORMANCE 1A LDO (Pb-Free) 3.3V                   |
| LMK107B7225KA-T     | C5              | 1   | 2.2 $\mu$ F  | 10%  | 10V     |       | 603          | Taiyo Yuden         | CERAMIC CAP  |
| MV5774C             | D1              | 1   |              |      |         |       | DIP2         | EVERLGT ELECTRONICS | LED SS HI EFF RED DIFF 3MM                               |
| MV5474C             | D2              | 1   |              |      |         |       | DIP2         | EVERLGT ELECTRONICS | LED SS HI EFF GREEN DIFF 3MM                             |
| SSQ-103-02-T-D-RA   | J3              | 1   |              |      |         |       | DIP          | SAMTEC              | 6 Pin Header 2.54mm x 2.54mm (0.100) right angle         |
| S1A-201209-INT13029 | MECHANICAL      | 1   |              |      |         |       |              | New Age Enclosures  | Custom plastic encapsulation for dongle; includes screws |
| 0887328800          | MECHANICAL      | 1   |              |      |         |       |              | Molex               | USB A TO MINI B 1.8M WHITE Cable                         |
|                     | TOTAL           | 31  |              |      |         |       |              |                     |  |

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