EFR32ZG14 Zen Gecko
UZB-7 Z-Wave Controller USB Dongle
BRD1001A Datasheet

The Silicon Labs UZB-7, Z-Wave Controller USB Dongle, is a simple reference design featuring the latest generation Z-Wave SoC, EFR32ZG14 Zen Gecko, as a gateway and controller in smart home application.

UZB-7 exposes the well-documented and proven Z-Wave Serial API via USB. It allows the host processor to control up to 232 Z-Wave devices and Z-Wave Plus devices through Z-Wave protocol. With the developer PC application software, PC Controller, or any software compliance with Z-Wave Serial API, the host is empowered to communicate with various Z-Wave devices through Z-Wave Command Classes, making your computer the heart of your Z-Wave network

With the benefits of Z/IP from Silicon Labs, controller software base on Z/IP such as Z-Ware from Silicon Labs, enable you to create your own Z-Wave gateway that is locally or remotely hosted.

Z-Wave is an established short range interoperable two-way RF mesh network technology. Refer to http://www.z-wave.com for the technology description, various Z-Wave Plus ready certified products, and Z-Wave Alliances

Key Features & Benefits

- Z-Wave 700 Series SoC EFR32ZG14 Zen Gecko
- +6 dBm sensitivity improvement in 100kbps channels
- Firmware upgradable through USB
- AES 128-bit encrypted communication and security feature
- Compliance approval (tbc)

EU	EN 300220
US	FCC CFR47 Part 15.249
ANZ	ANZ 4268
Japan	ARID STD-T108

- Worldwide SAW filters for additional out-of-band blocking consideration
- CP2102N USB-to-UART SoC for VCP
- USB 2.0 Full Speed Compliance
- Royalty-free Virtual COM port drivers, CP210x VCP Driver
- Work with Windows / Mac / Linux

Product Specification

General Specification

ERF32ZG14 Zen Gecko SoC	
USB powered	5.00 ± 0.25V
RF Transmit current	22 mA (typ.)
RF Receive current	20 mA (typ.)
RF Transmit power *1	Up to +13 dBm (max.)
RF Sensitivity	
9.6 kbps	101 dBm (typ.)
40 kbps	100 dBm (typ.)
100 kbps	97 dBm (typ.)
Operating Temperature	-15 to 55˚C
Internal antenna	PCB antenna
Sleep current * 2	< 25uA
Range* 1	> 40 m open space line-of-sight

Note* 1 Allowable transmit power are governed by respective regulatory
Note* 2 UZB-7 is typically always active

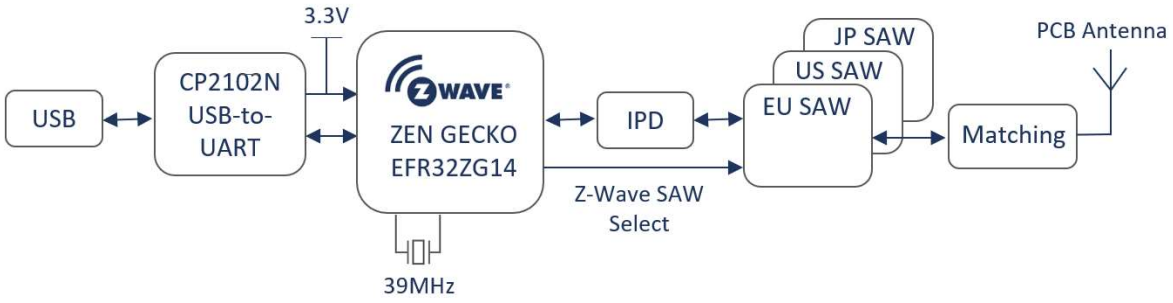
Z-Wave Libraries

Z-Wave Library	Bridge Controller
Z/IP Application	Version 5.64
Z-Wave DLL	Version 5.64

Ordering Information

SLUSB7000A	UZB-7 Z-Wave Controller

Block diagram



Refer to [1] UZB-7 Reference Manual for further descriptions of each blocks, and design considerations and options for UZB-7.

Frequency Allocation

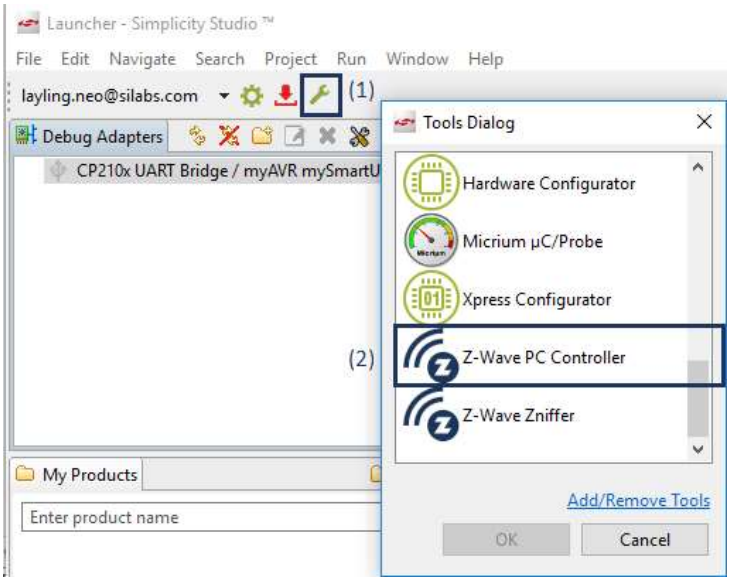
Table 1. Frequencies Allocation

Region	US	EU	Australia New Zealand	Japan	Korea
Model	UZB-7				
Firmware	Z-Wave 7.00				
Data Rate	9.6 kbps / 40 kbps / 100 kbps			100 kbps	
Number of Channels	2 / 3				
Frequency	908.42 MHz 908.40 MHz 916.00 MHz	868.42 MHz 868.40 MHz 869.85 MHz	921.42 MHz 921.40 MHz 919.80 MHz	922.50 MHz 923.90 MHz 926.30 MHz	920.90 MHz 923.90 MHz 926.30 MHz
Max. Power	-1 dBm	13 dBm	12 dBm	0dBm	13dBm

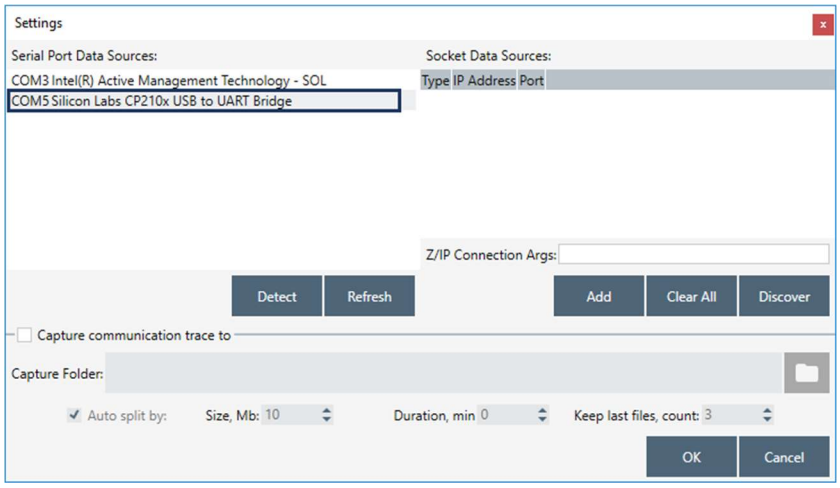
Quick Start Up

Here is a Quick Start Up guide to get UZB-7 to work with Z-Wave PC Controller. The Z-Wave PC Controller is a PC application software tool enable communications to Z-Wave nodes such as switches and sensors.

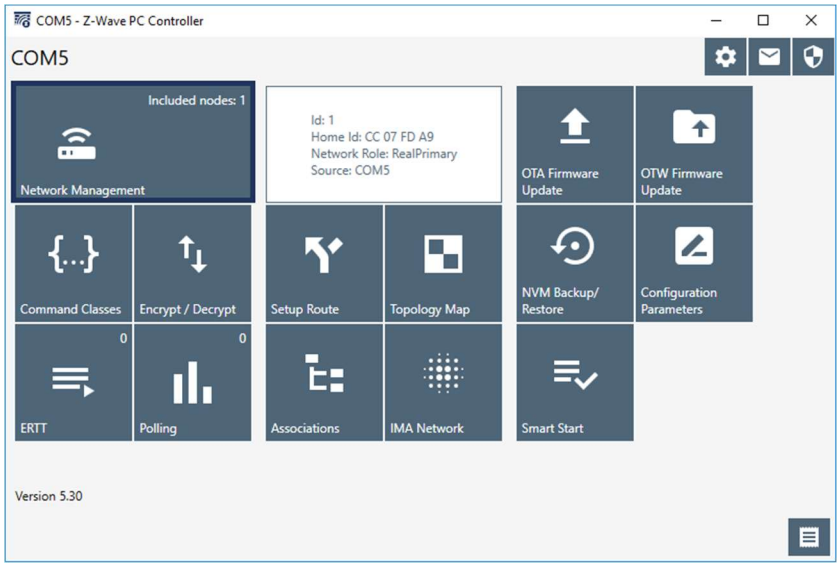
1. Connect UZB-7 to your computer
2. Install the Virtual COM Port (VCP) drivers UZB-7, CP201x UART-to-USB Driver, *CP210x VCP Driver*.
   The latest drivers are available at www.silabs.com/interface-software.
3. Install and Run Z-Wave PC Controller from Simplicity Studio



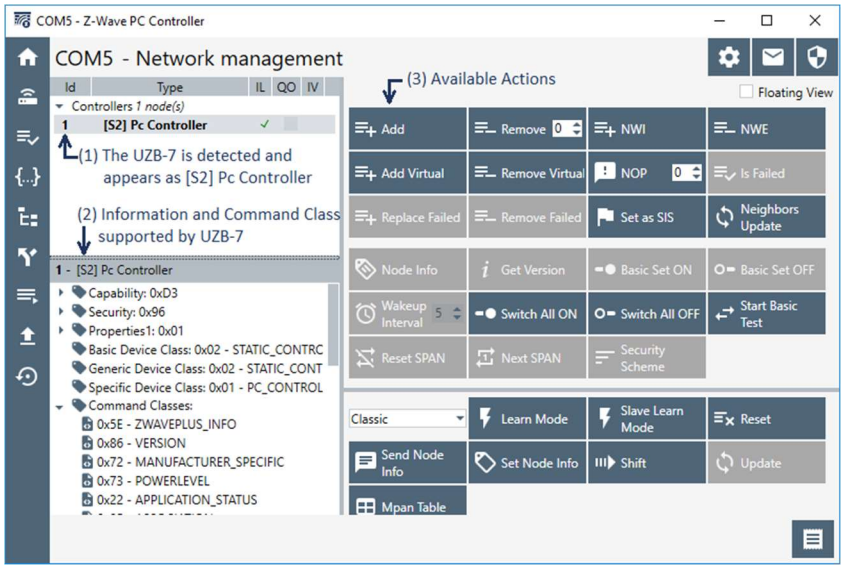
4. Click on the “Setting-wheel” on Right-Top corner of PC Controller and select “Silicon Labs CP210x USB to UART Bridge”. Click OK



5. Click on Next Work Management



6. UZB-7 is detected and appears as [S2] Pc Controller. The bottom panel display information and Z-Wave Command Class supported by UZB-7.



7. From here, you can perform basic commands to end devices. Refer to [3] PC Controller User Guide for more info.

EU Declaration of Conformity

This device complies with Radio Equipment Directive 2014/53/EU issued by the Commission of the European Community. The following test methods have been applied to prove presumption of conformity with the essential requirement of the directive.

EN 300 220-1: V3.1.1（2017-02)

EN 300 220-2: V3.1.1 (2017-02)

EN 301 489-1: V2.1.1 (2017-02)

Final draft EN 301 489-3: V2.1.1 (2017-03)

EN 62311 ： 2008

EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013

FCC Federal Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Document Revision History

Revision 0.30	2019-01-05	Beta-2 document revision

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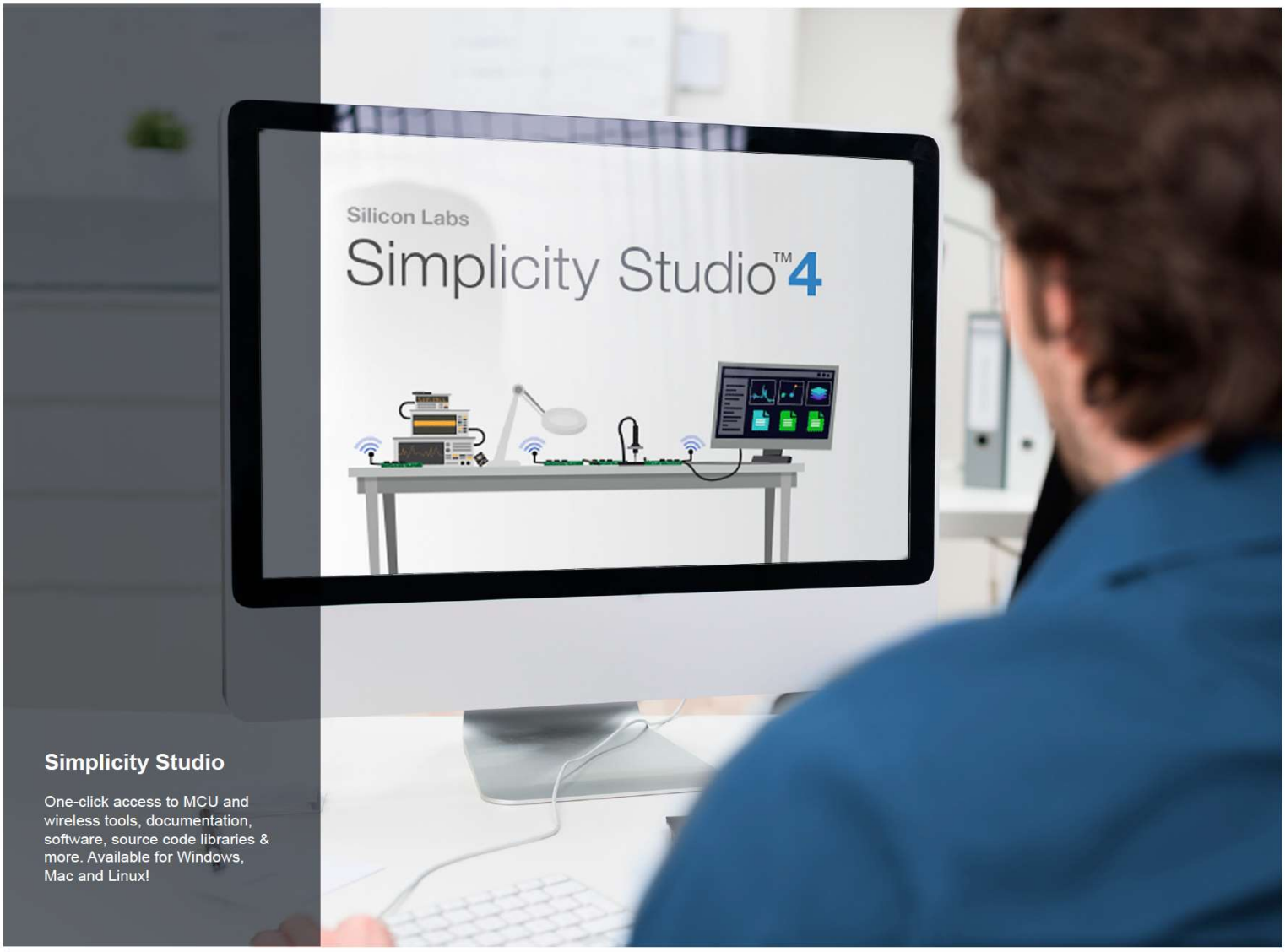

Simplicity Studio

One-click access to MCU and wireless tools, documentation, software, source code libraries & more. Available for Windows, Mac and Linux!

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