Z-Stack Lighting Demo - Quick Start Guide

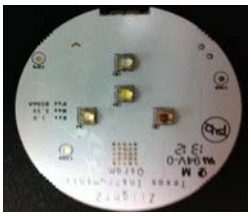
STEP 1 – Introduction

Z-Stack Lighting Demo HW includes one advanced remote control and one ZigBee Z-Light2 reference board. These components are pre-programmed with Z-Stack Lighting sample application included with the Z-Stack Lighting installer based on TI's ZigBee compliant protocol stack: Z-stack.

Z-Stack Lighting Demo HW set is designed to provide developers a quick introduction to ZigBee Light Link Public Profile. This allows quick start to product development and reduces time to market.

Quick Start Guide provides instructions for software installation, configuration and illustrates the procedure to run out-of-the-box Z-Stack Lighting Sample Application.

Contact your local TI representative to obtain the latest release of the Z-Stack with ZLL support (Z-Stack Lighting). You can also find information and download links for the Z-Stack at http://www.ti.com/tool/z-stack



STEP 2 – Pair the Remote Using Touch-link

- Insert 3 AAA batteries into the remote control to power it up.
- Power-up the Z-Light2 test board using a micro-USB cable.
- To Touchlink the remote with the Z-Light2, push the TL button on the Remote (see the adjacent figure) while it is held close to the ZLight-2 (within 2 inches). You will then see LED's on the Z-Light2 Board turn on and off. Successful pairing is also indicated by a buzzer sound from the remote.

STEP 3 – Using the Remote Control

After pairing, Z-Light2 is ready to be controlled by the remote. Following functionalities can be tested on the out-of-box sample application. When powered, Z-Light2 is set with zero saturation. For best results press saturation up 13 times to set it to fully saturated color. **Please consult the figure below (after instructions) for functionality to remote button mapping**

Following ZigBee Light Link features can be tested with the remote:

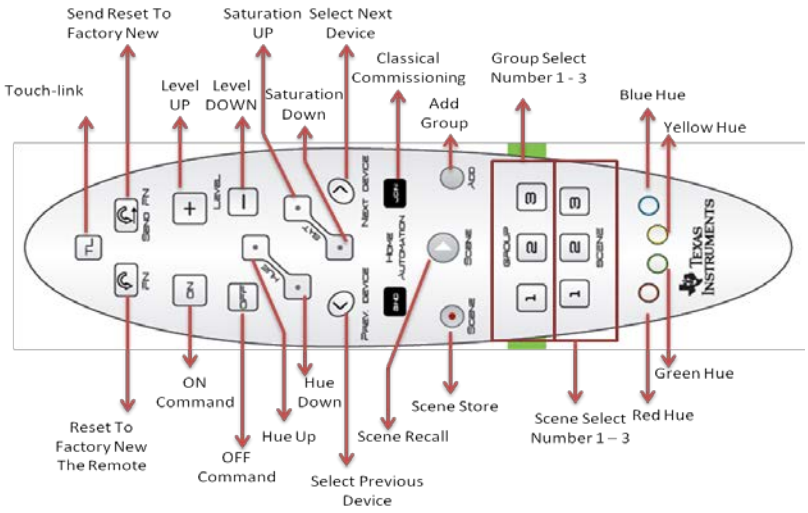
i. Touchlink: Please Touchlink the Remote and Light as described in Step 2
ii. Device select: If multiple lights have been Touchlinked, specific device can be selected by pressing *Prev. Device* or *Next Device*.
iii. On/Off: To turn the light ON press *ON* and to turn the light OFF press *OFF* buttons respectively.
iv. Level: To step Level up/down by 20 over 1s press *Level "+"/"-"* on remote
v. Saturation: To step saturation up/down by 20 over 1s, press *Saturation* up/down remote buttons respectively.
vi. Hue Step: To step hue up/down by 20 over 1s press *Hue* up/down remote buttons respectively.
vii. Groups: All the above commands can be sent as unicast (by device select), or groupcast.
    1. Adding Devices to a Group: On startup the devices are assigned to Group 1 on the remote. To add devices to other groups 2-3, press the Group number on the remote. Then press *Prev. Device* or *Next Device* to identify the devices. To add the identified device to the group press the *Add* button.
    2. Sending Messages to all devices in the Group: Select the group by pressing the Group Select button 1-3. All devices in the select group will identify. You can then send the desired command to the devices in the group.

viii. Scenes: Scenes are used for the devices in a particular Group. On the remote control, Scene Select buttons 1-3 are used for scene selection. The first step for using scenes is to select the desired group by pressing the Group Select button 1-3.

1. Scene Store: Select a scene by pressing the Scene Select button *1-3*, and then press the *Scene Button with red dot* to store the scene.
2. Scene Recall: Select a stored scene by pressing the Scene Select button *1-3*, and then the *Scene Button with Play* to recall the scene.

ix. Reset To Factory New:
1. Advanced Remote: You can reset the remote to a *factory new* state by pressing the *FN* button.
2. Z-Light2: To send a reset to factory new command to the light, Touchlink with the desired light and then press *Send FN* button on the remote within 8 seconds

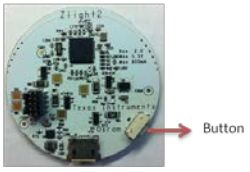
x. Classical Commissioning: Remote can be asked to join an HA network using the classical ZigBee commissioning method by pressing the *Join* Button.



STEP 4 – Using the ZLight2

There is a single button on the Z-Light2 board for which three functionalities have been mapped, based on the time the button is pressed.

a. Pressing the button for less than 1 second: Sets the enable permit join for 60 seconds
b. Pressing the button for >1 second and <5 seconds: Resets to factory New
c. Pressing the button for >5 seconds: Initiates Classical Commissioning



STEP 5 – Install the Sample Application and Start Development

1. Download Z-Stack Lighting stack from http://www.ti.com/tool/z-stack Run Z-Stack Lighting 1.0.1 installer and follow the instructions. After successful installation, code can be found at C:\Texas Instruments\Z-Stack Lighting 1.0.1
2. Download IAR for 8051 from http://www.iar.com/Products/IAR-Embedded-Workbench/8051/ and install the "time limited" version valid for 30 days
3. Install SmartRF Studio from www.ti.com/smartrfstudio. This is needed for CC Debugger driver used for flashing
4. Only For Flashing: Debug interface for the remote control is not directly accessible; it is located behind the back cover of the remote. To access it, first remove the back-cover of the remote (see figure on right).Note the pin 1 marking of the debug interface and make sure the debug cable is properly connected to the debug interface.
5. Refer to documents at C:\Texas Instruments\Z-Stack Lighting 1.0.1\Documents folder to find information on how to use the Z-stack ZigBee protocol stack software
6. Check frequently for updates and new application notes at www.ti.com/zigbee
7. Meet other Z-stack developers and get technical support at www.ti.com/lprf-forum