Accelerate© HDA229 Evaluation Kit- Quick Start Guide

Revision History

Revision	Revision date	Description
A	2017-01-11	First draft
B	2017-09-14	Only use OTP configuration

Introduction

This guide will help you to set-up and use the HDA229 Evaluation Kit (EVK) for first time experience. It describes how to connect the device and operate it. This guide is based on the a full-featured Linux kernel source driver package.

Scope of the Demonstration

The purpose of the demo is to illustrate

1. Wi-Fi connection and perform a first through-put test using a Linux computer with operational SDIO slot and the HDG229/SPB229 module mounted on a SD carrier board (HDA229 EVK).
2. Bluetooth connection using hcitool dev.

Requirements

Things you need to have:
- The HDA229 EVK using the onboard dual antenna.
- A Linux computer or Linux development platform with an operational SDIO slot (SDIO operation verified on Lenovo T530, T430, X220, X230 type of computers and iMX6 Development Platform). It's not possible to use standard USB memory card readers as they most likely will not support the SD extension "SDIO". Further are the drivers not supporting load via USB device so it has to be direct host connected SD interface with SDIO support, see more details on http://www.thinkwiki.org/wiki/SD_Card_slot
- Linux kernel 3.19 or later and IPERF installed.
- An 802.11 abgn AP connected with Ethernet to a Linux Host computer with IPERF installed.

Demonstration Example WiFi

In this example, an IPERF client resides on the HDA229 Linux computer and a remote IPERF server running on a computer connected to the Ethernet port of an 802.11abgn AP.

Running the HDA229 EVK IPERF Client Side

- Power up the Linux Computer
- The HDA229 EVK does not use drivers and firmware included in the standard Linux distribution. Instead Install the driver package as described in "1543-Driver Install User Guide"
- Start a Terminal Window
- Insert the HDA229 EVK SD carrier card into the SDIO slot
- Verify that the HDA229 EVK card is operational by checking that the mlan0 network interface has been created. Do this with the "iwconfig" command in a terminal Window.
- Start the 802.11abgn AP and a IPERF Server as per section "**Running the IPERF Server Side via 802.11abgn AP**" below.
- Start a WLAN connection either by using the Network manager located up in the right-hand corner or follow the manual set-up below:

```
sudo ifconfig mlan0 up
sudo iwconfig mlan0 essid NETWORK_NAME key WIRELESS_KEY
sudo dhclient mlan0
```

- Run command "ifconfig" to verify that IP-address has been successfully assigned for the HDA229 EVK interface.
- Then start a IPERF Client as per below:

```
iperf –c <ip-address> –u –i 1 –t 10
```

-c   means you are running in client mode, connecting to a "host" which is the IP Address following the –c.
-u   Set-up for UDP traffic or if TCP traffic is target then skip the –u parameter.
–i 1   means the seconds between periodic graphing and reporting the bandwidth.
–t 10   means the time in seconds to perform the IPerf test the default is set to 10 seconds.

- RX UDP through-put data speed is presented continuously in the Terminal window for given time "-t 10"

Running the IPERF Server Side via 802.11abgn AP
- Power up the 802.11abgn AP (follow AP installation and configuration guide)
- Power up the Linux Host Computer

- Start a Terminal Window
- Enter ifconfig command to get IP address to be used in the IPERF client session
- Start IPERF Server as per below (If TCP traffic is target skip the –u parameter).

```
iperf –s –u
```

Demonstration Example Bluetooth

- Power up the Linux Computer
- The HDA229 EVK does not use drivers and firmware included in the standard Linux distribution. Instead Install the driver package as described in "1543-HDA229 -Driver Install User Guide"
- Start a Terminal Window
- Insert the HDA229 EVK SD carrier card into the SDIO slot
- Install hcitool and check for any new hci device
- Verify that the HDA229 EVK card is operational by checking that a new hci device has been created. Do this with the "hcitool dev" command in a terminal Window.
- Use hcitool to test Bluetooth functionality

Contacts

sales@hd-wireless.se

support@hd-wireless.se

www.hd-wireless.se

Bluetooth is a registered trademark with the Bluetooth SIG

H&D Wireless

1543-HDA229 - Quick Start Guide Rev B