

## *6310<sup>™</sup> Application Ready Platform (SYS6310)*

*User Guide*

*003829 Rev A*

*June 09, 2021*

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## Revision History

Revision	Date	Description	Author
A	09/June/2021	Initial Release	SP

## Approval Record

Function	Name	Date
Reviewed By	DJ	09/June/2021
Approved By	PSD	09/June/2021

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# 1. SCOPE

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This document describes the system setup and usage of Qualcomm Snapdragon SDA450 processor-based 6310™ Application Ready Platform (SYS6310)

## Anti-Static Handling Procedures

SBC has exposed PCB and chips. Accordingly, proper anti-static precautions should be employed when handling the kit, including:

- Use a grounded anti-static mat
- Use a grounded wrist or foot strap

## Hardware Identification Labels

Labels are present on the 6310™ Application Ready Platform (SYS6310). The following information is conveyed on the 6310™ Application Ready Platform (SYS6310):

- Serial Label
- Ethernet MAC Address
- Wi-Fi and BT MAC Address

## 2. HARDWARE SPECIFICATION

### 2.1 INTRODUCTION

The 6310™ Application Ready Platform (SYS6310) can be used to develop, test, and deploy end-user product solutions around Qualcomm Snapdragon SDA450 processor.

### 2.2 SYSTEM SPECIFICATION

The following table shows the hardware specification of the 6310™ Application Ready Platform (SYS6310)

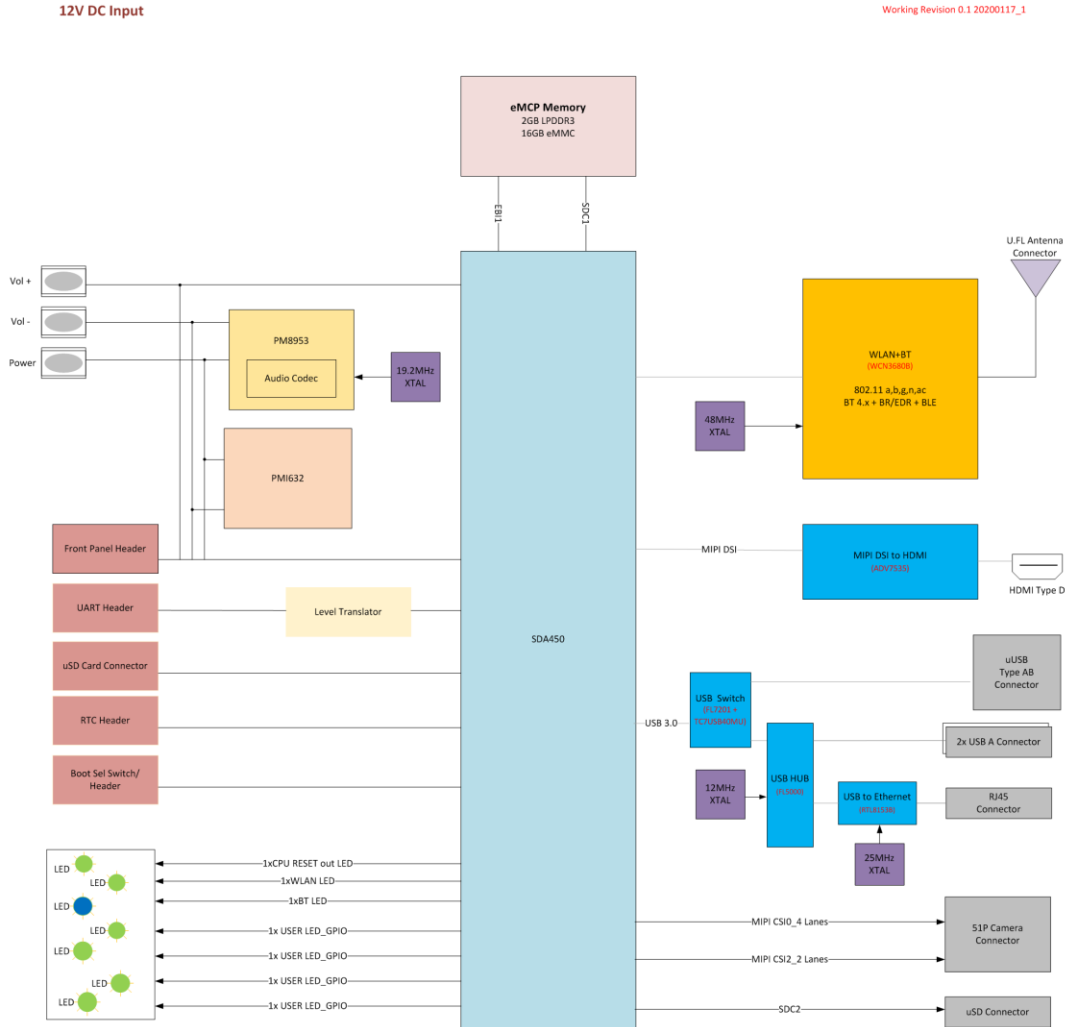
**Table 1: 6310 Application Ready Platform (SYS6310) Specifications**

<b><i>Processor</i></b>	
Processor	Qualcomm® Snapdragon™450 Processor (14mm×12mm package)
<b><i>Memory</i></b>	
eMCP (16 GB eMMC + 2 GB LPDDR3)	
<b><i>SBC I/O Interfaces</i></b>	
Interfaces	1× uUSB v2.0 (Device), 2× USB v3.0 (Host), 1× HDMI Type D, 1× RJ45, 1× Micro SD Card slot
<b><i>Form Factor</i></b>	
Mechanical	109.05mm x 70.07mm x 30.02mm
<b><i>Power</i></b>	
Power Input	12V via DC Jack
<b><i>Others</i></b>	
Temperature Specification	0C to +40C



## 2.3 ARCHITECTURE

Figure 1: 6310 Application Ready Platform (SYS6310) Block Diagram



**FCC**

**Bluetooth Classic:** 2402MHz - 2480MHz  
**BLE:** 2402MHz - 2480MHz  
**2.4GHz WIFI:**  
**20MHz BW:** 2412MHz - 2462MHz  
**40MHz BW:** 2422MHz - 2452MHz  
**5GHz WIFI:**  
**20MHz BW:** 5180MHz - 5240MHz, 5260Hz - 5320MHz, 5500MHz - 5700MHz, 5745MHz - 5825MHz  
**40MHz BW:** 5190MHz - 5230MHz, 5270MHz-5310MHz, 5510MHz - 5670MHz, 5755MHz - 5795MHz  
**80MHz BW:** 5210MHz, 5290MHz, 5530MHz - 5610MHz, 5775 MHz

**CE**

**Bluetooth Classic:** 2402MHz - 2480MHz  
**BLE:** 2402MHz - 2480MHz  
**2.4GHz WIFI:**  
**20MHz BW:** 2412MHz - 2472MHz  
**40MHz BW:** 2422MHz - 2462MHz  
**5GHz WIFI:**  
**20MHz BW:** 5180MHz - 5240MHz, 5260Hz - 5320MHz, 5500MHz - 5700MHz  
**40MHz BW:** 5190MHz - 5230MHz, 5270MHz-5310MHz, 5510MHz - 5670MHz  
**80MHz BW:** 5210MHz, 5290MHz, 5530MHz - 5610MHz

## 2.4 BOARD FAMILIARIZATION

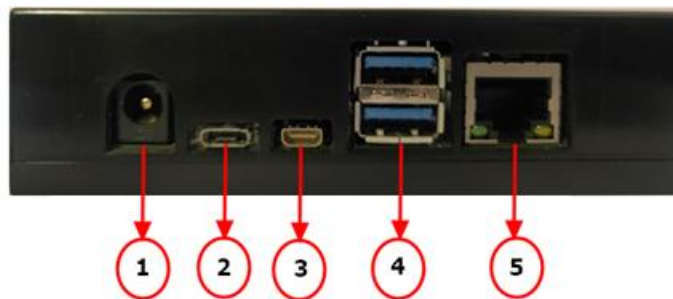
Figure 2: SYS6310 Application Ready Platform



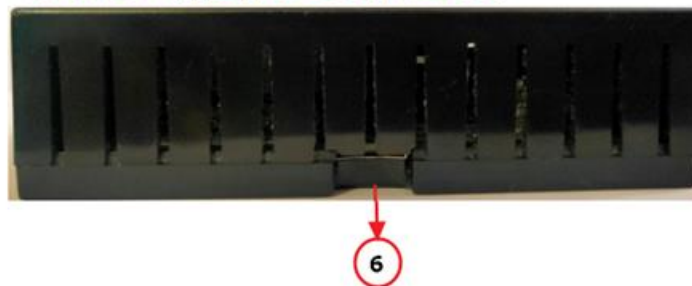
The following figure shows the interface positions of the 6310™ Application Ready Platform (SYS6310)

Figure 3: SYS6310 Application Ready Platform IO Connectors

### Real Panel IO Connectors



### Front Panel IO Connector



**Table 2: SYS6310 Application Ready Platform interface Locations**

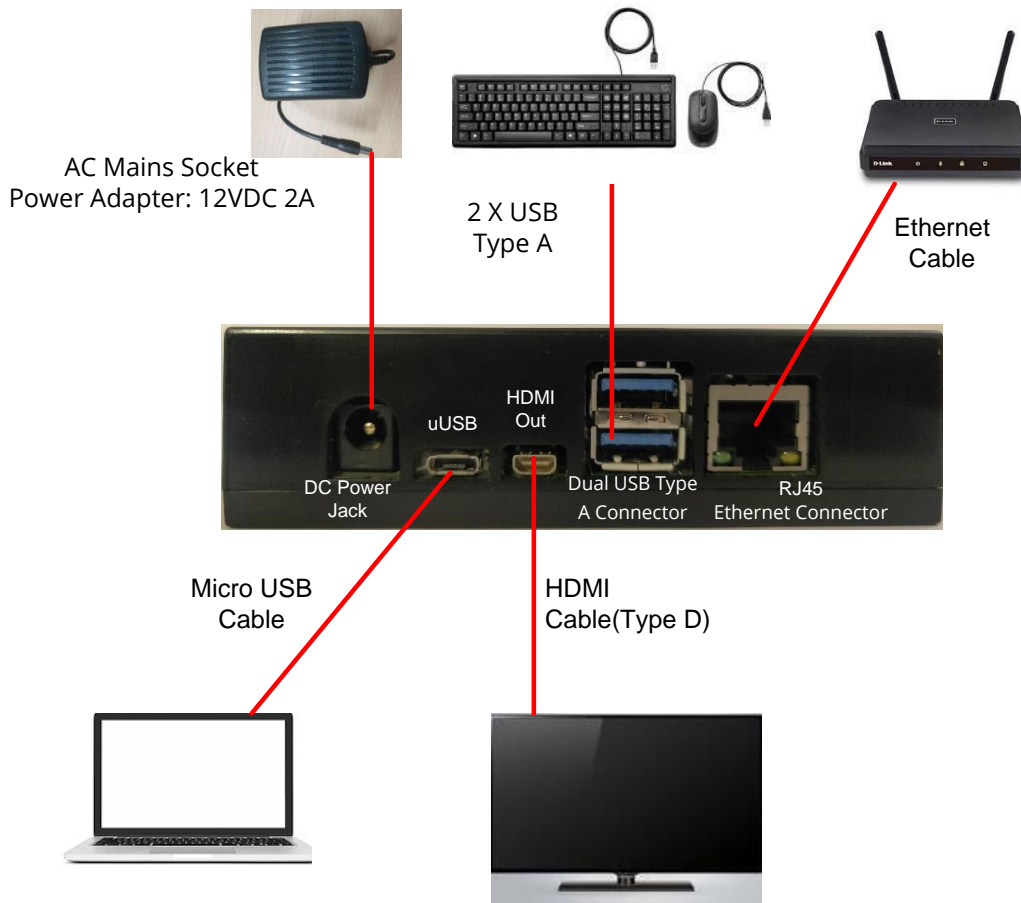
<b>No.</b>	<b>Description</b>
1	DC Power Jack
2	Micro-AB USB Connector (Debug)
3	Micro HDMI Connector (Type D)
4	Stacked USB 3.0 Type A Connector
5	Ethernet - RJ45 Connector
6	Slot for Micro SD Card

# 3. SYSTEM SETUP AND USAGE

## 3.1 HARDWARE SETUP

Figure below shows the Hardware setup of 6310™ Application Ready Platform (SYS6310)

Figure 4: Hardware Setup



## 3.2 HARDWARE OPERATION

### 3.2.1 STEPS TO BOOT 6310 APPLICATION READY PLATFORM (SYS6310)

Connect the DC power adaptor to the 6310™ Application Ready Platform (SYS6310)

 **NOTE**

- Carefully connect the DC connector to the jack provided on the board.

 **CAUTION**

- Use 12V, 2A DC Adaptor.

1. Connect the HDMI Out to a compatible display using an HDMI cable.
2. Switch ON the DC adaptor.
3. The board will boot up automatically.

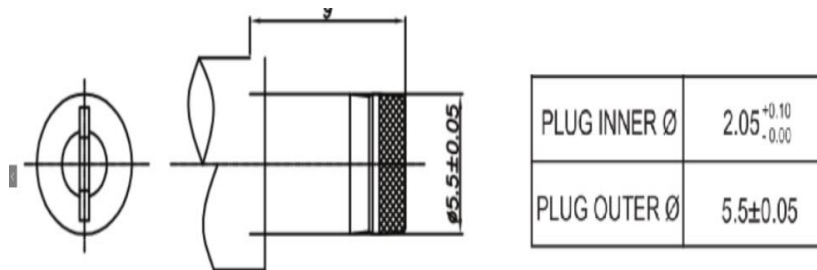
 **NOTE**

- First time booting might take longer time than normal booting.

4. **Android Version:** After a few minutes, the "android" logo followed by the *lock screen* will be displayed on the screen.

#### Mating Plug Specification for DC Jack

- Current rating 2 A
- Working Voltage:12V DC



## 3.2.2 FASTBOOT MODE

Follow the below steps to enter fastboot mode.

1. Connect 6310™ Application Ready Platform (SYS6310) and host PC using a Micro USB cable
2. Power on the board.
3. Once the device is booted up, open the command prompt in the host PC and enter the following commands

- *adb devices*

```
C:\WINDOWS\system32>adb devices
List of devices attached
1d0dead2      device
```

4. Once adb device is listed, enter bootloader using following command:

- *adb reboot bootloader*

```
C:\WINDOWS\system32>adb reboot bootloader
```

5. To confirm if the device has entered fastboot mode, use below command

- *fastboot devices*

```
C:\WINDOWS\system32>fastboot devices
1d0dead2      fastboot
```

## 4. COMPLIANCE DETAILS

### CLASS B PRODUCT COMPLIANCE STATEMENT

Note: 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 particular 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 or more 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.

### 4.1 EU COMPLIANCE STATEMENT

The Frequency band(s) in which the radio equipment operates and maximum radio-frequency power transmitted in the frequency band(s) in which the radio equipment operates are shown below

WIFI 2.4GHz:	20MHz: 14.92 dBm EIRP 40MHz: 14.13 dBm EIRP
WIFI 5GHz:	5150MHz – 5250MHz, 5250MHz – 5350MHz, 5470MHz – 5725MHz: 20MHz: 11.61 dBm EIRP 40MHz: 13.77 dBm EIRP 80MHz: 12.40 dBm EIRP
Bluetooth Classic:	9.19 dBm EIRP
BLE:	1.79 dBm EIRP

- a. The 6310 is in compliance with the essential requirements and other relevant provisions of the RE Directive 2014/53/EU.
- b. This device is restricted to indoor use only when operating in the 5150 to 5350 MHz frequency range.
- c. A minimum separation distance 20cm is required.

## 4.2 FCC RADIATION EXPOSURE STATEMENT

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

*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.*



## 5. CONTACT INFORMATION

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