INFORCE
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Inforce 6720™

User Guide

003767 Rev A

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Submit technical questions at:
http://www.inforcecomputing.com/techweb/

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Preface

This User Guide familiarizes the end user with the specification, interfaces, setup, and usage of the Inforce 6720.

Intended Audience

This User Guide is intended for technically qualified personnel. It is not intended for general audiences.

Document Organization

The chapters in this document are arranged as follows:

1. Scope
2. Hardware Specifications
3. System Setup and Usage
4. Compliance Information
5. Contact Information

Conventions

The following conventions are used in this document:

⚠️ **CAUTION**

Caution warns the user about how to prevent damage to hardware or loss of data.

📝 **NOTE**

Note calls attention to important information.

References

1. Inforce_6720_Hardware_Reference_Manual_003768

Note

This document is subject to change without notice.

Support Information

Every effort has been made to ensure the accuracy of the User Guide. If you have any comments, questions, or ideas regarding this document, contact Inforce's technical support at:

techsupport@inforcecomputing.com

Terminology

The table below gives descriptions to some common terms used in the User Guide.

Term	Description
ADB	Android Debug Bridge
BT	Bluetooth
CSI	Camera Serial Interface
DDR	Double Data Rate
DSI	Display Serial Interface
HDMI	High-Definition Multimedia Interface
LED	Light-Emitting Diode
LPDDR	Low Power DDR
NC	Not Connected
PC	Personal Computer
PCB	Printed Circuit Board
RF	Radio Frequency
SBC	Single Board Computer
SD	Secure Digital
SoC	System On Chip
SSD	Solid State Drive
UART	Universal Asynchronous Receiver Transmitter
UFS	Universal Flash Storage
USB	Universal Serial Bus

Table of Contents

Table of Figures

Table of Tables

1. SCOPE

This document describes the system setup and usage of Qualcomm Snapdragon 845 (SDA845) processor based Inforce 6720.

Hardware Identification Labels

Label are present on the Inforce 6720. The following information is conveyed on the product:

- Serial Number for Inforce 6720

- WIFI & BT MAC address

- Ethernet MAC address

2. HARDWARE SPECIFICATIONS

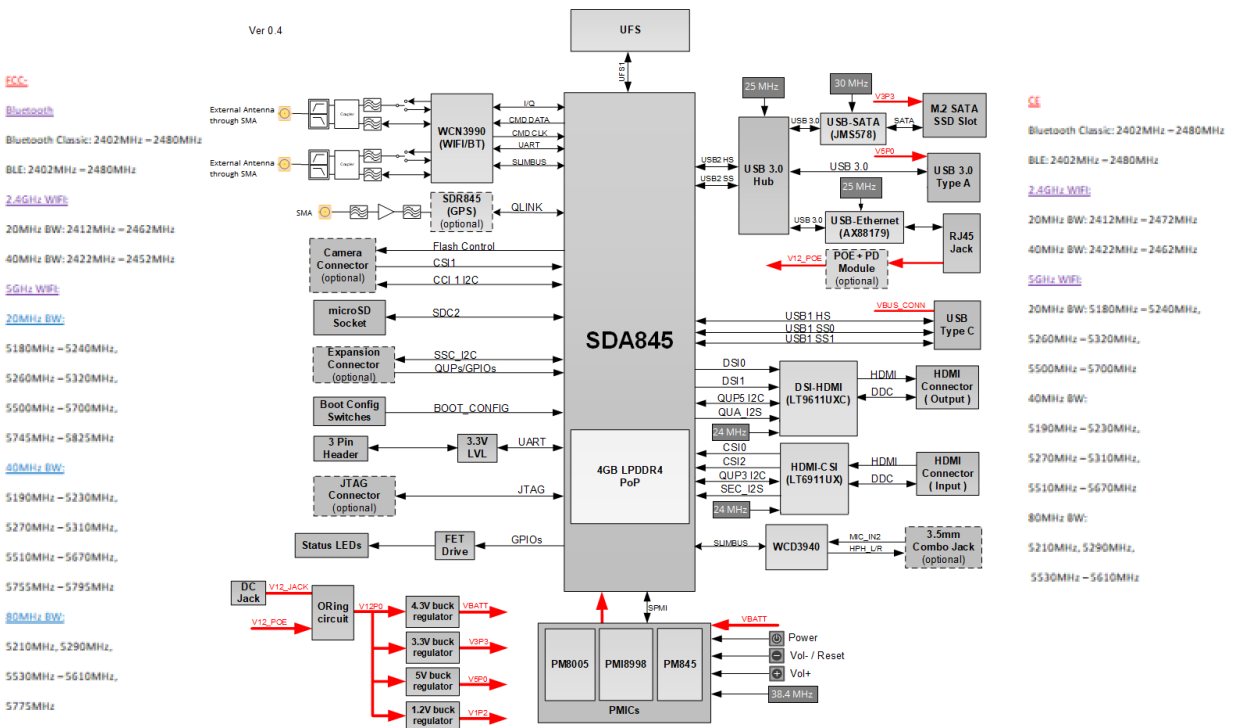## 2.1 INTRODUCTION

The Inforce 6720 is an Application Ready Platform, based on Qualcomm's 64-bit Snapdragon™ 845 processor (SDA845 SoC) with a low profile enclosure. Inforce 6720 can be used to develop, test, and deploy product solutions around Qualcomm Snapdragon 845 (SDA845) processor.

2.2 ARCHITECTURE

The functional diagram of Inforce 6720 is shown below.

Figure 1: Block Diagram

2.3 SYSTEM SPECIFICATIONS

The following table shows the hardware specification of Inforce 6720.

Table 1: Inforce 6720 Specifications

Processor	
Processor	Qualcomm® SDA845 SoC
Memory	
Main Memory and Storage	4GB LPDDR4x 1866Mhz 64GB UFS 2.1
IO Interfaces	
Interfaces	1× USB v3.0 Type-A, 1× USB v3.0 Type-C (Debug), 1× 4K HDMI Out, 1x 4K HDMI In, 1× microSD socket, 1× Combo audio jack, 2× SMA (Wi-Fi/BT), 1× SMA (GPS), 1× Ethernet jack (POE+)
Internal Interfaces	1× M.2 SATA SSD slot, 1× UART (Debug) 3-pin header
LED Indications	1x Power indication, 2x Board status indication, 3x User configurable LEDs
Misc.	5x Boot configuration switches
Form Factor	
Mechanical	175mm × 160mm x 25mm
Power	
Power Input	12V/3A DC Adapter, POE+ Injector
Others	
Temperature Specifications	Operating Temperature: 0°C to 50°C
Software	
Operating System	Android

2.4 ELECTRICAL CHARACTERISTICS

Power Supplies:

Inforce 6720 can be operated from the following power source:
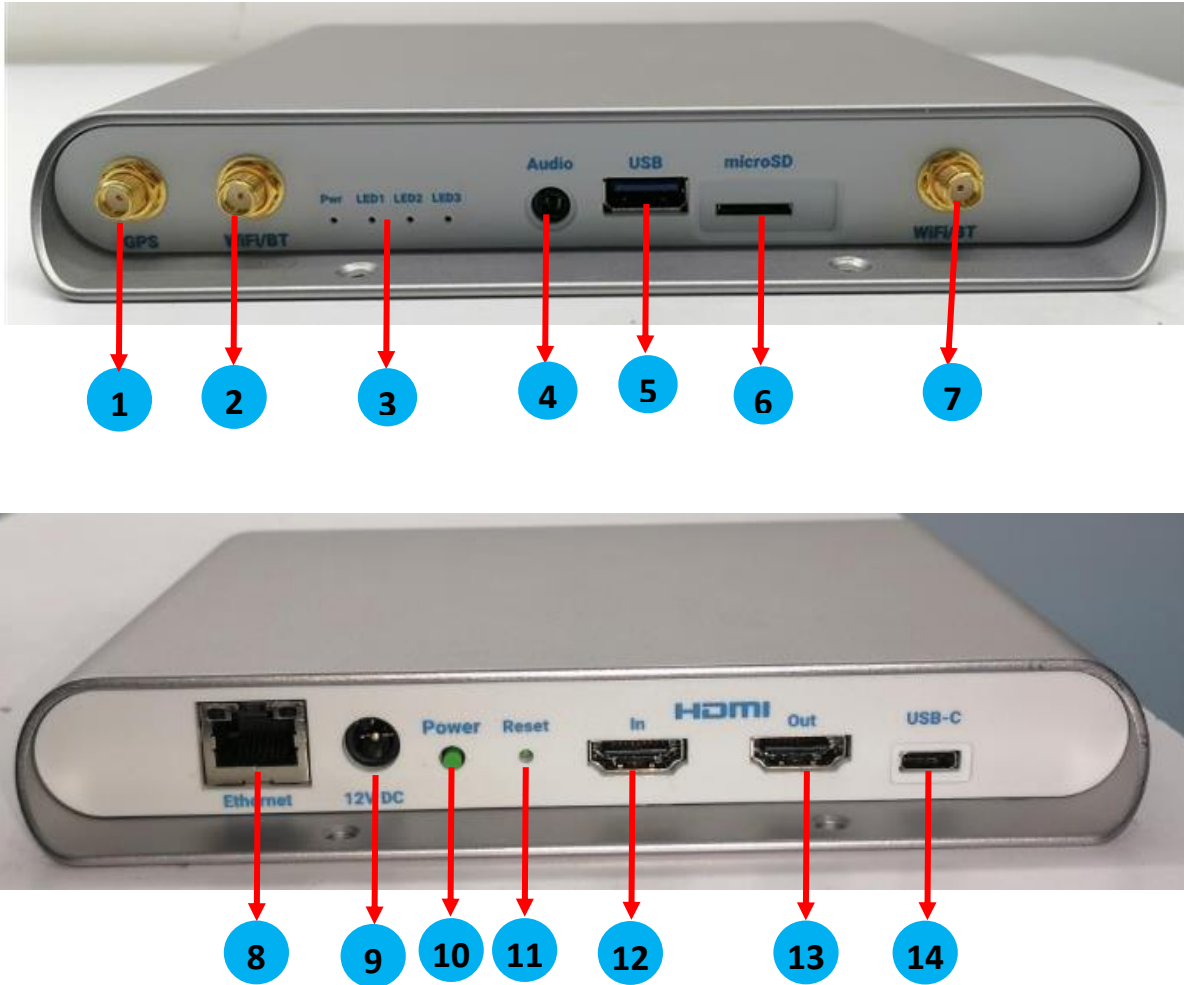
- 12V/3A DC Jack
- POE+ Injector

NOTE

Both 12V DC Jack and POE+ injector can be connected simultaneously.

2.5 USER INTERFACES

The following figure shows the interfaces on the Inforce 6720.

Figure 2: Inforce 6720 Interfaces

⚠️**CAUTION**

Inforce 6720 has a thin PCB, handle with care while using the ports.

Table 2: Inforce 6720 Interfaces

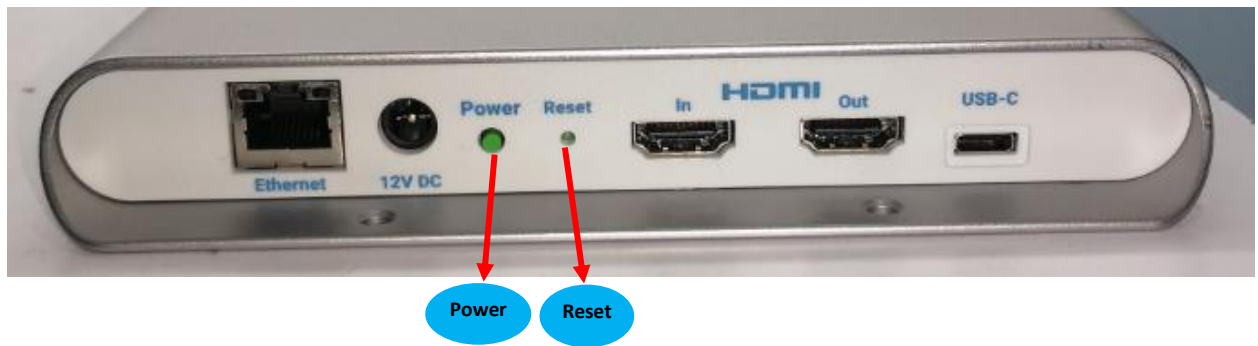| Sl. No.	Description
1	GPS SMA Female Receptacle
2	WIFI/BT SMA Female Receptacle
3	4x LEDs
4	Headphone Jack
5	USB 3.0 Type A Port
6	MicroSD Card Slot
7	WIFI/BT SMA Female Receptacle
8	RJ45 Ethernet Jack
9	12V DC Jack
10	Power ON Switch
11	Reset\Vol+ Switch
12	4K HDMI Input
13	4K HDMI Output
14	USB-C Port for Display and Debug

3. SYSTEM SETUP AND USAGE

3.1 SWITCHES

Following are the switches and functions on the Inforce 6720.

Table 3: Switch Functions

Switch	Function	Comments
Power	Power ON	○ Press to boot-up ○ Once booted up press to Sleep ○ While in Sleep press to Wake up ○ Press and hold for power menu
Reset	Reset\Vol +	○ Volume+ control ○ Optional factory reset

Figure 3: Switches on IO Panel

3.2 LED INDICATIONS

Following are the LEDs and indications on the Inforce 6720.

Figure 4: LEDs on IO Panel

Table 4: LED Indications

Reference	Function	Comments
PWR	Power Status	12V Power Status
LED1	Notify LED1	User programmable
LED2	Notify LED2	User programmable
LED3	Notify LED3	User programmable

3.3 WI-FI/BT ANTENNA

Fasten the Wi-Fi/BT Antennae on to the SMA connectors on the IO panel as shown in below figure.
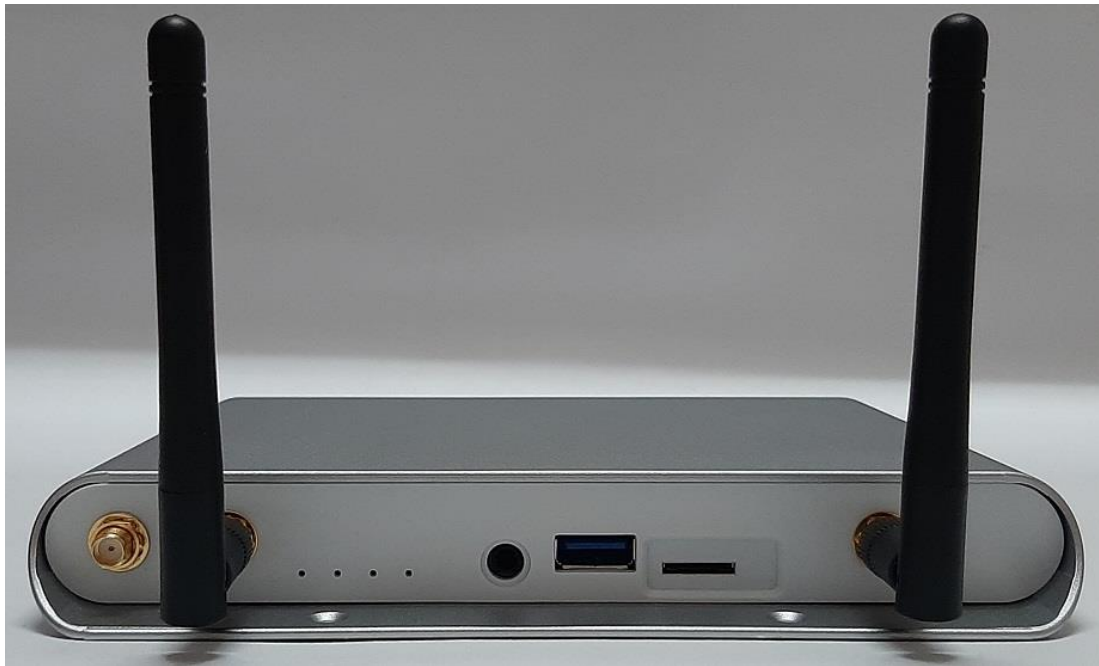
Figure 5: Wi-Fi/BT Antennae on SMA Connectors

Table 5: Antenna Details

Manufacturer	Manufacturer Part Number	Qty
Molex	2128600001	2

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3.4 INTERFACES

Following are the interfaces on the Inforce 6720.

Table 6: Interface Functions

Interface	Comments
Ethernet	o Connect directly to LAN port for Ethernet access o Connect to a POE+ Injector or POE+ capable switch for Ethernet access and Power input
12V DC	o Connect Power Adaptor DC plug for Power input
HDMI In	o Connect HDMI source using HDMI cable
HDMI Out	o Connect to Monitor using HDMI cable for Display
USB-C	o Connect to PC using USB-C to USB Type-A cable for ADB debug access o Connect to Monitor using USB-C to DisplayPort cable for Display
GPS	o Connect SMA Male Plug GPS Antenna
Audio	o Connect Headphone with MIC for audio
USB	o Connect USB Type-A compatible devices e.g., mouse
microSD	o Insert microSD card for data access

3.5 STEPS TO BOOT INFORCE 6720

1. Connect the DC power adaptor or POE Injector to the Inforce 6720.

    ⚠**CAUTION**

    Use only the DC power adaptor provided by Inforce Computing.

2. Connect the HDMI Out to a compatible Monitor using an HDMI cable.

3. Switch ON the DC adaptor or POE+ Injector.

4. Press the Power button to boot up.

5. Display will come up on the HDMI monitor once Inforce 6720 boots up.

    📝**NOTE**

    First time booting might take longer time than normal booting.

3.6 FASTBOOT MODE

Follow the below steps to enter fastboot mode:

1. Power ON and boot up the Inforce 6720

2. Connect the USB-C port of 6720 to host PC using a USB Type-C to Type-A cable

3. Once the 6720 is booted up, open the command prompt in the PC and enter the following command

    - adb devices

    ```
    C:\WINDOWS\system32>adb devices
    List of devices attached
    ebc76a57        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
    ebc76a57        fastboot
    ```

4. COMPLIANCE INFORMATION

4.1 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.

4.2 COMPLIANCE STATEMENT

1) The Inforce 6720 is in compliance with the essential requirements and other relevant provisions of the RE Directive 2014/53/EU.
2) This device is restricted to indoor use only when operating in the 5150 to 5350 MHz frequency range.
3) A minimum separation distance 20cm is required.

4.3 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.

5. CONTACT INFORMATION

USA (Corporate Headquarters)

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