

***Inforce 6301™ Development Kit***  
***Android Software Release Note V3.0***

**003247 Rev A**

**March 28, 2018**

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## Revision History

Revision	Date	Description	Author
A	28/March/2018	Initial Release	PH

## Approval Record

Function	Name	Date
Reviewed By	AP	28/March/2018
Approved By	DR	28/March/2018

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# Table of Contents

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- 1. INTRODUCTION ..... 1**
- 2. REFERENCES ..... 2**
- 3. SOFTWARE RELEASE INFORMATION ..... 3**
  - 3.1 SOFTWARE RELEASE PACKAGE .....3
  - 3.2 SOFTWARE RELEASE IDENTIFICATION .....4
  - 3.3 FEATURES SUPPORTED IN THIS RELEASE .....5
  - 3.4 NEW FEATURE OF THIS RELEASE .....7
  - 3.5 BUG FIXED IN THIS RELEASE .....7
  - 3.6 IMPORTANT NOTES .....7
  - 3.7 LIMITATIONS/BUGS .....8
- 4. CONTACT INFORMATION ..... 9**

# 1. INTRODUCTION

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This document describes the feature set supported on Android BSP Software Release Version 3.0 running Nougat 7.1.1 on Inforce 6301 development kit from Inforce Computing. The Inforce 6301 is a micro SOM based on the 64-bit Qualcomm® Snapdragon™ 410E processor (APQ8016E SoC). The development kit is comprised of the Inforce 6301 micro SoM which is mounted onto an ACC-1C10 carrier board.

## Test Configuration used for Validation

- Micro SOM – IFC6301-00-P2
- Carrier Board – ACC-1C10-00-P2

## Software Platform Version

This release is based on the following software platforms:

- Linux Kernel – Version 3.10.49
- Android Nougat – Version 7.1.1

## Memory Platform Information

The following has been validated in this release:

- 1GB LPDDR3
- 8 GB eMMC

Instructions to create a build environment and build Android software is available at:

<https://source.android.com/source/requirements.html>

## 2. REFERENCES

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This section lists any parent and/or supplementary documents for the Inforce 6301 development platform. This document supersedes previous versions. This document should be read along with:

- 6301 User Guide (PN 002828, Rev C, September 4, 2017)

# 3. SOFTWARE RELEASE INFORMATION

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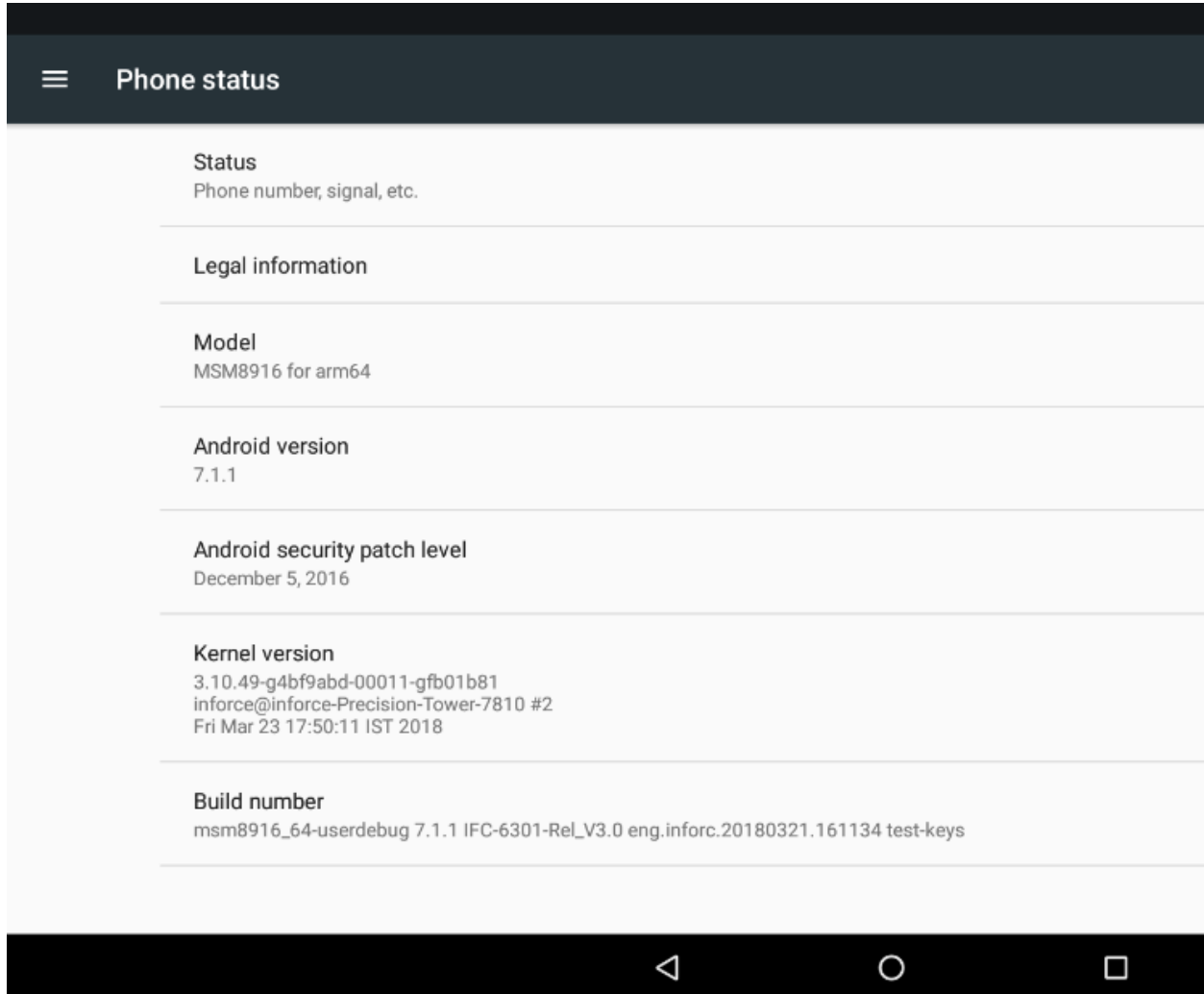
## 3.1 SOFTWARE RELEASE PACKAGE

This software release package consists of the following items:

- **Binaries** – Prebuilt binary files that can be flashed directly to the Inforce 6301 development kit.
- **Inforce Computing Patches** – These are adaptations and customizations done by Inforce Computing to ensure that the software works on the Inforce 6301.
- **README.txt** – Instructions for using the source code and release.
- **MAC Programming Files** – Support files required for Bluetooth MAC address programming.
- **Applications** – Application APKs for Chrome, VLC player and GPS included in the software package are:
  - com.android.chrome-v47.0.2526.76-252607600-Android-4.1.apk
  - org.videolan.vlc-1.7.2-APK4Fun.com.apk
  - gpstest.apk
- **Release Note** – This document describes the software capabilities and features, and any known issues/limitations in the release.

## 3.2 SOFTWARE RELEASE IDENTIFICATION

This Software Release Version 3.0 is based on Nougat 7.1.1 for use with the Inforce 6301 development kit (Qualcomm® LA.BR.1.2.9-01810-8x16.0.xml release) with adaptations and customizations from Inforce Computing.





## 3.3 FEATURES SUPPORTED IN THIS RELEASE

The following features are validated in this release:

1. **Android Nougat 7.1.1:** This release is based on Android Nougat 7.1.1.
2. **Android Recovery:** Recovery mode operation is verified in this release.
3. **Frequency**
  - **CPU:** CPU core frequency up to 1.2GHz (4 cores).
  - **GPU:** This release supports 400MHz.
4. **USB**
  - **USB 2.0:** USB-based input devices (Mouse and Keyboard).



### NOTE

1. *Inforce 6301 will work either in USB host mode or device mode. If the device adb cable is connected, it will work in the device mode (for adb, fastboot).*
  2. *ADB over Wi-Fi should be used, to have adb and USB host function together. Following are the steps to enable ADB over Wi-Fi:*
    - a. *Boot the Inforce 6301 board and run the following commands on the Command prompt:*

```
adb wait-for-device && adb root && adb wait-for-device &&
adb remount
&& adb wait-for-device
adb shell "echo service.adb.tcp.port=5555 >>
/data/local.prop"
adb shell chmod 0644 /data/local.prop
```
    - b. *Reboot the unit after disconnecting the uUSB cable to the PC.*
    - c. *Select the following options on the board:*
      - Settings → Wi-Fi → ON (select a network and then connect)*
      - Settings → Display → Sleep → 30 minutes*
      - Settings → Security → Screen Lock None*
      - Settings → About phone → Build Number ×8 (press build number eight times to enable developer mode)*
      - Settings → Developer Options → Stay Awake*
      - Settings → Developer Options → Verify Apps over USB → OFF*
    - d. *Find the IP address of the device using the path below:*
      - Settings → WIFI → Long press on the Connected Network → Modify Network**Now the IP address will be displayed on the Modify Network screen (e.g., "10.75.69.197").*
- **USB Mass Storage:** This release supports USB mass storage automount. The files can be accessed from UI using third party application (ES File Explorer File Manager).

**NOTE**

The USB mass storage will not work if the device adb cable is connected as the unit does not support host mode and device mode operation simultaneously. Connect to ADB over Wi-Fi by issuing the commands as mentioned in the previous point.

- **USB Camera:** 1080p image capture and preview using the Microsoft LifeCam HD 5000.

**5. Display**

- **HDMI:** This release supports HDMI display at 1080p, 30fps full-screen resolution along with the audio.

**6. Wi-Fi:** This release is validated for Wi-Fi 2.4GHz client functionality.**NOTE**

As there is no default browser available, install the Chrome browser provided along with the software package for browsing. Use the following commands for installing the apk:

```
adb root
adb remount
adb install <location where apk is stored>/
com.android.chrome-v47.0.2526.76-252607600-Android-4.1.apk
```

**7. SD Card:** This release supports SD card storage media with a maximum validated storage size of 64GB.**8. SD Card Recovery:** This release is validated for recovery of bricked boards through SD card boot.**NOTE**

Refer to the application note called **Inforce 6301 AppNote Recovery of Bricked Boards Using SD Card** that is available on Inforce Techweb.

**9. GPS:** This release is validated for GPS feature with an external active antenna.**NOTE**

GPS feature is verified using the *gps test* application provided within this release package.

Follow the commands shown below to install the apk:

```
adb root
adb remount
adb install gpstest.apk
```

**10. Serial UART:** This release supports UART at a baud rate of 115200.**11. Bluetooth:** This release is validated for Bluetooth File Transfer and Bluetooth low-energy host functionalities.**12. Network Configuration:** Wi-Fi and Bluetooth MAC address programming are maintained in persist partition.

**NOTE**

For Wi-Fi and Bluetooth MAC address programming, please refer to the **README.txt** provided as part of this release package.

**13. MTP Device:** This release is validated for MTP device support.

**NOTE**

The board will not be detected as a MTP device on the very first boot after flashing the board.

**14. Low-speed Peripherals Programming:** Low-speed Peripherals like SPI/I2C/UART available on the expansion header has been validated in this release.

**15. Miracast:** This release supports Miracast. Casting of FullHD resolution has been validated in this release.

## 3.4 NEW FEATURE OF THIS RELEASE

1. **Android Nougat 7.1.1:** This release supports Android Nougat 7.1.1.

## 3.5 BUG FIXED IN THIS RELEASE

1. **Wi-Fi:** Wi-Fi state is not retained over a power cycle.

## 3.6 IMPORTANT NOTES

- *Long press the Power Button (S5) to power ON the board.*
- *To enter into fastboot mode follow the below steps:*
  - *Hold the Vol-(S6) switch along with Power Button (S5) **OR** enter the bootloader using the following:*

```
adb reboot bootloader
```

- *Confirm if the device has entered fastboot mode by issuing the command below:*

```
fastboot devices
```

- *For installing Android applications, issue the following commands:*

```
adb root
```

```
adb remount
```

```
adb install <application name>.apk
```

## **3.7 LIMITATIONS/BUGS**

1. HDMI hot plug is not supported in this release.
2. USB drive is not displayed in the File Manager.
3. Hexagon SDK is not supported.

## 4. CONTACT INFORMATION

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