

NORDIC ID HH8x

NORDIC ID HH83 / NORDIC ID HH85

USER GUIDE



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1. GETTING STARTED

1.1. GENERAL

Nordic ID HH8x family is designed for quick, accurate and reliable data collection whether it is for barcode or UHF RFID reading. Featuring the Android operating system and a 4.7" HD touchscreen with high processing power. This enables sophisticated software development offering a superb user experience. The Gorilla Glass 3 touchscreen provides excellent display quality and robustness.

What makes Nordic ID HH83/HH85 RFID ACD so powerful is the Nordic ID NUR2-1W module which provides state-of-the-art UHF RFID reading performance is an ideal contemporary data collection tool.

The modular design of Nordic ID HH83 enables the only Barcode variant to be upgraded* to RFID+Barcode variant in future, instead of replacing the device.

* Upgrade must be made by authorized service centers. Upgrade ordering codes are ACN00199/200.

1.2. VARIANTS

1.2.1. NORDIC ID HH83 VARIANTS

The Nordic ID HH83 is available in 5 different variants (all of them with WLAN interface, rear camera and NFC reader) that are:

CODE	FREQUENCY	RFID ACD	2D IMAGER	4G
HTH00001	N/A	No	Yes	No
HTH00002	N/A	No	Yes	Yes
HTH00004	868 MHz (ETSI)	Yes	Yes	No
HTH00005	868 MHz (ETSI)	Yes	Yes	Yes
HTH00007	915 MHz (FCC)	Yes	Yes	No



Picture 1 Nordic ID HH83 RFID ACD (left) and Nordic ID HH83 Barcode (right) variants

1.2.2. NORDIC ID HH85 VARIANTS

The Nordic ID HH85 is available in 3 different variants (all of them with WLAN interface, rear camera and NFC reader) that are:

CODE	FREQUENCY	RFID ACD	2D IMAGER	4G
HTH00008	868 MHz (ETSI)	Yes	Yes	No
HTH00009	868 MHz (ETSI)	Yes	Yes	Yes
HTH00010	915 MHz (FCC)	Yes	Yes	No
HTH00011	920 MHz (China, Japan)	Yes	Yes	No
HTH00012	920 MHz (China, Japan)	Yes	Yes	Yes



Picture 2 Nordic ID HH85 RFID ACD

1.3. AVAILABLE ACCESSORIES

1.3.1. NORDIC ID HH83 AND NORDIC ID HH85 ACCESSORIES

CODE	DESCRIPTION
ACN00190	HH83 Desktop Charger Kit EU
ACN00191	HH83 Desktop Charger Kit UK
ACN00192	HH83 Desktop Charger Kit US
ACN00193	HH83 4-Bay Desktop Charger Kit EU
ACN00194	HH83 4-Bay Desktop Charger Kit UK
ACN00195	HH83 4-Bay Desktop Charger Kit US
ACN00182	HH83 USB Type-C-to-Ethernet Adapter
ACN00183	Wall adapter QuickCharge3 USB Type-C kit, EU UK US



Picture 3 USB Type-C-to-Ethernet Adapter

NOTE! When using the 4-slots desktop cradle, one USB-C to Ethernet adapter is needed for each Nordic ID HH83 or HH85 device using Ethernet communication, i.e., up to 4 adapters might be connected to the 4-bays cradle.

1.3.2. NORDIC ID HH83 ONLY ACCESSORIES

CODE	DESCRIPTION
ACN00180	HH83 Spare Battery 6700mAh with Cover
ACN00181	HH83 Spare Battery 3350mAh with Cover
ACN00205	Nordic ID HH83 belt holster



Picture 4 Nordic ID HH83 belt holster

1.3.3. NORDIC ID HH85 ONLY ACCESSORIES

CODE	DESCRIPTION
ACN00204	Nordic ID HH85 Battery 10050mAh with Pistol grip cover



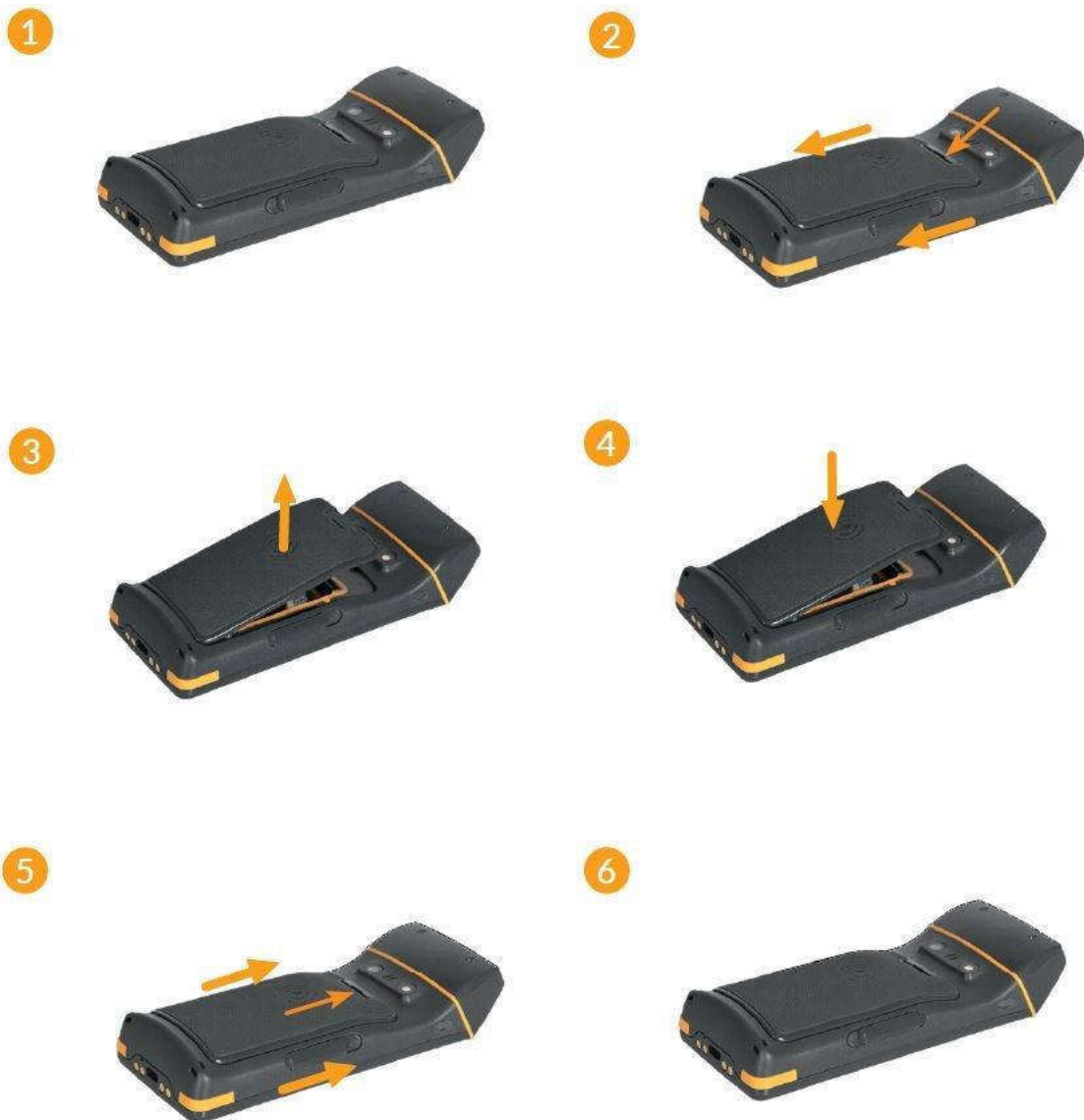
Picture 5. Removing the Nordic ID HH85 battery cover

1.4. INBOX CONTENT

Nordic ID HH83/HH85 inbox contains following items

- Nordic ID HH83/HH85 device
- Changeable battery (pre-installed inside the unit).
 - 3350mAh battery included in Nordic ID HH83 Barcode variants
 - 6700mAh battery included in Nordic ID HH83 RFID ACD variants
 - 10050mAh battery with pistol grip included in Nordic ID HH85 RFID ACD variants
- Wrist strap
- Safety and regulations card

1.5. REMOVING AND INSTALLING THE BATTERY

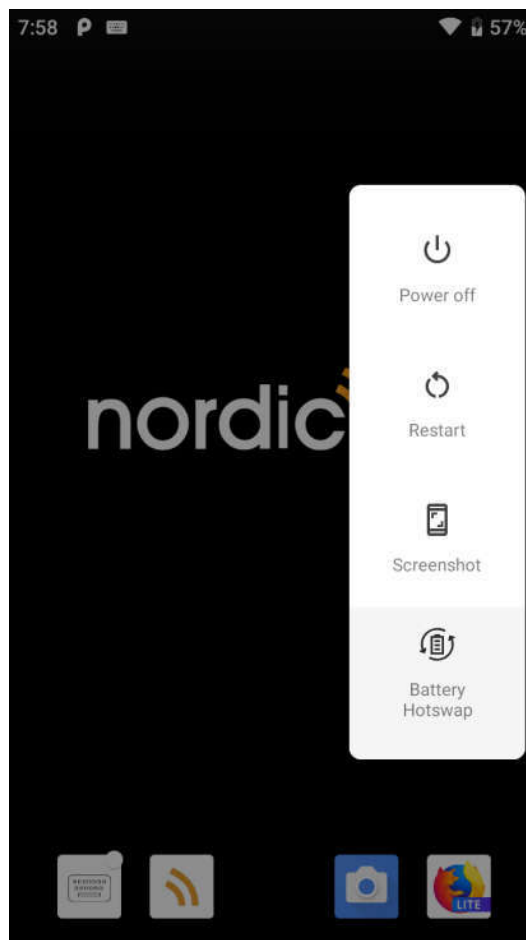


Picture 6 Removing and installing battery

1.5.1. BATTERY “HOT SWAP”

The Nordic ID HH83/HH85 provides a battery “hot swap” functionality which the user can activate from the Android “power off” menu (displayed when Power button is pressed during 1 second). This feature allows removing a (discharged) battery and installing a fully charged one in a matter of seconds, thus allowing a larger usage time of the device when having extra batteries for replacement.

When selecting “Battery Hotswap”, the device will go to sleep mode and, after waiting for a short vibration, then the user can swap the battery without losing any data, as the device will not reboot or power off as it would do without “hot swap” support.



Screenshot 1

1.6. CHARGING

1.6.1. NORDIC ID HH83/HH85 CHARGING

NOTE! Due to regulations, devices are delivered with empty battery.
Please fully charge your device before first use.

The Nordic ID HH83/HH85 can be charged via desktop or USB-C charger. The USB charger needs to have a USB-C connector and preferably support for Quick Charge 3.0.

Charging time from 0 – 100% via the desktop and Quick Charge 3.0 USB charger is about 4 hours for both Nordic ID HH83 Barcode and RFID ACD variants.

Due to its larger battery, charging time from 0 – 80% is about 4 hours for Nordic ID HH85 RFID ACD, and 6 hours to 100%.

The status LED on the unit shows the charging progress:

- red when battery level is below 15%
- yellow when it's between 15% and 90%
- green when it's above 90%



Picture 7 Charging of the Nordic ID HH83 via USB charger

NOTE! The USB-C and desktop chargers are sold separately by Nordic ID.

1.6.2. BATTERY CHARGING USING DESKTOP CHARGER

Both the battery in the Nordic HH83 plus a spare battery can be charged simultaneously in the desktop charger. This means that when using the Nordic ID HH83 4-Bay Desktop Charger, four Nordic ID HH83 devices plus four extra batteries can be charged at the same time, i.e., eight batteries.

NOTE! that one Nordic ID HH85 with pistol grip and one spare battery with pistol grip cover cannot be charged in the same bay of a desktop charger.



Picture 8 Nordic ID HH83 single Desktop Charger and 4-Bay Desktop Charger

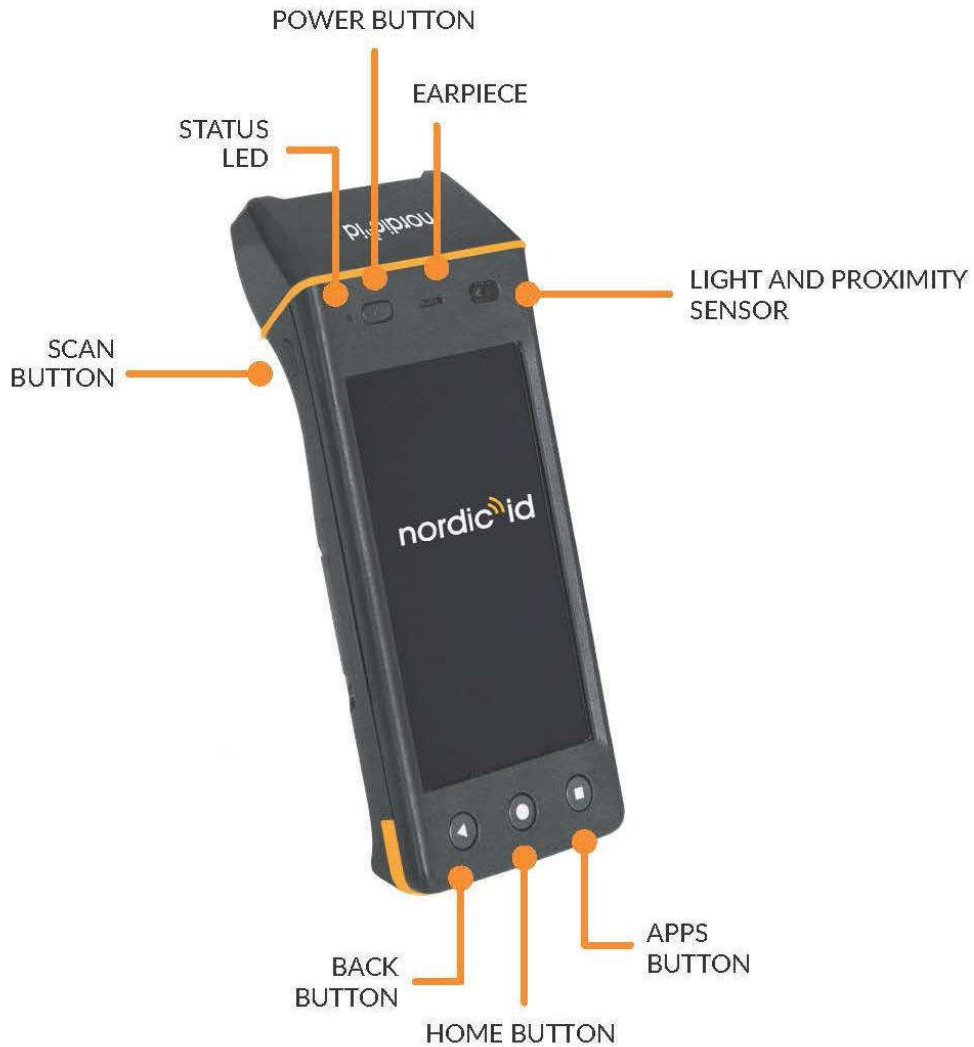


Picture 9 Features of Nordic ID HH83 Desktop Charger

The behavior (color) of the LEDs depends on how the main Nordic ID HH83/HH85 unit is being connected (using the USB-C port) to external devices or network and whether an extra battery is being charged or not:

- Power status LED
 - Green when the desktop charger is connected to power
- Communication mode LED
 - Off when there is nothing connected to USB-C port
 - Green when the Nordic ID HH83/85 unit is in client mode (e.g., connected to a computer via USB)
 - Blue when the Nordic ID HH83/HH85 unit is in host mode (e.g., connected to a network using USB to Ethernet adapter)
- Extra battery status LED
 - Red when a Nordic ID HH83/HH85 battery is being charged
 - Green when a Nordic ID HH83/HH85 battery is fully charged

1.7. FEATURES OVERVIEW



Picture 10 Nordic ID HH83 keys and user interface (front side)

The three buttons below the screen map the typical on-screen Android buttons.



Picture 11 Features of Nordic ID HH83 (back side)

The variant shown in Picture 10 and Picture 11Picture 8 is Nordic ID HH83 Barcode. Keys and user interactions are the same in Nordic ID HH83 RFID ACD and Nordic ID HH85 RFID ACD, except:

- Nordic ID HH83 RFID ACD and Nordic ID HH85 RFID ACD do not have built-in ToF sensor.
- Module containing the barcode scanner also builds the RFID UHF reader and antenna.

The Nordic ID HH85 RFID ACD also includes a scan button on the pistol grip:



Picture 12 Nordic ID HH85 RFID ACD

2. USING THE DEVICE

2.1. BUTTONS

The Nordic ID HH83/HH85 devices include six physical keys for user interactions. Location of the keys can be seen in the Picture 10.

Both Nordic ID HH83 Barcode and RFID ACD variants include two side keys for triggering UHF RFID and/or barcode reading, allowing usage with both right and left hands.

The Nordic ID HH85 RFID ACD also includes a trigger on the pistol grip, besides of the two side keys.

2.1.1. SCAN BUTTONS

The trigger (SCAN) buttons are in Nordic ID HH83 on both sides of the device, and also on the pistol grip in the Nordic ID HH85. Depending on the application in use, the trigger button starts/stops UHF RFID or barcode reading. By default, the first press of the button starts the reading and the second press of the button stops it.

NOTE! By default, side buttons in Nordic ID HH8x don't wake up the reader if sleeping.

Scanning is the default behavior of these side keys when using Nordic ID applications such as Nordic ID RFID Demo, Nordic ID Keyboard Wedge or Nordic ID Radea Mobile Client.

The scan buttons information (status) is also available for 3rd party applications via the Android API, as a push or release event, so that their behavior can be customized.

2.1.2. POWER KEY

Power key turns the device On/Off. The power key can be used also to wake the device up if it's sleeping and displaying the "Power off" menu if the key is pressed continuously for 1 second.

When pressing the power key continuously for 8 seconds, the device will reboot immediately.

2.1.3. HOME KEY

Home key will show the menu of Android OS and/or application if supported by the view/application or move back to the home screen from any application.

2.1.4. BACK KEY

Back key equals to tapping a "Return" or "Previous" button in any application. It behaves as the "back" Android button.

2.1.5. APPS TASK MANAGER KEY

Apps key will show the task manager of Android OS. It behaves as the "apps" Android button.

2.2. STATUS LED

Whilst the Nordic ID HH83/HH85 is being charged, using either the USB-C charger or the Nordic ID HH83 desktop charger, the status LED indicates the charging progress, i.e. battery level, of the device:

- red when battery level is below 15%
- yellow when it's between 15% and 90%
- green when it's above 90%

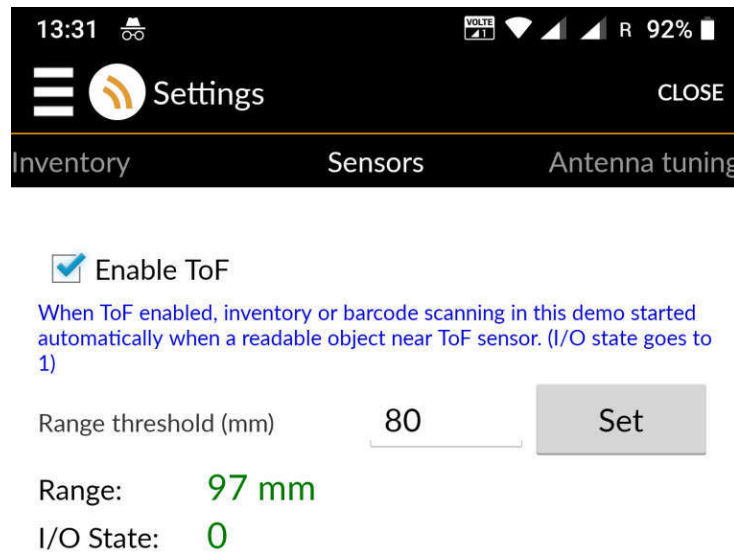
2.3. SENSORS

The Nordic ID HH83/HH85 includes several sensors which can be seen in the Picture 10 and Picture 11.

2.3.1. TOF SENSOR

The ToF sensor is located on the top front side of the Nordic ID HH83 Barcode device, by the barcode scanner. It is used to trigger barcode scanning instead of using the Scan button. ToF mode is disabled by default. When enabled, the ToF sensor sends an artificial light signal. Barcode scanning is automatically performed while any item interrupts this signal, e.g., an object finger is placed in front of the sensor at a given (customizable) distance.

Enable and play with ToF sensor using Nordic ID RFID Demo in Android → *Settings* → *Sensor*



Screenshot 2

2.3.2. LIGHT AND PROXIMITY SENSOR

The light and sensors are located on the front side of the device, by the ear speaker.

The light sensor is used to adjust the brightness of the screen according to the ambient light (if the display brightness level is set to adaptive).

The proximity sensor detects when you have the phone up to your ear, so that touchscreen is switched off to prevent accidental tapping.

2.3.3. NFC READER

An NFC reader is located on the back side of the Nordic ID HH83/HH85. NFC antenna is indicated with a ((waves)) icon in the Nordic ID HH83 (there is no icon in the Nordic ID HH85).

Multiple NFC standards are supported, proximity and vicinity, which makes Nordic ID HH83/HH85 also compliant with existing NFC Android apps.

The Nordic ID RFID Demo app can also be used to read NFC tags and get basic information.



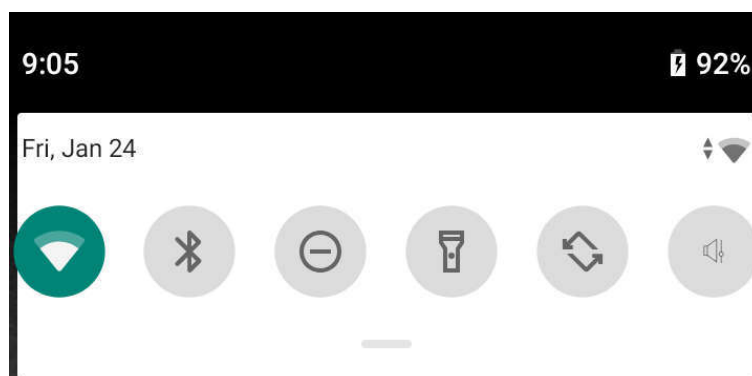
Picture 13 Position of NFC antenna in Nordic ID HH83 and Nordic ID HH85

2.4. VOLUME

The Nordic ID HH83/HH85 has a speaker and an earpiece, which volume can be adjusted as typically done in Android devices.



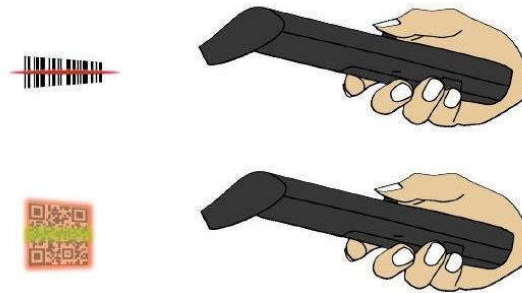
The Nordic ID HH83/HH85 does not have physical volume control buttons. To change the volume of the audio, you can use the shortcut at the dropdown notification menu.



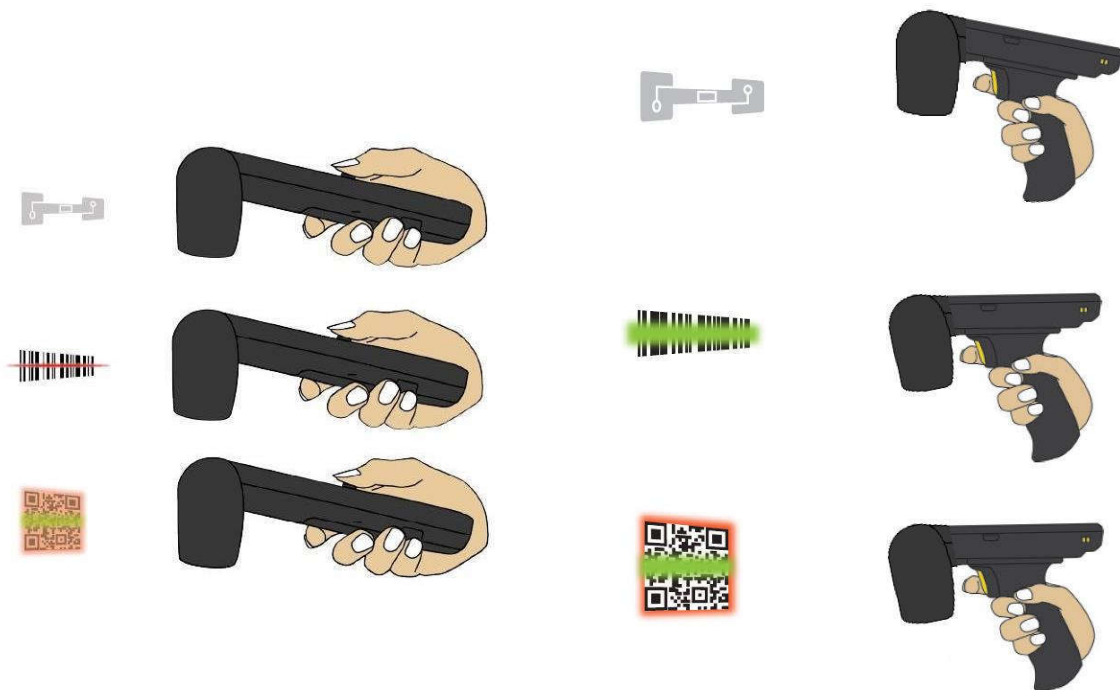
Screenshot 3

2.5. SCANNING DIRECTIONS

To get maximum reading performance, Nordic ID HH83/HH85 reader must be handled by following these pictures showing ergonomic and easy way to hold and use the device:



Picture 14 Scanning direction with Nordic ID HH83 Barcode



Picture 15 Scanning direction with Nordic ID HH83 RFID ACD and Nordic ID HH85 RFID ACD