KDC1000/1100 UHF Quick Guide

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Contents

See Reference Manual for more detailed information.

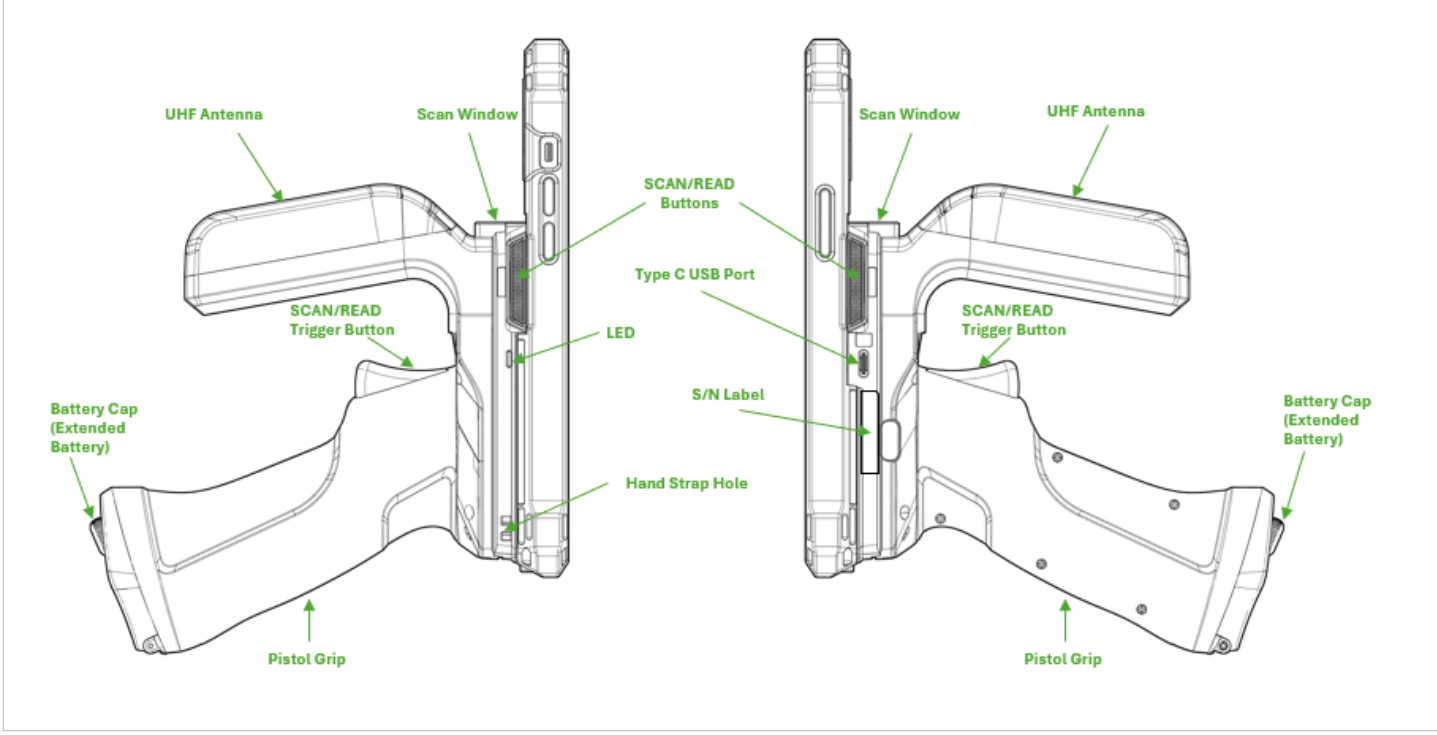
Visit store.koamtac.com to purchase additional products and accessories.

KDC1000/1100 UHF Quick Guide

1. Product Introduction

The 1.0W or 0.5W UHF Reader is attached to the back of KDC1000/1100 SmartSled Scanners.

1.1 KDC1000/1100 1.0W UHF Reader Diagram

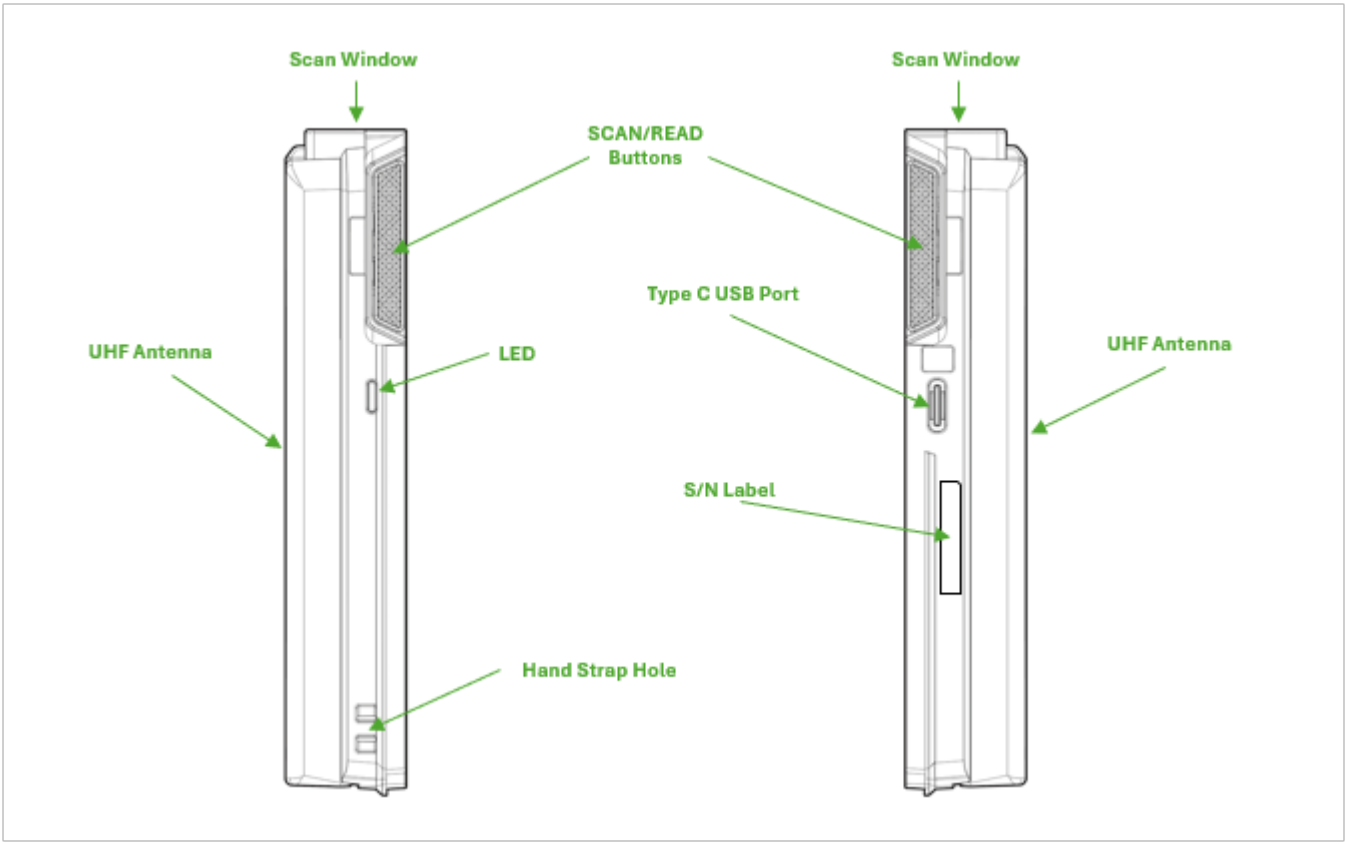


** 1.0W UHF Reader mounted to KDC1000*

See Reference Manual for more detailed information.

Visit store.koamtac.com to purchase additional products and accessories.

1.2 KDC1000/1100 0.5W UHF Reader Diagram



** 0.5W UHF Reader mounted to KDC1000*

1.3 How to turn on and off

Refer to the figure in section 1.1 or 1.2 to locate the SCAN buttons.

a) Press and hold both right and left SCAN buttons simultaneously for 3 seconds.
b) The KDC will beep when it is turned ON.
c) Press and hold both right and left SCAN buttons simultaneously for 3 seconds again to turn off the KDC.

2. Connection between the KDC1000/1100 and Phone

Once the smartphone is installed into the KDC1000/1100, the two will be connected via USB, Serial, or Bluetooth connection. USB connectivity will be HID connectivity by default. This allows the KDC1000/1100 to function as a keyboard. The KDC1000/1100 is also able to utilize USB Serial connectivity. When the KDC1000/1100 connects to iOS devices with a lightning connector, it will be connected via Serial. It is also possible to connect KDC1000/1100 to a phone via Bluetooth (BLE).

a. USB or Bluetooth HID **Connectivity**: Allows one-way communication. The **KDC1000/1100** only transmits data to the host device.

b. USB Serial or Bluetooth SPP **Connectivity**: Allows two-way communication. The **KDC1000/1100** transmits data to the phone application and the phone application can transmit data/control back to the **KDC1000/1100**.

c. **Serial Connectivity:** Allows two-way Serial communication via a lightning connector. The **KDC1000/1100** transmits data to the phone application and the phone application can transmit data/control back to the **KDC1000/1100**.

For a detailed explanation of connection types, please refer to KDC1000/1100 quick guide.

3. Usage

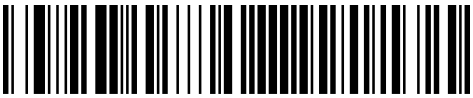
For optimal UHF tag read performance and to ensure that human exposure to RF energy does not exceed the FCC and European Union guidelines, always follow the instructions and precautions below:

- Before using the KDC1000/1100 UHF reader, the user should carefully read this operation guide and user guide to understand how to use KDC1000/1100 UHF Reader properly.
- The KDC1000/1100 UHF Reader should be used by a professional person who fully understands how to operate the KDC1000/1100 UHF Reader.
- Maintain at least 20cm (about 8 inches) between the KDC1000/1100 UHF Reader and the body when reading UHF RFID tags.
- Keep the KDC1000/1100 UHF antenna facing towards the UHF RFID tag. Do not direct the antenna towards the body when reading UHF RFID tags.
- Exit UHF tag read mode and enter Barcode read mode when finished reading UHF tags.
- Do not wear the KDC1000/1100 UHF reader when not using the KDC1000/1100 UHF reader.

3.1 Read RFID tag and Barcode with trigger: Trigger mode

In Trigger Mode, you can scan barcodes and UHF tags by pulling the trigger on the pistol grip of the 1W UHF Reader. Pulling the trigger once allows the KDC1000/1100 to read RFID tags, while pulling it twice in quick succession enables the KDC1000/1100 to scan barcodes.

The following are barcodes to enable/disable Trigger mode.

Trigger Mode (Enable)	Trigger Mode (Disable)
	
┬MKDCNU701.	┬MKDCNU700.

3.2 Toggling the Read Mode: Barcode Mode vs. UHF Mode

With the same SCAN button or the trigger on the pistol grip of the 1W UHF Reader, you can read barcodes (Barcode Mode) or UHF tags (UHF Mode), depending on the read mode and you can change the mode alternatively.

a) In "Barcode Mode", a barcode can be read by a SCAN button or trigger button.
b) In "UHF Mode", UHF tags can be read by a SCAN button or trigger button.
c) By default, the KDC is in "Barcode Mode". Also, it is set back to "Barcode Mode" after a factory reset.
d) There are two ways to change the read mode:
   1) Press below combinations of SCAN button in 3 seconds.
      <Left Scan><Left Scan><Right Scan><Right Scan><Left Scan><Right Scan>
   2) Change from within the application using SDK
e) When the mode is changed, the KDC will give a series of beeps to confirm the mode change:
   When you enter UHF Mode: 1 long and 2 short beeps
   When you enter Barcode Mode: 1 long and 1 short beep

3.3 Changing the UHF Read Tag Modes: Single, Multiple, or Active

This mode only works when the device is in UHF Mode. Refer to 3.1 to see how to toggle read modes.

- Single Mode: Only one tag is read every time the scan button is pressed.
  - 1 short beep will occur when changing mode.

- Multiple Mode: When the Scan button is pressed, reads multiple tags simultaneously for the set time (default 10 seconds).
  - 2 short beeps will occur when changing mode.
  - Time setting can be changed in Settings ->Reading Timeout.

- Active Mode: Basic operation status. Simultaneous reading of multiple tags while pressing the scan button (max. 10 minutes)
    - 3 short beeps will occur when changing mode.

Scan the special barcodes (page 6) to change the mode. To change from Active Mode to another mode, you should disable Active Mode first.

Active Mode (Enable)

MKDCN6201.

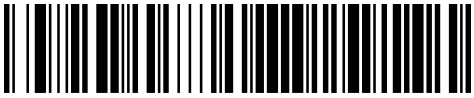
Active Mode (Disable)

MKDCN6210.

Single Mode

MKDCN6010.

Multiple Mode



MKDCN6001.

In Active Mode, if the SCAN button or Trigger button is pressed more than 10 minutes, the read mode automatically changes from UHF Mode to Barcode Mode to save battery life in the case of the trigger being stuck in the scan position. This option is enabled by default and may be disabled.

If you need to scan with the trigger depressed for more than 10 minutes, you need to disable the Active Read 10 Minute Timeout.

Active Read 10 Minute Timeout

Enabled (Default)

MKDCN6301.

Disabled

MKDCN6310.

3.4 UHF Tag Counting (Beep Count)

By setting the Count attribute, you can get an estimate on how many tags are read per beep.

- Count = 0: The device only beeps once when you start reading
- Count = 5: Beeps once every 5 tags read. Example: 2 beeps means you read 10 to 14 tags.
- Count = 10: Beeps once every 10 tags read. Example: 2 beeps means you read 20 to 29 tags.
- Count = 20: Beeps once every 20 tags read. Example: 2 beeps means you read 40 to 59 tags.
- Count = 50: Beeps once every 50 tags read Example: 2 beeps means you read 100 to149 tags.

Scan the barcode on below that corresponds with your preference for Tag Counting.

Count = 0

MKDCN6400.

Count = 5

MKDCN6405.

Count = 10

MKDCN640A.

Count = 20

MKDCN6414.

Count = 50

MKDCN6432.

3.5 Phone Charging Option

This option allows the user the option to charge their phone via the extended battery contained inside the pistol grip.

- Enabled (Default): Phone charging from the extended battery is enabled.
- Disabled: Phone charging from the extended battery is disabled.

Enabled (Default)	Disabled
┬MKDCN6601.	┬MKDCN6610.

3.6 Using Keyboard Wedge (HID Keyboard)

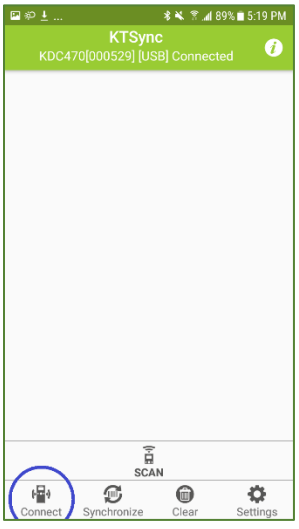
This option is only available using USB or Bluetooth connection with HID profile.

Once the KDC is paired with the host, open any application with a text field and tap on the text field. Scan any barcode and it will populate in the text field.

3.7 Using KTSync – Android/iOS

You can use KTSync to utilize your KDC alone or with a native application. This is available using Bluetooth connection with SPP or available using USB(Android or iOS device with USB) or Serial (iOS device with Lightning connector).

a) Download and install KTSync from the Google Play Store or the Apple App Store.
b) Open KTSync and tap on the "Connect" option on the bottom left to view a list of available devices. (Fig. 1)
c) From the device list, select your KDC – ensuring that the serial number displayed in brackets matches the serial number on the back of your KDC. (Fig. 2)
d) Upon successful connection, KTSync will display "Connected" next to the name of your KDC at the top of the application. (Fig. 3)
e) To test your connection, scan any barcode. If the connection is successful, the barcode data will display on the screen. (Fig. 3)



< Fig. 1 >

< Fig. 2 >

< Fig. 3 >

See Reference Manual for more detailed information.
Visit store.koamtac.com to purchase additional products and accessories.

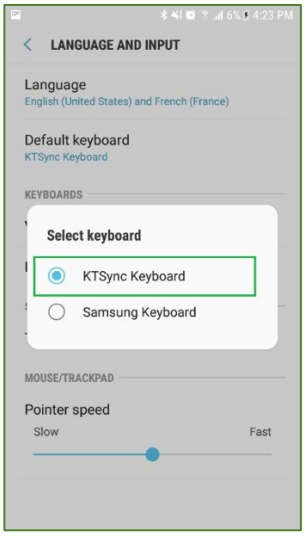
3.8 Using KTSync Keyboard – Android

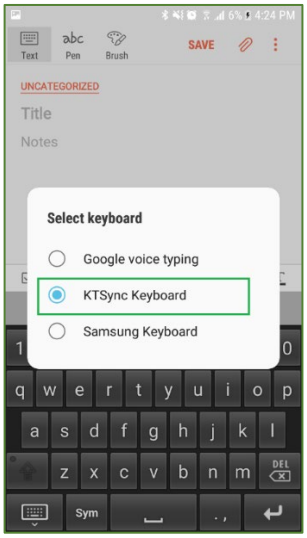
Once your KDC is connected to KTSync, you can use your KDC as a keyboard.

a) While KTSync is running in the background, navigate to Settings > Language & Input > Virtual Keyboard > Manage keyboards
b) Tap on "KTSync Keyboard" to enable it.
c) Change "KTSync Keyboard" to the default keyboard. (Fig. 4)

To switch back to the previous keyboard, simply change the default keyboard again. Or, when a text field is selected swipe down from the top of the screen to bring up the notification panel. Select 'choose input method' and you can select the default keyboard from here. (Fig. 5)

< Fig. 4 >



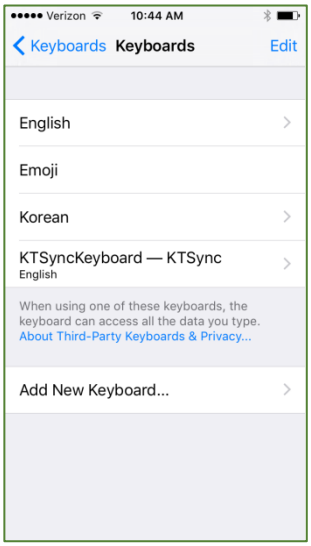


< Fig. 5 >

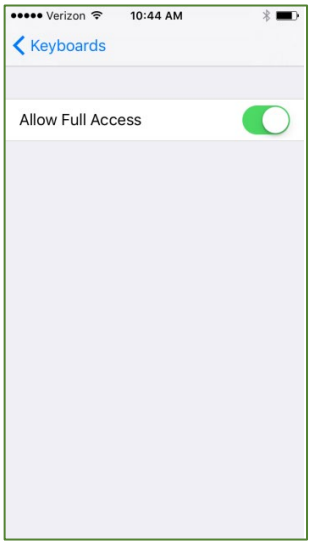
3.9 Using KTSync Keyboard – iOS

Once your KDC is connected to KTSync, you can use your KDC as a keyboard.

a) Navigate to the iPhone/iPad/iPod Settings > General > Keyboard > Keyboards > Add New Keyboard... > Select the KTSync keyboard to be added. (Fig. 6)
b) Select the KTSync Keyboard and toggle the switch to Allow Full Access. (Fig. 7)

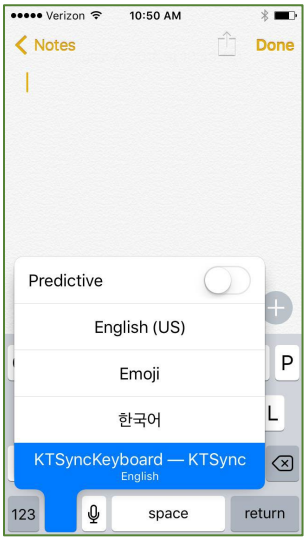


< Fig. 6 >



< Fig. 7 >

c) Open the application you want to scan into and tap on the screen, so the on-screen keyboard appears.
d) Press and hold the globe icon located to the left of the spacebar.
e) Select the KTSync Keyboard and begin scanning. (Fig. 8)



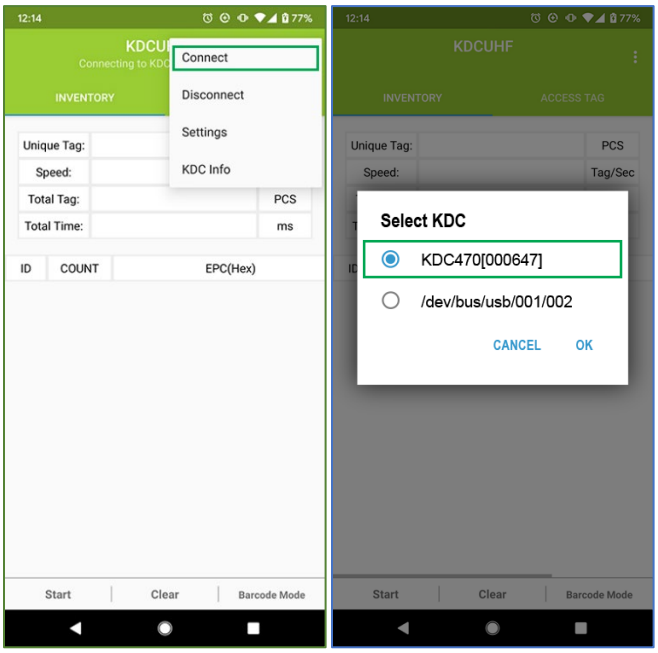
< Fig. 8 >

Note: The KDC must be connected to KTSync & the KTSync keyboard must be selected for this to work.

3.10 Using "KDCUHF" Application – Android/iOS

Download the "KDCUHF" application from the Google Play Store or from the Apple App Store and install it. After pairing your device in section 2, you can do the following:

a) Start KDCUHF you just installed then KDCUHF is trying to connect with KDC among paired KDC list.
b) If you want to connect to the specific KDC, please use the menu "Connect" from KDCUHF.



c) Select "INVENTORY" and approach your UHF tags to read.
d) Then tap on "Start" button or press the physical SCAN button on the KDC.
e) You might hear multiple fast beeps while reading depending on the number of UHF tags nearby and depending on UHF configuration.
f) You can clear the current information with "Clear" button to re-read.
g) To change the read mode, select the Barcode Mode button.

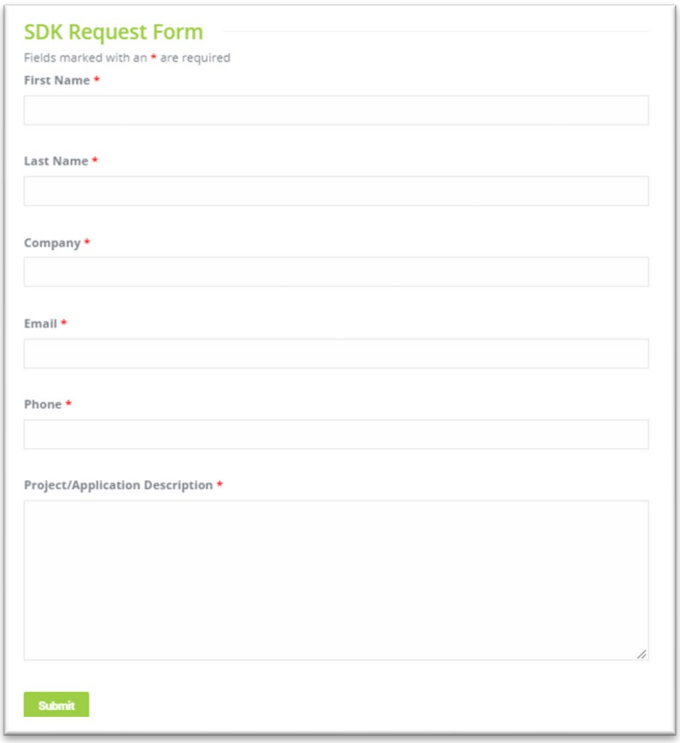
Unique Tag	Number of unique tags read
Speed	Average speed to read tags, in pcs/s (Total Tag / Total Time)
Total Tag	Total number of tags read
Total Time	Total time it takes to read, in ms
ID	ID for unique tags
COUNT	Number of reads for each unique tag
EPC	EPC data of tag read
PC	PC data of tag read

3.11 Using other Developed Applications with free SDK – Android/iOS

A Software Development Kit (SDK) for Android and iOS is available to all KOAMTAC customers to ensure smooth development of applications that work seamlessly with a KDC scanner. It's easy to request the SDK from the KOAMTAC website:

a) On any web browser, open www.koamtac.com
b) Navigate to SUPPORT > Downloads > SDK
c) Complete the form and submit it.

After submission, a KOAMTAC representative will reach out regarding next steps for completing the SDK Agreement.



The SDK package will have libraries, documents, a sample application, and its source code.

4. Product Specifications

4.1 1.0W UHF Reader

Physical	Design	Pistol Grip UHF Reader
	Weight (w/o KDC)	14.99 oz (425 g)
RFID Details	Supported Standards	EPC Class1 Gen2, EPC Gen2 V2
	Nominal Read Range	20'+ (6m+) dependent on tag type and operating environment
	Frequency	US, EU, JP, KR
	Output Power Range	+0 to +33dBm
	Read Rate	200 tags per second
	Tag Storage	409,600 RFID tags (in case of 12 bytes of EPC Data)

4.2 0.5W UHF Reader

Physical	Design	UHF Reader
	Weight (w/o KDC)	1.85 oz (53 g)
RFID Details	Supported Standards	EPC Class1 Gen2, EPC Gen2 V2
	Nominal Read Range	5'+ (1.5m+) dependent on tag type and operating environment
	Frequency	US, EU, JP, KR
	Output Power Range	+13 to +27dBm (Japan +18 to +23dBm)
	Read Rate	100 tags per second
	Tag Storage	409,600 RFID tags (in case of 12 bytes of EPC Data)