



AsReaderGUN

iOS DemoAPP User Manual

Note: *This user manual is a manual for iOS apps, but Android apps operate in a similar way to iOS apps, so you can also refer to this manual when using Android apps.*

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Perface

This document describes the correct operation method of Demo APP AsReader GUN. Be sure to read it carefully before using it.

If you have any comments or questions about this manual, please contact us through the following ways.

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About DemoAPP AsReaderGUN

AsReaderGUN DemoApp (hereinafter referred to as "DemoAPP") is an application that customers can use together with our company's Gun-Type, Barcode reader and RFID read and write devices (hereinafter referred to as "AsReader").

Please download this application from AppStore, the search keyword is "AsGUN". Or you can scan the following QR code to download.



1. Page Description

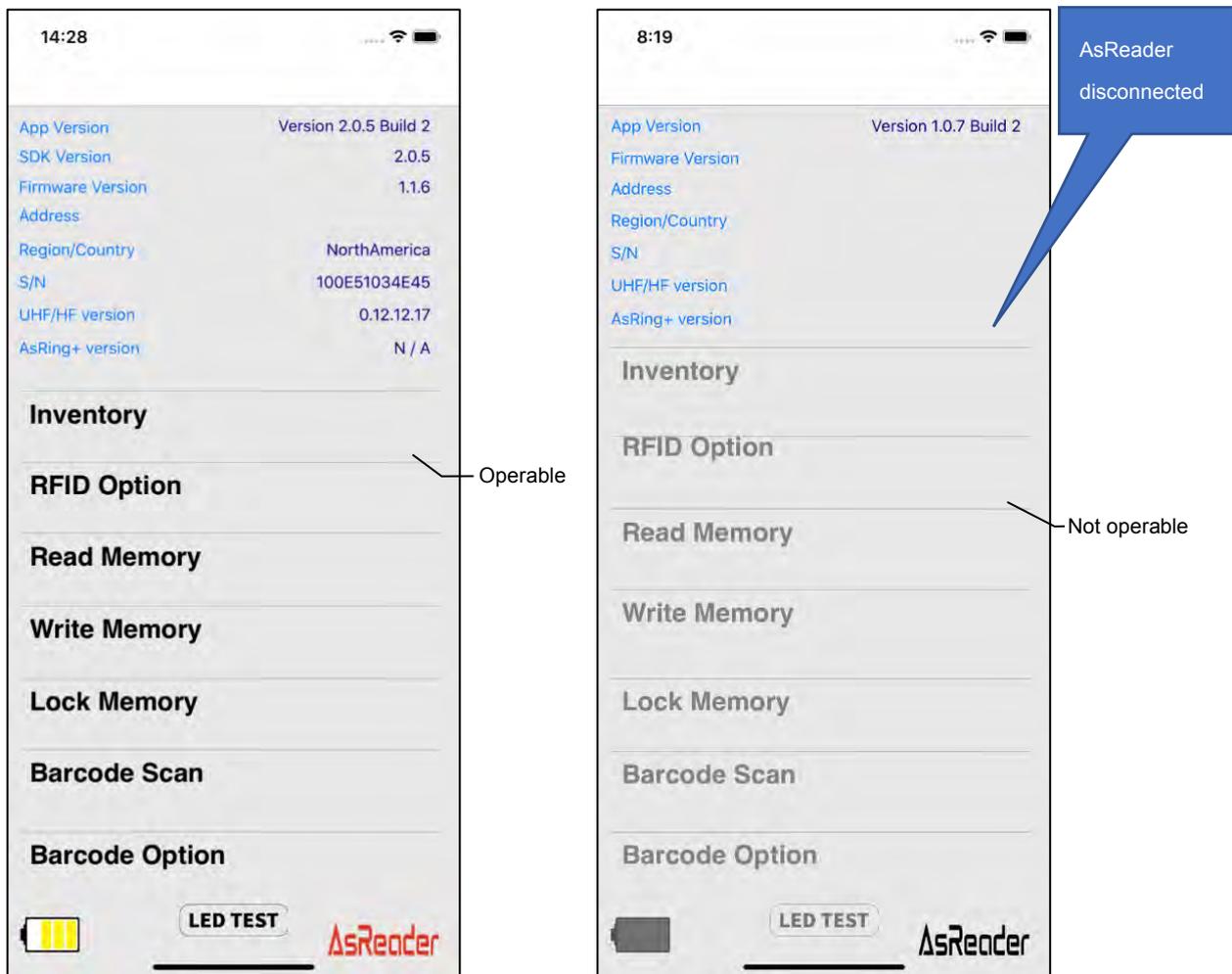
The screenshot shows the AsReader DemoAPP interface with the following elements and their descriptions:

- Version of DemoAPP**: Version 2.0.5 Build 2
- SDK version**: 2.0.5
- Firmware version of AsReader**: 1.1.6
- Physical address of AsRing+ (Only displayed when connected to ASR-R250G)**: Address
- Country/region where the device is permitted**: Region/Country: NorthAmerica
- Serial number of AsReader**: S/N: 100E51034E45
- Version of RFID module**: UHF/HF version: 0.12.12.17
- Version of AsRing+ (Only connected to ASR-R250G)**: AsRing+ version: N / A
- Inventory**: Go to the Inventory page for RFID tags.
- RFID Option**: Go to the setup page for inventory.
- Read Memory**: Go to read the memory bank of RFID tag.
- Write Memory**: Go to write the memory bank of RFID tag.
- Lock Memory**: Go to lock/unlock the memory bank of RFID tag.
- Barcode Scan**: Go to scan 1D and 2D barcodes.
- Barcode Option**: Go to set the 1D/2D barcode types that allow the AsReader to scan.
- LED TEST**: Test button for Mode indicator on both sides of AsReader (ASR-L251G only)
 - ※ The Mode indicator can be lit by clicking this button
- Remaining battery of AsReader**: Indicated by the battery icon at the bottom left.

2. How to Connect?

Once the phone is successfully connected to AsReader, AsReader will beep, and AsReader's LED light will change from flashing to regular light (for ASR-R250G, the LED light refers to the Mode light; For ASR-L251G, the LED indicator is the Power indicator), and DemoAPP displays the following page.

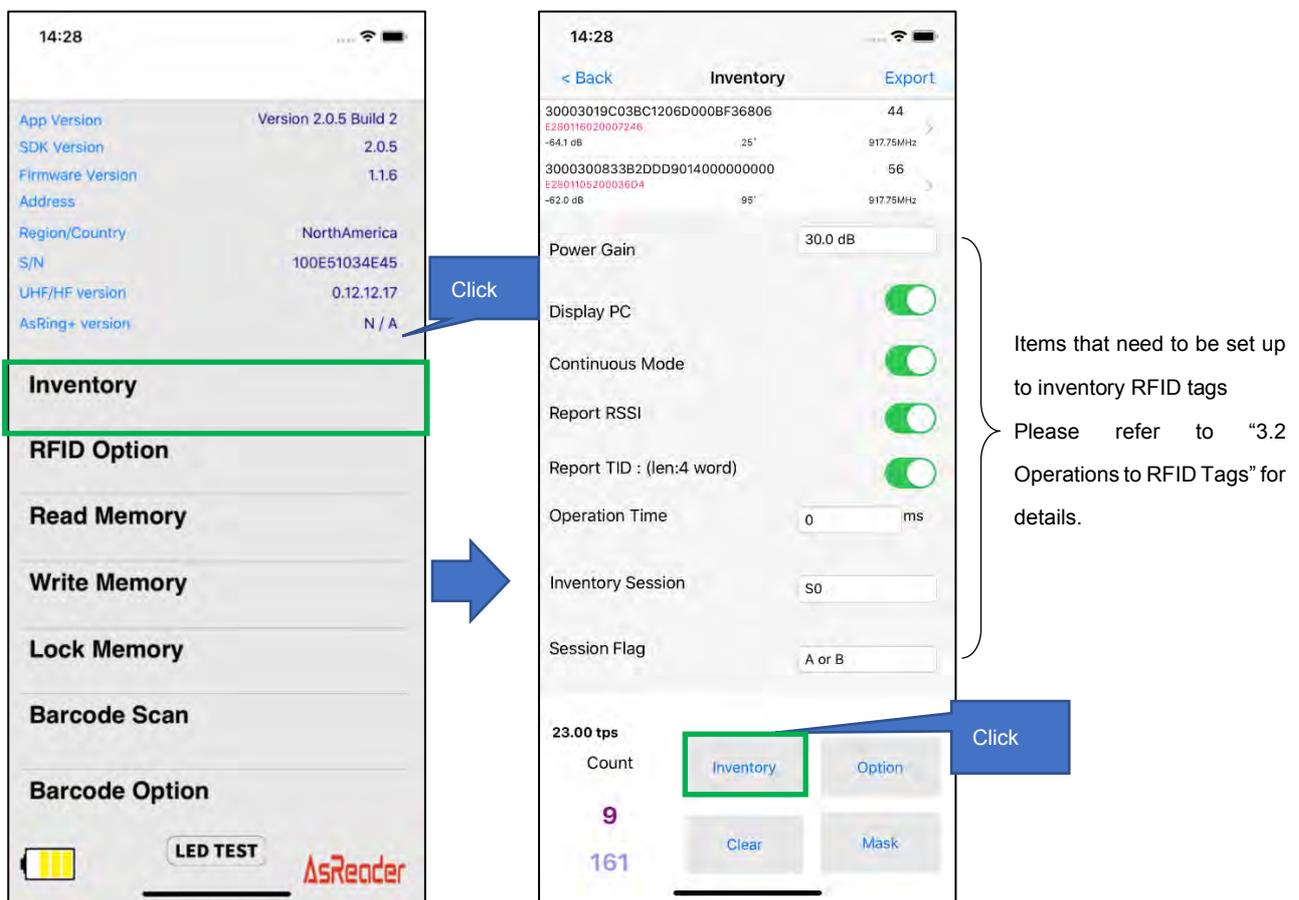
※ DemoAPP cannot be operated when the phone is disconnected from the device. If unable to connect, please refer to the operation manual of AsReader device.



3. How to Operate?

3.1. Inventory RFID Tags

- ① Click on "Inventory" in the lower left figure, and then click on the "Inventory" button in the lower right figure to begin Inventory of RFID tags. Pressing the Trigger key of AsReader can also start the inventory.



- ② Click the "Inventory" button, and AsReader will continue to Inventory until the set Inventory Stop condition is reached or the "Stop" button is clicked. Pressing the Trigger key of AsReader will also continue the inventory until it is released.

※ During inventory, the "Inventory" button on the page changes to "Stop".

③ When taking inventory of RFID tags, the data of the RFID tags be inventoried will be displayed on the list of the inventory page. In addition, the inventoried RFID tag data can be exported as CSV or Excel files.

※ The way to export data can Refer to "3.5 Export Inventoried Data" for the way to export data.

TID information is displayed when the "Report TID" function is turned on.

RSSI is displayed when the "Report RSSI" function is turned on.

Number of RFID tags in 1 second inventory

Number of different RFID tags inventoried

The total number of RFID tags inventoried (If the same RFID tag is repeatedly inventoried, it is also counted).

Export RFID tag data (CSV or Excel)

Times the same RFID tag is inventoried

Shows/hides the setting items on this page

Select mask type
Please refer to "3.2.6 Mask Settings" for details.

Empty the RFID tag list.

RFID Tag ID	RSSI	Distance	Frequency
30003019C03BC1206D000BF36806 E280116020007246	-64.1 dB	25'	917.75MHz
3000300833B2DDD9014000000000 E280110520003604	-62.0 dB	95'	917.75MHz

Power Gain: 30.0 dB

Display PC:

Continuous Mode:

Report RSSI:

Report TID : (len:4 word):

Operation Time: 0 ms

Inventory Session: S0

Session Flag: A or B

23.00 tps
Count

9
Number of different RFID tags inventoried

161
Total number of RFID tags inventoried

Inventory Option
Clear Mask

- ④ Click on a certain RFID tag list, you can do some operations on the RFID tag like read/write/lock. Please refer to "3.2 Operations to RFID Tags" for details.

Click on any RFID tag

Please refer to "Read Memory" in "3.2 Operations to RFID Tags".

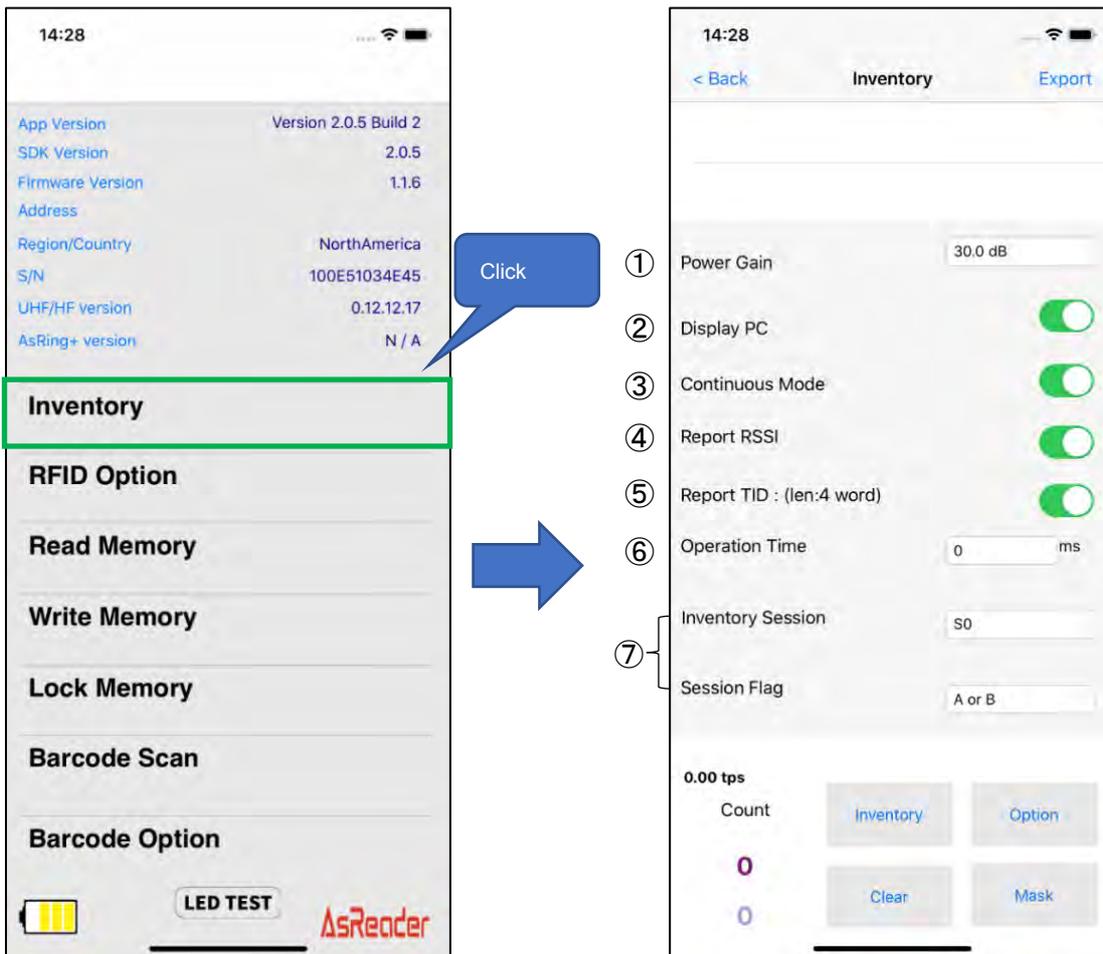
Please refer to "Write Memory" in "3.2 Operations to RFID Tags".

Please refer to "Lock Memory" in "3.2 Operations to RFID Tags".

3.2. Operations to RFID Tags

3.2.1. Inventory

Click "Inventory" on the left page to enter the Inventory page. Here, you can set the RFID tag inventory conditions, and inventory RFID tags.



① Power Gain

The output power of AsReader can be adjusted.

Adjusting range:

ASR-R250G (1W): 1dBm ~ 30dBm

ASR-L251G: 5dBm ~ 30 dBm

In general, the larger the value of output power is set, the farther the scan distance is, but the more power is consumed. It is suggested to set the output power to 25dBm for the best inventory speed in the case of close to RFID tags and multiple RFID tags nearby.

② Display PC

If this feature is enabled, the PC (Protocol Control) values of the inventoried RFID tags will be displayed.

③ Continuous Mode

Enable or disable continuous inventory RFID tag mode.

Once enabled, AsReader will continue to Inventory multiple RFID tags once the "Inventory" button is clicked or AsReader's Trigger button is pressed, until the "Stop" button is clicked or the Trigger button is released.

④ Report RSSI

If this feature is enabled, the received signal strength indication for the RFID tags are displayed when taking inventory.

⑤ Report TID

If this feature is enabled, the received signal strength indication for the RFID tags are displayed when taking inventory.

When taking inventory with this function on, TID information of the RF tag scanned will be displayed. When you turn on this set, you also need to set the length (Word) of the TID data you want to display.

※ When taking inventory with this function on, the scanning speed will slow down.

⑥ Operation Time

Set the inventory time. AsReader stops the inventory as soon as the set time is reached.

※ Only works if Continuous Mode is on.

⑦ Inventory Session & Session Flag

"Inventory Session" and "Session Flag" can be set to adjust the response time of RFID tags. (Response time varies with RFID tag specifications.)

Please set parameters according to the number of RFID tags to be inventoried. Refer to the following table.

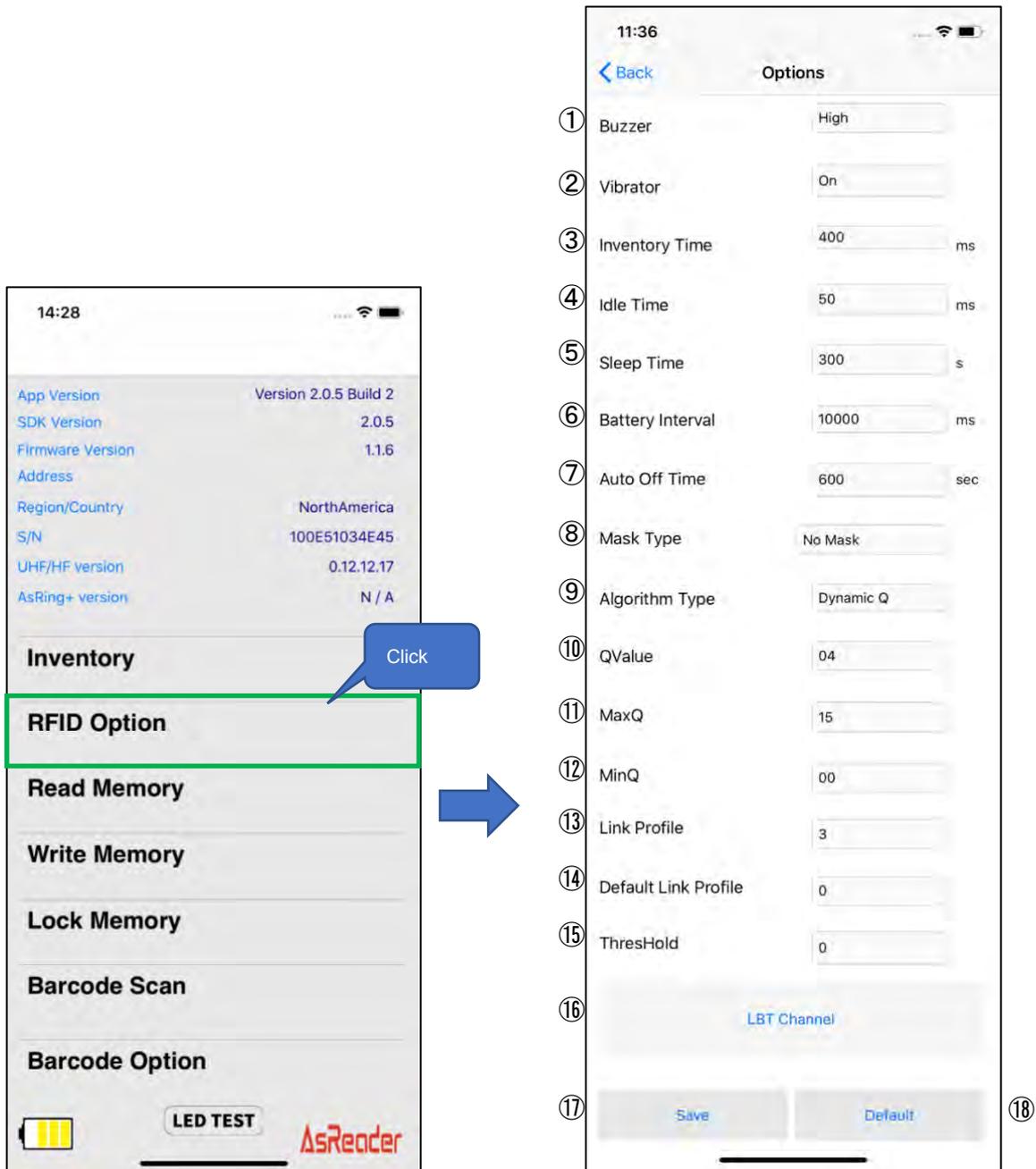
Session Flag	S0	S1	S2/S3
A Only	The RFID tags that have been inventoried will immediately become ready to be inventoried again after receiving the radio waves. Recommended when the number of RFID tags <100 pieces.	The RFID tags that have been taken inventory cannot be taken again within 0.5 ~ 5 seconds after being taken inventory. Recommended when the number of RFID tags <400 pieces.	The RFID tags that have been taken inventory cannot be taken again within 2~ 60 seconds after being taken inventory. Recommended when the number of RFID tags <400 pieces.
B Only	RFID tags in the initial state cannot be taken inventory. In S2/S3 and so on, use this option if an RFID tag that has already been inventoried needs to be inventoried again immediately.	The same as S0.	The same as S0.
A or B	Apply this when you need to repeatedly inventory the same RFID tags. Inventory speed: S0 > S1 > S2/S3	The same as S0.	The same as S0.

※ The patterns of S2 and S3 are the same, but not related. It is recommended that each AsReader select a different Session when using more than one AsReader at a time.

※ The Settings for all the above items will be saved to DemoAPP.

3.2.2. RFID Option

Click "RFID Option" in the left page to set the inventory condition of RFID tags.



① Buzzer

Set the buzzer on/off and volume.

When it is turned on, AsReader will beep at the set volume at the following cases:

- a) When AsReader is turned on or off,

- b) When the phone and AsReader connect successfully,
- c) When AsReader inventories RFID tags or scans 1D and 2D barcodes.

② Vibrator

Set the vibrator on/off.

When it is turned on, AsReader will vibrate at the following cases:

- a) When AsReader is turned on or off,
- d) When the phone and AsReader connect successfully,
- e) When AsReader inventories RFID tags or scans 1D and 2D barcodes.

③ Inventory Time

Sets the duration of the radio waves emitted when the RFID tag is in inventory. The longer the Inventory Time, the faster the inventory, but the more power it consumes, resulting in a shorter battery using time.

※ According to the laws of various countries on the use of radio waves, the Inventory Time should be set according to the following table.

④ Idle Time

Sets the duration of the radio waves non-emitted when the RFID tag is in inventory.

※ According to the laws of various countries on the use of radio waves, the Idle Time should be set according to the following table.

Regulations	Inventory Time	Idle Time
Radio law (JP)	Not greater than 4000ms	Not less than 50ms
FCC (US)	Not greater than 400ms	Not less than 20ms
CE (EU)	Not greater than 4000ms	Not less than 100ms

⑤ Sleep Time

Sets the time you want AsReader to go to sleep.

⑥ Battery Interval Time

Set the interval at which AsReader sends battery information to DemoAPP.

⑦ Auto Off Time

Set the automatic shutdown time for AsReader.

For ASR-R250G, it is the period between when AsReader goes to sleep and when the power is turned off.

For ASR-L251G, it is the period from the disconnection of AsReader from the Desktop to the power shutdown of AsReader.

⑧ Mask Type

When you select "Mask Type", you cannot inventory the RFID tags outside the Mask targets.

⑨ Algorithm Type

The number of slots used in anti-collision processing ($= 2^Q$) and whether the Q value is fixed is optional.

Fixed Q	Q is fixed in inventory
Dynamic Q	Q floats in the specified range in inventory.

⑩ QValue

In the case of "Fixed Q" in ⑨, specify the Q value.

⑪ MaxQ

In the case of "Dynamic Q" in ⑨, specify the maximum value of the floating range of Q.

⑫ MinQ

In the case of "Dynamic Q" in ⑨, specify the minimum value of the floating range of Q.

⑬ Link Profile

Change the Settings of the RFID module. Please refer to the table below.

0	The inventory speed is slow, but the inventory sensitivity is high.
1	Long inventory distance. Supports a wide range of inventory.
2	The same as "1". (for EU version)
3	Fast inventory. Suitable for small scale inventory.

ASR-R250G: This setting is saved to AsReader for the time being, but once DemoAPP reconnects to the phone device, it returns to its default value.

ASR-L251G: This value is always saved in AsReader unless changing the Settings.

⑭ Default Link Profile

ASR-R250G: Set the default value of "Link Profile". It is always saved in AsReader unless you change the Settings.

ASR-L251G: Invalid.

⑮ ThresHold

The default value is "50". Recommended not to change.

⑯ "LBT Channel" button

Select the LBT channel in inventory.

※ Only if Region is Japan.

⑰ "Save" button

After doing the above settings, you need to click the "Save" button to save the settings.

Settings ①~⑫, ⑮ and ⑯ are saved to the DemoAPP, ⑬ and ⑭ are saved to the AsReader.

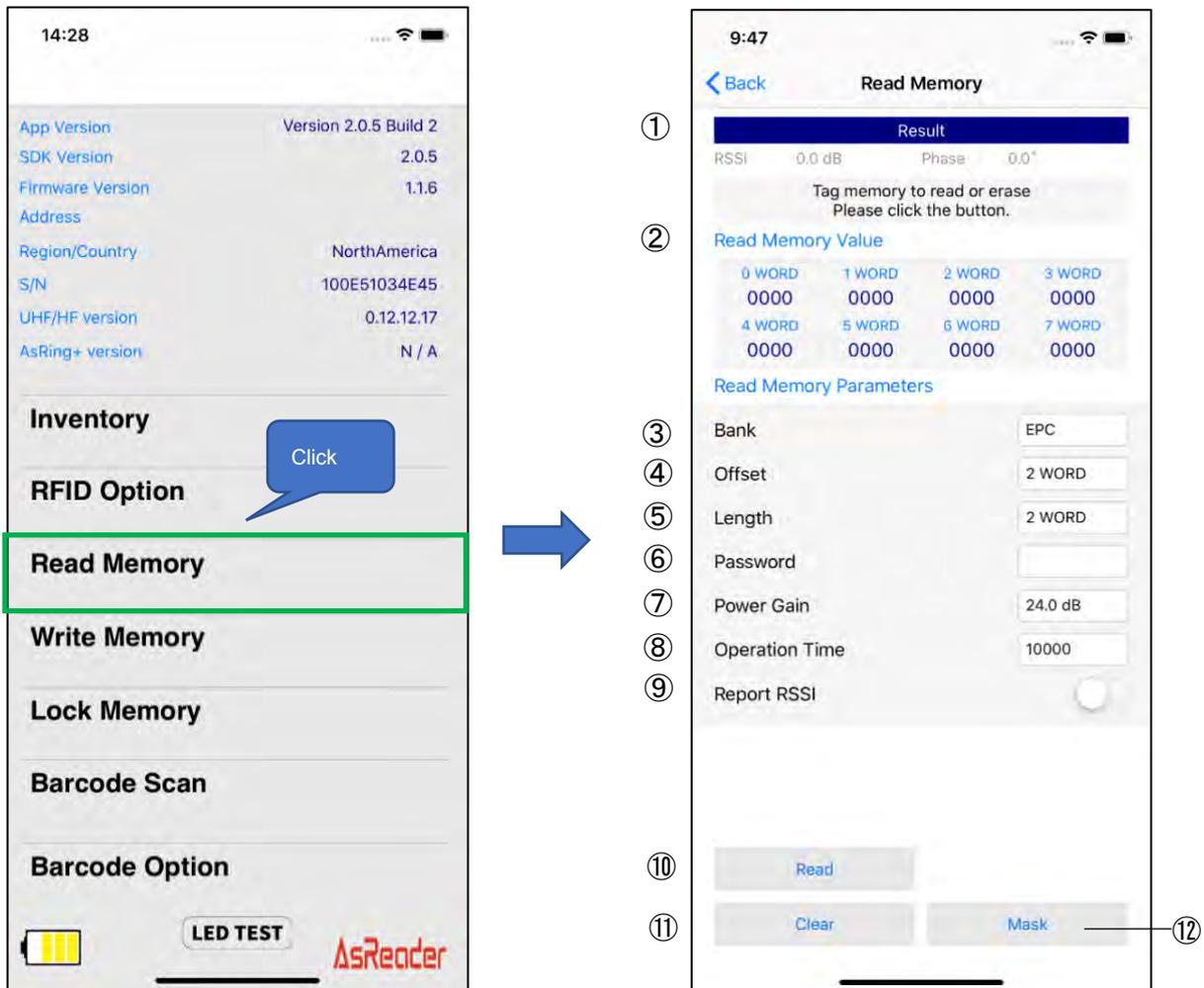
⑱ "Default" button

Click this button to restore all Settings to factory settings.

※ Sometimes AsReader does not respond very quickly and may display the wrong value. In this case, please click the "Save" or "Default" button again.

3.2.3. Read Memory

Click the "Read Memory" button in the page shown in the left figure to set the RFID tag reading condition.



① Result

The reading results of RFID tags will be displayed in the "Result" area.

② Read Memory Value

The data of each WORD of the RFID tag read will be displayed in the "Read Memory Parameters" area.

Read RFID tags according to the items in "Read Memory Parameters" (Refer to ③~⑨ below).

③ Bank

You can select the memory bank to read. After the RFID tag is read, the data of each WORD will be displayed to the "Read Memory Value".

- Reserved Bank: kill password and access password.
- EPC Bank: individual identification number.
- TID Bank: inherent information that represents the type of RFID tag.
- User Bank: User-defined data.

④ Offset

Specifies the read start location for the memory bank of the read object. Range: 0~15 WORD. The RFID tag data will be displayed from the Offset position on the "Read Memory Value".

⑤ Length

Specifies the length of the data to be read. Range: 0~15 WORD. Once the RFID tag is read, the specified Length RFID tag data will be displayed on the "Read Memory Value" area.

⑥ Password

Enter the access password. When you read the Reserved Bank of a locked RFID tag, you need to enter the access password.

No password is needed to read the other Banks.

⑦ Power Gain

Change the radio output value of AsReader. This setting is saved in DemoAPP.

⑧ Operation Time

Sets the execution time of the "Read" processing. This setting is saved in DemoAPP.

⑨ Report RSSI

When this feature is enabled for reading, the radio wave intensity of the RFID tag is displayed. This setting is saved in DemoAPP.

⑩ Read button

Click on it to begin read of RFID tags. If the read processing is successful, "Success" appears below "Result".

⑪ Clear button

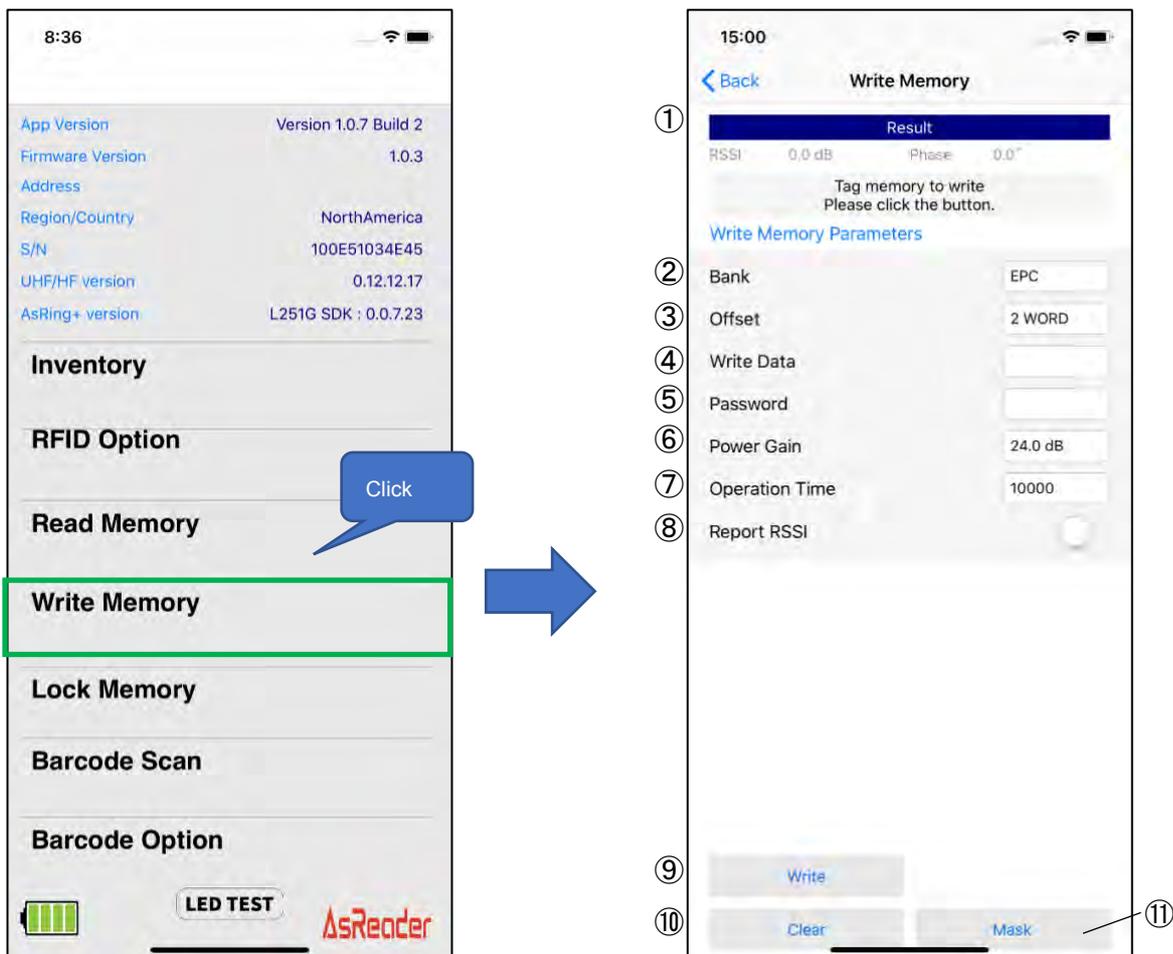
Click it to clear all the RFID tag data displayed in the "Result" area.

⑫ Mask button

When the "Mask Type" of "RFID Option" is set to "Selection Mask", you can click the "Mask" button to set the Mask. See "3.2.6 Mask Settings" for the setting method. This setting is saved in DemoAPP.

3.2.4. Write Memory

Click "Write Memory" in the left page to Write to the RFID tag.



① Result

The "Result" area displays the inventory results of the RFID tags.

② Bank

Memory bank can be selected from the following four Banks.

- Reserved Bank: kill password and access password.
- EPC Bank: individual identification number.
- TID Bank: inherent information that represents the type of RFID tag. (unable to implement write)
- User Bank: User-defined data.

③ Offset

Specifies the write start location for the memory bank of the written object. Range: 0~15 WORD.

④ Write Data

Enter the data to be written. The number of bits written must be a multiple of 4 bits, 8 bits, 12 bits, etc.

⑤ Password

If the RFID tag memory bank is locked, an access password must be entered to write to it.

⑥ Power Gain

Change the radio output value of AsReader. This setting is saved in DemoAPP.

⑦ Operation Time

Sets the execution time of the "Write" processing. It is recommended that this value not be set. This setting is saved in DemoAPP.

⑧ Report RSSI

When this feature is enabled for RFID tag writing, the radio wave intensity of the RFID tag is displayed. This setting is saved in DemoAPP.

⑨ Write button

Click the button to perform the RFID tag write operation. If it succeeds, "Success" will appear below the "Result" area.

⑩ Clear button

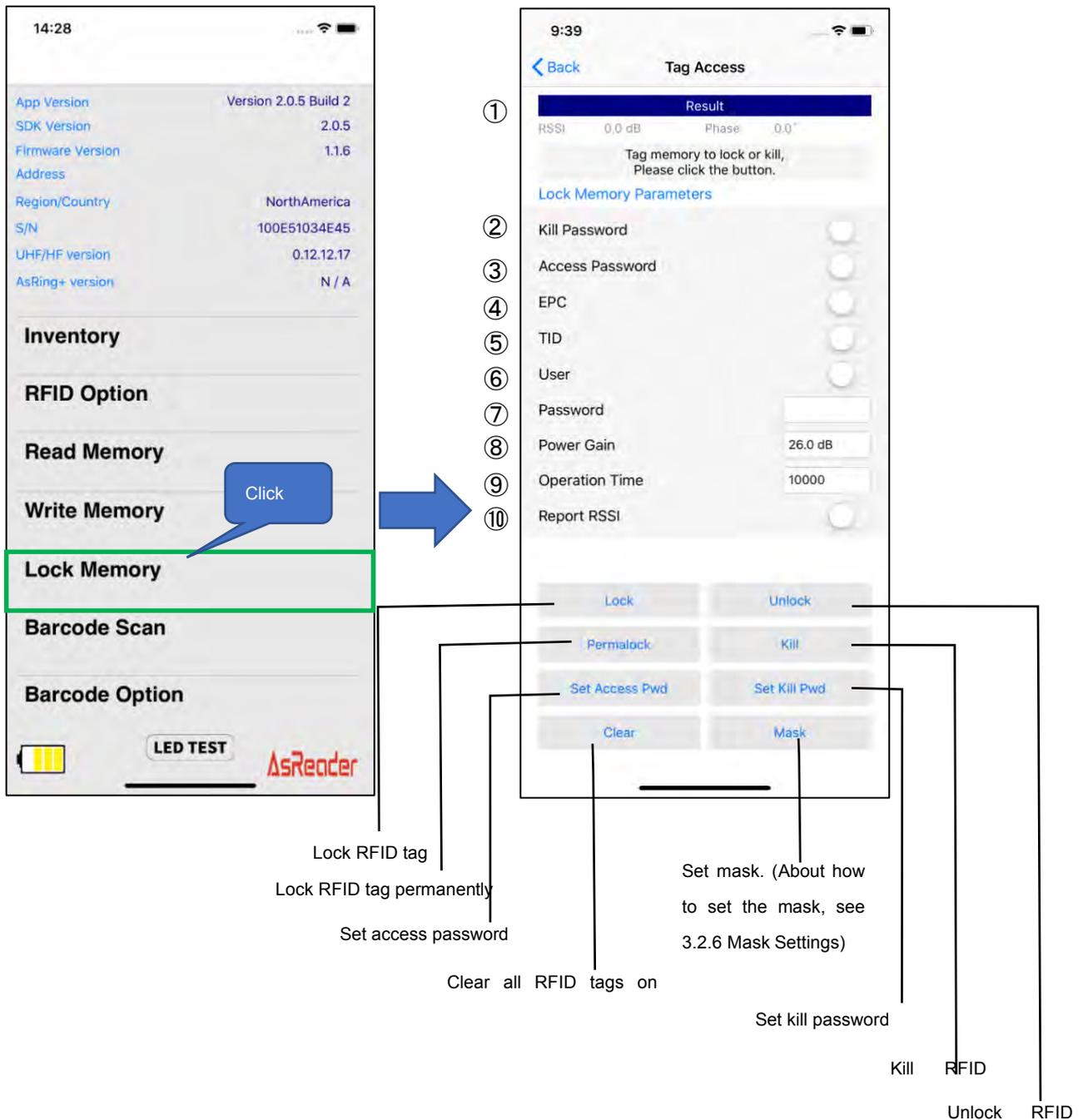
Click it to clear all the RFID tag data displayed in the "Result" area.

⑪ Mask button

When the "Mask Type" of "RFID Option" is set to "Selection Mask", you can click the "Mask" button to set the Mask. See "3.2.6 Mask Settings" for the setting method. This setting is saved in DemoAPP.

3.2.5. Lock Memory

Click "Lock Memory" in the left page to perform the Lock series or Kill processing on the RFID tag.



① Result

The inventory results of the RFID tags are displayed in the "Result" area.

② Kill Password

To "Lock", "Unlock", or "Permalock" a Kill password, this item must be enabled.

※ If you want to Set a Kill password, click "Set Kill Pwd" to display the Kill password input box.

③ Access Password

To "Lock", "Unlock", and "Permalock" the Access password must be enabled.

※ if you want to Set an Access password, click "Set Access Pwd" to display the Access password input box.

This item needs to be enabled to do the following:

- a) Lock, Unlock, or permanently Lock the memory Bank
- b) Write to the locked memory bank
- c) Read locked Reserved Bank data

④ EPC

When enabled, this area becomes an action object for Lock, Unlock, or Permalock.

⑤ TID

When enabled, this area becomes an action object for Lock, Unlock, or Permalock.

※ This Memory Bank is usually locked permanently as soon as the RFID tag leaves the factory.

⑥ User

When enabled, this area becomes an action object for Lock, Unlock, or Permalock.

⑦ Password

To Lock, Unlock, or Permalock an RFID tag, you must enter an access password here.

※ You cannot do Lock, Unlock, Permalock, etc., without setting the access password.

⑧ Power Gain

Change the radio output value of AsReader. This setting is saved in DemoAPP.

⑨ Operation Time

Sets the execution time for the processing of the "Lock" series. This setting is saved in DemoAPP.

⑩ Report RSSI

If this feature is enabled, the radio wave strength of the RFID tag is displayed when the "Lock" and "Unlock" are performed. This setting is saved in DemoAPP.

※ If the "Lock", "Unlock", "Permalock", "Kill", "Set Access Pwd", and "Set Kill Pwd" operations execute successfully, "Success" appears below the "Result" area.

3.2.6. Mask

"Mask" is the filtering function used to inventory RFID tags. After selecting "EPC Mask" or "Selection Mask" in the "Mask Type" of "RFID Option", you can set the details in the "Mask" on the "Inventory" page. If "Selection Mask" is selected, you can click "Mask" on the "Read Memory", "Write Memory", "Lock Memory" pages as required.

① EPC Mask

First, select "EPC Mask" in the "Mask Type" of "RFID Option". After saving, click the "Mask" button on the Inventory page, and then click the "+" button at the top right of the screen. Fill in the starting position bit number of the mask in "Offset".

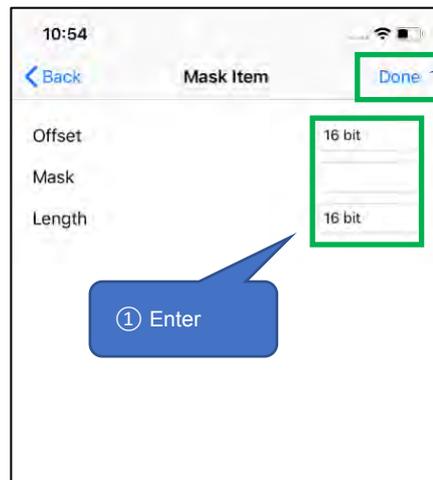
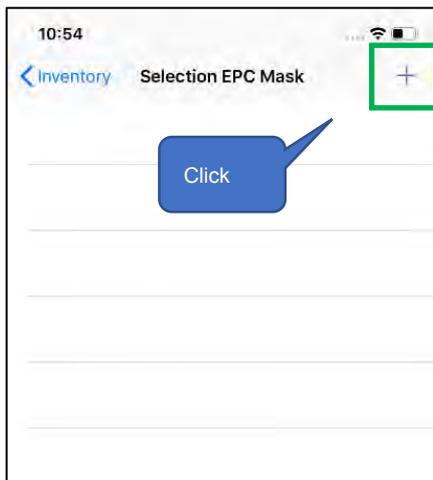
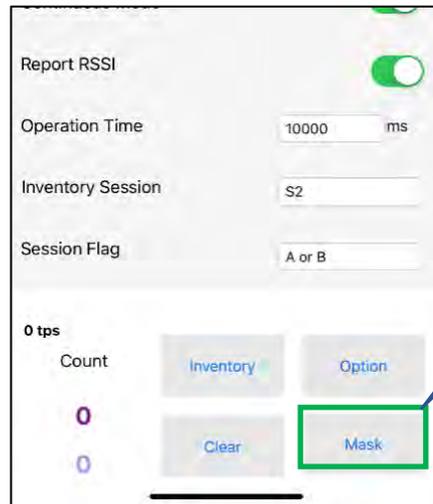
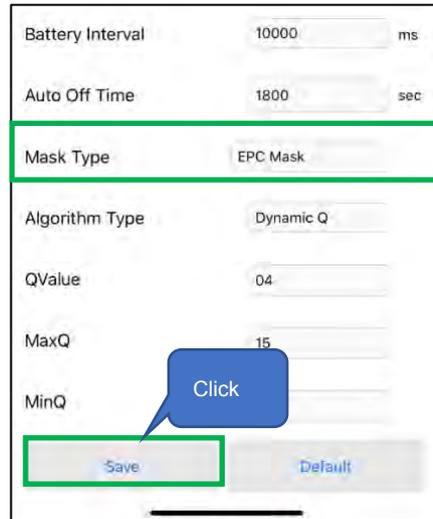
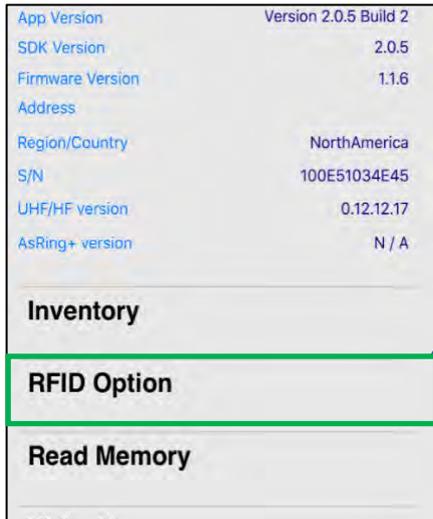
※1 Add mask value in "Mask".

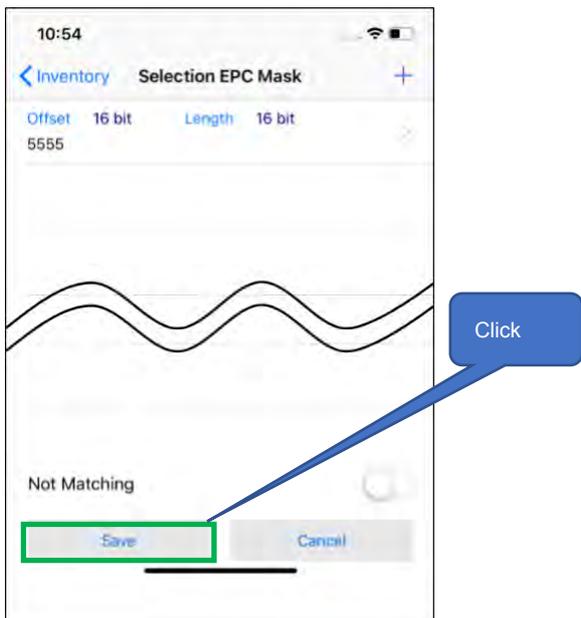
※2 Enter the Length of the mask you want to add in bit in the "Length" text box, and click the "Done" button.

Then, on the page that displays, click the "Save" button. In the state where "Not Matching" is OFF, the RFID tags that meet the mask condition will be listed. In the case of "Not Matching" turned on, RFID tags that do Not match the mask condition are taken into inventory. This setting is saved in DemoAPP.

※1 The initial setting is 16 bits, because the CRC's 16 bits are also included. You can also choose 0 bit, but it cannot be saved because it is below the program minimum.

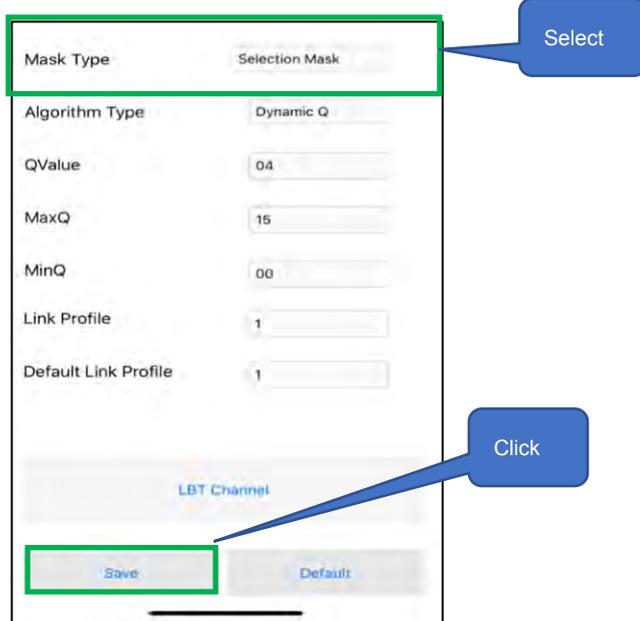
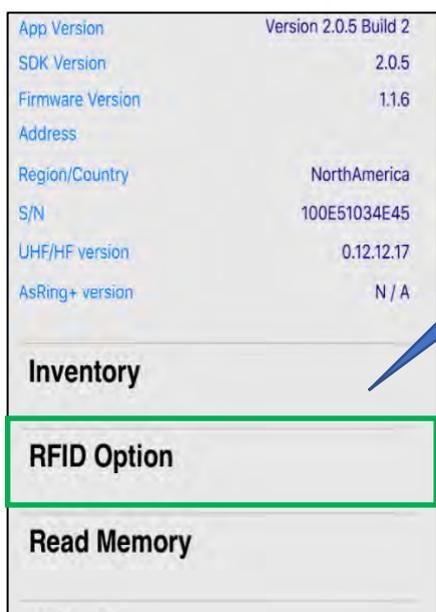
※2 If the offset is set to 16 bit, then the value of PC part also needs to be set.

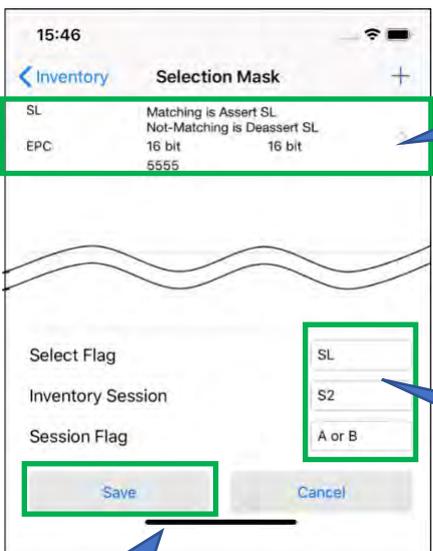
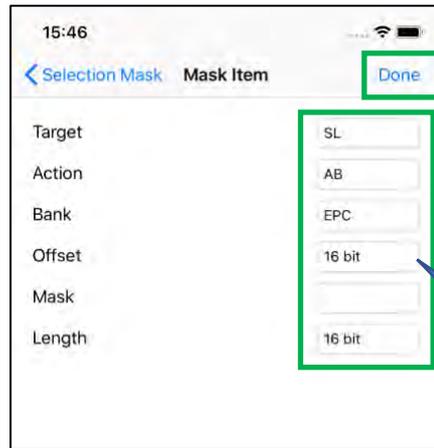
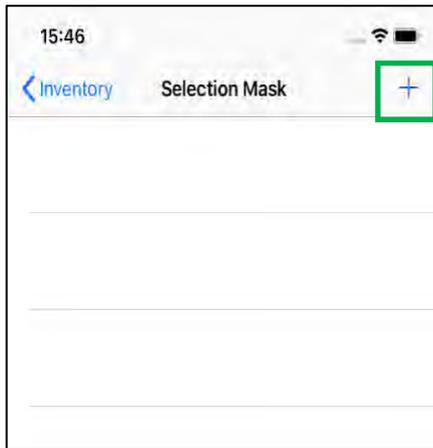
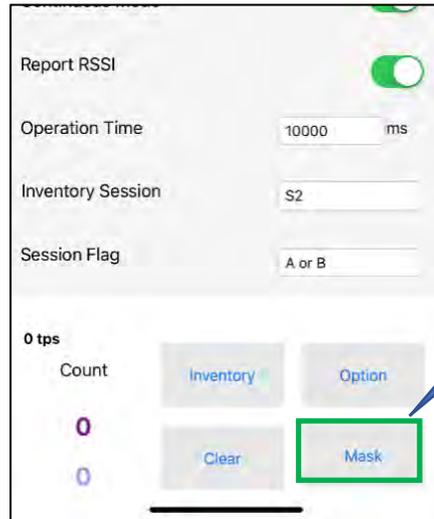
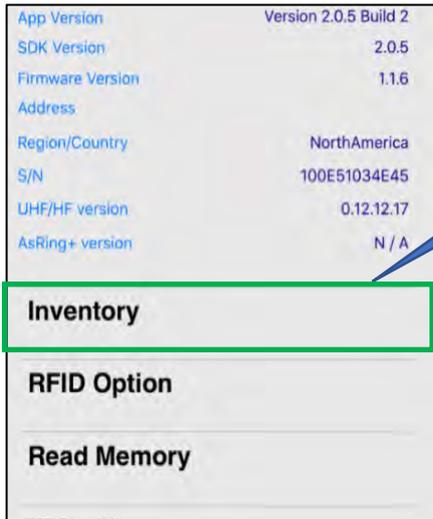




② Selection Mask

First, select "Selection Mask" in the "Mask Type" of "RFID Option". After saving, click the "Mask" button on the Inventory page, and then click the "+" button at the top right of the screen. You can select Target, Action, Bank, Offset, Mask, and Length from the page. When you're done, click "Done" to return to the "Selection Mask" page. At this point, the "Selection Mask" page displays the filters that have been set. Click "Save" to save these settings so they can be applied to the Inventory process. You can also set the Select Flag, Inventory Session, and Session Flag at the bottom of the "Selection Mask" page. These settings are saved in DemoAPP.



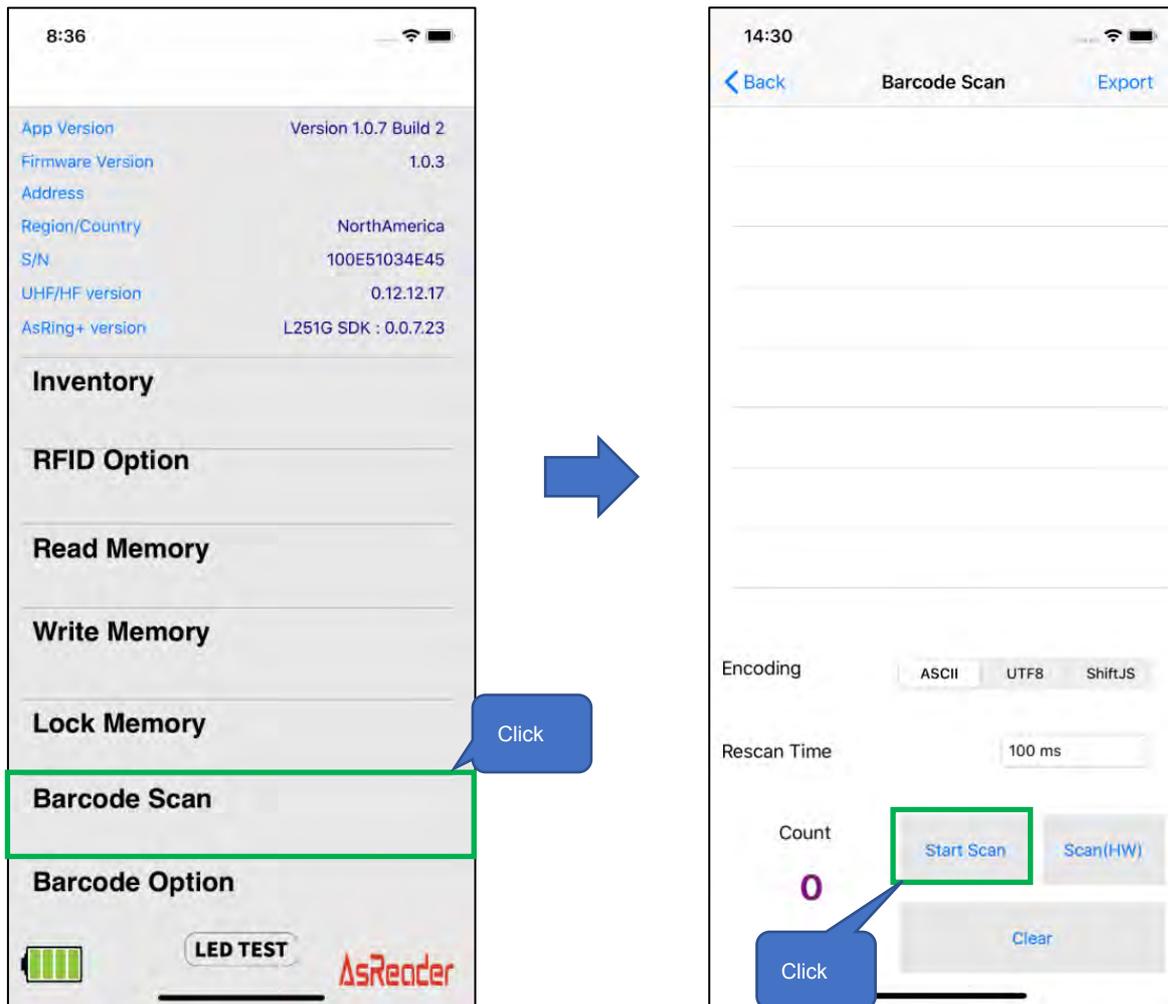


※ To remove the set mask condition, slide it to left, and then click the "Delete" button.



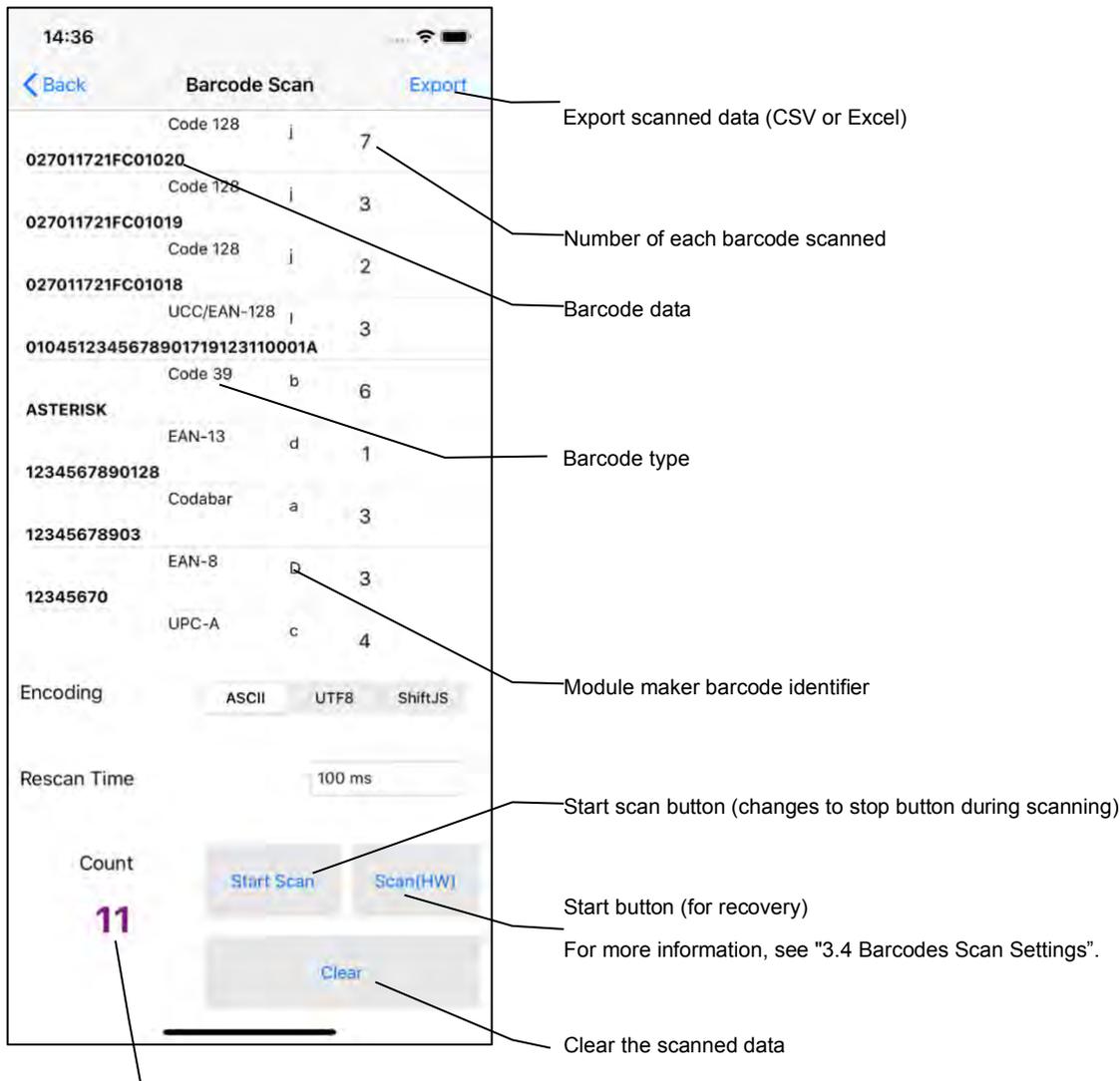
3.3. 1D&2D Barcodes Scan

- ① Click "Barcode Scan" at the bottom of the left page, and then click "Start Scan" shown in the right page to scan 1D and 2D Barcodes. Pressing the Trigger button of AsReader can also scan.



- ② Press Trigger button of AsReader, or click the "Start Scan" button on DemoAPP, and the LED/ laser light will light up, but if no barcode is scanned within timeout time, the LED/ laser light will go out. Once a barcode is successfully scanned, the scan is stopped. In the continuous scan mode, AsReader will perform a continuous scan since pressing Trigger button (or clicking the "Start Scan" button), and it won't stop till releasing Trigger button (or clicking the "Stop Scan" button).
- ※ During continuous scanning, the "Start Scan" button will appear as "Stop Scan". (For the settings of continuous scanning, please refer to 3.4 Barcodes Scan Settings)
- ③ After the scan, the 1D and 2D barcode scanned will be displayed on the page. In addition, the scanned data can be exported in CSV file or Excel file format.

※ How to export the barcode data, please refer to “3.5 Data Export”.

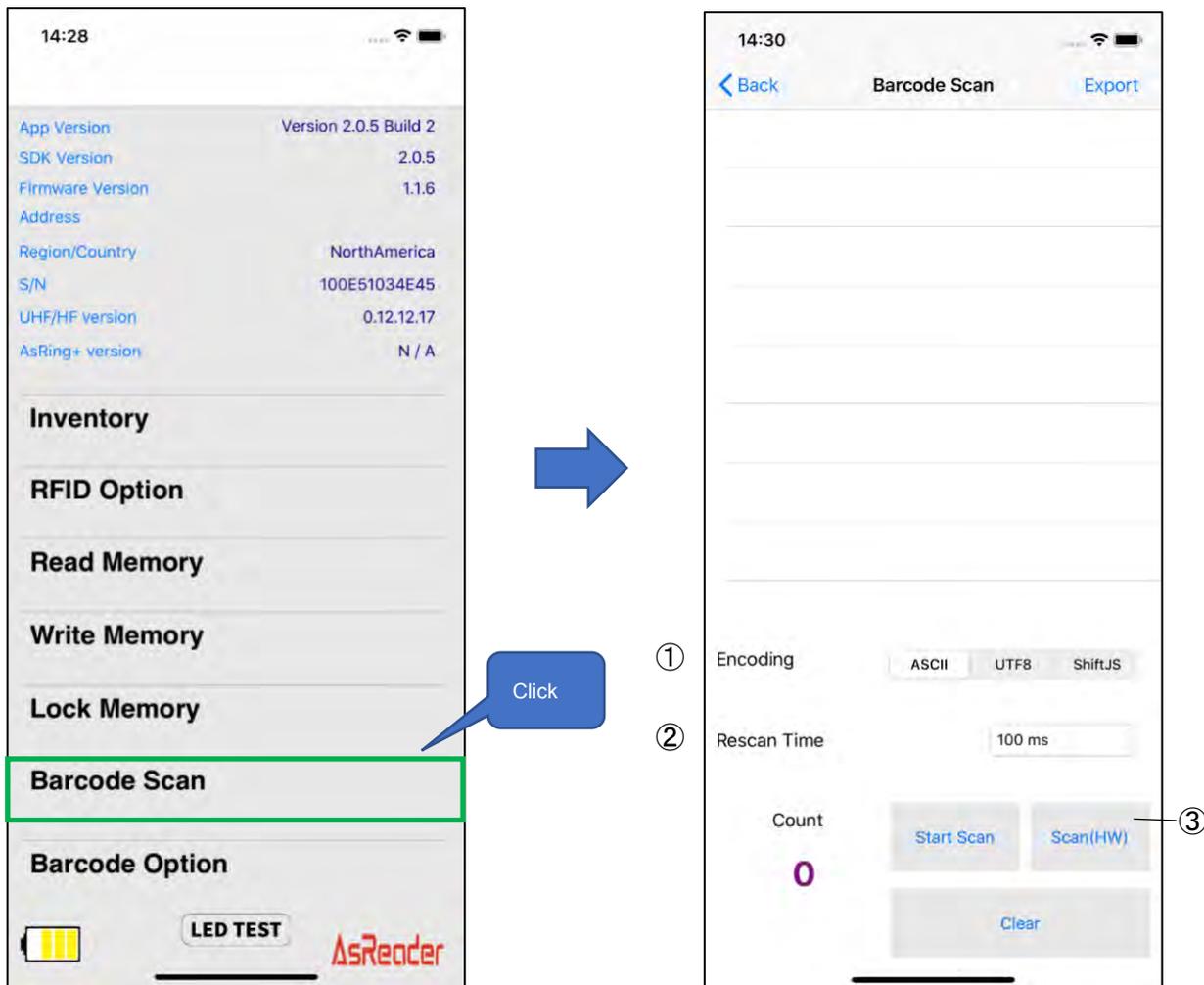


Number of different barcodes scanned
 (if the same RFID tag is scanned repeatedly, count only once)

3.4. Barcodes Scan Settings

3.4.1. Barcode Scan

Click "Barcode Scan" on the menu page to Scan the Barcode and set the scanning conditions.



① Encoding

There are three encoding types to select from: ASCII, UTF8, Shift JIS.

② Rescan Time

Continuous scanning is supported and the time interval between two consecutive scans can be set. If you select "Not Used", the continuous scanning function will be turned off. This setting is saved in DemoAPP.

③ Scan (HW) ※ Only for ASR-L251G

This feature is not used under normal circumstances. If Barcode scanning cannot be performed due to incorrect Barcode setting, click this button to make the laser of the device light up again.

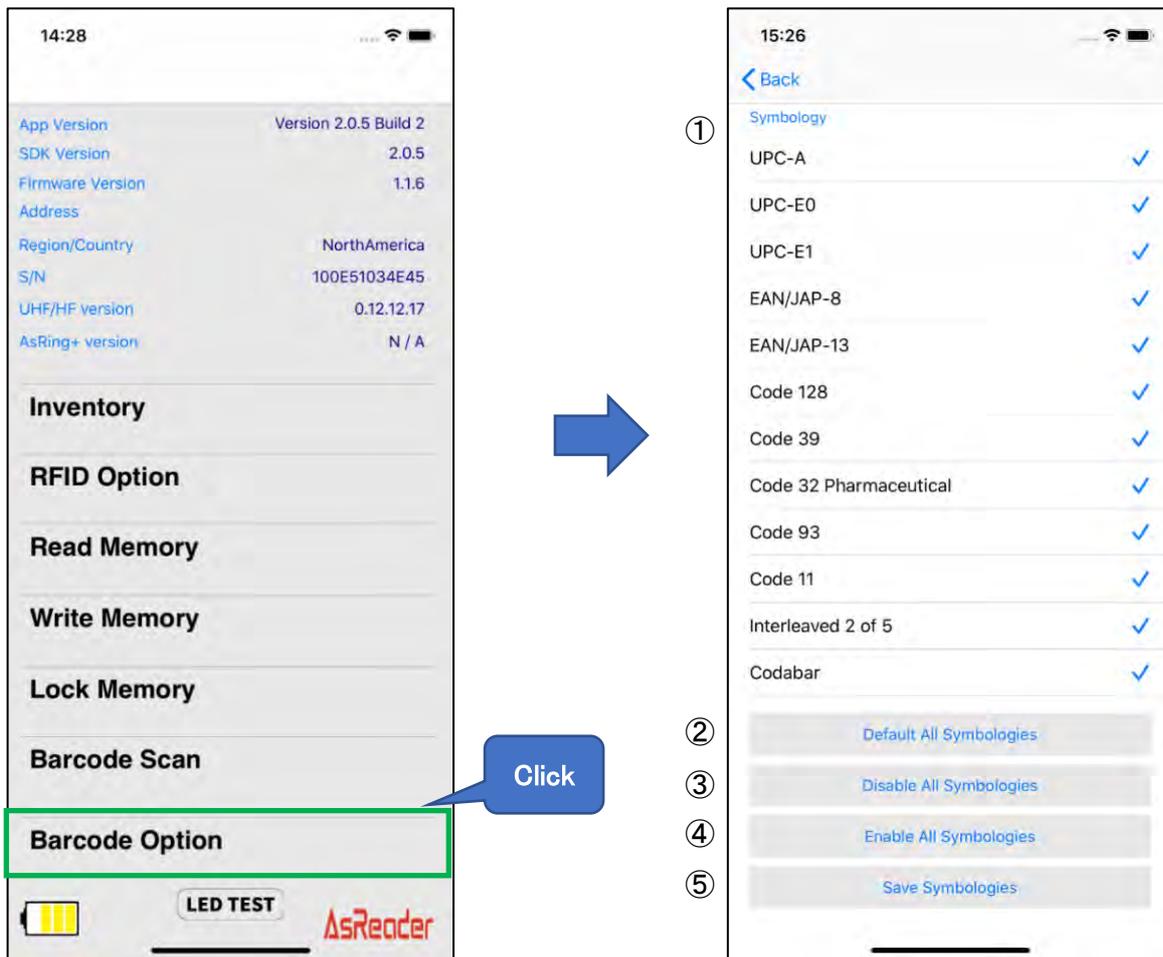
At this time, the scanning function can be resumed by scanning "Activate Defaults" in the Barcode setting manual.

※ Barcode setting manual can be downloaded at the link below.

<https://asreader.com/downloads/ASR-L251G/>

3.4.2. Barcode Option

Click "Barcode Option" at the bottom of the left page to select the Barcode type that AsReader is allowed to scan.



① Symbology

Click to select the barcode types that allows/does not allow scanning.

② Default All Symbologies

Restore the barcode types setting to factory setting.

③ Disable All Symbologies

After clicking it, all barcode types in the “①Symbology” list will be deselected.

④ Enable All Symbologies

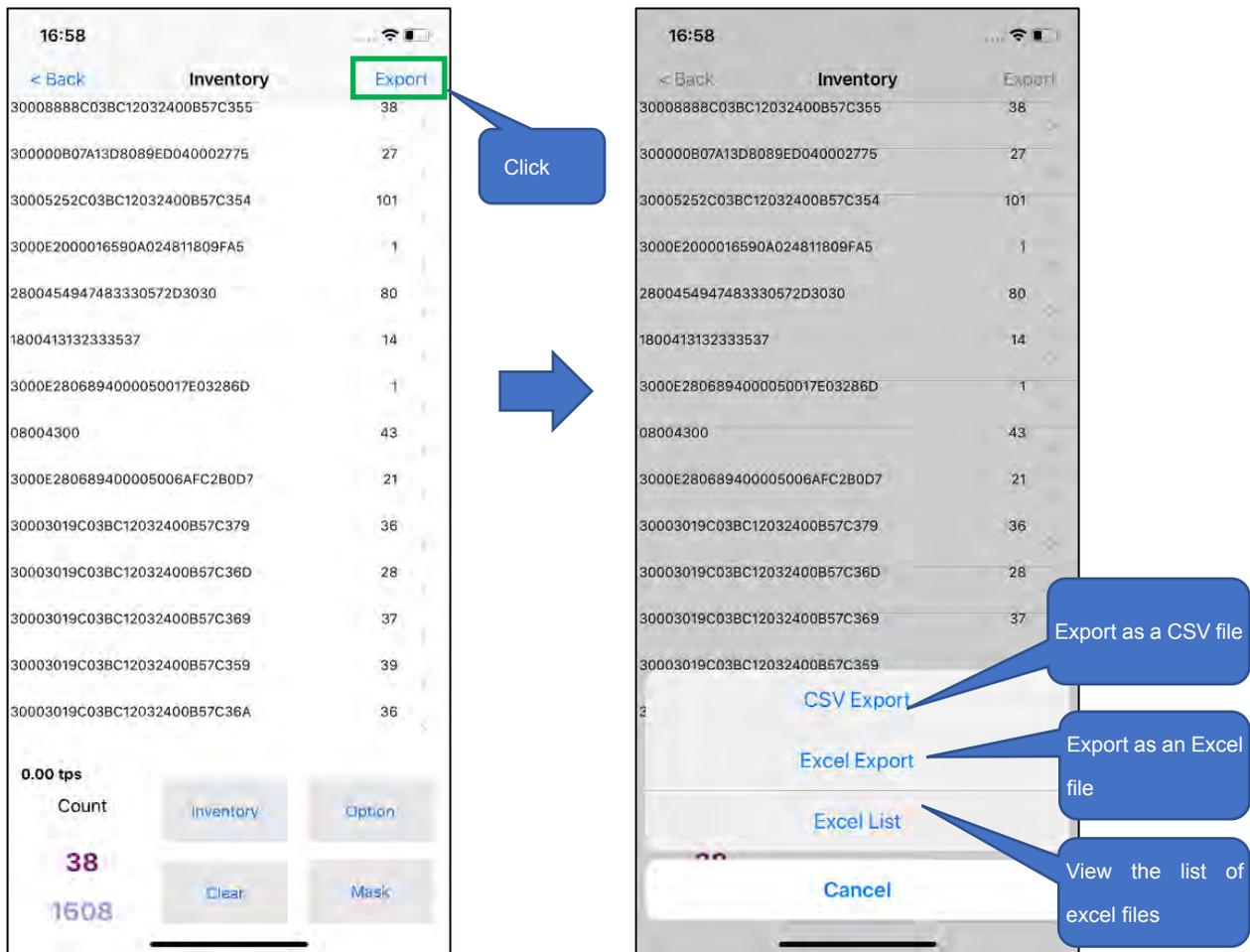
After clicking it, all barcode types in the “①Symbology” list will be selected.

⑤ Save Symbologies

After performing any of the above settings, click this button to save it. This setting will be saved to DemoAPP.

3.5. Data Export

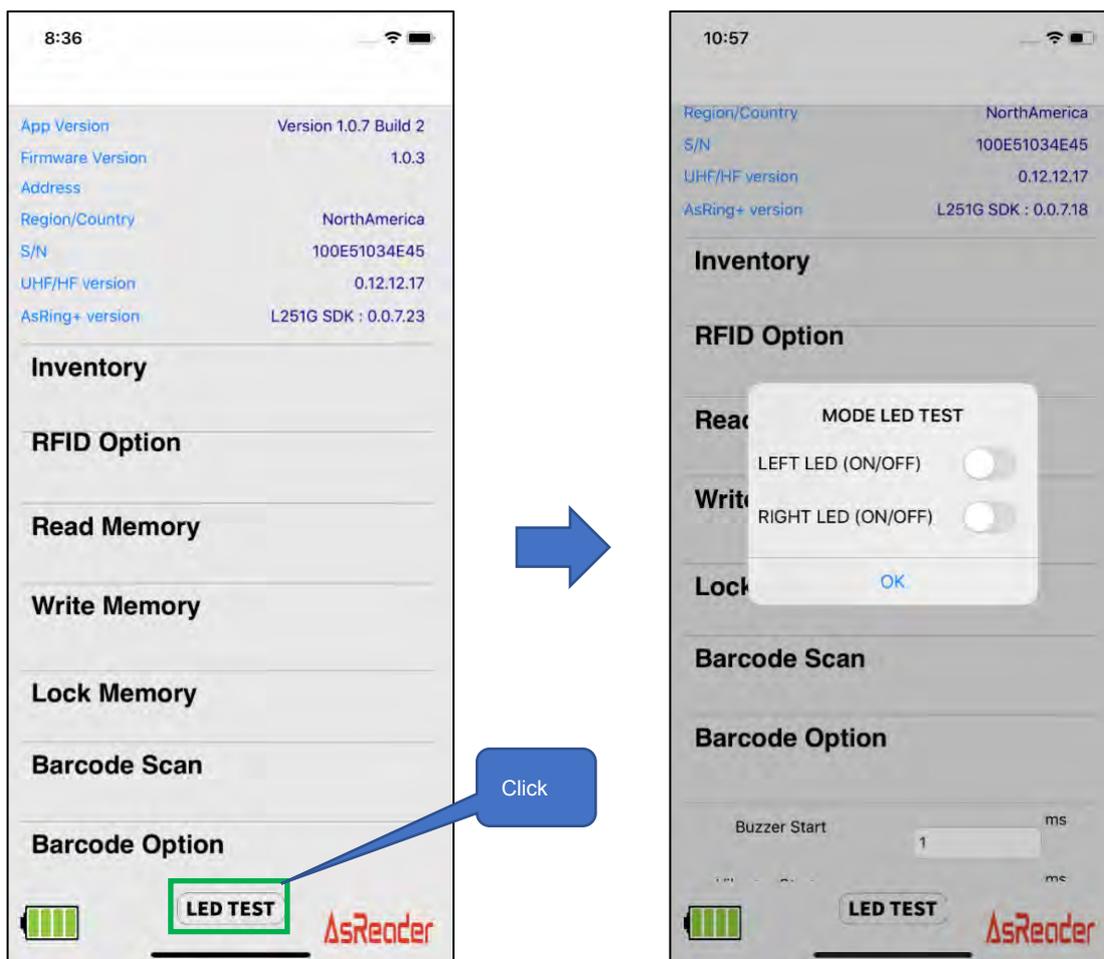
In DemoAPP, barcode and RFID tag data can be exported as CSV file or Excel file. You can then transfer those files to PC via iTunes. The following example is the data export page of RFID tag, and the data export of barcode is the same.



- ① Click the "Export" at the top right of the Inventory page.
- ② Select an export file type. To Export to CSV file, select "CSV Export"; To Export to an Excel file, select "Excel Export". Once done, the file is saved to DemoAPP. You can then click on the "Excel List" to view all the saved Excel files, which are displayed as a List.
- ③ Connect your phone device to your PC and transfer files saved in DemoAPP to your PC via iTunes.

3.6. The Test Button of the Mode Indicator LED

Click "LED TEST" at the bottom of the left page to control the Mode LED indicator of AsReader. If "LEFT LED" is turned on, the Mode indicator on the left side of AsReader will remain on. If "RIGHT LED" is turned on, the Mode indicator on the right side of AsReader will remain on.



**Demo App
AsReaderGUN
User Manual**

June 2020 The initial release

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