



ATID Co.,Ltd

RFID Demo Guide Manual

Android Demo Guide Manual

SDK Team
2017-02-22

		RFID Demo Guide Manual					
Android Demo Guide Manual					Company	ATID Co.,Ltd	
Doc.		Writer	SDK Team	Date	2017-02-22	Version	V2.0

Revision history

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1. Intro

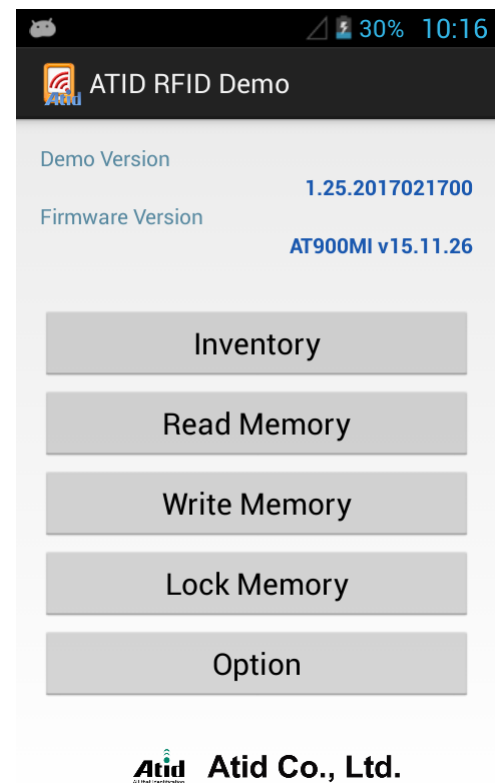
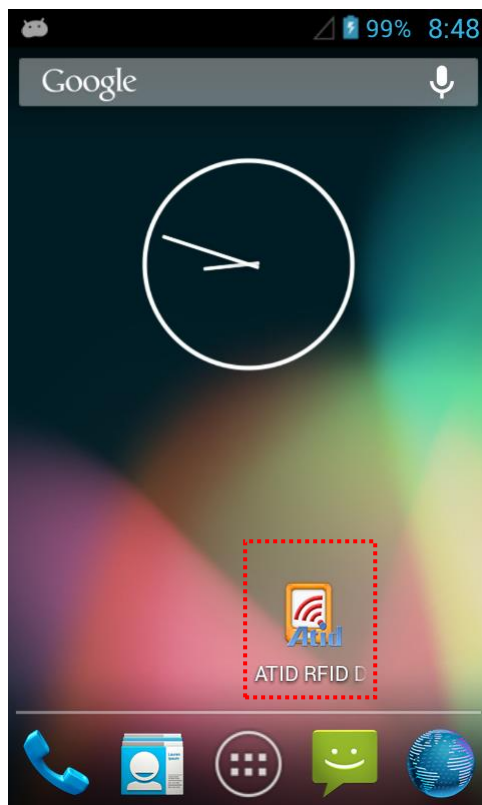
This document is aim to describe how to use RIFD Demo program in Android operated PDA.

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2. RFID Demo

2.1. RIFD Demo App Launch

This device identifies RFID by equipping RFID Device. Provides RFID Reader application to inventory RFID Tag which follows standard of ISO18000 6B/6C.

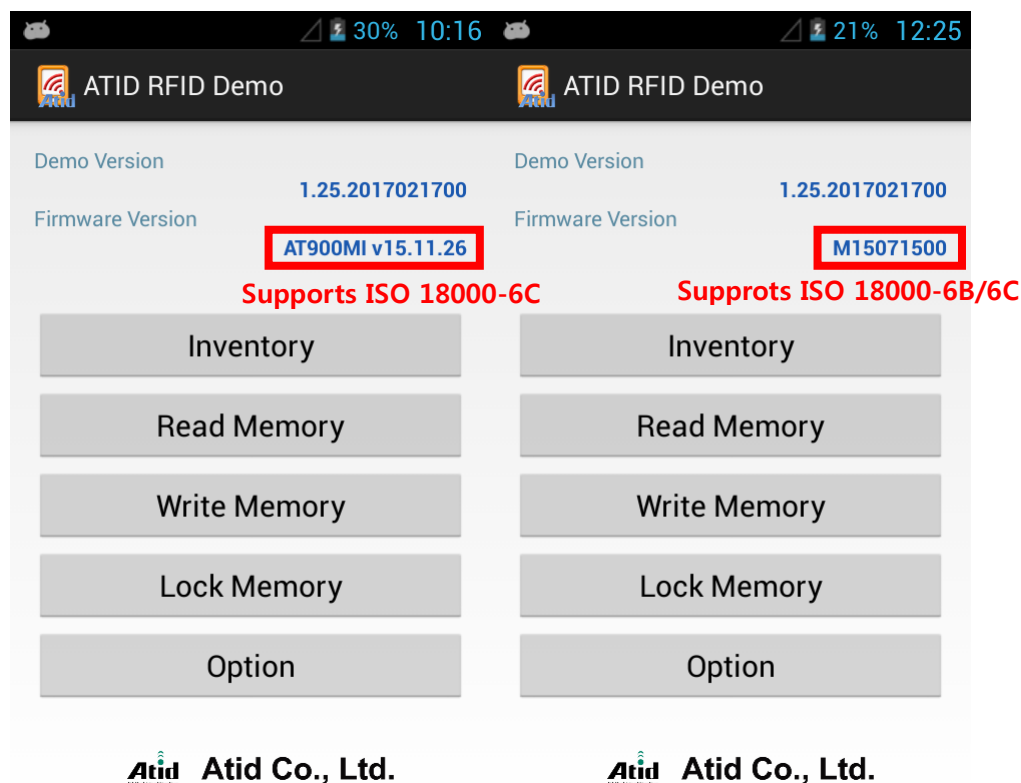


- i. Executes 'ATID RFID Demo'.
- ii. Initial screen as photo on right would come up, consists of Demo program version, Firmware version, and Menu buttons.

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2.2. RIFD Demo App

Once ATID RFID Demo is executed, the screen as below would come up.

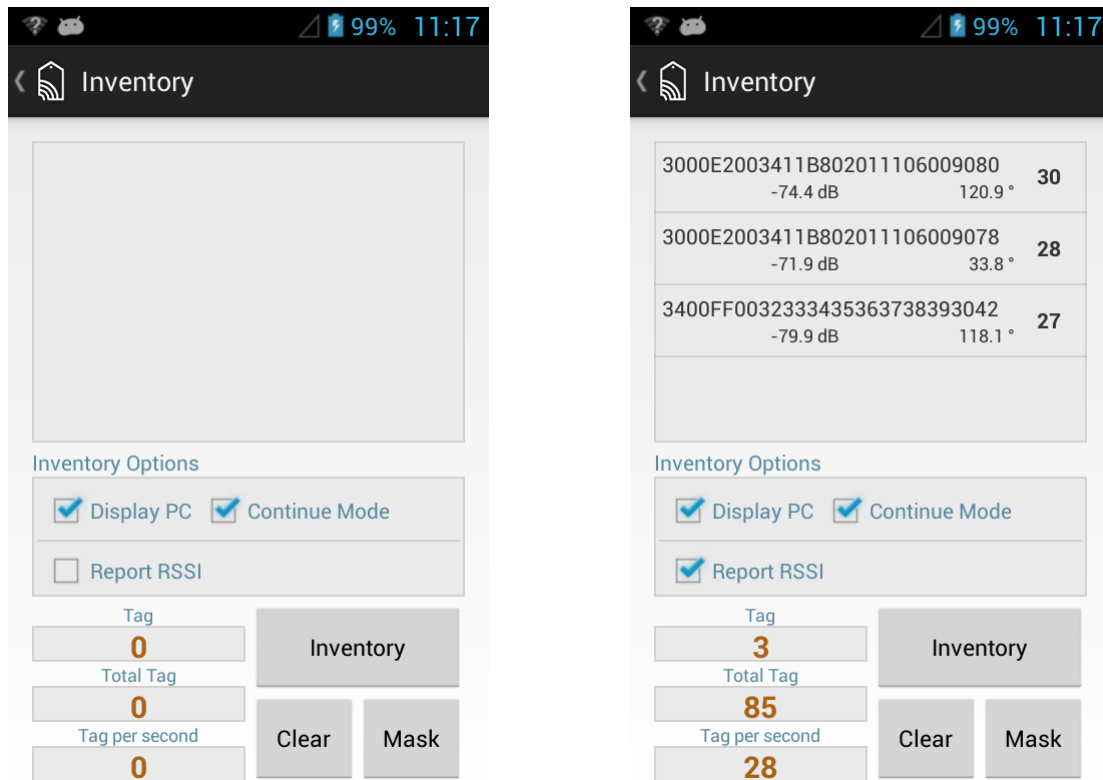


- i. **Demo Version** : Shows version of RFID Demo App.
- ii. **Firmware Version** : Shows Firmware version of RFID Module.
If starting with 'AT900MI', supports ISO 18000-6C with R2000 Module,
If starting with 'M' or 'R', supports ISO 18000-6B with AMS Module.
- iii. **Inventory** : Shows demo screen that inventories values of RFID Tag. (Anti-Collision)
- iv. **Read Memory** : Shows demo screen that reads memory of RFID Tag.
- v. **Write Memory** : Shows demo screen that writes memory of RFID Tag.
- vi. **Lock Memory** : Shows demo screen that locks or unlocks memory of RFID Tag.
- vii. **Option** : Shows screen that sets option of RFID Module.

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2.2.1. Inventory

Inventory is function for reading Tag ID(PC+EPC) of Tag, goes to Inventory screen by pressing 'Inventory' in main screen.



Inventory screen is consist of Tag list to show read tags, options to set about Inventory execution, numbers and sorts of read tags, and menu to control functions in screen.

2.2.1.1. Tag List

Shows the read tags by Inventory function. If identifies same type of tag, the number of tags increases. If Display PC is checked in Inventory Option, shows tag value with PC and EPC values, if not, shows EPC value only.

2.2.1.2. Inventory Option

- **Power Gain** : Sets output power of antenna, when executing Inventory.
- **Display PC** : Sets whether to show PC value or not in Tag List.
- **Report RSSI** : Sets whether to show RSSI, Phase values with Tag value. Phase value is not supported for AMS Module.
-

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- **Continue Mode** : Decides whether to inventory a single or multiple tag, when executing Inventory.
- **Operation Time** : Sets time to terminate automatically after executing Inventory.
- **Tag Type** : If R2000 is equipped as RFID Module, only 'ISO18000 6C' can be chosen, and up to 'ISO1888 6B' for AMS.

2.2.1.3. Tag

Shows number of tags reader has read by Inventory function. For tags read more than once are shown as number in count.

2.2.1.4. Total Tag

Shows total number of event read by reader by executing Inventory function.

2.2.1.5. Tag per second

Shows number of tag read per second by executing Inventory function.

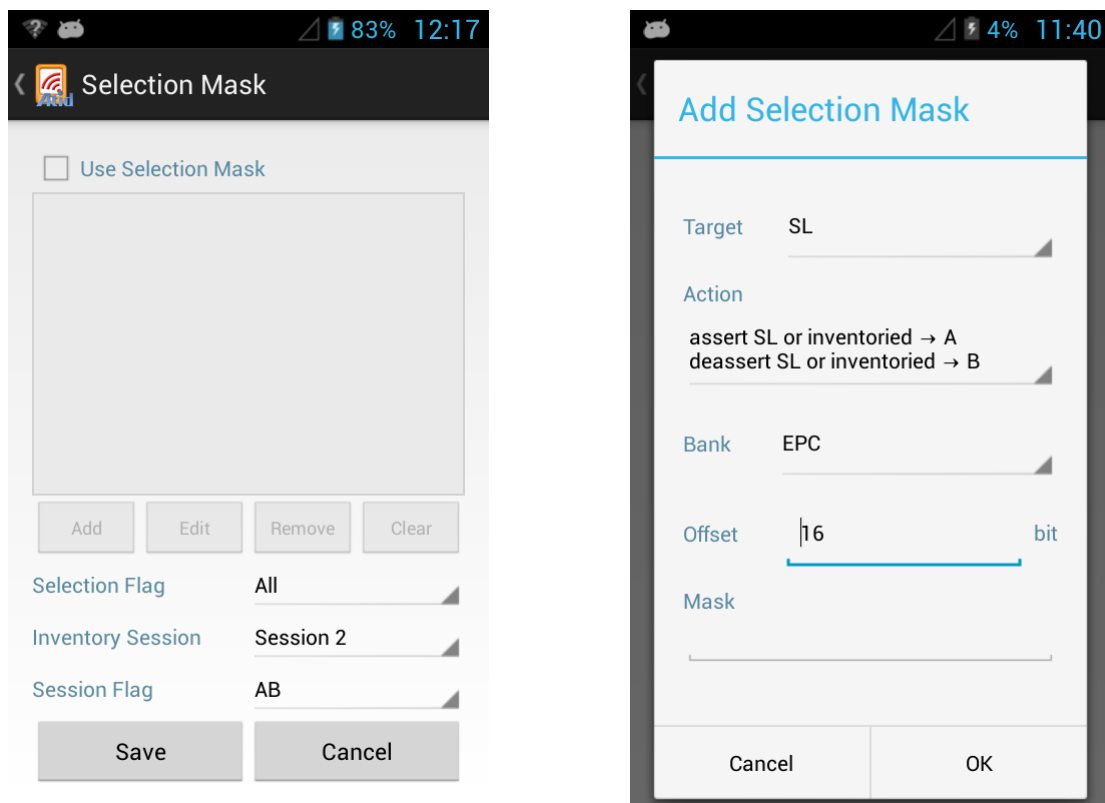
2.2.1.6. Menu Buttons

- **Inventory / Stop** : Starts and stops execution of Inventory function.
- **Clear** : Erases all tags showed on tag list, and initializes tag count as 0.
- **Mask** : Shows screen to set Selection Mask.

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2.2.2. Selection Mask

A function to set conditions according to Tag that intends to access Selection Mask, moves to Inventory, Read Memory, Write Memory, Lock Memory screens after pressing 'Mask' button.



Selection Mask is to set conditions according to Inventory or Access functions, consist of Selection Mask List, conditions to set according to tag, Selection Option, and menu button to set.

2.2.2.1. Selection Mask List

- **Use Selection Mask** : Sets whether to use Selection Mask or not.
- **Add** : Adds Mask condition.
- **Edit** : Edits selected Mask condition.
- **Remove** : Removes selected Mask condition.
- **Clear** : Clear all Mask condition.

2.2.2.2. Selection Mask Item

- **Target** : Appoints Session of Tag to apply set Action according to Mask condition.
- **Action** : Appoints action to execute according to Mask condition.
- **Bank** : Appoints Memory Bank of Tag to compare with Mask condition.

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- **Offset** : Sets initial address of Memory Bank in Bit value, which will be compared with Mask value.
- **Mask** : Inputs Mask value which will be compared in Hex world type.
- **Length** : Sets length of Mask value which will be compared in Bit value.

2.2.2.3. Selection Option

- **Selection Flag** : Sets Sel value for Query Command.
- **Inventory Session** : Sets Session value for Query Command.
- **Session Flag** : Sets Target value for Query Command.

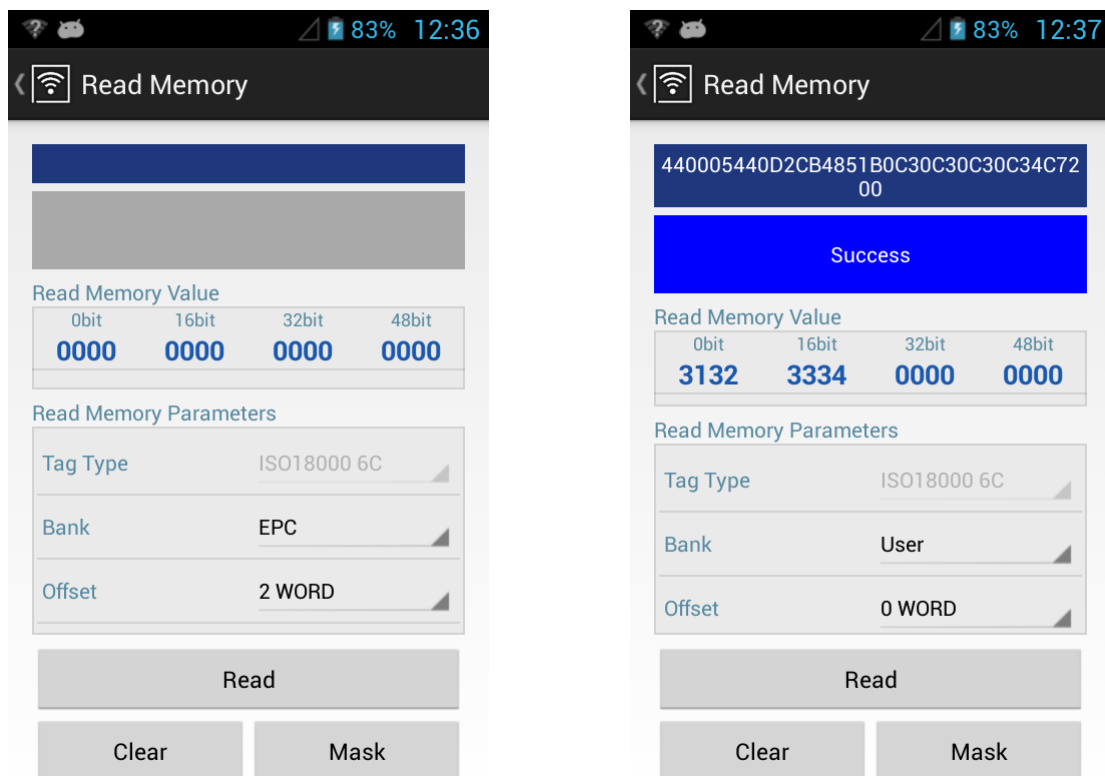
2.2.2.4. Menu Buttons

- **Save** : Terminates screen after applying set Selection Mask value in Reader Module.
- **Cancel** : Terminates screen after cancelling set Selection Mask.

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2.2.3. Read Memory

Read Memory is a function to read certain memory of Tag, to reach, press 'Read Memory' on main screen.



Read memory is consist of result shows accessed tag information, setting Parameter to read data of Tag, and menu for function execution.

2.2.3.1. Display Output

- **Access Tag EPC** : Shows EPC of accessed tag by Read Memory command.
- **Access Result** : Shows execution result of Read Memory command.
- **Read Memory Value** : Shows data of Tag read by Read Memory command.

2.2.3.2. Read Memory Parameters

- **Bank** : Appoints Memory Bank to read data from tag.
- **Offset** : Appoints initial address in work unit to read from appointed Memory Bank.
- **Length** : Appoints length in word unit to read data from appointed Memory Bank.
- **Password** : Sets Access Password to access to Tag.
- **Power Gain** : Sets output of antenna when executing Read Memory.

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- **Operation Time** : Sets time to terminate automatically after executing Read Memory.
- **Tag Type** : If R2000 is equipped as RFID Module, only 'ISO18000 6C' can be chosen, and up to 'ISO1888 6B' for AMS.

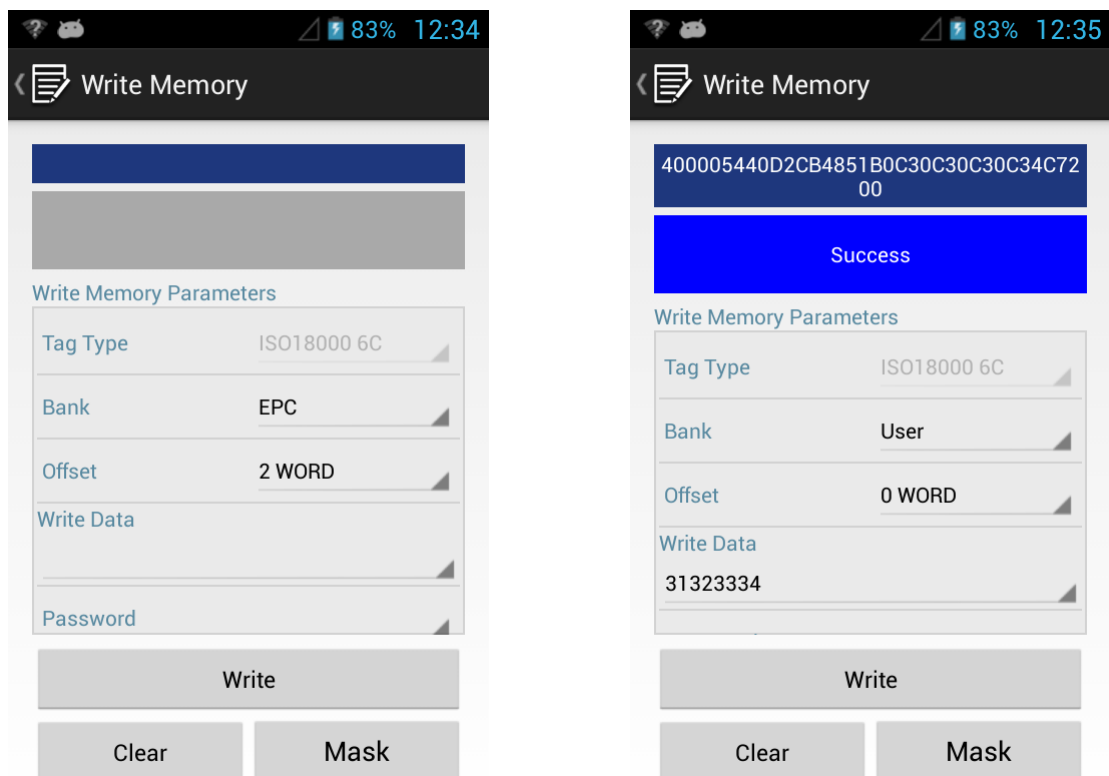
2.2.3.3. Menu Buttons

- **Read / Stop** : Starts or stops executing Read Memory command.
- **Clear** : Initializes result.
- **Mask** : Shows screen to set Selection Mask.

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2.2.4. Write Memory

Write Memory is a function to write certain data of Tag, to reach, press 'Write Memory' on main screen.



Write Memory screen is consisted of Write Memory Value (displays the results), Write Memory Parameters (sets the parameter values), and Menu buttons.

2.2.4.1. Display Output

- **Access Tag EPC** : Displays the EPC of the accessing tags.
- **Access Result** : Displays the results of Write Memory.
-

2.2.4.2. Write Memory Parameters

- **Bank** : Sets the Memory Bank of the Tag
- **Offset** : Sets the starting address of the reading Memory Banks in Word.
- **Write Data** : Enters the data in Hex string Word that will be written in the selected Memory Bank
- **Password** : Sets the Access Password for accessing Tags
- **Power Gain** : Sets the power output of the antenna.

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- **Operation Time** : Sets the duration of the active time for Write Memory.
- **Tag Type** : If R2000 is equipped as RFID Module, only 'ISO18000 6C' can be chosen, and up to 'ISO1888 6B' for AMS.

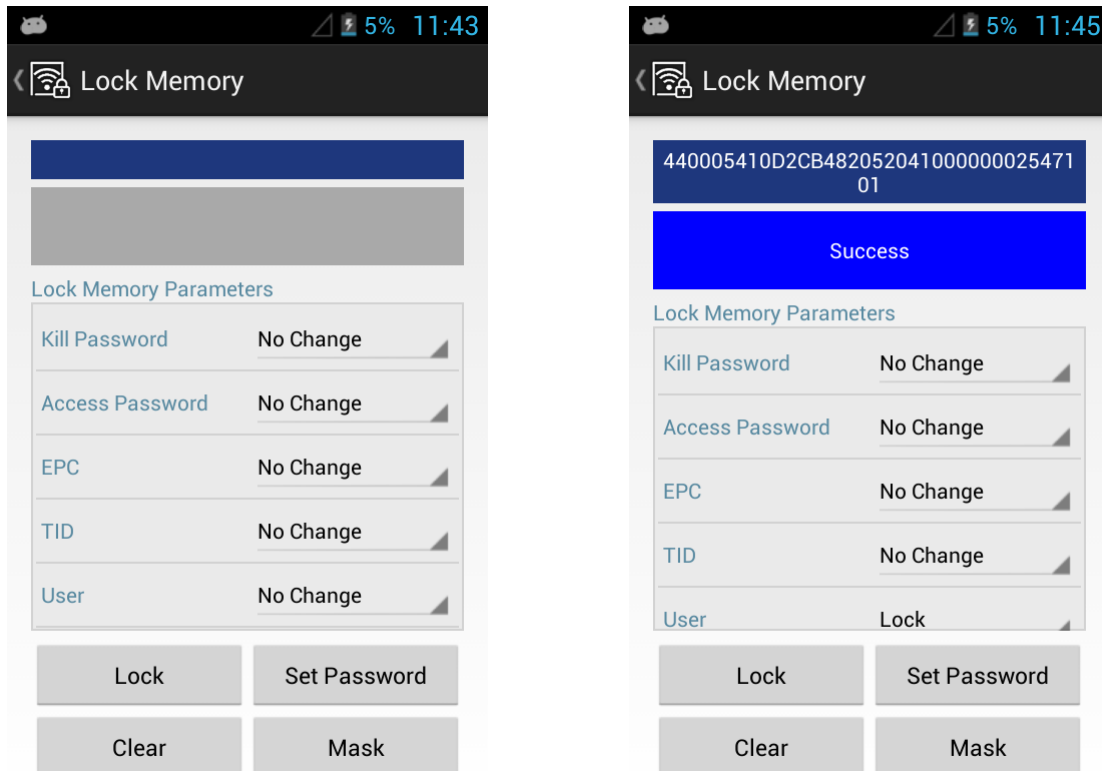
2.2.4.3. Menu Buttons

- **Write / Stop** : Performs or stops Write Memory.
- **Clear** : Clears the results displayed.
- **Mask** : Displays the Selection Mask screen.

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2.2.5. Lock Memory

Lock Memory can lock or unlock a particular part of the Tag's Memory.



Lock Memory screen is consisted of Lock Memory Value (displays the results), Lock Memory Parameters (sets the parameter values), and Menu buttons.

2.2.5.1. Display Output

- **Access Tag EPC** : Displays the EPC of the accessing tags.
- **Access Result** : Displays the results of Lock Memory.

2.2.5.2. Lock Memory Parameters

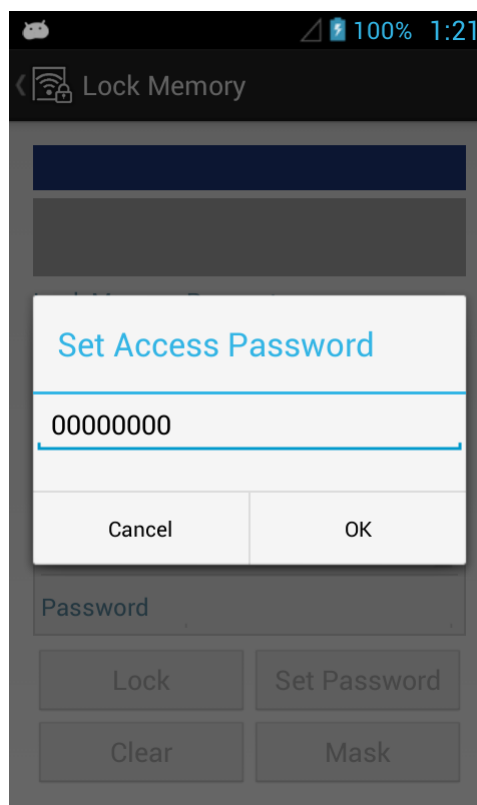
- **Kill Password** : Select whether to lock or unlock the Kill Password part of the Tag.
- **Access Password** : Select whether to lock or unlock the Access Password part of the Tag.
- **EPC** : Select whether to lock or unlock EPC Memory Bank part of the Tag.
- **TID** : Select whether to lock or unlock TID Memory Bank part of the Tag.
- **User** : Select whether to lock or unlock User Memory Bank part of the Tag.
- **Password** : Sets the Access Password or Kill Password of the accessing Tag.
- **Power Gain** : Sets the power output of the antenna.

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- **Operation Time** : Sets the duration of the active time for Lock Memory.
- **Tag Type** : Only 'ISO18000 6C' can be chosen

2.2.5.3. Menu Buttons

- **Lock / Stop** : Locks or stops the selected part of the accessing Tag.

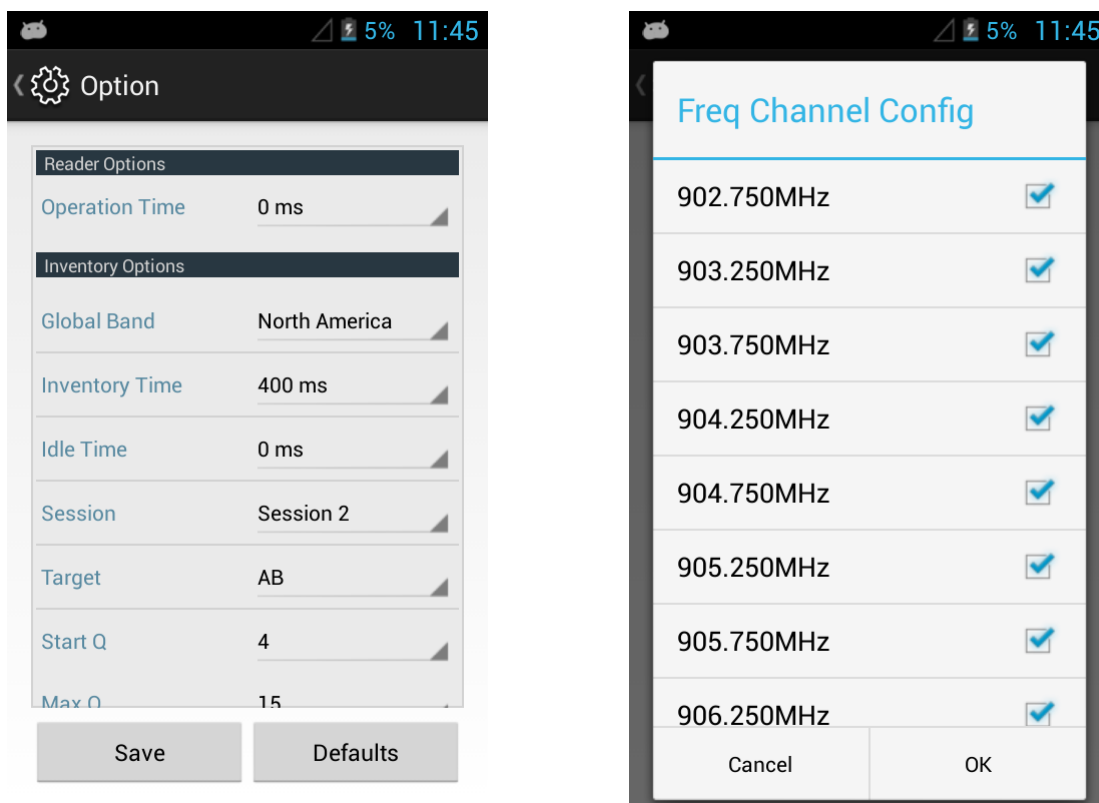


- **Set Password** : Sets the Access Password of the Tag.
- **Clear** : Clears the results displayed.
- **Mask** : Displays the Selection Mask screen.

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2.2.6. Option

Option screen displays the settings of RFID Module function and is shown as below.



Option screen is consisted of Inventory options (for performing Inventory) and Operation options (for setting the Module property).

2.2.6.1. Reader Options

- **Operation Time** : Set the Timeout from the point which the device transmit the command to Reader module to the point which it receives the command response.

2.2.6.2. Inventory Options

- **Global Band** : Displays the regional settings for the RFID Module.
- **Inventory Time** : Sets the actual Inventory time for performing Inventory.
- **Idle Time** : When RFID Module is performing Inventory, the idle time is set to prevent the overheating of Reader Module. Inventory Time and Idle Time together cannot be set over (400ms).
- **Session** : Sets Tag Session from Inventory execution of RFID Module.
- **Target** : Sets Tag Session status from Inventory execution of RFID Module.

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- **Start Q** : Sets the start Q from Inventory execution of RFID Module.
Start q must be greater than or equal to min q and less than or equal to max q.
- **Max Q** : Sets the max Q from Inventory execution of RFID Module.
Max q must be greater than or equal to start q and min q.
- **Min Q** : Sets the min Q from Inventory execution of RFID Module.
Min q must be less than or equal to start q and max q.

2.2.6.3. Operation Options

- **Power Gain** : Sets the power of the Antenna when Reader module is active.
- **Link Profile** : Changes Link Profile index. This value is not supported for AMS module.
- **Frequency Channel** : sets the status whether in using relevant index of channel, or not, among frequency channels.

2.2.6.4. System Options

- **Log Level** : Sets log level of message, that outputs to LogCat.

2.2.6.5. Menu Buttons

- **Save** : Saves and applies the settings.
- **Default** : Initializes all the settings to its factory setting.