




Atid Co., Ltd.

AT288N MA Device Guide

AT288N Device guide


Won-Tak Choi

2016-07-20

		AT288N MA Device Guide					
AT288N Device guide					From	Atid Co., Ltd.	
Document	Ui guide	Writer	Won-Tak Choi	Date	2016-07-20	Version	v0.5


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1 Functional Description



1.1 Protocol

UHF Type can be selected either ISO/IEC 18000-6C or ISO/IEC 18000-6B

1.2 Remote control

AT288N supports both Bluetooth and USB as its connection method. Bluetooth Protocol can be set to either SPP or HID. USB Protocol can be set to either VCP or HID.


1.2.1 Bluetooth

BTH SPP

The connection can be available using Serial Profile Protocol and Data to be transmitted will be uploaded to Serial Port (COM Port) of upper level device. User has to make additional program in upper level device for utilizing the transmitted data.

BTH HID

The connection can be available using Human Interface Device and Data to be

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transmitted will be uploaded on the cursor as like Keyboard typing. The caution should be needed in using the device since the difference between the data read by actual device and data on the cursor can be occurred in accordance with keyboard language setting of upper level device

BTH BLE (To Be Supported)

The connection can be available using Bluetooth low energy and possible to use in IOS. The reading distance is shorter than existing Bluetooth, but effectivity is better than existing one.

1.2.2 USB

USB VCP

The connection can be available using Serial Profile Protocol and the data to be read will be uploaded to Serial Port (COM Port) of upper level device. User has to make additional program in upper level device for utilizing the transmitted data.

USB HID

The connection can be available using Human Interface Device and Data to be transmitted will be uploaded on the cursor as like Keyboard typing. The caution should be needed in using the device since the difference between the data read by actual device and data on the cursor can be occurred in accordance with keyboard language setting of upper level device

1.3 RF power control


Output power of RFID Module can be controlled by pressing the RF Power Control Left Key and RF Power Control Right Key. Level is set from 11 to 30.

1.4 Beep

When reading the tag or pressing the button, Beep will be working. Beep function can be power-off state with request.

1.5 Data storage

Not only transmitting the data to remote control in the real time, but also transmitting

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the data to remote control at once after saving it in local storage is available.

1.6 Inventory mode

1.6.1 One Tag mode

If just one tag is read, this mode will make tag reading stop

1.6.2 Multi Tag mode

In this mode, tag will be continuously reading regardless of duplication

1.7 Output Format

1.7.1 Serial number


Serial number will be shown in front of the tag

1.8 Firmware mode

This mode can be possible to set in state of power-off. To work this mode, press scan button and power key simultaneously. Firmware update for AT288N is available in this mode and pressing the power key makes it revert to the original state.

1.9 Auto power off

For this function, device will be power-off after designated time

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2 LED

Changing LED state will let user know on setting and event of AT288N

2.1 One / Multi LED

In state of One tag mode in Inventory Mode, ONE LED will be turned on and in state of Multi tag mode in inventory mode, Multi LED will be turned on

2.2 Scan LED

In state-on for scan button, Scan LED is enable and in state-off, Scan LED is disable. If inventory is in success, scan LED will be flickered

2.3 SPP / BLE LED

In state of either BTH_SPP or USB_VCP, SPP LED will be turned on and in state of BTH_BLE, BLE_LED will be turned on. In state of either BTH_HID or USB_HID, both LEDs will be turned off.

2.4 RF Control Window LED

RF Control Window LED is consisted of 11 pcs of LED. In general, RF Control Window LED shows the setting value for UHF power.

2.4.1 To indicate RF power value

RF Power Window	RF Power
●●○○○○○○○○○○	11dBm
○●○○○○○○○○○○	12dBm
○●●○○○○○○○○○	13dBm
○○●○○○○○○○○○	14dBm
○○●●○○○○○○○○	15dBm
○○○●○○○○○○○○	16dBm
○○○●●○○○○○○○	17dBm
○○○○●○○○○○○○	18dBm
○○○○●●○○○○○○	19dBm
○○○○○●○○○○○○○	20dBm
○○○○○●●○○○○○	21dBm

○○○○○○●○○○○	22dBm
○○○○○○●●○○○○	23dBm
○○○○○○○●○○○○	24dBm
○○○○○○○●●○○○	25dBm
○○○○○○○○○●○○○	26dBm
○○○○○○○○○●●○○	27dBm
○○○○○○○○○●●○	28dBm
○○○○○○○○○●●●	29dBm
○○○○○○○○○●●●	30dBm

2.4.2 To show Bluetooth Protocol settings

RF Power Window	Bluetooth Protocol
●●●●●○○○○○○	BTH SPP
○○○●●●●●○○○	BTH HID

2.4.3 To show USB Protocol settings

RF Power Window	USB Protocol
●●●●●○○○○○○	USB VCP
○○○●●●●●○○○	USB HID

2.4.4 To show Beep Control settings


RF Power Window	Beep Control
●●●●●○○○○○○	Beep disable
○○○○○●●●●●●●	Beep Enable

2.4.5 To show Beep Control settings

RF Power Window	Protocol
●●●●●○○○○○○	6C
○○○○○●●●●●●●	6B

2.5 Power LED

When Low battery, Power LED will be flickered on cycle of 1000ms (Enable 500ms, Disable 500ms). Also, Power LED will be enable, in case device is charged by connecting either USB or AC-DC Adaptor. If charging the device is not finished, there is Red LED. At the full charging of device, there is Green LED.

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2.6 BT LED

It shows if both remote control and device are set by Bluetooth or not.

2.6.1 Bluetooth Connection On Standby

BT LED flickers on cycle of 500ms (Enable 100ms, Disable 400ms)

2.6.2 Bluetooth Connection in Success

BT LED is always working on

2.7 USB LED


USB LED will be only working on comport set by USB. Please check if both remote control and device are connected by USB

2.7.1 USB Connection On standby

USB LED flickers on cycle of 500ms (Enable 100ms, Disable 400ms)

2.7.2 USB Connection in Success

USB LED is always working on

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3 Button

There are two ways of maneuvering buttons for AT288N; Long press & Shot press. For Short presses, it is recognized and operates when the buttons are released. For Long presses, it is recognized and operates when the button is pressed for more than 2 seconds. Pressing buttons usually refers to the short presses unless otherwise specified.

3.1 Power Key

Used for turning on/off the device.

3.1.1 When the device is turned off
pressing the power key for a few seconds will turn on the device.

3.1.2 When the device is turned on
pressing the power key for a few seconds will turn off the device.

3.2 6C/6B Key

In status of long and short press, 6C/6B Key can be differently operated. For AT288N, it is not possible to select either 6B or 6C. Instead of that, 6C is only working on. So the operating method is different with AT288 MI.

3.2.1 Short Press

If user presses 6C/6B Key, Inventory Mode will be adjusted.
Change Order: One Tag mode-> Multi Tag mode-> One Tag mode

3.2.2 Long Press


Beep Mode is adjusted. If Beep mode is in status of enable, disable will be set after long presses

3.3 RF Power Control Left Key

There are two functions for RF Power Control Left Key.

3.3.1 Short Press

RF power can be adjusted. 1dBm is decreased per press. The minimum RF power

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that can be set is 11dBm

3.3.2 Long Press

Remote Protocol can be selected by long press. If COM PORT setting is USB, USB protocols will be selected. If COM PORT setting is BT, BT protocols will be selected. It will take 3.5 seconds to apply the mode changes.

For USB protocol, USB_VCP → USB HID → USB_VCP.

BT Protocol, BT_SPP → BT_HID → BT_BLE → BT_SPP

3.4 RF Power Control Right Key

There are two functions for RF Power Control Left Key

3.4.1 Short Press

RF power can be adjusted. 1dBm is increased per press. The maximum RF power that can be set is 30dBm

3.5 Multi/One Key

Change 6B/6C settings

3.6 BT/USB Key


Data transmit mode can be selected with BT/USB Key. The selected mode is shown via BT/USB LED on the device. The mode change (change in LED) is applied two seconds after the BT/USB Key is pressed. No other modes will be changed during these two seconds

3.7 Scan Button

Run Inventory. Other buttons do not operate while Scan button is being pressed

3.8 Firmware mode

Firmware mode can be entered by pressing the power key while Scan button is being pressed. Firmware mode can only when the device is turned off.

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4 Beep

Beep sound is only working on when Beep Mode is enabled. If the Beep Mode is disabled, there will be no sounds at all. Beep sound is operated when Power On/Off, Remote connection/disconnection, Button press and Inventory is successful.