

Thank you for choosing this world-leading innovative ISO18000-6C battery-free UHF LED flashing label and related applications from JYL-Tech.

Before start to scan & light up tags, recommend you to understand the features of such label and how' s LED flashing principle.

## Feature of Passive UHF LED Label

It's necessary to encodedata into RFID Chip's EPC memory before usage, which simulates the related different label/article numbers, then thespecific labels can be read and get LED flashing by RFID reader or handheld.

Encoding can be done with universal RFID label printers or roll-to-roll automatic label testing machine.

Thanks Kiloway developed KX2005XBL UHF chip with OTP memory, powers such passiveUHF LED Label. OTP chip means data can be only encoded once and encoded data impossible tobe erased afterencoding. RFID chip will remain long time data storage ability withfollowing characteristics:

A:If you do not encounter 1 to 0, the obtained data will be: 0 remains 0, 1 remains 1, or 0 becomes 1 until theend, after the writing operation is over, the original data is over written by new data, and the successful rewriting is realized.

B: If it encounters 1 to 0, it cannot be written, causing the chip to immediately return a failure signal and terminate the subsequent operation, and the new data writing fails. Part of the data before the failed position will be: 0 remains 0, 1 remains 1, or 0 becomes 1, with possible risk of data errors.

## LED Circuit Structure with UHF Chip

RFID chip' s LED pad is connected totheGND pad through LED. Sending specific commands, the selected RFID chip will light up LED with flashing.

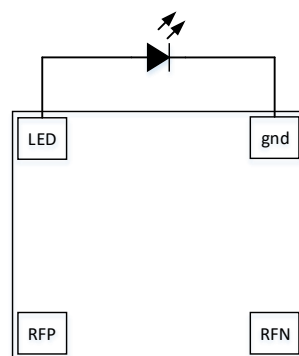


Figure 1 LED Function connection way

## Operation Mode

Use **standard** read command to read Address 4 of Length 1 in the RFU area to trigger the voltage output of the LED pad.

Frame	Command code	Storage Area	Addresses	Length	RN16	CRC16
0	11000010	00	00000100	00000001	RN16	CRC16

Table 1 LED-ON Command Format

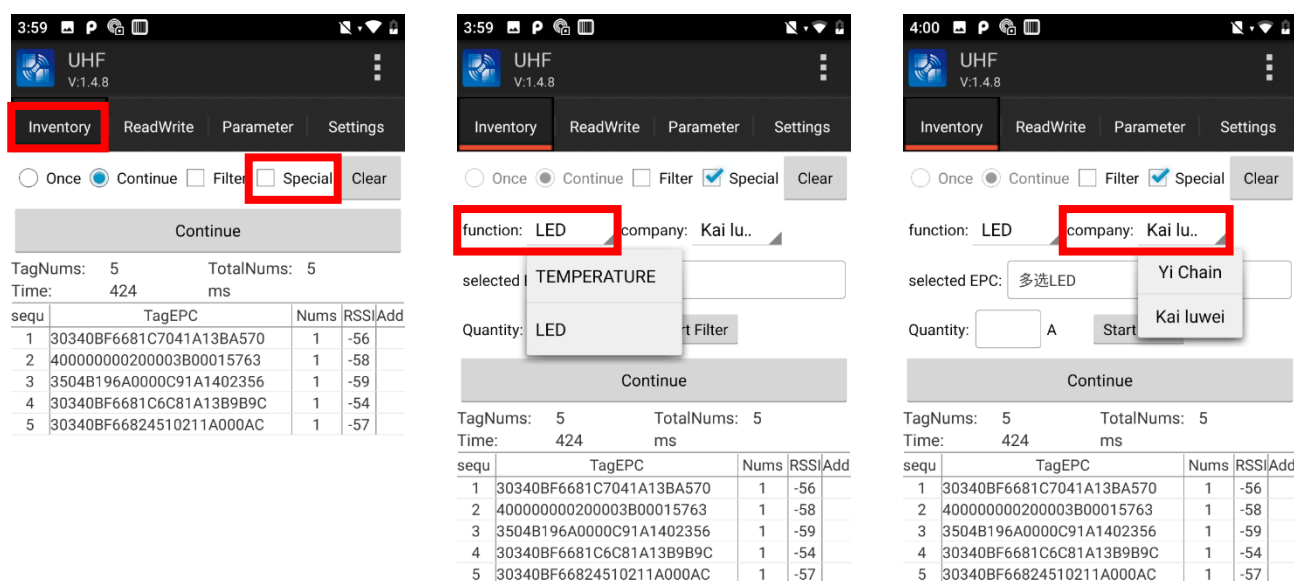
Because there is no actual data at Address 4 in the RFU area, the return code of the read command is an error code and can be ignored.

Frame Head	Error Code	RN16	CRC16
1	00000011	RN16	CRC16

Table 2 LED-ON Command Returns

The LED will get flashing when RFID tag and reader is in certain distance.

## Demo Operating Steps



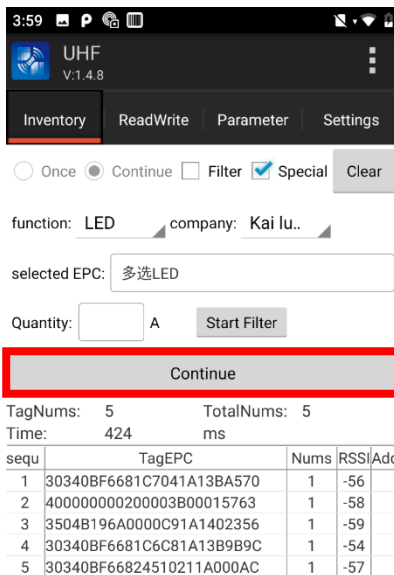
The screenshots show the UHF V:1.4.8 app interface. In the first screenshot, the 'Inventory' tab is selected, and the 'Special' checkbox is checked. In the second screenshot, the 'function' dropdown is set to 'LED'. In the third screenshot, the 'company' dropdown is set to 'Kai lu..'. Each screenshot also displays a table of tag data with columns: sequ, TagEPC, Nums, RSSI, and Add.

1.Enter "Inventory" interface, select "Special".2."

Function" choose "LED".

3."Company" choose "Kai luwei".

Kai Luwei is UHF chip company Kiloway name spells in above DEMO menu.

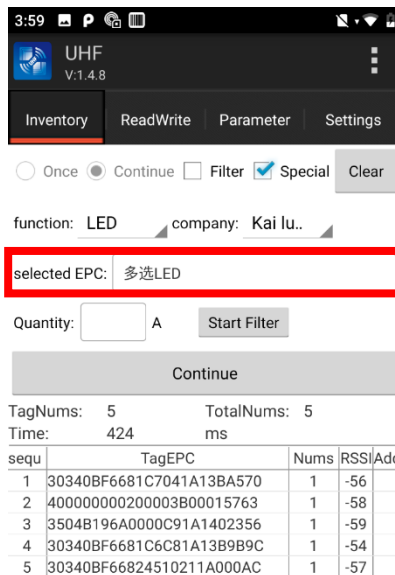


function: LED company: Kai lu..

selected EPC: 多选LED

Quantity:  A

sequ	TagEPC	Nums	RSSI/Add
1	30340BF6681C7041A13BA570	1	-56
2	40000000200003B00015763	1	-58
3	3504B196A0000C91A1402356	1	-59
4	30340BF6681C6C81A13B9B9C	1	-54
5	30340BF66824510211A000AC	1	-57

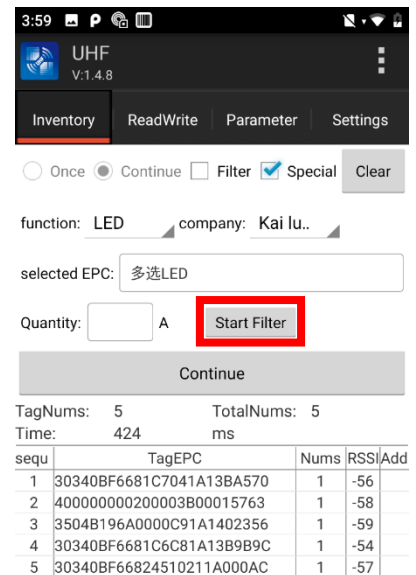


function: LED company: Kai lu..

selected EPC: 多选LED

Quantity:  A

sequ	TagEPC	Nums	RSSI/Add
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sequ	TagEPC	Nums	RSSI/Add
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2	40000000200003B00015763	1	-58
3	3504B196A0000C91A1402356	1	-59
4	30340BF6681C6C81A13B9B9C	1	-54
5	30340BF66824510211A000AC	1	-57

4. Click "Continue" to take an inventory of all labels.

5. Select EPC code of target label in "Selected EPC" list (multiple choice).

6. Click "Start Filter", the corresponding LED label will light up.

## FAQ

Q: How many UHF LED label sizes are there currently?

A: 100×12 (95×3mm antenna), 95×30 (42×12mm antenna), 64×28 (60×24mm antenna), etc. Check "UHF LED Label-Tag Portfolio" for more choices.

Q: Can UHF LED labels be used on all media surfaces?

A: 2 product series available to different object. Self-adhesive label (Edison) series goes with Non-metal media, flexible On-metal(Honor) series for on metal object.

Q: How many LED colors are available for UHF LED labels?

A: Green, red, blue. Green is the most common type.

Q: How far is the read distance and flash trigger distance for such UHF LED label?

A: Use 2W handheld and 95×3mm antenna to test in air, the reading distance 4m, and the light up distance is 1~2m (actual distance depends on inlay shape design, reader's power, reader's antenna grains and installation and actual application scenario etc.).

Q: Is there an upper limit to the quantity the reader can light up?

A: Quantity limitation depends on the functionality support of reader. The more qty, the lower frequency of the same tag emitting light.

Q: Do I need to use a designated reader to light up the LED label?

A: It supports most handhelds or readers in market. It's mandatory to set addressing position and length in software or our demo menu.

Q: Do UHF LED labels support RFID printers to print and encode?

A: Support many RFID printers for variable data printing and chip encoding (EPC).

Q: What printer brand or models are supported?

A: ZMINX1D, POSTEKRfid printer, Dascom RFID series, Toshiba B-EX4, Sato CL4NX, Zebra ZT410/ZT411 (depends on ROM version), DS-ZT4UWP1113138. If use Zebra RFID printer, please tell us the ROM version likes SP75.xx displayed on the screen, which can help you confirm whether it's supported.

Q: What is the default EPC data of the label when it leaves the factory?

A: UHF is chip's EPC data all 0 by default.

Q: When EPC data in multiple labels are encoded the same, can all these labels get LED flashed at the same time when the EPC is selected?

A: It can't be flashed at same time, the flashing sequence is randomly polled, and there are differences in sequence.

Q: When EPC data in multi-labels were encoded different, can some specific labels be selected to be LED flashed?

A: After query all labels, select the label data that needs to be flashed(multiple choices), and the selected label(s) can be get LED flashed.

Q: When EPC data in multi-labels are the same, can one label be flashed by chip's TID data?

A: As long as the label is selected, it can be lit. According to the device configuration, choose EPC or TID to light up the label.

Q: How to customize UHF LED labels?

A: Labels can be customized according to the size of object to be attached and application scenarios such as air or metal media.