

LL-AF2-ST-SM-RTK02 SuperTag Rechargeable

User Guide



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LL-AF2-ST-SM-RTK02 SuperTag Rechargeable

The LL-AF2-ST-SM-RTK02 SuperTag Rechargeable interfaces with Link Labs AirFinder User Interface (apps.airfinder.com) to provide customers with a highly accurate GPS, Wi-Fi, Bluetooth positioning service, and accelerometer and temperature.

The LL-AF2-ST-SM-RTK02 SuperTag Rechargeable is an IP67 rated device with a 5-color LED indicator.

Device Specifications

Device Lifespan

- Up to 500 location uplinks, or 6 months, from full battery recharge depending on location type, usage, and configuration.

Electrical

- 470mAh /3.7Vdc Li-polymer battery
- Micro USB for charging

Mechanical

- Case Material: ABS
- Dimensions: 56.5 x 56.5 x 16.6mm
- Weight: 44g
- Operating Temperature: 0°C to +45°C
- Humidity: 5% - 95% RH (non-condensing)
- IP67 Rating

Device notification payload contains

- GPS for outdoor positioning
- WiFi for outdoor positioning
 - Only when GPS positioning data is not available
- Cell Tower ID for outdoor positioning
- Bluetooth for indoor positioning
- Movement and Impact reports



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Powering on the device and installation

The device has the multi-function button located on the front of the device, a LED light indication located on the front of the device, and a micro USB for charging located on the bottom of the device.

Please note the location of the Power Button, LED Lights, and micro USB



Shipping Mode

After initial programming, the device will enter a low power shipping mode. In this mode the device will perform no operation other than monitor the pushbutton. To exit shipping mode the user must press and hold the pushbutton for at least 5 seconds. After a successful exit from shipping mode the device will only re-enter shipping mode if re-programmed or user pushbutton sequence to re-enter is performed.

LED behavior

The device has a visible multi-colored LED used to provide user feedback about device mode and status.

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Shipping mode:

Button hold	Red LED blink	Red LED solid	Green LED solid	White LED blink	End state
Button < 1 sec	--	3 sec	1 sec (if FW lock enabled)	--	Shipping mode
Button >= 1 sec and Button < 3 sec	1x per sec	3 sec	1 sec (if FW lock enabled)	--	Shipping mode
Button > 3 sec	1x per sec	--	--	5x rapid	Normal operation

Startup from shipping mode: blink blue LED 3 times (exit shipping mode), blink white LED 5 times (application start).

Startup/reset normal: blink blue LED 3 times (bootloader), blink white LED 5 times (application start).

Operation mode: 1 White blink fast during location scan

Cloud sync: see cloud sync behavior

Device cannot connect/constantly resetting: the blue LED will blink 3 times, then there will be a pause, and the blue LED will blink 3 more times. This behavior will continue indefinitely, without the device's white LED blinking. This means that the device has an error. Possible cause is low battery; battery cannot handle the pulse current for LTE-M.

Cloud sync

The cloud sync feature allows the user to force the device to send an uplink and check for any pending mailbox messages. When the cloud sync pushbutton sequence is performed the device will immediately send a diagnostic event count message and check downlink mailbox using the current modes network (SymBLE or LTE-m). If a location update is in progress this will also be sent with the uplink; however, if a GPS is in progress the scan will be stopped due to potential long GPS scan times and the next location type will be started.

The LED is used to indicate to the user the result of the mailbox check:

- 1 - Green LED blink (5s): downlink mailbox check success with mail
- 2 - White LED blink (5s): downlink mailbox check success no mail
- 3 - Red LED blink (5s): downlink mailbox check failed

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Frequently Asked Questions (FAQ)

Question	Answer
How do I power on the device?	Device is powered on by pressing/holding the button for 5 seconds. The LED will blink blue 3 times and white 5 times to indicate it is powered up. If no LED response, then ensure the device is fully charged by connecting the USB to an appropriate power source.
How do I diagnose what is going on with my device?	Most of the device diagnostics can be observed from the LED light on the device.
Can I power down the device?	Devices do not have the ability to be powered off after the initial power on unless the batteries are removed.
Can I change the configuration of the device?	Device configurations can be changed by setting up an AirFinder account at apps.airfinder.com , or submitting a support ticket to https://link-labs.zendesk.com/hc/en-us/requests/new?ticket_form_id=360000334931

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FCC warning message:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Radiation Exposure Statement:

The equipment complies with RF exposure limits set forth for an uncontrolled environment. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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IC warning message:

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

Ce dispositif est conforme à la norme de l'industrie Canada exempts de licence RSS (s). L'opération est soumise aux deux conditions suivantes: (1) Cet appareil ne peut causer d'interférences nuisibles, et (2) cet appareil doit accepter toute interférence reçue, y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.

RF exposure related statements

RF exposure warning: The equipment complies with RF exposure limits set forth for an uncontrolled environment. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Déclarations d'exposition aux RF liées Avertissement d'exposition RF: L'équipement est conforme aux limites d'exposition aux RF établies pour un environnement non contrôlé. L'antenne (s) utilisée pour ce transmetteur ne doit pas être co-localisés ou fonctionnant en conjonction avec une autre antenne ou transmetteur.