

**b-link™**

**Light Stick**

**User Guide**

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## Document Revision History

Revision No.	Date	Description/Changes
V1.0	20/01/2014	Initial Release

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## 1. Introduction

The b-link is used mainly as a RF receiver device in asset tracking system. The system consists b-link™ light stick, a RFID reader and associated software. Each B-Link light stick will be attached with the assets. When a particular asset needs to be fetched then the software will give a command to the reader which in turn communicates with b-link™. After getting the command, the b-link™ light stick identifies the asset and the appropriate asset can be easily retrieved.

## 2. Overview of b-link™ Light Stick

b-link™ light stick is a half feet long, battery operated RF device. It has tri-color LEDs on its both ends. Configuration of parameters in b-link™ light stick can be done wirelessly through a custom software. The device has a non-volatile memory in which the configuration parameters will be stored. So once configured, the parameters will be preserved even after removing the power for the stick.

b-link™ light stick operates with two AA batteries. It operates at 902-928 MHz frequency band. It is an RF Receive only device. It receives the command transmitted by the active RFID reader device. Though it is a receive-only device, its hardware is capable of doing both RF reception as well as transmission. As it is a battery operated device, to conserve power, b-link™ has been designed with periodic sleep-receive cycles.

The Primary colors supported by the LEDs are Red, Blue and Green. But the mixing of these colors at different ratios will give us required color. The other colors supported by b-link™ are white, Orange, Violet. b-link™ light stick has low battery monitoring provision. If the battery voltage goes below 2.25V then it will be considered as low battery. Once the low battery condition occurs, b-link™ light stick will blink in red every 1 second continuously. During this time no other operation of b-link™ will take place.

## 3. Device Specifications

### 3.1. Power Supply Specifications

Parameter	Min	Typ	Max	Unit
DC Supply Voltage		3.0		V
Current rating			30	mA
Battery		AA Type (2 nos.)		

### 3.2. LED Specifications

Feature	Implementation
LED type	RGB
Luminous Intensity (in mcd)	
Green	6000
Red	1800
Blue	750
LED Current consumption (in mA)	
Green	2.1
Red	5
Blue	2.1

### 3.3. RF Antenna Specifications

Parameter	Min	Typ	Max	Unit
Frequency Range	902		928	MHz
Bandwidth		200		KHz
RF Baud Rate	38.4	100	250	Kbps
Programmable RF Attenuation	0dB (Highest Sensitivity)		18dB (Lowest Sensitivity)	
Impedance		50		Ohm

#### ESD CAUTION

ESD (electrostatic discharge) sensitive device. Electrostatic charges as high as 4000V readily accumulate on the human body and test equipment and can discharge without detection. Although this product features proprietary ESD protection circuitry, permanent damage may occur on devices subjected to high energy electrostatic discharges. Therefore, proper ESD precautions are recommended to avoid performance degradation or loss of functionality.



## 4. Ordering Information

Product part Number	Description
BLINK_LS	b-link™ Light Stick in 902 to 928 MHz

## 5. Contact Us

### 5.1. Technical Support

Reindeer Technologies Pvt. Ltd. has built a solid technical support infrastructure so that you can get answers to your questions when you need them.

Our technical support engineers are available Mon-Fri between 9:00 am and 6:30 pm Indian standard time. The best way to reach a technical support engineer is to send an email to [support@reindeersystems.com](mailto:support@reindeersystems.com). E-mail support requests are given priority because we can handle them more efficiently than phone support requests.

### 5.2. Sales Support

Our sales department can be reached via e-mail at [sales@reindeersystems.com](mailto:sales@reindeersystems.com) or by phone at 91-44-45022335/42106907.

Our sales department is available Mon-Fri between 9:00 am and 6:30 pm.

## 6. FCC and IC Declaration

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.

NOTE: 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 when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

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

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

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

This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

énoncé de la FCC (états-Unis seulement) Cet équipement a été testé et jugé conforme aux limites de Classe B pour un appareil numérique, en vertu de l'article 15 de la réglementation de la FCC.

Ces limites ont été instaurées pour

fournir une protection raisonnable contre toute interférence nuisible dans une installation résidentielle. Cet équipement génère, utilise et peut émettre de l'énergie radiofréquence. S'il n'est pas installé et utilisé conformément aux instructions, il peut provoquer des interférences sur les communications radio. Cependant, il n'est pas garanti que des interférences ne se produiront pas dans certaines installations. Si cet équipement cause des interférences à la réception radio outélevisée (ce qui peut être vérifié en éteignant l'appareil puis en le remettant sous tension), l'utilisateur peut tenter de résoudre en suivant une ou plusieurs des mesures ci-après :

Réorienter ou déplacer l'antenne réceptrice.

Augmenter l'espace entre l'appareil et le récepteur. Brancher l'appareil à une prise de courant différente de celle sur laquelle le récepteur est branché. Pour obtenir de l'aide, contacter le vendeur ou un technicien radio/television expérimenté.

REMARQUE: Toute modification non autorisée expressément par le fabricant responsable de la conformité peut annuler le droit de l'utilisateur à faire fonctionner le produit.

## **Reindeer Technologies Pvt Ltd**

*Excellence through Innovation™*

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