

## FYX™ Beacon

### ***Technical Information and Draft Instructions***

**80-B7158-1 Rev. B**

**February 27, 2013**

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## Revision history

Revision	Date	Description
A	February 2013	Initial release
B	February 2013	Included additional regulatory information as requested by the certification agency.

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# 1 FYX Beacon Intended Use

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## 1.1 What is the FYX Beacon?

FYX™ Beacon is a small, Bluetooth low energy identity device which transmits its presence and other data of interest so others (applications or receiver devices) can discover it and acquire the data it has to communicate. In some use cases the Beacon device is worn, attached to, or carried by the tracked entity.

The Beacon periodically wakes up, transmits a signal via short-range radio (Bluetooth LE) and returns to the low-power state. The Beacon has no user interface (UI), cellular or GPS capabilities. The signal includes a “rolling” ID that includes a sub-segment device type.

The rolling ID is intended to prevent anyone from being able to associate the Beacon signal with the specific Beacon transmitting it or what applications or receiver devices received the beacon signal. For that reason, the ID sent by the Beacon over the air on the Bluetooth low energy (BTLE) link changes periodically. Any intruder listening in on the messages should not be able to associate the periodic Beacons with each other or with the actual, permanent activation code (also known as Factory ID) of the Beacon.

Proximate cellular and GPS enabled devices (smartphones, tablets and passive receivers) receive these signals and act according to the use model associated with the device type indicated in the signal.

## 1.2 Important Safety Instructions

- **WARNING - CHOKING HAZARD:** Small parts. Not for children under 3 years.
- This product contains a Lithium Metal battery. To reduce risk of injury, do not disassemble, crush, puncture, short circuit external contacts, expose to temperatures above 100°C (212°F), or dispose of in fire or water.
- If the battery leaks:



- Do not allow the leaking fluid to come in contact with skin or clothing. If contact has already occurred, flush the affected area immediately with clean water and seek medical advice.
- Do not allow the leaking fluid to come in contact with eyes. If contact has already occurred, DO NOT rub; rinse with clean water immediately and seek medical advice.
- Take extra precautions to keep a leaking battery away from fire, as there is a danger of ignition or explosion.
- Vapor generated from burning batteries may irritate eyes, skin and throat. If inhalation occurs, move to a well ventilated area immediately and seek medical advice.

## 2 Using Your FYX Beacon

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### 2.1 Powering On Your FYX Beacon

FYX Beacon contains a lithium ion battery that needs to be activated by opening the device with a coin and pulling out the yellow tab. This turns on the Beacon.

**NOTE:** The battery will need to be periodically replaced.



**Figure 2-1 FYX Beacon**

## 2.1 Activating your FYX Beacon

1. Go to <http://www.getfyx.com> on your desktop/laptop computer, tablet or mobile phone.
2. Click Create Account.
3. Provide first name, last name, password, email address.
4. Receive onscreen notice to confirm account via email address provided.
5. Click **Activate** a FYX Beacon.
6. Name your Beacon and enter the Activation Code which is the combination of letters and numbers on the second line of the label affixed on the inside of the Beacon.



7. Receive onscreen confirmation of successful device activation.
8. Download a FYX-enabled App from applicable mobile application store.
9. Authorize a FYX-enabled App to use the FYX Service using OAuth (accept/deny permissions).
10. Explore the features of a FYX App.

## 3 Troubleshooting Tips

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For troubleshooting tips and Frequently Asked Questions, please visit [www.getfyx.com](http://www.getfyx.com)

# 4 Regulatory Information

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## 4.1 Safety and Wireless Devices

Scientific research on wireless devices and radio frequency (“RF”) energy has been conducted worldwide for many years, and continues. In the United States, the Food and Drug Administration (“FDA”) and the Federal Communications Commission (“FCC”) set policies and procedures for wireless devices. The FDA issued a website publication on health issues related to usage of cell phones where it states, “The scientific community at large believes that the weight of the scientific evidence does not show an association between exposure to RF from cell phones and adverse health outcomes.” Still the scientific community does recommend conducting additional research to address gaps in knowledge. That research is being conducted around the world and the FDA continues to monitor developments in this field. You can access the FDA website at <http://www.fda.gov> (Under “C” in the subject index, select Cell Phones > Research.). You can also contact the FDA toll free at (888) 463-6332 or (888) INFO-FDA. The FCC issued its own website publication stating that “there is no scientific evidence that proves that wireless telephone usage can lead to cancer or other problems, including headaches, dizziness or memory loss.” The publication is available at <http://www.fcc.gov/cgb/cellular.html> or through the FCC at (888) 225-5322 or (888) CALL-FCC. The National Cancer Institute (“NCI”) states that concerns about the potential health effects of using cellular phones – “and specifically the suggestion that using a cell phone may increase a person’s risk of developing brain cancer – are not supported by a growing body of research on the subject.” You can access NCI’s review of the research at <http://www.cancer.gov/aboutnci/ncicancerbulletin/archive/2008/092308/page7>.

### 4.1.1 Can I minimize my RF exposure?

If you are concerned about RF, there are several simple steps you can take to minimize your RF exposure. You can, minimize usage of the device near the body. You can also place more distance between your body and the source of the RF, as the exposure level drops off dramatically with distance.

Wireless devices marketed in the United States are required to meet safety requirements regardless of whether they are used against the head or against the body.

### 4.1.2 Where can I obtain further information?

For further information, see the following additional resources (need to make sure all of these are still operational).

U.S. Food and Drug Administration

FDA Consumer Magazine

November-December, 2000

1-888-INFO-FDA

<http://www.fda.gov>

Under “C” in the subject index, select Cell Phones > Research

American National Standards Institute  
1819 L Street, N.W. Suite 600  
Washington D.C., 20036  
1-202-293-8020

### 4.1.3 Federal Communications Commission (FCC) Information

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

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.

The FYX Beacon has been tested to the limits for a Class B digital device, according to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. The FYX Beacon uses and radiates radio frequency energy and if not installed and used according to instructions, may cause harmful interference to radio communications or be interfered with. There is no guarantee that interference will not occur in a particular installation.

If the FYX Beacon does cause harmful interference to radio or television reception, which can be determined by removing the battery from the FYX Beacon, try to correct the interference by taking one or more of the following actions:

- Increase the distance between the 2net Hub and radio or television receiver
- Consult the dealer where you bought your radio/TV or an experienced radio/TV technician

If the FYX Beacon is being interfered with try to correct the interference by taking the following actions:

- Make sure that the FYX Beacon is no closer than 10 ft (3 m) of a Wi-Fi access point, microwave oven or 2.4 GHz cordless phone.
- Increase the distance between the FYX Beacon and all other electronic equipment by moving the FYX Beacon.

**CAUTION:** The FYX Beacon should not be used in airplanes, hospitals or locations where cellular telephones and other electronic devices are prohibited.

### 4.1.4 Industry of Canada

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 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.

## 4.1.5 Japan, Ministry of Internal Affairs and Communications (MIC) Information

The FYX Beacon has been approved for operation in Japan by the Ministry of Internal Affairs and Communications (MIC). The MIC Type Certification number for the FYX Beacon is 007-XX00000.

## 4.1.6 Taiwan, National Communication Commission (NCC) Information

The FYX Beacon has been approved for operation in Taiwan by the National Communication Commission (NCC). The NCC Type Certification number for the FYX Beacon is CCXXxxYYyyZzW.

### NCC Warning Statement:

低功率電波輻射性電機管理辦法

第十二條經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前項合法通信，指依電信規定作業之無線電信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

在5.25G ~5.35G頻帶內操作之無線資訊傳輸設備僅適於室內使用

(b) For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

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 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 or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Consult the dealer or an experienced radio/TV technician for help.

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.