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Digital Broadcasting Device

Technical Documentation

Version 2.0

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Model	Description
D52/BC	White casing, CE, FCC, IC certified module, includes 1pc 210mAh CR2477 coin battery, RoHS

The Digital Broadcasting Device D52/BC is a modern iBeacon with ARM core chipset nRF52832 and leverage BLE 4.0 technology; it has a cone shape case, accurate hardware and robust firmware. It is designed for the commercial advertising and indoor location-based service.

The Digital Broadcasting Device broadcasts 2.4GHz radio signals at regular and adjustable intervals. The Digital Broadcasting Device can be heard and interpreted by iOS and Android BLE-enabled devices that are equipped with many mobile apps.

1 FEATURES

- Programmed standard firmware
- Included 1pc 210mAh coin battery
- The max. 100 meters advertising distance
- Ultra-low power consumption chipset nRF52832 with ARM core
- Easy to print the logo on the center of top case;



D52 Digital Broadcasting Device



BC Digital Broadcasting Device

2 SPECIFICATION

Compatibility

- Supported iOS 7.0+ and Android 4.3+ system;
- Compatible with Apple iBeacon™ standard;
- Compatible with all Bluetooth 4.0 (BLE) devices;

Long Battery Lifetime and Battery Level

- 30 months, with the default settings;
- Easy to get the real-time battery level notification;

Soft-reboot

- Reboot the device via command without any tools;

OTA and J-Link

- Supported upgrade via Over-The-Air;
- Reserved J-Link port on the board for programming;

Connection Mode

- Advertising mode, non-connectable;
- Configuration mode, connectable;

Configurable Parameters

- UUID, Major, Minor, Device Name, Password etc.
- Special Configuration APP;

Transmission Power Levels

- 8 adjustable levels, range from 0 to 7 -Transmission power range: -30dBm to +4dBm;

Long Range

- The max. Range 100 meters in the open space;
- The range depends on the physical environment;

Security

- 8 characters password (Lock/Unlock parameters);
- Broadcast the encrypted data if needed;
- AES HW encryption

Mounting

- 3M branded adhesive for direct mounting to wall;

3 CONFIGURABLE PARAMETERS

Characteristic	Item	Default Settings
0xFFFF1	UUID	d3 cb d6 cd - b4 15 - 41 95 - 9d a6 - 98 4b b0 1f xx xx
0xFFFF2	Major	0
0xFFFF3	Minor	0
0xFFFF4	Measured Power	-61
0xFFFF5	Transmission Power	6 (0dBm)
0xFFFF6	Change Password	minew123 (Must be 8 characters)
0xFFFF7	Broadcasting Interval	19(1900mS)
0xFFFF8	Serial ID	Random (Unique serial ID for beacon)
0xFFFF9	iBeacon Name	MiniBeacon_ (the maximum 14 characters)
0xFFFFE	Connection Mode	0 (connectable, configuration mode)
0xFFFFF	Soft Reboot	minew123 (it is same as the value of Change Password)

4 ELECTRONIC PARAMETERS

Item	Value	Remarks
Case Color	white	
Battery Model	1 x CR2032	1pc CR2032 coin battery, 210mAh, 3.0V
Operation Voltage	1.8-3.6V	DC
Transmission Circuit	10.5mA (Max.)	Tested at 0dBm transmission power
Transmission Range	100 meters	Maximum
Antenna	50ohm	On board / PCB Antenna
Accessories	Double adhesive	1pc, high-strength, 3M brand;
Net Weight	7.0g	With battery
Size	Ø30 x 8 mm	Null

5 APPENDIX

1. J-LINK Programmer Kit;
2. Over-the-Air Function;

6 DECLARATION

The contents of this datasheet are subject to change without prior notice for further improvement. Life Fitness reserves the right to explain all the terms of this datasheet. **<END>**

7 FCC STATEMENT

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.

FCC STATEMENT (Con't)

This equipment generates uses and can radiate radio frequency energy and, if no installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will 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 use 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 the 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.

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.

Changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment. The device can be used in portable exposure condition without restriction.

English :

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 interference, including interference that may cause undesired operation of the device.

French:

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 radio électrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.