

VERSION 1.0

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# HOW TO CONFIGURE UFO BEACONS

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## PRE-REQUISITES

1. UFO Beacons programmed as iBeacon or Eddystone
2. Android or iOS phone with BLE support
3. UFO Beacon App installed on the mobile device

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## IBEACON CONFIGURATION USING ANDROID APP

The UFO Beacon app allows you to perform following actions on an iBeacon –

1. Scan all UFO beacons around
2. Classify the scanned beacons as Immediate, Near, Far
3. Monitor the battery voltage
4. Monitor the ambient temperature
5. View the RSSI
6. View the MAC ID
7. Read/Write UUID
8. Read/Write Major
9. Read/Write Minor
10. Read/Write Advertising Interval
11. Read/Write TxPower
12. Approximate distance of the beacon from the mobile device

### SCAN ALL THE BEACONS

1. Launch the UFO Beacon App



2. The app automatically starts scanning for UFO beacons.
3. You can stop the scan by touching the "STOP SCAN" button on the top right corner of the screen
4. You can again start the scan by touching the "START SCAN" button on the bottom of the screen



5. The scan results show the following information for each beacon



- a. MAC ID
- b. Major
- c. Minor
- d. UUID
- e. Tx Power
- f. RSSI
- g. Timestamp when that particular scan result was Last Updated
- h. HEX dump of the advertising interval and scan response

6. Once you tap on a particular scan result, you are taken to the beacon detail screen

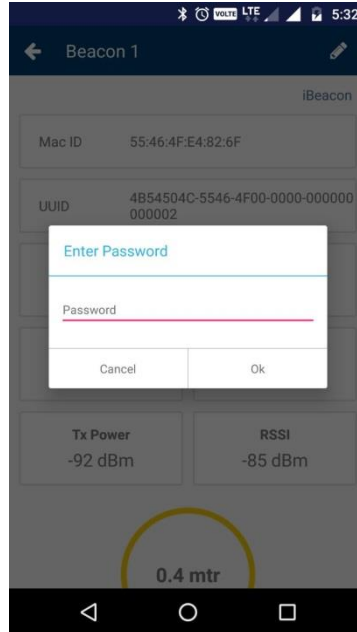


This screen shows the following values

- 1. MAC ID
- 2. UUID
- 3. Major
- 4. Minor
- 5. Battery Voltage
- 6. Temperature
- 7. Tx Power
- 8. RSSI
- 9. Distance

**CONFIGURE THE BEACON**

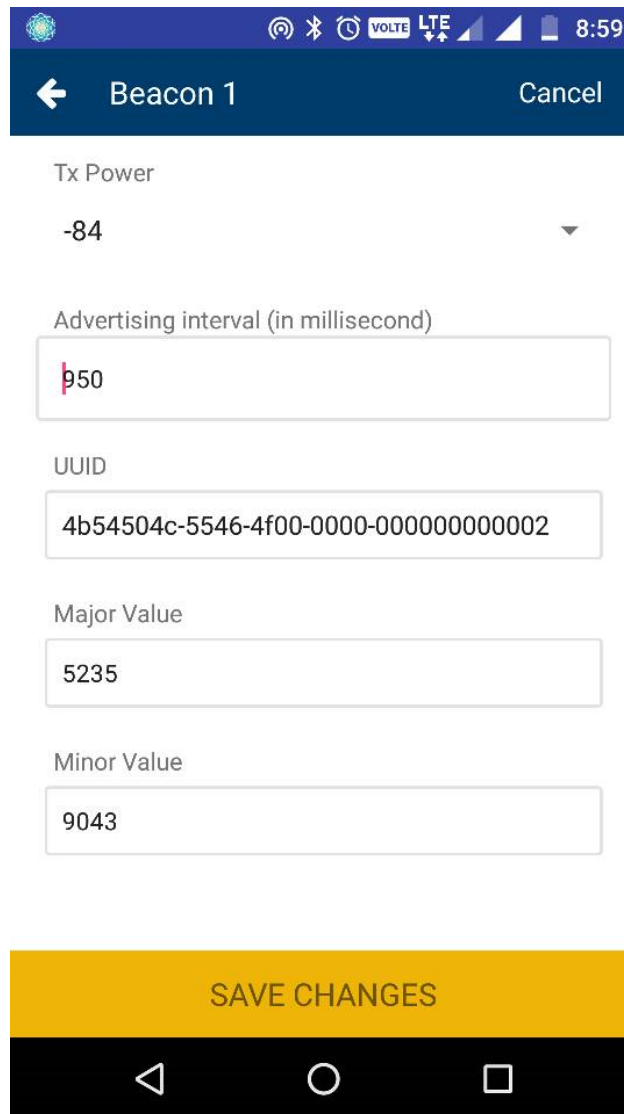
1. From the Beacon Details screen, click the Edit button on the top right corner of the screen
2. You will be prompted to enter the password, enter the default password “55464F2016” and hit OK



3. After the password is validated, you will be taken to the Beacon Configuration screen. From this screen you can edit the following values

**TXPOWER** – Refer the below table for Tx Power Level

Power Level	RSSI At 1 meter	Corresponding value in DBm
1	-92	-18
2	-84	-12
3	-72	-6
4	-68	-3
5	-67	-2
6	-66	-1
7	-65	0
8	-60	3



**ADVERTISING INTERVAL** –can be set to any value between 100 to 1000ms

**UUID** – 16 byte unique identifier

**MAJOR** – 2 byte identifier

**MINOR** – 2 byte identifier

You can change one or more of the above values as required and finally hit “SAVECHANGES”

Once the changes are successfully saved to the device, you will be redirected to the Scan Results screen

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## EDDYSTONE BEACON CONFIGURATION USING ANDROID APP

The UFO Beacon app allows you to perform following actions on an Eddystone beacon –

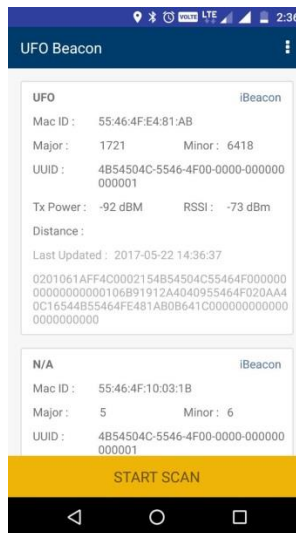
1. Scan all UFO beacons around
2. Classify the scanned beacons as Immediate, Near, Far
3. Monitor the battery voltage
4. Monitor the ambient temperature
5. View the RSSI
6. View the MAC ID
7. Read/Write Namespace
8. Read/Write UID
9. Read/Write URL
10. Read/Write Advertising Interval
11. Read/Write TxPower
12. View the Packet Data Count
13. View the boot time
14. Approximate distance of the beacon from the mobile device
15. Configure beacons to work in one of the following modes
  - a. UID
  - b. URL
  - c. TLM
  - d. UID + TLM
  - e. URL + TLM
  - f. UID + URL + TLM

### SCAN ALL THE BEACONS

1. Launch the UFO Beacon App



2. The app automatically starts scanning for UFO beacons.
3. You can stop the scan by touching the "STOP SCAN" button on the top right corner of the screen
4. You can again start the scan by touching the "START SCAN" button on the bottom of the screen



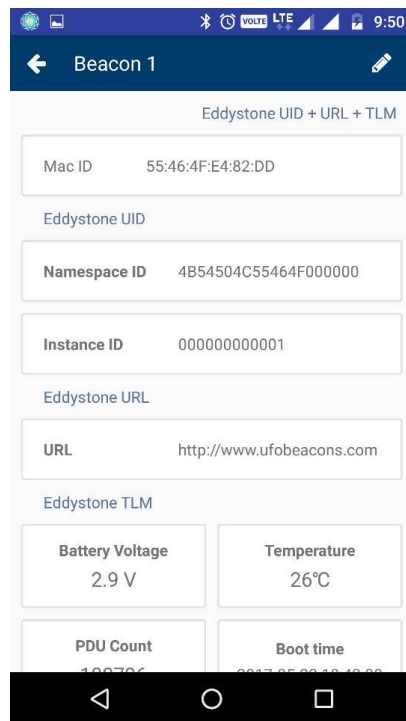


5. The scan results show the following information for each Eddystone beacon based on whether it is UID, URL, TLM or a combination format



- a. MAC ID
- b. Namespace ID
- c. Instance ID
- d. Eddystone URL
- e. Battery Voltage
- f. Temperature
- g. PDU Count
- h. Boot Time
- i. Immediate, Near, Far indicator
- j. Tx Power
- k. RSSI
- l. Timestamp when that particular scan result was Last Updated
- m. HEX dump of the advertising interval and scan response

6. Once you tap on a particular scan result, you are taken to the beacon detail screen



This screen shows the following values

- MAC ID
- Namespace ID
- Instance ID
- Eddystone URL
- Battery Voltage
- Temperature
- PDU Count
- Boot Time
- Tx Power
- RSSI
- Distance in meters

**CONFIGURE THE BEACON**

4. From the Beacon Details screen, click the Edit button on the top right corner of the screen
5. You will be taken to the Beacon Configuration screen. From this screen you can edit the following values ( as applicable)

**TXPOWER** – Refer the below table for Tx Power Level

Power Level	DBm	RSSI at 1 meter
TX_POWER_MODE_HIGH	+3	-62
TX_POWER_MODE_MEDIUM	0	-65
TX_POWER_MODE_LOW	-6	-74
TX_POWER_MODE_LOWEST	-18	-92

**ADVERTISING INTERVAL** – can be set to any value between 100 to 1000ms

**NAMESPACE ID** – 10 byte unique identifier

**INSTANCE ID** – 6 byte identifier

**EDDYSTONE URL** – 17 BYTE URL

**BEACON TYPE** - UID or URL or TLM or UID + TLM or URL + TLM or UID + URL + TLM

6. You can change one or more of the above values as required and finally hit “SAVE CHANGES”
7. Once the changes are successfully saved to the device, you will be redirected to the Scan Results screen