SensingKit: Evaluating the Sensor **Power Consumption in iOS devices**

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- A continuous sensing framework for Android and iOS platforms.
- Supports most sensors available in a ٠ mobile device.
- Power efficient proximity tracking using ٠ Bluetooth Smart (BLE).
- Easily extensible using a modular design.
- Available in open-source under the GNU ٠ LGPL v3.0.
- For more info, check www.sensingkit.org.

SensingKit







Sensor power consumption evaluation

- Evaluated seven sensors separately using CrowdSence App.
- Motion and Orientation sensors at 100Hz.
- Location sensor using 'Best Accuracy' configuration.
- Microphone sensor at 44100.0Hz.
- iBeacon™ sensor in 'Broadcast', 'Scan', and 'Scan & Broadcast' mode (1Hz).

●●○○○ EE WiFiCall 🗢	19:57	1 🛡 💲 16% 🌅
About	CrowdSense	Edit
Motion & Proxin 09/02/2016, 08:54:56	nity Recording	>
Proximity 2 21/01/2016, 11:38:55		>
Dist Exp 02/12/2015, 11:04:02		>
Experiment 25/11/2015, 12:21:59		>
Audio Recordine 25/11/2015, 12:20:33	9	>
New Recording 25/11/2015, 12:17:01		>
Calibrate 25/11/2015, 12:15:09		>
		New Recording

Setup Sensor Setup	7 0 3 15%
Accelerometer	Off >
Gyroscope	Off >
Magnetometer	Off >
Device Motion	Off >
Motion Activity	Off >
Pedometer	Off >
Altimeter	Off >
Location	Off >
iBeacon™ Proximity	Off >
Eddystone™ Proximity	Off >
Battery	Off >
Microphone	Off >







Results and conclusion

- iBeacon[™] Broadcast recording was close to the 'idle' configuration, while modes 'Scan' vs. 'Scan & Broadcast' performed equally.
- Results suggest that power consumption of iBeacon[™] sensor in broadcasting mode has almost no effect on the device's battery.
- Location sensor is very expensive, close to the Device Motion sensor.



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CIS centre for intelligent sensing

