



# The myth of the "high capacity" batteries

There are plenty of answers regarding the capacity of Gold High Capacity Batteries. I feel that it is time iFixit takes a good look at those as well.

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## INTRODUCTION

iFixit seems to be the place people turn to for answers. It might be worthwhile to post a test regarding the "Gold High Capacity Batteries". For this test Apple iPhone 5 batteries were used because they were needed for replacement work anyway and would not be wasted to be used for only this test.

The Batteries are offered on multiple outlets like Ebay.com, Amazon.com and various other online stores. The prices for those batteries are usually 50% higher than for a regular battery. That by itself would not be bad, if those batteries truly have higher capacity storage.

## TOOLS:

- [K9201 Fast Battery Charger Activation Circuit Tester \(1\)](#)
- [EBD Constant Current Electronic Load 3A 20W 12v battery capacity tester \(1\)](#)
- [6x8cm Double Side Prototype Board \(1\)](#)
- [Battery Connector Apple iPhone 5 \(1\)](#)
- [EB Tester software V1.8.5 \(1\)](#)
- [Pocket Digital Jewelry Scale \(1\)](#)
- [150mm Vernier caliper \(1\)](#)

## Step 1 — The myth of the "high capacity" batteries



- Here is the side-by-side of a Gold High Capacity and a standard run-of-the-mill iPhone 5 battery
- Checking the weight for the Gold battery it was at 0.830oz
- The standard battery weight 0.848oz.

## Step 2



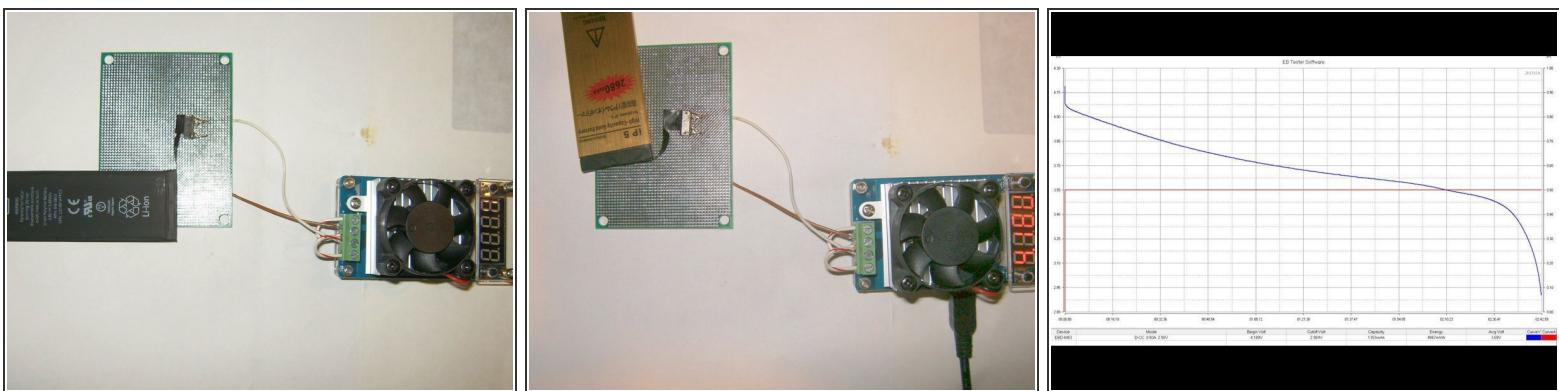
- Width of the Gold Battery is 32.01 mm vs. 31.5 mm for the standard battery
- Length of the Gold Battery is 91.72 mm vs. 90.30 mm for the standard battery
- Thickness of the Gold Battery is 3.86 mm vs. 4.04 mm for the standard battery.
- Expectation was that the Gold Battery would show difference in physical attributes that would be significant to its claimed increased capacity, which it did not

## Step 3



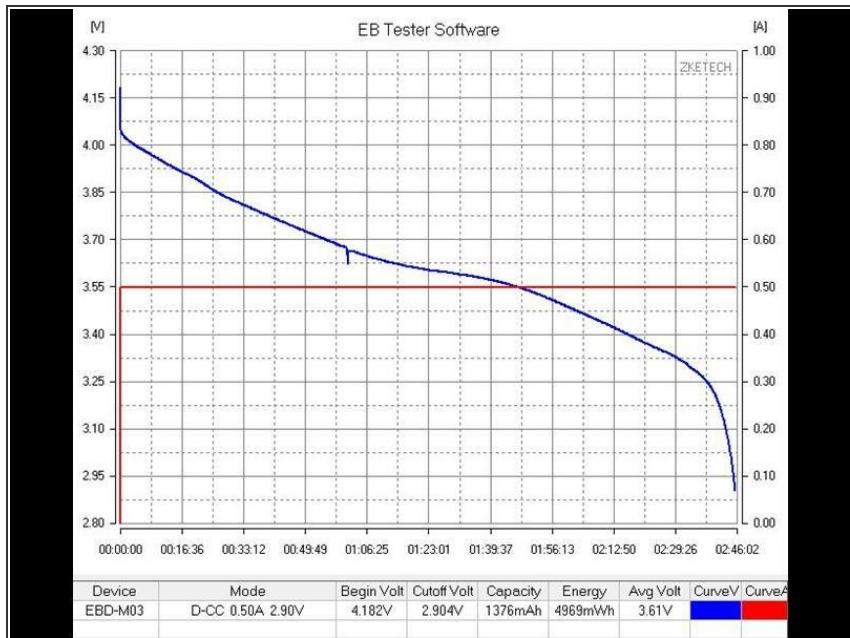
- Gold Battery is fully charged at 4.85 V on an K9201 Fast Battery Charger Activation Circuit Tester
- Standard battery is fully charged at 4.85 V on an K9201 Fast Battery Charger Activation Circuit Tester
- For this test a battery connector was simply soldered to a prototype board and wires were soldered to the positive and negative connectors on the board.

## Step 4



- The prototype board was then connected to the EBD Constant Current Electronic Load capacity tester. Shown here with the standard battery connected
- Same connection is made with the Gold Battery (test in progress)
- Here is the result for the standard battery

## Step 5



- Here is the result for the Gold Battery.
- Here is the synapse of the test results Standard Battery Title:EB Tester Software Mode:D-CC (Constant Current Discharging) 0.50A 2.90V Begin Volt:4.189V Cutoff Volt:2.904V Capacity:1353mAh Energy:4987mWh Avg Volt:3.69V Total time to reach the cutoff voltage of 2.9V was 2:42:44hours
- Gold battery. Title:EB Tester Software Mode:D-CC (Constant Current Discharging) 0.50A 2.90V Begin Volt:4.182V Cutoff Volt:2.904V Capacity:1376mAh Energy:4969mWh Avg Volt:3.61V Total time to reach the cutoff voltage of 2.9V was 2:45:33hours

Looking at the results from this test it clearly shows the Gold battery has a capacity of only 1376mAH. This is 49% less than advertised on the battery as well as the websites where these batteries are sold.

This test showed that while the Gold High Capacity Battery did not have a higher capacity, it is not any worth than the standard battery. So it would be okay to purchase these batteries if the buyer would want a standard capacity replacement battery for a higher price.

'Buyers Beware!'