Phone Battery Scan Duration Case Study

Test Report: Compact C210

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About Polyga

Polyga is a developer of 3D scanners and mesh processing software based in Vancouver, Canada. We have more than 10 years of experience building structured light 3D scanners and software that meet complex 3D imaging requirements. Our line of 3D scanners are a trusted brand of 3D imaging solutions used worldwide for a variety of industrial applications.

Products & Technology

All Polyga 3D scanners use structured-light technology for capturing high-resolution digital 3D scans from real world objects. These systems are great for companies, manufacturers, academic institutions, visual effect studios, and research labs that need 3D scan data for visualization and measurement applications including:

- 3D modeling
- documentation/archiving
- reverse engineering
- scientific measurement
- computer-aided inspection
- rapid prototyping/3D printing

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Scanning Overview

Scanners:

Compact C210

Introduction:

The purpose of this sample test is to demonstrate the capability of the Compact C210 in detecting small defections on cell phone batteries and encasements and to quantify the amount of time it takes to obtain the scan data.

Scan Processing Results:

The battery used for the test shown below was taken from a standard Samsung device. Notice the small creases on the surface. For the first configuration, the battery was placed on a manual rotary table along with modeling clay at various places to map the symmetry as the battery is rotated. The battery was then scanned using one of our C210 sensors with HDR enabled.

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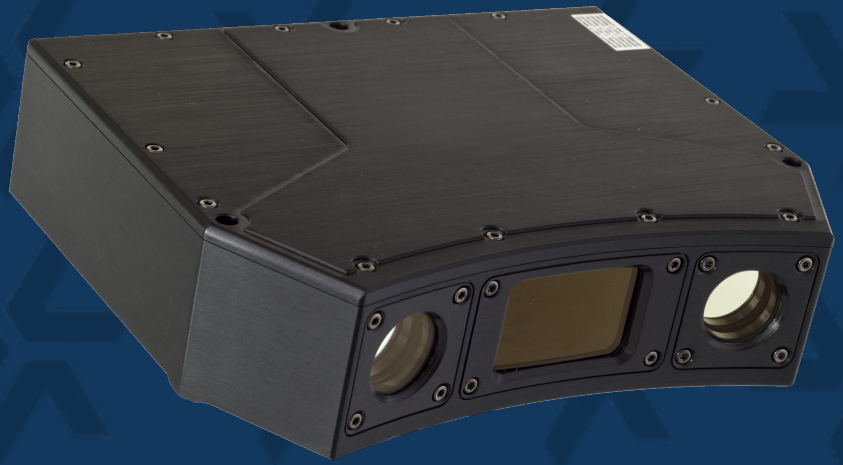
Equipment Used



Compact C210

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Scan Results

First Configuration

The battery used for the test shown below was taken from a standard Samsung device. Notice the small creases on the surface. For the first configuration, the battery was placed on a manual rotary table along with modeling clay at various places to map the symmetry as the battery is rotated. The battery was then scanned using one of our C210 sensors with HDR enabled.

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Scan Results

Second Configuration

For the second configuration, HDR was disabled. Instead the scans were done using a fixed exposure setting. Also to increase efficiency, the Accelerator option in Flexscan3D was enabled.

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Scan Results

Second Configuration

Shown above is a single scan of the battery surface. The scan was taken using the HDR setting in Flexscan3D to increase the range of exposure. The creases and malformations were easily detected in a single scan. Though using the HDR setting can improve the scan quality, it can also increase the processing time. The processing time for the HDR scans was around 5-6 seconds. Below is the same scan but with the modeling markers included.

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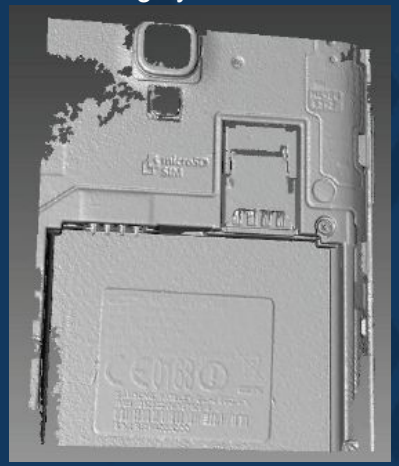
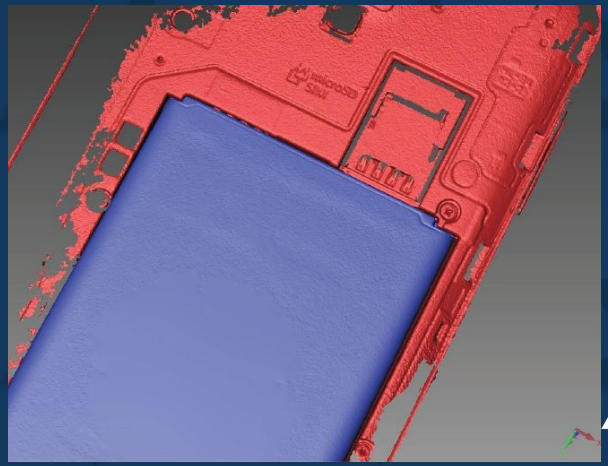
Scan Results

Third Configuration

The above scan was taken using a fixed exposure setting. The scan was obtained by scanning the battery and case individually and aligning them all within Flexscan3D. The screenshots below demonstrate the scans individually. By enabling the Accelerator option in Flexscan3D, we are choosing to process the scans in a virtual machine on the host computer instead of on the scanner itself. The result is an overall decrease in processing time. The average scan-to-mesh duration with the Accelerator enabled drops down to roughly 1.5 seconds.





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Contact

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