

Samsung Charge vs. HTC Thunderbolt Which Device Performs Best on Verizon's LTE Network?

As Verizon expands their LTE presence across the country, they are similarly expanding the portfolio of smartphones that are capable of utilizing LTE services. This test compares how the Samsung Charge and the HTC Thunderbolt, both devices in Verizon's portfolio, perform on Verizon's LTE network. We conducted hundreds of call, data and text tests throughout the Seattle area to better understand the differences in network service between the two devices.

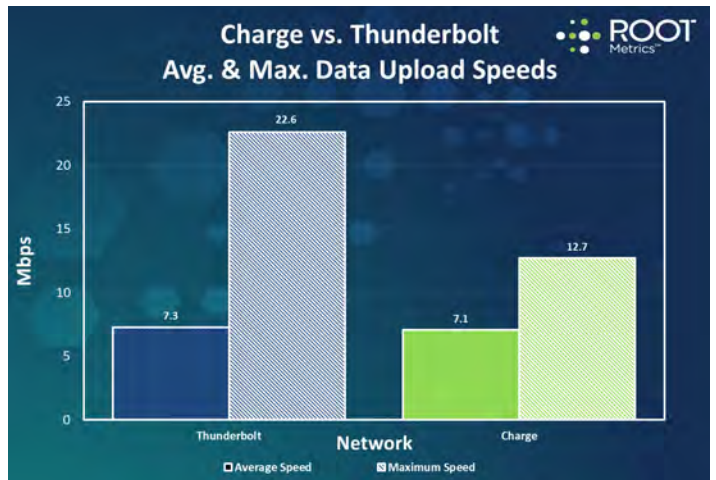
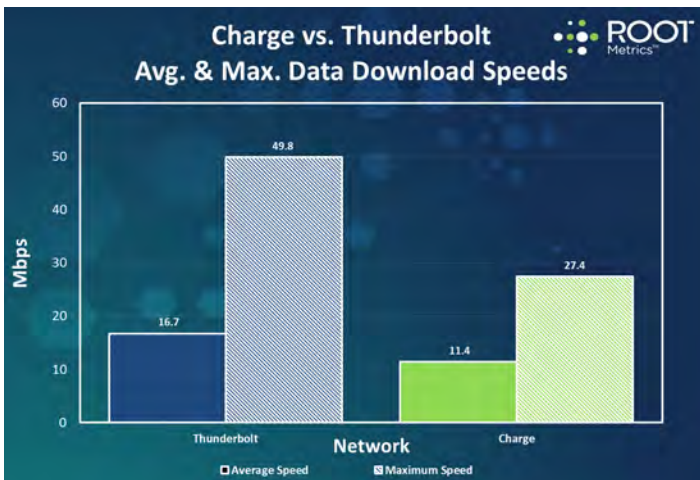
Data Speed

Advantage: Thunderbolt

During our tests, the Thunderbolt delivered download data speeds faster than the Charge nearly 80% of the time. We recorded average download speeds of 16.7 Mbps on the Thunderbolt and 11.4 Mbps on the Charge. When reviewing maximum speeds measured, we found that the Thunderbolt's maximum download speed measured 49.8 Mbps and the Charge's maximum download speed measured 27.4 Mbps. The Thunderbolt's maximum speed was the fastest download speed ever measured by RootMetrics.

While the Thunderbolt edged the Charge in download speeds, average upload speeds were nearly the same across both devices. The Thunderbolt delivered an average upload speed of 7.3 Mbps and the Charge delivered an average speed of 7.1 Mbps during our tests. A review of maximum upload speeds demonstrated a more significant difference between the two devices. The maximum upload speed measured on the Thunderbolt was 22.6 Mbps and was 12.7 Mbps on the Charge.

While the Thunderbolt delivered faster data speeds during our test than the Charge, it's important to compare these speeds in relation to other devices and networks available. RootMetrics has conducted thousands of data speed tests across the U.S. using various devices on different carrier networks and both the Thunderbolt and Charge have delivered speeds much faster than what we have seen on Sprint's WiMAX, T-Mobile's HSPA+ or AT&T's HSPA+ networks to date. So far, we have seen LTE download speeds that are between two to three times faster than the next fastest data network and upload speeds that are over four to six times faster.



Samsung Charge vs. HTC Thunderbolt Which Device Performs Best on Verizon's LTE Network?

Data Reliability

Advantage: Draw

Receiving fast data speeds is important, but it is also crucial that a carrier's data network is accessible when needed. During all of the data tests conducted, we experienced no data access failures with either the Thunderbolt or the Charge.

Battery Life

Advantage: Charge

We conducted a series of tests to determine how quickly battery power was used on each device. We found that both phones utilize a significant amount of battery life within three hours of extreme use, but that the Charge drains battery power more slowly. At the end of a three hour test, the Thunderbolt's battery level was only 15% while the Charge's battery level was 47%.

Battery Level

Device	Start	Hour 1	Hour 2	Hour 3
Thunderbolt	100%	68%	41%	15%
Charge	100%	84%	66%	47%

Discharge Rates (*lower is better*)

Device	Start	Hour 1	Hour 2	Hour 3
Thunderbolt	0%	32%	27%	26%
Charge	0%	16%	18%	19%

Call Accessibility

Advantage: Draw

We tested each device's capability to access and to retain a call on Verizon's network. We found that both devices experienced zero dropped calls and zero blocked calls during the test period.

Text Delivery

Advantage: Charge

We conducted a series of tests to determine how long it takes to send or receive a text message (SMS) from each device. We found that when using the Charge, the median delivery time of a text message was 11.7 seconds. With the Thunderbolt, text messages were delivered twice as slow, recording a median delivery time of 23.8 seconds.

Summary

Both the Thunderbolt and the Charge perform well in many areas of our tests, so there is no clear leader in overall performance. As with any purchase decision, when consumers consider which wireless device or service to select, how (call, data text) and where they use the device will dictate which device and carrier combination is right for them. Therefore, it's important to research each carrier's performance based on your location. Use RootMetrics Coverage Maps available at www.rootmetrics.com or via the Cell Phone Coverage Map app available for [Android](#) and [iPhone](#) to find out which carrier is right for you.

Samsung Charge vs. HTC Thunderbolt

Which Device Performs Best on Verizon's LTE Network?

Measure	Thunderbolt		Charge
Blocked Calls	0%	↔	0%
Dropped Calls	0%	↔	0%
Avg. Download Speed (Mbps)	16.7	←	11.4
Max Download Speed (Mbps)	49.8	←	27.4
Avg. Upload Speed (Mbps)	7.3	↔	7.1
Max Upload Speed (Mbps)	22.6	←	12.7
Battery Level (after 3 hours)	15%	→	47%
Battery Discharge (after 3 hours)	26%	→	19%
Median Text Delivery (seconds)	23.8	→	11.7

Methodology

RootMetrics provides an assessment of mobile performance that reflects consumer experience through the distribution of RootScore Reports. To evaluate the Charge and the Thunderbolt devices we performed a limited test that included hundreds of call, data and text tests during the course of one day throughout areas of the Seattle metropolitan area. Tests were conducted using our RootScout app running from off-the-shelf Android-based consumer smartphones without external antennas or other non-standard equipment. The tests centered on activities that consumers perform most often: making phone calls, uploading and downloading files from the internet, and sending and receiving text messages (SMS).

Samsung Charge vs. HTC Thunderbolt Which Device Performs Best on Verizon's LTE Network?

About RootMetrics™

Bellevue, Washington-based RootMetrics is building a movement to create a more open mobile market that democratizes mobile performance data. Deploying sophisticated smartphone applications, RootMetrics collects data in U.S. markets and partners with consumers to collect network signal strength and data throughput speeds. Root aggregates these metrics into easy-to-understand maps that rate each carrier's performance based on how consumers experience their networks. This never before available comparative data provides transparency into carrier performance down to the most granular levels. RootMetrics is the only independent, single source of this comparative data. For more information, please visit www.rootmetrics.com. Want to see how your network measures up at your location? Download the Coverage Map app to test your network often to find out and to help us in our efforts to provide transparency into mobile performance data.

Any use of the information contained in this report must be accompanied by a statement identifying RootMetrics™ as the publisher. Results are based on testing conducted in June, 2011. Wireless network performance is subject to a number of factors which may vary over time. Individual experience may vary. No advertising or other promotional or commercial use can be made of the information contained in this report without the express prior consent of RootMetrics.