

Acer Z510 Liquid Breakdown

An Exploration into the Electronics World

Over 62% of the world's population own mobile phones as of 2020 [1]. They are constantly texting, playing games, calling, and checking emails. People certainly seem to be knowledgeable on how to use a phone, however do they know how one works? My teammate and I decided to take apart a Acer Liquid Z510 phone and research the components inside because it can do all those different things, for example, track your GPS location, connect to the internet, take pictures, and play music. It almost seems like magic how your tiny little phone comes to life by adding some electricity to it.

In the Acer Liquid Z510 phone we found many different parts. We found MT6732V, AP6690, MT6163N, MT6325V, MT6625LN, battery, and camera. The MT6732V, AP6690, MT6163N, MT6325V, MT6625LN are all made by Mediatek. The AP6690 is made by Airoha. The battery and camera are made by Acer.

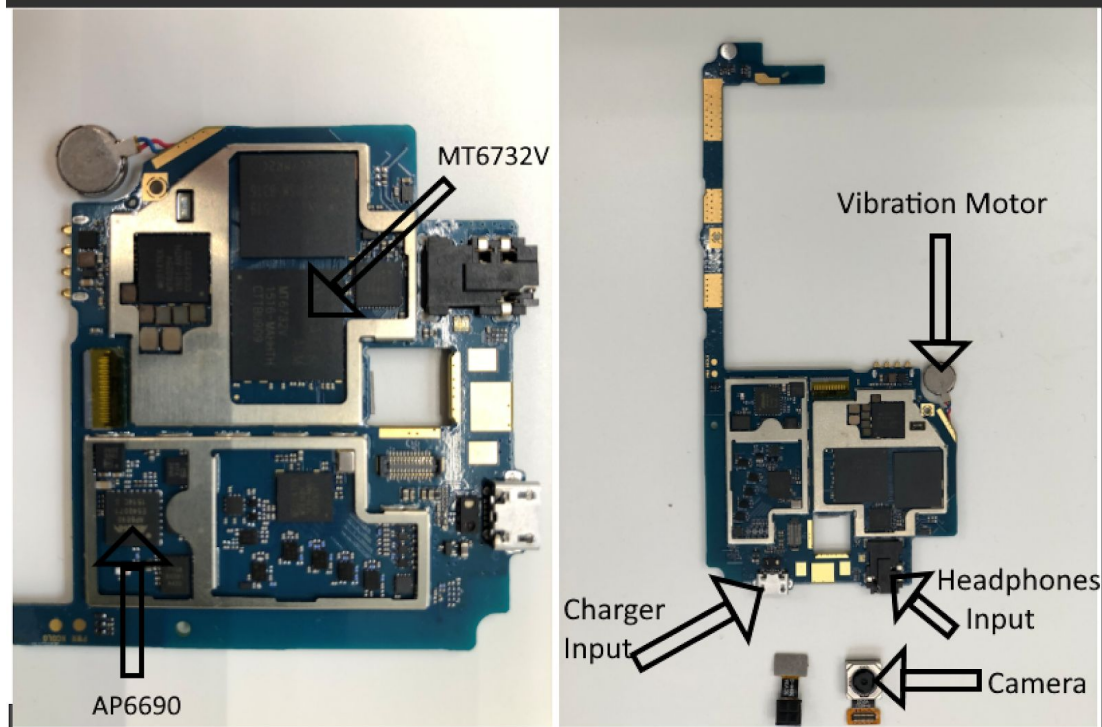
These are some images of the Acer Liquid Z510 that we broke down:



Picture 1: This is a full breakdown of the phone.



Picture 2: This is a picture of the back face (left one) and the back of the screen (right one)



Picture 3: These are the chips and components on the printed circuit board inside the phone.

It is crucial to apprehend what all the chips do and how they function.

- The MT6732 is a 64-bit quad-core 4G LTE platform. Designed for the 'super-mid' market, MT6732 delivers high-end performance with low power consumption and efficient compatibility for legacy 32-bit applications. MT6732 also features a 13-megapixel image signal-processor for high-quality smartphone camera applications and Ultra HD video playback.
- The AP6690 is a quad band, which makes the phone compatible with all the major GSM (Global System for mobile communications) networks in the world, and it can connect to 2 wifi networks at the same time.
- The MT6163N is a chip for bluetooth that can connect to another wireless device, controlling that other device using a phone/remote.
- The MT6325V is a Power Management IC (PMIC). A PMIC is a unit that handles battery management and charging functions. It usually includes a DC/DC converter that converts the direct current (DC) source to a different voltage level. A PMIC can usually be found in battery operated devices like mobile phones to reduce the size.
- The MT6625LN has a bluetooth/radio transceiver and has a GPS and FM receiver inside, which allows you to find out how to get to places or listen to music.

It was very interesting to see all the parts that make the phone come to life and research about them. Some of the knowledge we learned were: The chips in the phone are what makes it able to connect to the internet, find out how to get to where you need to go, and how phones are put together. Everything these days is always changing, computers are getting increasingly smaller in size while becoming more advanced. Smartphones are getting more and more features, like face and fingerprint ID and Augmented Reality (AR). However, one thing that wont change is everyone's love of technology and how it will keep improving everyone's lives.

Authors:

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Sources:

[1]How Many Smartphones Are In The World:

<https://www.bankmycell.com/blog/how-many-phones-are-in-the-world>