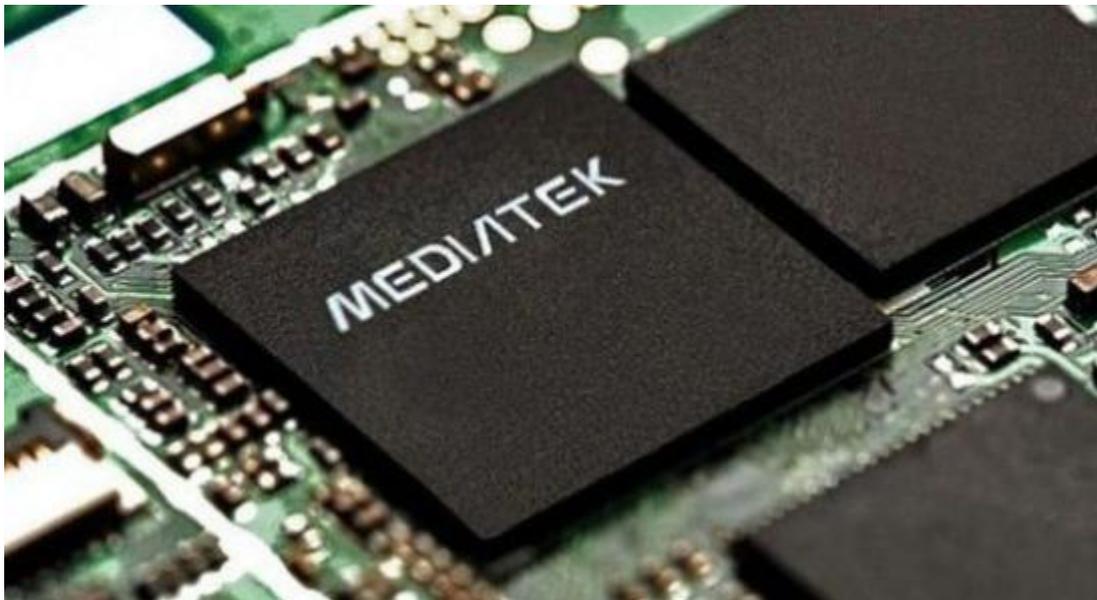


[Case Study] Mobile Forensics: How to Extract Data from Locked Devices Powered by MediaTek

Editor's note: Digital forensic investigators usually get headaches when they have smartphones locked by password, or even worse, phones cannot power up due to physical damages. When you run into a situation like this, what are your options?

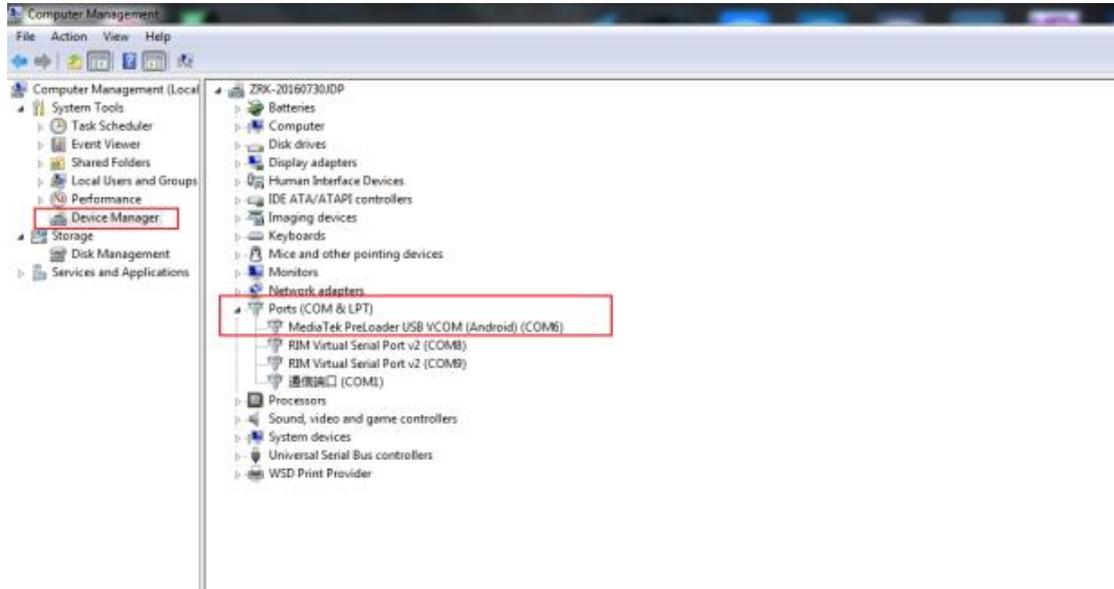
Earlier we issued an article on our blog introducing a solution to physically extract evidentiary data from smartphones equipped with Qualcomm chipsets. It is realized by making use of a reserved test port to extract the physical image directly from a phone's memory chip. This method is an effective and efficient solution for smartphones locked by password or with physical damages. But here is the question, does this work only for Qualcomm chipsets? Of course not!

MediaTek is one of the world's leading systems-on-chip designer for mobile devices who holds one of the biggest shares of the smartphone chipsets market in the world. According to statistical data, Qualcomm and MediaTek combined took up almost 80% of the Android smartphone chipsets market in 2017. Smartphones with MediaTek chipsets also have a test port called the MTK pre-loader similar to Qualcomm, and can also be used for physical data extraction.

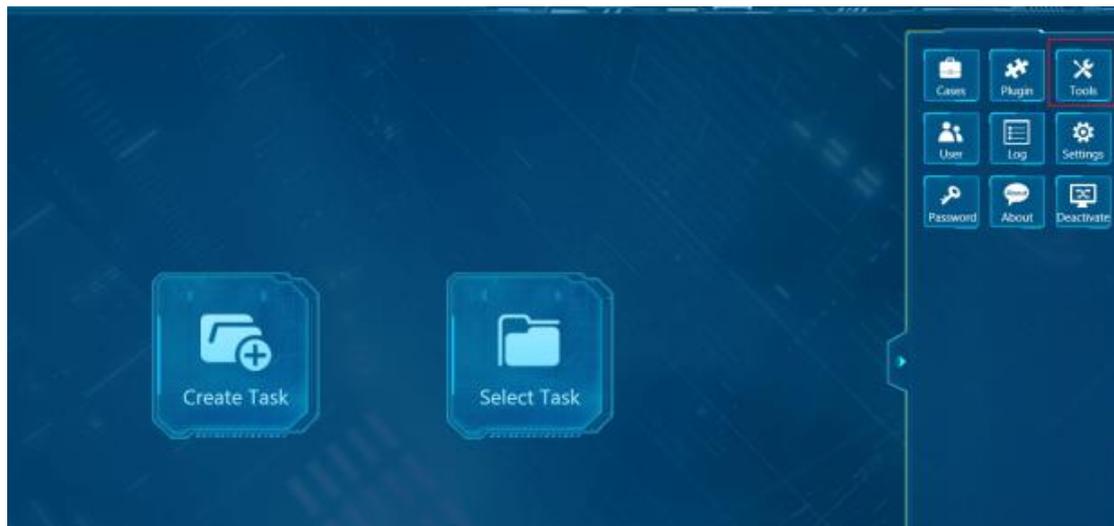


Now let's see how to utilize the tool integrated with SPF to physically extract forensic images from smartphones equipped with MTK chipsets.

Step 1. The first step is always driver setup. In order for the test port: MTK pre-loader to be recognized by the operating system, the port driver must be installed in the first place. MTK USB driver can be found online.



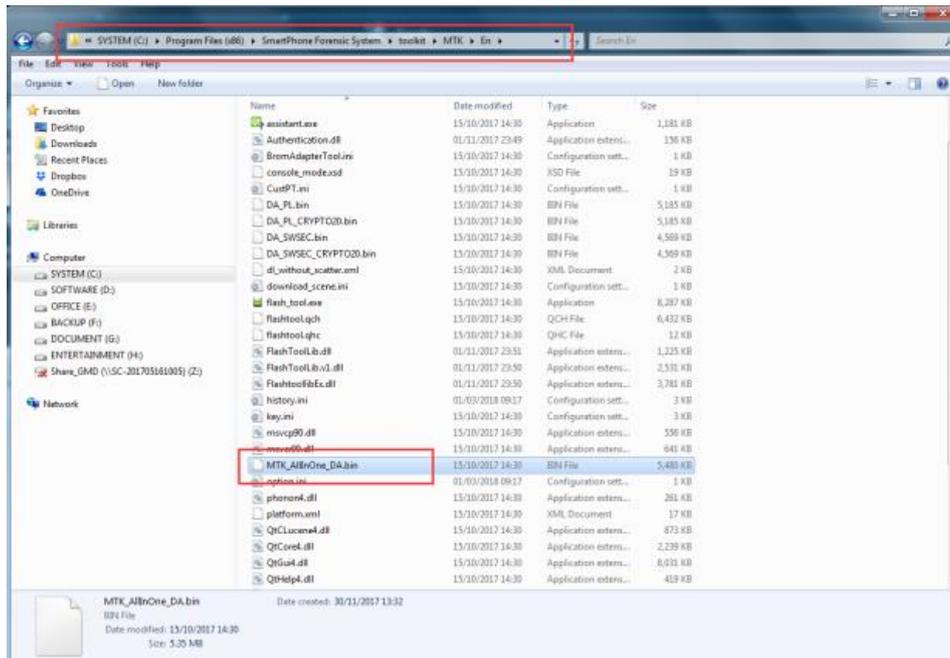
Step 2. Open SPF (SmartPhone Forensic System) and select "Tools".



Step 3. Select "MTK SmartPhone Flash".

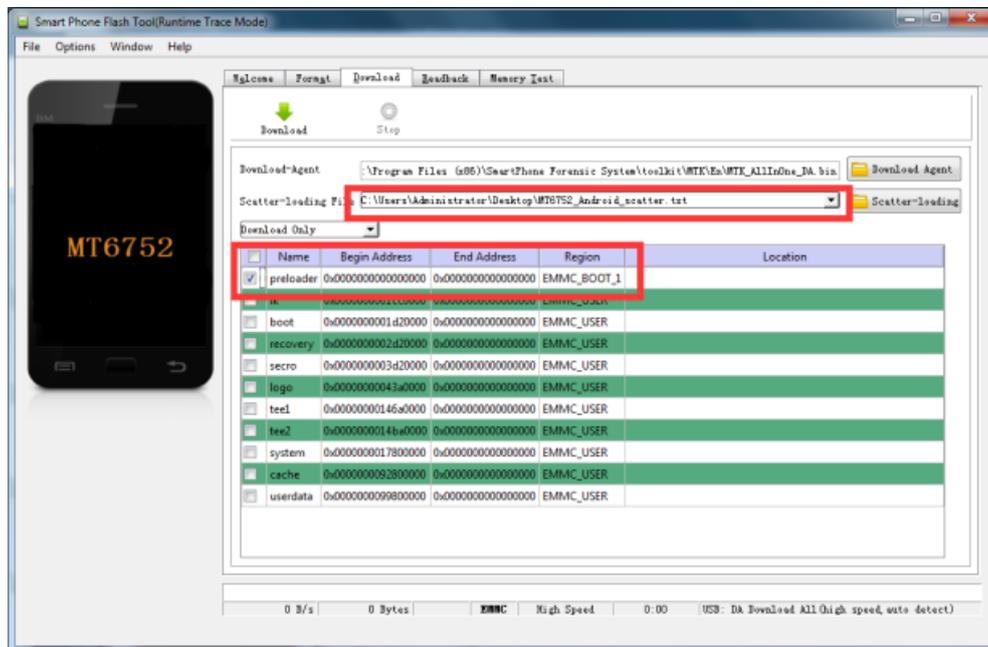


Step 4. Load file “MTK_AllInOne_DA.bin” from folder “SmartPhone Forensic System>Toolkit>En”.

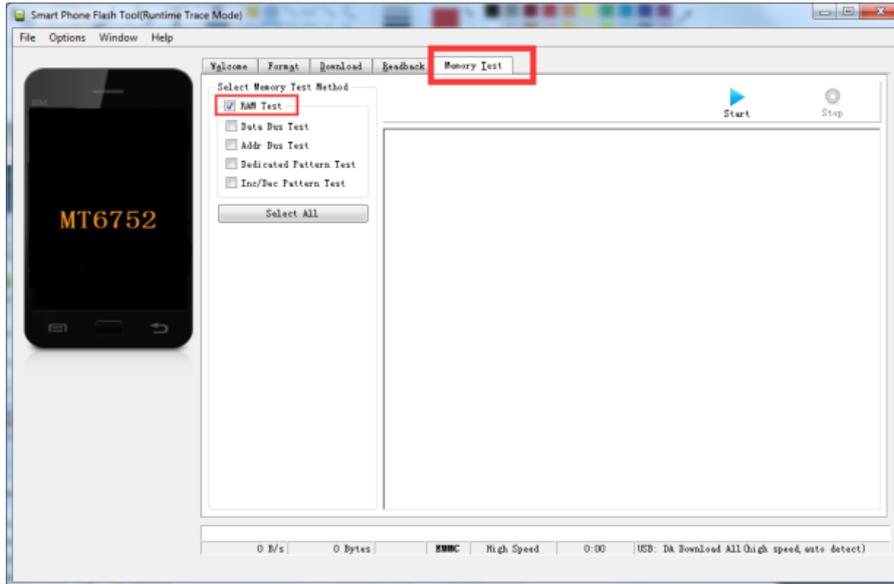


Step 5. Load “MT6752_Android_scatter.txt” and select “preloader” only.

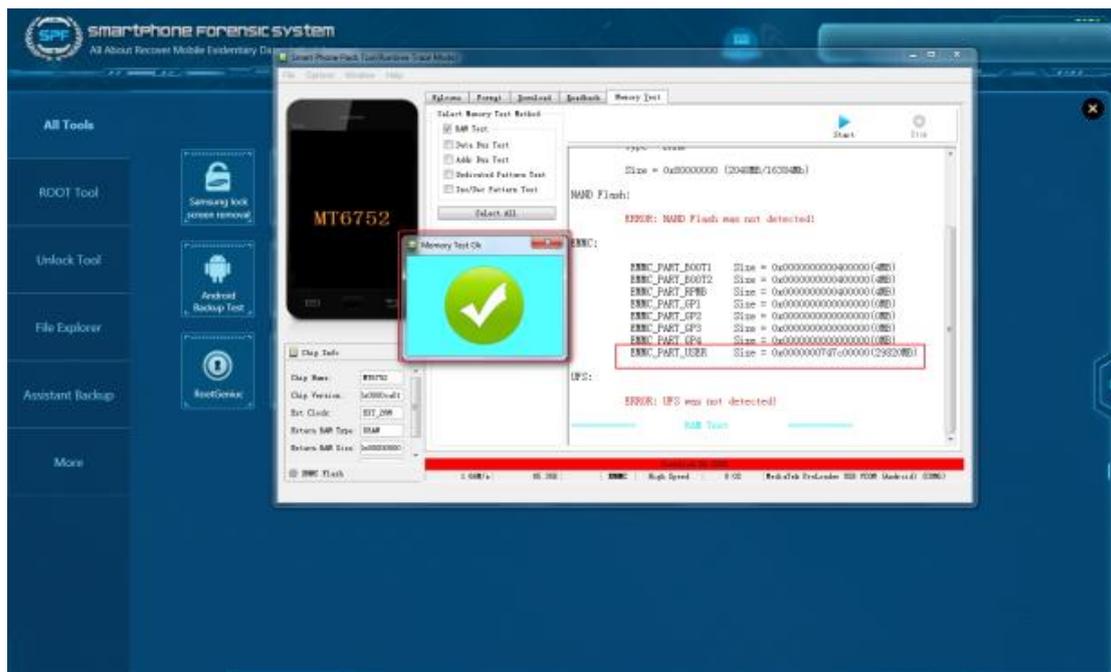
BTW: Common MTK scatter files are already included in SPF, but if you cannot find the correct scatter file for your device, search for it online.



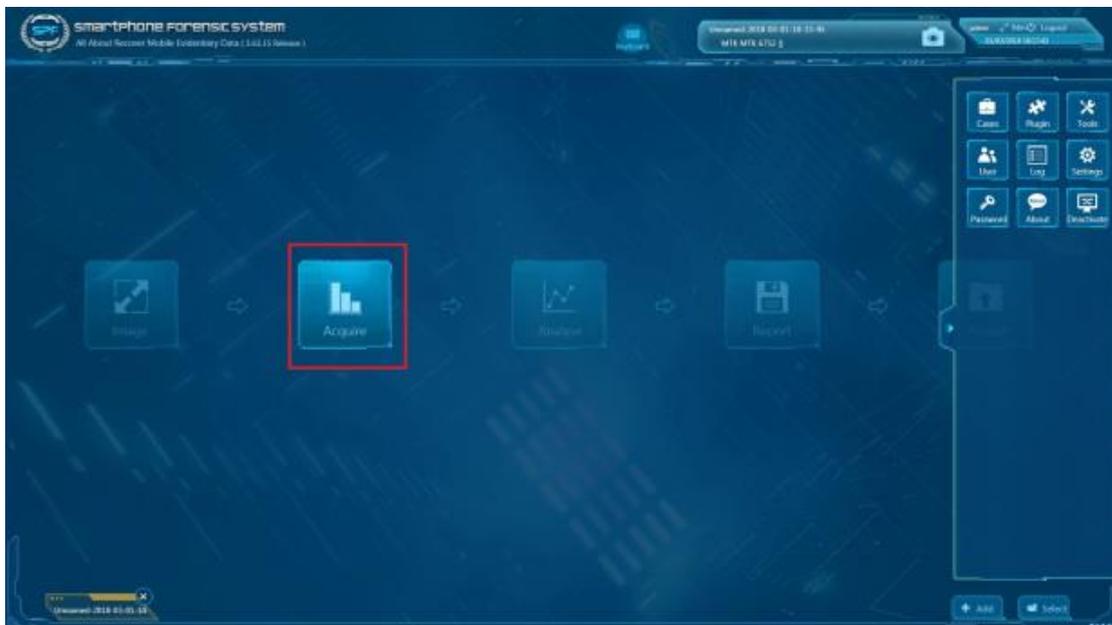
Step 6. Go to “Memory Test” page>select “RAM Test” only>disconnect the phone from PC before we start to run memory test>Click “Start” and connect your phone to PC.



Step 7. When “Memory Test Ok” window pops-up then we can see there are a few partitions there, but we only need “EMMC_PART_USER”, so we copy the value numbers “0x0000000747c00000” and go to Readback page.



Step 8. Now, we are all set to create “Forensic Image”. Disconnect the device>click “Read Back”>Connect the device back to pc, and the Imaging progress will start immediately.



Step 2. Select the items that you would like to acquire and Click “Start”.

