A Conceptual New Type of Tracking and Power Management S.O.C. that will Help Recover Lost or Stolen Electronic Devices even if it is Switched Off

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Abstract: **In today's world due to the sudden increase in smart devices people are living in a much more connected world. With connectivity there are a lot of electronic devices, especially smartphones, tablets and laptops. With increase in their number there is also a huge increase in theft of these devices which has become a huge issue of concern due to this issue there is a need for devices to not just stop these crimes but also to recover stolen items because for many people data lost is much more valuable than the device. Most of the solutions present today are software based which can be hacked by people. my concept is to make tracking mainly hardware based giving users more control. There was also a part of people who were willing to spend more than the phone itself to recover their data.**

Keywords: **Tracking, s.o.c., tech concept, concept paper.**

1. Introduction

A. Problem of theft and loss

Data vary by different websites I will try to provide as many as i can.

1. According to a study by kensington millions of smartphones are stolen every year out of which only seven percent are recovered, there is also a laptop stolen every 53 seconds.
2. F.C.C also states a no of one million but also states that this number is not much reliable.
3. According to a consumer report survey in 2015 there were 2.1 million stolen smartphones with 3.1 million smartphones lost. It must also be mentioned that the most important loss during a theft is not product but the personal data present in the smartphone.

According to identity theft awareness people are likely to spend 500$ to 1000$ to recover their personal data. It can also be helpful for lost devices lost over a long period of time. There is also one more argument to be made that the current method of tracking a lost phone is very inefficient because of which most of the devices lost are not recovered.

2. Product detailed

The concept is of a combo s.o.c. which will function as power management ic and gps for a device which will render a device completely useless in case of hardware tinkering. Due to it being power management chipset as well, when the smartphone will be switched off without switching the tracking service off then a low power secondary software will come into play which will function with the screen off and will only have one function, to track the phone once in this state it will function as a secondary soc for the smartphone with the limited functionality. This will work as per customers demands either in conjunction with find my iphone or androids find my phone or as a separate app. In order to switch off this function in the settings a separate password or biometrics will be used.

Each s.o.c will have a separate id which will be programmed in such a way that i can't be replaced without a proper service center just like what Apple did with its touch id modules in iphone 7 and 8 you can know more about it here. Instead of software replacement the phone will stop functioning even if the chip is replaced and as it will also be the power management chip phone will be rendered useless if it will be removed.

3. How it will function

Under normal circumstances it will function just as a normal gps chipset and a power management chipset in a smartphone would. Only when the power is switched off it will function as the secondary soc for a smartphone and its security side will surface. There can also be a second type of s.o.c. that will only function when the smartphone will be switched off.

4. Other possibilities

Due to now laptops also being light and easy to lose there can also be a type of s.o.c. as mentioned above for a laptop. Making it more easy to locate in case of a theft or loss because in enterprise world or even for a professional or a freelancer data is much more important than the hardware they are working on.

There can also be security variants of such technology which includes an s.o.c. which will remove all the data if tampered with the device.

It will also require special software or hardware which will

help people with failed computers to recover their data at the service centre.

A. Pricing

As it is a low spec version of an s.o.c. the price will heavily depend on the R & D of the product but a broad estimate by looking at the pricing of other chipsets in the market would be around 5$ to 30$ per s.o.c. (there was nothing comparable in the market at the time of writing this paper that's why it is such a broad estimate).

5. Conclusion

In conclusion there is a demand of such product in the market which can recover people's devices in case of theft because of the increase in theft of devices and it does not have to be only software based because these methods are used for the past five years and there is no significant increase in smartphones recovered. Now is the time for a hardware based solution as tinkering with it will be much more difficult and its recovery will be much more difficult.

References

[1] Study one: Kensington
[2] Study two: F.C.C.
[3] Study three: consumer report
[4] Study four: Identity Theft Awareness