

## **A Denial of Service Attack to UMTS Networks Using SIM-Less Devices**

### **Abstract:**

One of the fundamental security elements in cellular networks is the authentication procedure performed by means of the Subscriber Identity Module that is required to grant access to network services and hence protect the network from unauthorized usage. Nonetheless, in this work we present a new kind of denial of service attack based on properly crafted SIM-less devices that, without any kind of authentication and by exploiting some specific features and performance bottlenecks of the UMTS network attachment process, are potentially capable of introducing significant service degradation up to disrupting large sections of the cellular network coverage. The knowledge of this attack can be exploited by several applications both in security and in network equipment manufacturing sectors.