CLAIMS:

1. A method for a master cellular device (MD) to register a secondary device without a SIM card (SD) to communicate directly with a core network comprising:

establishing, by the MD, a first security channel between the MD and the SD;

transmitting, by the MD, a request to the SD for an identity information of the SD (Device ID);

based on transmitting the request to the SD, receiving, by the MD, the Device ID from the SD using the first security channel;

generating, by the MD, an access ID and key (K_i) for the SD;

in response to transmitting, by the MD and to the core network, the Device ID, the access ID, and the K_i, receiving, by the MD and from the core network, an acceptance message associated with the SD;

based on the acceptance message associated with the SD, creating, by the MD, a new entry for the SD, wherein the new entry comprises the access ID and the K_i; and

transmitting, by the MD, the access ID and K_i to the SD.

2. The method according to claim 1, wherein the generating the Access ID for the SD comprises:

combining the MD's identity with Device ID to obtain the Access ID.

3. The method according to claim 1, wherein the generating the Access ID for the SD comprises:

combining the MD's identity with a random number to obtain the Access ID.

4. The method according to claim 1, wherein the generating the Access ID for the SD comprises:

combining a sequence number assigned to MD with the Device ID to obtain the Access ID.

5. The method according to claim 1, wherein the generating the key (K) for the SD comprises:

generate K_i using a Key Derivation Function (KDF) with an input parameter being one or more of MD's identity, Device ID and Access ID.

6. The method according to claim 1, wherein the MD is a cellular device comprising a SIM card, and wherein the SD is an Internet of Thing (IoT) device.

7. The method according to claim 1, wherein the method further comprises:

establishing, by the MD, a second security channel between the MD and the core network, and

wherein the transmitting, by the MD and to the core network, the Device ID, the access ID, and the K_i comprises transmitting the Device ID, the access ID, and the K_i using the second security channel.

8. The method according to claim 1, wherein the method further comprises:

determining, by the MD, whether the Device ID of the SD is recorded in a database of the MD, and

wherein the generating the access ID and the K_i for the SD is based on whether the Device ID of the SD is recorded in the database.

9. The method according to claim 1, wherein the new entry further comprises a control parameter associated with a pre-determined data limit for the SD.

10. A master cellular device (MD) for registering a secondary devices without a SIM card (SD) to communicate directly with a core network comprising:

a processor; and

a non-transitory computer-readable storage medium storing instructions that when executed by the processor cause the following steps to be performed:

establishing a first security channel between the MD and the SD;

transmitting a request to the SD for an identity information of the SD (Device ID);

based on transmitting the request to the SD, receiving the Device ID from the SD using the first security channel;

generating an access ID and key (K_i) for the SD;

in response to transmitting the Device ID, the access ID, and the K_i to the core network, receiving, from the core network, an acceptance message associated with the SD;

based on the acceptance message associated with the SD, creating a new entry for the SD, wherein the new entry comprises the access ID and the K_i; and transmitting the access ID and K_i to the SD.

11. The MD according to claim 10, wherein the instructions to generate the Access ID for the SD comprises instructions to:

combine the MD's identity with Device ID to obtain the Access ID.

12. The MD according to claim 10, wherein the instruction to generate the Access ID for the SD comprises instructions to:

combine the MD's identity with a random number to obtain the Access ID.

13. The MD according to claim 10, wherein the instruction to generate the Access ID for the SD comprises instructions to:

combine a sequence number assigned to MD with the Device ID to obtain the Access ID.

14. The MD according to claim 10, wherein the instruction to generate the key (K_i) for the SD comprises instructions to:

generate K_i using a Key Derivation Function (KDF) with an input parameter being one or more of MD's identity, Device ID and Access ID.

15. A non-transitory computer-readable storage medium storing instructions that when executed by a processor cause the following steps to be performed:

establishing a first security channel between the MD and the SD;

transmitting a request to the SD for an identity information of the SD (Device ID);

based on transmitting the request to the SD, receiving the Device ID from the SD using the first security channel;

generating an access ID and key (K_i) for the SD;

in response to transmitting the Device ID, the access ID, and the K_i to the core network, receiving, from the core network, an acceptance message associated with the SD;

based on the acceptance message associated with the SD, creating a new entry for the SD, wherein the new entry comprises the access ID and the K_i; and

transmitting the access ID and K_i to the SD.

16. The storage medium according to claim 15, wherein the instructions to generate the Access ID for the SD comprises instructions to:

combine the MD's identity with Device ID to obtain the Access ID.

17. The storage medium according to claim 15, wherein the instruction to generate the Access ID for the SD comprises instructions to:

combine the MD's identity with a random number to obtain the Access ID.

18. The storage medium according to claim 15, wherein the instruction to generate the Access ID for the SD comprises instructions to:

combine a sequence number assigned to MD with the Device ID to obtain the Access ID.