CLAIMS

1. A method for transmitting data over a network, comprising:

receiving a data packet at a device, in which the device includes an integrated circuit and an application programming interface (API), the API further configured to allow the data packet to interface with a software application;

authenticating the data packet by the integrated circuit;

encapsulating the data packet in a fixed cell frame by the integrated circuit; transmitting the fixed cell frame by the integrated circuit to the network, in which the

fixed cell frame is a time division multiple access (TDMA) frame; and

receiving the fixed cell frame by a recipient device coupled to the network.

2. A method according to Claim 1, in which the software application provides executable software code for authenticating and encrypting the data packet, in which the executable software code is executed by the integrated circuit.

3. A method according to Claim 1, in which the integrated circuit is coupled to a high speed digital modulator and demodulator.

4. A method according to Claim 1, in which the integrated circuit is coupled to a clocking and synchronization module.

5. A method according to Claim 1, in which the integrated circuit is coupled to a network management module.

6. A method according to Claim 1, in which the integrated circuit is coupled to a transceiver configured to transmit and receive a radio frequency (RF) millimeter wave.

7. A method according to Claim 6, in which the RF millimeter wave has a frequency between 30 GHZ to 3,300 GHz.

8. A method according to Claim 6, in which the RF millimeter wave is transmitted between a gyro travelling wave amplifier and a RF millimeter antenna repeater amplifier.

9. An integrated circuit for transmitting data over a network, comprising: a memory configured to store a software application;

an application programming interface (API) configured to allow data access to the software application;

a clocking and synchronization module; a network management module; and

a transceiver configured to transmit and receive a radio frequency (RF) millimeter wave,

in which the integrated circuit is configured to receive a data packet via the transceiver, and further configured to encapsulate the data packet into a fixed cell frame using the software application, in which the software application is accessed by the data packet using the API, and in which the software application is configured to authenticate the data packet.

10. An integrated circuit according to Claim 9, in which the RF millimeter wave has a frequency between 30 GHZ to 3,300 GHz.

11. An integrated circuit according to Claim 9, in which the transceiver is further configured to transmit the fixed cell frame to the network.

12. An integrated circuit according to Claim 9, in which the transceiver is further configured to transmit the RF millimeter wave between a gyro travelling wave amplifier and a RF millimeter antenna repeater amplifier.