CLAIMS

What is claimed is:

1. A cellular module, comprising:

a processor;

a memory in communication with the processor;

at least one output pin having a voltage level controlled by the processor to:

request a first power level for use by the cellular module during periods wherein radio frequency (RF) communication is not being performed; and

request a second power level for use by the cellular module during periods when the RF communication is being performed, wherein the second power level is a higher power level than the first power level; and

instructions stored in the memory, for performing actions by execution of the processor, comprising:

determining, at the cellular module, an appointed time for a status change of a communication;

determining a time to signal one or more power supplies, based at least in part on the appointed time for the status change of the communication, so that the one or more power supplies are ready to change to supply power at the second power level at the appointed time for the status change of the communication; and

changing a voltage on the at least one output pin at the determined time to cause the one or more power supplies to transition from the first power level to the second power level.

2. The cellular module as recited in claim 1, wherein determining the time to signal the one or more power supplies based at least in part on:

an ambient temperature;

a time of year;

an age of a battery powering the cellular module;

a Coulomb counter; or

a fixed period of time.

3. The cellular module as recited in claim 1, wherein determining the appointed time comprises: receiving a series of appointed times, each received appointed time received during a previous communication in a respective series of communications.

4. The cellular module as recited in claim 1, wherein the appointed time for the status change of the communication comprises at least one of:

a start of the communication;

a transition from reception to transmission during the communication;

a transition from transmission to reception during the communication;

an end of the communication; or

a transition from the communication to a sleep period or an idle period.

5. The cellular module as recited in claim 1, wherein the instructions, when executed, configure the cellular module to perform further actions comprising:

changing the voltage on the at least one output pin, prior to conclusion of the communication that began at the appointed time, wherein the changed voltage indicates a change in power requirements of the cellular module; and

receiving, from the one or more power supplies, a changed power level in response.

6. The cellular module as recited in claim 1, wherein the at least one output pin comprises a first general-purpose input/output (GPIO) pin, and wherein the cellular module additionally comprises:

a second general-purpose input/output (GPIO) pin, controlled by the processor;

wherein a change in a voltage level of the first GPIO pin causes the one or more power supplies to provide the first power level at the cellular module sufficient for the cellular module to act as a transmitter and as a receiver; and

wherein a change in a voltage level of the second GPIO pin causes the one or more power supplies to provide a third power level at the cellular module sufficient for the cellular module to act as a receiver but not sufficient for the cellular module to act as a transmitter, and wherein the third power level is greater than the first power level and lower than the second power level.

7. The cellular module as recited in claim 1, additionally comprising:

receiving, at the cellular module, a signal indicating current flow at a level associated with an alarm condition; and

sending a message from the cellular module, indicating the alarm condition.

8. The cellular module as recited in claim 1, wherein:

the output pin is a general-purpose input/output (GPIO) pin; and

the GPIO pin sends one or more bits of information.

9. A metering device comprising the cellular module as recited in claim 1, wherein:

the metering device additionally comprising a metrology unit; and

the cellular module communicates data obtained from the metrology unit.

10. The cellular module as recited in claim 1, operating using the first power level, the cellular module performs actions comprising:

determining a time prior to a communication to signal the one or more power supplies to transition from the first power level to the second power level.

11. A metering device, comprising:

a metrology unit; and

a cellular module to transmit data obtained from the metrology unit, the cellular module comprising:

a processor;

a memory in communication with the processor;

at least one output pin to:

signal for a first power level for use by the cellular module during periods wherein radio frequency (RF) communication is not being performed; and

signal for a second power level for use by the cellular module during periods when the RF communication is being performed, wherein the second power level is a higher power level than the first power level; and

instructions stored in the memory, for performing actions by execution of the processor, comprising:

determining, at the cellular module, an appointed time for a status change of a communication;

determining a time to signal one or more power supplies, based at least in part on the appointed time for the status change of the communication, so that the one or more power supplies are ready to change to supply power at the second power level at the appointed time for the status change of the communication; and

send a signal on the at least one output pin at the determined time to cause the one or more power supplies to transition from the first power level to the second power level.

12. The metering device as recited in claim 11, wherein determining the time to signal the one or more power supplies based at least in part on:

an ambient temperature;

a time of year;

an age of a battery powering the cellular module;

a Coulomb counter; or

a fixed period of time.

13. The metering device as recited in claim 11, wherein determining the appointed time comprises: receiving a series of appointed times, each received appointed time received during a previous communication in a respective series of communications.

14. The metering device as recited in claim 11, wherein the appointed time for the status change of the communication comprises at least one of:

a start of the communication;

a transition from reception to transmission during the communication;

a transition from transmission to reception during the communication;

an end of the communication; or

a transition from the communication to a sleep period or an idle period.

15. The metering device as recited in claim 11, wherein the instructions, when executed, configure the cellular module to perform further actions comprising:

changing a voltage on the at least one output pin, prior to conclusion of the communication that began at the appointed time, wherein the changed voltage indicates a change in power requirements of the cellular module; and

receiving, from the one or more power supplies, a changed power level in response.

16. The metering device as recited in claim 11, wherein the at least one output pin comprises a first general-purpose input/output (GPIO) pin, and wherein the cellular module additionally comprises:

a second general-purpose input/output GPIO pin, controlled by the processor;

wherein a change in a voltage level of the first GPIO pin causes the one or more power supplies to provide the first power level at the cellular module sufficient for the cellular module to act as a transmitter and as a receiver; and

wherein a change in a voltage level of the second GPIO pin causes the one or more power supplies to provide a third power level at the cellular module sufficient for the cellular module to act as a receiver but not sufficient for the cellular module to act as a transmitter, and wherein the third power level is greater than the first power level and lower than the second power level.

17. The metering device as recited in claim 11, additionally comprising:

receiving, at the cellular module, a signal indicating current flow at a level associated with an alarm condition; and

sending a message from the cellular module, indicating the alarm condition.

18. The metering device as recited in claim 11, wherein:

the at least one output pin is a general-purpose input/output (GPIO) pin; and

the at least one GPIO pin sends one or more bits of information.

19. The metering device as recited in claim 11, wherein the cellular module transmits the data obtained from the metrology unit using power from a power supply providing the second power level.

20. The metering device as recited in claim 11, operating using the first power level, the cellular module performs actions comprising:

determining a time prior to a communication to signal the one or more power supplies to transition from the first power level to the second power level.