CLAIMS

1. User equipment, comprising:

a transmitter comprising a plurality of power amplifiers, the transmitter configured to transmit an indication of a first power class and a second power class being supported by the plurality of power amplifiers, wherein the first power class is associated with operating the transmitter using a first maximum transmission power that is greater than a second maximum transmission power associated with the second power class; and

processing circuitry configured to:

receive a first configuration associated with operating the transmitter using the first power class based on the indication and the first maximum transmission power not exceeding an emission limit,

receive a second configuration associated with operating the transmitter using the second power class based on the indication and the first maximum transmission power exceeding the emission limit,

adjust transmission power of the transmitter based on receiving the first configuration or the second configuration, and

transmit, using the transmitter, a radio frequency signal using the transmission power.

2. The user equipment of claim 1, wherein the indication of the first power class and the second power class are associated with a frequency band.

3. The user equipment of claim 1, wherein the first power class is associated with a higher power class and the second power class is associated with a lower power class.

4. The user equipment of claim 3, wherein the plurality of power amplifiers is configured to support the lower power class when a lesser number of the plurality of power amplifiers is activated, and support the higher power class when a greater number of the plurality of power amplifiers is activated.

5. The user equipment of claim 1, wherein the first power class is associated with a first transmission power back-off and the second power class is associated with a second transmission power back-off different than the first transmission power back-off.

6. The user equipment of claim 1, wherein the processing circuitry is configured to configure the transmitter with the first power class based on receiving the first configuration and configured the transmitter with the second power class based on receiving the second configuration.

7. The user equipment of claim 1, comprising a receiver, the receiver configured to receive the first configuration, the second configuration, or both from a network.

8. The user equipment of claim 1, wherein the processing circuitry configured to adjust the transmission power of the transmitter by operating in the first power class based on the first configuration; and adjust the transmission power of the transmitter by operating in the second power class based on the second configuration.

9. The user equipment of claim 8, wherein the processing circuitry is configured to adjust the transmission power of the transmitter by:

applying a first power back-off to the transmission power based on the first power class; and

applying a second power back-off different than the first power back-off to the transmission power based on the second power class.

10. A base station, comprising:

a receiver configured to receive a first indication of whether user equipment supports a first power class associated with a first maximum transmission power and supports a second power class associated with a second maximum transmission power less than the first maximum transmission power; and

processing circuitry configured to:

schedule operation of the user equipment using the first power class based on the user equipment not supporting the first power class and the second power class,

receive a second indication of an emission limit based on the user equipment supporting the first power class and the second power class, and

schedule operation of the user equipment using the second power class based on the first maximum transmission power exceeding the emission limit.

11. The base station of claim 10, wherein the processing circuitry is configured to schedule operation of the user equipment using the first power class based on the first maximum transmission power meeting the emission limit.

12. The base station of claim 11, wherein the processing circuitry is configured to schedule operation of the user equipment using the first power by sending a configuration indicating a maximum power reduction associated with the first power class.

13. The base station of claim 10, wherein the processing circuitry is configured to schedule operation of the user equipment using the second power class by sending a configuration indicating a maximum power reduction associated with the second power class.

14. The base station of claim 10, wherein the processing circuitry is configured to receive a third indication of a geographical region and determine the emission limit based on the geographical region.

15. The base station of claim 10, wherein the processing circuitry is configured to receive a third indication of a specified frequency on which the base station determines that the user equipment is to transmit a radio frequency signal, and determine the emission limit based on the specified frequency.

16. A method, comprising:

receiving, at a receiver of a base station, an indication of whether user equipment supports a higher power class and a lower power class;

operating, via processing circuitry of the base station, the user equipment using the higher power class based on the user equipment not supporting the higher power class and the lower power class;

receiving, at the processing circuitry, an additional indication of an emission limit for a geographical region at which the base station or the user equipment is located; and

operating, via the processing circuitry, the user equipment using the lower power class based on a maximum transmission power of the higher power class exceeding the emission limit.

17. The method of claim 16, wherein the maximum transmission power of the higher power class is a higher maximum transmission power than an additional maximum transmission power of the lower power class.

18. The method of claim 16, comprising operating, via the processing circuitry, the user equipment using the higher power class based on the maximum transmission power not exceeding the emission limit.

19. The method of claim 16, comprising transmitting, via a transmitter of the base station, a configuration indicating a maximum power reduction associated with the higher power class based on operating the user equipment using the higher power class.

20. The method of claim 16, comprising transmitting, via a transmitter of the base station, a configuration indicating a maximum power reduction associated with the lower power class based on operating the user equipment using the lower power class.