§ 15.501 Scope.

This subpart sets out the regulations for unlicensed ultra-wideband transmission systems.

§ 15.503 Definitions.

(a) **UWB bandwidth.** For the purpose of this subpart, the UWB bandwidth is the frequency band bounded by the points that are 10 dB below the highest radiated emission, as based on the complete transmission system including the antenna. The upper boundary is designated \( f_H \) and the lower boundary is designated \( f_L \). The frequency at which the highest radiated emission occurs is designated \( f_M \).

(b) **Center frequency.** The center frequency, \( f_C \), equals \( \frac{f_H + f_L}{2} \).

(c) **Fractional bandwidth.** The fractional bandwidth equals \( \frac{2(f_H - f_L)}{(f_H + f_L)} \).

(d) **Ultra-wideband (UWB) transmitter.** An intentional radiator that, at any point in time, has a fractional bandwidth equal to or greater than 0.20 or has a UWB bandwidth equal to or greater than 500 MHz, regardless of the fractional bandwidth.

(e) **Imaging system.** A general category consisting of ground penetrating radar systems, medical imaging systems, wall imaging systems through-wall imaging systems and surveillance systems. As used in this subpart, imaging systems do not include systems designed to detect the location of tags or systems used to transfer voice or data information.

(f) **Ground penetrating radar (GPR) system.** A field disturbance sensor that is designed to operate only when in contact with, or within one meter of, the ground for the purpose of detecting or obtaining the images of buried objects or determining the physical properties within the ground. The energy from the GPR is intentionally directed down into the ground for this purpose.

(g) **Medical imaging system.** A field disturbance sensor that is designed to detect the location or movement of objects within the body of a person or animal.

(h) **Wall imaging system.** A field disturbance sensor that is designed to detect the location of objects contained within a “wall” or to determine the physical properties within the “wall.”