$$\text{Distance} = 10^{\wedge}\left(\frac{\text{Measured power} - \text{RSSI}}{10 * N}\right)$$

Measured power = RSSI @ 1m = −71.381

For 3 meters without obstacles:

$$3 = 10^{\wedge}\left(\frac{-71.381-(-81.0769)}{10 * N}\right)$$

$$\log_{10}^{3} = \frac{-71.381 + 81.0769}{10 * N} = \frac{9.6959}{10 * N}$$

$$N = \frac{9.6959}{10 * \log_{10}^{3}} = \frac{9.6959}{10 * 0.4771} = 2.03225$$

$$N = 2.032$$

For 1 meter with water:

$$d = 10^{\wedge}\left(\frac{-71.381-(-74.6552)}{10 * 2.032}\right) = 10^{\wedge}\left(\frac{3.2742}{20.32}\right)$$

$$d = 1.4492 \text{ meters}$$

For 1 meter with wall:

$$d = 10^{\wedge}\left(\frac{-71.381-(-84.7857)}{10 * 2.032}\right) = 10^{\wedge}\left(\frac{13.4047}{20.32}\right)$$

$$d = 4.5675 \text{ meters}$$

for 1 meter with 1 human :

$$d = 10^{\left(\frac{-71.381-(-74.4)}{10*2.032}\right)} = 10^{\left(\frac{3.019}{20.32}\right)}$$

$$d = 1.4079 \text{ meters}$$

for 1 meter with 2 humans:

$$d = 10^{\left(\frac{-71.381-(-77.9524)}{10*2.032}\right)} = 10^{\left(\frac{6.5714}{20.32}\right)}$$

$$d = 2.1056 \text{ meters}$$

for 1 meter with 3 humans:

$$d = 10^{\left(\frac{-71.381-(-78.4286)}{10*2.032}\right)} = 10^{\left(\frac{7.0476}{20.32}\right)}$$

$$d = 2.2224 \text{ meters}$$

For 3 meters with water:

$$d = 10^{\wedge}\left(\frac{-71.381-(-84.0435)}{10*2.032}\right) = 10^{\wedge}\left(\frac{12.6625}{20.32}\right)$$

$$d = 4.1990 \text{ meters}$$

For 3 meters with wall:

$$d = 10^{\wedge}\left(\frac{-71.381-(-86.4615)}{10*2.032}\right) = 10^{\wedge}\left(\frac{15.0805}{20.32}\right)$$

$$d = 5.5226 \text{ meters}$$

For 3 meters with 1 human:

$$d = 10^{\wedge}\left(\frac{-71.381-(-86.25)}{10*2.032}\right) = 10^{\wedge}\left(\frac{14.869}{20.32}\right)$$

$$d = 5.3919 \text{ meters}$$

For 3 meters with 2 humans

$$d = 10^{\wedge}\left(\frac{-71.81-(-87.5417)}{10*2.032}\right) = 10^{\wedge}\left(\frac{15.7317}{20.32}\right)$$

$$d = 5.9456 \text{ meters}$$

For 3 meters with 3 humans:

$$d = 10^{\left(\frac{-71.381-(-88.1154)}{10 * 2.032}\right)}$$

$$= 10^{\left(\frac{16.7344}{20.32}\right)}$$

$$d = 6.6610 \text{ meters}$$