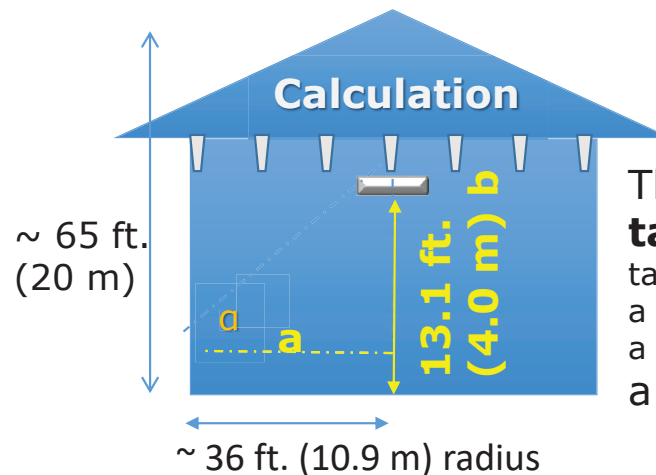
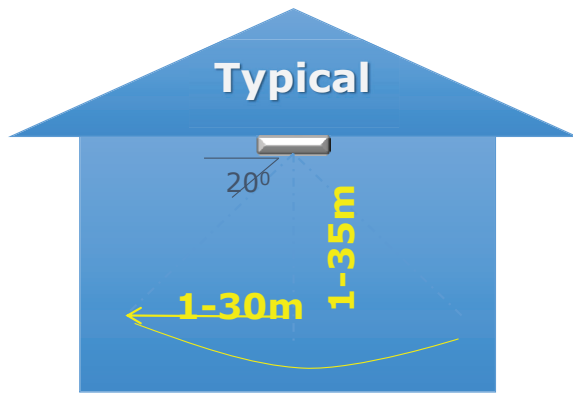


Indoor GNSS Signal Coverage



The formula
 $\tan(\alpha) = b/a$
 $\tan(20) = 4.0/a$
 $a = 4.0 / \tan(20)$
 $a = 4.0 / 0.36397$
 $a = 10.9 \text{ m } (\sim 36 \text{ ft.})$

The area covered by one Roger-GPS repeater:

- The diameter is about 130 – 165 ft. depending on the construction material and the signal blocking obstacles
- The height to reach the coverage is up to 50 ft. depending on the construction material
- The material (cars, aircraft or other big metal particles) create reflecting waves that may influence the area coverage
- The GPS receiver sensitivity (up to -160dBm) and position must be considered in the design
- The repeater has 40dB gain adjustment
- The repeater will have a delay of $\sim 0.1\mu\text{s} / 30\text{m}$ of coaxial cable.
- The repeater provides the GPS clock as is, except the slight delay due to the cable connection to the outdoor antenna.

Badger Meter manufacturing application

