What is claimed is:

1. A method for determining a signal power loss relative to a receiver, the method comprising:

obtaining a measured received power level for each of a plurality of sounding signals from one or more sounding transmitters as measured at a stationary receiver located within a structure, wherein the one or more sounding transmitter is at a known location relative to the receiver upon transmission of a sounding signal and the plurality of sounding signals pass through at least a portion of the structure;

determining a direction of incidence relative to the receiver based at least in part on the known location of the sounding transmitter relative to the receiver for each of the plurality of sounding signals received at the receiver;

calculating a signal loss value for each of the plurality of sounding signals based at least in part on the measured receiver power level of each of the plurality of sounding signals and a corresponding known signal power level relative to the receiver in free space;

generating a signal loss profile for the receiver based at least on the signal loss values and the corresponding direction of incidence of each of the plurality of sounding signals relative to the receiver; and

extrapolating the signal loss values calculated for the plurality of sounding signals to determine a projected signal loss for a transmission frequency of a transmitter collocated with the receiver, wherein the transmitter utilizes a frequency different than the frequency of the plurality of sounding signals.

2. The method of claim 1, wherein at least two of the plurality of sounding signals have a different direction of incidence relative to the receiver.

3. The method of claim 1, wherein the signal loss profile includes at least a two dimensional representation of signal loss values at corresponding directions of incidence relative to the receiver.

4. The method of claim 1, wherein the signal loss profile comprises a plurality of pixels having an area defined relative to the receiver, wherein each pixel has an associated statistical signal loss value corresponding to the signal loss values that are associated with the direction of incidences within the pixel.

5. The method of claim 4, wherein the statistical signal loss value for a given pixel comprises a statistically derived measure based on at least one sounding signal received at a direction of incidence within the pixel.

6. The method of claim 5, wherein the statistically derived measure comprises a mean signal loss value of each signal loss values with a direction of incidence within the pixel.

7. The method of claim 6, wherein the statistically derived measure comprises a standard deviation for the plurality of signal loss values derived with directions of incidence within the pixel.

8. The method of claim 4, wherein each pixel is defined by a range of azimuth angles and a range of elevation angles relative to the receiver, wherein each pixel comprises a range of azimuth angles of at least about 0.5 degrees and not greater than about 20 degrees and a range of elevation angles of at least about 0.5 degrees and not greater than about 20 degrees.

9. The method of claim 1, wherein the signal loss value comprises a carrier to thermal noise power ratio.

10. The method of claim 1, wherein the sounding transmitter comprises a GNSS space vehicle and the sounding signal comprises a navigational signal broadcast by the GNSS space vehicle, wherein the navigational signals include ephemeris data regarding the GNSS space vehicle and the known location of the sounding transmitter relative to the receiver is determined based on the ephemeris data.

11. The method of claim 10, further comprising locating the receiver using the navigational signal.

12. The method of claim 1, wherein the direction of incidence comprises an elevation angle and an azimuth angle defining a direction extending between the sounding transmitter and the receiver.

13. The method of claim 1, further comprising:

determining if the sounding signal is a direct wave from the sounding transmitter or a multipath wave from the sounding transmitter at least in part based on an analysis of the sounding signal characteristics at the receiver.

14. The method of claim 1, wherein the sounding signals are received at the receiver using a time spread approach to signal acquisition to acquire a plurality of sounding signals over a defined period, wherein the defined period comprises a plurality of coherent or non-coherent integration intervals.

15. The method of claim 14, wherein the defined period is at least greater than one hour.

16. The method of claim 1, wherein a frequency of the sounding signal is less than the frequency of the transmission frequency of the collocated transmitter.

17. The method of claim 16, wherein the signal loss value calculated for the sounding signal is equated to the projected signal loss for the transmission frequency of the transmitter.

18. The method of claim 1, further comprising:

sending the signal loss value and the associated direction of incidence to a shared spectrum controller.

19. The method of claim 18, further comprising:

receiving, from the shared spectrum controller, an assignment of one or more transmission parameters for use in connection with a transmitter collocated with the receiver in a shared spectrum regime is wherein the assignment at least in part based on the signal loss value and the associated direction of incidence.

20. A system for determining a signal power loss relative to a receiver disposed within a structure, the system comprising:

a stationary receiver disposed within a structure that is operable to receive a plurality of sounding signals at a measured received power level, each of the plurality of sounding signals having a direction of incidence relative to the receiver from one or more sounding transmitter at a known location relative to the receiver wherein the sounding signal passes through at least a portion of the structure, and wherein the direction of incidence is determined at least in part on the known location of the sounding transmitter relative to the receiver upon transmission of a sounding signal;

a loss determination module, executed by a processor in operative communication with the receiver, that is operative to:

calculate a signal loss value for each of the plurality of sounding signals based on the measured received power level and a known signal power level of the sounding signal relative to the receiver in free space,

generate a signal loss profile for the receiver based at least in part on the signal loss value and the corresponding direction of incidence of each of the plurality of sounding signals relative to the receiver, and

extrapolate the signal loss value calculated for each of the sounding signal to determine a projected signal loss for a transmission frequency of a transmitter collocated with the receiver.