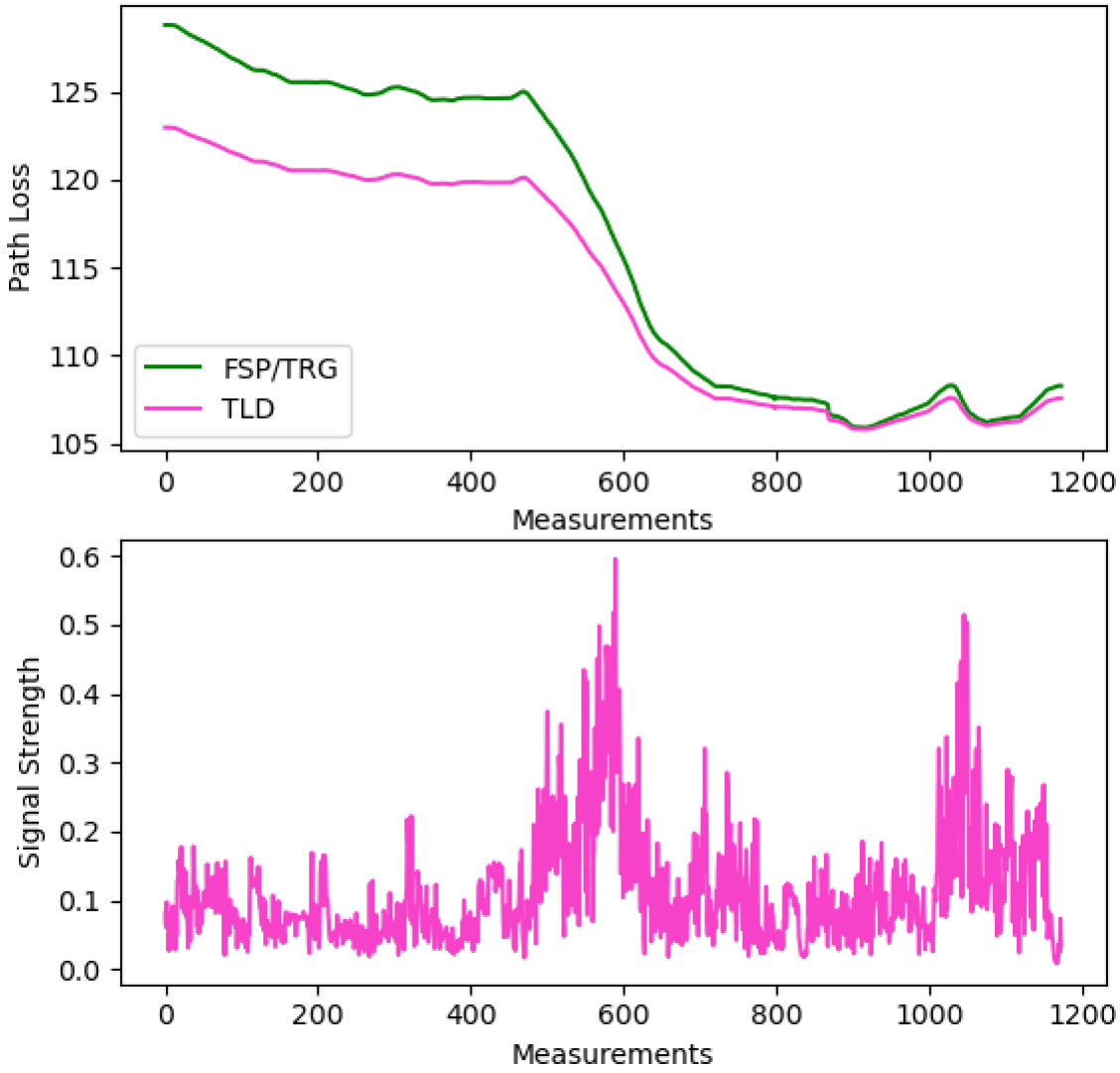

Explanation:

We have used the data from the ex1.csv provided as part of the exercise.

Q1. Extend your program so that it can calculate the path loss based on two geographic coordinates.

1. We used Geopy geocoding web services. It is used to locate the coordinates of addresses across the globe using third-party geocoders and other data sources.
2. We use a method in our code to deal with path loss based on two geographic coordinates using Geopy.

Q2. Compute the expected path loss for the moving car using both of the models defined before. Produce a plot which shows the expected path loss for both models in comparison to the conducted measurements.

1. As shown in the above plots, there is the expected path loss for both models in comparison to the conducted measurements. As you can see in above models, the car is moving towards the transmitter antenna. As you can see the Free space propagation model's path loss is decreasing and its signal strength at 400-600 is at high peak, when it is passing or reaching the transmitter and then at 1000-1200 we see a decrement in that. This is a simple model of the real case. Doppler shift may have cause the less path loss at the end.

Q3. Do the path loss models correctly represent the real world signal propagation? Give reasons why this might (not) be the case.

1. Those objects causing shadowing, reflection and attenuation are not considered, that is why, in real world the case might be different.