This document contains approaches for determining the important features which can impact a given target feature under part 1 and an approach for finding those features which are impacted by rssi feature is described in part 2.

Part 1
Find Variables That Impact Jitter Variable

From the given dataset, we are interested in finding features that impact jitter variable.
We explored two approaches for finding features which impact variable jitter. Primary idea around these approaches is, features which are correlated with target feature either positively or negatively can impact target feature. Only top 10 features which affect jitter variable the most are provided here, where 10 can can be varied depending on requirement.

1. **Correlation based approach**
   In this approach, we compute correlation between jitter feature and other features. We find those features which have highest correlation (either positively or negatively) with jitter feature. Features with highest correlation tend to impact the jitter variable most. Constraints of this approach is that it could capture linear dependencies only, but not higher order dependencies between features.

   Features that affect jitter
   In decreasing order of importance

   wirelink_dl_mbps, wan_dl, num_streams, download, wirelink_up_mbps, tput_theta0, avg_noise, pq_airuse, pq_requested, chanutil_intf

2. **XG(Extreme Gradient Boosting) Boost based approach**
   For finding features which impact jitter variable, a xg boost based regression model is also explored. Feature importance in xg boost measures the amount of variance explained by a particular feature while building regression model for jitter. We consider those features which have highest feature importance as features which impact jitter most.

   Features that affect jitter :
   In decreasing order of importance

   Using Unscaled values of features :
   rx_bytes, wan_dl, epoch, tput_theta2, mcs_drops, avg_util_tx, tput_uerr, rx_rate, rt, upload

Using Scaled values of features :
rx_bytes, wan_dl, epoch, tput_theta2, mcs_drops, rx_rate, tput_uerr, pq_dropped, rt, upload

Part 2
Find features which are impacted by rssi

In order to find features which are impacted by rssi, we can compute the correlation of features with rssi, either positively or negatively. We can utilize correlation values to select features which are impacted by rssi. Choose those features which have highest correlation with rssi. These features can be considered to be impacted by rssi.