As per my understanding, increasing windows size has a positive impact on the AUC value and I observed an increase from 0.88 to 0.92 in AUC. Moreover, I couldn't attach a few more run that I did previously but due to long running time I couldn't update my notebook, I'll share my results here. When all other factors are constant and frequency is increased then performance improves but if we decrease the corpus size in such a case, the performance of this model was deprecated.