

## ABSTRACT

Frequency usage needs to be regulated because frequency, like oils is one of the limited resources that can't be reproduced by humans. Therefore, frequency usage needs to be regulated and used as efficient as possible so that new technology can still has spectrum allocation. Tools to regulate the usage of frequency is License Fee. License Fee is a tool to regulate and at the same time to oversee the usage of frequency so that frequency usage is more evenly and more efficient. License Fee spectrum frequency that applied in Indonesia is divided into two, which is the License Fee based on Radio Station License and License Fee based on the Radio Band Frequency license.

Formula for the Radio Station License based License Fee is validated on PP No. 28/2005. However, the development of new technology such as 5G that needs bigger bandwidth made Microwave Link has to use higher frequency which is the mmWave, but the price of the existing license fee is worried to be too expensive. Therefore, a review of existing formula and component of the license fee is needed.

Research Methode that will be conducted on this research is Techno-economic analysis. Technical review that conducted is the trend technology currently on going on Microwave Link service, also the difference between frequency band for 5G backhaul. Economics analysis conducted is reviewing the financial condition of a Company that run on the telecommunication industry. Both analyses' will be used as consideration when recommending Ip, Ib, and new license fee scheme if needed for license fee calculation for 5G wireless backhaul. Economy calculation that will be conducted is the calculation of Operating Expenses Ratio (OER) to see whether the changes on license fee giving impact on the Company financial condition.

Result of this research is intended as a recommendation and consideration for Telecommunication regulator in Indonesia to review the parameter and the formula of the license fee for 5G wireless backhaul.

**Key Word:** License Fee, Microwave Link, 5G Backhaul.