



FARUNG SAMKLANG : OPTIMIZATION QUALITY OF EXPERIENCE WITH HYBRID  
PRECODING PARTIALLY STRUCTURE MASSIVE MIMO SYSTEM. THESIS ADVISOR :  
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Keyword: Quality of experience/Quality of service/Hybrid precoding/Mean of opinion  
score/Massive mimo

Massive MIMO for 5G communication expert system with more antennas, it provides faster transmit and receive data and can support a higher density of user devices for accessing Internet services. The hybrid precoding is another important technique for massive MIMO, there are many works of literature about the precoding for higher signal efficiency. Hybrid precoding is one of the massive MIMO techniques that are getting a lot of attention because combining between digital and analog technologies provide save energy and reduce complex hardware without degrading the data transmission performance and to improve the signal quality, network operators are becoming aware of the importance of Quality of Experience (QoE). In this paper, we proposed the hybrid precoding partially structure to improve data transmission performance and allocate network service resources to users to increase user satisfaction within the constraints of energy. The researcher was interested in the web browsing, video, and Voice Over IP (VOIP) services. Which has, a Mean Opinion Score (MOS) is employed to measure the level of user satisfaction. Steps to improve signal quality, start with optimizing the baseband and RF precoding using Alternating Minimization (Alt-Min) algorithms. As a result, can be optimized the Quality of Service (QoS) parameters and lead to the satisfaction of user with the achieving of the required level of Mean Opinion Score (MOS).

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Student's Signature 

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