**OPTIMALISASI PEMETAAN *ACCESS POINT***
**DENGAN METODE *SITE SURVEY***
**DI SMA NEGERI 1 PUPUAN**

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## ABSTRAK

Penelitian ini bertujuan untuk dapat mengetahui kualitas sinyal area berdasarkan *heatmap* penempatan awal *access point* di SMA Negeri 1 Pupuan serta untuk dapat mengetahui kualitas sinyal berdasarkan *heatmap* hasil rekomendasi optimalisasi pemetaan *Access Point* dengan metode *Site Survey*. Metode *Site Survey* yang digunakan ada 2 (dua) yaitu *Active Site Survey*, dilakukan secara *real condition* sesuai tempat *existing* untuk mengetahui redaman sinyal, kuat sebaran sinyal *access point*, membuat lintas uji dan *Passive Site Survey*, dilakukan secara *by software* berdasarkan *real condition* yang sudah dilakukan secara *Active Site Survey* yang selanjutnya dilakukan sepenuhnya dengan bantuan aplikasi *Ekahau AI Pro*. Data penelitian dikumpulkan menggunakan instrument angket. Hasil penelitian menunjukkan bahwa, pada metode *Active Site Survey* yang telah dilakukan, didapatkan kondisi *heatmap existing* memperlihatkan kualitas sinyal sebaran AP sudah mencakup area, tetapi jika dilihat lebih detail, masih ada beberapa area serta ruangan yang belum ter-*cover* oleh sinyal AP sehingga berdasarkan angket dan tujuan penelitian, perlu dilakukan optimalisasi, selanjutnya pada *Passive Site Survey*, terdapat 6 (enam) percobaan *heatmap* optimalisasi serta tabel perbandingan kuat sinyal AP pada kondisi *existing*, dengan 6 (enam) percobaan tersebut didapatkan rekomendasi *heatmap* yang paling optimal ada pada percobaan pertama dengan total AP 29 alat, cakupan sinyal dengan tambahan 8,8% dan pengurangan 8,9% area yang tidak tercakup sinyal AP.

**Kata kunci**: Optimalisasi, pemetaan, *Site Survey*, *Ekahau AI Pro*, RSSI.

*OPTIMIZATION OF ACCESS POINT MAPPING*
*WITH SITE SURVEY METHOD*
*AT SMA NEGERI 1 PUPUAN*

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## *ABSTRACT*

*The purpose of this paper is This study aims to assess the signal quality in an area based on the initial placement heatmap of access points at SMA Negeri 1 Pupuan. Additionally, it aims to evaluate signal quality using a heatmap generated from the recommended optimization of access point mapping using the Site Survey method. The study employs two types of Site Survey: Active Site Survey, conducted in real conditions to determine signal attenuation and access point coverage, and Passive Site Survey, performed using software based on the data collected during the Active Site Survey, with full assistance from the Ekahau AI Pro application. Data collection involved survey questionnaires. The results indicate that the existing heatmap from the Active Site Survey shows adequate access point signal coverage across the area. However, upon closer examination, some specific areas and rooms remain uncovered by AP signals. Based on the survey responses and research objectives, optimization is necessary. In the Passive Site Survey, six heatmap optimization experiments were conducted, along with a comparison table of AP signal strength in the existing conditions. The most optimal heatmap recommendation was obtained from the first experiment, involving a total of 29 AP devices. This resulted in an 8.8% increase in signal coverage and an 8.9% reduction in uncovered areas.*

*Keyword: Optimization, mapping, Site Survey, Ekahau AI Pro, RSSI.*