ABSTRACT

Free Space Optics (FSO) is an optical communication technology that uses the atmosphere as a wireless propagation medium. Free Space Optics (FSO) offers high-speed and cost-efficient communication but is susceptible to environmental factors such as weather and visual obstructions. This research aims to design and implement a *website* capable of automatically and accurately calculating Free Space Optics (FSO) performance parameters, such as received power and signal-to-noise ratio. The *website* also provides visualization of the results to help users understand network conditions.

The development of the web-based platform integrates computation features, including easy input for environmental and technical parameters. The *website* is designed using modern technologies to ensure an interactive and responsive user experience. The solution's implementation begins with designing a user-friendly and informative interface. This phase includes gathering user requirements through questionnaires and determining relevant content, including technical specifications.

The research results show that the developed *website* can deliver accurate calculations with a low *error* rate and is well-received by users, based on the evaluation of the Mean Opinion Score (MOS) from tests involving 36 respondents. The average satisfaction score was very high at 4,48. *Website* performance testing was conducted using Blaze Meter, showing good stability and responsiveness, with a response time of 705,6 ms, an average bandwidth of 698,18 KB/s, an average connection time of 466,53 ms, and an average latency time of 705,59 ms. The throughput value reached 49,74 hits per second. No *error*s were encountered during the testing period.

***Keywords**: Free Space Optics, received power, Signal to Noise Ratio, network computation, interactive website*