

## ***Abstract: Novel Interference Mitigation Scheme for Convergence System Based on PLC and VLC***

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### **Abstract**

In this paper, we propose novel home network architecture, and analyze performance of interference mitigation scheme for the proposed convergence system with power line communication (PLC) and visible light communication (VLC). This convergence system can provide high speed multimedia service in indoor wireless environment. In order to validate the proposed system, interference scenario is suggested and analyzed by employing zero-forcing (ZF) and minimum mean square error (MMSE) schemes to mitigate the interference. From simulation results, it is confirmed that interference significantly affects the proposed convergence system performance and the employed detectors are very effective in mitigating interference. The results of the paper can be applied to design of smart home network and various indoor multimedia service sites by employing advantageous features of PLC and VLC.

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