

Abstract

Broadcast based transmission is one of the cheapest telecommunication ware. The greatest problem is about privacy and security. Solution for that problem are giving some computer control to manage it, by using encryption toward material that would be sent.

Within broadcast case, the most suitable encryption method are using public key to give selective value to Users, so sender could select destination that would be considered, without any doubt that their message could be decrypted by another ones. For this case, RSA algorithm have enough criteria to be applied.

Commonly, this system is receiving audio, then encrypting using RSA and sending through transmission media. Transmission value is received by receiver and being decrypting or playing. As for the transmission tools, used transmitter simulator which referencing TRF-2.4G module, on 2.4GHz frequency, with 1Mb/s bandwidth.

Within experiment found that encryption computation is higher than decryption process. RSA with longer keys had better performance than shorter one, if using to processing greater data.

Audio formats that suitable are is lower quality ones. As the theorems, if buffer shorter then audio response is better.

Counting all delays for each process segments, this system could be consider as a real-time system.

Key Words: audio, bandwidth, broadcast, key, privacy, real-time, RSA, security