The client program underwent comprehensive testing primarily on localhost, to emulate network communication on the same machine. Additional tests were conducted across different machines within a local network to assess adaptability to varied network conditions.

The test cases encompassed scenarios such as successful ping requests, intentional packet loss simulation in the server, and the handling of timeouts to ensure the client's robustness under diverse conditions. In successful ping scenarios, all pings were transmitted and received as expected, accurately measuring and printing round-trip times. Introducing intentional packet loss resulted in appropriately simulated losses and server won’t send message back to client, and the client adeptly handled timeouts.

Also, I handled a few bugs like time need to convert to string, and I need decode my message before sending it because a bytes-like object is required. Addressing discrepancies, a refinement in error messaging during timeouts was implemented to enhance user clarity. Overall, the testing process revealed the program's resilience and preparedness to handle different network scenarios, ensuring its reliability in real-world usage.