Inertia reduction due to high-level penetration of converter interfaced components may result in frequency stability issues. The paper proposes and analyzes different strategies using synchronous condenser (SC), synthetic inertia (SI) of wind power plant, and their combination to enhance the frequency stability of low inertia systems under various scenarios and wind conditions. Furthermore, one of the SC models includes hardware of automatic voltage regulator (AVR) for better representation of the reality is implemented. The simplified Western Danish power system simulated in real time digital simulator (RTDS) is used as a test system of low inertia to demonstrate the effectiveness of the strategies. The comparative results show that the combination of SC with AVR hardware-in-the-loop test and SI offers a better improvement not only on frequency stability (rate of change of frequency and frequency deviation) but also on the system synchronism under various operating conditions.