

1. The weights of maxim Sharpe Ratio portfolios are: [0.15202905, -0.13302031, 0.98099126]
2. New risk adjusted return metric is : [0.46206864 0.03502933 0.50290203]
3. Comparison
 - **Max Sharpe Ratio Portfolio:** This portfolio achieves a slightly lower expected return compared to the Max Risk-Adjusted Return portfolio but demonstrates significantly lower volatility, making it more stable. The lower volatility is due to the portfolio's concentration in Asset 3, which likely has a high return-to-volatility ratio (Sharpe Ratio). If Asset 3 performs well, the portfolio achieves high returns. However, underperformance of Asset 3 would lead to significant losses due to the lack of diversification.
 - **Max Risk-Adjusted Return Portfolio:** While this portfolio achieves a slightly higher expected return, it does so at the cost of much higher volatility. To maximize the risk-adjusted return metric, this portfolio sacrifices volatility control by including higher-risk assets, likely aiming to minimize extreme losses. Greater diversification reduces single-asset risk, but the inclusion of Asset 1, which likely has higher volatility, increases the overall portfolio's volatility. This trade-off is made to improve downside risk management.

	Portfolio	Return	Volatility
0	Max Sharpe	0.182059	0.391005
1	Max RAR	0.188159	0.569818

