

RELIANCE Stock Analysis

EMA 9/15 Crossover Strategy - Comprehensive Backtest Report

Analysis Parameter	Value
Stock Symbol	RELIANCE
Strategy Type	EMA 9/15 Crossover
Data Period	July 25, 2025 to September 05, 2025
Total Data Points	2,175 bars
Base Timeframe	5 minutes
Analysis Timeframes	15min, 30min
Risk:Reward Ratios	1:1, 1:2, 1:3
Stop Loss Types	Fixed, Trailing
Price Range	■1,349.0 - ■1,431.1
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Executive Summary

This comprehensive analysis examines RELIANCE stock performance using EMA 9/15 crossover strategies across multiple configurations. We tested 12 different strategy combinations including various timeframes, risk-reward ratios, and stop-loss mechanisms.

Key Findings:

- **Best Return:** 30min Trailing 1:1 (-6.15%)
- **Best Sharpe:** 30min Trailing 1:1 (-5.59)
- **Lowest Drawdown:** 30min Trailing 1:1 (7.08%)
- **Best Win Rate:** 30min Trailing 1:1 (33.3%)
- **Best Profit Factor:** 30min Trailing 1:1 (0.50)

Complete Strategy Comparison

Configuration	Timeframe	Risk Ratio	Stop Type	Return (%)	B&H Return (%)	Sharpe	Max DD (%)	Win Rate (%)	Profit Factor	Trades	Avg Trade (%)	Calmar
15min Fixed 1:1	15min	1:1	Fixed	-17.77	-1.71	-26.17	18.62	18.0	0.26	50	-0.40	-4.29
15min Trailing 1:1	15min	1:1	Trailing	-16.90	-1.71	-20.42	17.76	20.0	0.29	50	-0.38	-4.39
15min Fixed 1:2	15min	1:2	Fixed	-21.06	-1.71	-35.89	21.87	12.0	0.16	50	-0.48	-3.93
15min Trailing 1:2	15min	1:2	Trailing	-21.02	-1.71	-38.24	21.83	14.0	0.16	50	-0.48	-3.93
15min Fixed 1:3	15min	1:3	Fixed	-22.74	-1.71	-45.63	23.54	12.0	0.08	50	-0.53	-3.75
15min Trailing 1:3	15min	1:3	Trailing	-22.40	-1.71	-46.50	23.21	14.0	0.10	50	-0.52	-3.79
30min Fixed 1:1	30min	1:1	Fixed	-8.46	-1.71	-9.45	9.36	29.6	0.39	27	-0.33	-5.73
30min Trailing 1:1	30min	1:1	Trailing	-6.15	-1.71	-5.59	7.08	33.3	0.50	27	-0.24	-5.99
30min Fixed 1:2	30min	1:2	Fixed	-7.33	-1.71	-5.69	8.03	23.1	0.48	26	-0.32	-6.03
30min Trailing 1:2	30min	1:2	Trailing	-7.58	-1.71	-5.99	8.24	19.2	0.47	26	-0.32	-6.02
30min Fixed 1:3	30min	1:3	Fixed	-8.94	-1.71	-6.17	9.59	19.2	0.42	26	-0.38	-5.80
30min Trailing 1:3	30min	1:3	Trailing	-8.97	-1.71	-6.82	9.62	15.4	0.39	26	-0.39	-5.80

Performance Analysis by Categories

Timeframe Comparison

timeframe	total_return	sharpe_ratio	max_drawdown	win_rate	profit_factor	num_trades
15min	-20.32	-35.48	21.14	15.00	0.17	50.00
30min	-7.91	-6.62	8.65	23.31	0.44	26.33

Risk:Reward Ratio Comparison

risk_ratio	total_return	sharpe_ratio	max_drawdown	win_rate	profit_factor	num_trades
1:1	-12.32	-15.41	13.20	25.24	0.36	38.50

1:2	-14.25	-21.45	14.99	17.08	0.32	38.00
1:3	-15.76	-26.28	16.49	15.15	0.25	38.00

Stop Loss Type Comparison

stop_type	total_return	sharpe_ratio	max_drawdown	win_rate	profit_factor	num_trades
Fixed	-14.38	-21.50	15.17	18.99	0.30	38.17
Trailing	-13.84	-20.59	14.62	19.32	0.32	38.17

■ Time Period Performance Analysis

Daily Performance Analysis

Configuration	avg_return	total_return	max_drawdown	sharpe_ratio	num_trades
15min Fixed 1:1	-0.40	-17.77	18.62	-26.17	50.00
15min Trailing 1:1	-0.38	-16.90	17.76	-20.42	50.00
15min Fixed 1:2	-0.48	-21.06	21.87	-35.89	50.00
15min Trailing 1:2	-0.48	-21.02	21.83	-38.24	50.00
15min Fixed 1:3	-0.53	-22.74	23.54	-45.63	50.00
15min Trailing 1:3	-0.52	-22.40	23.21	-46.50	50.00
30min Fixed 1:1	-0.33	-8.46	9.36	-9.45	27.00
30min Trailing 1:1	-0.24	-6.15	7.08	-5.59	27.00
30min Fixed 1:2	-0.32	-7.33	8.03	-5.69	26.00
30min Trailing 1:2	-0.32	-7.58	8.24	-5.99	26.00
30min Fixed 1:3	-0.38	-8.94	9.59	-6.17	26.00
30min Trailing 1:3	-0.39	-8.97	9.62	-6.82	26.00

Weekly Performance Analysis

Configuration	avg_return	total_return	max_drawdown	sharpe_ratio	num_trades
15min Fixed 1:1	-0.40	-17.77	18.62	-26.17	50.00
15min Trailing 1:1	-0.38	-16.90	17.76	-20.42	50.00
15min Fixed 1:2	-0.48	-21.06	21.87	-35.89	50.00
15min Trailing 1:2	-0.48	-21.02	21.83	-38.24	50.00
15min Fixed 1:3	-0.53	-22.74	23.54	-45.63	50.00
15min Trailing 1:3	-0.52	-22.40	23.21	-46.50	50.00
30min Fixed 1:1	-0.33	-8.46	9.36	-9.45	27.00
30min Trailing 1:1	-0.24	-6.15	7.08	-5.59	27.00
30min Fixed 1:2	-0.32	-7.33	8.03	-5.69	26.00
30min Trailing 1:2	-0.32	-7.58	8.24	-5.99	26.00
30min Fixed 1:3	-0.38	-8.94	9.59	-6.17	26.00
30min Trailing 1:3	-0.39	-8.97	9.62	-6.82	26.00

Monthly Performance Analysis

Configuration	avg_return	total_return	max_drawdown	sharpe_ratio	num_trades
15min Fixed 1:1	-0.40	-17.77	18.62	-26.17	50.00
15min Trailing 1:1	-0.38	-16.90	17.76	-20.42	50.00
15min Fixed 1:2	-0.48	-21.06	21.87	-35.89	50.00
15min Trailing 1:2	-0.48	-21.02	21.83	-38.24	50.00

15min Fixed 1:3	-0.53	-22.74	23.54	-45.63	50.00
15min Trailing 1:3	-0.52	-22.40	23.21	-46.50	50.00
30min Fixed 1:1	-0.33	-8.46	9.36	-9.45	27.00
30min Trailing 1:1	-0.24	-6.15	7.08	-5.59	27.00
30min Fixed 1:2	-0.32	-7.33	8.03	-5.69	26.00
30min Trailing 1:2	-0.32	-7.58	8.24	-5.99	26.00
30min Fixed 1:3	-0.38	-8.94	9.59	-6.17	26.00
30min Trailing 1:3	-0.39	-8.97	9.62	-6.82	26.00

■ RELIANCE Market Insights

RELIANCE Trading Characteristics:

1. Company Profile:

- Reliance Industries Limited - India's largest private sector company
- Diversified conglomerate with oil, gas, petrochemicals, telecom, retail
- Market leader in multiple sectors with strong brand presence
- Influenced by global oil prices, rupee movement, and policy changes

2. Price Movement Patterns:

- High liquidity and institutional participation
- Often moves in tandem with global oil prices and rupee strength
- Quarterly results and dividend announcements create volatility
- Strong support at key psychological levels

3. Strategy Considerations for RELIANCE:

- EMA crossovers may work better during trending phases
- Higher timeframes (30min) might capture institutional moves better
- Consider fundamental catalysts alongside technical signals
- Monitor oil prices and currency movements

4. Trading Volume Analysis:

- Extremely high volume - one of India's most traded stocks
- Institutional flows can create strong directional moves
- Volume spikes often precede major price movements
- Good for both intraday and positional trading

■ RELIANCE-Specific Risks:

- Global oil price volatility and geopolitical tensions
- Rupee depreciation impact on import costs
- Regulatory changes in telecom and energy sectors
- Competition from global and domestic players

■ RELIANCE Strategy Recommendations

Based on the RELIANCE analysis, here are targeted recommendations:

1. Optimal Configuration Selection:

- Review the best performing configurations from our analysis
- Consider RELIANCE's high volatility profile when choosing risk ratios
- Factor in quarterly results and dividend ex-dates

2. Timeframe Optimization:

- 15-minute charts may capture intraday institutional flows
- 30-minute timeframes could reduce noise from high volume periods
- Consider daily charts for longer-term position trades

3. RELIANCE-Specific Risk Management:

- Use wider stops during earnings and policy announcement periods
- Consider fundamental support levels and technical confluence
- Monitor oil prices, rupee movement, and sector news

4. Market Timing Considerations:

- Avoid trading during quarterly results and dividend announcements
- Pay attention to global oil price movements
- Monitor institutional flows and FII activity

- Consider seasonal patterns in energy sector

5. Portfolio Integration:

- RELIANCE can serve as a market proxy for Indian economy
- Pairs well with other energy and telecom stocks
- Consider as a core holding with technical overlay
- Use as hedge against sector-specific risks

■ ■ Important Disclaimers:

- Past performance does not guarantee future results
- RELIANCE is subject to global and domestic economic factors
- Always use proper risk management and position sizing
- Consider transaction costs and dividend impacts in live trading
- Monitor ESG trends affecting energy and telecom sectors

■ Methodology & Technical Details

RELIANCE Analysis Framework:

- **Data Source:** 5-minute OHLCV bars from RELIANCE
- **Analysis Period:** Comprehensive historical backtest
- **Strategy Core:** EMA 9/15 crossover with bi-directional trading
- **Risk Management:** Fixed and trailing stop-loss mechanisms

Technical Indicators:

- **EMA 9:** Fast exponential moving average for trend detection
- **EMA 15:** Slow exponential moving average for confirmation
- **Crossover Logic:** Both long and short position generation
- **Stop Loss:** 1% base with configurable risk-reward ratios

Configuration Matrix:

- **Timeframes:** 15-minute and 30-minute resampling
- **Risk Ratios:** 1:1, 1:2, and 1:3 risk-to-reward testing
- **Stop Types:** Fixed stops vs. dynamic trailing stops
- **Total Configs:** 12 comprehensive combinations

Performance Metrics:

- **Return Analysis:** Total return vs buy-and-hold comparison
- **Risk Metrics:** Sharpe ratio, maximum drawdown, Calmar ratio
- **Trade Statistics:** Win rate, profit factor, average trade
- **Execution:** Realistic commission assumptions (0.1%)

RELIANCE-Specific Considerations:

- **Market Position:** India's largest company by market cap
- **Volatility Profile:** High volatility due to multiple sectors
- **Liquidity Analysis:** Extremely high volume and institutional interest
- **Fundamental Overlay:** Oil prices, rupee, and sector policy impact

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Analysis Framework: backtesting.py with RELIANCE adaptations

Stock: Reliance Industries Limited (RELIANCE)

Strategy: EMA 9/15 Crossover (Bi-directional)

Configurations Tested: 12

Sector: Conglomerate - Energy, Telecom, Retail

Report Version: 1.0 - RELIANCE Specialized