

Seasonality and Cycle Analysis Report

1. Seasonality Analysis

Products with Strong Seasonality (Strength > 0.7)

Product	Seasonality Strength	Dominant Quarter	Q1 Index	Q2 Index	Q3 Index	Q4 Index
SWITCH Enterprise High 2	1.0000	Q4	-21.03	15.84	-20.78	25.97
SWITCH Enterprise High 1	0.9338	Q4	1348.05	-3713.64	-4124.83	6490.42
TRANSCEIVER MODULE Mid 1	0.7984	Q4	-13010.48	-2080.73	-4548.05	19639.27
SWITCH Enterprise Ultra High 2	0.7833	Q4	-1004.97	23.53	-91.53	1072.97
MEMORY	0.7561	Q4	-7654.23	-7540.23	-2360.92	17555.39
SWITCH Enterprise Ultra High 1	0.7199	Q4	-916.33	-479.33	-393.95	1789.61

Products with Moderate Seasonality (0.5 ≤ Strength < 0.7)

Product	Seasonality Strength	Dominant Quarter	Q1 Index	Q2 Index	Q3 Index	Q4 Index
POWER SUPPLY Mid	0.6992	Q4	870.59	-7196.78	-10666.59	16992.78
ROUTER Enterprise Mid 1	0.6924	Q4	-389.80	-1936.55	-185.30	2511.64
POWER SUPPLY High	0.6482	Q4	-3826.36	-5093.80	-8175.36	17095.52
TRANSCEIVER MODULE High	0.5970	Q3	-995.06	-855.81	4171.94	-2321.06
SERVER	0.5870	Q4	-160.11	-328.67	-1204.48	1693.27

Products with Weak Seasonality (Strength < 0.5)

Product	Seasonality Strength	Dominant Quarter	Q1 Index	Q2 Index	Q3 Index	Q4 Index
ACCESS POINT Mid	0.4967	Q4	-6191.05	-139.86	-384.11	6715.02
ROUTER Enterprise Low	0.4690	Q2	-629.19	3167.50	-3423.06	884.75
SWITCH Data Center High	0.4571	Q2	-53.00	295.81	-160.94	-81.88
TRANSCEIVER MODULE Mid 2	0.3752	Q3	-3457.67	-1755.23	4304.70	908.20
SWITCH Data Center Mid 2	0.3004	Q1	250.31	-317.69	141.00	-73.63
ROUTER Enterprise Mid 2	0.2978	Q4	-152.03	-237.28	-79.84	469.16
SWITCH Enterprise Low	0.2075	Q1	4472.83	-1583.80	234.27	-3123.30

Product	Seasonality Strength	Dominant Quarter	Q1 Index	Q2 Index	Q3 Index	Q4 Index
SWITCH Data Center Mid 1	0.2085	Q2	-241.88	164.31	128.63	-51.06

Insufficient Data

- PROCESSOR: Fewer than 8 data points available

2. Outlier Detection (Threshold: 2.5 Z-score)

Product	Quarter	Demand	Z-score
TRANSCEIVER MODULE Mid 1	FY22 Q2	208,760	2.71
SWITCH Data Center Mid 1	FY22 Q3	6,513	2.76
SWITCH Data Center Mid 2	FY22 Q2	6,629	2.82

3. Autocorrelation Analysis

Products with Significant Lag-1 Autocorrelation

- SWITCH Enterprise High 1
- SWITCH Enterprise Ultra High 1
- SWITCH Enterprise Ultra High 2
- POWER SUPPLY High
- ACCESS POINT Mid
- POWER SUPPLY Mid
- SERVER
- TRANSCEIVER MODULE Mid 2
- ROUTER Enterprise Mid 2

Products with No Significant Autocorrelation

- SWITCH Enterprise Low
- TRANSCEIVER MODULE Mid 1
- TRANSCEIVER MODULE High
- PROCESSOR
- SWITCH Data Center High
- ROUTER Enterprise Mid 1
- MEMORY
- SWITCH Data Center Mid 1
- ROUTER Enterprise Low

- SWITCH Data Center Mid 2
- SWITCH Enterprise High 2

4. Seasonality Heatmap - Peak-to-Low Ratio

Product	Peak Quarter	Low Quarter	Ratio
TRANSCEIVER MODULE High	Q1	Q4	2.76
SERVER	Q4	Q3	2.64
ROUTER Enterprise Mid 1	Q4	Q2	2.00
SWITCH Enterprise Ultra High 1	Q4	Q2	1.96
TRANSCEIVER MODULE Mid 2	Q3	Q2	1.93
SWITCH Enterprise High 2	Q4	Q2	1.85
PROCESSOR	Q2	Q3	1.83
SWITCH Enterprise Low	Q1	Q4	1.79
TRANSCEIVER MODULE Mid 1	Q2	Q1	1.79
SWITCH Data Center Mid 1	Q3	Q1	1.74
ROUTER Enterprise Mid 2	Q4	Q2	1.54
ROUTER Enterprise Low	Q2	Q3	1.52
SWITCH Enterprise Ultra High 2	Q2	Q1	1.47
SWITCH Data Center Mid 2	Q2	Q1	1.40
MEMORY	Q4	Q1	1.35
SWITCH Enterprise High 1	Q4	Q1	1.26
ACCESS POINT Mid	Q3	Q1	1.25
POWER SUPPLY High	Q4	Q1	1.25
POWER SUPPLY Mid	Q4	Q1	1.21
SWITCH Data Center High	Q2	Q3	1.21

5. Long-Term Cycle Analysis

Annual Cycles (4 Quarters)

Product	Cycle Type	Duration (Days)	Quarters
SWITCH Enterprise High 1	Peak-to-peak & Trough-to-trough	366	~4.1
SWITCH Enterprise Ultra High 1	Peak-to-peak	366	~4.1
SWITCH Enterprise Ultra High 2	Peak-to-peak	366	~4.1
POWER SUPPLY High	Peak-to-peak	366	~4.1

Product	Cycle Type	Duration (Days)	Quarters
TRANSCEIVER MODULE High	Peak-to-peak & Trough-to-trough	366	~4.1
ACCESS POINT Mid	Peak-to-peak	366	~4.1
POWER SUPPLY Mid	Peak-to-peak	366	~4.1
SWITCH Data Center High	Trough-to-trough	366	~4.1
ROUTER Enterprise Mid 1	Trough-to-trough	366	~4.1
MEMORY	Peak-to-peak	365	~4.1
ROUTER Enterprise Mid 2	Peak-to-peak	366	~4.1
SWITCH Data Center Mid 2	Peak-to-peak	366	~4.1

Semi-Annual Cycles (2 Quarters)

Product	Cycle Type	Duration (Days)	Quarters
SWITCH Enterprise Ultra High 2	Trough-to-trough	184	~2.0
TRANSCEIVER MODULE Mid 1	Multiple cycles	181-184	~2.0
TRANSCEIVER MODULE High	Peak-to-peak & Trough-to-trough	181-183	~2.0
SERVER	Multiple cycles	182-183	~2.0
SWITCH Data Center High	Peak-to-peak	183-184	~2.0
TRANSCEIVER MODULE Mid 2	Trough-to-trough	181	~2.0
ROUTER Enterprise Mid 2	Multiple cycles	181-184	~2.0
SWITCH Data Center Mid 1	Peak-to-peak	183	~2.0
ROUTER Enterprise Low	Multiple cycles	181-182	~2.0
SWITCH Enterprise High 2	Multiple cycles	182-183	~2.0

Other Cycles (3 or 5 Quarters)

Product	Cycle Type	Duration (Days)	Quarters
SWITCH Enterprise Low	Multiple cycles	273-275	~3.0
POWER SUPPLY High	Trough-to-trough	275	~3.1
TRANSCEIVER MODULE High	Trough-to-trough	274	~3.0
POWER SUPPLY Mid	Peak-to-peak & Trough-to-trough	275-457	~3.1-5.1
SWITCH Data Center High	Multiple cycles	273-456	~3.0-5.1
TRANSCEIVER MODULE Mid 2	Peak-to-peak & Trough-to-trough	457-458	~5.1
ROUTER Enterprise Mid 1	Peak-to-peak	274-457	~3.0-5.1

Product	Cycle Type	Duration (Days)	Quarters
SWITCH Data Center Mid 1	Peak-to-peak & Trough-to-trough	275-457	~3.1-5.1
ROUTER Enterprise Low	Multiple cycles	275	~3.1
SWITCH Data Center Mid 2	Trough-to-trough	275	~3.1