TPC Semiconductor Market Survey

January 19, 2022
TPC December 2021 Survey Summary

Survey Date: 1/7-1/10 Respondents: ~7,800 Location: Worldwide (~80% Asia) Who: Active Electronics Industry Professionals
Response Composition (multiple choices): Industrial 38%, Auto 23%, Comm 22%, Computing 20%, Mobile 35%, Data Ctr 21%, Other 18%

• We recently completed our monthly survey (~7,800 respondents) which saw a slight increases in C4Q21 outlook for growth while showing little change in C1Q22’s growth outlook. The outlook for seasonality and bookings stayed largely unchanged. However, C4Q is still being viewed by respondents as above seasonal vs. the last 4 years.
• Our C1Q22 outlook shows a return to more normal pre-COVID expectations, but still slightly better seasonality vs. CY18 & 19. However, the bookings outlook for C1Q22 is markedly weaker vs. CY18 & CY19. This could be a possible harbinger of weaker component demand heading into 2H22.
• Based on our survey’s past 3 months of more negative growth outlook, as well as seeing a continued increase in inventories, we believe we are still in the beginning stages of an inflection in demand. However, this will likely take a couple of quarters to play out.
• The survey showed C4Q21 improving vs. last month with 3% expecting q/q growth vs. 4% previously; while 52% see it as weaker vs. 56% last month.
• The survey showed C1Q22 outlook generally the same vs. last month with 7% expecting q/q growth vs. 8% previously; while 58% see it as weaker vs. 59% last month.
• Backlog cancellation expectations (slide 7) remains on the significantly negative side in cancellations and remains close to a 5 year high.
• Key product inventory and availability (slide 8) generally stayed the same vs. last month with DRAM and NAND now slightly above normal levels while most other key products are at or just under nominal levels.
• Inventories growth outlook (slide 9) continues to increase for both C4Q and C1Q.
Q/Q Demand Growth Outlook

4Q21 Growth Expectations

C4Q Growth Expectations vs. C3Q

C1Q22 Growth Expectations

C1Q Growth Expectations vs. C4Q

December 2021
Q/Q Seasonality Expectations

**4Q21 Seasonality Expectations**

- Jul: 64%
- Aug: 59%
- Sep: 53%
- Oct: 49%
- Nov: 51%
- Dec: 48%
- Jan: 9%

**C4Q Seasonality Expectations**

- 2017: Above Seasonal 17%, Below Seasonal 14%
- 2018: Above Seasonal 20%, Below Seasonal 10%
- 2019: Above Seasonal 18%, Below Seasonal 9%
- 2020: Above Seasonal 23%, Below Seasonal 8%
- 2021: Above Seasonal 45%, Below Seasonal 4%
- 2022: Above Seasonal 29%, Below Seasonal 11%

**C1Q22 Seasonality Expectations**

- Oct: 15%
- Nov: 11%
- Dec: 10%
- Jan: 9%
- Feb: 9%
- Mar: 11%
- Apr: 22%

**C1Q Seasonality Expectations**

- 2017: Above Seasonal 4%, Below Seasonal 30%
- 2018: Above Seasonal 25%, Below Seasonal 26%
- 2019: Above Seasonal 35%, Below Seasonal 3%
- 2020: Above Seasonal 32%, Below Seasonal 15%
- 2021: Above Seasonal 15%, Below Seasonal 25%
- 2022: Above Seasonal 10%, Below Seasonal 30%
Q/Q Bookings Growth Expectations

4Q21 Bookings Expectations

C4Q Bookings Expectations Seasonality

C1Q22 Bookings Expectations

C1Q Bookings Expectations
Book to Bill History & Trends
(Calendar quarters)

% Responses with Book-Bill > or = 1.0

December 2021
TPC Proprietary
Backlog Order Push Outs/Cancellations vs. 30 Days Ago
(Delta between increasing and decreasing cancellations – Higher % is more positive)
Inventory Status

(Using a scale of 1 to 5 with 1 being extremely low inventory, 3 being the normal amount, and 5 being extremely high; how do you view inventory levels for the following products?)

Most critical product types are now at nominal inventory levels
Q/Q Inventory Growth

C4Q21 Inventories vs. C3Q21

C1Q22 Inventories vs. C4Q21
Q/Q Pricing Trends

C4Q21 Pricing vs. C3Q21

C1Q22 Pricing vs. C4Q21
Vertical Outlook

The outlook for Communications continues to be above previous years while Auto continues to erode.