



TPC Semiconductor Market Survey

February 19, 2020

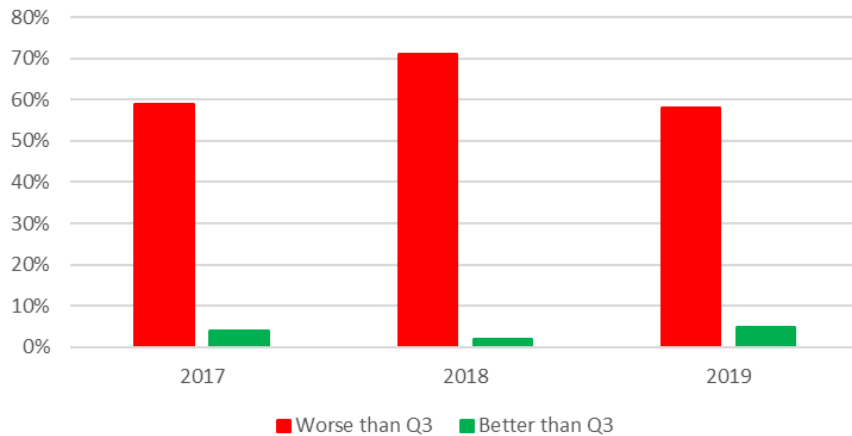
TPC February 2020 Survey Summary

*Survey Date: February 14-17 Respondents: ~10,000 Location: Worldwide (~80% Asia) Who: Active Electronics Industry Professionals
Response Composition (multiple choices): Industrial 38%, Auto 18%, Comm 17%, Computing 21%, Mobile 26%, Data Ctr 23%, Other 11%*

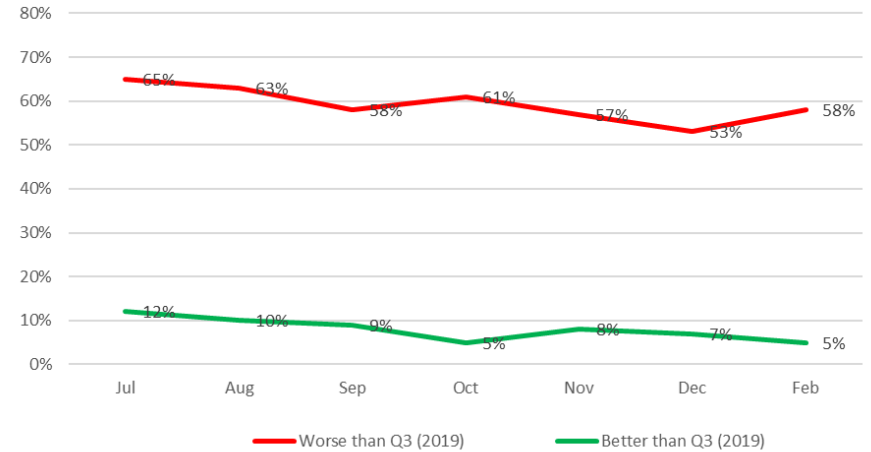
- Our February 2020 Semi industry survey of over 25k electronic industry professionals showed significant inflection on most metrics driven by the current and future impact from the Coronavirus.
- The survey showed a downtick in the growth outlook for C1Q20 as well as a significantly weaker seasonality outlook for C1Q which we believe is related to limited product availability due to the virus. Our C1Q data shows 85% expecting down q/q growth vs. 71% previously, but only 4% see it as better than seasonal while 64% see it below seasonal.
- However, the survey showed a significant uptick in bookings growth outlook for C1Q20 which we believe is an indication of production recovering in C2Q and the subsequent demand for components increasing to fill that demand.
- Backlog cancellation expectations (slide 6) showed a significant decrease in cancellation activity vs. the past few months which aligns with the above commentary on booking's trends.
- Inventories appear to be getting slightly better while cancellation trends appear to be worsening vs. our last survey.
- The q/q demand outlook for C4Q19 improved slightly while C1Q20 got slightly weaker. Both quarters are viewed as slightly above the previous 2 year's seasonality.
- Inventories (slide 7) for C4Q and C1Q have improved significantly.
- Slide 8, which shows a more granular view of inventory by key components, showed a marked decrease in inventory and availability as we believe we are headed towards longer component leadtimes and allocation in some instances.
- Pricing outlook is also improving with pricing projected to increase as we move into C2Q.

C4Q19 Growth & Seasonality Outlook

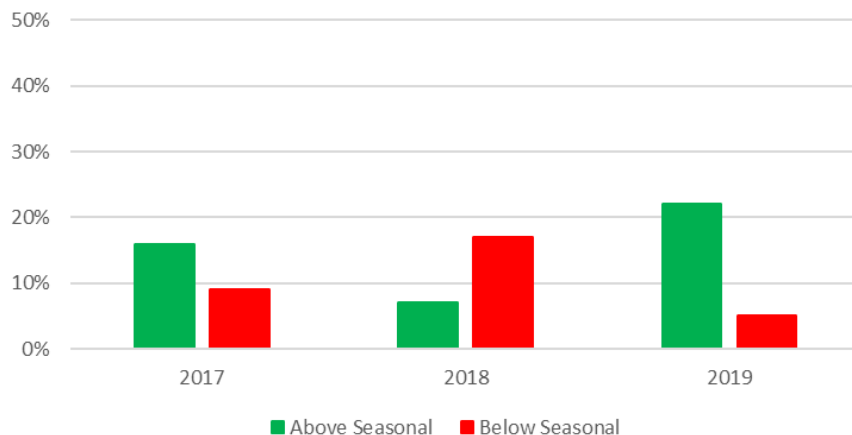
C4Q19 Growth Expectations vs. C3Q



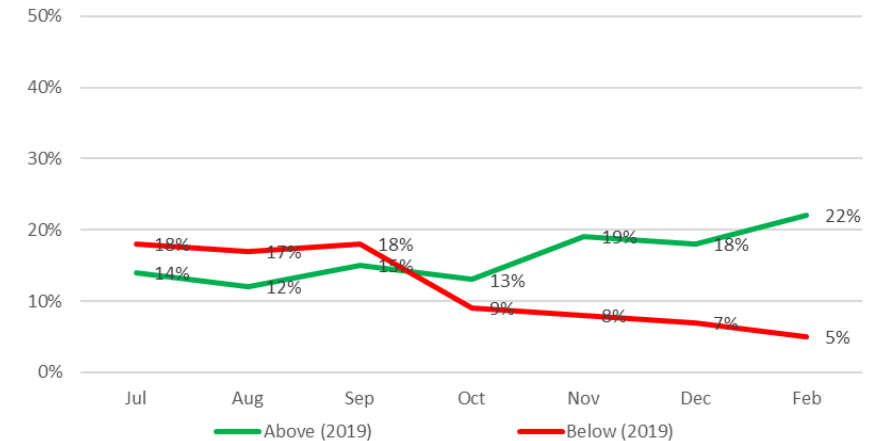
4Q Growth Expectations



C4Q19 Seasonality Expectations

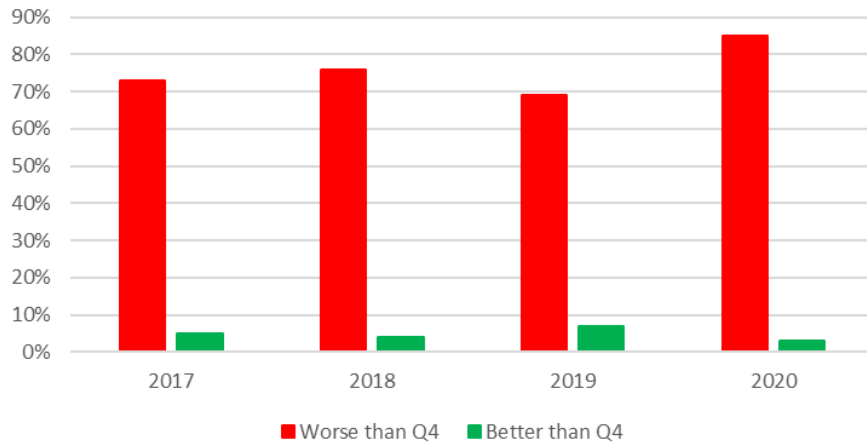


4Q Seasonality Expectations

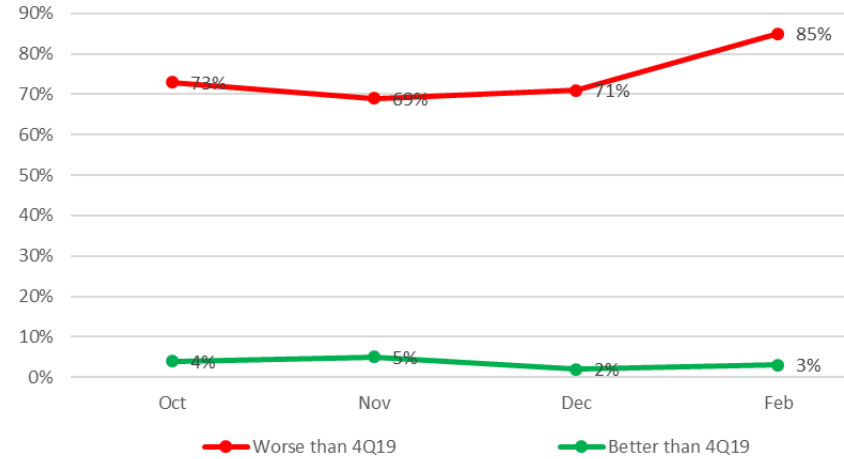


C1Q20 Growth & Seasonality Outlook

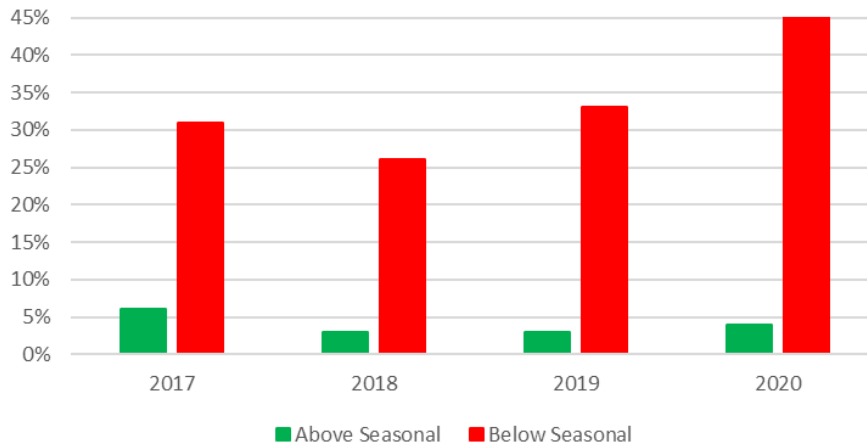
C1Q20 Growth Expectations vs. C4Q



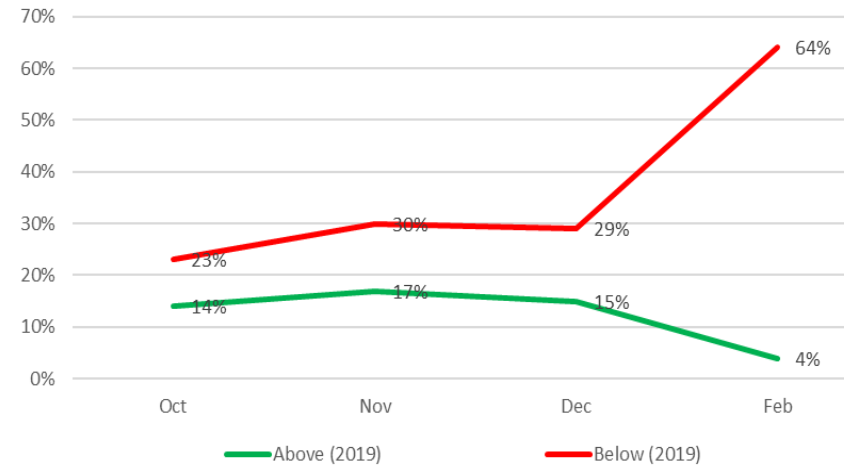
1Q Growth Expectations



C1Q20 Seasonality Expectations

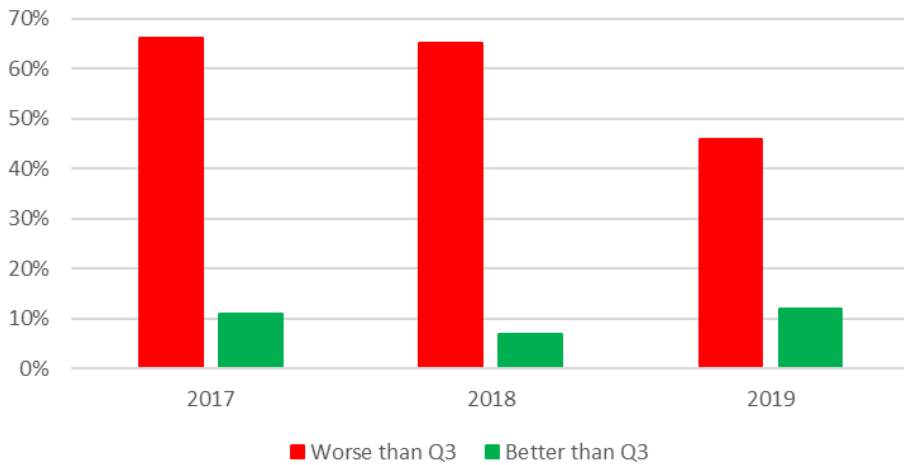


1Q20 Seasonality Expectations

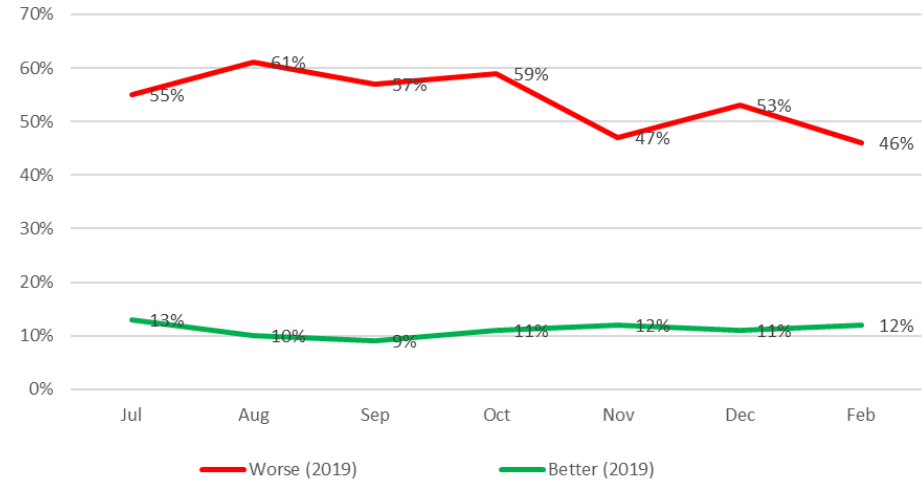


Q/Q Bookings Growth Expectations

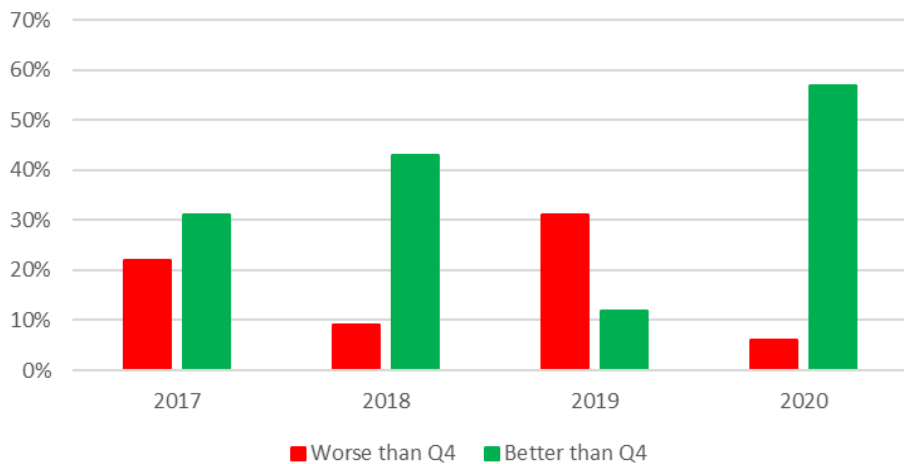
C4Q19 Bookings Expectations Seasonality



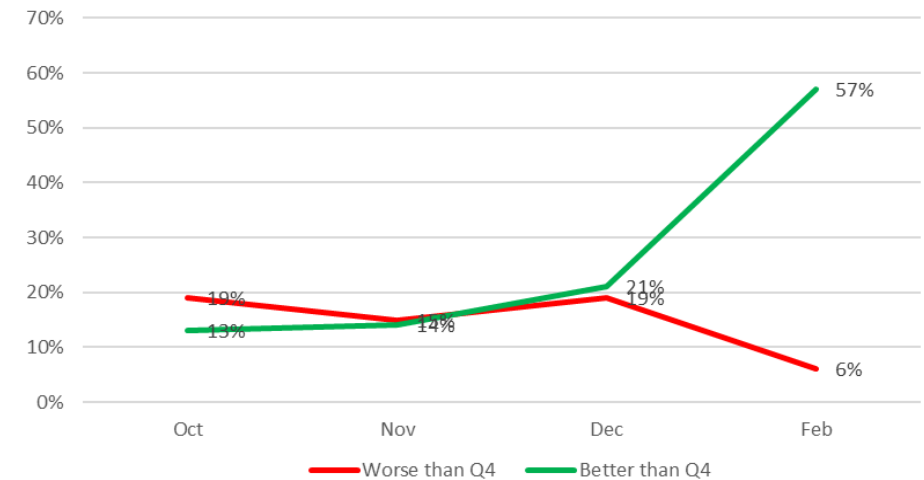
4Q Bookings Expectations



C1Q20 Bookings Expectations Seasonality

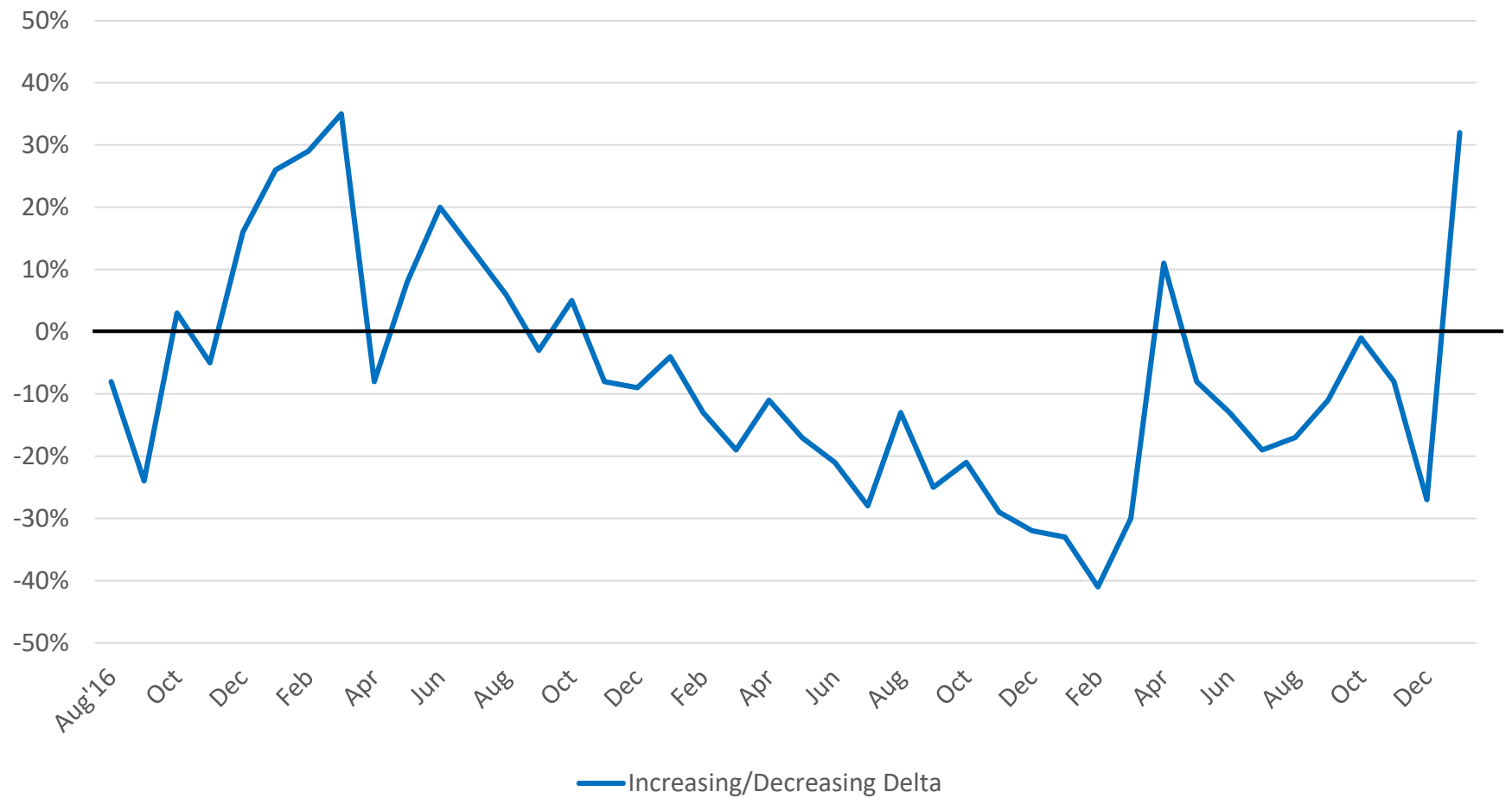


1Q Bookings Expectations

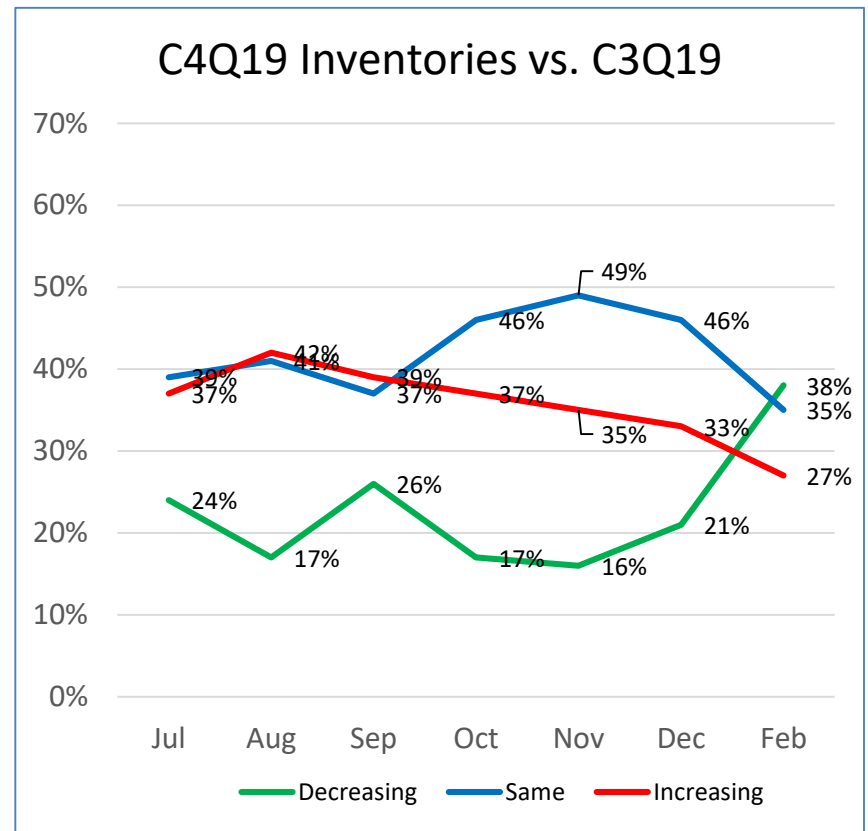
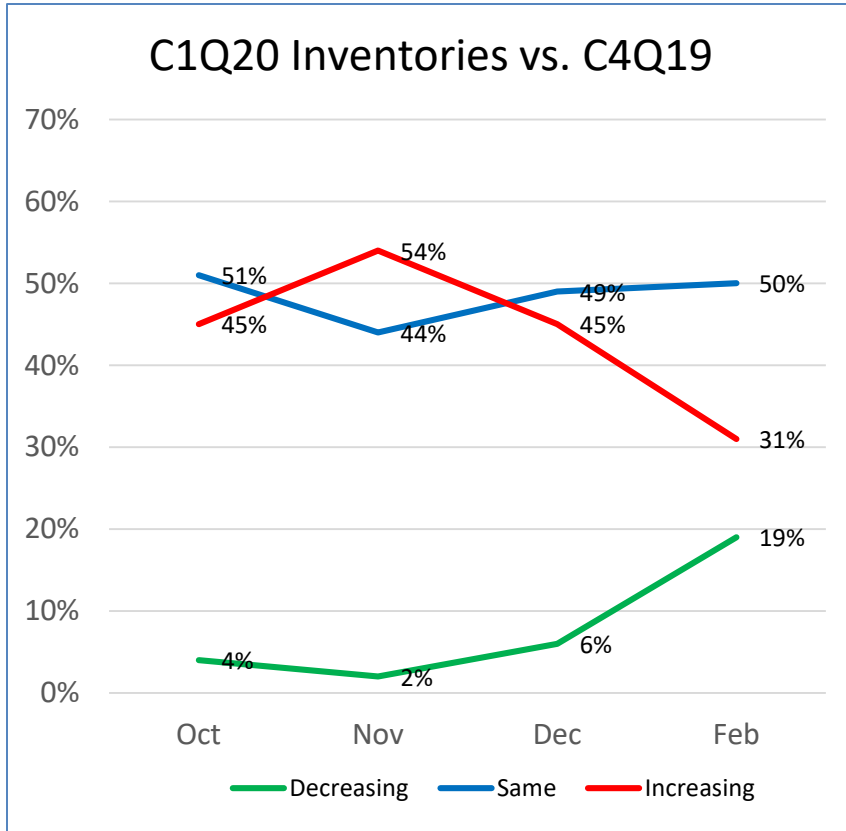


Backlog Order Cancellations vs. 30 Days Ago

(Delta between Increasing and Decreasing Cancellations)

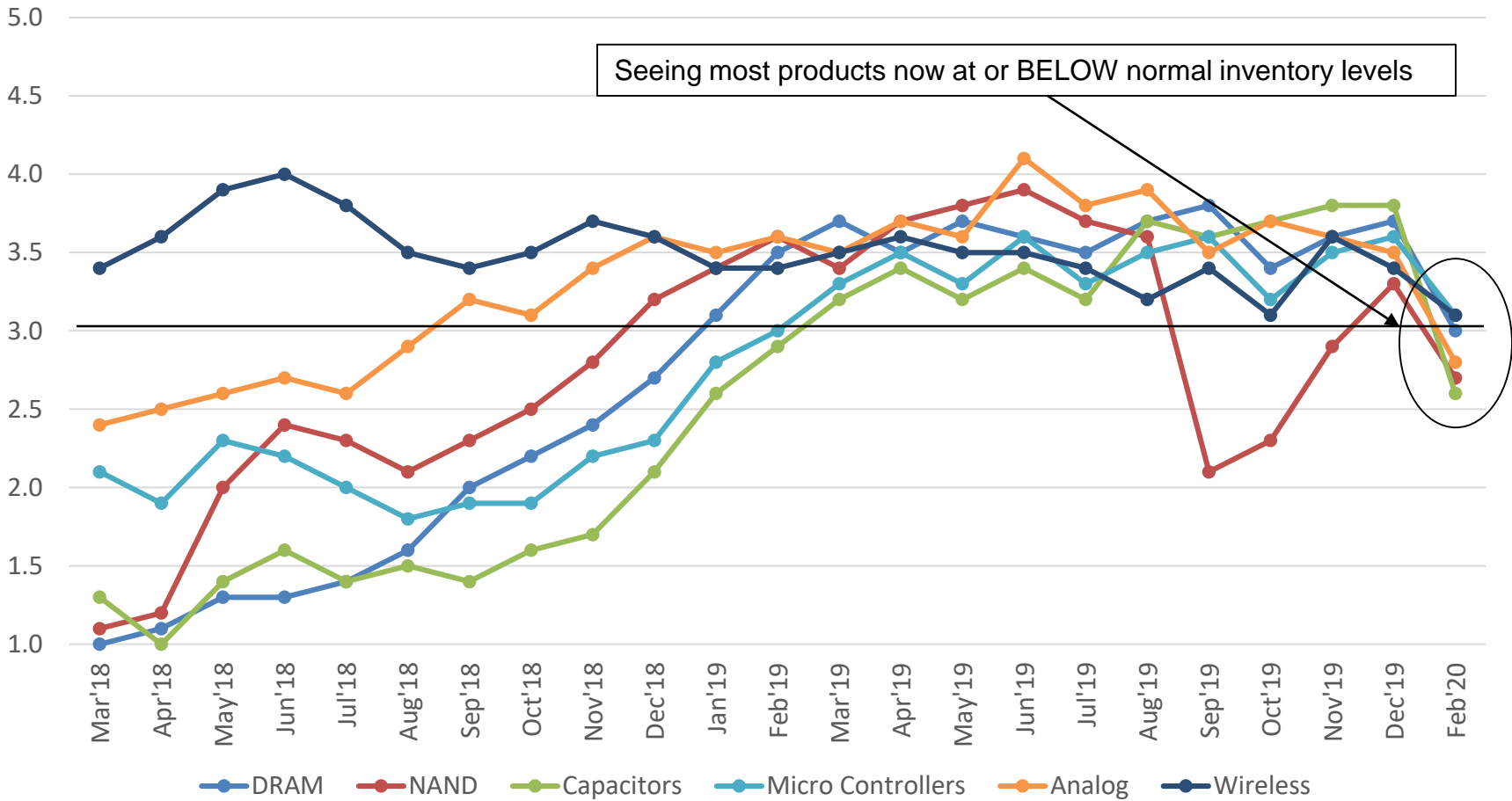


Q/Q Inventory Growth

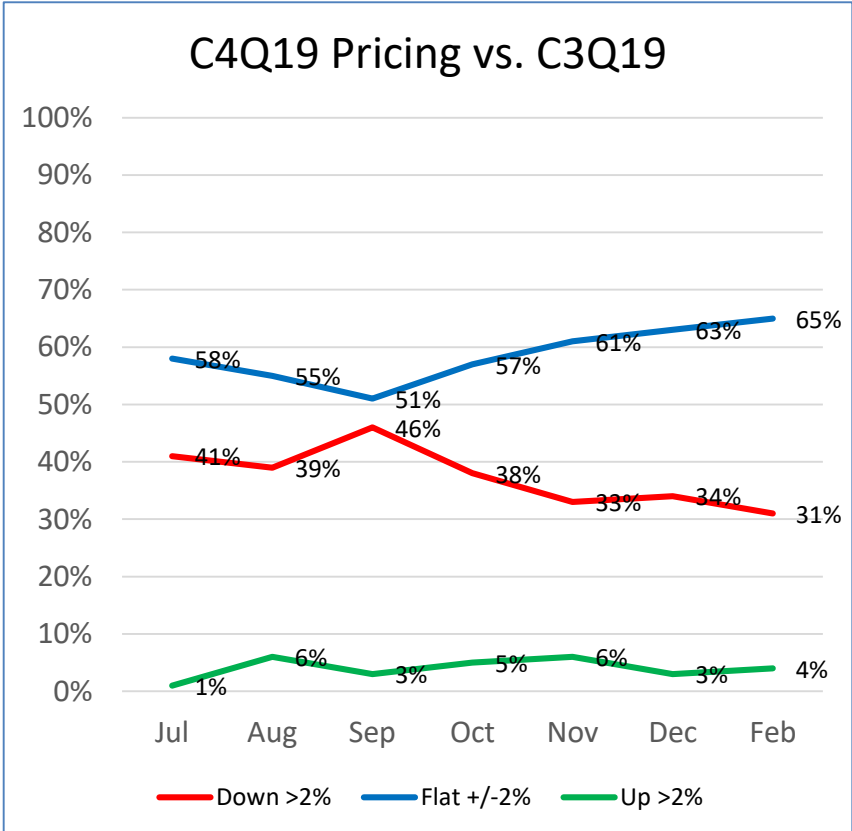
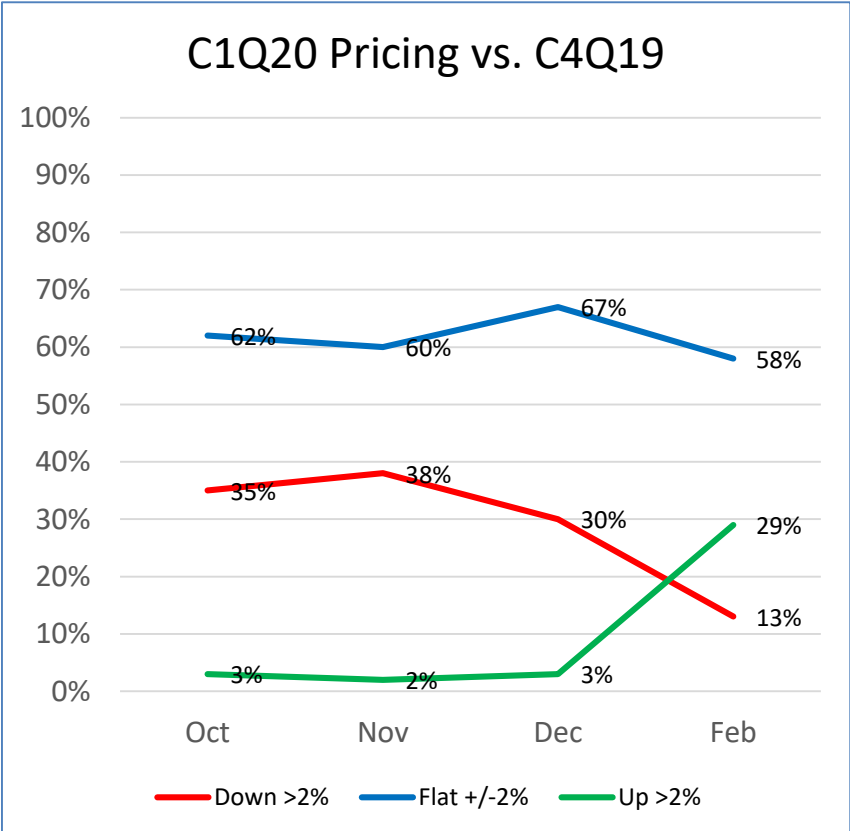


Inventory Status

(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?)



Q/Q Pricing Trends



Vertical Outlook

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

