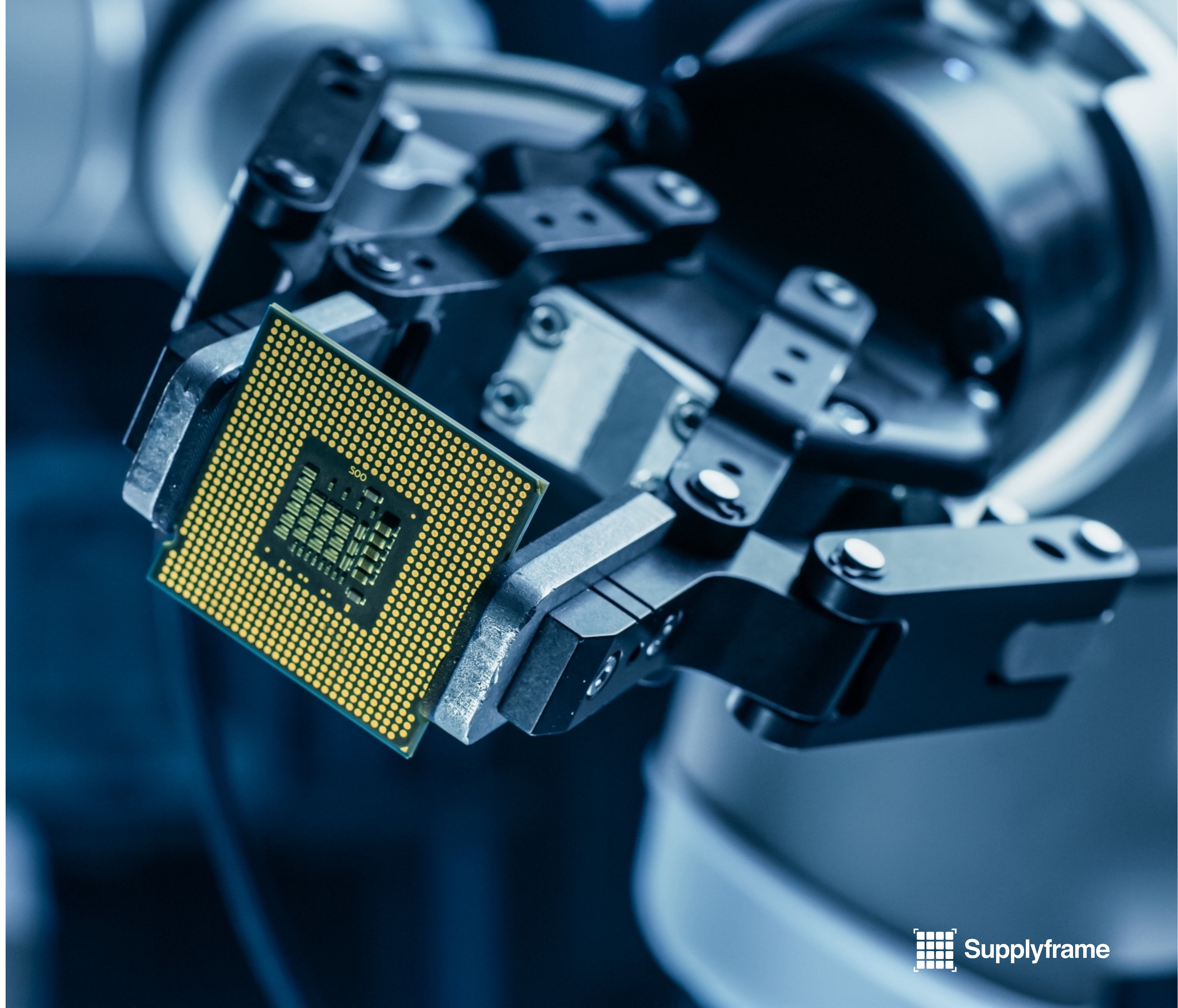


Supplyframe
Design-to-Source
Intelligence

Design-to-Source Monthly Insights

November 2023



Methodology

The following report was compiled using data available from Supplyframe's Design to Source Intelligence (DSI) Network. The DSI Network consists of more than 70+ web properties, attracting 11M+ engineers and procurement professionals from around the world on a monthly basis. Engineers and procurement professionals visit and interact with the DSI Network specifically for their work (research, consider, design, and buy), enabling Supplyframe to understand design trends, sourcing trends, and extrapolate indicators of overall market conditions and trends.

What this report provides the advertiser?

1. A proxy for "market" condition by evaluating trends in engineering design activities and procurement sourcing activities
2. Understand what product categories are in demand by engineers and buyers
3. Anticipate future sourcing demand based on where design activities are concentrated (categories and regions)

Customers can leverage the insights provided in this report to support the development of their Go-To-Market strategy, as well as campaign planning and execution to drive their organization's objectives.

To protect sensitive information, as well as provide a mechanism for insights - we have normalized and indexed much of the data used in this analyses. There are two specific indices utilized to provide trend and comparative insights:

Design Activity Index

Based on part level activity by engineers on the DSI Network. Activities included are related to part evaluation and part placement in designs via EDAs. Activities, are normalized, weighted, and scored on a scale of 0 – 100.

Index scores are relative to the dimensions of data being included in the analyses (ie. Country, manufacturer, categories). A value of 100 reflects maximum volume of activities in the given data set. A value of 50 reflects half of the maximum value in the given data set.

Sourcing Activity Index

Based on part level activity by buyers on the DSI Network. Activities included are related to buy clicks on the the DSI Network. Index is scored on a scale of 0 – 100.

Index scores are relative to the dimensions of data being included in the analyses (ie. Country, manufacturer, categories). A value of 100 reflects maximum value in the given data set. A value of 50 reflects half of the maximum value in the given data set.

What We Saw Across The Network

NOVEMBER 2023

- No significant changes in design and sourcing activities were observed in November. As was the case for the last three months, global design activities continued to show signs of growth, while global sourcing activities remained flat
- Global design activities grew +4% month-over-month and +13% vs. November 2022. Growth was observed across all regions, with the largest increase in activities from EMEA (+6%). Design activities in APAC grew +2%, while activities in the Americas region grew +1% from October
- Global sourcing activities remained flat for the third month in a row, hovering right around the baseline. Sourcing activities continued to remain below prior year with activities down -23% vs. November 2022. Growth was observed in APAC (+8%), while sourcing activities decreased in both the Americas and EMEA from October

2023 Year-To-Date (January – November)

- Calendar year-to-date, global design activities grew +6%, while global sourcing activities decreased -25% vs. the first eleven months in 2022

Q4 2023 Outlook

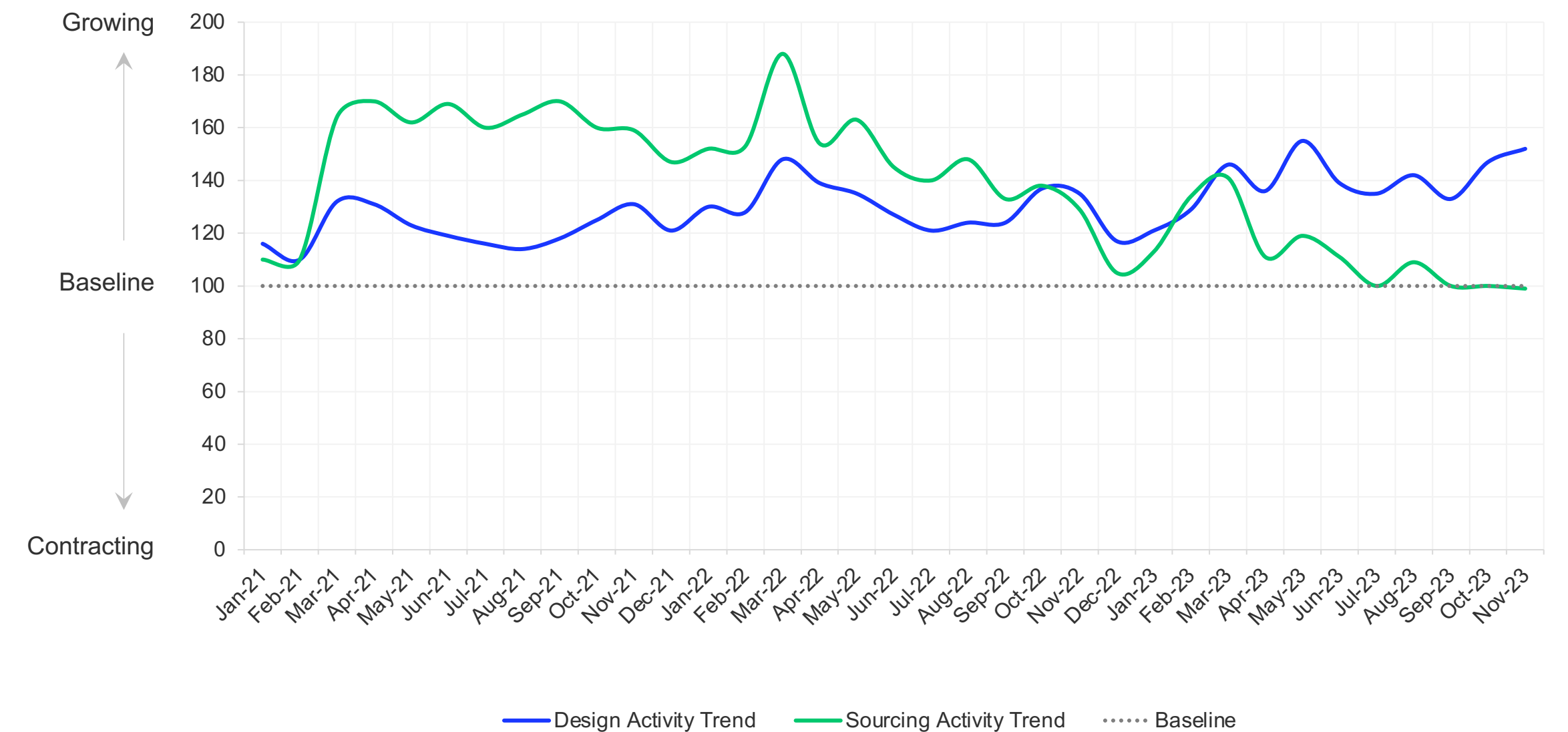
- No change in Q4 projections - global design activities are expected to grow +7% quarter-over-quarter as activities in Europe recover from the summer slow down. Global sourcing activities are expected to decrease -6% quarter-over-quarter driven primarily by decrease in activities in the Americas region

Global Performance

Design Activities ⬆️ +3.8% M/M
⬆️ +13.0% Y/Y

Sourcing Activities ⬇️ -0.6% M/M
⬇️ -23.0% Y/Y

Chart 1. Design and Sourcing Activity Trends



How to read this chart:

Design and sourcing activities have been baselined to 2020 monthly median. Baseline is indicated as a value of 100. Above the baseline indicates growth, while below the baseline indicates decrease in activities.

Design Activity Overview

NOVEMBER 2023

Design Activity Index

Based on part level activity by engineers on the DSI Network. Activities included are related to part evaluation and part placement in designs via EDAs. Activities, are normalized, weighted, and scored on a scale of 0 – 100.

Index scores are relative to the dimensions of data being included in the analyses (ie. Country, manufacturer, categories). A value of 100 reflects maximum volume of activities in the given data set. A value of 50 reflects half of the maximum value in the given data set.

Global design activities increased +4% month-over-month and +13% year-over-year.

Following seasonal trends, Global design activities increased month-over-month in November. All regions experienced an increase in design activities, with EMEA experiencing the largest month-over-month increase (+6%). APAC and the Americas observed a more modest growth in design activities.

In EMEA, Germany, the United Kingdom, Italy, Spain, and Switzerland observed the largest growth in design activities, while France, Netherlands, Belgium, and Norway observed decline in activities. Top product categories in the region included connectors, capacitors, resistors, transistors, and optoelectronics. Design activities around microcontrollers and processors remained flat month-over-month.

In APAC, China, South Korea, Vietnam, and Taiwan all observed healthy growth in design activities, while India, Japan, and Malaysia all observed decreases in activities. Top product categories in the region included connectors, capacitors, amplifier circuits, logic, and memory. Design activities around microcontrollers and processors decreased -9% month-over-month.

In the Americas, growth in month-over-month design activities were driven by Canada (+10%) while all other key countries in the region observed decreases in activities. Top product categories in the region included capacitors, diodes, and amplifier circuits. Design activities around connectors, resistors, and microcontroller and processors all decreased month-over-month.

Table 1. Design Activity Summary

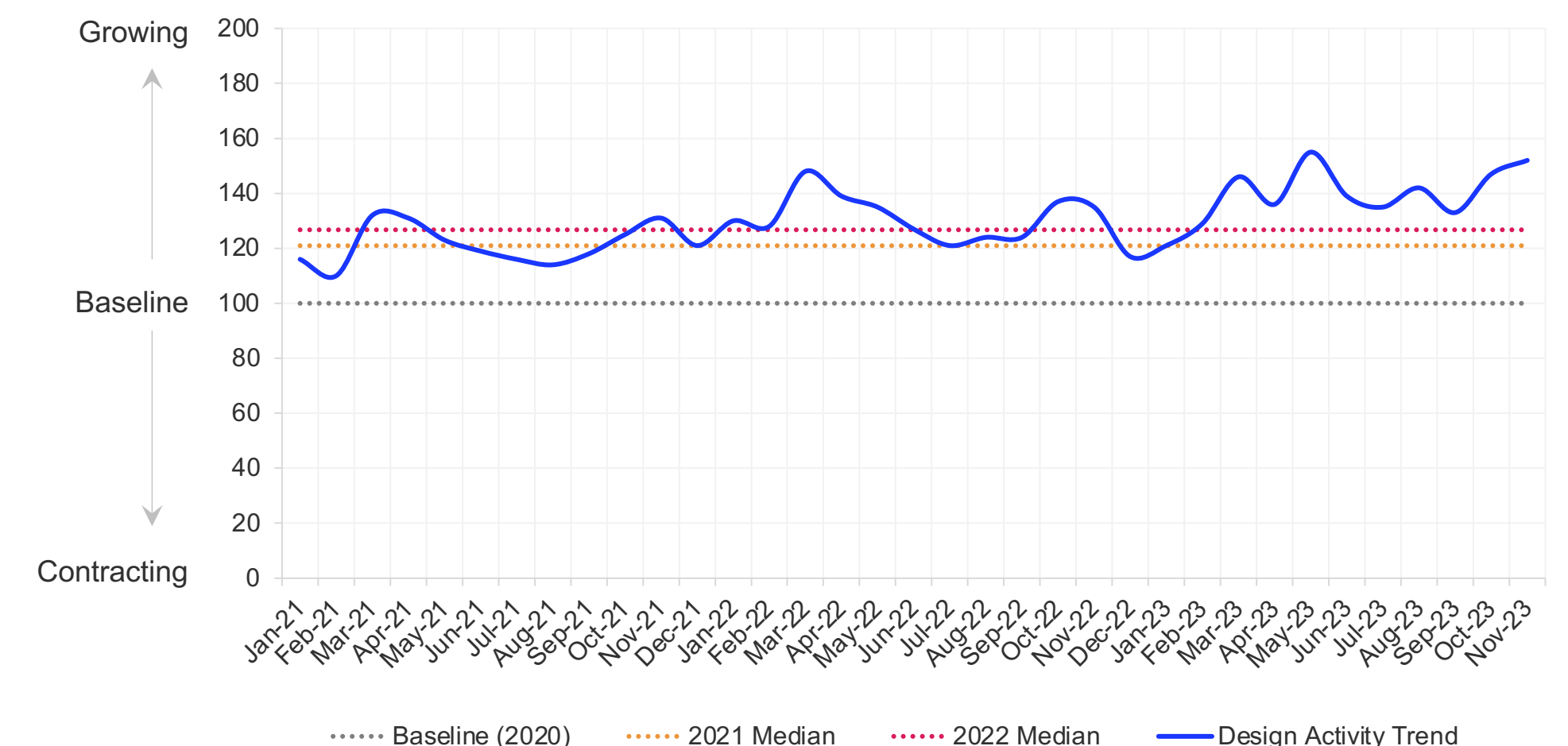
	vs. Prior Month	vs. Prior Year	6mo. CMGR
Global	3.8%	13.0%	-0.3%

Region	Design Activity Index	vs. Prior Month	vs. Prior Year	6mo. CMGR
EMEA	100.0	6%	9%	0%
APAC	72.9	2%	16%	0%
AMER	44.2	1%	17%	-1%

Top 10 Countries / Territories

Country / Territory	Design Activity Index	vs. Prior Month	vs. Prior Year	6mo. CMGR
United States	100.0	-2%	11%	0%
China (incl. Hong Kong)	81.4	13%	12%	-1%
India	53.0	-9%	14%	1%
Germany	52.9	11%	5%	2%
United Kingdom	36.4	9%	-1%	2%
Japan	31.3	-6%	13%	-1%
Italy	29.6	5%	15%	1%
France	27.4	-5%	12%	2%
Republic of Korea	24.3	20%	54%	3%
Spain	18.2	3%	21%	-2%

Chart 2. Global Design Activity Trends



Design Activity: Americas Trends

NOVEMBER 2023

Design Activity Index

Based on part level activity by engineers on the DSI Network. Activities included are related to part evaluation and part placement in designs via EDAs. Activities, are normalized, weighted, and scored on a scale of 0 – 100.

Index scores are relative to the dimensions of data being included in the analyses (ie. Country, manufacturer, categories). A value of 100 reflects maximum volume of activities in the given data set. A value of 50 reflects half of the maximum value in the given data set.

Following data provides a breakdown of design activities across the DSI Network in the Americas region.

Chart 3. Americas Design Activity Trends

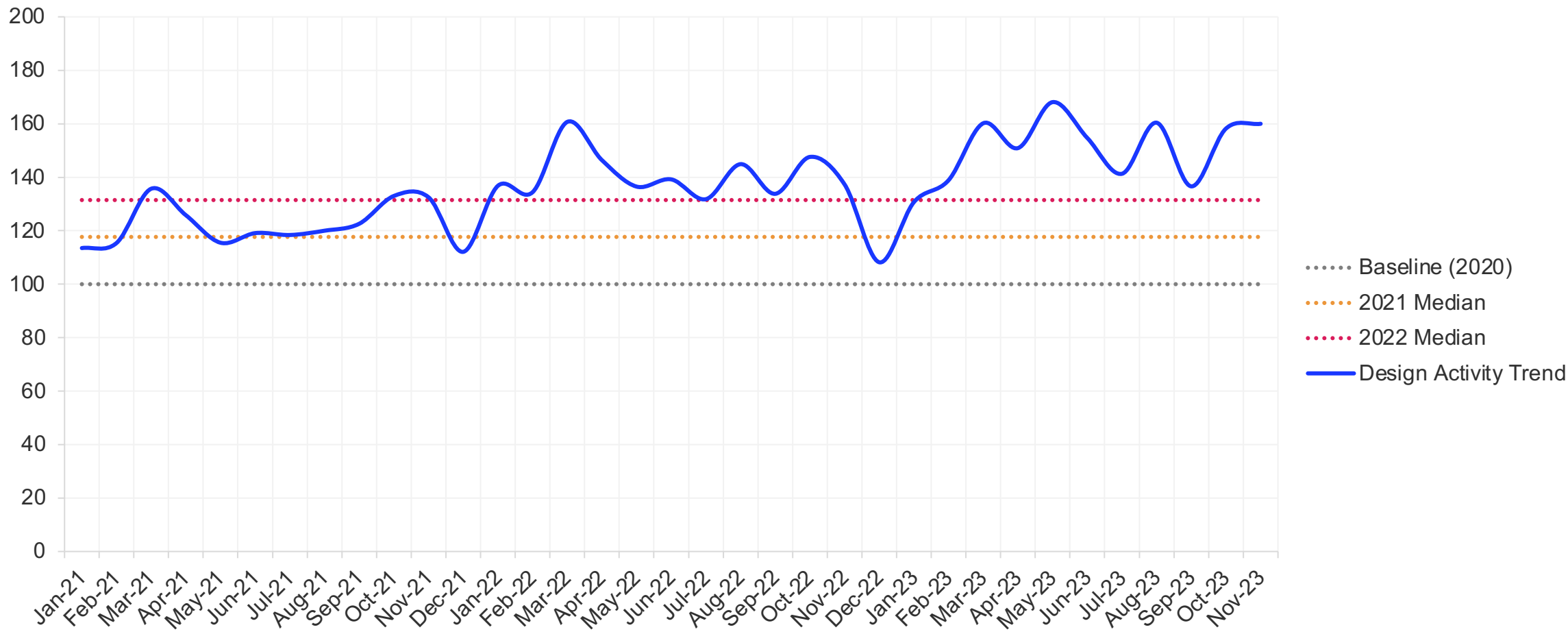


Table 2. Top 15 Product Categories in Americas

Product Class	Design Activity Index	M/M%	Y/Y%	6mo. CMGR
Connectors	100.0	-8%	5%	-2%
Capacitors	98.7	60%	77%	8%
Power Circuits	65.3	0%	21%	2%
Resistors	60.7	-8%	12%	0%
Diodes	43.2	4%	12%	2%
Transistors	37.3	0%	13%	1%
Optoelectronics	27.1	-4%	2%	-5%
Microcontrollers and Processors	26.1	-4%	2%	-6%
Amplifier Circuits	22.1	17%	33%	0%
Terminal Blocks	21.5	-11%	3%	1%
Inductors	19.3	-14%	67%	-1%
Drivers And Interfaces	19.2	6%	-1%	-4%
Signal Circuits	18.6	-9%	4%	0%
Switches	15.6	-8%	-2%	-3%
Logic	15.5	-12%	-4%	-4%

Design Activity: EMEA Trends

NOVEMBER 2023

Design Activity Index
 Based on part level activity by engineers on the DSI Network. Activities included are related to part evaluation and part placement in designs via EDAs. Activities, are normalized, weighted, and scored on a scale of 0 – 100.
 Index scores are relative to the dimensions of data being included in the analyses (ie. Country, manufacturer, categories). A value of 100 reflects maximum volume of activities in the given data set. A value of 50 reflects half of the maximum value in the given data set.

Following data provides a breakdown of design activities across the DSI Network in the EMEA region.

Chart 4. EMEA Design Activity Trends

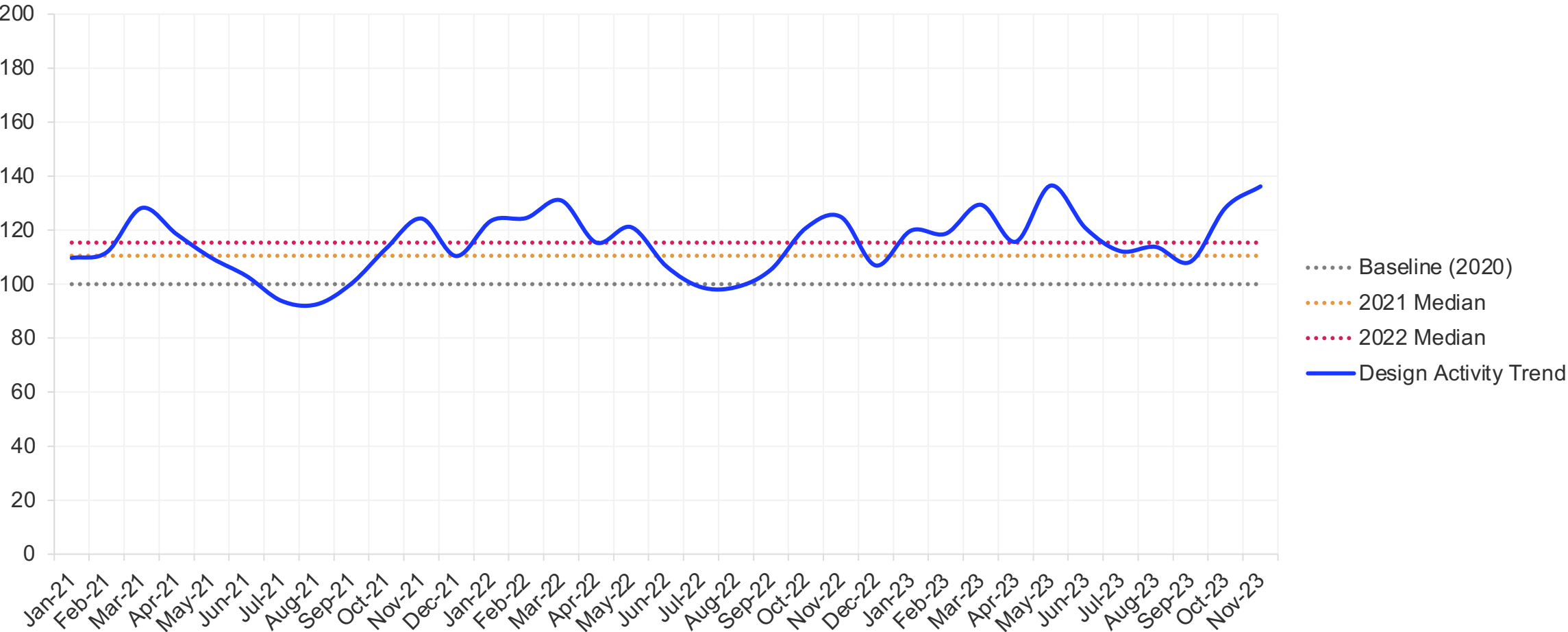


Table 3. Top 15 Product Categories in EMEA

Product Class	Design Activity Index	M/M%	Y/Y %	6mo. CMGR
Connectors	100.0	7%	13%	0%
Power Circuits	62.7	3%	5%	0%
Capacitors	56.0	8%	10%	0%
Resistors	53.3	17%	12%	2%
Diodes	43.4	1%	6%	0%
Transistors	35.8	10%	12%	1%
Microcontrollers and Processors	28.3	1%	-4%	-1%
Optoelectronics	27.9	13%	10%	0%
Terminal Blocks	26.9	3%	18%	1%
Inductors	24.0	3%	66%	1%
Drivers And Interfaces	19.8	7%	-2%	-1%
Amplifier Circuits	17.8	3%	-9%	-1%
Signal Circuits	17.0	13%	5%	0%
Logic	16.0	5%	-11%	0%
Switches	15.1	11%	22%	0%

Design Activity: APAC Trends

NOVEMBER 2023

Design Activity Index

Based on part level activity by engineers on the DSI Network. Activities included are related to part evaluation and part placement in designs via EDAs. Activities, are normalized, weighted, and scored on a scale of 0 – 100.

Index scores are relative to the dimensions of data being included in the analyses (ie. Country, manufacturer, categories). A value of 100 reflects maximum volume of activities in the given data set. A value of 50 reflects half of the maximum value in the given data set.

Following data provides a breakdown of design activities across the DSI Network in the APAC region.

Chart 5. APAC Design Activity Trends

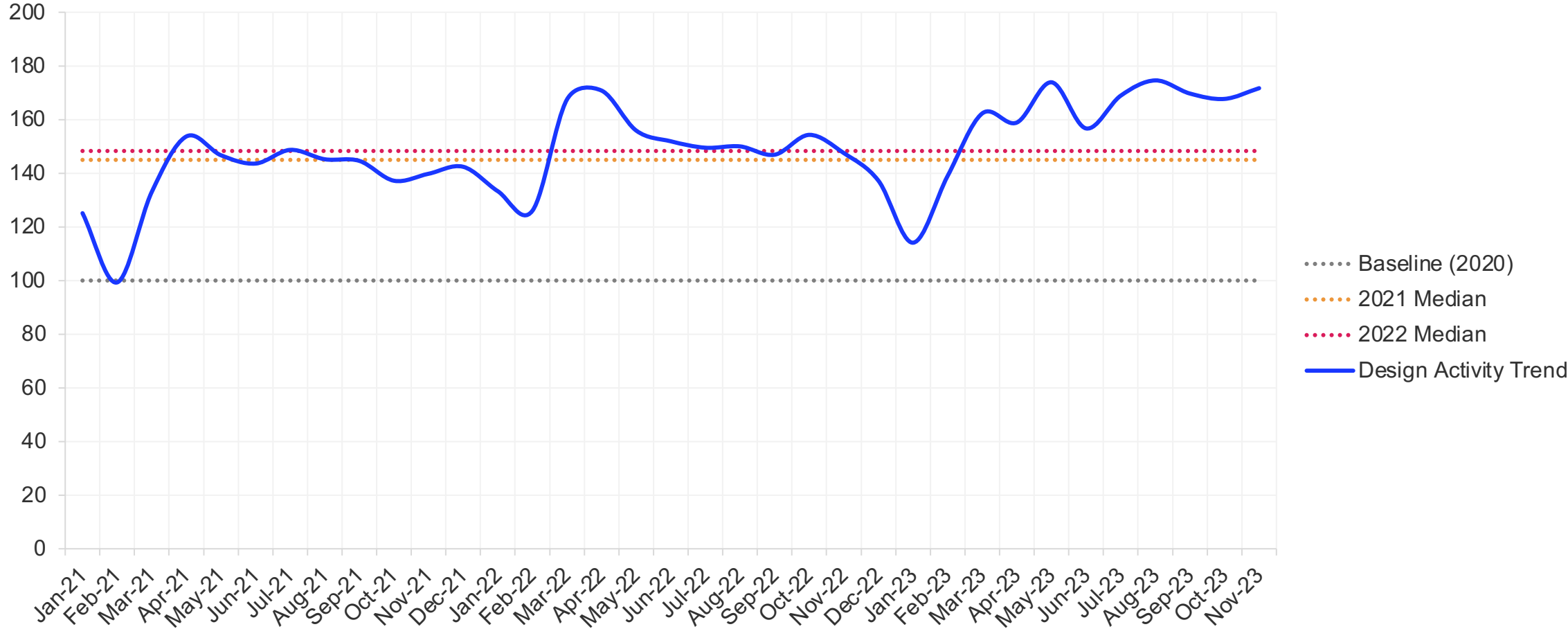


Table 4. Top 15 Product Categories in APAC

Product Class	Design Activity Index	M/M%	Y/Y %	6mo. CMGR
Connectors	100.0	5%	27%	0%
Power Circuits	78.2	0%	21%	0%
Capacitors	62.7	5%	29%	1%
Diodes	51.8	0%	18%	0%
Resistors	51.0	-1%	25%	1%
Transistors	38.5	-7%	1%	-1%
Microcontrollers and Processors	37.6	-9%	-10%	-3%
Drivers And Interfaces	27.3	2%	6%	0%
Amplifier Circuits	27.0	15%	12%	0%
Optoelectronics	25.4	-3%	4%	-2%
Logic	23.4	16%	-14%	-2%
Inductors	23.2	9%	76%	2%
Signal Circuits	20.6	2%	-5%	-2%
Terminal Blocks	15.0	-4%	24%	0%
Filters	14.8	3%	18%	1%

Sourcing Activity Overview

NOVEMBER 2023

Sourcing Activity Index

Based on part level activity by buyers on the DSI Network. Activities included are related to buy clicks on the the DSI Network. Index is scored on a scale of 0 – 100.

Index scores are relative to the dimensions of data being included in the analyses (ie. Country, manufacturer, categories). A value of 100 reflects maximum value in the given data set. A value of 50 reflects half of the maximum value in the given data set.

Global sourcing activities continued to remain soft.

Global sourcing activities remained flat from October to November, hovering around the baseline for the third consecutive month. The APAC region observed an +8% increase in demand, while the Americas and EMEA both observed decreases in demand vs. prior month.

Countries observing demand increases included China, South Korea, Germany, Canada, and Israel. Top product categories driving demand in these countries included connectors (+29%); power circuits (+11%); capacitors (+17%); resistors (+20%); and memory (+14%).

Globally speaking, connectors, inductors, signal circuits, and converters observed growth in demand while diodes, microcontrollers and processors, amplifier circuits, and transistors recorded the largest decline in demand in November.

Q4 outlook remains unchanged. We expected global sourcing activities to decrease -6% quarter-over-quarter and -23% year-over-year in Q4.

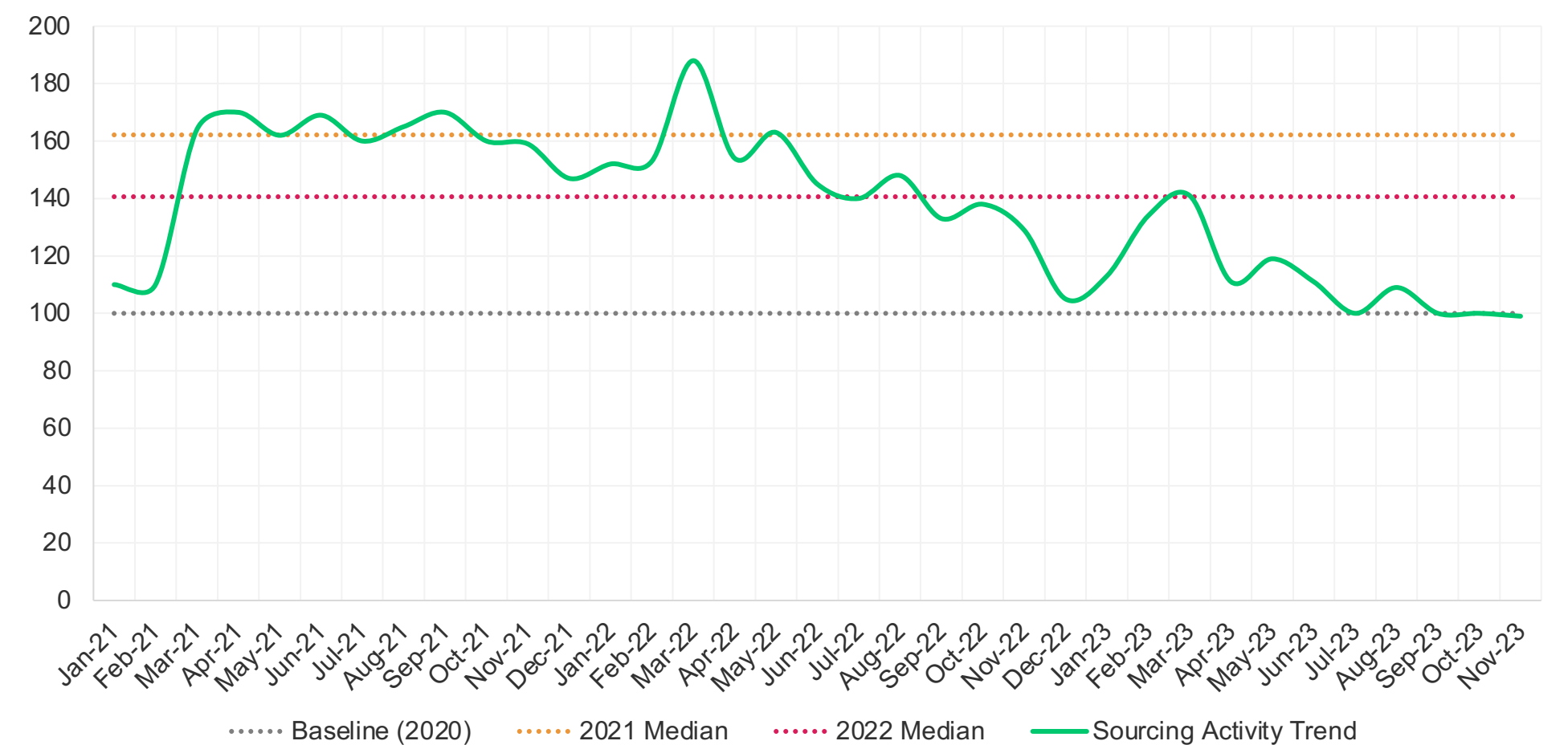
Table 5. Sourcing Activity Summary

		vs. Prior Month	vs. Prior Year	6mo. CMGR
Global		-0.6%	-23.0%	-3.0%
Region	Sourcing Activity Index	vs. Prior Month	vs. Prior Year	6mo. CMGR
APAC	100.0	7.6%	-15.0%	-1.7%
AMER	48.9	-13.1%	-28.6%	-4.7%
EMEA	34.7	-2.1%	-33.7%	-3.8%

Top 10 Countries / Territories

Country / Territory	Sourcing Activity Index	vs. Prior Month	vs. Prior Year	6mo. CMGR
China (incl. Hong Kong)	100.0	19%	-11%	-1%
United States	71.6	-14%	-30%	-5%
India	23.9	-10%	-32%	-6%
Republic of Korea	23.6	13%	-7%	0%
Germany	14.1	5%	-37%	-3%
Taiwan	11.6	-2%	-29%	-4%
Canada	9.0	1%	-21%	-3%
Singapore	8.4	0%	2%	2%
Malaysia	7.4	-3%	6%	0%
France	7.2	-2%	-30%	-1%

Chart 6. Global Sourcing Activity Trends



Sourcing Activity: Americas Trends

NOVEMBER 2023

Sourcing Activity Index

Based on part level activity by buyers on the DSI Network. Activities included are related to buy clicks on the the DSI Network. Index is scored on a scale of 0 – 100.

Index scores are relative to the dimensions of data being included in the analyses (ie. Country, manufacturer, categories). A value of 100 reflects maximum value in the given data set. A value of 50 reflects half of the maximum value in the given data set.

Following data provides a breakdown of sourcing activities across the DSI Network in the Americas region.

Chart 7. Americas Sourcing Activity Trends

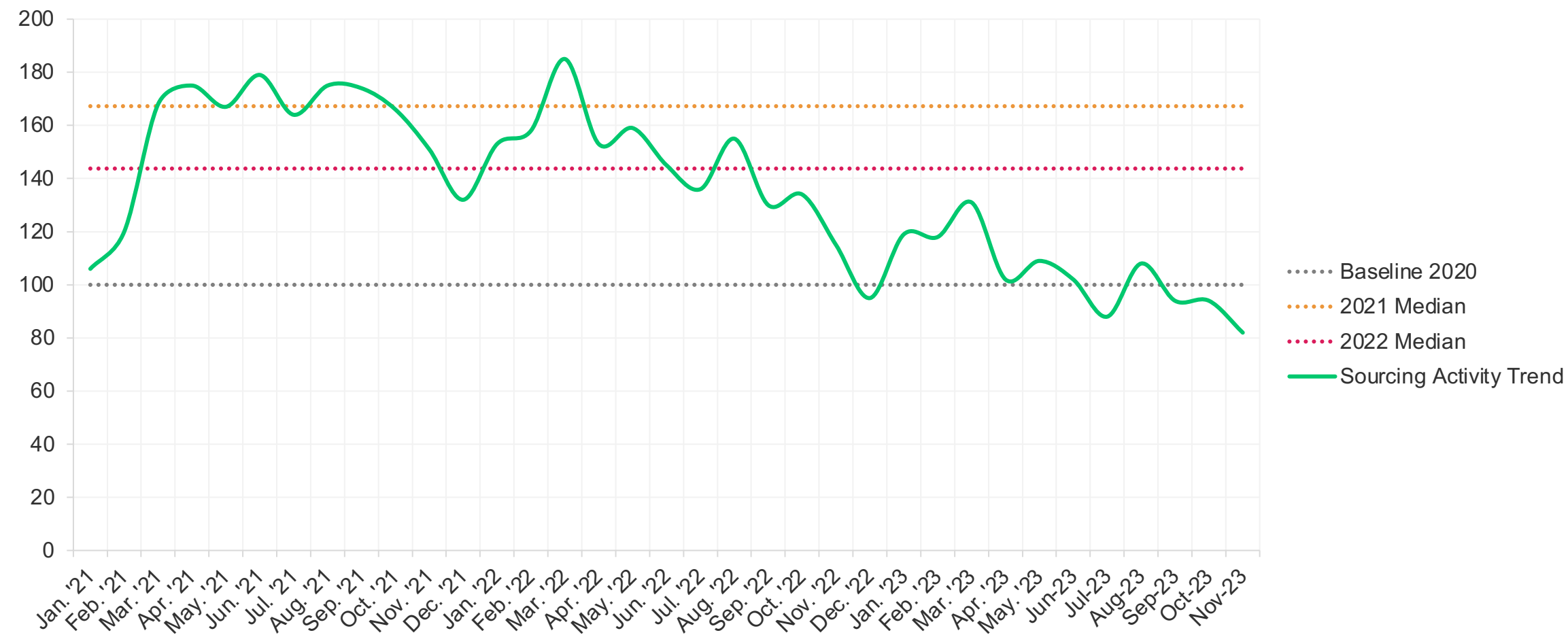


Table 6. Top 15 Product Categories in Americas

Product Class	Sourcing Activity Index	M/M%	Y/Y %	6mo. CMGR
Connectors	100.0	-10%	-8%	-2%
Capacitors	77.9	-16%	-12%	-3%
Resistors	72.2	-13%	-17%	-4%
Power Circuits	48.6	-13%	-46%	-8%
Diodes	41.3	-15%	-26%	-4%
Transistors	35.2	-13%	-43%	-6%
Connector Support	33.0	-12%	-9%	-3%
Microcontrollers and Processors	28.2	-14%	-57%	-10%
Terminal Blocks	20.6	-13%	-25%	-4%
Optoelectronics	19.1	-12%	-21%	-4%
Amplifier Circuits	17.6	-18%	-42%	-10%
Inductors	16.7	-11%	-5%	-3%
Drivers And Interfaces	16.5	-10%	-49%	-7%
Logic	15.9	-16%	-40%	-5%
Memory	11.6	-20%	-47%	-7%

Sourcing Activity: EMEA Trends

NOVEMBER 2023

Sourcing Activity Index

Based on part level activity by buyers on the DSI Network. Activities included are related to buy clicks on the the DSI Network. Index is scored on a scale of 0 – 100.

Index scores are relative to the dimensions of data being included in the analyses (ie. Country, manufacturer, categories). A value of 100 reflects maximum value in the given data set. A value of 50 reflects half of the maximum value in the given data set.

Following data provides a breakdown of sourcing activities across the DSI Network in the EMEA region.

Chart 8. EMEA Sourcing Activity Trends

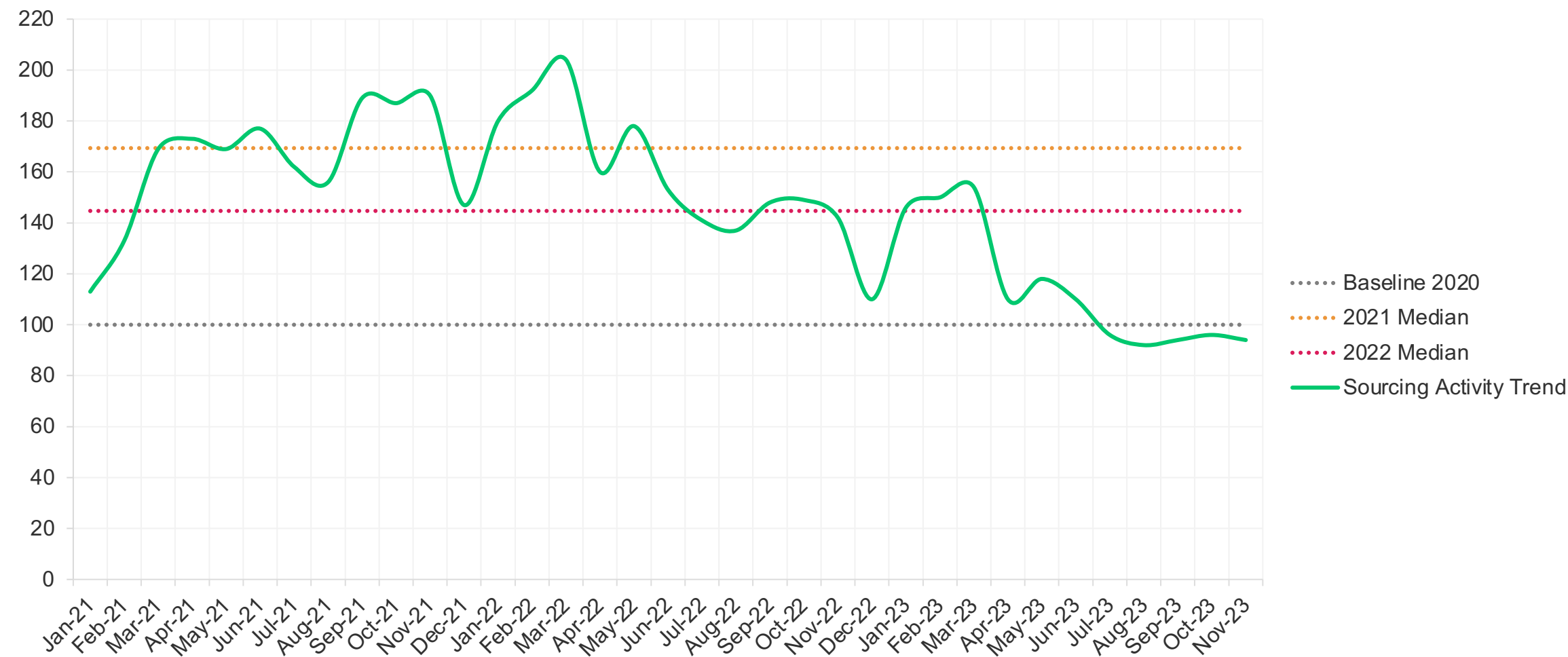


Table 7. Top 15 Product Categories in EMEA

Product Class	Sourcing Activity Index	M/M%	Y/Y %	6mo. CMGR
Connectors	100.0	3%	-6%	0%
Capacitors	95.5	3%	-11%	-2%
Power Circuits	80.5	-4%	-48%	-6%
Resistors	80.4	2%	-13%	-2%
Diodes	60.6	-7%	-37%	-5%
Transistors	57.9	-3%	-46%	-6%
Microcontrollers and Processors	53.5	-9%	-58%	-8%
Amplifier Circuits	39.0	-5%	-26%	-4%
Optoelectronics	31.0	-1%	-31%	-3%
Drivers And Interfaces	29.5	-12%	-57%	-8%
Connector Support	27.4	1%	-6%	0%
Inductors	24.8	0%	-11%	-1%
Logic	22.1	-3%	-44%	-4%
Memory	21.6	-5%	-45%	-6%
Signal Circuits	17.9	-2%	-42%	-4%

Sourcing Activity: APAC Trends

NOVEMBER 2023

Sourcing Activity Index

Based on part level activity by buyers on the DSI Network. Activities included are related to buy clicks on the the DSI Network. Index is scored on a scale of 0 – 100.

Index scores are relative to the dimensions of data being included in the analyses (ie. Country, manufacturer, categories). A value of 100 reflects maximum value in the given data set. A value of 50 reflects half of the maximum value in the given data set.

Following data provides a breakdown of sourcing activities across the DSI Network in the APAC region.

Chart 9. APAC Sourcing Activity Trends

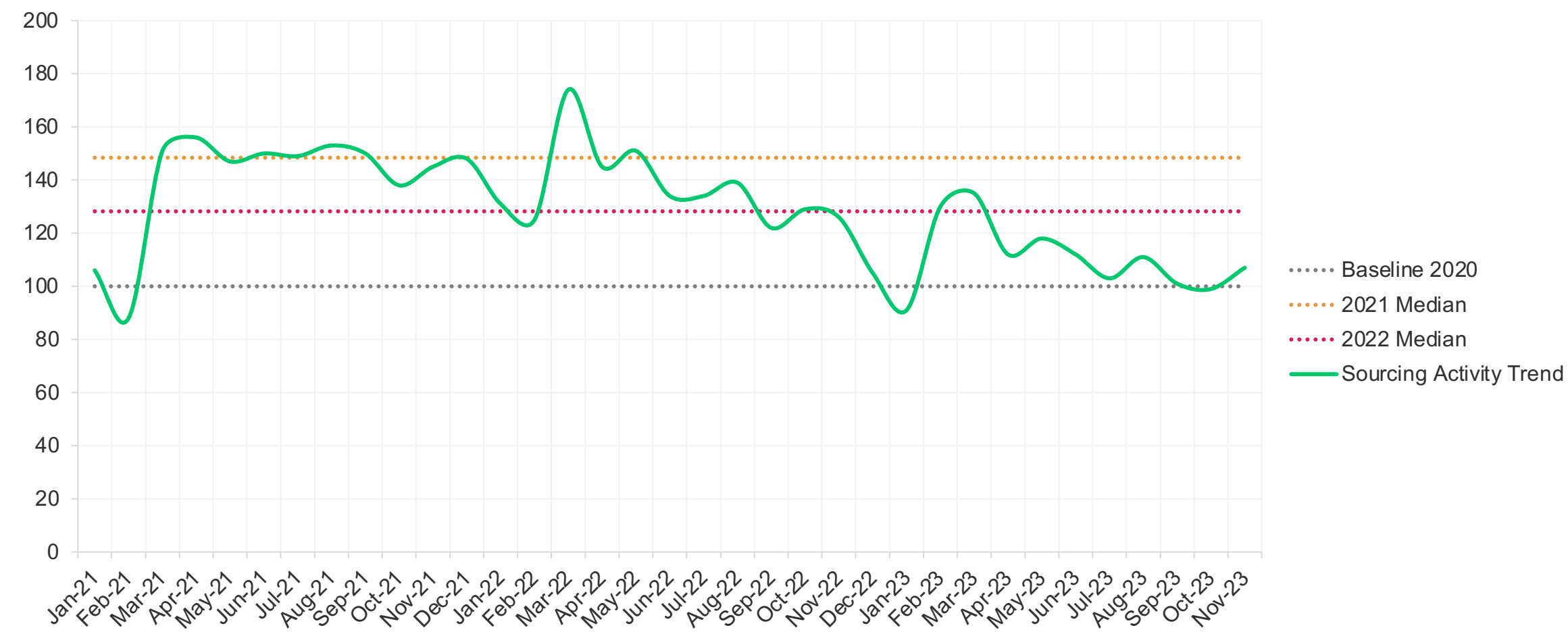


Table 8. Top 15 Product Categories in APAC

Product Class	Sourcing Activity Index	M/M%	Y/Y %	6mo. CMGR
Connectors	100.0	19%	16%	2%
Capacitors	75.1	9%	9%	0%
Power Circuits	74.8	5%	-29%	-4%
Resistors	61.7	9%	3%	0%
Microcontrollers and Processors	57.5	0%	-41%	-6%
Diodes	56.2	0%	-16%	-1%
Transistors	55.0	1%	-33%	-4%
Connector Support	27.5	16%	14%	1%
Drivers And Interfaces	27.3	6%	-39%	-5%
Amplifier Circuits	24.4	-1%	-31%	-7%
Optoelectronics	24.3	7%	-5%	0%
Memory	22.1	3%	-33%	-3%
Logic	21.8	6%	-35%	-1%
Inductors	21.4	10%	15%	1%
Converters	19.3	7%	-14%	-4%

Recap

NOVEMBER 2023

- No significant changes in trend were observed in November. Global design activities continued to grow both month-over-month and year-over-year, while global sourcing activities remained flat to prior month and continued to remain below prior year's demand
- November marked the third consecutive month in which global sourcing activities remained flat and hovering around the baseline, suggesting that global demand may have stabilized across the DSI network
- Year-to-date, global design activities grew +6% vs. same period last year, while global sourcing activities decreased 25% vs. same period last year
- Q4 projections remain unchanged. Global design activities are expected to grow +7% and global sourcing activities are expected to decreased -6% vs. Q3

