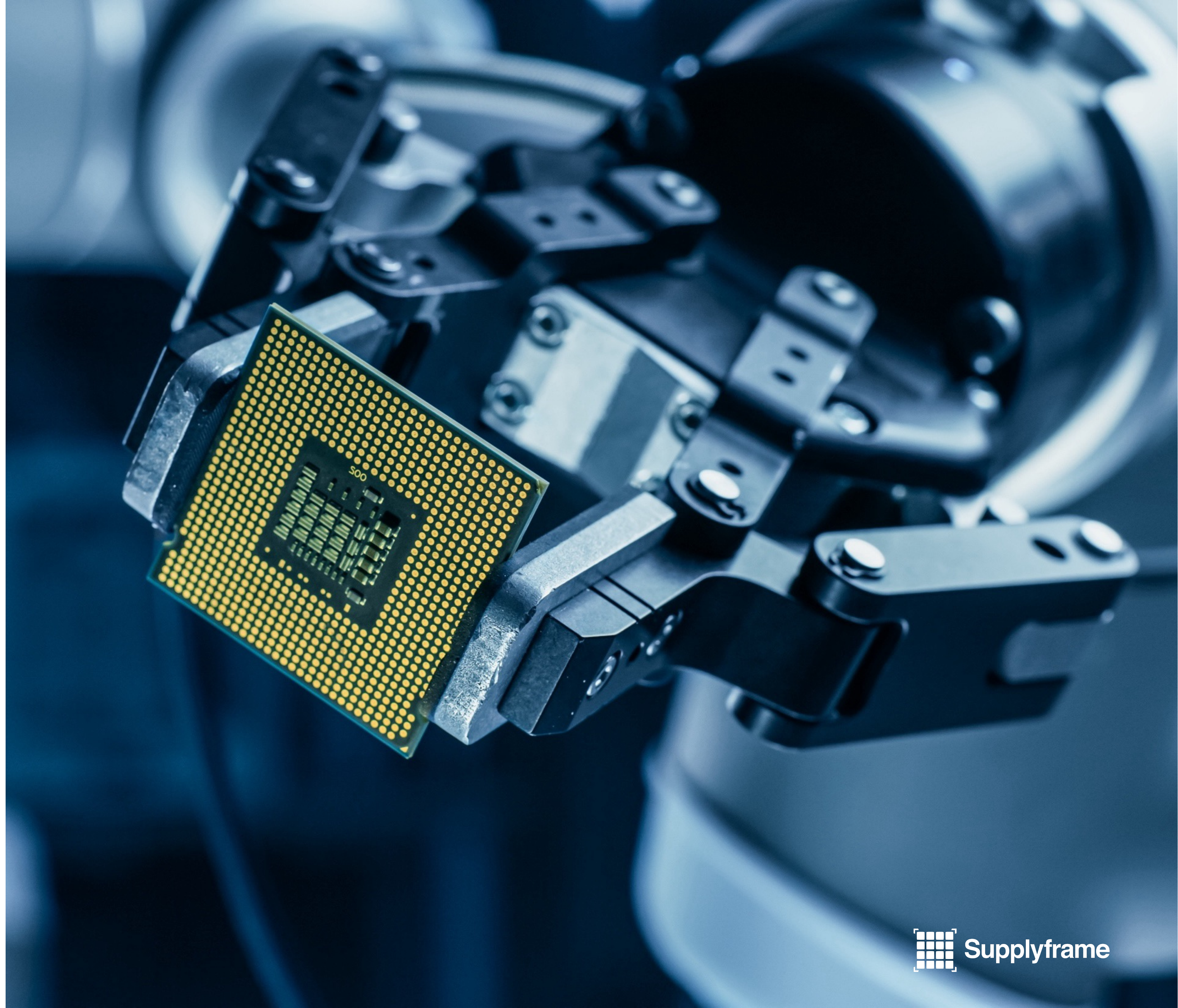**Supplyframe**
Design-to-Source
Intelligence

Design-to-Source
Monthly Insights

December 2024

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

DECEMBER 2024

December 2024:

- Global design and sourcing activity trends remained consistent with the seasonal trend for December. Overall activity across the network decreased month-over-month due to winter holidays

- Global design activities decreased -2% month-over-month but grew +10% compared to the same period last year. Growth in activities for the month was observed in the APAC region, while the EMEA and Americas regions observed the seasonal decrease in activities. Compared to prior year, all regions observed growth in design activities

- Global sourcing activities decreased -7% month-over-month and -4% year-over-year. Decrease in sourcing activities were observed across all regions with the EMEA region exhibiting the largest decrease in sourcing activities

Calendar Q4 2024:

- Q4 performed as expected. Global design activities increased +3% quarter-over-quarter, while global sourcing activities decreased by -5% quarter-over-quarter

- Growth in design activities were observed in the Americas (+6%) and the EMEA regions (+11%), while the APAC region observed a -7% decrease in quarter-over-quarter design activities. The following product categories observed the largest growth in quarter-over-quarter activities: capacitors, transistors, resistors, power circuits, and inductors

Full year 2024:

- For the full calendar year, global design activities increased +7% year-over-year and global sourcing activities decreased -20% year-over-year

- Four-year CAGR (2020 – 2024): design activities increased +13%; sourcing activities decreased -4%

Global Performance

Design Activities	⌄ **-1.9% M/M**
	⌃ **+9.7% Y/Y**

Sourcing Activities	⌄ **-7.2% M/M**
	⌄ **-4.4% Y/Y**

Chart 1. Design and Sourcing Activity Trends

Legend: Design Activity Trend · Sourcing Activity Trend · Baseline
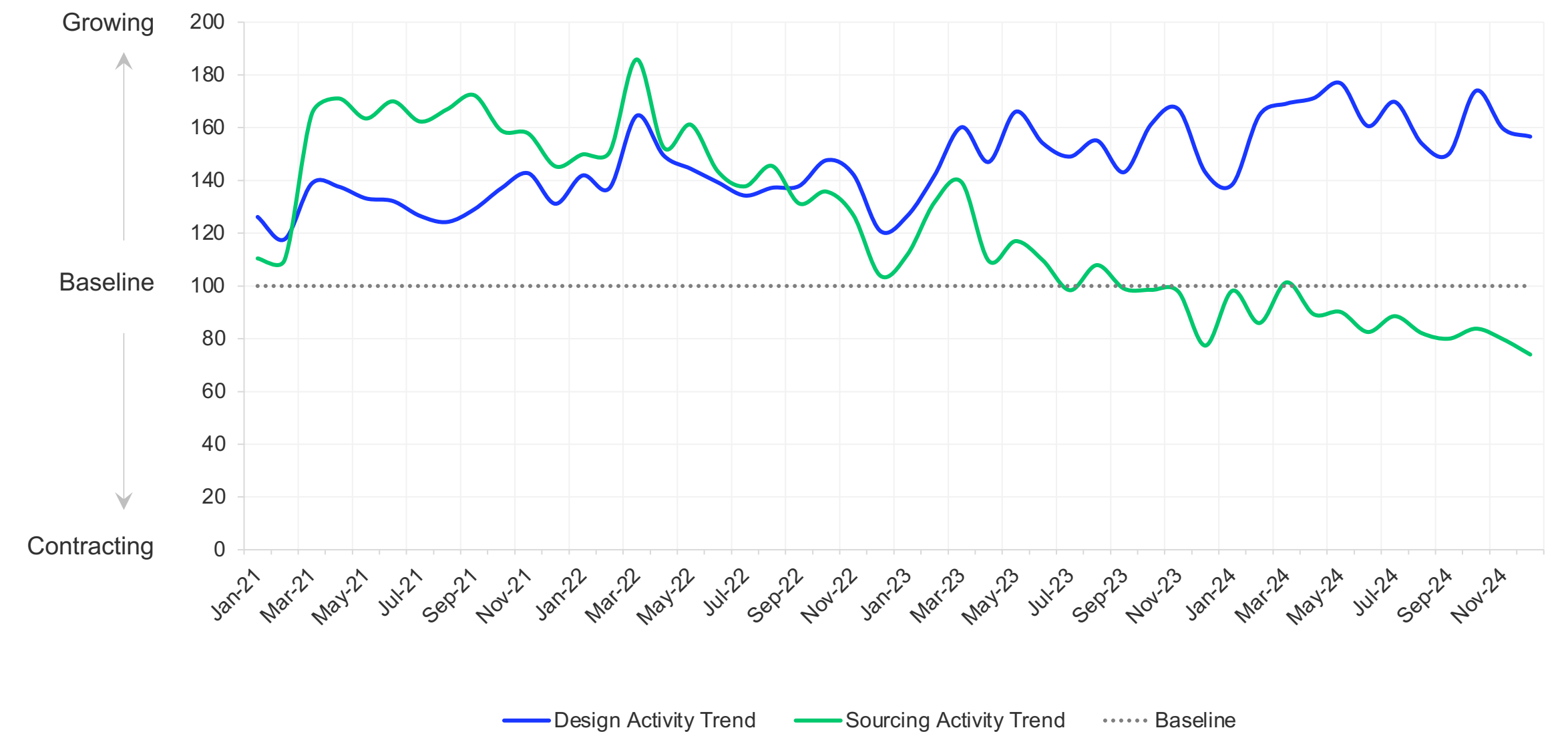
How to read this chart:
Design and sourcing activities have been baselined to 2020 monthly median. Baseline is indicated as a value of 100. Above the baseline indicates growth, while below the baseline indicates decrease in activities.

Supplyframe

Design Activity Overview

DECEMBER 2024

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 decreased -2% month-over-month but increased +10% compared to prior year.

Global design activities trended as expected for the month, decreasing month-over-month due to the winter holidays. Decrease in activities were predominantly observed in the Americas and the EMEA regions, while the APAC region observed an increase in month-over-month design activities. Compared to prior year, all regions observed increases in design activities.

In the APAC region, the top five countries/territories that observed month-over-month increases in design activities included the following: China (+3%); India (+30%); Japan (+13%); Taiwan (+15%); and Singapore (+10%). In these countries/territories, design activities for the following product categories drove the upward trends: power circuits (+16%); capacitors (+19%); microcontrollers and processors (+15%); amplifier circuits (+17%); and drivers and interfaces (+16%).

In the EMEA and Americas regions, decreases in design activities were observed across most countries. The exception to this trend were the following: Turkey (+23%); Israel (+16%); Portugal (+18%); Austria (+4%); and France (+2%). In these countries, the following product categories drove the upward trends in design activities: capacitors (+28%); resistors (+21%); connectors (+18%); power circuits (+12%); and microcontrollers and processors (+14%).

Globally, the top verticals/applications that observed the highest volume of design activities in December included: computer equipment, industrial control and automation, aerospace, defense, automotive, and power management.

Table 1. Design Activity Summary

	vs. Prior Month	vs. Prior Year	6mo. CMGR
Global	-1.9%	9.7%	-0.4%

Region	Design Activity Index	vs. Prior Month	vs. Prior Year	6mo. CMGR
EMEA	100.0	-4.0%	10.5%	-0.7%
APAC	74.0	9.7%	9.3%	0.6%
AMER	42.6	-13.2%	8.1%	-1.6%

Top 10 Countries / Territories

Country / Territory	Design Activity Index	vs. Prior Month	vs. Prior Year	6mo. CMGR
United States	100.0	-8.5%	7.1%	-0.6%
China (incl. Hong Kong)	66.7	3.2%	-3.2%	-0.6%
India	61.4	29.8%	29.7%	3.0%
Germany	46.7	-13.7%	6.9%	-1.6%
Italy	26.8	-0.9%	19.5%	0.7%
Turkey	26.7	22.6%	11.3%	8.8%
France	26.6	1.6%	18.4%	-2.1%
United Kingdom	26.1	-17.1%	5.5%	-4.0%
Republic of Korea	22.2	-4.9%	0.6%	0.3%
Japan	22.0	13.1%	-2.6%	0.1%

Chart 2. Global Design Activity Trends

Baseline (2020) ···· 2021 Median ···· 2022 Median ── Design Activity Trend
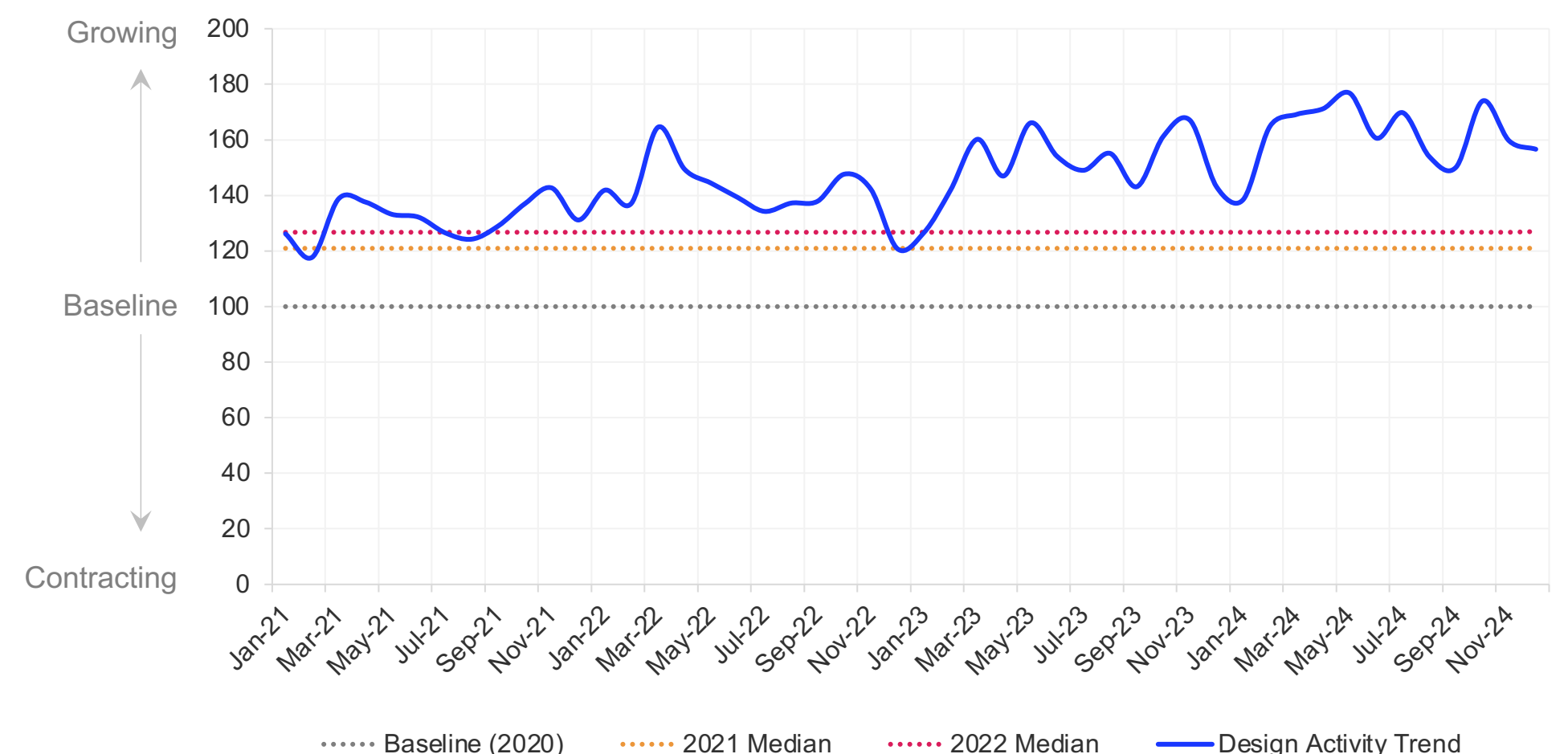
Design Activity: Americas Trends

DECEMBER 2024

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.
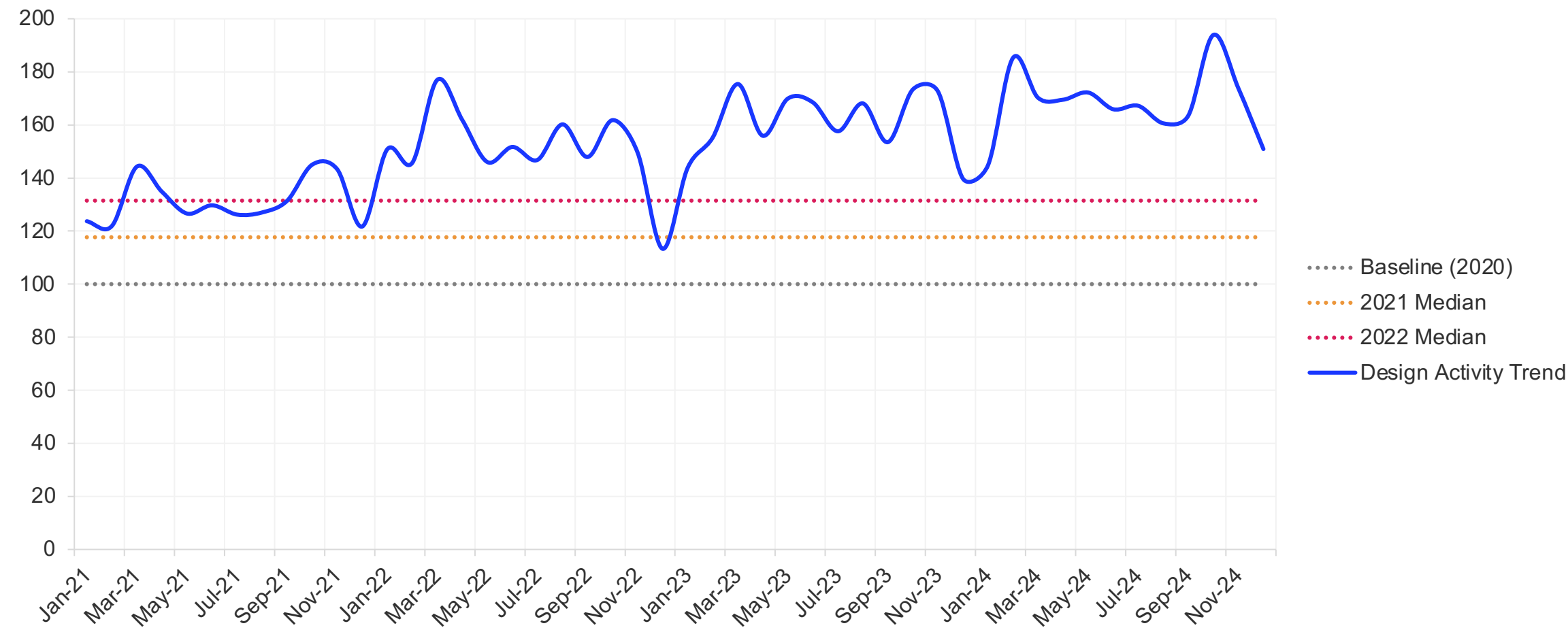
Chart 3. Americas Design Activity Trends

Legend:
- Baseline (2020)
- 2021 Median
- 2022 Median
- Design Activity Trend

Table 2. Top 15 Product Categories in Americas

Product Class	Design Activity Index	M/M%	Y/Y %	6mo. CMGR
Connectors	100.0	-8%	0%	-2%
Capacitors	64.4	-16%	12%	0%
Resistors	57.4	-21%	8%	-1%
Power Circuits	55.9	-14%	3%	-4%
Diodes	38.1	-15%	-3%	-4%
Transistors	28.6	-20%	5%	-2%
Optoelectronics	23.1	-21%	-4%	-3%
Microcontrollers and Processors	22.6	-13%	1%	-4%
Inductors	20.8	-8%	16%	-1%
Terminal Blocks	20.3	-25%	-11%	-3%
Amplifier Circuits	16.7	-10%	9%	-2%
Logic	16.3	-9%	15%	0%
Switches	16.0	0%	18%	-1%
Drivers And Interfaces	15.6	-29%	-9%	-3%
Signal Circuits	14.9	-10%	-2%	-3%

Design Activity: EMEA Trends

DECEMBER 2024

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.

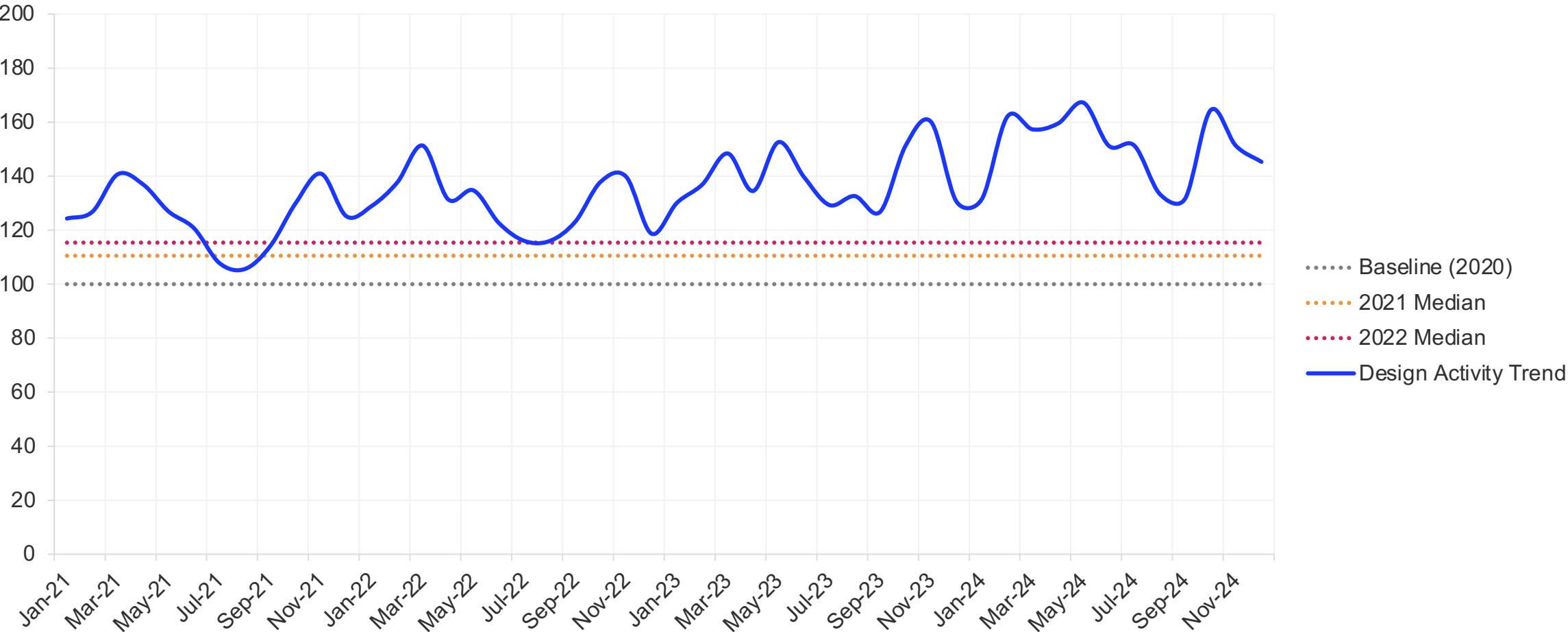### Chart 4. EMEA Design Activity Trends

Legend:
- Baseline (2020)
- 2021 Median
- 2022 Median
- Design Activity Trend

Table 3. Top 15 Product Categories in EMEA

Product Class	Design Activity Index	M/M%	Y/Y %	6mo. CMGR
Connectors	100.0	-5%	13%	-1%
Power Circuits	63.5	-4%	9%	-1%
Capacitors	62.9	-1%	15%	0%
Resistors	56.4	-4%	12%	-1%
Diodes	44.5	-3%	6%	-1%
Transistors	31.4	-6%	-1%	-1%
Inductors	26.2	0%	16%	-1%
Microcontrollers and Processors	26.2	-6%	-1%	-2%
Terminal Blocks	24.9	-7%	7%	-1%
Optoelectronics	24.7	-10%	-4%	-2%
Drivers And Interfaces	19.9	3%	9%	-1%
Amplifier Circuits	16.5	-13%	5%	-2%
Logic	16.1	2%	6%	-1%
Signal Circuits	14.9	-3%	1%	-2%
Switches	13.5	-3%	3%	-2%

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Design Activity: APAC Trends

DECEMBER 2024

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.

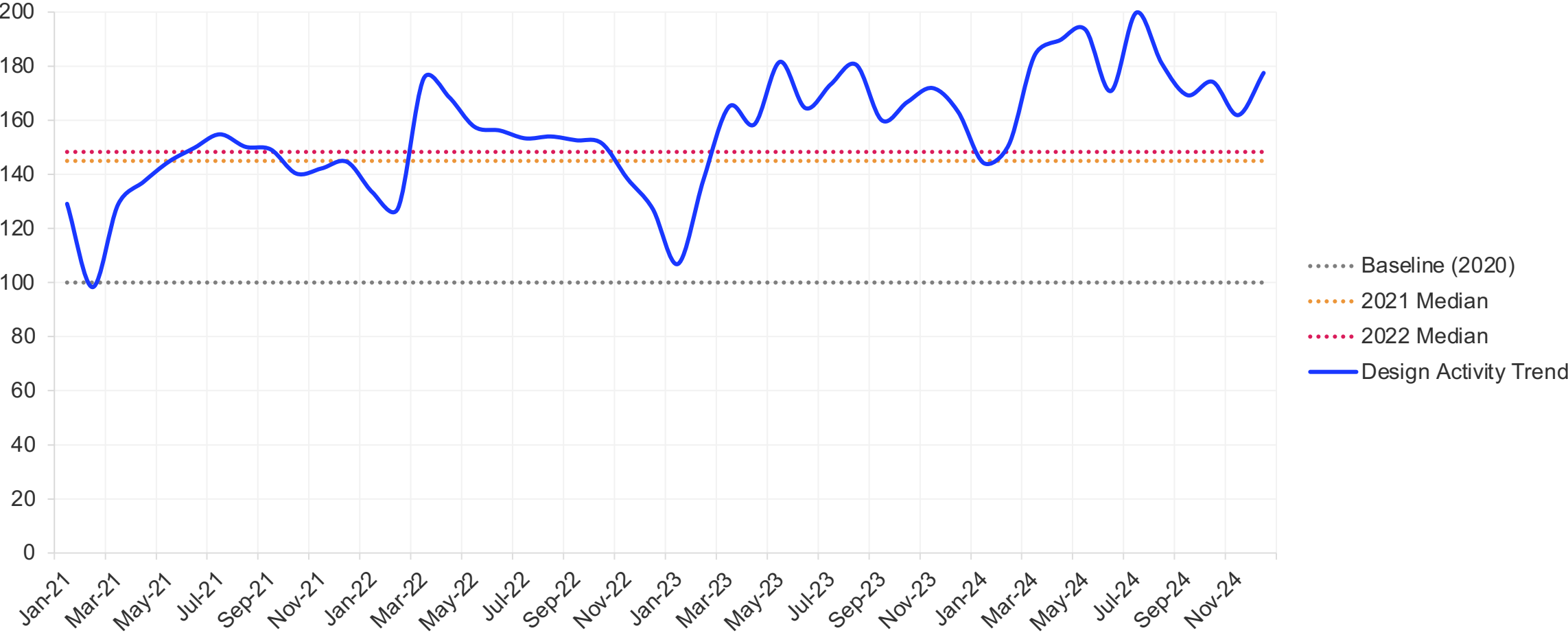### Chart 5. APAC Design Activity Trends

Legend:
- Baseline (2020)
- 2021 Median
- 2022 Median
- Design Activity Trend

Table 4. Top 15 Product Categories in APAC

Product Class	Design Activity Index	M/M%	Y/Y %	6mo. CMGR
Connectors	100.0	8%	3%	0%
Power Circuits	76.0	13%	5%	1%
Capacitors	69.0	13%	13%	2%
Resistors	58.4	7%	23%	2%
Diodes	54.0	5%	8%	0%
Transistors	38.6	6%	9%	1%
Microcontrollers and Processors	32.6	12%	4%	0%
Inductors	25.0	10%	14%	1%
Drivers And Interfaces	24.9	11%	-4%	0%
Amplifier Circuits	23.6	7%	2%	1%
Optoelectronics	22.2	-2%	-16%	-2%
Logic	20.5	11%	7%	1%
Signal Circuits	18.2	10%	5%	2%
Terminal Blocks	16.0	7%	13%	1%
Filters	14.9	9%	3%	0%

Sourcing Activity Overview

DECEMBER 2024

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 decreased -7% month-over-month and -4% year-over-year.

Global sourcing activities trended as expected for the month, decreasing month-over-month due to the winter holidays. Decrease in activities were observed across all regions with the EMEA region observing the largest decrease in month-over-month activities. Compared to prior year, global sourcing activities continue to remain below same period last year.

In the EMEA and Americas regions, most countries observed month-over-month decreases in sourcing activities except for Israel (+28%) and Turkey (+20%). In these countries, the following product categories drove the upward trends in sourcing activities: connectors (+17%); power circuits (+28%); diodes (28%); and transistors (+14%).

In the APAC region, increase in month-over-month sourcing activities were observed in India (+7%); Australia (+5%); Indonesia (+4%); and New Zealand (+18%). In these countries, the following top product categories drove the upward trends in sourcing activities: connectors (+12%); resistors (+12%); diodes (+11%); microcontrollers and processors (+8%); and power circuits (+4%).

Globally, the verticals/applications that observed the highest volume of sourcing activities in December aligned with those reported for global design activities: computer equipment, industrial control and automation, aerospace, defense, automotive, and power management.

Table 5. Sourcing Activity Summary

	Sourcing Activity Index	vs. Prior Month	vs. Prior Year	6mo. CMGR
Global		-7.2%	-4.4%	-1.8%

Region	Sourcing Activity Index	vs. Prior Month	vs. Prior Year	6mo. CMGR
APAC	100.0	-4.5%	-5.2%	-1.2%
AMER	49.7	-8.7%	-1.0%	-2.7%
EMEA	28.9	-13.4%	-7.0%	-2.4%

Top 10 Countries / Territories

Country / Territory	Sourcing Activity Index	vs. Prior Month	vs. Prior Year	6mo. CMGR
China (incl. Hong Kong)	100.0	-4%	-15%	-2%
United States	79.2	-9%	-2%	-3%
India	33.2	7%	9%	0%
Republic of Korea	22.9	-11%	1%	-1%
Taiwan	14.3	-4%	4%	1%
Germany	13.6	-10%	14%	-2%
Malaysia	9.9	-13%	20%	2%
Canada	8.0	-16%	-3%	-2%
Singapore	8.0	-13%	16%	-4%
Israel	7.5	28%	-6%	4%

Chart 6. Global Sourcing Activity Trends

Legend: Baseline (2020) · 2021 Median · 2022 Median · Sourcing Activity Trend
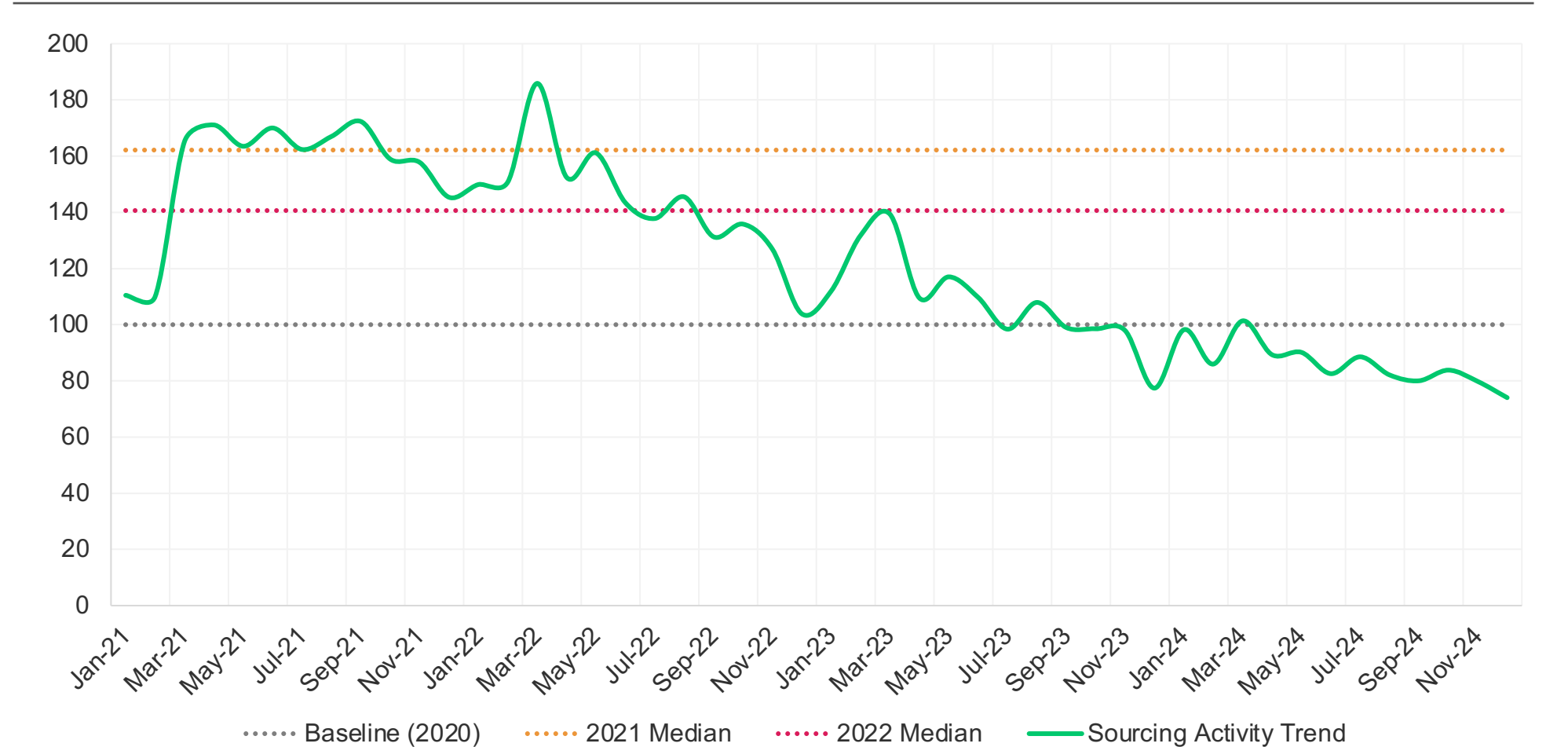
Sourcing Activity: Americas Trends

DECEMBER 2024

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

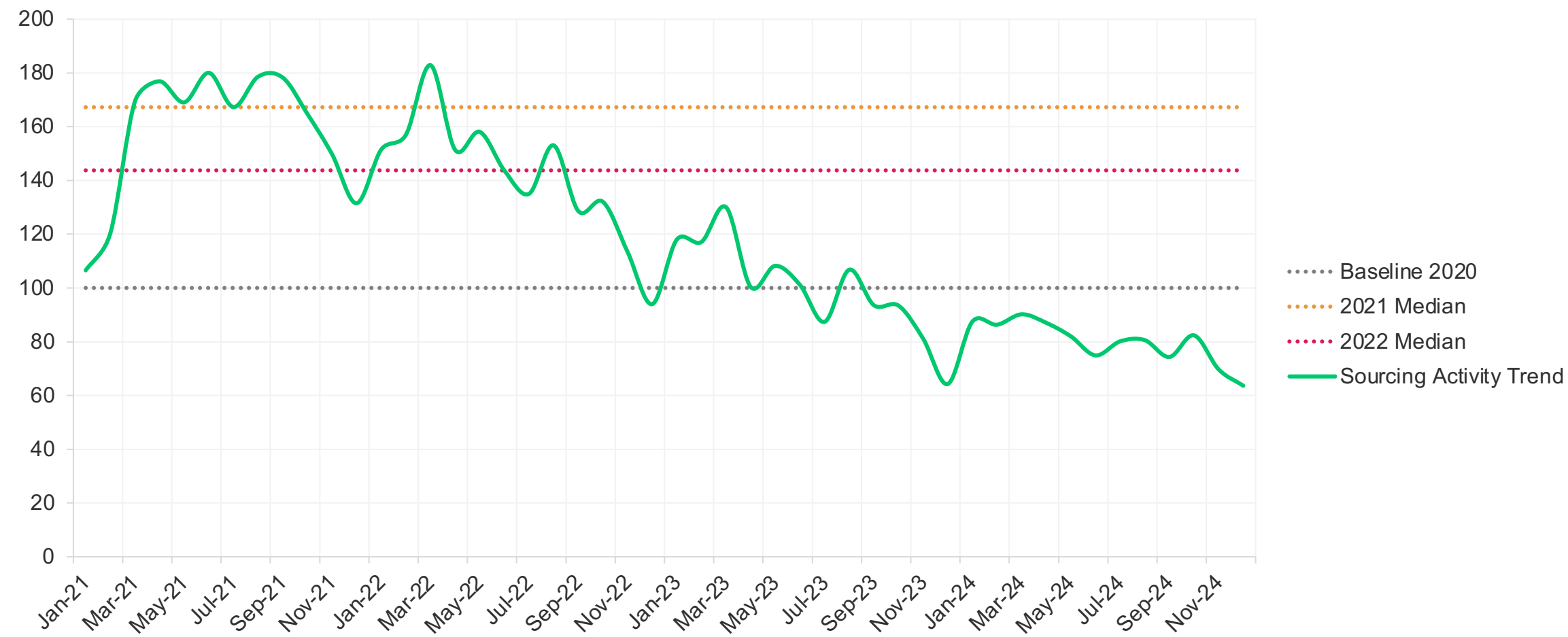### Chart 7. Americas Sourcing Activity Trends

Legend:
- Baseline 2020
- 2021 Median
- 2022 Median
- Sourcing Activity Trend

Table 6. Top 15 Product Categories in Americas

Product Class	Sourcing Activity Index	M/M%	Y/Y %	6mo. CMGR
Connectors	100.0	-10%	8%	-3%
Capacitors	77.9	-13%	9%	-2%
Resistors	65.5	-14%	3%	-4%
Power Circuits	45.6	9%	3%	0%
Connector Support	35.1	-13%	2%	-3%
Diodes	33.3	-5%	-11%	-3%
Transistors	25.8	-10%	-12%	-3%
Terminal Blocks	20.5	-11%	-3%	-2%
Optoelectronics	18.8	2%	7%	-2%
Microcontrollers and Processors	18.5	-12%	-24%	-4%
Inductors	16.5	-15%	3%	-4%
Logic	12.5	1%	-12%	-3%
Amplifier Circuits	12.3	-4%	-20%	-7%
Drivers And Interfaces	12.0	-14%	-13%	-3%
Memory	10.3	-3%	-5%	-3%

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Sourcing Activity: EMEA Trends

DECEMBER 2024

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.
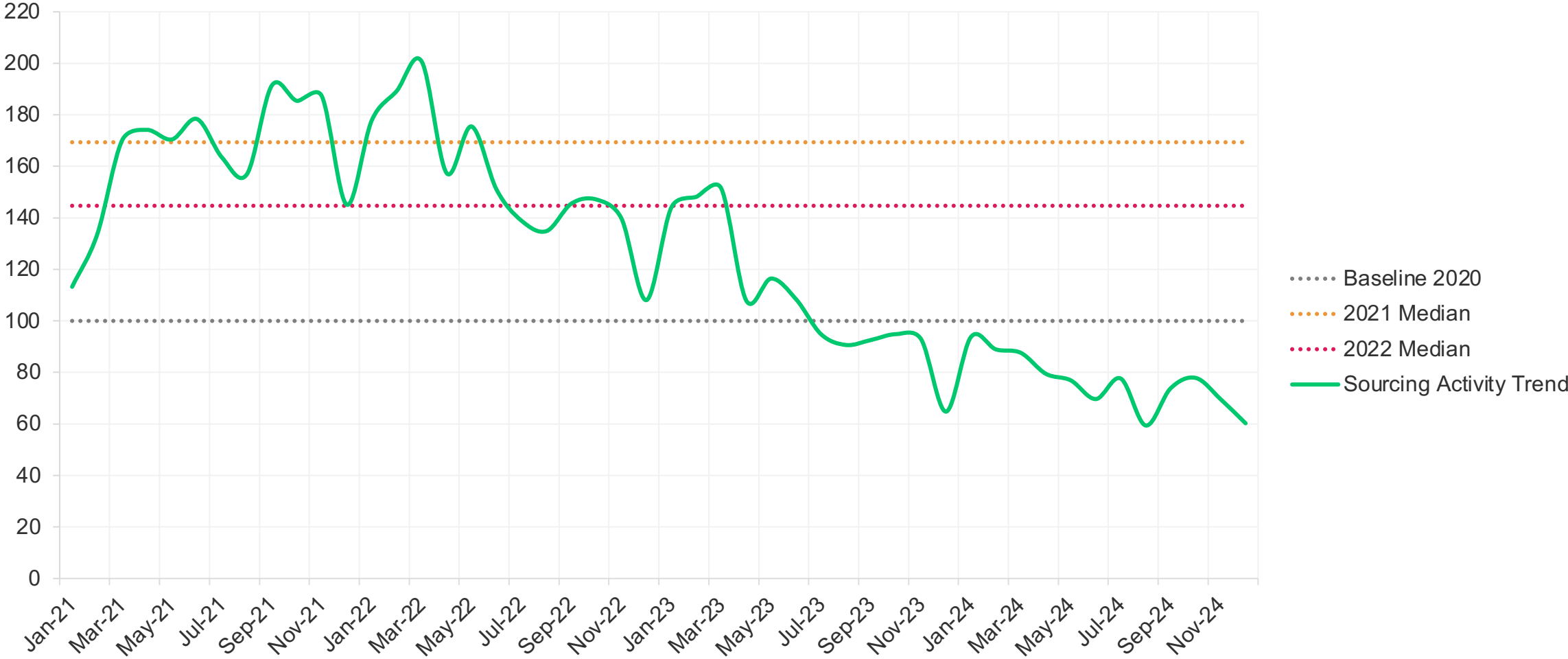
Chart 8. EMEA Sourcing Activity Trends

Legend:
- Baseline 2020
- 2021 Median
- 2022 Median
- Sourcing Activity Trend

Table 7. Top 15 Product Categories in EMEA

Product Class	Sourcing Activity Index	M/M%	Y/Y %	6mo. CMGR
Connectors	100.0	-16%	0%	-3%
Capacitors	89.5	-24%	-8%	-4%
Resistors	79.5	-10%	5%	-3%
Power Circuits	65.6	-14%	-16%	-2%
Diodes	64.5	6%	14%	1%
Transistors	47.9	-9%	-12%	-1%
Microcontrollers and Processors	38.5	-17%	-20%	-3%
Amplifier Circuits	37.3	42%	0%	3%
Connector Support	28.7	-22%	-6%	-3%
Optoelectronics	27.5	-14%	-8%	-3%
Inductors	23.5	-21%	-9%	-6%
Drivers And Interfaces	22.4	-18%	-19%	-3%
Logic	17.1	-12%	-23%	-1%
Terminal Blocks	16.4	-13%	17%	-2%
Memory	16.1	-18%	-22%	-3%

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Sourcing Activity: APAC Trends

DECEMBER 2024

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.
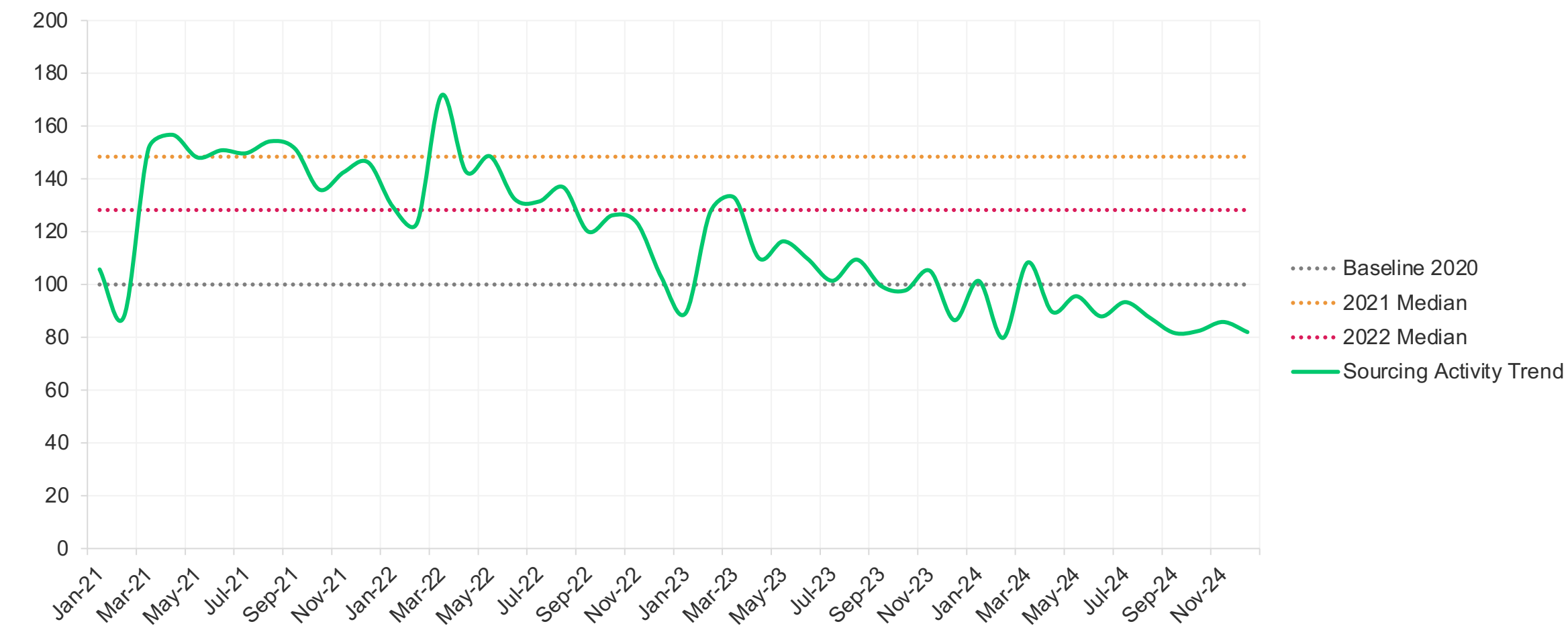
Chart 9. APAC Sourcing Activity Trends

Legend:
- Baseline 2020
- 2021 Median
- 2022 Median
- Sourcing Activity Trend

Table 8. Top 15 Product Categories in APAC

Product Class	Sourcing Activity Index	M/M%	Y/Y %	6mo. CMGR
Connectors	100.0	-4%	11%	0%
Capacitors	80.4	0%	16%	0%
Power Circuits	58.6	-4%	-12%	-2%
Resistors	58.3	-1%	10%	0%
Diodes	42.2	-5%	-18%	-1%
Microcontrollers and Processors	37.3	-10%	-25%	-4%
Transistors	36.3	-6%	-26%	-2%
Connector Support	28.8	-8%	10%	0%
Drivers And Interfaces	21.3	1%	-12%	-1%
Inductors	21.1	-9%	6%	-3%
Optoelectronics	20.8	-4%	-3%	-1%
Amplifier Circuits	16.6	-2%	-21%	-2%
Memory	16.4	-4%	-22%	-2%
Logic	16.0	-1%	-15%	-1%
Converters	15.5	-6%	-10%	-1%

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Recap

DECEMBER 2024

- Global design and sourcing activities trended as expected in December. Global design activities decreased by -2% month-over-month while global sourcing activities decreased by -7% month-over-month. Compared to prior year, global design activities increased +10% while global sourcing activities decreased -4%

- The APAC region fared the best in December with +10% month-over-month increase in design activities and only -5% decrease in sourcing activities. Top product categories in the region included power circuits, microcontrollers and processors, connectors, resistors, and diodes. Across both design and sourcing activities, India observed notable increase in activities

- In the EMEA region, Israel and Turkey both observed increases in design and sourcing activities for the month. The top product categories in these two countries that observed increases in both design and sourcing activities included connectors and power circuits

- Globally, the top verticals/applications that observed the highest volume of activities in December included: computer equipment, industrial control and automation, aerospace, defense, automotive, and power management

- For calendar Q1 2025, we anticipate both global design and sourcing activities to increase quarter-over-quarter. Global design activities are expected to increase +6% quarter-over-quarter, while global sourcing activities are expected to increase a more modest 4% to +5%

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