

BUY

Price: \$182

Target: \$220

Upside: 21%

# Advanced Micro Devices (NASDAQ: AMD)

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# Agenda



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Company Overview

Investment Thesis

Catalysts

Valuation

Portfolio Impact & Risks

# Industry Overview



## Semiconductor Industry Overview

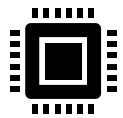
**Semiconductors** serve as the backbone of technology infrastructure in the world

**Fabs-** Companies that manufacture chips

**Fabless-** Companies that focus on designing chips



## Key Industry Trends



**Microprocessors**, particularly those used for **AI**, have emerged as the prime product **opportunity** for future industry growth



**PC** and **smartphone** sales are expected to grow **4%** in 2024, marking **positive** growth from a down year in 2023



The **Chips** act of 2022 has led to 70 new **fabs** ecosystem projects announced across the U.S. and more than **44,000** jobs

## Types of Processing Units

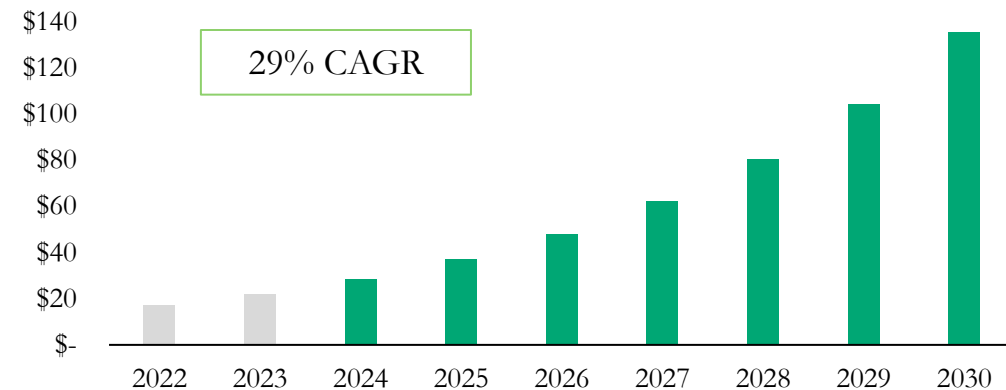
### CPUs

- The **Central** Processing unit acts as the **brain** of the computer
- Handles large processing tasks required for the operating system and **applications** to run

### GPUs

- The **Graphics** Processing unit is a more specialized CPU
- Efficiently handles complex **mathematical** operations and **graphic** rendering tasks

## AI Chips Market Size (Billions \$)



# Company Overview



## Key Products



**Ryzen CPUs:** Ryzen series of processors are known for their high core counts, strong multi-threading performance, and competitive pricing

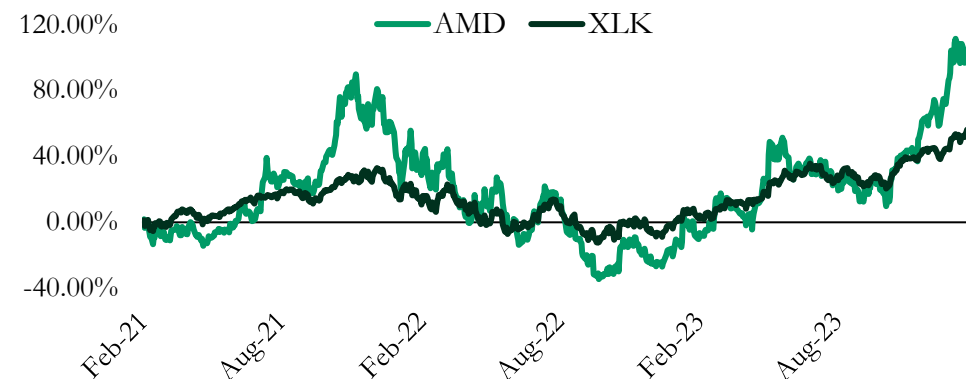


**Epyc Servers:** The Epyc series targets the server and data center market, offering high-performance chips that compete with Intel's Xeon processors



**Radeon GPUs:** AMD's Radeon graphics cards cater to both gamers and professionals, competing with Nvidia

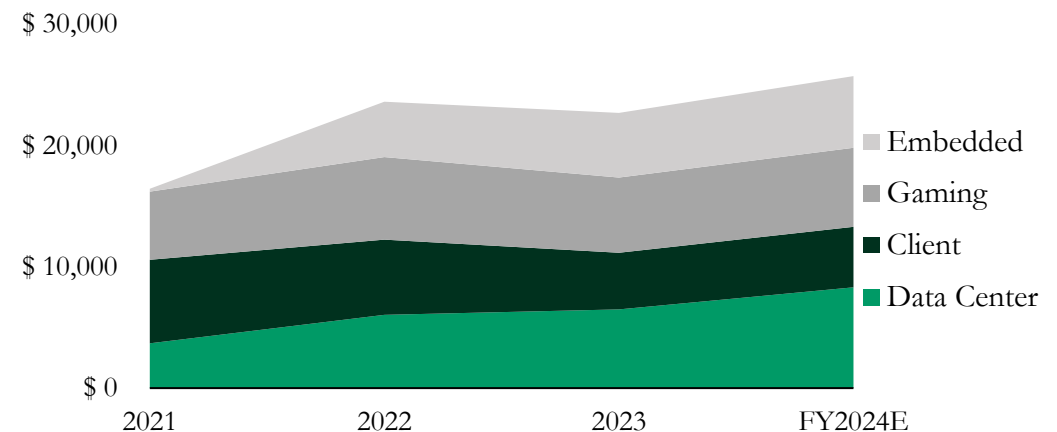
## Historical Performance



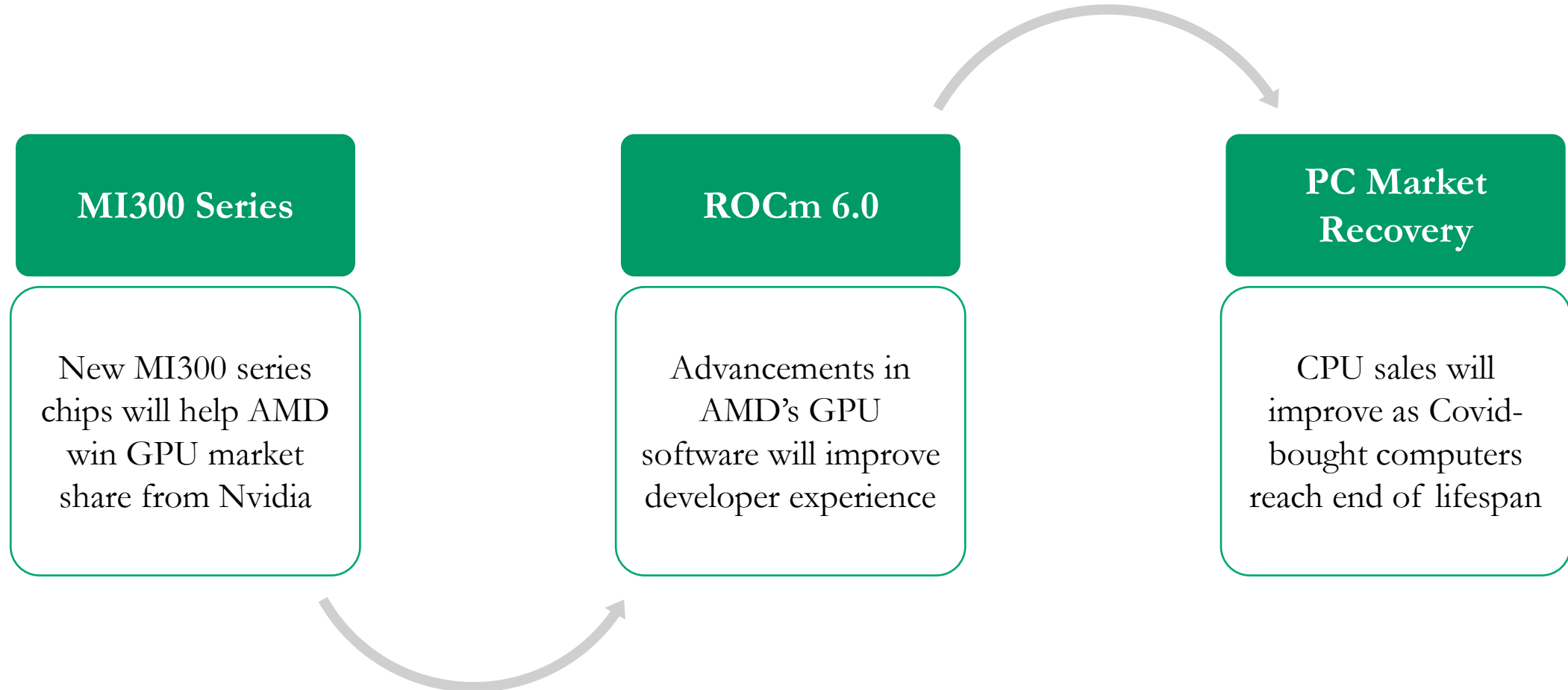
## Key Statistics

52 Week Range	\$75.92-184.92
Revenue	~\$23 billion
EBITDA	~\$3.85 billion
Market Cap	~\$265 billion
Enterprise Value	~\$266 billion
'21-'23 Data Center Rev. Growth	~32% CAGR

## Revenue by Segment (Millions \$)



# Investment Thesis



# MI300 Series



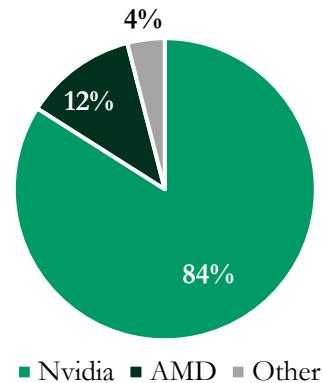
## Unsatisfiable GPU Demand

- Companies require high-end GPUs with large memory capacity to train large language AI models
- Estimated only 80% of GPU demand is being met
- AMD's new MI300X and MI300A chips provide a competitive alternative to NVIDIA's H100

“We're so short on GPU's, the less people use the tool [ChatGPT], the better” – Sam Altman, OpenAI CEO

## Discrete GPU Market Share

- Integrated GPUs (iGPUs) are on the same chip as the CPU, thus they share the same system memory
  - Less power, longer battery life
- Discrete GPUs are separate from the CPU and have their own dedicated memory
  - More power, higher performance



## GPU Memory Capacity



## Significant Client Acquisitions



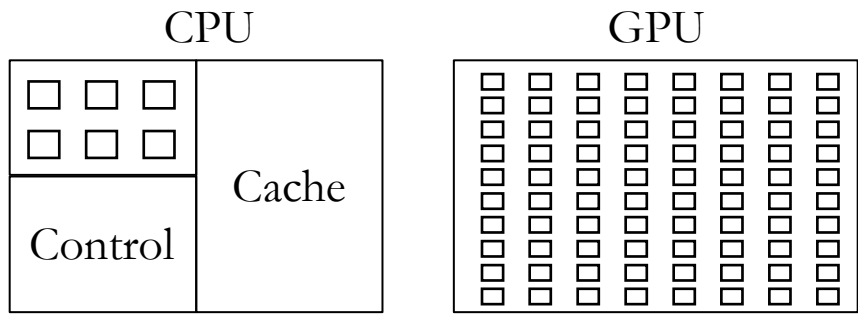
Each company has contractually committed to integrating the MI300X or MI300A to existing software or announced plans to build systems around them

# ROCm 6.0



## Parallel Computing

- Computer architecture technique that improves processing performance by using multiple processors to execute multiple tasks simultaneously



CPU's have several cores that operate on one or two threads at a time

GPUs have hundreds of cores working on hundreds of threads simultaneously

GPU software like Nvidia's CUDA and AMD's ROCm can be used to assign certain tasks from the CPU to GPUs, which is especially useful when calculating the large sets of matrices that make up AI models

## GPU Software

- GPU software like Nvidia's CUDA and AMD's ROCm is software that serves as the bridge between GPUs and GPU-based applications, allowing deep-learning coding libraries to be GPU-accelerated

\* Nvidia's CUDA is the industry standard and most AI applications are still written on top of CUDA today

## ROCm Updates



**Performance Optimization:** Better performance in lower precision math and attention layers



**Expanded Frameworks:** New hipSPARSELt library can accelerate AI workloads + upstream support for popular AI frameworks (TensorFlow, JAX, PyTorch)

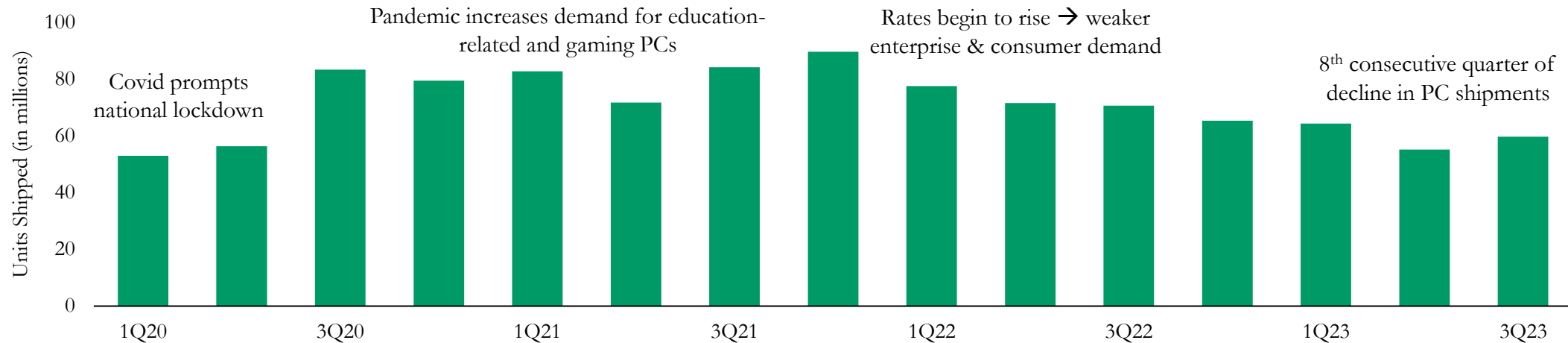


**Library Support:** New support for libraries such as DeepSpeed, ONNX-RT, and CuPy

# PC Market Recovery



## PC Vendor Shipments Worldwide



## Replacement Cycle Imminent

- **Aging** base of computers bought during Covid
- ~**20%** of PC's shipped in 2024 to be AI-enabled with dedicated chipset for on-device AI workloads
- Shipments of PC's with SoC (system on a chip) capabilities expected to grow from **50 million in 2024** to **167 million in 2027**

## CPU Competitive Edge

	Power Efficiency	Gaming Performance	Security
	✓	✓	✓
	✗	✗	✗

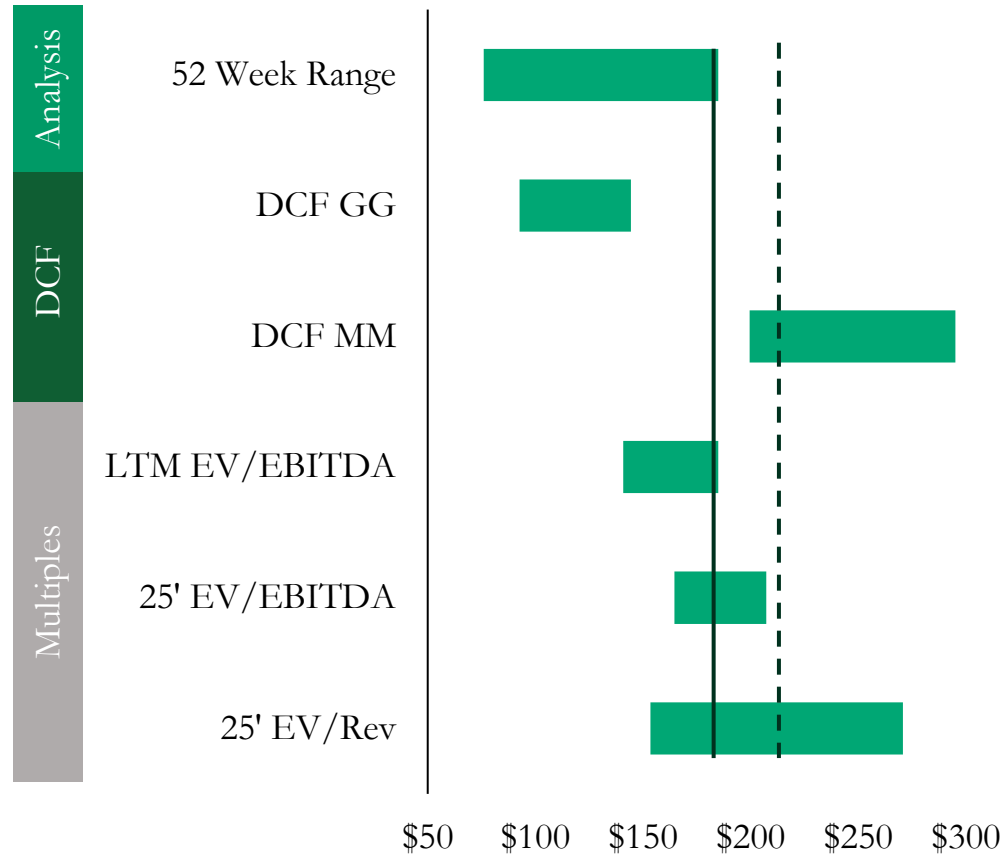
**Ryzen 8000G** series and **Intel Core Ultra** chips are widely regarded as the best CPU chips in the market



# Valuation



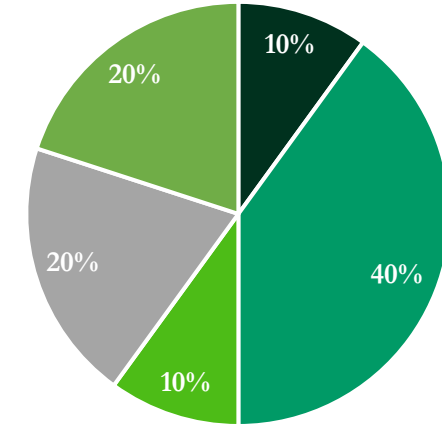
## Football Field



**Current Price: \$182 Target: \$220**

## Weighting

- DCF GG
- DCF MM
- LTM EV/EBITDA
- 25' EV/EBITDA
- 25' EV/Rev



## Key Assumptions

TGR: 2.50%

WACC: 9.89%

25' EV/EBITDA: 23.34x

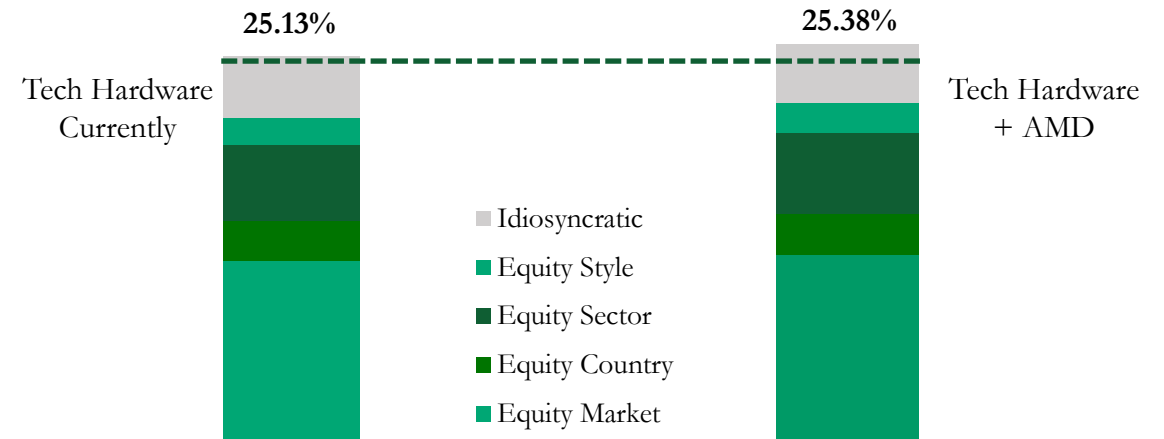
# Allocation & Risks



## Potential Risks

- Manufacturing dependence on TSMC is a risk with potential China invasion of Taiwan
- With revenues from different countries, volatility in the FX markets could negatively impact the bottom-line
- PC market could continue to decline in the short-term

## \$5,000 Allocation Impact



### Bear Case

- Intel releases competitive GPU's, Nvidia wins back market share
- Normalization of PC sales takes longer than expected
- AI companies get valuation resets, multiples compress

**'25 EV/EBITDA: 19.34x**  
**Target Price: \$159 (-12%)**

### Base Case

- AMD's MI300X and MI300A help AMD gain GPU market share from Nvidia
- PC shipments worldwide start increasing

**'25 EV/EBITDA: 23.34x**  
**Target Price: \$220 (+21%)**

### Bull Case

- AMD wins greater GPU market share than expected
- GPU shortage allows for extended period of marked-up prices
- PC and gaming segments see increased consumer demand

**'25 EV/EBITDA: 27.34x**  
**Target Price: \$239 (+31%)**

BUY

Price: \$182

Target: \$220

Upside: 21%

# Questions?

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# Appendix

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# Appendix A: Balance Sheet



Advanced Micro Devices (NASDAQ: AMD)				
AMD Consolidated Balance Sheets - USD (\$)	2020	2021	2022	2023
<b>Current assets:</b>				
Cash and cash equivalents	\$ 1,595	\$ 2,535	\$ 4,835	\$ 3,933
Short-term investments	695	1,073	1,020	1,840
Accounts receivable, net	2,066	2,706	4,126	5,376
Inventories	1,399	1,955	3,771	4,351
Other Receivables	10	2	2	9
Prepaid expenses and other current assets	378	312	1,265	1,259
<b>Total current assets</b>	<b>6,143</b>	<b>8,583</b>	<b>15,019</b>	<b>16,768</b>
Property and equipment, net	641	702	1,513	1,589
Operating lease right-of-use assets	208	367	460	633
Goodwill	289	289	24,177	24,262
Acquisition-related intangibles	0	0	24,118	21,363
Investment: equity method	63	69	83	99
Deferred tax assets	1,245	931	58	366
Other non-current assets	373	1,478	2,152	2,805
<b>Total assets</b>	<b>8,962</b>	<b>12,419</b>	<b>67,580</b>	<b>67,885</b>
<b>Current liabilities:</b>				
Accounts Payable, Other	468	1,321	463	363
Accounts payable	78	85	2,493	2,055
Accrued liabilities	1,796	2,424	3,077	3,082
Current portion of long-term debt, net	0	312	0	751
Other current liabilities	75	98	336	438
<b>Total current liabilities</b>	<b>2,417</b>	<b>4,240</b>	<b>6,369</b>	<b>6,689</b>
Long-term debt, net of current portion	330	1	2,467	1,717
Long-term operating lease liabilities	201	348	396	535
Deferred tax liabilities	0	0	1,934	1,202
Other long-term liabilities	177	333	1,664	1,850
Commitments and Contingencies (see Notes 16 and 17)				
<b>Stockholders' equity:</b>				
Common Stock, Value, Issued	12	12	16	17
Additional paid-in capital	\$ 10,544	\$ 11,069	\$ 58,005	\$ 59,676
Treasury stock (shares)	6	25	33	47
Treasury Stock, Value	\$ (131)	\$ (2,130)	\$ (3,099)	\$ (4,514)
Retained earnings (Accumulated deficit)	(4,605)	(1,451)	(131)	723
Accumulated other comprehensive loss	17	(3)	(41)	(10)
<b>Total stockholders' equity</b>	<b>5,837</b>	<b>7,497</b>	<b>54,750</b>	<b>55,892</b>
<b>Total liabilities and stockholders' equity</b>	<b>\$ 8,962</b>	<b>\$ 12,419</b>	<b>\$ 67,580</b>	<b>\$ 67,885</b>
Common stock, par value (USD per share)			\$ 0.01	\$ 0.01
Common stock, shares authorized (shares)			2,250	2,250
Common stock, shares issued (shares)			1,645	1,663
Common stock, shares outstanding (shares)			1,612	1,616
Treasury stock (shares)			33	47

# Appendix B: Income Statement



Advanced Micro Devices (NASDAQ: AMD)										
AMD Consolidated Statements of Operations - USD (\$) shares in Millions, \$ in Millions	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	
Net revenue	\$ 9,763	\$ 16,434	\$ 23,601	\$ 22,680	\$ 25,915	\$ 30,855	\$ 35,837	\$ 41,002	\$ 46,241	
<i>Growth</i>		68%	44%	-4%	14%	19%	16%	14%	13%	
Cost of sales	5,416	8,505	11,550	11,278	11,898	12,553	13,180	13,839	14,531	
<i>Growth</i>		57%	36%	-2%	6%	6%	5%	5%	5%	
Amortization of acquisition-related intangibles	0	0	1,448	942	598	747	934	805	771	
Total cost of sales	5,416	8,506	12,998	12,220	12,496	13,300	14,114	14,644	15,302	
Gross profit	4,347	7,928	10,603	10,460	13,419	17,555	21,723	26,358	30,939	
<i>Gross Margin</i>	44.5%	48.2%	44.9%	46.1%	51.8%	56.9%	60.6%	64.3%	66.9%	
Research and development	1,983	2,845	5,005	5,872	5,315	5,049	5,200	5,356	5,517	
<i>Growth</i>		43%	76%	17%	-9%	-5%	3%	3%	3%	
Marketing, general and administrative	995	1,448	2,336	2,352	2,364	2,376	2,387	2,399	2,411	
<i>Growth</i>		46%	61%	1%	1%	1%	1%	1%	1%	
Amortization of acquisition-related intangibles	0	0	2,100	1,869	992	750	300	0	0	
Licensing gain	0	(12)	(102)	(34)	(5)	0	0	0	0	
Total Costs & Expenses	8,394	12,787	22,339	22,279	21,162	21,474	22,002	22,400	23,231	
Operating income	1,369	3,647	1,262	401	4,754	9,380	13,835	18,602	23,010	
<i>Operating Margin</i>	14.0%	22.2%	5.3%	1.8%	18.3%	30.4%	38.6%	45.4%	49.8%	
Interest expense	(47)	(34)	(88)	(106)	(76)	(90)	(91)	(86)	(89)	
Other income (expense), net	(47)	55	8	197	87	97	127	104	109	
Income before income taxes and equity income	1,275	3,668	1,182	492	4,764	9,388	13,871	18,620	23,030	
Income tax provision (benefit)	(1,210)	513	(122)	(346)	1,001	1,971	2,913	3,910	4,836	
Tax Rate	-95%	14%	-10%	-70%	21%	21%	21%	21%	21%	
Equity income in investee	5	6	14	16	12	14	14	13	14	
Net income	\$ 2,490	\$ 3,161	\$ 1,318	\$ 854	\$ 3,776	\$ 7,430	\$ 10,972	\$ 14,723	\$ 18,208	

# Appendix C: Cash Flow Statement



Advanced Micro Devices (NASDAQ: AMD)			
Consolidated Statements of Cash Flows - USD (\$ \$ in Millions	2021	2022	2023
<b>Cash flows from operating activities:</b>			
Net income	\$ 3,162	\$ 1,320	\$ 854
<b>Adjustments to reconcile net income to net cash provided by operating activities:</b>			
Depreciation and amortization	407	4,174	3,453
Stock-based compensation	379	1,081	1,384
Amortization of operating lease right-of-use assets	56	88	98
Amortization of Inventory FV adjustment	0	189	3
Loss on debt redemption, repurchase and conversion	7	0	0
Loss on sale or disposal of property and equipment	34	16	11
Deferred income taxes	308	1,505	(1,019)
Increase (Decrease) in Equity Securities, FV-NI	(56)	62	(1)
Other	(2)	(14)	(67)
<b>Changes in operating assets and liabilities:</b>			
Accounts receivable, net	(640)	(1,091)	(1,250)
Inventories	(556)	(1,401)	(580)
Receivables from related parties	(8)	13	(7)
Prepaid expenses and other assets	(920)	(1,197)	(472)
Payables to related parties	7	379	(100)
Accounts payable	801	931	(419)
Accrued and other liabilities	526	546	(221)
Net cash provided by operating activities	3,521	3,565	1,667
<b>Cash flows from investing activities:</b>			
Proceeds from Sale of Short-Term Investments	0	0	300
Proceeds from Maturities, Prepayments and Calls of Short-Term Investments	1,678	4,310	2,687
Purchases of property and equipment	(301)	(450)	(546)
Purchases of short-term investments	(2,056)	(2,667)	(3,722)
Acquisitions, net of cash acquired, all others	0	1,544	131
Other	(7)	(16)	(11)
Net cash provided (used in) investing activities	(686)	(1,999)	1,423
<b>Cash flows from financing activities:</b>			
Proceeds from debt, net of issuance costs	0	991	0
Repayment of debt	0	(312)	0
Proceeds from sales of common stock through employee equity plans	104	167	268
Repurchases of common stock	(1,762)	(3,702)	(985)
Common stock repurchases for tax withholding on employee equity plans	(237)	(406)	(427)
Other	0	2	2
Net cash used in financing activities	(1,895)	3,264	1,146
Net increase (decrease) in cash and cash equivalents	940	2,300	(902)
Cash and cash equivalents at beginning of year	1,595	2,535	4,835
Cash and cash equivalents at end of year	2,535	4,835	3,933
<b>Cash paid during the year for:</b>			
Interest	25	85	84
Income taxes, net of refund	35	685	523
<b>Non-cash investing and financing activities:</b>			
Purchases of property and equipment, accrued but not paid	72	157	106
<b>Non-cash activities for leases:</b>			
Right-of-Use Asset Obtained in Exchange for Operating Lease Liability	227	115	273
<b>Reconciliation of cash, cash equivalents, and restricted cash</b>			
Cash and cash equivalents		4,835	3,933
Total cash, cash equivalents, and restricted cash	\$ 2,535	\$ 4,835	\$ 3,933

# Appendix D: Revenue Build

Advanced Micro Devices (NASDAQ: AMD)								
Revenue by Segment	2021	2022	2023	FY2024E	FY2025E	FY2026E	FY2027E	FY2028E
Data Center	\$ 3,694	\$ 6,043	\$ 6,496	\$ 8,510	\$ 11,233	\$ 14,153	\$ 17,267	\$ 20,375
<i>Growth</i>		64%	7%	31%	32%	26%	22%	18%
<i>% of Total Revenue</i>	22%	26%	29%	33%	36%	39%	42%	44%
Client	6,887	6,201	4,651	\$ 4,977	\$ 5,424	\$ 5,641	\$ 5,811	\$ 5,985
<i>Growth</i>		-10%	-25%	7%	9%	4%	3%	3%
<i>% of Total Revenue</i>	42%	26%	21%	19%	18%	16%	14%	13%
Gaming	\$ 5,607	\$ 6,805	\$ 6,212	\$ 6,523	\$ 7,110	\$ 7,678	\$ 8,139	\$ 8,627
<i>Growth</i>		21%	-9%	5%	9%	8%	6%	6%
<i>% of Total Revenue</i>	34%	29%	27%	25%	23%	21%	20%	19%
Embedded	\$ 246	\$ 4,552	\$ 5,321	\$ 5,906	\$ 7,088	\$ 8,363	\$ 9,785	\$ 11,253
<i>Growth</i>		1750%	17%	11%	20%	18%	17%	15%
<i>% of Total Revenue</i>	1%	19%	23%	23%	23%	23%	24%	24%
Total Revenue	\$ 16,434	\$ 23,601	\$ 22,680	\$ 25,915	\$ 30,855	\$ 35,837	\$ 41,002	\$ 46,241
<i>Growth</i>		44%	-4%	14%	19%	16%	14%	13%



# Appendix E: WACC

Advanced Micro Devices (NASDAQ: AMD)	
WACC (in millions except per share data)	
Share Price	\$ 181.86
Shares Outstanding	1,616
Market Value of Equity	\$ 293,886
Short-Term Debt	751
Long-Term Debt	1,717
Market Value of Debt	2,468
Total Capitalization	296,354
Weight of Equity	99%
Weight of Debt	1%
Market return	8.00%
Risk free rate	4.28%
Equity Risk Premium	3.72%
Beta	1.52
Cost of equity	9.9%
Credit Rating	A-
Spread	1.21%
Cost of Debt	5.49%
Tax Rate	21%
After-tax Cost of Debt	4.34%
WACC	9.89%

# Appendix F: CapEx & D&A

Advanced Micro Devices (NASDAQ: AMD)								
	2021	2022	2023	2024E	2025E	2026E	2027E	2028E
Revenue	16,434	23,601	22,680	25,915	30,855	35,837	41,002	46,241
Capital Expenditures	308	466	557	499	599	692	792	894
<i>% of revenue</i>	2%	2%	2%	1.9%	1.9%	1.9%	1.9%	1.9%
Depreciation & Amortization	407	4,174	3,453	2,244	1,946	1,452	1,030	894
<i>% of CapEx</i>	132%	896%	620%	450%	325%	210%	130%	100%

# Appendix G: NWC



Advanced Micro Devices (NASDAQ: AMD)								
AMD NWC	2021	2022	2023	2024E	2025E	2026E	2027E	2028E
Current Assets (excluding cash and cash equivalents)	4,975	9,164	10,995	9,485	11,104	13,205	14,980	16,440
Current Liabilities	3,968	6,417	5,978	6,191	6,282	6,471	6,591	6,812
NWC	1,007	2,747	5,017	3,294	4,822	6,734	8,389	9,628
Δ in NWC		1,740	2,271	(1,724)	1,528	1,912	1,655	1,239

	2021	2022	2023	2024E	2025E	2026E	2027E	2028E
<b>Current assets:</b>								
Accounts and notes receivable, net	2,706	4,126	5,376	4,399	5,237	6,083	6,960	7,849
<i>AR Days</i>	60.1	63.8	86.5	62.0	62.0	62.0	62.0	62.0
Inventories	1,955	3,771	4,351	4,065	4,840	5,961	6,887	7,491
<i>% of Sales</i>	11.90%	15.98%	19.18%	15.69%	15.69%	16.63%	16.80%	16.20%
Prepaid expenses and other current assets	312	1,265	1,259	1,018	1,023	1,157	1,129	1,095
<i>% of General &amp; Administrative Expense</i>	21.5%	54.2%	53.5%	43.1%	43.1%	48.5%	47.0%	45.4%
Other Receivables	2	2	9	3	3	4	4	5
<i>% of Sales</i>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total current assets	4,975	9,164	10,995	9,485	11,104	13,205	14,980	16,440
<b>Current liabilities:</b>								
Accrued liabilities	2,424	3,077	3,082	3,285	3,333	3,415	3,477	3,606
<i>% of Costs &amp; Expenses</i>	18.96%	13.77%	13.83%	15.5%	15.5%	15.5%	15.5%	15.5%
Accounts payable	1,406	2,956	2,418	2,563	2,601	2,665	2,714	2,814
<i>AP Days</i>	40.1	48.3	39.6	44.2	44.2	44.2	44.2	44.2
Other current liabilities	98	336	438	299	303	346	356	348
<i>% of Costs &amp; Expenses</i>	0.8%	1.5%	2.0%	1.4%	1.4%	1.6%	1.6%	1.5%
Total current liabilities	3,968	6,417	5,978	6,191	6,282	6,471	6,591	6,812

# Appendix H: DCF



Advanced Micro Devices (NASDAQ: AMD)					
	2024E	2025E	2026E	2027E	2028E
EBIT	4,754	9,380	13,835	18,602	23,010
Tax	(1,001)	(1,971)	(2,913)	(3,910)	(4,836)
D&A	2,244	1,946	1,452	1,030	894
Δ NWC	(1,724)	1,528	1,912	1,655	1,239
CapEx	499	599	692	792	894
<b>FCF</b>	<b>7,222</b>	<b>7,229</b>	<b>9,771</b>	<b>13,274</b>	<b>16,934</b>

Year	1	2	3	4	5
Discount Factor	0.91	0.83	0.75	0.69	0.62
<b>FCF Present Value</b>	<b>6,572</b>	<b>5,986</b>	<b>7,363</b>	<b>9,103</b>	<b>10,569</b>

GG Method	
Final Year FCF	16,934
WACC	9.89%
Terminal Growth	2.50%
Terminal Value	234,949
PV Terminal Value	146,631
Enterprise Value	186,225
Debt	2,468
Cash	3,933
Equity Value	184,760
Shares Outstanding	1,616
<b>Share Price</b>	<b>114.33</b>
Upside	-37%

Terminal Multiple Method	
25' EV/EBITDA	23.34
Terminal EBITDA	23,904
Terminal Value	557,940
PV of Terminal Value	348,209
Enterprise Value	387,803
Debt	2,468
Cash	3,933
Equity Value	386,338
Diluted Shares Outstanding	1,616
<b>Share Price</b>	<b>239.07</b>
Upside	31%

# Appendix I: Sensitivities + Bear & Bull



Terminal Multiple						
\$	239.07	19.34	21.34	23.34	25.34	27.34
8.88%	\$211.31	\$230.64	\$230.64	\$269.31	\$288.65	
9.38%	\$206.70	\$225.59	\$225.59	\$263.39	\$282.28	
9.89%	\$206.70	\$225.59	\$225.59	\$263.39	\$282.28	
10.38%	\$197.84	\$215.89	\$215.89	\$252.00	\$270.06	
10.88%	\$193.58	\$211.23	\$211.23	\$246.54	\$264.19	

Gordon Growth						
\$	114.33	1.75%	2.25%	2.50%	2.75%	3.00%
8.88%	\$122.08	\$129.97	\$129.97	\$139.14	\$144.31	
9.38%	\$113.23	\$119.96	\$119.96	\$127.70	\$132.03	
9.89%	\$113.23	\$119.96	\$119.96	\$127.70	\$132.03	
10.38%	\$ 98.64	\$103.67	\$103.67	\$109.36	\$112.50	
10.88%	\$ 92.57	\$ 96.97	\$ 96.97	\$101.91	\$104.61	

Valuation	Price	Weighting
DCF GG	113.23	25%
DCF MM	206.70	25%
25' EV/EBITDA	\$ 164.50	25%
25' EV/Rev	\$ 153.46	25%
<b>Target Price</b>	<b>\$ 159.47</b>	
<b>Upside</b>	<b>-12.31%</b>	

Bull Valuation	Price	Weighting
DCF GG	144.31	25%
DCF MM	282.28	25%
25' EV/EBITDA	\$ 207.28	25%
25' EV/Rev	\$ 355.70	25%
<b>Target Price</b>	<b>\$ 247.39</b>	
<b>Upside</b>	<b>36.03%</b>	

# Appendix J: Comps



Advanced Micro Devices (NASDAQ: AMD)																							
										LTM										2025E			
Company	Ticker	Price	Shares Outstanding	Market Cap	Cash	Debt	EV	Revenue	EBIT	EBITDA	EPS	EV/Rev	EV/EBIT	EV/EBITDA	P/E	Revenue	EBIT	EBITDA	EPS	FWD EV/Rev	FWD EV/EBIT	FWD EV/EBITDA	FWD P/E
Advanced Micro Devices	AMD	181.86	1,616.00	293,885.76	3,933.00	2,468.00	292,420.76	22,680.00	400.84	3,853.84	0.53	12.89	729.51	75.88	344.19	30,854.55	9,380.38	11,326.81	4.60	9.48	31.17	25.82	39.55
Intel	INTC	43.51	4,228.00	183,960.28	30,863.00	49,697.00	202,794.28	54,228.00	(19.00)	9,583.00	0.12	3.74	(10,673.38)	21.16	362.58	64,653.60	10,161.60	20,283.90	2.19	3.14	19.96	10.00	19.87
Nvidia	NVDA	726.13	2,466.00	1,790,636.58	18,281.00	11,027.00	1,783,382.58	44,870.00	21,313.00	23,109.00	7.81	39.75	83.68	77.17	92.97	95,973.80	61,139.90	60,569.40	21.36	18.58	29.17	29.44	33.99
Broadcom	AVGO	1245.5	414.00	515,628.72	14,189.00	39,648.00	541,087.72	35,819.00	16,706.00	20,541.00	33.82	15.11	32.39	26.34	36.83	55,561.20	33,278.40	34,004.50	56.37	9.74	16.26	15.91	22.09
Micron	MU	79.5	1,098.00	87,291.00	9,768.00	14,168.00	91,691.00	16,181.00	(6,428.00)	1,456.00	(5.84)	5.67	(14.26)	62.97	(13.61)	31,761.20	7,256.40	15,409.30	6.40	2.89	12.64	5.95	12.42
Western Digital Corp	WDC	54	322.00	17,388.00	2,481.00	8,833.00	23,740.00	11,257.00	(1,703.00)	(930.00)	(6.65)	2.11	(13.94)	(25.53)	(8.12)	16,601.80	2,847.70	3,471.10	5.94	1.43	8.34	6.84	9.09

	Share Price	EV	Revenue	EBIT	EBITDA	EPS	EV/Rev	EV/EBIT	EV/EBITDA	P/E	Revenue	EBIT	EBITDA	EPS	FWD EV/Rev	FWD EV/EBIT	FWD EV/EBITDA	FWD P/E
Min	43.51	23,740	11,257	(6,428)	(930)	(7)	2	(10,673)	(26)	(14)	16,602	2,848	3,471	2	1	8	6	9
Quartile 1	60.375	119,467	17,806	(1,282)	2,055	(4)	4	(14)	22	3	31,081	7,787	12,347	5	3	14	8	14
Median	130.68	247,608	29,250	191	6,718	0	9	9	45	65	43,661	9,771	17,847	6	6	18	13	21
Quartile 3	590.0625	478,921	42,607	12,630	17,802	6	15	71	73	281	62,381	27,499	30,574	18	10	27	23	31
Max	1245.48	1,783,383	54,228	21,313	23,109	34	40	730	77	363	95,974	61,140	60,569	56	19	31	29	40
Mean	388.4133333	489,186	30,839	5,045	9,602	5	13	(1,643)	40	136	49,234	20,677	24,178	16	8	20	16	23

Min	\$ 30.50	\$ (2,646.59)	\$ (59.97)	\$ 0.90							\$ 28.21	\$ 49.30	\$ 42.61	\$ 0.93
Quartile 1	\$ 60.15	\$ (2.61)	\$ 54.46	\$ 0.91							\$ 57.22	\$ 79.51	\$ 54.38	\$ 0.95
Median	\$ 131.15	\$ 3.19	\$ 107.41	\$ 0.93							\$ 121.33	\$ 106.02	\$ 91.71	\$ 0.97
Quartile 3	\$ 205.15	\$ 18.48	\$ 174.17	\$ 1.00							\$ 185.60	\$ 156.85	\$ 164.50	\$ 0.99
Max	\$ 558.72	\$ 181.86	\$ 184.95	\$ 1.03							\$ 355.70	\$ 181.86	\$ 207.28	\$ 1.02
Mean	\$ 186.30	\$ (406.55)	\$ 95.50	\$ 0.95							\$ 144.91	\$ 114.61	\$ 110.67	\$ 0.97

# Appendix K: Revenue by Geography & R&D

