

# COHU ANALYST & INVESTOR CONFERENCE

May 16, 2022

# Cautionary Statement Regarding Forward-Looking Statements

## Forward-Looking Statements:

Certain statements contained in this presentation may be considered forward-looking statements within the meaning of the U.S. Private Securities Litigation Reform Act of 1995, including statements regarding all Serviceable Addressable Market (SAM) estimates, share and growth over time, market segments CAGRs and growth drivers for each business, 3-year target Plan or “Target Model” financial goals, target revenue CAGRs by business, market position in business verticals and changes over time, end-market growth estimates, savings from higher yield, Q2’22 financial guidance and any FY’22 forecasts, any references to product plans, roadmaps, developments and schedules, increases in test intensity, power and IoT nodes, expanding into probe card market, product lower cost, higher yield, throughput, productivity or life, PdM TAM and growth, DI-Core plans, gross margin expansion, business segment revenue split at Target Model, revenue growth to \$1 Bil, investment thesis, any future Term Loan B principal reduction, the amount, timing or manner of any share repurchases and any other statements that are predictive in nature and depend upon or refer to future events or conditions, and/or include words such as “may,” “will,” “should,” “would,” “expect,” “anticipate,” “plan,” “likely,” “believe,” “estimate,” “project,” “intend,” and/or other similar expressions among others. Statements that are not historical facts are forward-looking statements. Forward-looking statements are based on current beliefs and assumptions that are subject to risks and uncertainties and are not guarantees of future performance. Any third-party industry analyst forecasts quoted are for reference only and Cohu does not adopt or affirm any such forecasts.

Actual results and future business conditions could differ materially from those contained in any forward-looking statement as a result of various factors, including, without limitation: Political and economic instability and adverse impacts resulting from the military incursion into Ukraine by Russia; the ongoing global COVID-19 pandemic and its impact on our operations and the operations of our key suppliers, customers and other business partners; we are making investments in new products and product enhancements, which may adversely affect our operating results and these investments may not be commercially successful; we have manufacturing operations in Asia and any failure to effectively manage multiple manufacturing sites and to secure raw materials meeting our quality, cost and other requirements, or failures by our suppliers to perform, could harm our sales, service levels and reputation; any failure to perform or unexpected downtime experienced by our sole contract manufacturer for certain semiconductor automated test equipment; any failure of critical suppliers to deliver sufficient quantities of parts in a timely and cost-effective manner; we may not be able to increase prices to fully offset inflationary pressures on costs, such as raw and packaging materials, components and subassemblies, labor and distribution costs; the semiconductor industry we serve is seasonal, cyclical, volatile and unpredictable; the semiconductor equipment industry is intensely competitive; semiconductor equipment is subject to rapid technological change, product introductions and transitions which may result in inventory write-offs, and our new product development involves numerous risks and uncertainties; the seasonal nature of the semiconductor equipment industry places enormous demands on our employees, operations and infrastructure; a limited number of customers account for a substantial percentage of our net sales; inherent uncertainty of backlog wherein customers may delay shipments or cancel orders; majority of our revenues are generated from exports to foreign countries, primarily in Asia, that are subject to economic and political instability and we compete against a number of Asia-based test contactor, test handler and automated test equipment suppliers; we are exposed to the risks of operating in certain foreign locations from where Cohu manufactures certain products, and supports our sales and services to the global semiconductor industry; increasingly restrictive trade and export regulations may materially harm or limit Cohu’s business and ability to sell its products; the remaining indebtedness in connection with our financing of the Xcerra acquisition may have an adverse impact on Cohu’s liquidity, access to capital and business flexibility; we are exposed to other risks associated with additional potential acquisitions, investments and divestitures such as integration difficulties, disruption to our core business, dilution of stockholder value, and diversion of management attention; our financial and operating results may vary and fall below analysts’ estimates, or credit rating agencies may change their ratings on Cohu, any of which may cause the price of our common stock to decline or make it difficult to obtain other financing; we have experienced significant volatility in our stock price; there may be changes in, and uncertainty with respect to, legislation, regulation and governmental policy in the United States; and impacts in the event of a cybersecurity breach.

These and other risks and uncertainties are discussed more fully in Cohu’s filings with the SEC, including the most recently filed Form 10-K and Form 10-Q, and the other filings made by Cohu with the SEC from time to time, which are available via the SEC’s website at [www.sec.gov](http://www.sec.gov). Except as required by applicable law, Cohu does not undertake any obligation to revise or update any forward-looking statement, or to make any other forward-looking statements, whether as a result of new information, future events or otherwise.



# AGENDA



**Jeff Jones, Senior VP & CFO**  
Welcome



**Yves Hirschy, VP & General Manager**  
Inspection & Metrology



**Luis Müller, President & CEO**  
Raising the Bar, Delivering Growth



**Chris Bohrson, Senior VP**  
Global Customer Group



**Ian Lawee, SVP & General Manager**  
Semiconductor Test



**Jeff Jones, Senior VP & CFO**  
Delivering Profitability and Shareholder Value



**Devin Sheridan, VP & General Manager**  
Test Interface

Q&A

# RAISING THE BAR DELIVERING RESULTS



**Luis Müller**  
President & CEO

## MAJOR THEMES FOR TODAY

- Cohu is a technology-driven company committed to solving our customers' most complex test and inspection challenges
- Broad product portfolio delivering value to customers in key secular growth markets
- Committed to profitable growth and capital allocation that drives shareholder value



# COHU AT A GLANCE



**\$887M**

*FY21 Revenue <sup>(1)</sup>*

**\$380M**

*Cash & Investments <sup>(1)</sup>*

**~ 26%**

*5-year Revenue CAGR <sup>(1)</sup>*

**\$3.20**

*FY21 Non-GAAP EPS <sup>(2)</sup>*

Our long-term vision is to move up  
the technology value chain

**~ 23,500**

*Equipment Installed Base*

<sup>(1)</sup> For the period ending December 25, 2021; revenue includes \$26.8M of PCB Test business divested June 2021

<sup>(2)</sup> See Appendix for GAAP to non-GAAP reconciliation



# SOLVING CUSTOMERS' MOST COMPLEX CHALLENGES



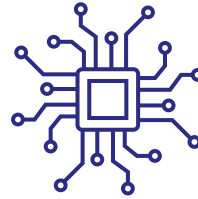
High performance product portfolio at lower cost-of-ownership

**Strong market**  
position in each business vertical



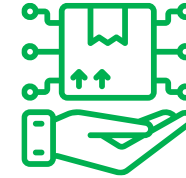
Diverse customers and applications expanding addressable market

**~ 20% share**  
in \$4.4 billion addressable market <sup>(1)</sup>



Increasing semiconductor complexity and package integration

**Opportunities**  
in 5G connectivity, artificial intelligence, advanced packaging, industrial IoT <sup>(2)</sup>, automotive ADAS <sup>(3)</sup> and electrification, consumer wearables



Innovative solutions delivering higher yield & productivity

**Broad IP portfolio**  
and strong global support enabling customers' production ramps and productivity goals



Scalable model that optimizes profitability and Plan <sup>(4)</sup> that delivers growth and drives shareholder value

Revenue <sup>(4)</sup>  
**\$1 billion**  
Gross Margin <sup>(4)</sup>  
**49%**  
Operating Income <sup>(4)</sup>  
**25%**

(1) Cohu SAM: Serviceable Addressable Market are company estimates for 2021

(2) Internet of Things

(3) Advanced Driver Assistance Systems

(4) Plan references a 3-year target starting from FY21. Gross Margin and Op Income are Non-GAAP, see Appendix for notes regarding use of forward-looking non-GAAP figures

# MARKET AND TECHNOLOGY LEADERSHIP

Strong position in each business vertical



#3

Semiconductor Test <sup>(1)</sup> Test Interface

High fidelity measurement instruments  
Compact, low-power systems → Scalability



#1



#1

Services <sup>(2)</sup>

Global footprint  
Data analytics



#2

Inspection & Metrology

Thermal and Vision Inspection  
Technologies enabling higher yield



#1

Automation <sup>(3)</sup>

(1) Leading supplier of RF Front-End test equipment; company estimates

(2) Service business of Cohu systems

(3) Automation includes test handlers

# DRIVING GROWTH IN SELECT END-MARKETS

## Applications



Secular tailwinds driving  
end-market growth  
(fcst. 3-year growth)

~ 21%

CAGR

3D-stacked package  
growth <sup>(1)</sup>

~ 25%

CAGR

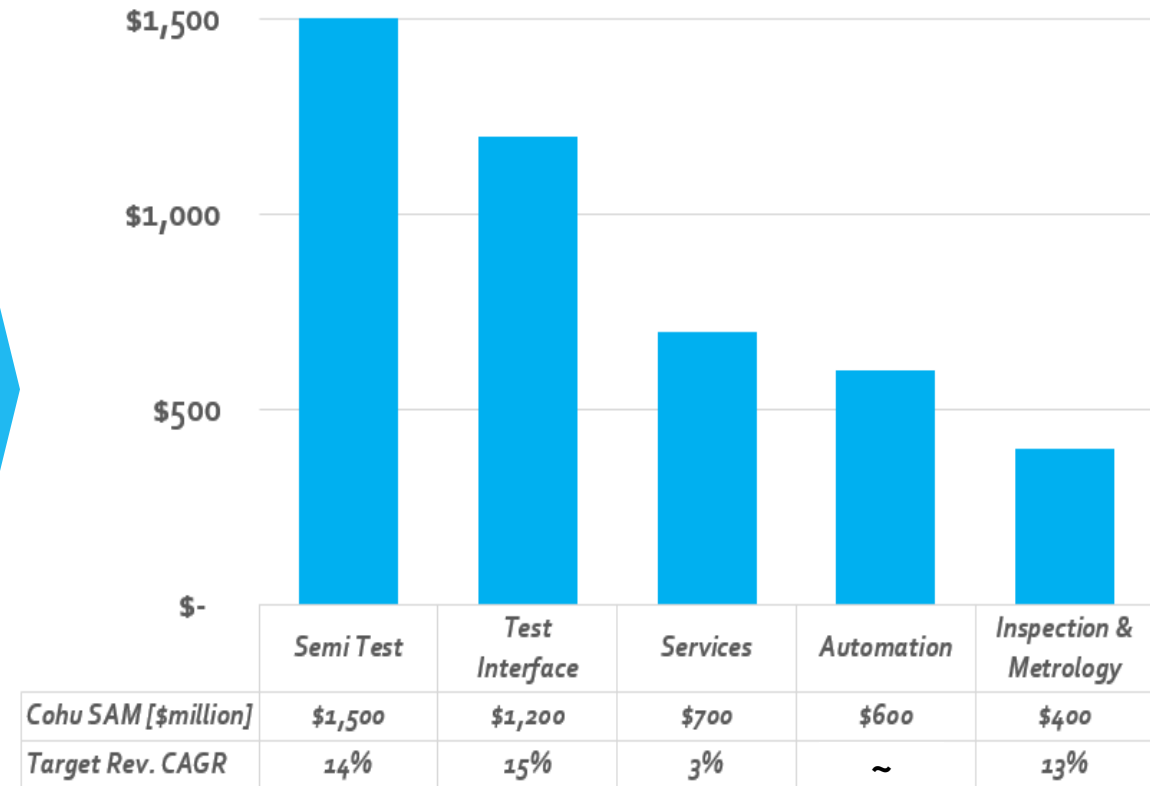
ADAS and xEV <sup>(2)</sup>  
Semi content in autos <sup>(1)</sup>

~ 43%

CAGR

5G subscriptions <sup>(1)</sup>

~ \$4.4 billion addressable market



Target revenue CAGR from FY21 baseline revenue

(1) Source: Gartner (December 2021), Yole Développement (2020), selected Wall Street research

(2) Electric Vehicles

(3) Cohu SAM: Serviceable Addressable Market are company estimates for 2021

(4) 3-year target revenue CAGR starting FY21 per business segment



# WHY WE ARE WINNING

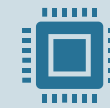
1% higher yield  
equates to

~ \$5 billion

customer value <sup>(1)</sup>

Delivering higher yield  
at lower cost-of-ownership

Solutions approach  
*faster time-to-yield*



Precision instruments  
*higher accuracy & yield*



Faster ramps  
*satisfying demand*



Advanced vision  
*higher inspection yield*



Global support  
*greater productivity*



Active thermal  
*higher test yield*



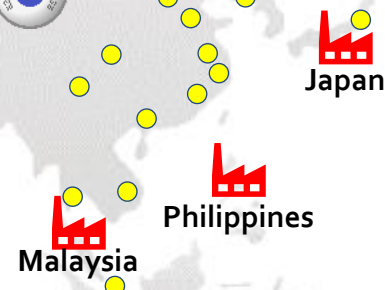
(1) Semiconductor Industry Association (SIA): global semiconductor industry sales totaled \$556 billion in 2021

# SUPPORTING CUSTOMERS GLOBALLY

**~ 23,500**  
Systems Installed Base



**~ 500**  
Field Engineers serving  
customers in 20 countries



Product Development / IP ★  
Manufacturing Operations 🏭  
Principal Sales/Services ●

<sup>(1)</sup> EMEA – Europe, Middle East and Africa

# COMMITMENT TO GROWTH

Making investments to grow revenue and profitability

## Organic

~ \$414M<sup>(2)</sup>

R&D over  
last 7 years

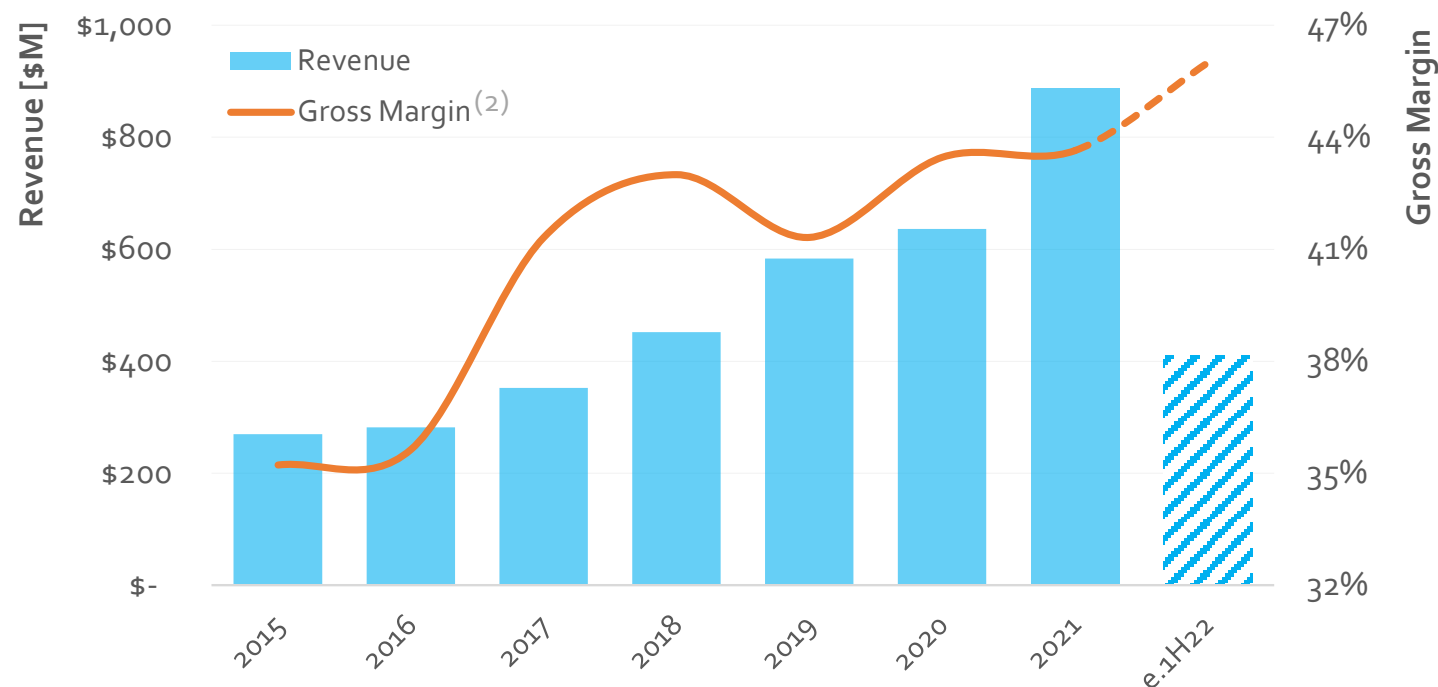
## Inorganic

Xcerra

KITA

ismeca

Rasco



(1) e.1H22 refers to estimated first half 2022 results based on Q1'22 actuals and mid-point of Q2'22 guidance

(2) Amounts are Non-GAAP, see Appendix for GAAP to Non-GAAP reconciliations, and for notes regarding use of forward-looking non-GAAP figures



# TARGET MODEL

Revenue <sup>(1)</sup>

**\$1B**

Gross Margin <sup>(1)</sup>

**49%**

Operating Income <sup>(1)</sup>

**25%**

# STRATEGY

Expand Semiconductor Test in high-growth markets beyond RF <sup>(2)</sup> Front-end ICs <sup>(3)</sup> with scalable, precision instrumentation

Accelerate Interface product sales in test cells and high-end RF probe card market

Expand Services business with data analytics to optimize equipment productivity

Deliver high-end Inspection & Metrology to key growth applications: 5G, AI <sup>(4)</sup>, advanced packaging

<sup>(1)</sup> 3-year target from FY21 – FY24. Gross Margin and Op Income are Non-GAAP, see Appendix for notes regarding use of forward-looking non-GAAP figures

<sup>(2)</sup> Radio Frequency

<sup>(3)</sup> Integrated Circuits

<sup>(4)</sup> Artificial Intelligence

# | SEMICONDUCTOR TEST



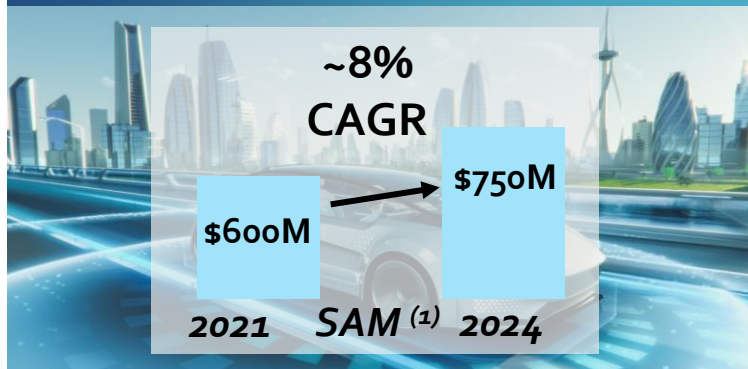
**Ian Lawee**  
SVP & General Manager

## MAJOR THEMES FOR TODAY

- Increasing test intensity with complex device applications
- Differentiated platform aligned with secular market trends
- Winning new customers, expanding SAM and delivering growth beyond RF

# INCREASING TEST INTENSITY DRIVING GROWTH

## Automotive & Industrial



### Focused applications

- Automotive xEV and ADAS

### Growth drivers

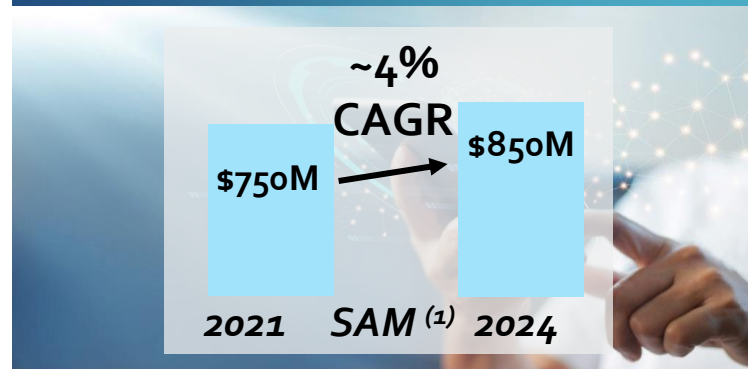
- *Battery management and sensing ASSPs <sup>(2)</sup> growing at 12% CAGR <sup>(3)</sup>*
- *ASSPs with added analog, power and RF content are driving 2x-3x increase in IC spend per vehicle <sup>(4)</sup>*

<sup>(1)</sup> Company estimates

<sup>(2)</sup> Application Specific Standard Product

<sup>(3)</sup> IC Insights, 2022: IC unit growth projection 2021 to 2024

## Mobility & Consumer



### Focused applications

- Internet of Things
- 5G sub-6 GHz and mmWave

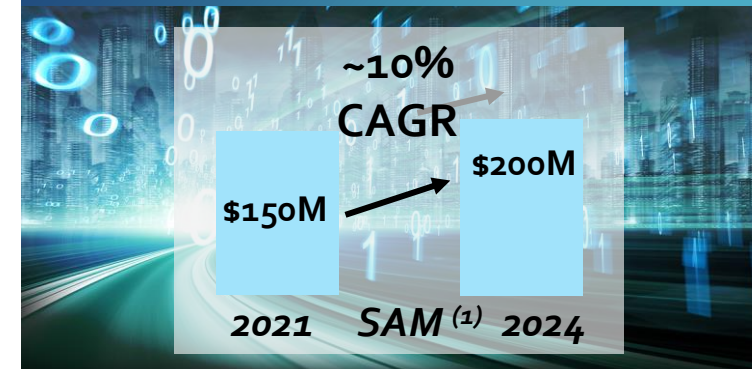
### Growth drivers

- *Wi-Fi 6E/7, UWB <sup>(5)</sup>, narrow-band RF-IoT and other new enabling standards deploying widely*
- *Increasing frequencies and bandwidths more than doubling test intensity*

<sup>(4)</sup> Analog Devices Investor Presentation, April 2022

<sup>(5)</sup> Ultra-wideband

## Computing & Network



### Focused applications

- Data Centers, Computing & Network Infrastructure

### Growth drivers

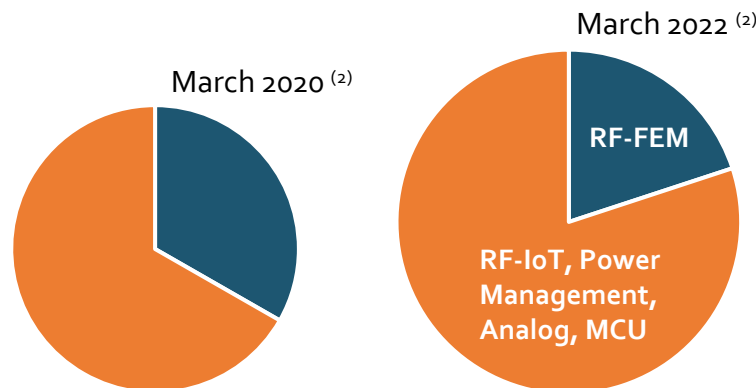
- *Display drivers, power management and analog ICs are growing faster than market*
- *Customers are choosing a single test platform that can test their mixed signal chipset solutions*



# GROWING BEYOND RF-FEM <sup>(1)</sup>

## Diversification

**30%**  
2-year order  
CAGR



## Diamond<sub>x</sub> market penetration



Doubled install base in the last 3 years



Expanding SAM in data storage analog, power management, automotive analog and RF-IoT



Extending RF leadership in Front-End Module, RF-IoT, Ultra-wideband and Wi-Fi devices



Design-wins at leading display driver IC customers

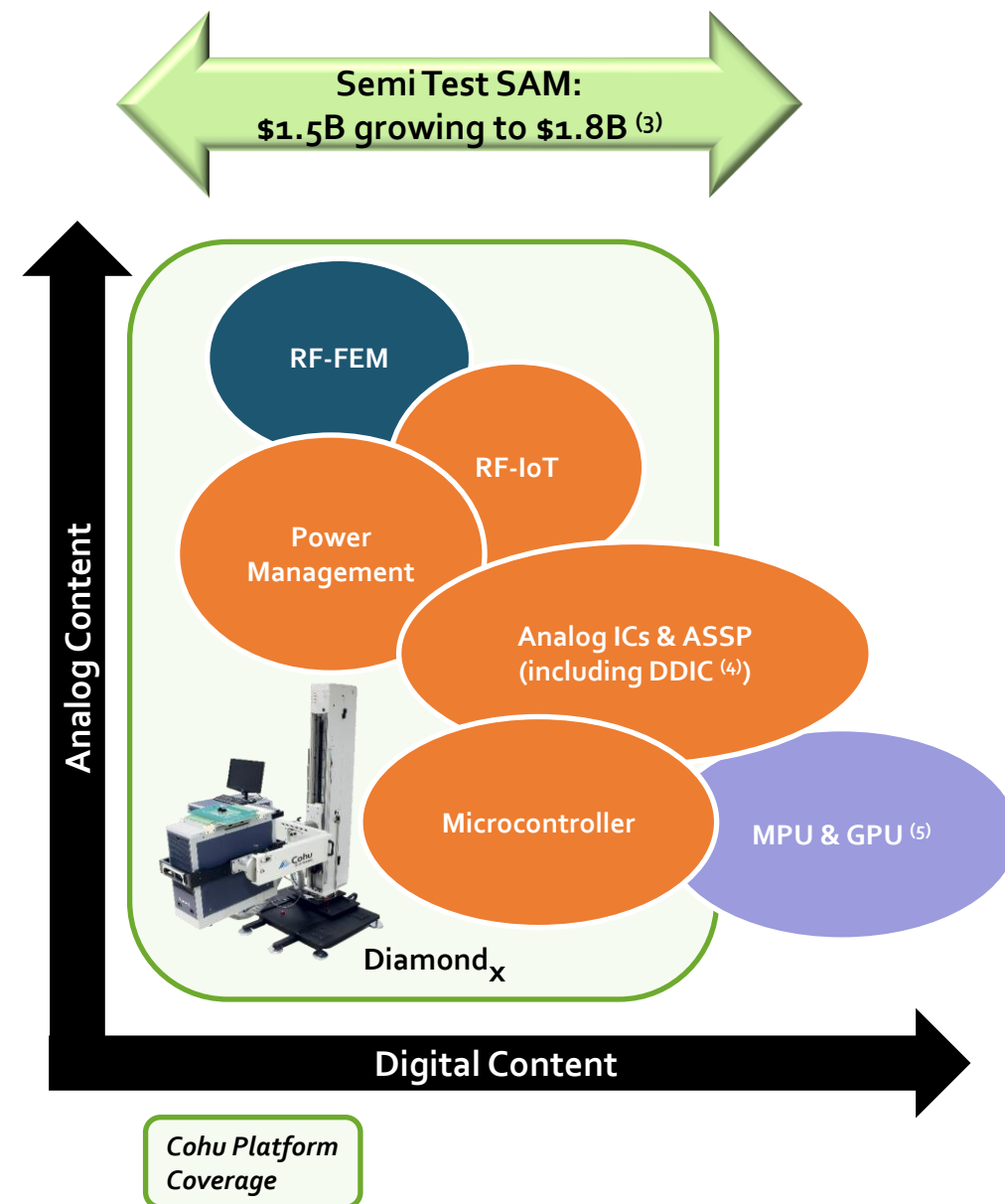
<sup>(1)</sup> RF Front-End Modules

<sup>(2)</sup> Trailing twelve months product orders Q1 of each year

<sup>(3)</sup> Company estimates for Diamond<sub>x</sub> 2021 to 2024 Semi Test SAM

<sup>(4)</sup> Display Driver ICs

<sup>(5)</sup> Microprocessors and Graphic Processors



# SCALABLE TEST SOLUTIONS ON DIAMOND<sub>x</sub>

## Cost-Performance Challenge

*Devices with increasing mixed signal complexity*

RF FEM &  
RF-IoT

Analog & Power  
Management

Customer Portfolio

Microcontrollers

Display  
Drivers

*Device cost down enabling market expansion*

## Platform Advantages

### **Best-in-Class Throughput**

Event-Link architecture suited for efficient multisite mixed signal test

### **Air-Cooled Universal**

Platform scalable from 5-slots suitable for low pin-count devices to 40-slots enabling >300 multisite test parallelism

### **Calibration to Device Pin**

The only company positioned to solve technical and yield challenges through integrated tester-interface-handler solutions

## Design-Wins <sup>(1)</sup>

### **RF-IoT (Ultra-wideband)**

Low digital speed devices with high RF content benefiting from cost-performance optimized multisite instruments

up to **4X**

**Higher Output**

### **Power Management for Computing**

Universal platform addressing high-power requirements, a more flexible alternative to dedicated solutions

up to **6x**

**Competitors' Maximum Voltage**

<sup>(1)</sup> Based upon customer provided benchmarking data

# EXPANDING ANALOG CONTENT

Increasing complexity with electrification, consumer wearables, mobility, industrial automation and data centers



**10%+**

Annual increase in  
test intensity <sup>(1)</sup>

**~ \$650M**

Cohu Addressable Market <sup>(2)</sup>

Serving 10 of Top 15  
Analog Leaders



Extending instrumentation to enable lower cost-of-test for high volume analog ASSP – battery management, DDIC, ADAS sensors, data storage

<sup>(1)</sup> Cohu estimates based on EV BMS Channel/ASSPs increase per year

<sup>(2)</sup> Company estimates



# EVER-INCREASING POWER DEMAND

Rapidly changing power distribution systems for data centers, xEVs and the power grid are creating new test requirements



**4X – 33X**  
Voltage increase in data centers and xEVs

**~ \$275M**  
Cohu Addressable Market <sup>(1)</sup>

Serving 5 of Top 14  
Power Mgmt. Leaders



New power instruments are expanding voltage range at higher channel densities

<sup>(1)</sup> Company estimates

# INTEGRATING IoT DEVICE PORTFOLIOS

Large IoT deployment integrating several technologies (RF, MCU <sup>(1)</sup>, Power) in cost-sensitive applications



~ 20B

Low power IoT nodes,  
doubling by 2025 <sup>(2)</sup>

~ \$280M

Cohu Addressable Market <sup>(3)</sup>

Serving 6 of Top 14  
IoT Leaders



Customers selecting Diamond<sub>x</sub> to test the entire signal chain spanning power, RF and MCU without spending on unneeded platform overhead

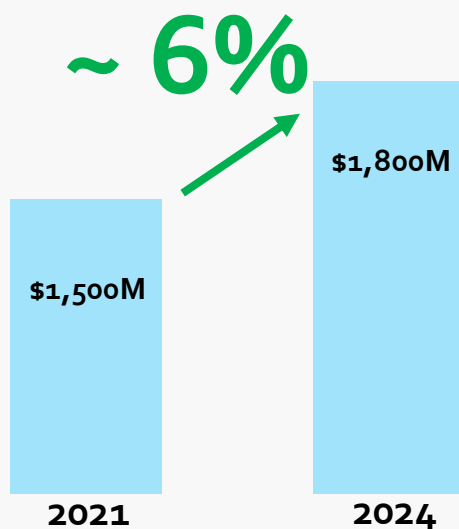
<sup>(1)</sup> Microcontrollers

<sup>(2)</sup> Silicon Labs Investor Presentation, March 2022

<sup>(3)</sup> Company estimates

# SEMI TEST

Cohu SAM <sup>(1)</sup> CAGR



Target Revenue CAGR

~ 14%

# STRATEGY

Expanding addressable market by ~ \$300M aligned with secular market trends and increasing test intensity

Delivering best-in-class throughput for a focused range of mixed signal devices

Extending leadership in multi-market IoT applications with a universal platform and lower cost-of-test for the entire signal chain

<sup>(1)</sup> Company estimates

# | INTERFACE SOLUTIONS



**Devin Sheridan**  
VP & General Manager

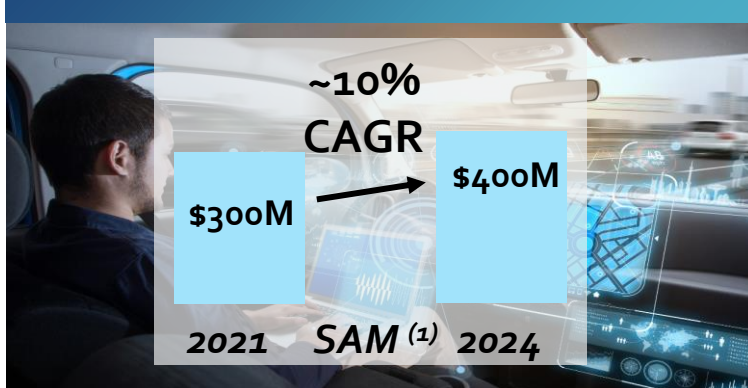
## MAJOR THEMES FOR TODAY

- Increasing test intensity is driving growth in core markets
- Strength in power and thermal technologies enabling value-add solutions for xEV and ADAS applications
- Expertise in mmWave RF and high-speed digital applied to deliver leading cost-of-test for 5G, Data Center and AI markets
- Expanding addressable market with RF probe cards



# INCREASING TEST INTENSITY

## Automotive & Industrial



### Focused applications

- Automotive xEV and ADAS

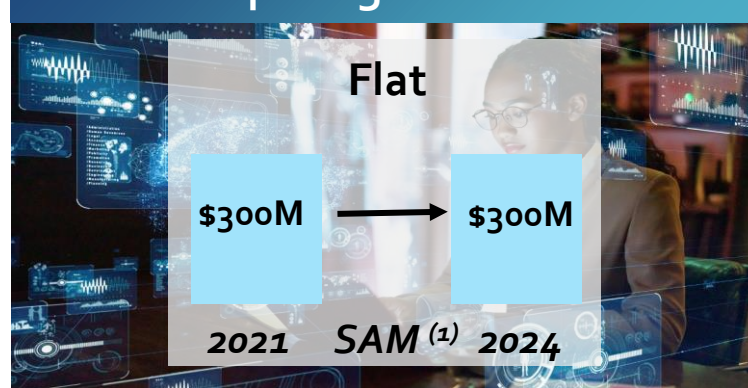
### Growth drivers

- SiC higher efficiency offers >3.5x higher power density vs Si <sup>(2)</sup>, driving high current applications
- Advanced packaging in KGD <sup>(3)</sup>
- ADAS processor power (>50 W) challenging temperature control during test

<sup>(1)</sup> Company estimates

<sup>(2)</sup> Wolfspeed power density (KW/L) comparative values for Silicon Carbide (SiC) vs. Silicon (Si)

## Computing & Network



### Focused applications

- Data Center & AI

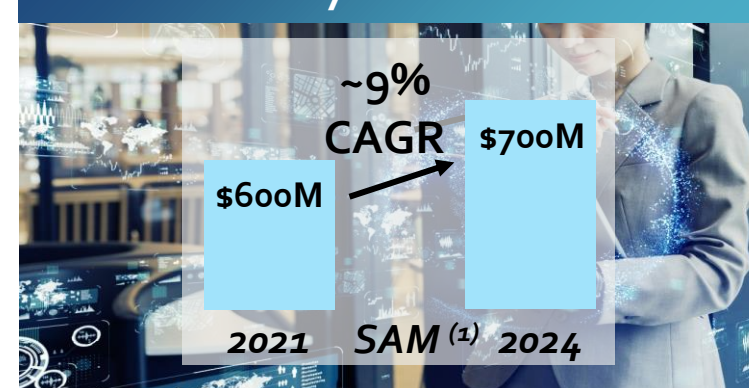
### Growth drivers

- Input/Output bandwidth doubling every three years, increasing demand for higher frequency solutions
- Adoption of heterogeneous packaging increasing power and thermal requirements

<sup>(3)</sup> Known Good Die

<sup>(4)</sup> Wafer-Level Chip Scale Package

## Mobility & Consumer



### Focused applications

- mmWave 5G

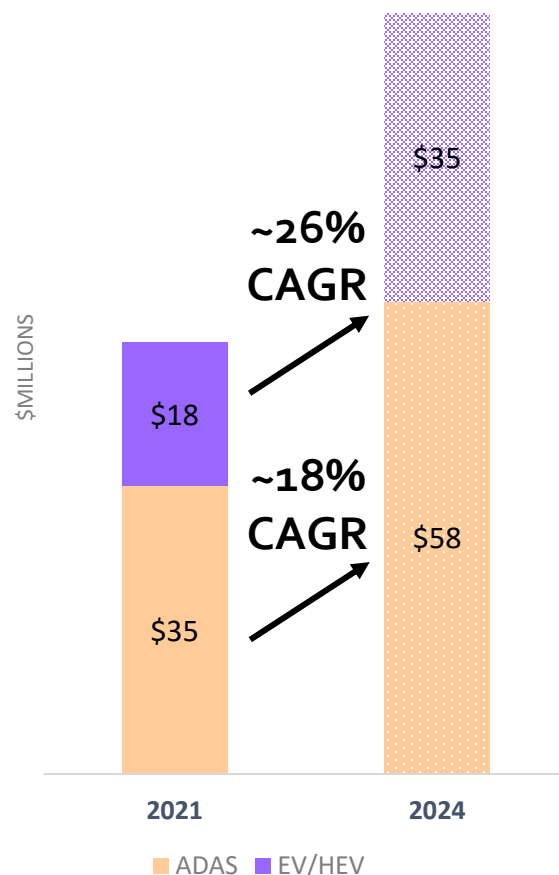
### Growth drivers

- Expanding applications at higher frequencies (up to 60 GHz), demanding performance at low cost
- Opportunities for WLCSP <sup>(4)</sup> probe technology testing at functional performance speeds

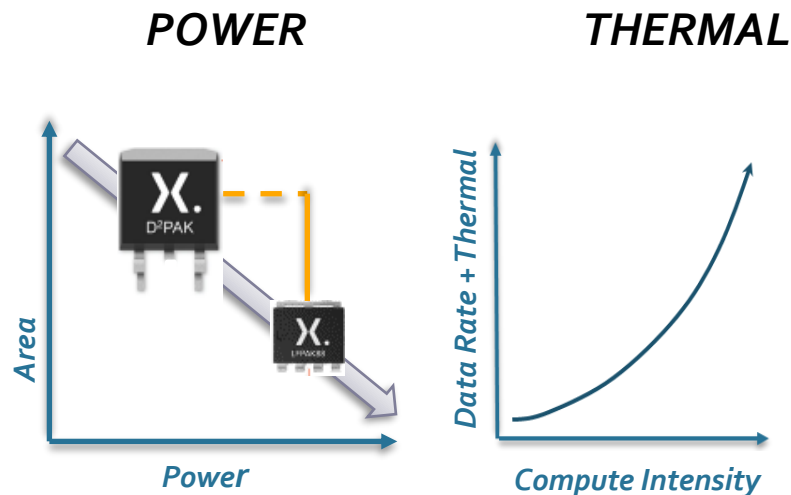
# LEADERSHIP IN AUTOMOTIVE TEST SOLUTIONS

## Accelerated Growth Segment

Contactor SAM <sup>(1)</sup>



## Technical Drivers

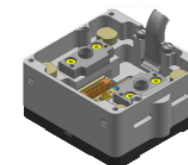


## Customers



## Product Leadership

### High Current Contactor

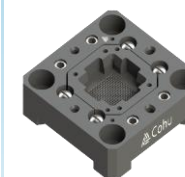


Unique pin architecture and heat dissipation structure delivers  
~ 30% higher current capacity

**~ 2X**  
Life Increase

**~ 50%**  
Lower Cost

### Thermal Contactor



Smart sensors for improved  
temperature accuracy when  
combined with Cohu test handlers

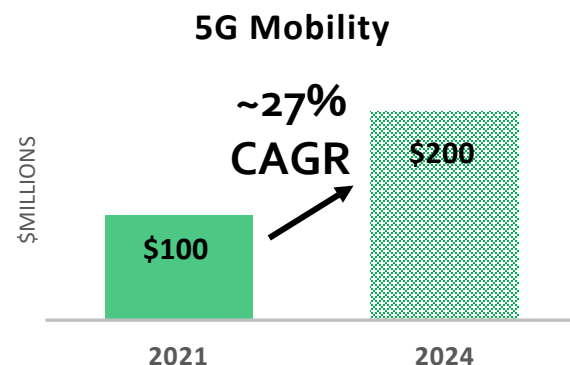
**Higher Yield**  
with Thermal Accuracy

<sup>(1)</sup> Company estimates

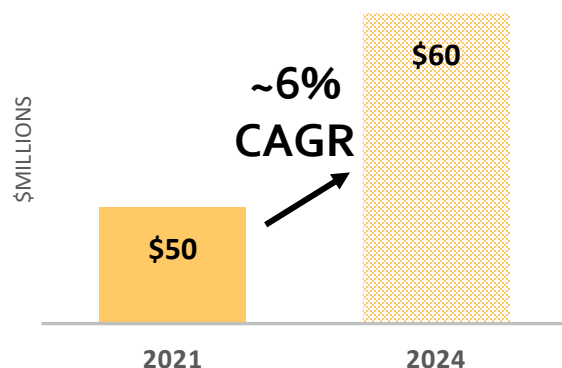
# SOLUTIONS IN HIGH-PERFORMANCE APPLICATIONS

## Accelerated Growth Segment

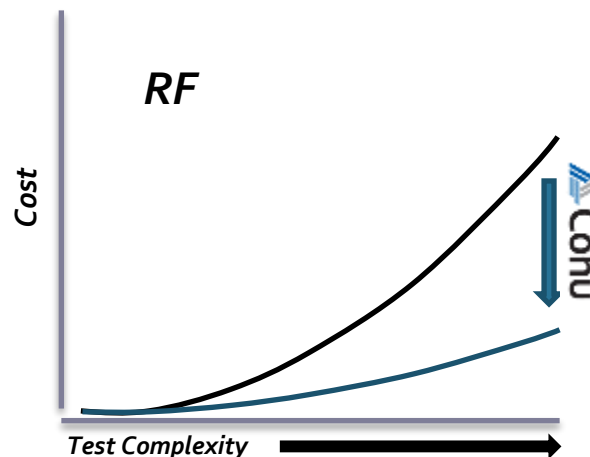
### Contactor SAM <sup>(1)</sup>



### Data Center



## Technical Drivers



## Customers



## Product Leadership

### Coaxial Contactor



High isolation for PAM4 <sup>(2)</sup>  
Improved isolation delivering higher signal integrity

**2X**  
Better Isolation

### mmWave Contactor



RF optimized to 60 GHz  
~ 70% increase in performance over standard pins

**~ 50%**  
Lower Cost-of-Ownership

<sup>(1)</sup> Company estimates

<sup>(2)</sup> Pulse-amplitude Modulation

# EXPANDING IN RF PROBE CARD



## 60 GHz Performance

- Multisite test at mmWave performance
- Direct attach technology



## Time to Yield

- Turnkey solution simplifies implementation



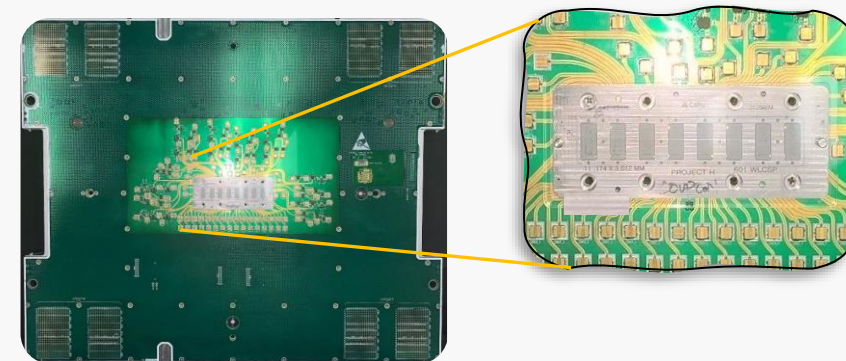
## Cost of Test

- Field replaceable probe technology
- Integration with Cohu's Diamond<sub>x</sub> semi tester enables calibration to the device



## Production Ramp

- First time right quality with automated RF verification and full mechanical testing



Vertical

Membrane

	Cohu	Vertical	Membrane
mmWave frequencies	✓	✗	✓
mmWave multisite	✓	✗	✗
>1A current	✓	✓	✗
Field repair	✓	✓	✗
Cost	✓	✓	✗

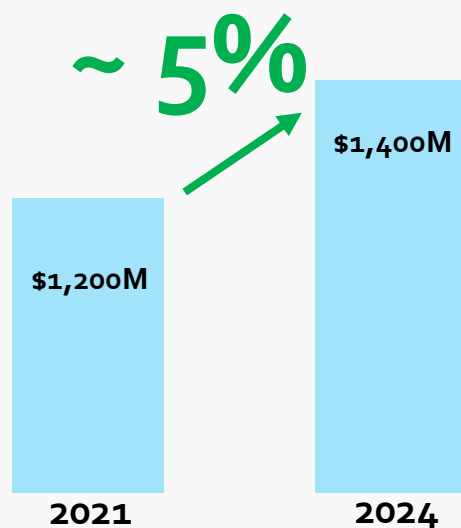
Expanding addressable market by \$300M <sup>(1)</sup>  
Addressing 5G mobility and ADAS radar sensor markets

(1) Company estimates



# TEST INTERFACE

Cohu SAM <sup>(1)</sup> CAGR



Target Revenue CAGR

~ 15%

# STRATEGY

Accelerate growth in automotive with high-power and advanced thermal contactors for vehicle electrification and ADAS

Focusing on selected applications in 5G and computing with high-performance, cost-efficient interface solutions

Expand addressable market with probe cards for functional speed RF test

<sup>(1)</sup> Company estimates

# | INSPECTION & METROLOGY



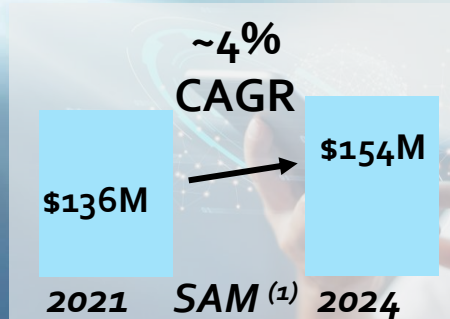
## MAJOR THEMES FOR TODAY

- Capitalizing on the growth of system-in-package
- Providing integrated test and scan solutions for high-power
- Aligning to “beyond Moore” opportunities with advanced packaging technology

**Yves Hirschy**  
VP & General Manager

# BEYOND MOORE EVOLUTION DRIVING VALUE UPSTREAM

## System-in-Package



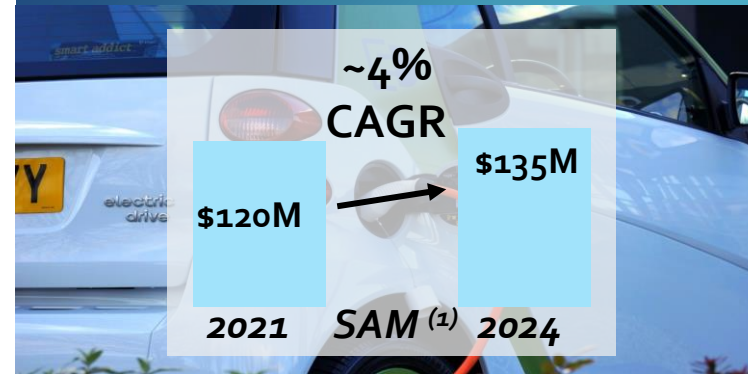
### Focused applications

- Wafer-Level Chip Scale and module inspection

### Growth drivers

- *Mobility 5G devices in small form-factor packages*
- *System-in-package integration driving higher demand on quality to ensure production yield*

## Analog Test and Scan



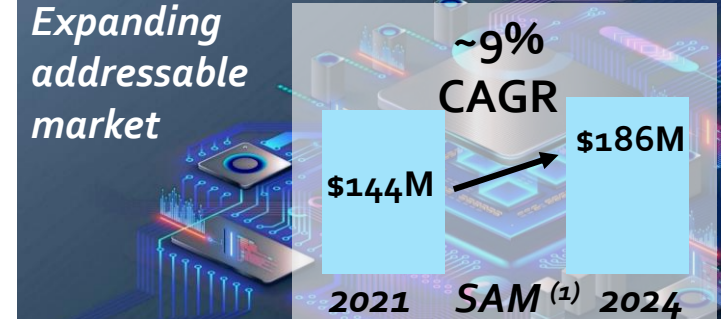
### Focused applications

- Silicon Carbide Known Good Die test and inspection

### Growth drivers

- *Automotive xEV requiring higher volume of reliable electronics*
- *High-power efficiency enabled by new SiC technology*

## High-Performance Digital



### Focused applications

- Advanced packages 2.5 / 3D inspection and metrology

### Growth drivers

- *Automotive ADAS processors are life-critical systems requiring the ultimate inspection quality*
- *High-performance computing driving more 2.5 / 3D stacking*

<sup>(1)</sup> Company estimates

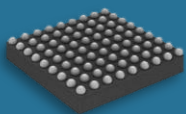
# NEON INSPECTION MAXIMIZES YIELD

## Customer Challenges

Small form-factor WLCSP devices with sub-millimeter size and exposed structure



Integrated modules with higher pad density, smaller pad size and pitch



Bringing tighter inspection requirements and need for higher yield



Infrared (IR) NV-Core technology enabling micro-scale defect detection below the device surface



Artificial Intelligence algorithms enabling pattern recognition and precise defect classification



Optimized for small form-factor processing at high-speed and yield



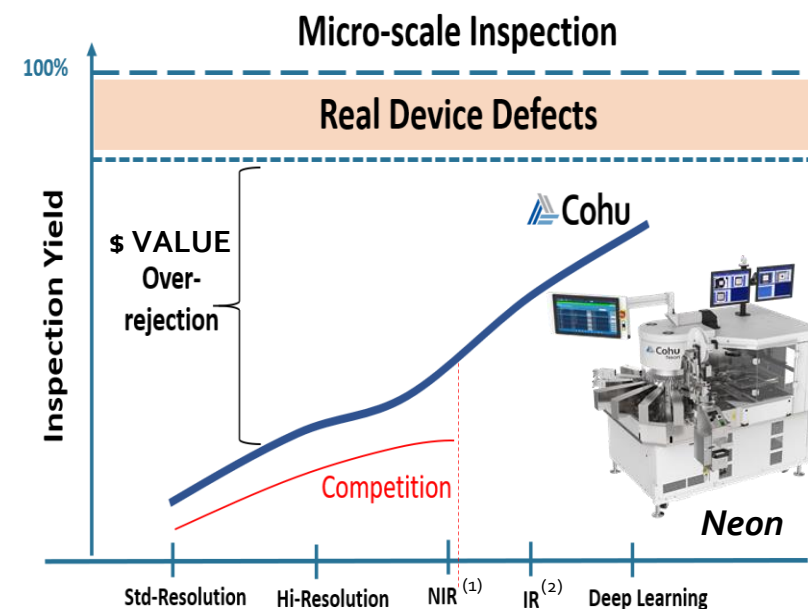
Automation compatible solutions supporting Industry 4.0 requirements

## Cohu Solution

## Value to Customer

up to **5%**

## Higher Inspection Yield



<sup>(1)</sup> Near infrared

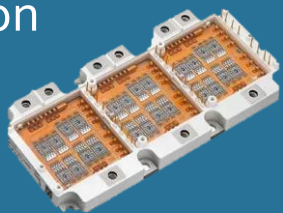
<sup>(2)</sup> Infrared



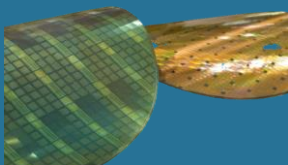
# TRUE KNOWN GOOD DIE FOR MODULE INTEGRATION

## Customer Challenges

Power module yield losses linked to multiple die integration



Test thinner SiC dies at higher power levels with full device integrity



## Cohu Solution



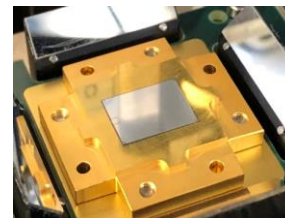
Proven high-power testing of 50  $\mu\text{m}$  thin bare die with controlled contactor insertion assisted by NV-Core vision



Full 6-side micro-scale inspection post testing



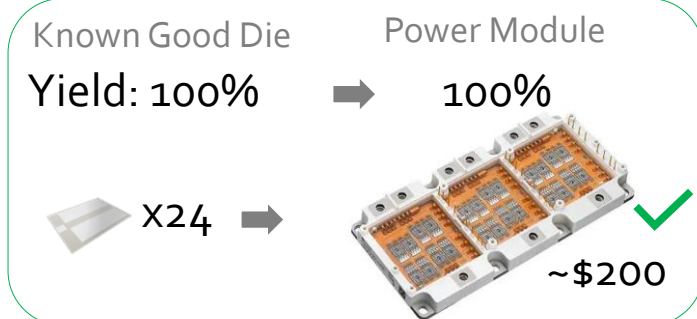
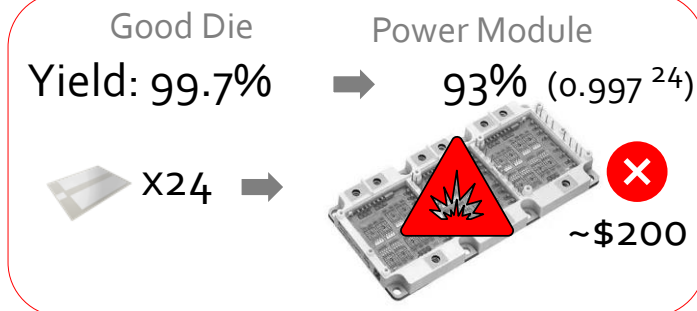
100% die traceability from wafer to tape-pocket



## Value to Customer

up to **7%**

**Higher Yield**



# NEXT GENERATION HIGH-PERFORMANCE SOLUTION

## Customer Challenges

New automotive inspection & metrology quality requirements including side-wall micro-scale crack detection



Bring advanced packages to high volume production at lower cost



**NV-Core inspection and metrology enabling smaller defect detection on large dies**



**Unique racing track technology delivers higher throughput and uptime**



**Automation compatible solutions supporting Industry 4.0 requirements**

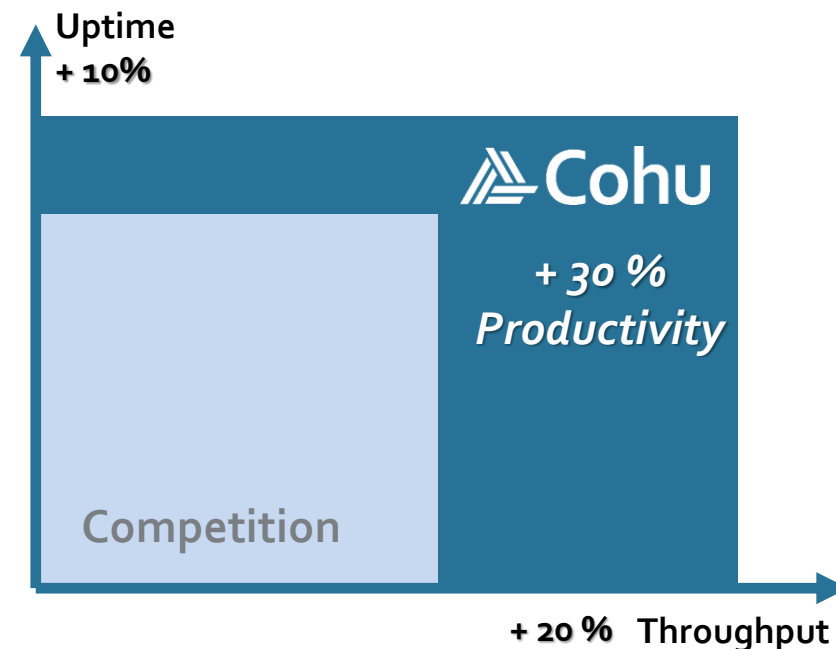
## Cohu Solution

*Under development*

## Value to Customer

expected up to **30%**

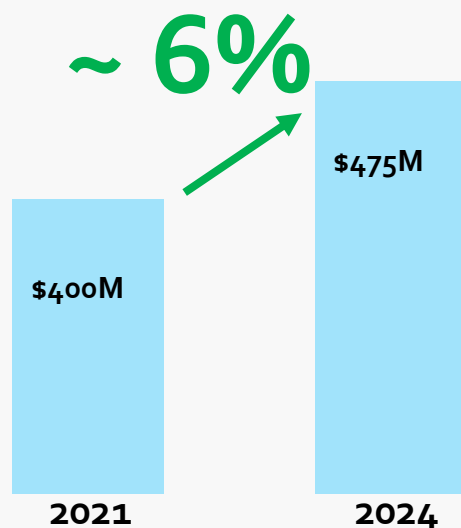
**Higher Productivity**



*Note: Product under development, expected market release 1H'23*

## INSPECTION & METROLOGY

Cohu SAM <sup>(1)</sup> CAGR



Target Revenue CAGR

~ 13%

## STRATEGY

Serve growing system-in-package applications in high-end mobility

Develop leadership position in high-power Known Good Die for automotive xEV

Expand addressable market in high-performance digital inspection and metrology

<sup>(1)</sup> Company estimates including addressable market expansion

# | GLOBAL CUSTOMER GROUP



**Chris Bohrson**  
Senior VP

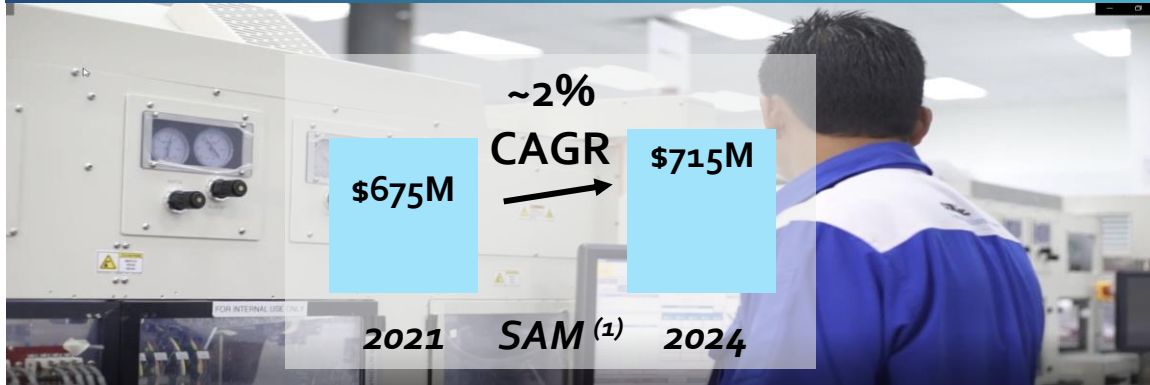
## MAJOR THEMES FOR TODAY

- Delivering customer value with increased uptime of the growing Cohu equipment installed-base worldwide
- Mining installed-base data analytics for opportunities to minimize equipment downtime and maximize output



# MAXIMIZING EQUIPMENT UPTIME AND OUTPUT

## Services



### Focused applications

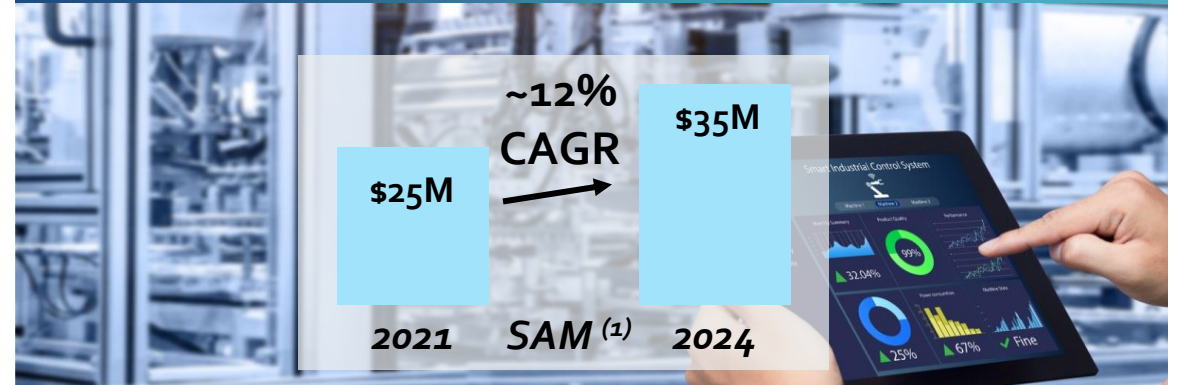
- Drive above market growth rate in spares by increased focus on customers' maintenance programs
- Grow board repair, including premium services, to support expanding semiconductor tester fleet

### Growth drivers

- *Constrained floor space in customer back-end operations placing a premium on equipment uptime and output*
- *Cost optimization for max. output per \$ CAPEX investment*
- *Stable revenue at 50%+ gross margin*

(1) Company estimates

## Data Analytics



### Focused applications

- Grow data analytics software to maximize uptime on large and growing fleet of Cohu systems
- Launch predictive maintenance enabling proactive service to minimize downtime and increase output

### Growth drivers

- *Real-time equipment diagnostics aligned to Industry 4.0*
- *AI algorithms enabling proactive service to minimize downtime and maximize output*
- *Subscription model stable revenue at 90%+ gross margin*

# DATA INTELLIGENCE SYSTEMS INCREASING OUTPUT



Real-time equipment monitoring and data analytics for Industry 4.0 factory automation of Cohu Equipment

Collect Equipment Data

Analyze

Report, Conclude and Act

*insight* Software



## Online Equipment Monitoring

Track uptime, yield, and throughput with proactive notifications for real-time corrective action



## Process Control

Test process control via central recipe management for downloading applications to equipment fleet



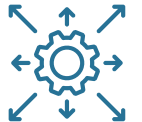
## Alarm Reporting

Pareto alarm reporting to expedite maintenance of critical problems

*PdM* Software <sup>(1)</sup>

## Predict Out of Specification Performance

Analyze remaining useful life of critical components enabling proactive replacement before failure



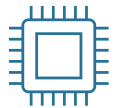
## Real-time Monitoring of System

Track system components and thermal performance reducing out of guard band testing



## Contactors Analytics

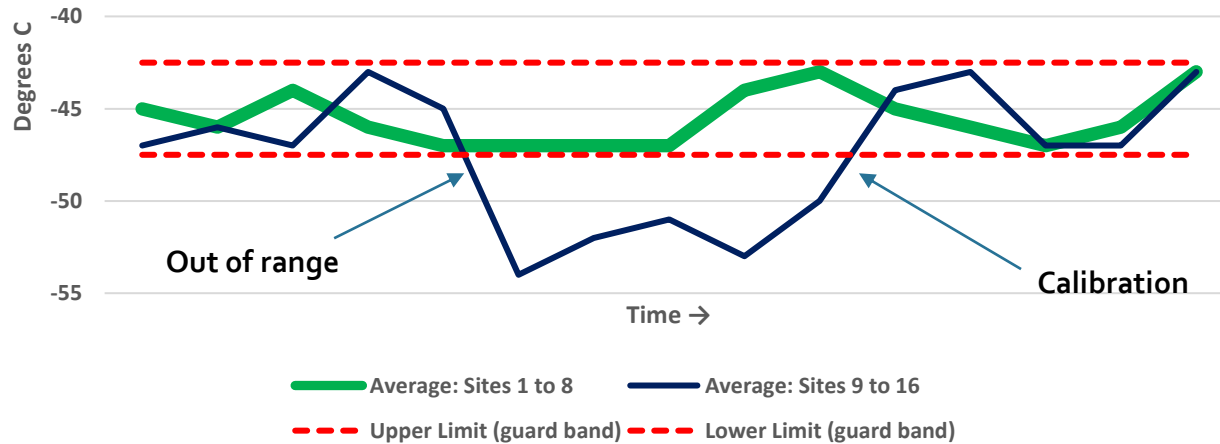
Monitor insertions and yield per site for optimal contactor maintenance



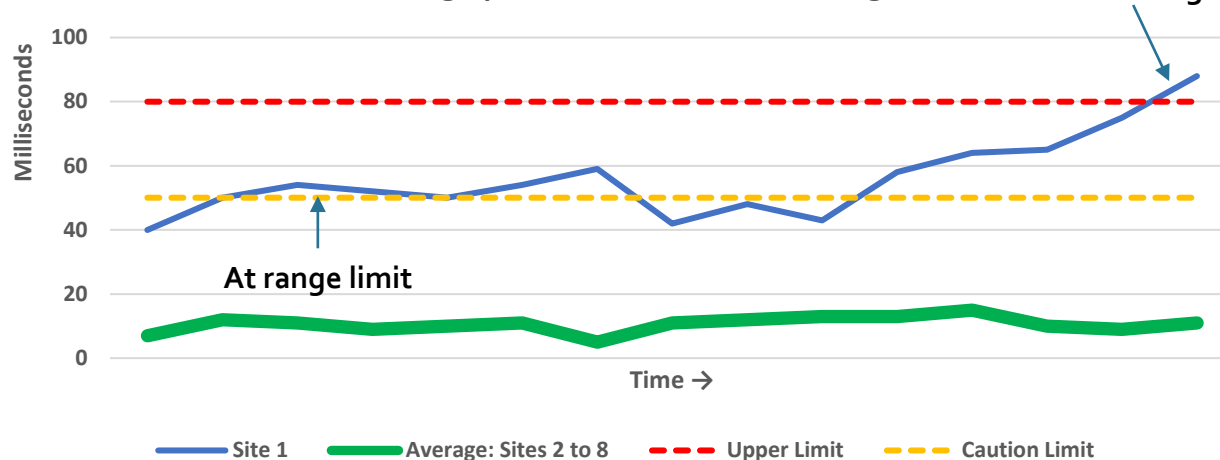
(1) PdM (Predictive Maintenance) software launching Q3'22

# DI-CORE DATA INTELLIGENCE MAXIMIZES OUTPUT

Temperature Variation from -45 °C Target Over 16 Sites



Time for Picking-up Device in Milliseconds Using Vacuum



(1) Company estimates based on Beta site data

(2) Failure can be a jam resulting in unplanned downtime, or more often, disabling of site resulting in reduced output

## Thermal Performance Out of Guard Band

**Real-time monitoring of thermal performance**

When testing temperature goes out of guard band, in this case below the lower limit, early detection enables real-time calibration

**~4%**

**Increase in Productivity <sup>(1)</sup>**

## Degradation of Component Performance

**Real-time monitoring of device pick-up time**

Monitoring device pick-up excursions to specification enables proactive service prior to failure <sup>(2)</sup>

**~3%**

**Increase in Productivity <sup>(1)</sup>**

# LARGE OPPORTUNITY IN DATA ANALYTICS

Predictive Maintenance  
Manufacturing Industry

2021 TAM <sup>(1)</sup>: \$1.5B  
CAGR <sup>(1)</sup>: ~21%

Predictive Maintenance  
Software

2021 TAM <sup>(1)</sup>: \$1.0B  
CAGR <sup>(1)</sup>: ~20%

Cohu Data Analytics

SAM <sup>(2)</sup>: \$25M

**~12%**

CAGR <sup>(2)</sup>

- Predictive maintenance (PdM) increases productivity by minimizing downtime and increasing production output per machine
- PdM functionality for the manufacturing industry includes software, maintenance and repair services, and sensing systems
- PdM software accesses big data to gain insight about the operating environment in the factory and other factors that influence machine operation
- Large industrial opportunity beyond the boundaries of Cohu installed-base of equipment

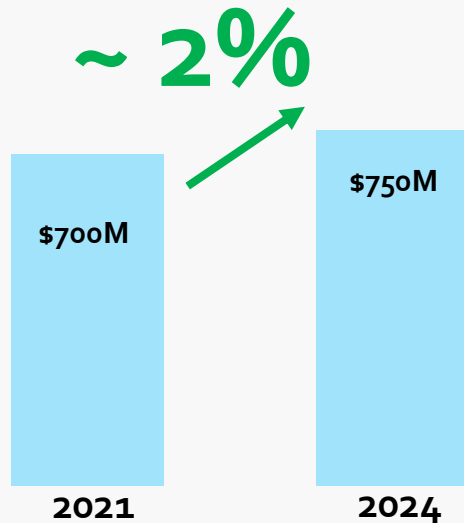
<sup>(1)</sup> Research and Markets, February 2022

<sup>(2)</sup> Company estimates



# SERVICES

Cohu SAM <sup>(1)</sup> CAGR



Target Revenue CAGR

~ 3%

# STRATEGY

High-margin value in servicing a growing fleet of Cohu equipment

DI-Core data analytics software provides significant value to large equipment installed-base <sup>(2)</sup>

Large long-term expansion opportunities

<sup>(1)</sup> Company estimates

<sup>(2)</sup> 2023 roadmap functionality for DI-Core, including analytics based on temperature measurements from Cohu's thermal contactors

# DELIVERING PROFITABILITY AND SHAREHOLDER VALUE



**Jeff Jones**  
Senior VP & CFO

## MAJOR THEMES FOR TODAY

- Positioned to deliver on expanded target financial model
- Increasing profitability with growth in higher margin markets, low-cost manufacturing and disciplined Opex spending
- Driving growth in more stable recurring revenue from consumables and Service based products
- Capital allocation strategy to drive long-term growth and shareholder value

# RAISING THE BAR

Increased Target  
Model <sup>(3)</sup> to

**\$1 billion**

Revenue

**\$4.00**

EPS <sup>(1)</sup>

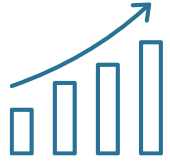
	FY2021 Actuals	Target Model <sup>(3)</sup>
Revenue	\$887M	\$1 billion
Gross Margin <sup>(1)</sup>	44%	49%
Operating Expenses <sup>(1)</sup>	23%	24%
Non-GAAP EPS <sup>(1)</sup>	\$3.20	\$4.00
Adjusted EBITDA <sup>(1)</sup>	22%	26%
Free Cash Flow <sup>(2)</sup>	\$86M	\$180M

(1) Non-GAAP, see Appendix for GAAP to non-GAAP reconciliations, and for notes regarding use of forward-looking non-GAAP figures

(2) Reflects cash from operating activities minus capital expenditures

(3) 3-year target model (FY21 - FY24) introduced December 14, 2021

# CREATING SHAREHOLDER VALUE



## Revenue Growth

Secular tailwinds driving end-market semiconductor growth

Accelerating customer wins and expanding SAM with high performing, differentiated products



## Increasing Profits

Gross margin expansion

Disciplined cost management

High operating leverage



## Capital Allocation

Funding organic growth through R&D investments and factory expansion

Potential M&A to expand SAM and accelerate time to financial targets

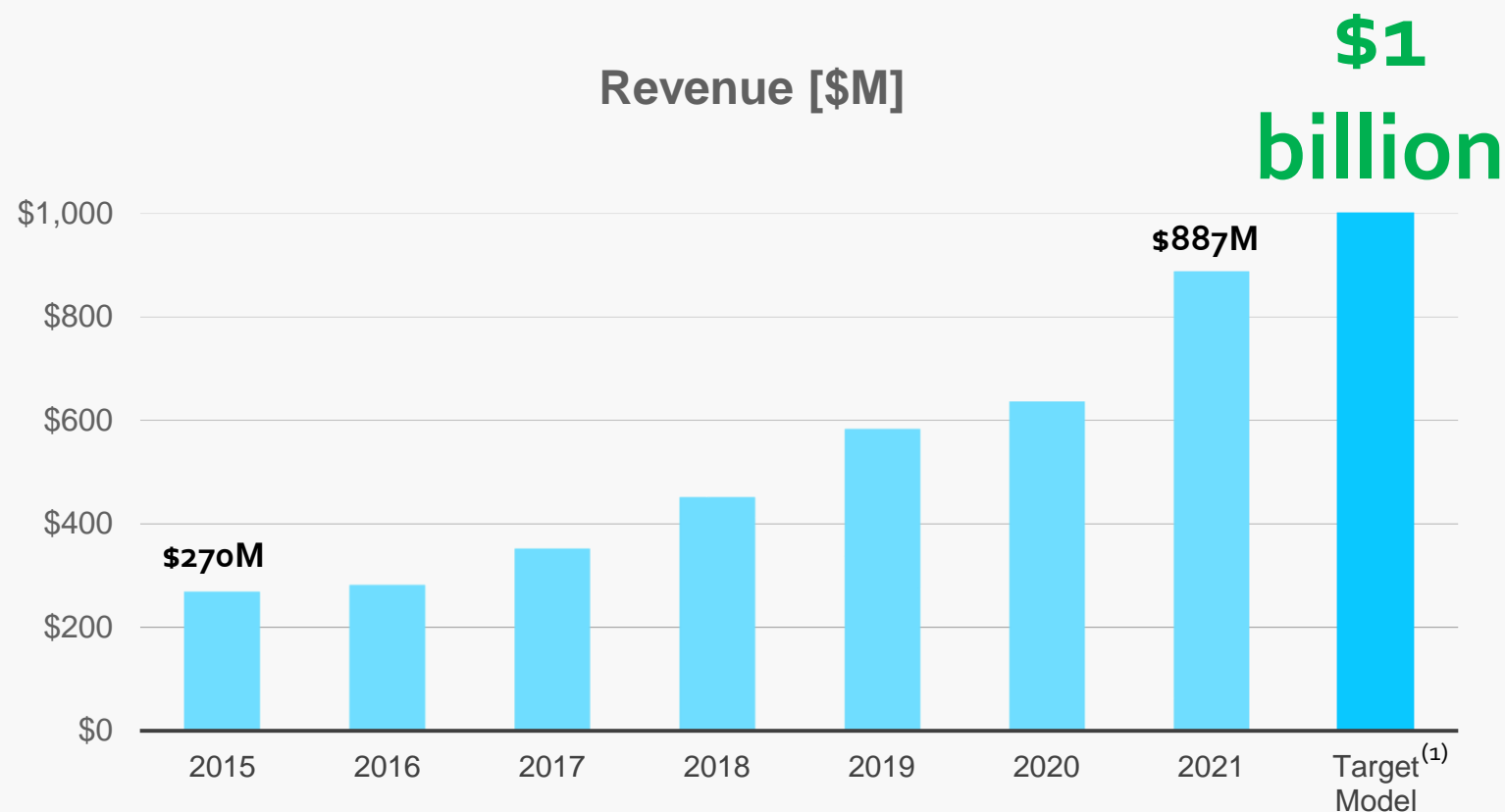
Share repurchase to reduce dilution

Steady debt reduction

# REVENUE GROWTH

3-Year Target <sup>(1)</sup>  
Revenue CAGR

~ 7%



Winning new customers and expanding SAM in growing markets  
Substantial revenue stream from recurring <sup>(2)</sup> with attractive profit profile

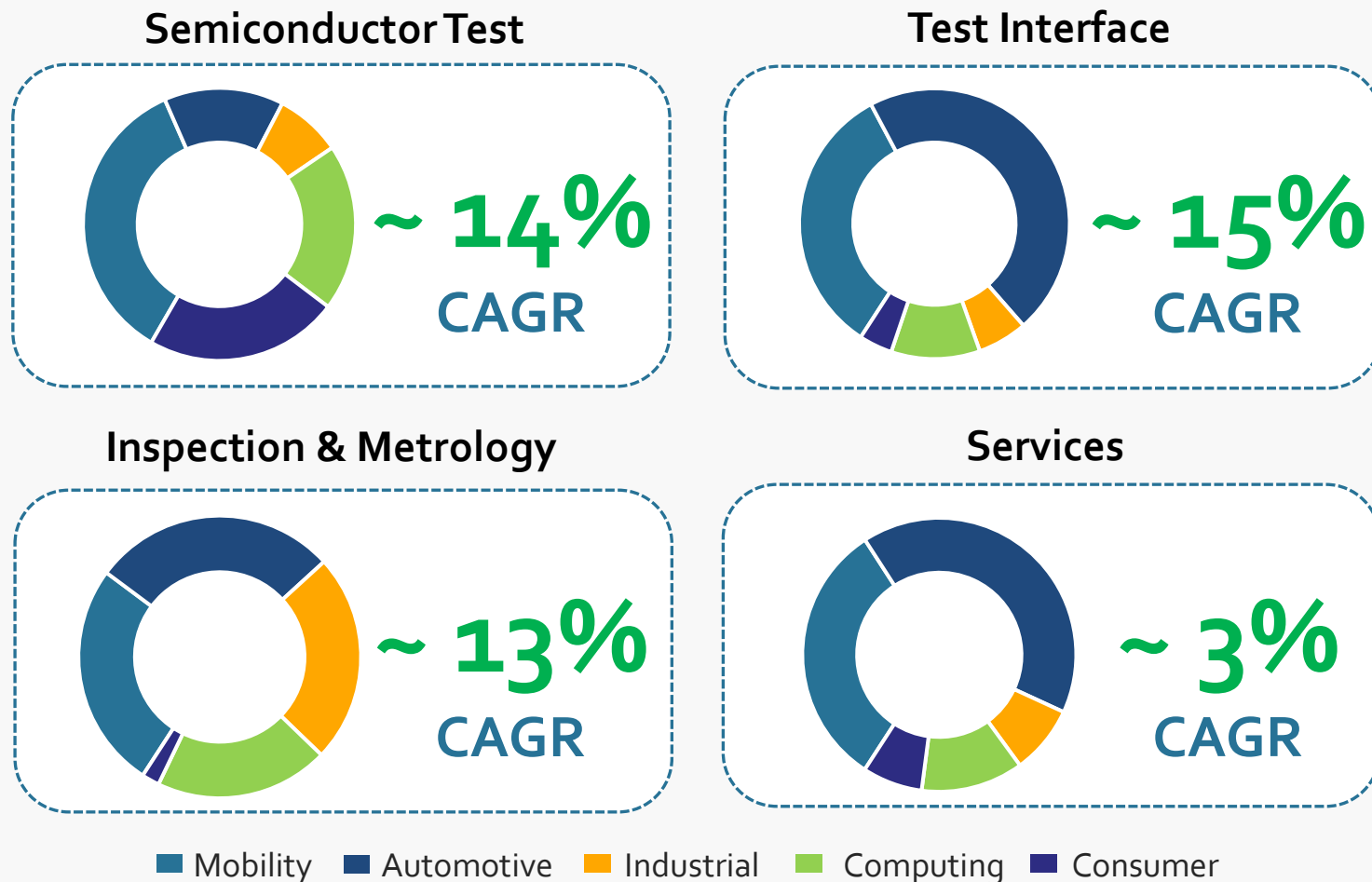
<sup>(1)</sup> 3-year target from FY21 – FY24

<sup>(2)</sup> Recurring includes revenue from Interface and Service-related products



# REVENUE GROWTH TO \$1 BILLION

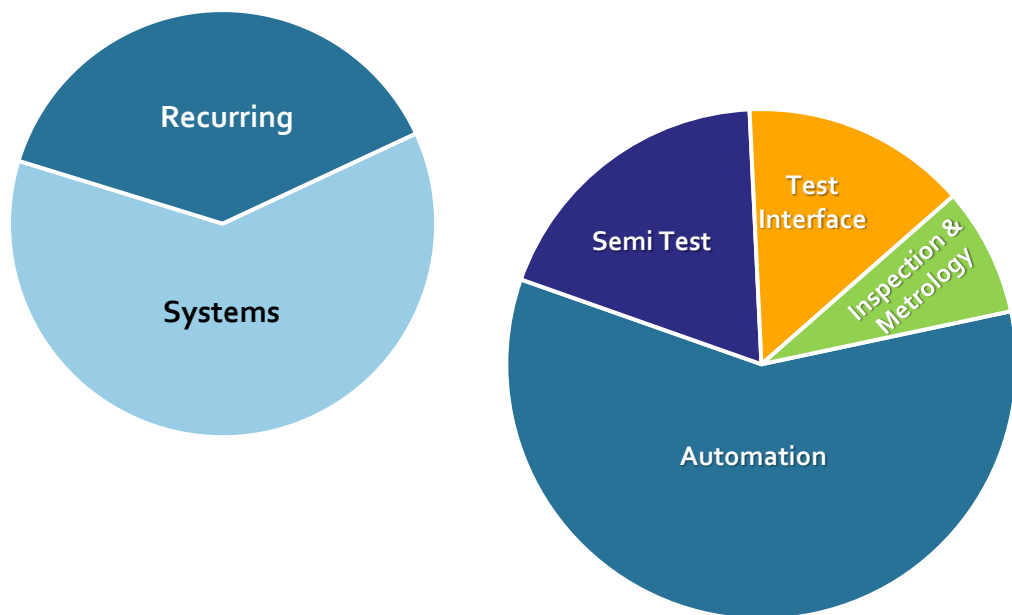
Increasing Revenue  
in Key Secular  
Growth Markets <sup>(1)</sup>



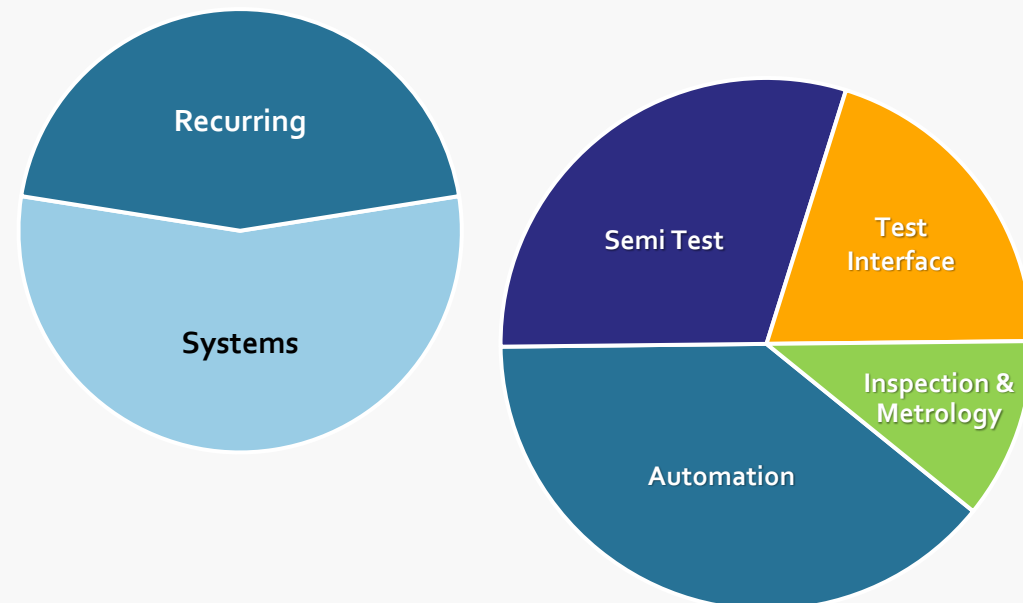
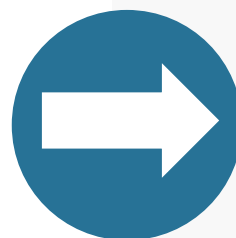
Leveraging market position & leading-edge products to drive revenue in high-growth applications incl. display drivers, ADAS, xEV, RF test and inspection

(1) 3-year (FY21 – FY24) targeted annual revenue growth and CAGR

# REVENUE DISTRIBUTION AT TARGET FINANCIAL MODEL



**Q1'22 TTM Actual Results**



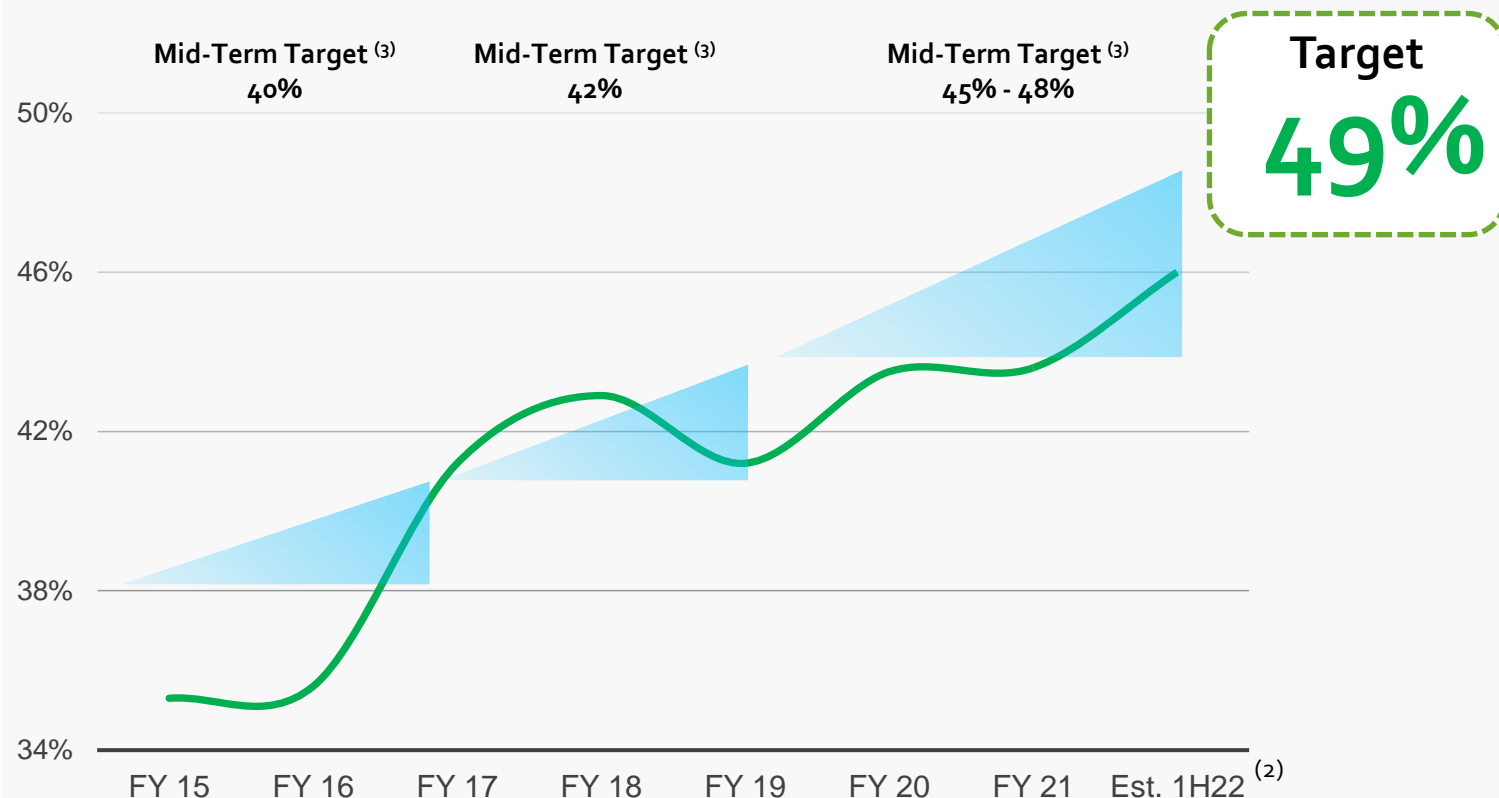
**Target Financial Model <sup>(1)</sup>**

Improved through-cycle profitability with large recurring business  
Gross margin expansion from growth in premium product sales

(1) 3-year target from FY21 – FY24

# TRACK RECORD OF MARGIN EXPANSION

Achieved  
**+10 Points**  
of Gross Margin <sup>(1)</sup>  
Expansion



1H22 revenue mix progressing to target model and expanding gross margin  
Increasing insourced manufacturing and efficiencies improves gross margin

<sup>(1)</sup> All Gross Margin amounts are Non-GAAP, see Appendix for GAAP to Non-GAAP reconciliations, and notes regarding use of forward-looking non-GAAP figures

<sup>(2)</sup> Reflects Q1'22 actual results plus the mid-point of the Company's Q2'22 guidance as provided on April 28, 2022

<sup>(3)</sup> Prior year's gross margin targets

# EFFECTIVE CAPITAL ALLOCATION STRATEGY



## R&D Investment <sup>(1)</sup>

Funding organic growth

\$414M invested from FY15 – FY21



## Dividend

\$41M returned to shareholders  
FY15 – FY20



## Share Repurchase

\$70M authorized  
Repurchased 550K shares through April 2022



## Debt

Repaid \$265M of term loan B debt  
<1x gross leverage <sup>(2)</sup>



## Capital Expenditures

Capex light ~\$70M from FY15 – FY21  
Expanding in-house manufacturing, global IT and R&D tools

<sup>(1)</sup> Amounts are Non-GAAP. See Appendix for GAAP to Non-GAAP reconciliations, and notes regarding use of forward-looking non-GAAP figures

<sup>(2)</sup> Total debt divided by Adjusted EBITDA for last 12 months ending March 26, 2022; Non-GAAP figure – see Appendix for GAAP to Non-GAAP reconciliations

# INVESTMENT THESIS

<b>\$1 Billion</b> Revenue	<b>49%</b> Gross Margin <sup>(1)</sup>	<b>25%</b> Operating Income <sup>(1)</sup>	<b>18%</b> Annual Free Cash Flow <sup>(2)</sup>
<b>~ 7%</b> <sup>(3)</sup> Target 3-Year Revenue CAGR	<b>+500 bps</b> <sup>(3)</sup> Premium product sales and stable recurring revenue	<b>+400 bps</b> <sup>(3)</sup> Cost discipline driving strong operating leverage	<b>~ \$180M</b> <sup>(3)</sup> Driven by significant margin expansion and earnings growth
Products aligned with secular growth markets	Expanding Asia contactor insourcing operations	R&D investments to drive differentiated products and new customer acquisition	Effective capital allocation delivering shareholder value

(1) Non-GAAP forward-looking figures; See Appendix for notes regarding use of forward-looking non-GAAP figures

(2) Reflects cash from operating activities minus capital expenditures

(3) 3-year (FY21 – FY24) growth targets



# Q&A



**Luis Müller**  
President & CEO



**Yves Hirschy**  
VP & General Manager, Inspection & Metrology



**Jeff Jones**  
Senior VP & CFO



**Chris Bohrson**  
Senior VP, Global Customer Group



**Ian Lawee**  
SVP & General Manager, Semiconductor Test



**Devin Sheridan**  
VP & General Manager, Test Interface

Q&A

# APPENDIX

## Use of Non-GAAP Financial Information:

This presentation includes non-GAAP financial measures, including non-GAAP Gross Margin/Profit, Income and Income (adjusted earnings) per share, Operating Income, Operating Expense and Adjusted EBITDA that supplement the Company's Condensed Consolidated Statements of Operations prepared under generally accepted accounting principles (GAAP). These non-GAAP financial measures adjust the Company's actual results prepared under GAAP to exclude charges and the related income tax effect for: share-based compensation, the amortization of purchased intangible assets including favorable/unfavorable lease adjustments, restructuring costs, manufacturing transition and severance costs, asset impairment charges, acquisition-related costs and associated professional fees, reduction of indemnification receivable, depreciation of purchase accounting adjustments to property, plant and equipment, purchase accounting inventory step-up included in cost of sales, and amortization of cloud-based software implementation costs (Adjusted EBITDA only). Reconciliations of GAAP to non-GAAP amounts for the periods presented herein are provided in this Appendix and should be considered together with the Condensed Consolidated Statements of Operations.

These non-GAAP measures are not meant as a substitute for GAAP, but are included solely for informational and comparative purposes. The Company's management believes that this information can assist investors in evaluating the Company's operational trends, financial performance, and cash generating capacity. Management uses non-GAAP measures for a variety of reasons, including to make operational decisions, to determine executive compensation in part, to forecast future operational results, and for comparison to our annual operating plan. However, the non-GAAP financial measures should not be regarded as a replacement for (or superior to) corresponding, similarly captioned, GAAP measures.

## Use of Forward-Looking Non-GAAP Information:

This presentation includes non-GAAP forward looking figures that exclude estimated charges related to stock-based compensation, amortization of purchased intangibles, restructuring costs, acquisition-related costs, manufacturing transition/severance costs, inventory step-up costs, amortization of cloud-based software implementation costs (Adjusted EBITDA only), or other non-operational or unusual items, which we are unable predict without unreasonable efforts due to their inherent uncertainty, therefore, reconciliation of these non-GAAP forward looking figures to GAAP is not provided. Where a non-GAAP figure includes historical data and forward-looking estimates, we have reconciled the historical data, but for the foregoing reasons have not reconciled the forward-looking estimates.

# GAAP to NON-GAAP RECONCILIATION

<u>Gross Profit Reconciliation</u>	<u>12 Months Ending</u>		<u>12 Months Ending</u>		<u>12 Months Ending</u>		<u>12 Months Ending</u>		<u>12 Months Ending</u>		<u>12 Months Ending</u>		<u>12 Months Ending</u>		<u>3 Months Ending</u>	
	Dec 26, 2015	% of Net Sales	Dec 31, 2016	% of Net Sales	Dec 30, 2017	% of Net Sales	Dec 29, 2018	% of Net Sales	Dec 28, 2019	% of Net Sales	Dec 26, 2020	% of Net Sales	Dec 25, 2021	% of Net Sales	Mar 26, 2022	% of Net Sales
Net Sales	\$269,654		\$282,084		\$352,704		\$451,768		\$583,329		\$636,007		\$887,214		\$197,757	
Gross Profit - GAAP	89,038	33.0%	94,828	33.6%	143,407	40.7%	159,308	35.3%	229,829	39.4%	271,782	42.7%	386,961	43.6%	91,156	46.1%
Share Based Compensation	566	0.2%	398	0.1%	423	0.1%	546	0.1%	736	0.1%	893	0.1%	828	0.1%	145	0.1%
Amortization of purchased intangible assets	5,420	2.0%	5,170	1.8%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Restructuring costs related to inventory in COS	0	0.0%	0	0.0%	0	0.0%	19,053	4.2%	2,729	0.5%	3,731	0.6%	(558)	-0.1%	(175)	-0.1%
Manufacturing transition and severance costs	0	0.0%	75	0.0%	0	0.0%	0	0.0%	1,211	0.2%	26	0.0%	(7)	0.0%	0	0.0%
Amortization of inventory step-up	0	0.0%	0	0.0%	1,404	0.0%	14,782	0.0%	6,038	0.0%	0	0.0%	0	0.0%	0	0.0%
Gross Profit - Non-GAAP	\$95,024	35.2%	\$100,471	35.6%	\$145,234	41.2%	\$193,689	42.9%	\$240,543	41.2%	\$276,432	43.5%	\$387,224	43.6%	\$91,126	46.1%

<u>Operating Income Reconciliation</u>	<u>12 Months Ending</u> <u>Dec 26, 2015</u>	<u>12 Months Ending</u> <u>Dec 31, 2016</u>	<u>12 Months Ending</u> <u>Dec 30, 2017</u>	<u>12 Months Ending</u> <u>Dec 29, 2018</u>	<u>12 Months Ending</u> <u>Dec 28, 2019</u>	<u>12 Months Ending</u> <u>Dec 26, 2020</u>	<u>12 Months Ending</u> <u>Dec 25, 2021</u>
Income (Loss) From Operations - GAAP basis	\$ 7,959	\$ 5,665	\$ 37,725	\$ (29,781)	\$ (52,328)	\$ 3,260	\$ 201,518
Share based compensation	6,755	7,143	7,007	10,053	14,148	14,234	13,792
Amortization of purchased intangible assets	7,032	6,902	4,208	17,197	39,590	38,746	35,414
Restructuring costs related to inventory in COS	0	0	0	19,053	2,729	3,731	(558)
Restructuring costs	0	0	0	19,084	13,484	7,623	1,833
Manufacturing transition and severance costs	970	1,498	502	595	2,594	808	(9)
Impairment charge	273	0	0	0	0	11,249	100
Adjustment to contingent consideration	0	0	1,423	657	0	0	0
Other acquisition costs	0	1,777	370	9,811	432	0	0
(Gain) loss on sale of PCB Test Business	0	0	0	0	0	0	(70,815)
Gain on sale of facility	(3,198)	0	0	0	0	(4,495)	0
Amortization of inventory step-up	0	0	1,404	14,782	6,038	0	0
PP&E step-up	0	0	0	1,257	4,014	874	435
Reduction of indemnification receivable	0	588	1,172	879	1,202	111	75
Payroll taxes due to accelerated vesting of share-based awards	0	0	0	0	0	263	300
Income From Operations - Non-GAAP	\$ 19,791	\$ 23,573	\$ 53,811	\$ 63,587	\$ 31,903	\$ 76,404	\$ 182,085

# GAAP to Non-GAAP RECONCILIATION

<u>Earnings Reconciliation</u>	<u>12 Months Ending</u>	
	<u>Dec 25, 2021</u>	<u>Diluted EPS</u>
Income From Continuing Operations - GAAP	\$167,325	\$ 3.45
Share based compensation	13,792	0.28
Amortization of purchased intangible assets	35,414	0.73
Restructuring costs related to inventory in COS	(558)	(0.01)
Restructuring costs	1,833	0.04
Manufacturing transition and severance costs	(9)	0.00
Impairment charge	100	0.00
PP&E step-up	435	0.01
Gain on sale of PCB Test business	(70,815)	(1.46)
Reduction of indemnification receivable	75	0.00
Payroll taxes due to accelerated vesting of share-based awards	300	0.01
Tax effect of non-GAAP adjustments	7,194	0.15
Income From Continuing Operations - Non-GAAP	<u>\$155,086</u>	<u>\$ 3.20</u>
Weighted Average Shares - GAAP	Basic	47,409
Weighted Average Shares - Non-GAAP	Diluted	48,460

<u>Adjusted EBITDA Reconciliation</u>	<u>12 Months Ending</u>	
	<u>Dec 25, 2021</u>	<u>% of Net Sales</u>
Net income (loss) - GAAP Basis	\$167,325	18.9%
Income tax provision	25,019	2.8%
Interest expense	6,413	0.7%
Interest income	(239)	0.0%
Amortization of purchased intangible assets	35,414	4.0%
Depreciation	13,153	1.5%
Amortization of cloud-based software implementation costs	1,644	0.2%
Loss on extinguishment of debt	3,411	0.4%
Other Non-GAAP Adjustments	(55,282)	-6.2%
Adjusted EBITDA	<u>\$196,858</u>	<u>22.2%</u>

<u>Operating Expense Reconciliation</u>	<u>12 Months Ending</u>	
	<u>Dec 25, 2021</u>	<u>% of Net Sales</u>
Operating Expense - GAAP	\$256,258	28.9%
Share based compensation	(12,964)	-1.5%
Amortization of purchased intangible assets	(35,414)	-4.0%
Restructuring costs	(1,833)	-0.2%
Manufacturing transition and severance costs	2	0.0%
Impairment charge	(100)	0.0%
PP&E step-up	(435)	-0.1%
Reduction of Indemnification Receivable	(75)	0.0%
Payroll taxes due to accelerated vesting of share-based awards	(300)	0.0%
Operating Expense - Non-GAAP	<u>\$205,139</u>	<u>23.1%</u>

<u>Research &amp; Development Reconciliation <sup>(1)</sup></u>	<u>Cumulative</u>
	<u>Dec 26, 2015 - Dec 25, 2021</u>
Research & Development - GAAP <sup>(2)</sup>	\$ 429,380
Share Based Compensation	(14,411)
Restructuring included in R&D	(273)
Manufacturing transition and severance costs	(1,056)
Research & Development - Non-GAAP	<u>\$ 413,640</u>

(1) From continuing operations

(2) Total includes R&D costs of our PCB Test Business totaling \$7,698

<u>Adjusted EBITDA Reconciliation</u>	<u>12 Months Ending</u>
	<u>Mar 26, 2022</u>
Net income (loss) - GAAP Basis	\$ 161,287
Income tax provision	27,738
Interest expense	4,819
Interest income	(300)
Amortization of purchased intangible assets	34,705
Depreciation	12,963
Amortization of cloud-based software implementation costs	1,752
Loss on extinguishment of debt	1,754
Other non-GAAP adjustments	(57,005)
Adjusted EBITDA	<u>\$ 187,713</u>
Total debt	\$ 109,633
<b>Leverage Ratio</b>	<b>0.6</b>