

turnkey **Test** and **Auto** **mation**  
**Solution** provider™



CHROMA ATE INC.

**2021.4Q Earnings Conference Call**

**Paul Ying, CFO**

**Leo Huang, Chairman & CEO**

**23<sup>rd</sup> February, 2022**

# Disclaimer

This presentation contains some forward-looking statements that are subject to substantial risks and uncertainties. Typically, these statements contain words such as “anticipate”, “believe”, “could”, “estimate”, “expect”, “intend”, “plan”, “forecast”, “project”, “predict”, “potential”, “continue”, “may”, “should”, “will”, and “would” or similar words. You should consider these forward-looking statements carefully because such statements are only our expectations or projections about future events, and actual results may differ materially from those expressed or implied by such statements. The forward-looking statements in this presentation include, but are not limited to, growth rates for various markets estimated by third party sources, future products and technology development, widespread market acceptance of the hosted delivery model, future revenue growth and profitability. You should be cautioned that the forward-looking statements are no guarantee of our future performance. The forward-looking statements contained in this presentation are made only as of the date of this presentation and we undertake no obligation to update the forward-looking statements to reflect subsequent events or circumstances, except as required by law.

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- **Corporate Profile**
- **Financial Review**
- **Operation Highlights**
- **Q&A**

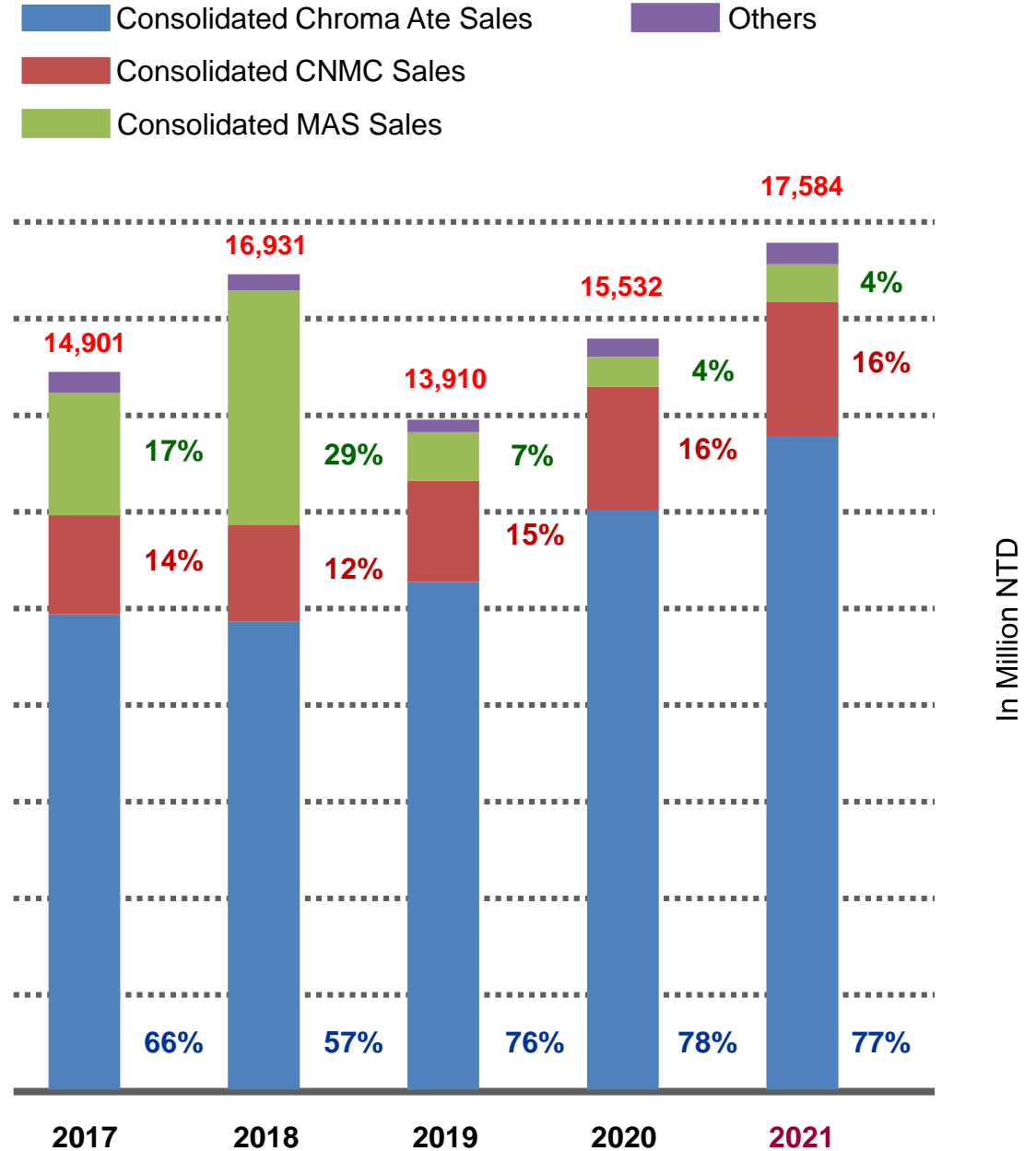
**Chroma**

**CORPORATE  
PROFILE**

**Test and Auto Solution providers**

# Corporate Profile

- Chroma Group founded in 1984, a world leading own brand turnkey test & automation solution provider, specialized in electronics test and measurement instruments and ATS (auto test system). Businesses cover test and measurement instruments and ATS for various industries, and a turnkey solution as an integration of Test and Measurement , Automation and MES (manufacturing execution system).
- Key success: Precision, Reliability, Innovation
- Chroma group encompass business unit of Chroma Ate Inc., Modular Assembly System (MAS) and \*Chroma New Material Corp. (CNMC).
- 2021 Consolidated Sales : NT\$ 17.6 billion
- 2021 Net Income: NT\$ 4.2 billion
- Chroma Group total of 3,170 employees (as of December, 2021)

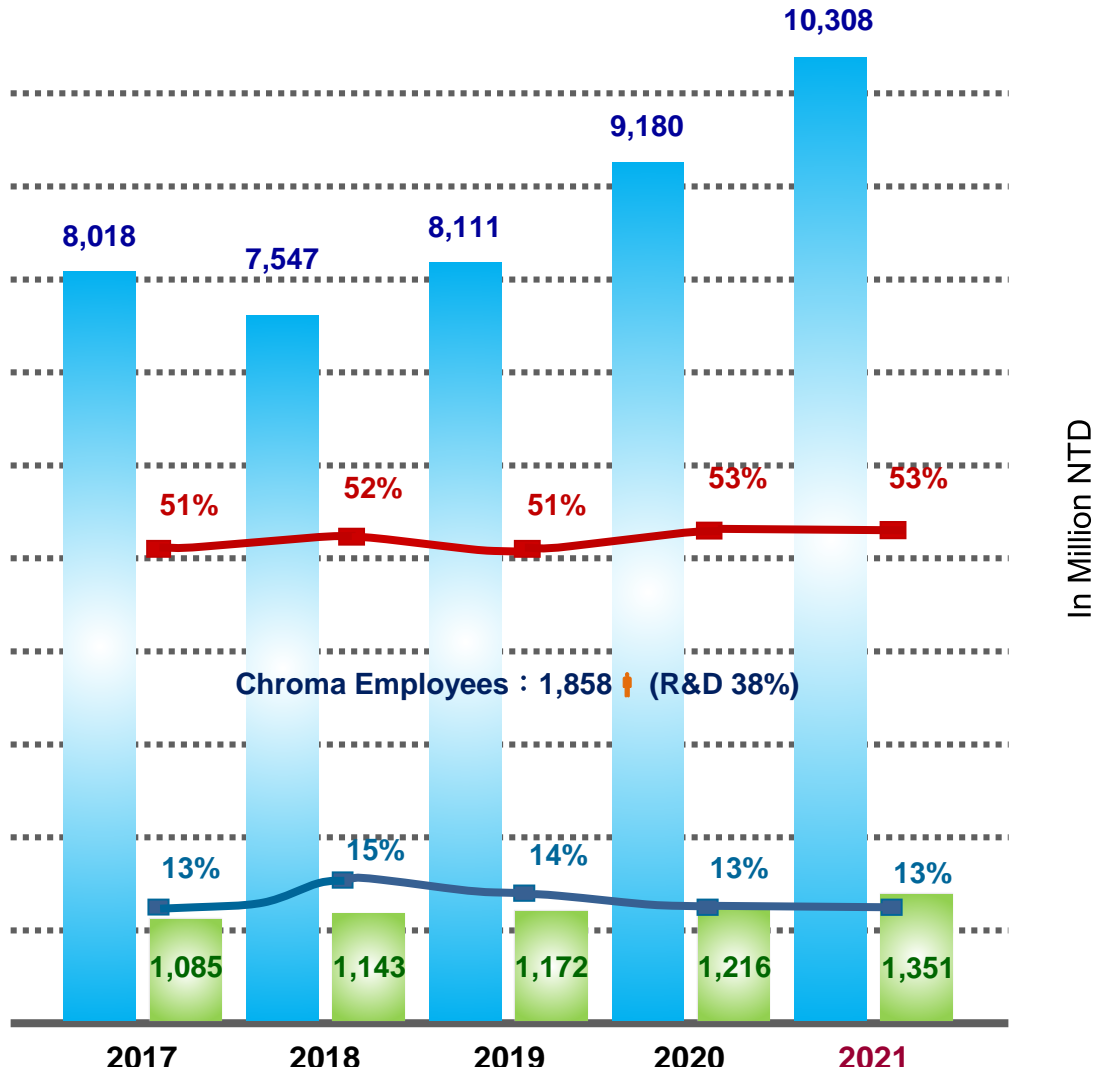
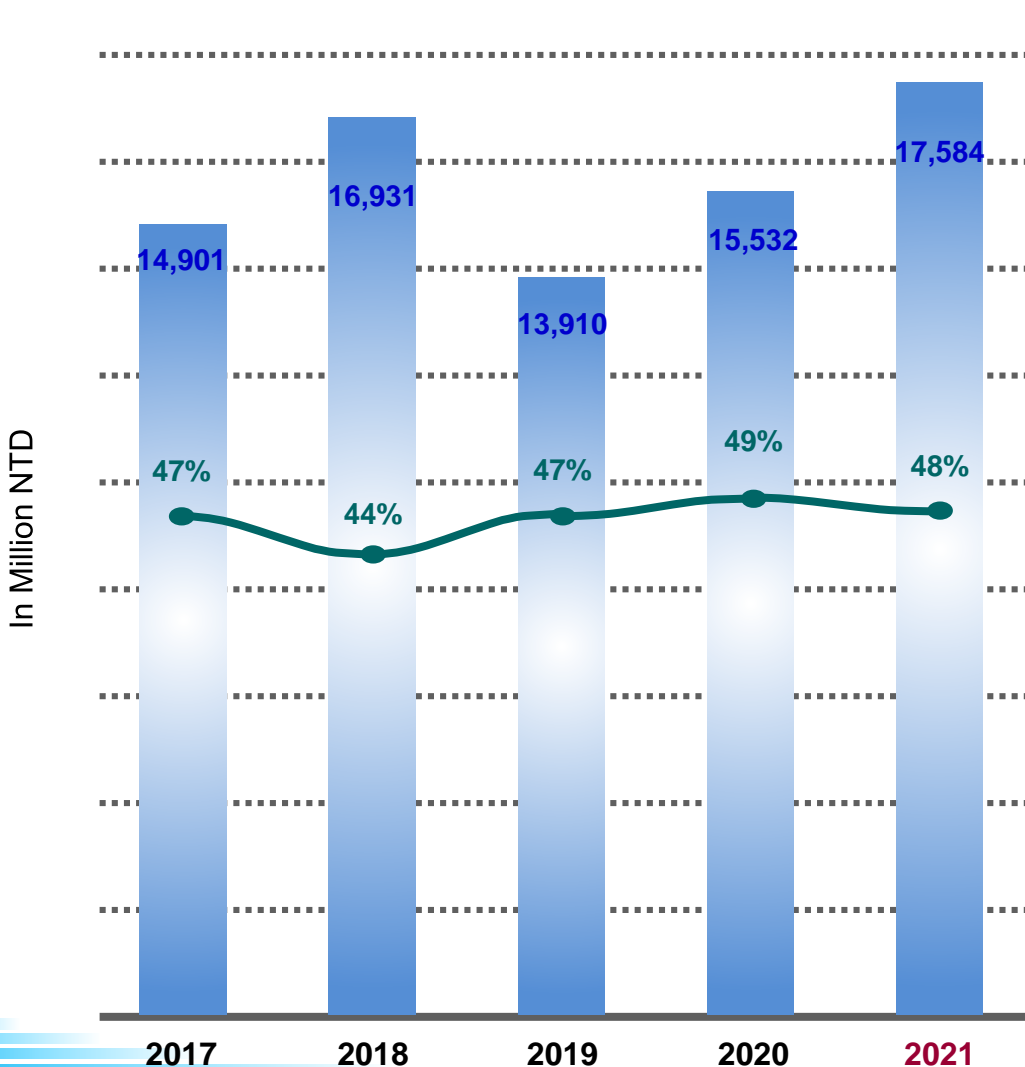


\* Chroma New Material Corp. to terminate at end of March, 2022.

# Financial Performance

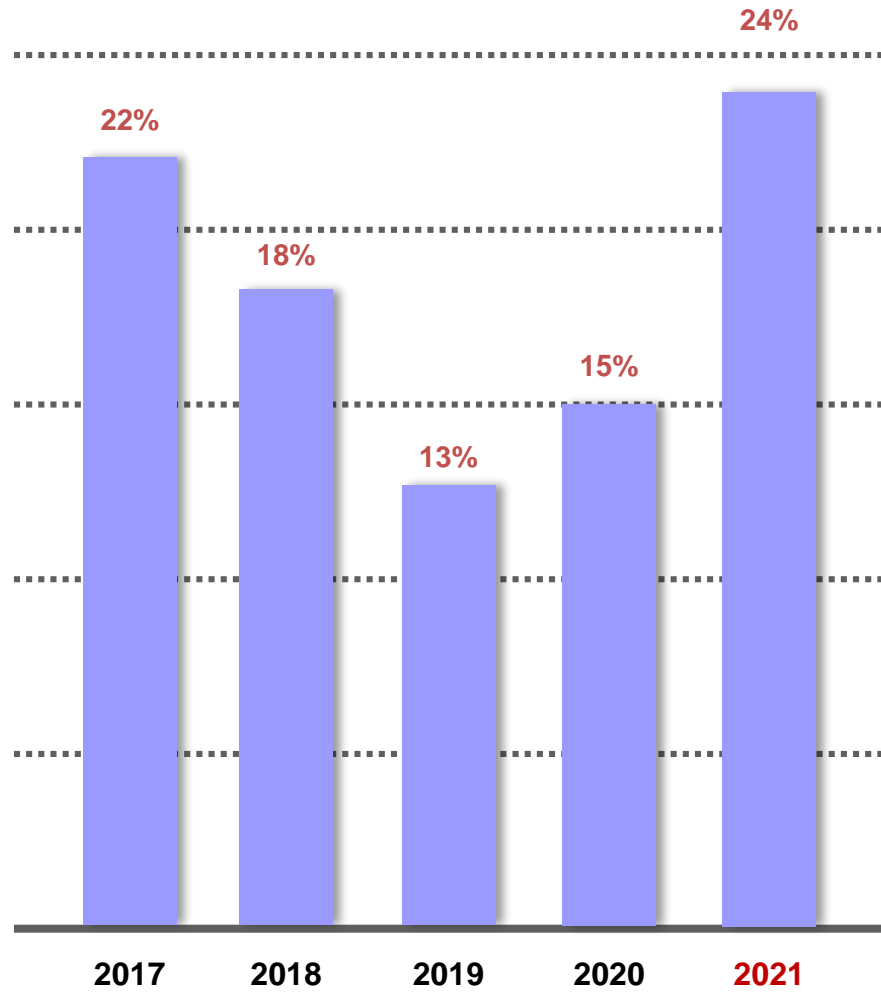
■ Consolidated Sales      Consolidated Sales  
—●— Gross Margin

■ Sales Revenues      —■— Gross Margin  
■ R&D Expenses  
—■— R&D Expenses in % of Sales Revenues      Parent Only

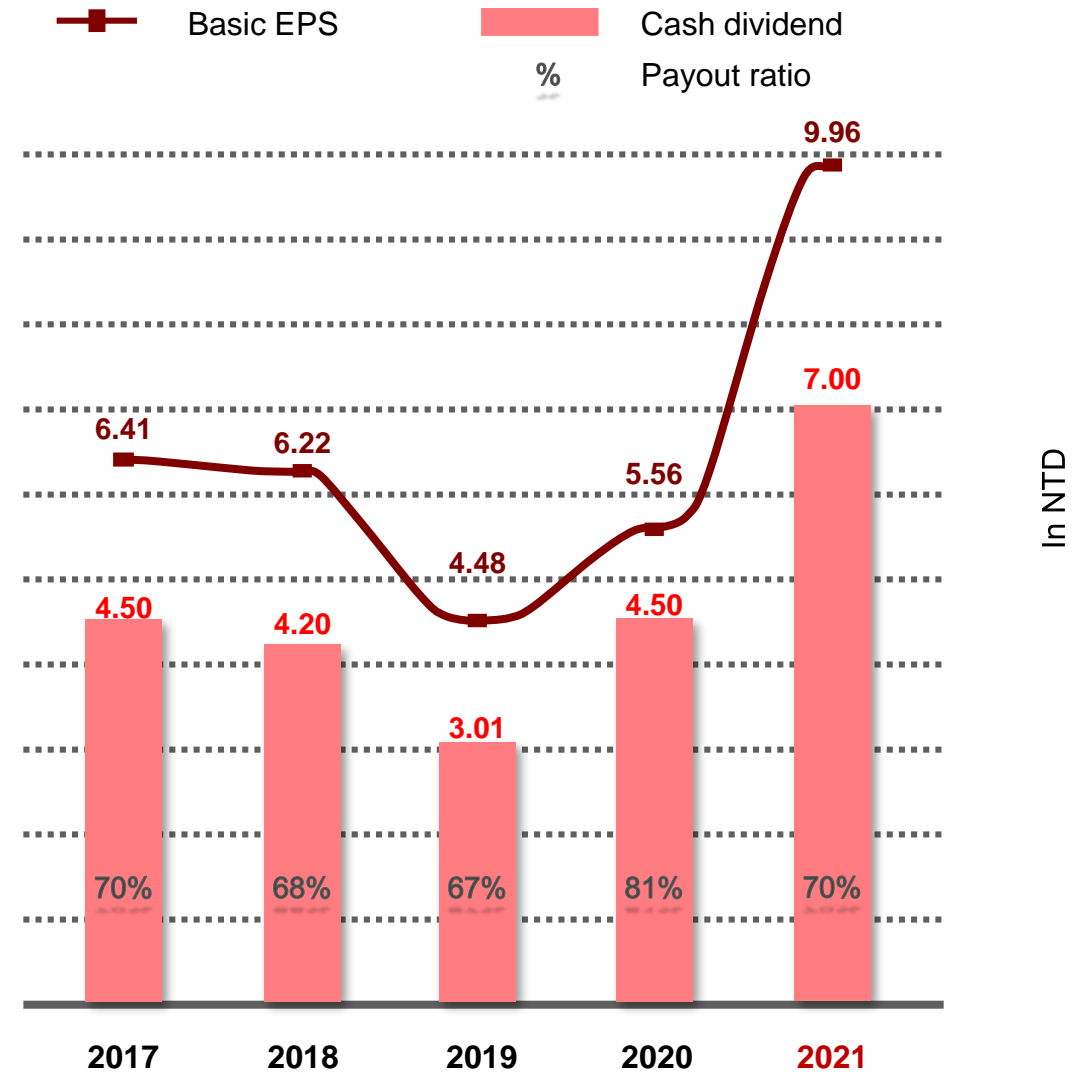


# Financial Performance

## ROE



## Dividend



# Global Operation Sites

50

Operation Sites

93

Distributors

EST. 1999



Netherlands: Ede

EST. 2017



Germany: Augsburg

EST. 2008



Japan: Shin-Yokohama/ Nagoya/ Osaka

EST. 2018



Korea: Pango

EST. 1993



United States: Irvine, CA  
Santa Clara, CA  
Chandler, AZ  
Allentown, PA  
Albany, NY

EST. 2001



United States: Foothill Ranch, CA  
Marlborough, MA  
Detroit, MI  
Mexico : Ciudad Juarez

EST. 1998



China/ Shenzhen

EST. 1999



China/ Beijing

EST. 2000



China/ Shanghai

EST. 2001



China/ Dongguan



Taiwan: Taoyuan (Headquarters)

EST. 2003



Taiwan: Hsinchu

EST. 2009



Taiwan: Kaohsiung

EST. 2006



China/ Suzhou

EST. 2011



China/ Xiamen

EST. 2011



China/ Chongqing

EST. 2016



Quantel : Singapore

Others:  
India: New Delhi/ Mumbai/ Bangalore  
Thailand: Bangkok  
Vietnam: Hanoi/ Ho Chi Minh  
Malaysia: Kuala Lumpur/ Penang  
Philippines: Manila/ Cebu  
Indonesia: Jakarta

Others: Qingdao/ Zhengzhou/ Xian/Hefei/ Chengdu/ Wuhan/ Hangzhou/ Changsha/ Guangzhou/ Hong Kong



# FINANCIAL REVIEW



# Year 2021 Condensed Consolidated Income Statement



## Condensed Consolidated P&L

(In Million NTD, except for EPS in NTD)

	2021	%	2020	%	YoY %
<b>Net Sales</b>	<b>17,584</b>	<b>100%</b>	<b>15,532</b>	<b>100%</b>	<b>13%</b>
Consolidated Sales of Testing Equipment Business	13,555	77%	12,045	78%	13%
Consolidated Sales of MAS	780	4%	618	4%	26%
Consolidated Sales of New Material	2,804	16%	2,551	16%	10%
Others	445	3%	318	2%	40%
Cost of Goods Sold	(9,134)	(52%)	(7,988)	(51%)	14%
<b>Gross Profit</b>	<b>8,450</b>	<b>48%</b>	<b>7,544</b>	<b>49%</b>	<b>12%</b>
Operating Expenses:					
General & Administration	(3,864)	(22%)	(3,405)	(22%)	13%
Research & Development	(1,511)	(9%)	(1,342)	(9%)	13%
<b>Operating Income</b>	<b>3,075</b>	<b>17%</b>	<b>2,797</b>	<b>18%</b>	<b>10%</b>
Non-Operating Income (Expenses), net	2,209	13%	232	2%	852%
Income (Loss) Before Tax	5,284	30%	3,029	20%	74%
Income Tax	(979)	(6%)	(648)	(5%)	51%
<b>Net Income</b>	<b>4,305</b>	<b>24%</b>	<b>2,381</b>	<b>15%</b>	<b>81%</b>
Other Comprehensive Income (Losses)	106	1%	78	1%	36%
<b>Comprehensive Income</b>	<b>\$ 4,411</b>	<b>25%</b>	<b>\$ 2,459</b>	<b>16%</b>	<b>79%</b>
<b>Net Income (Losses) Attributable To:</b>					
Shareholders of the Parent	4,179	24%	2,324	15%	80%
Noncontrolling Interests	126	1%	57	-	121%
	<b>\$ 4,305</b>	<b>25%</b>	<b>\$ 2,381</b>	<b>15%</b>	<b>81%</b>
<b>EPS (Basic)</b>	<b>\$ 9.96</b>		<b>\$ 5.56</b>		<b>79%</b>
<b>EPS (Diluted)</b>	<b>\$ 9.89</b>		<b>\$ 5.51</b>		<b>79%</b>

# Year 2021.4Q Condensed Consolidated Income Statement



<b>Condensed Consolidated P&amp;L</b> (In Million NTD, except for EPS in NTD)	<b>2021.4Q</b>	<b>%</b>	<b>2021.3Q</b>	<b>%</b>	<b>QoQ %</b>	<b>2020.4Q</b>	<b>%</b>	<b>YoY %</b>
<b>Net Sales</b>	<b>4,589</b>	<b>100%</b>	<b>4,276</b>	<b>100%</b>	<b>7%</b>	<b>4,178</b>	<b>100%</b>	<b>10%</b>
Consolidated Sales of Testing Equipment Business	3,535	77%	3,315	78%	7%	3,210	77%	10%
Consolidated Sales of MAS	271	6%	145	3%	87%	109	3%	149%
Consolidated Sales of New Material	665	14%	682	16%	(2%)	766	18%	(13%)
Others	118	3%	134	3%	(12%)	93	2%	27%
Cost of Goods Sold	(2,456)	(54%)	(2,132)	(50%)	15%	(2,246)	(54%)	(9%)
<b>Gross Profit</b>	<b>2,133</b>	<b>46%</b>	<b>2,144</b>	<b>50%</b>	<b>(1%)</b>	<b>1,932</b>	<b>46%</b>	<b>10%</b>
Operating Expenses:								
General & Administration	(994)	(21%)	(922)	(22%)	8%	(810)	(19%)	23%
Research & Development	(408)	(9%)	(357)	(8%)	14%	(352)	(8%)	16%
<b>Operating Income</b>	<b>731</b>	<b>16%</b>	<b>865</b>	<b>20%</b>	<b>(15%)</b>	<b>770</b>	<b>19%</b>	<b>(5%)</b>
Non-Operating Income (Expenses), net	163	3%	148	4%	10%	129	3%	26%
Income (Loss) Before Tax	894	19%	1,013	24%	(12%)	899	22%	(1%)
Income Tax	(179)	(3%)	(191)	(4%)	(6%)	(188)	(4%)	(5%)
<b>Net Income</b>	<b>715</b>	<b>16%</b>	<b>822</b>	<b>20%</b>	<b>(13%)</b>	<b>711</b>	<b>17%</b>	<b>1%</b>
Other Comprehensive Income (Losses)	69	1%	(168)	(5%)	n/a	102	2%	(32%)
<b>Comprehensive Income</b>	<b>\$ 784</b>	<b>17%</b>	<b>\$ 654</b>	<b>15%</b>	<b>20%</b>	<b>\$ 813</b>	<b>19%</b>	<b>(4%)</b>
<b>Net Income (Losses) Attributable To:</b>								
Shareholders of the Parent	658	15%	793	19%	(17%)	687	16%	(4%)
Noncontrolling Interests	57	1%	29	1%	97%	24	1%	138%
	<b>\$ 715</b>	<b>16%</b>	<b>\$ 822</b>	<b>20%</b>	<b>(13%)</b>	<b>\$ 711</b>	<b>17%</b>	<b>1%</b>
<b>EPS (Basic)</b>	<b>\$ 1.57</b>		<b>\$ 1.89</b>		<b>(17%)</b>	<b>\$ 1.64</b>		<b>(4%)</b>
<b>EPS (Diluted)</b>	<b>\$ 1.55</b>		<b>\$ 1.87</b>		<b>(17%)</b>	<b>\$ 1.62</b>		<b>(4%)</b>

# Balance Sheet Highlights & Financial Ratio

<u>Consolidated</u> (In Million NTD)	<u>2021. Dec</u>	<u>2020. Dec</u>	<u>+ / - %</u>
<b>Balance Sheet Highlights</b>			
Cash & Short Term Investments	4,947	4,442	11%
Inventory	3,916	3,028	29%
Short Term Debt	2,114	3,187	- 34%
Long Term Debt	1,447	2,405	- 40%
Shareholders Equity	18,947	16,389	16%
<b>Total Assets</b>	<b>29,546</b>	<b>28,129</b>	<b>5%</b>
Inventory Turnover (Day)	139	130	
AR Turnover (Day)	98	120	
AP Turnover (Day)	114	122	
Net Debt to Equity (%)	Net Cash	7%	
<b>ROE (%) ●</b>	<b>24%</b>	<b>15%</b>	
<b>ROA (%) ●</b>	<b>15%</b>	<b>7%</b>	

<b>Cash Position</b>	<u>2021</u>	<u>2020</u>	<b>YoY</b>
EBITDA	5,923	3,527	68%
Cash Flow from Operation	2,592	2,715	(5%)
<b>Free Cash Flow ●●</b>	<b>4,329</b>	<b>1,169</b>	<b>270%</b>

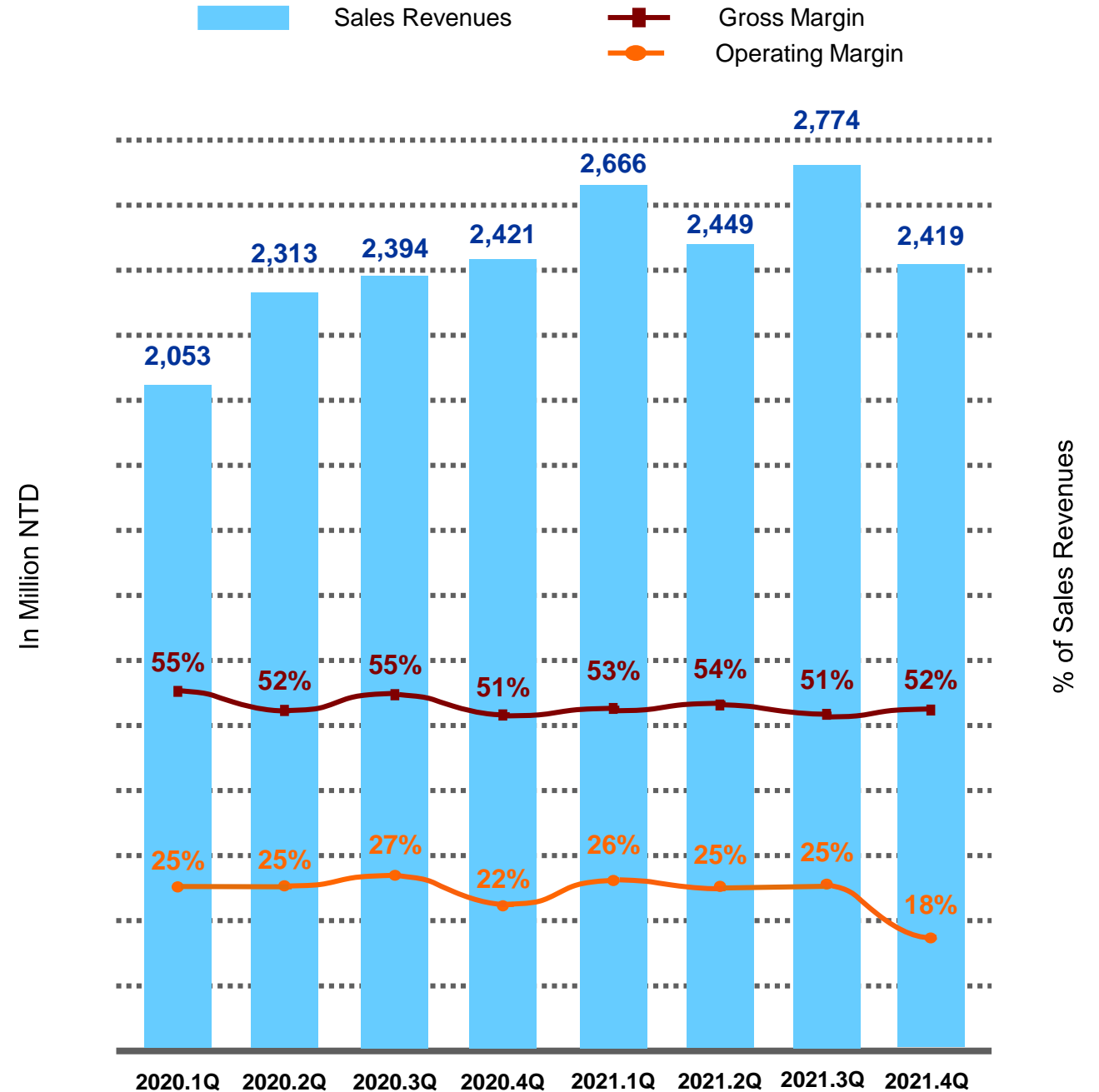
● All ROE + ROA has been annualized.

●● Free Cash Flow = Net Cash Provided by Operating Activities + (Net Cash used by Investing Activities)

# Quarterly Highlights

## 2021.4Q Key Points

- Sales Revenue: \$ 2,419 million, down 13% QoQ, flat YoY
- Gross Margin: 52%
- Operating Margin: 18%
- Net Income: NT\$ 658 million, down 17% QoQ, down 4% YoY
- 2021.4Q Highlights:
  - The major growth sector in fourth quarter is contributed from Semiconductor / Photonics sector, which presented a growth of 20% YoY.



# Year 2021.4Q Condensed Income Statement

## Condensed P&L – Parent Only

(In Million NTD, except for EPS in NTD)

	2021.4Q	%	2021.3Q	%	QoQ %	2020.4Q	%	YoY %
<b>Net Sales</b>	2,418	100%	2,774	100%	(13%)	2,421	100%	-
Cost of Goods Sold	(1,148)	(48%)	(1,355)	(49%)	(15%)	(1,184)	(49%)	(3%)
<b>Gross Profit</b>	1,270	52%	1,419	51%	(11%)	1,237	51%	3%
Operating Expenses:								
General & Administration	(489)	(20%)	(386)	(14%)	27%	(365)	(15%)	34%
Research & Development	(340)	(14%)	(334)	(12%)	2%	(329)	(14%)	3%
<b>Operating Income</b>	441	18%	699	25%	(37%)	543	22%	(19%)
Non-Operating Income (Expenses), net ●	326	14%	243	9%	34%	275	11%	19%
Income (Loss) Before Tax	767	32%	942	34%	(19%)	818	33%	(6%)
Income Tax	(109)	(5%)	(149)	(5%)	(27%)	(132)	(5%)	(17%)
<b>Net Income</b>	\$ 658	27%	\$ 793	29%	(17%)	\$ 686	28%	(4%)
Other Comprehensive Income	69	3%	(167)	(6%)	n/a	105	4%	(34%)
<b>Comprehensive Income</b>	\$ 727	30%	\$ 626	23%	16%	\$ 791	32%	(8%)
<b>EPS (Basic)</b>	\$ 1.57		\$ 1.89		(17%)	\$ 1.64		(4%)
<b>EPS (Diluted)</b>	\$ 1.55		\$ 1.87		(17%)	\$ 1.62		(4%)

● 100% owned subsidiaries' income - New Material: 10m (QoQ ↓ 23%); MAS: 39m (QoQ ↑ 550%, YoY ↑ 44%).

# Year 2021 Condensed Income Statement

<b>Condensed P&amp;L – Parent Only</b> (In Million NTD, except for EPS in NTD)	<u>2021</u>	<u>%</u>	<u>2020</u>	<u>%</u>	<u>YoY</u> %
<b>Net Sales</b>	<b>10,308</b>	<b>100%</b>	<b>9,180</b>	<b>100%</b>	<b>12%</b>
Cost of Goods Sold	(4,890)	(47%)	(4,313)	(47%)	13%
<b>Gross Profit</b>	<b>5,418</b>	<b>53%</b>	<b>4,867</b>	<b>53%</b>	<b>11%</b>
Operating Expenses:					
Selling and General & Administration	(1,621)	(16%)	(1,390)	(15%)	17%
Research & Development	(1,351)	(13%)	(1,217)	(13%)	11%
<b>Operating Income</b>	<b>2,446</b>	<b>24%</b>	<b>2,260</b>	<b>25%</b>	<b>8%</b>
Non-Operating Income (Expenses), net ●	2,499	24%	535	5%	367%
Income (Loss) Before Tax	4,945	48%	2,795	30%	77%
Income Tax	(766)	(7%)	(471)	(5%)	63%
<b>Net Income</b>	<b>\$ 4,179</b>	<b>41%</b>	<b>\$ 2,324</b>	<b>25%</b>	<b>80%</b>
Other Comprehensive Income	115	1%	89	1%	29%
<b>Comprehensive Income</b>	<b>\$ 4,294</b>	<b>42%</b>	<b>\$ 2,413</b>	<b>26%</b>	<b>78%</b>
<b>EPS (Basic)</b>	<b>\$ 9.96</b>		<b>\$ 5.56</b>		<b>79%</b>
<b>EPS (Diluted)</b>	<b>\$ 9.89</b>		<b>\$ 5.51</b>		<b>79%</b>

- Non-operating Income included 100% owned subsidiaries' income - New Material: 43m (YoY ↑ 115%), MAS: (146m). Also included the capital gain from disposal of property and plant of NTD 1,730 million.

# Balance Sheet Highlights & Financial Ratio

**Parent Only** (In Million NTD)

## Balance Sheet Highlights

	<u>2021. Dec</u>	<u>2020. Dec</u>	+ / - %
Cash & Short Term Investment	1,274	902	41%
Inventory	2,989	2,331	28%
Short Term Debt	1,400	2,420	- 42%
Long Term Debt	1,250	2,230	- 44%
Shareholders Equity	18,514	16,063	15%
<b>Total Assets</b>	<b>25,359</b>	<b>24,406</b>	<b>4%</b>
Inventory Turnover (Day)	199	184	
AR Turnover (Day)	89	106	
AP Turnover (Day)	95	96	
Net Debt to Equity (%)	8%	23%	
<b>ROE (%)</b> ●	<b>24%</b>	<b>15%</b>	
<b>ROA (%)</b> ●	<b>17%</b>	<b>10%</b>	

## Cash Position

	<u>2021</u>	<u>2020</u>	<u>YoY</u>
EBITDA	5,342	3,053	75%
Cash Flow from Operation	2,030	2,049	(1%)
<b>Free Cash Flow</b> ●●	<b>4,357</b>	<b>606</b>	<b>619%</b>

● All ROE + ROA has been annualized.

●● Free Cash Flow = Net Cash Provided by Operating Activities + (Net Cash used by Investing Activities)



**Chroma**

**OPERATION  
HIGHLIGHT**

**Test  
and  
Auto  
Solution  
providers**

# 2021.4Q & Annual Product Mix and Consolidated Sales Breakdown

(Unit: Million NTD)

	2021.4Q	%	QoQ	YoY	2021	%	YoY	2020	%
<b>Test Instruments &amp; Automatic Testing System (ATS)</b>	1,493	62%	(3%)	27%	5,531	54%	14%	4,849	53%
<b>Semiconductor / Photonics Test Solutions</b>	814	34%	(12%)	20%	3,589	35%	19%	3,025	33%
<b>Turnkey Solutions</b>	75	3%	178%	(76%)	347	3%	(24%)	456	5%
<b>Service &amp; Others</b>	37	1%	(86%)	(85%)	841	8%	(1%)	850	9%
<b>Total of Parent Company Sales</b>	<b>2,419</b>	<b>100%</b>	<b>(13%)</b>	<b>-</b>	<b>10,308</b>	<b>100%</b>	<b>12%</b>	<b>9,180</b>	<b>100%</b>
<b>+ Sales from Overseas Operations &amp; Related Subsidiaries</b>	<b>1,116</b>		<b>106%</b>	<b>41%</b>	<b>3,247</b>		<b>13%</b>	<b>2,865</b>	
<b>Chroma Consolidated Testing Equipment Business</b>	<b>3,535</b>	<b>77%</b>	<b>7%</b>	<b>10%</b>	<b>13,555</b>	<b>77%</b>	<b>13%</b>	<b>12,045</b>	<b>78%</b>
<b>MAS</b>	<b>271</b>	<b>6%</b>	<b>87%</b>	<b>149%</b>	<b>780</b>	<b>4%</b>	<b>26%</b>	<b>618</b>	<b>4%</b>
<b>New Material</b>	<b>665</b>	<b>14%</b>	<b>(2%)</b>	<b>(13%)</b>	<b>2,804</b>	<b>16%</b>	<b>10%</b>	<b>2,551</b>	<b>16%</b>
<b>Other Subsidiaries</b>	<b>118</b>	<b>3%</b>	<b>(12%)</b>	<b>28%</b>	<b>445</b>	<b>3%</b>	<b>40%</b>	<b>318</b>	<b>2%</b>
<b>Consolidated Sales</b>	<b>4,589</b>	<b>100%</b>	<b>7%</b>	<b>10%</b>	<b>17,584</b>	<b>100%</b>	<b>13%</b>	<b>15,532</b>	<b>100%</b>



## Year 2022 Guidance

- In Year 2021, Chroma total consolidated sales revenues reached NTD 17.6 billion, hit historical record high, presented a growth of 13% YoY. The Parent Company sales revenues also hit record high reached NTD 10.4 billion, presented a growth of 12% YoY, mainly contributed from Semiconductor / Photonics testing solutions which increased by 19% compared to year 2021.
- 2022 Business Outlook:
  - ✓ The strong growth of Semiconductors / Photonics testing solutions, which is driven by strong demand for development of 5G-related and high performance chip (HPC) applications as well as new VCSEL and auto Lidar capacity ramp. Key product drivers are:
    - High Performance / Reliability Testing Solutions : Burn-in Test, SLT Test with thermal control
    - CIS / VCSEL / ToF testing solutions
    - Wireless RF testing solutions
  - ✓ The Turnkey Solutions back to peak sales revenues level contributed by megatrend of EV industry.
  - ✓ The Test Instruments & ATS for power testing solutions continues benefit from green energy, included EV / Energy Storage related components, battery cell / module / pack and smart-grid and 5G / Server related power testing.

# Semiconductor / Photonics Test Solutions

TECHNOLOGY

IC Test Handler

### Fast & Flexible Operation

- Multi-sites: 6~24 Sites (SLT/FT Combo Module)
- IC Device: Normal IC and Bare Die
- Dual Lots and Multiple Binning
- Temp.: -70°C ~150°C; Cooling Capacity 1,200W

### High Speed Wafer AOI

- Double side inspection
- Patterned wafer inspection before/after dicing
- Max. 4 computers in parallel processing
- Shared auto loader

Automated Optical Inspection System

2H, '21

2022

MARKET

HPC (CPU/MCU/GPU), IC, MEMS, PMIC, FPGA, Sensors

3D Sensing, LiDAR, Optical Fiber



FT & SLT Hybrid Test System  
3200

Thermal Platform  
Sea Cobra



In-process Wafer Inspection System  
7945

SOLUTION

# Semiconductor / Photonics Test Solutions

TECHNOLOGY

Advanced Packaging Testing

2D / 3D / 2D+3D Metrology

- 2D Dimension: > 0.6um
- 3D XY / Z Resolution: 30nm / 0.05nm
- Sensor: 2D - Optical / 3D - WLI / Dual modules
- Light Source: Multiple Light Sources

Particle Inspection

- Particles: >50um
- Sensor: AOI modules
- Light Source: Customized Light Source

Chemical Overflow Inspection

- Overflow: > 500um
- Residue: > 1mm\*1mm
- Light Source: Customized Light Source

2H, '21

2022

MARKET



**NEW**

Process Particle In-situ Inspection  
7961-SP

**NEW**

2D/3D Wafer Metrology System  
7980

**NEW**

Chemical Overflow In-situ Inspection  
7961-UG

SOLUTION

# Test Instruments & ATS

TECHNOLOGY

Customized PEU (Power Electronic Unit) ATS  
• Testing Items: Efficiency, boundary, protection functions, AC charging signals, and CAN communication

Power HIL Testbed  
• Applications: On-board Charger and DC-DC Converter  
• Integration of high power and real-time system

High Precision & Energy Regenerative  
• Multi-current range: 6V, 100A/50A/25A  
• Max parallel current up to 1200A

Power Electronics/  
EV Testing

Battery Testing

2H'21

2022

MARKET

EV (Charger Station, OBC, DC-DC), Green Energy (ESS, PCS, Battery/Fuel Cell), Server Power, Telecom Power, HV UPS



NEW

PEU ATS  
8000



NEW

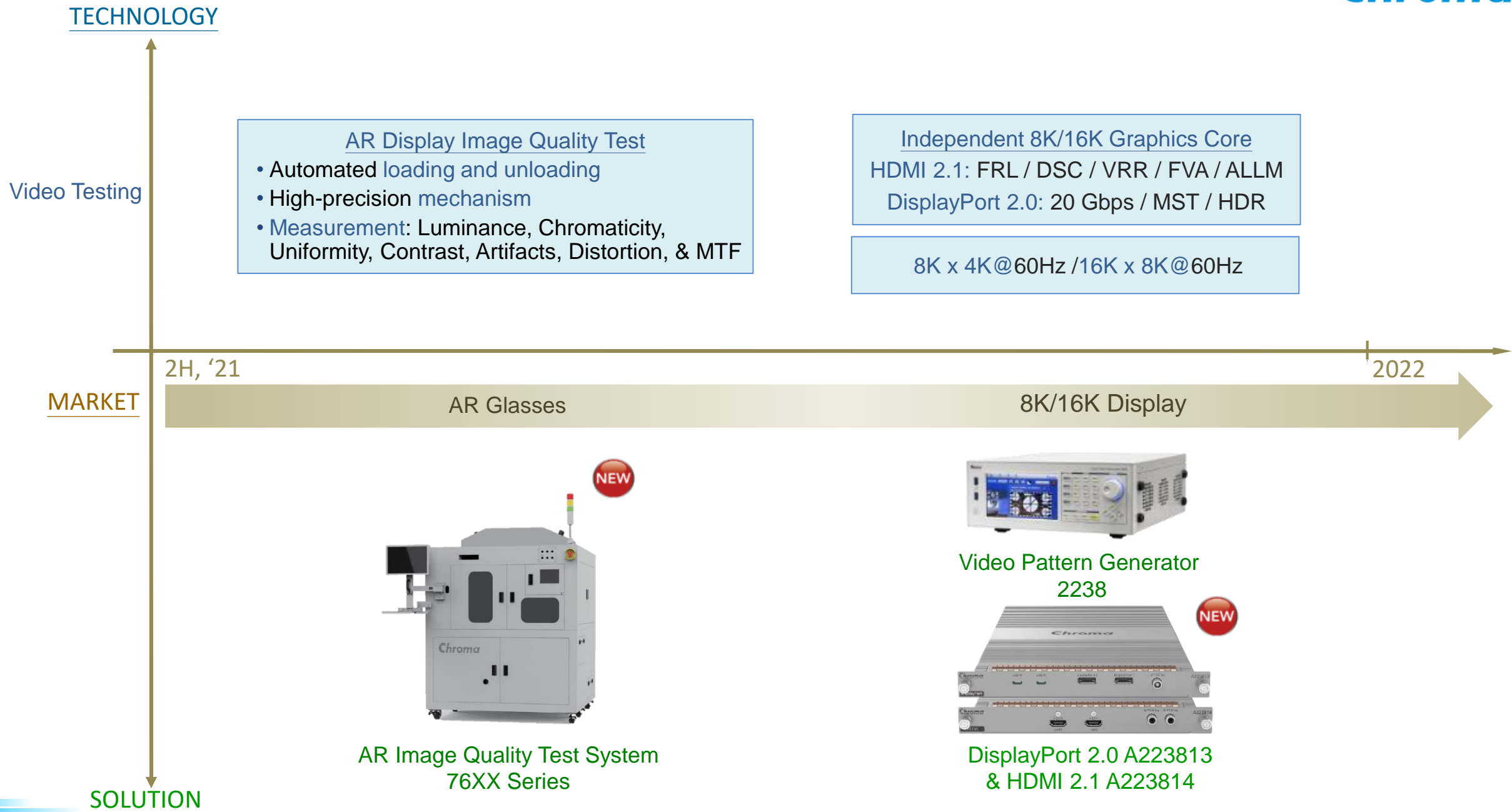
OBC and DC-DC  
Converter Power HIL Testbed  
8620



NEW

Battery Charge & Discharge Tester  
17212M-6-100S

SOLUTION



# Chroma *Driving Innovation to Success*

Thank You!

Get more information by downloading  
Chroma ATE Solutions APP

