

# 旺矽科技股份有限公司 6223.TT

## Presentation Disclaimer

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The information herein contains forward-looking statements. We have based these forward-looking statements on our current expectations and projections about future events. Although we believe that these expectations and projections are reasonable, such forward-looking statements are inherently subject to risks, uncertainties and assumptions about us, including, among other things: the intensely competitive Semi-conductor, and LED industries and markets; Cyclical nature of the semiconductor industry; Risks associated with global business activities; General economic and political conditions. All financial figures discussed herein are prepared pursuant to IFRS. All audited figures will be publicly announced upon the completion of our audited process.

MPI 部門概覽

Since 1995



Probe Card

Since 2001



Photonics Automation

Since 2014



Advanced Semiconductor Test

Since 2015



Thermal Test









Since 2021



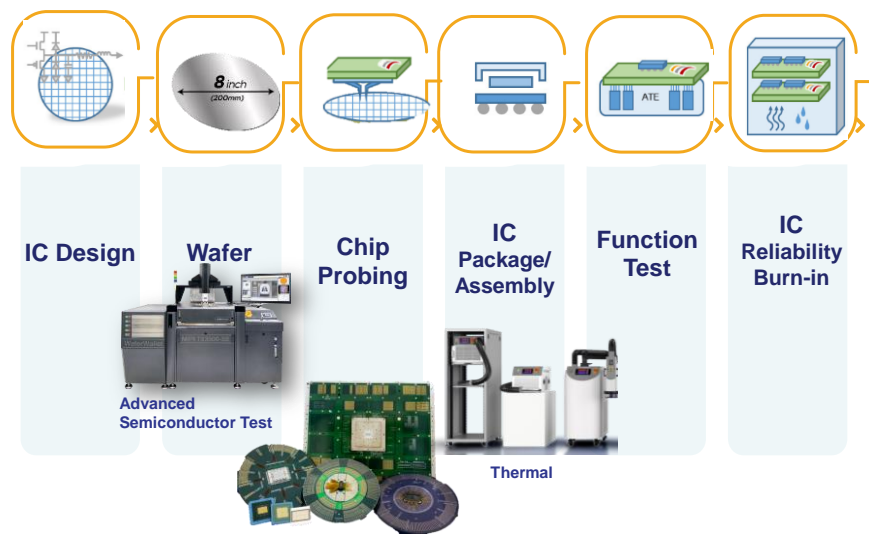
Celadon Systems

MPI 全球據點



Worldwide				Taiwan			
							
MPI America CA, USA (2017)	MPI Suzhou Jiangsu, CN (2017)	Celadon Systems MN, USA (2021)	Headquarters Hsinchu, TW (2000)	Luzhu Office Kaohsiung, TW (2006)	2 <sup>nd</sup> Production Site Hsinchu, TW (2012)	Xinyu Office Hsinchu, TW (2014)	3 <sup>rd</sup> Production Site Hsinchu, TW (2021)

# 供應鏈概覽



# 議程



## Business Contents

- Probe Card
- Photonics Automation
- Thermal & AST



## Financial Statements

MPI CORPORATION

# 半導體事業部 (探針卡)

READY FOR THE TEST™

## MPI Probe Card

Advanced Wafer Sort Test Solutions

Vertical / MEMS Probe Card

Cantilever Probe Card



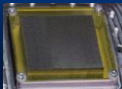
### Features



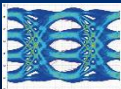
Fine Pitch



MEMS



High Pin Count



High Speed



Substrate



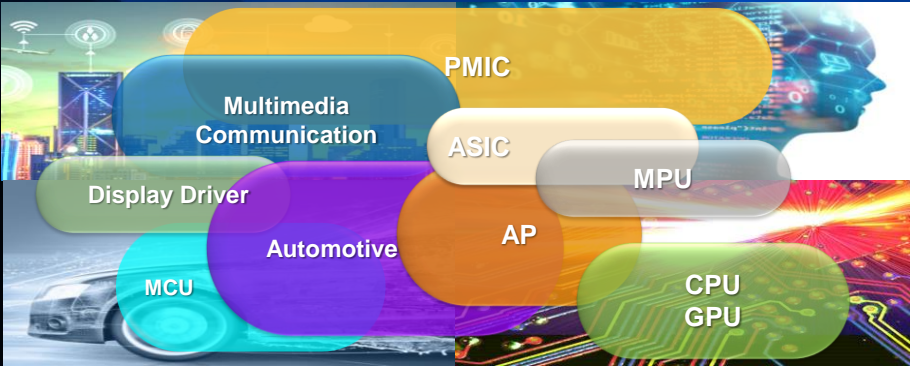
Hand-wired



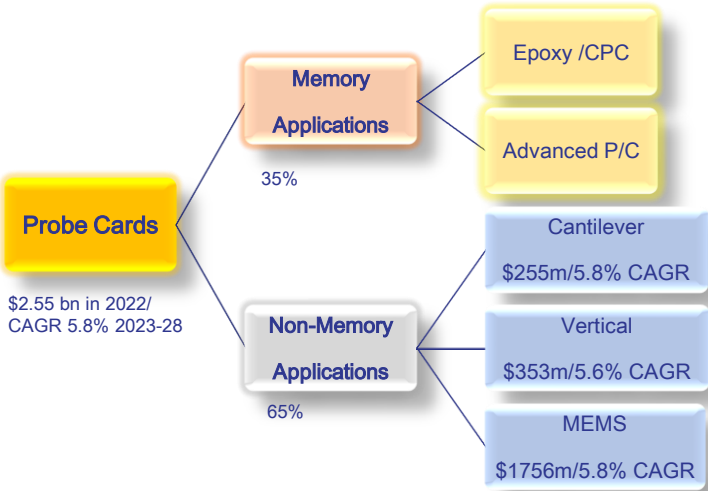
RF

Full range of products for the applications  
*sufficient coverage solutions to IC markets*

Company Confidential C



全球探針卡市場概況

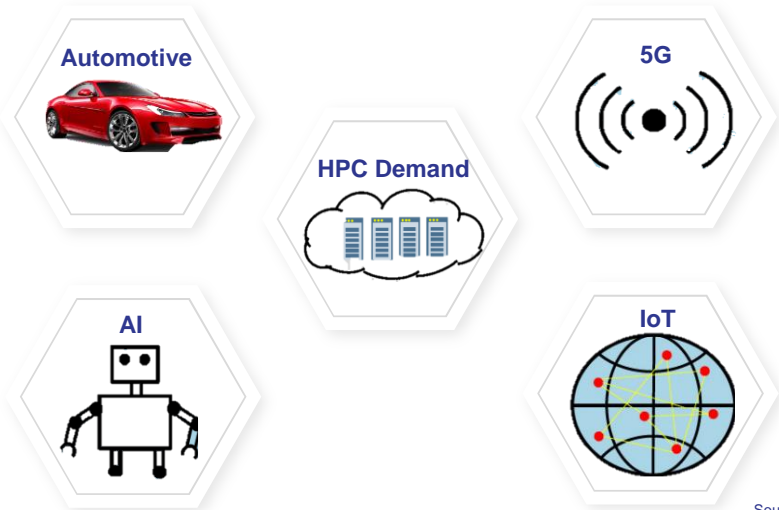


## 前十大探針卡供應商(2017-2022)

(Rank)	2017	2018	2019	2020	2021	2022
FormFactor, Inc. (USA)	1	1	1	1	1	1
Micronics Japan Co., Ltd. (Japan)	2	3	3	3	3	3
Technoprobe (Italy)	3	2	2	2	2	2
Japan Electronic Materials (Japan)	4	4	4	4	4	4
MPI Corporation (Taiwan)	5	5	5	5	5	5
SV TCL (Singapore)	6	6	6	7	8	7
Microfriend (Korea)	7	10	10	10	-	-
Korea Instrument (Korea)	8	7	8	6	7	6
Cascade Microtech (USA)	-	-	-	-	-	-
FEINMETALL (Germany)	11	12	11	14	-	-

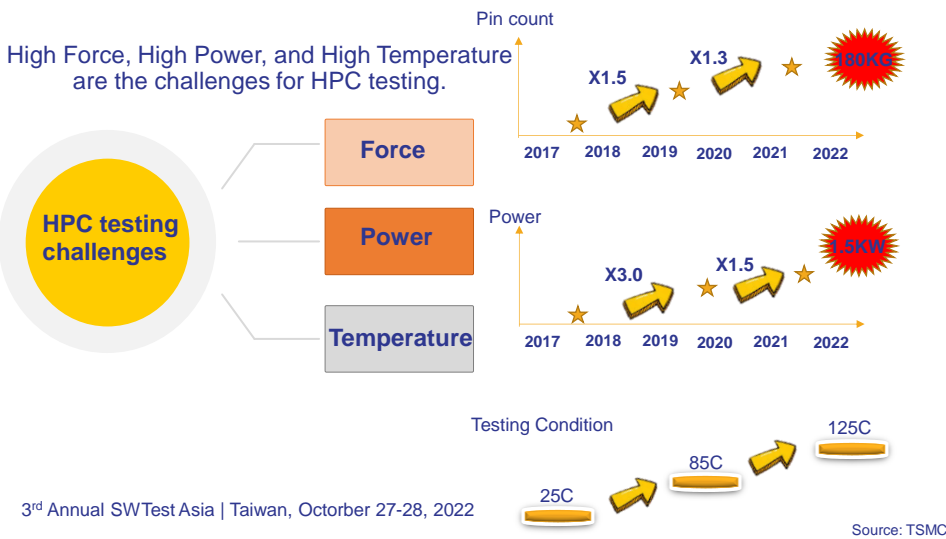
## HPC 需求

The demand of HPC ( High Performance Computing ) growth rapidly.



Source: TSMC

# HPC 挑戰



# Interface Technical Complexity Check in

Complexity Trends are on pace to be at 2022 targets( 1 Cycle) or in some cases beyond

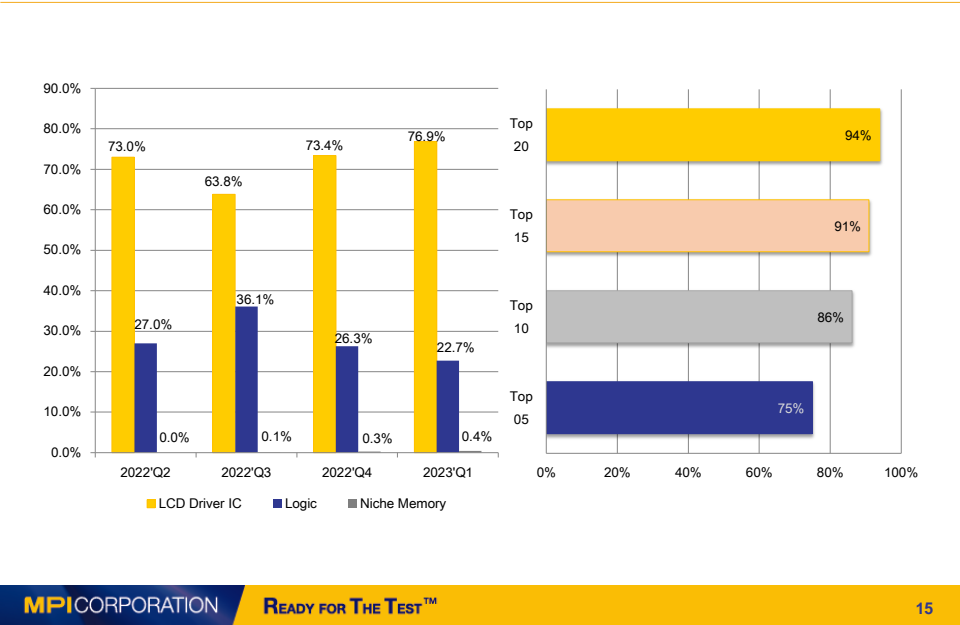
“2x4 Scaling”=2xPins, 2xPerformance, every 4 years



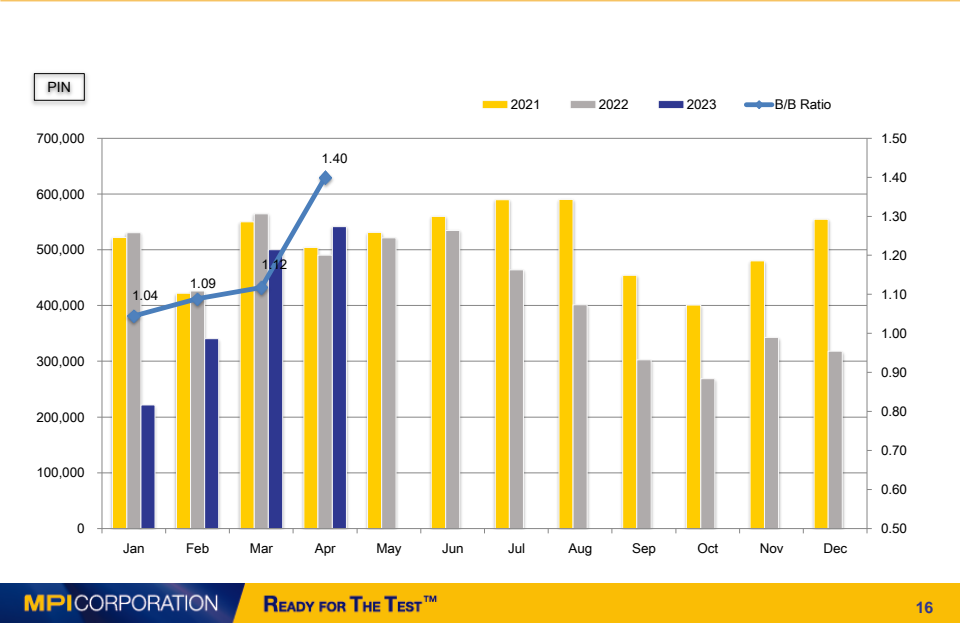
		2018	2022	2026
		Level 4	Level 5	Level 6
Pin Density	Pin Pitch	90um	70um	50um
	Total Contact Force	80kg	150kg	250kg
I/O Speed	Digital	32Gpbs	64Gpbs	128Gpbs
	RF/mmWave	< 12 GHz	29 GHz	+60 GHz
Device Power	Main Power	900 mV	750mV	625mV
	Single Rail	35A	50A	100A
	Impedance	2.2 mOhm	1.4 mOhm	0.8 mOhm
Thermal	Self Heating	75 W		
	Operating Range	0 to +80C	0 to +105C	-20 to +125C
Most Expensive Probe Card		\$400K*	>\$500K	>\$700K

Source:Teradyne
Source:VLSI Research

## 出貨產品結構及主要客戶



## CPC月出貨針數及月接單出貨比

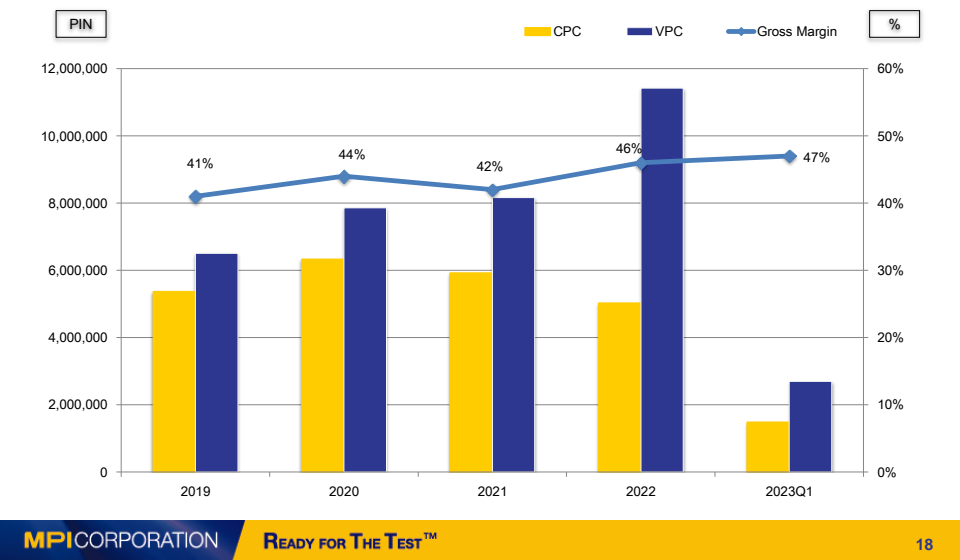




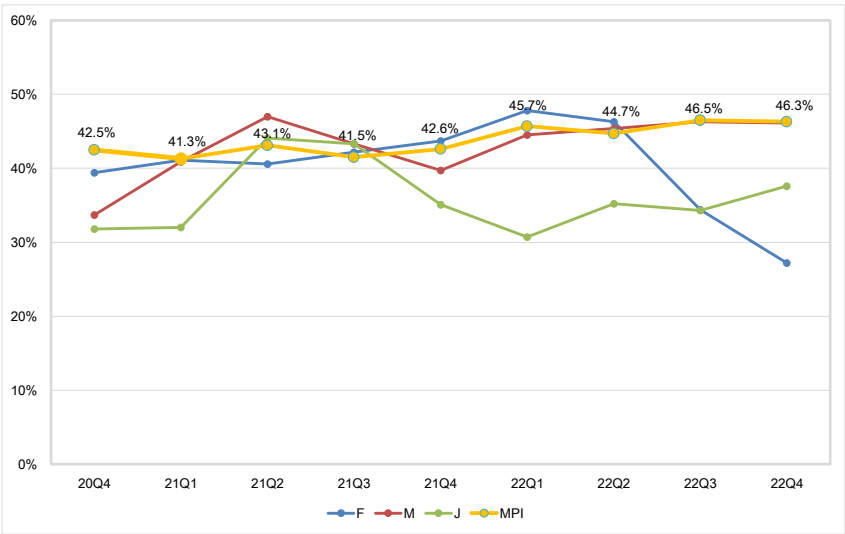
## VPC月出貨針數及月接單出貨比



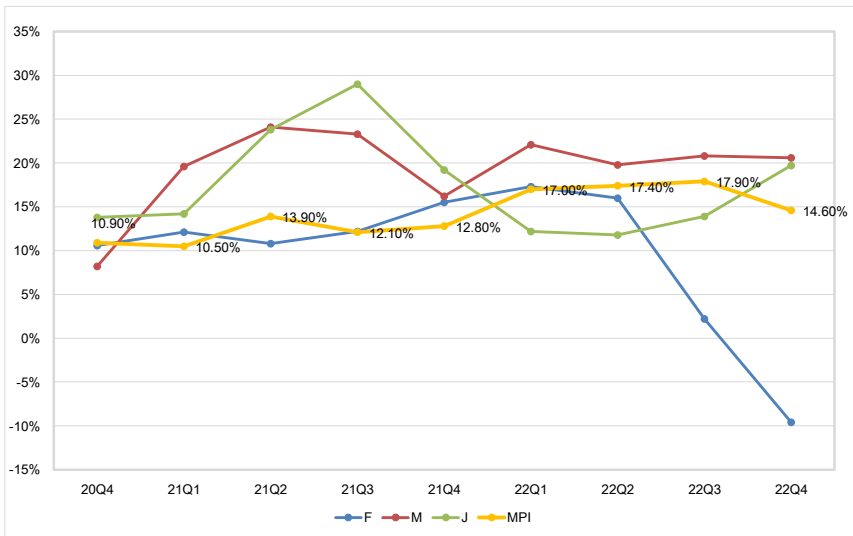
## CPC及VPC成長趨勢



## 全球同業毛利率



## 全球同業營利率



# MPI Probe Card

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## Our Customer

The MPI is committing more than 800 customers globally to contribute to industrial development as well as providing testing industry advanced technology needs.



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MPI CORPORATION

# 發光二極體事業部 (LED)

READY FOR THE TEST™

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# 產品概覽



- **High Power VCSEL Wafer Testing**  
Wafer / Board Prober Development  
Testing methodology Development
  - **High Power VCSEL PKG Testing**  
PKG Handler Development  
Testing methodology Development
- **VCSEL / Photo-Detector Testing**  
Wafer / Board Prober Development  
Testing methodology Development
  - **RF Character**  
Wafer Level RF Testing Integration
  - **SiPh Die/PKG Platform**  
SiPh Handler Development
- **uLED Mass Production Methodology**  
Wafer prober for large quantity die testing method
  - **Panel testing platform development**  
Panel / Panel in-process testing platform

# 發展計畫



Optical Sensing	Optical Communications	Micro Display
<ul style="list-style-type: none"><li>➢ Focus on Sensing VCSEL Testing</li><li>➢ Production Wafer Prober in Low Temperature</li><li>➢ High Power Measurement Tool and Technology Development</li><li>➢ Flip Chip Wafer VCSEL testing Solution</li><li>➢ Package / Hybrid Device testing tool</li></ul>	<ul style="list-style-type: none"><li>➢ Focus on VCSEL/Photodetector Testing</li><li>➢ Wafer Prober for Dark / Responsivity / Capacity measurement</li><li>➢ RF Measurement Capability Development</li><li>➢ SiPh package testing approaching</li></ul>	<ul style="list-style-type: none"><li>➢ Lab and production wafer testing tool development</li><li>➢ Contacting Accuracy Improvement</li><li>➢ Innovative testing methodology</li><li>➢ Optical measurement in production methodology</li></ul>



Thermal/AST

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# MPI Thermal

Hot and Cold Air Flow  
Environmental Temperature Test

-100°C +300°C

ThermalAir Series

Temperature Testing Systems



### Applications & Industry Segments

  
 Semiconductor

  
 Automotive

  
 Aerospace

  
 Telecommunications

  
 Fiber Optic

  
 Electronics

  
 Sensors

  
 Advanced Technology

Contact Us

Sales & Service

1-800-368-6772

www.mpi-thermal.com

# MPI Advanced Semiconductor Test

Engineering Probe Systems  
and  
RF Probe Products



50 – 300 mm

26 – 110 GHz

Applications & Industry Segments

							
Device Characterization	High Power	RF & mmW	Design Validation	Failure Analysis	Wafer Level Reliability	Silicon Photonics	Laser Cutter

## MPI構思

### ■ To Combine Two Very Unique Values

#### ■ The MPI Corporation

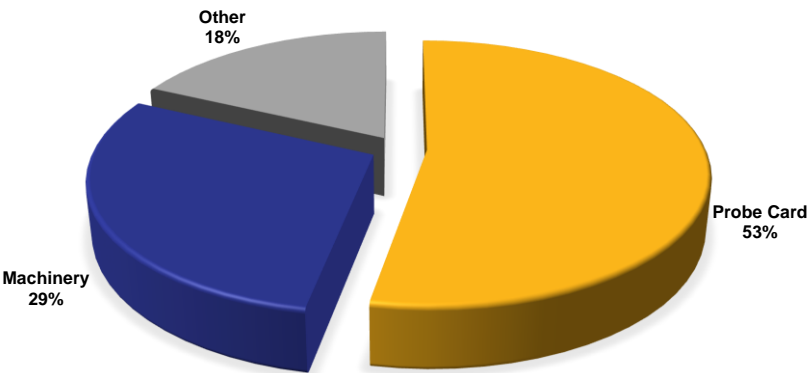
- Operational Excellence – High quality, on time
- Production Test Experience – 24/7 systems reliability
- Customer Centric – Highest value without compromise

#### ■ Management & Market Expertise

- More than 50 years together in Device Modeling, RF & mmW, WLR, High-Power, Failure Analysis, Thermal solutions...
- Visionary and Innovative Ideas
- Worldwide Partner Relationships

# 財務報表

## 1Q23 出貨分布



# 營業表現





## 資產

NT\$Million	2023' 1Q		2022' 1Q	
Cash and Cash Equivalents	2,385	22%	1,307	13%
Fixed Assets	4,481	41%	4,408	44%
Total Assets	10,959	100%	10,035	100%
LT Debt	996	9%	1,113	11%
Shareholders' Equity	7,204	66%	6,376	64%
EBITDA	333	18%	366	21%

\*EBITDA=operating income + depreciation & amortization expenses

## 營收

NT\$Million	1Q2023		1Q2022	
Net Sales	1,783,537	100%	1,720,155	100%
Cost of Goods Sold	939,346	53%	934,315	54%
Gross Profit	844,191	47%	785,840	46%
Operating Expense	517,648	29%	492,651	29%
Operating Income	326,543	18%	293,189	17%
Investment Income & Others	6,864		73,674	
Net Income (before tax)	279,721	15%	306,230	18%
EPS	2.98		3.25	

**MPI**CORPORATION



**Thank You**



<http://www.mpi-corporation.com>

**READY FOR THE TEST™**