



*Compound Semiconductor Solutions  
from RF to Lightwave*

穩懋半導體

**20**<sup>〰〰〰</sup>  
**YEARS**  
of  
III-V INNOVATION

# WIN Semiconductors Company Presentation

Feb. - Apr. 2020



# Safe Harbor Notice



- **This presentation contains certain forward-looking statements that are based on current expectations and are subject to known and unknown risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such statements.**
- **Except as required by law, we undertake no obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise.**

- **Market Outlook**
- **Technologies**
- **The WIN Strategy**
- **Financial Review & Guidance**
- **Q&A**

# MARKET OUTLOOK

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# 2019 Operating Results

**20**  
**YEARS**  
of  
III-V INNOVATION



Revenue growth >20% and hit record high consecutively



Non-handset revenue growth >50%



Success in development and production for the tech. demand in 5G and 3D sensing

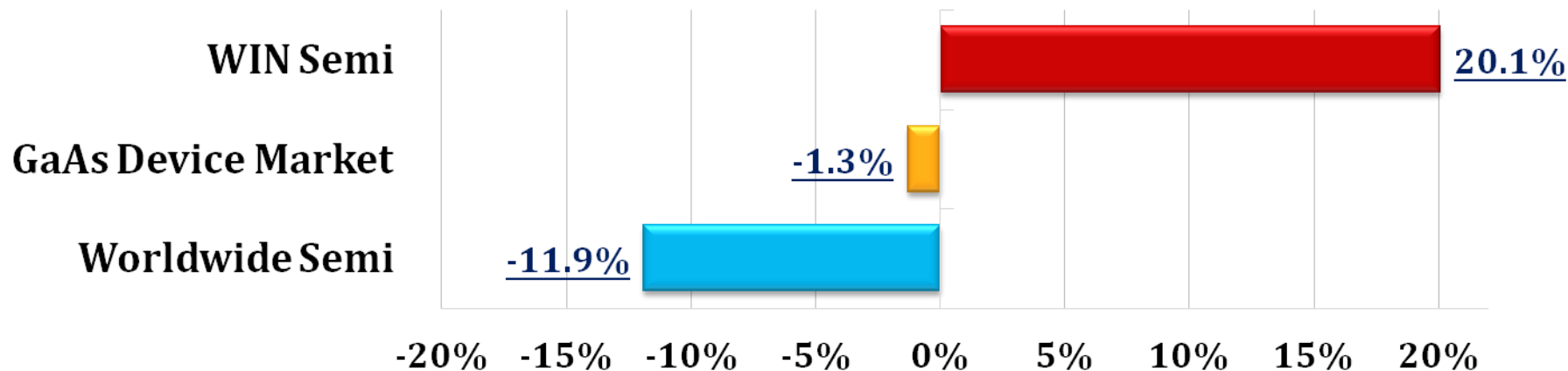


Selected as Industry Mover for The Sustainability Yearbook 2020 published by S&P Global in collaboration with RobecoSAM. Our sustainability performance ranked in the top 10 of the Semiconductors & Semiconductor Equipment industry.

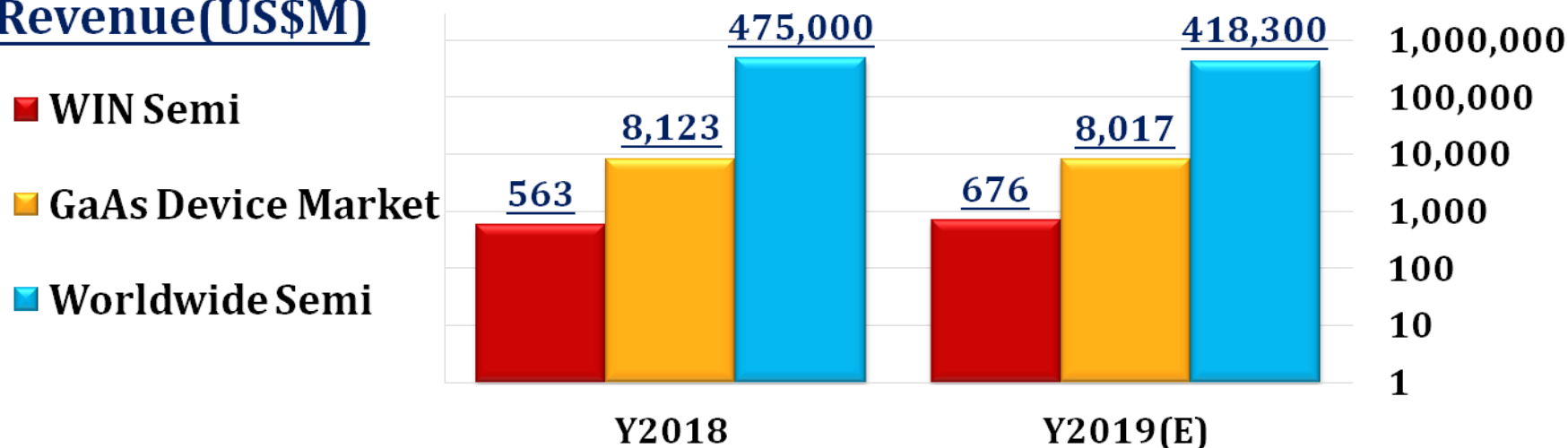


# 2019 Semiconductors Revenue Trend

## Y2019 Revenue Growth Rate



## Revenue(US\$M)



Source : (1) Worldwide Semiconductors Revenue, Gartner, Jan. 2020  
(2) GaAs Market Estimation, Strategy Analytics, 2019

# Business Growth Drivers

**5G + Wi-Fi 6**



**Infrastructure**



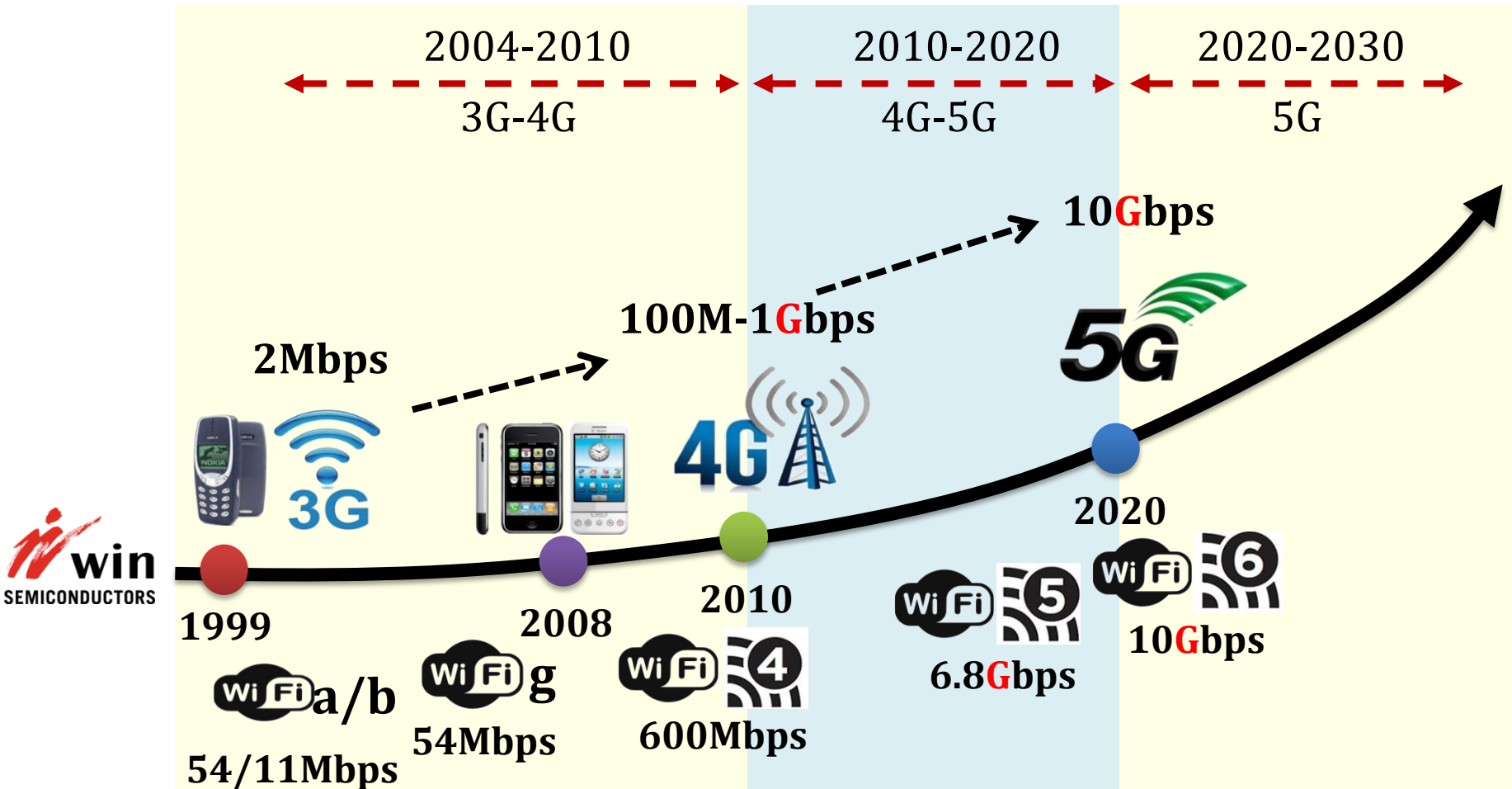
**Optical Devices**



# Performance

Ultra-High  
Speed

is required in **wireless communication**.  
It is the advantage of compound semiconductors.







# Opportunities for Compound Semiconductors



Y2019-20

Implement Phase

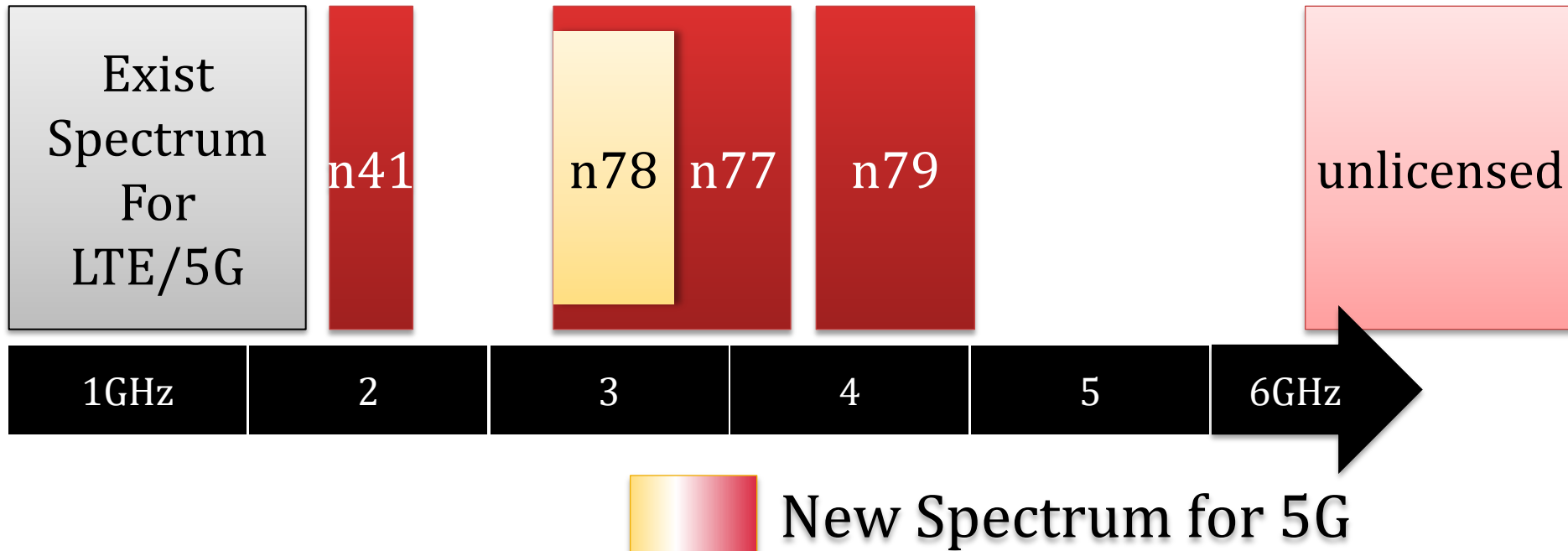
Y2021-25

Demand Rapid Growth

	Mobile Device	Infrastructure/CPE
Sub-6GHz	<ul style="list-style-type: none"><li>• GaAs HBT</li></ul>	<ul style="list-style-type: none"><li>• GaN HEMT</li><li>• GaAs pHEMT</li></ul>
mmWave	<ul style="list-style-type: none"><li>• Integrated compound semi technologies</li></ul>	<ul style="list-style-type: none"><li>• GaN HEMT</li><li>• GaAs pHEMT</li></ul>

- 5G sub-6GHz (<6GHz) spectrum bands for ubiquitous network coverage
- 5G mmWave (~30GHz) likely for fixed wireless access as a start followed by extreme mobile broadband in the longer term

# 5G Sub-6GHz Freq. Spectrum



(1) New frequency bands for 5G

(2) MIMO: n41, n77, n78, and n79

(3) Additional 5G PA (Refarm existing 4G Frequency band )

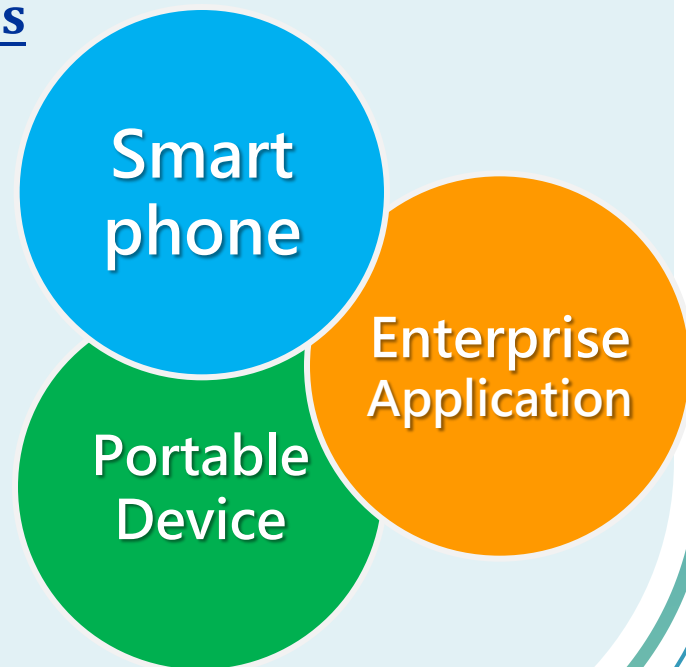


# Opportunities



## Wi-Fi 6 has been arriving and Wi-Fi 7 is developing

- Wi-Fi will be upgraded from 802.11ac to 802.11ax (Wi-Fi 6), from flagship to mid-range phones
  - Faster throughput
  - Higher network efficiency
  - Better in dense environments
- 802.11be (Wi-Fi 7)
  - Extreme high throughput
  - Extend to 6GHz frequency band

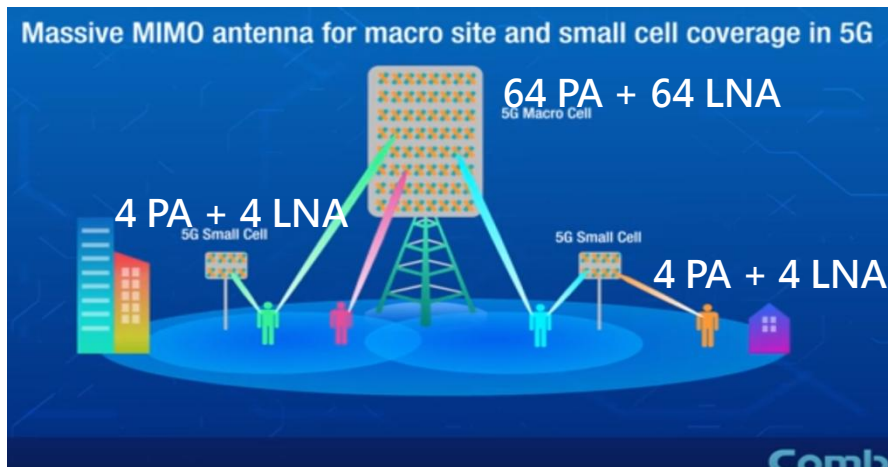


## ● RF Device Inside Macro & Small Cell Sector

- The high performance of compound semiconductors is the better choice for PA and LNA on 5G base-station.
- More than 100M transceivers in 2020.

## ● Satellite Communication Era is Coming

- More than 6,500 small satellites (<500kg) in orbit by 2027.
- Comms. application will be the key growth engine for satellite.



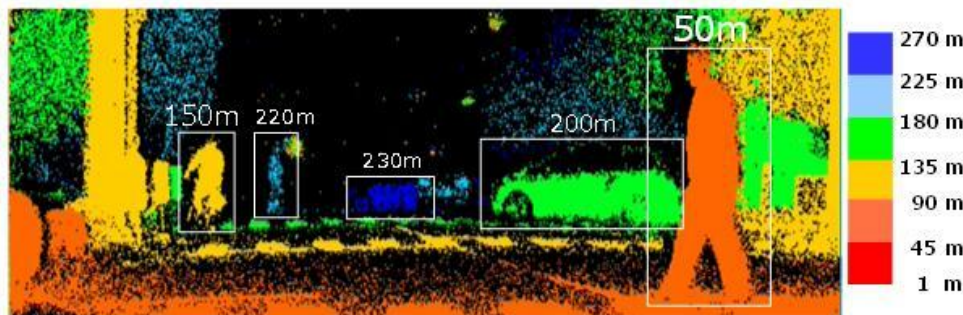
# Optical for 3D Sensing

- **Structure-Light demand keep very strong**
- **ToF for 3D sensing applications will keep growth**
  - Production was started since 2H2019
  - Multiple customers use ToF for both front and world facing applications

## World Facing AR



## Autonomous



## Gesture Recognition





- **Optical Devices**

- Data center interconnect, or metro/long-haul coherent transmission
- Proximity/Light sensor



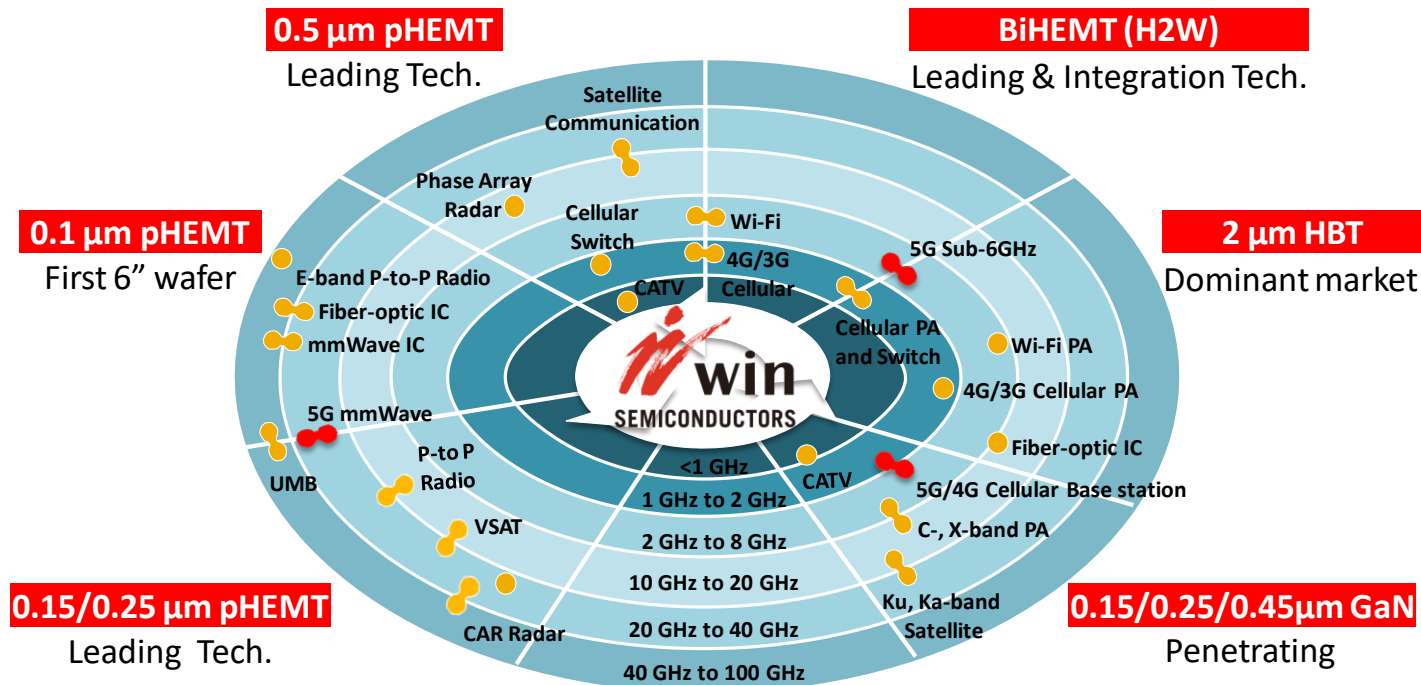
- **More and more customers engagement and will enter production stage soon**

# TECHNOLOGIES

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# Broad Portfolio of Advanced Technologies

The most comprehensive technology portfolio in industry enables customers to develop optimized products for a wide range of applications



- Dominant market share for high-performance HBT used in LTE PAs
- Leading BiHEMT technology for advanced integrated FEM
- First and only foundry worldwide to commercially develop 0.1 $\mu\text{m}$  pHEMT on 6" GaAs wafer

- Industry leading 0.15–0.25 $\mu\text{m}$  pHEMT technology
- Supports broad range of products such as PAs (from 50MHz–100GHz), switches, and fiberoptic IC
- Developing GaN for high power devices (4/5G base station)



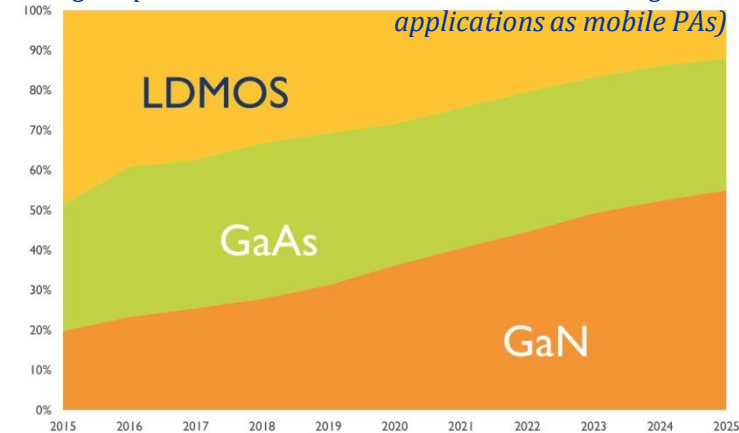
# 4/5G Infrastructure – WIN Inside!

## Ultra high frequency semiconductor technology provider!

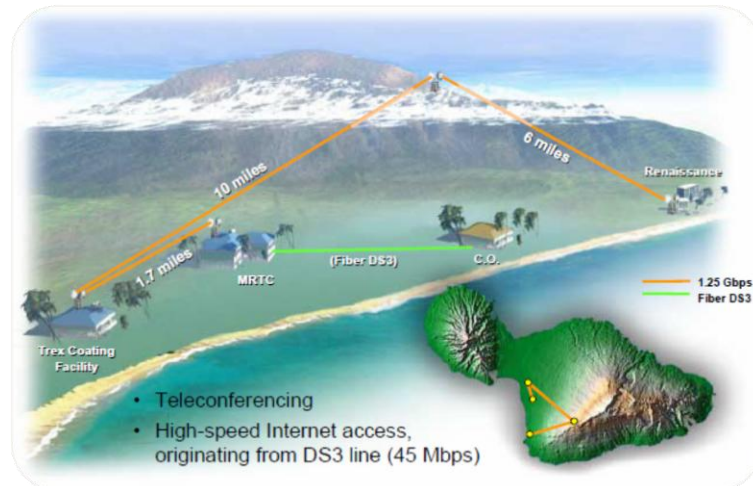
- Wireless infrastructure
- Satellite communications
- Fiberoptic communication
- ADAS

## RF power device market, in value – breakdown by technology

(Only considering RF power semiconductors above 3W, excluding such applications as mobile PAs)



Source: Yole Développement



# The WIN Strategy

**Invest in capacity to capture demand growth and improve margins through product remix**

**Scale & Remix**

**Technology Leadership**

**Invest in technologies to maintain competitive edge and sustain leadership**

**Leverage on technology and manufacture expertise to lift efficiency and drive cost down**

**Cost & Efficiency**

**Customer Diversification**

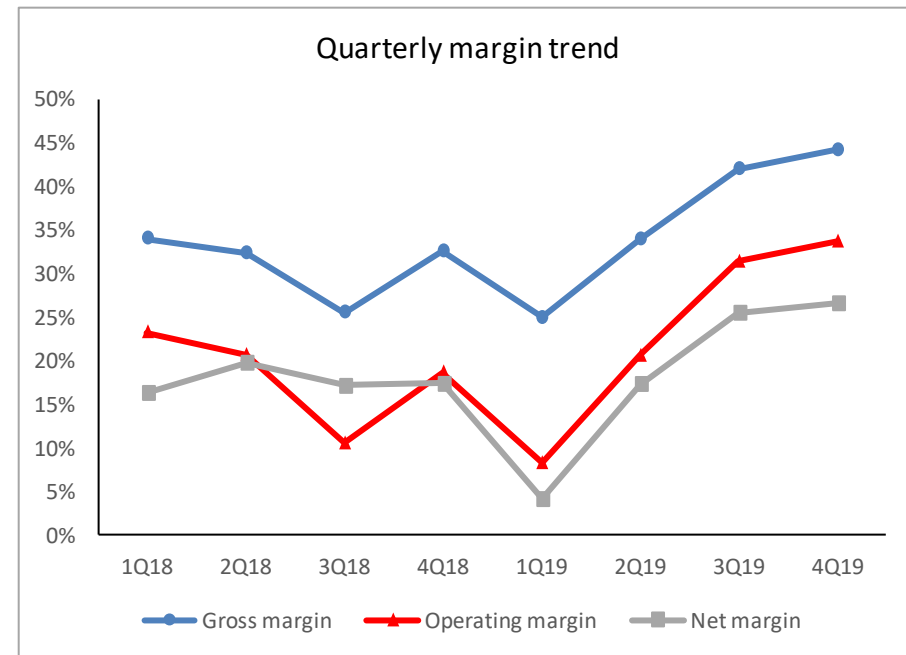
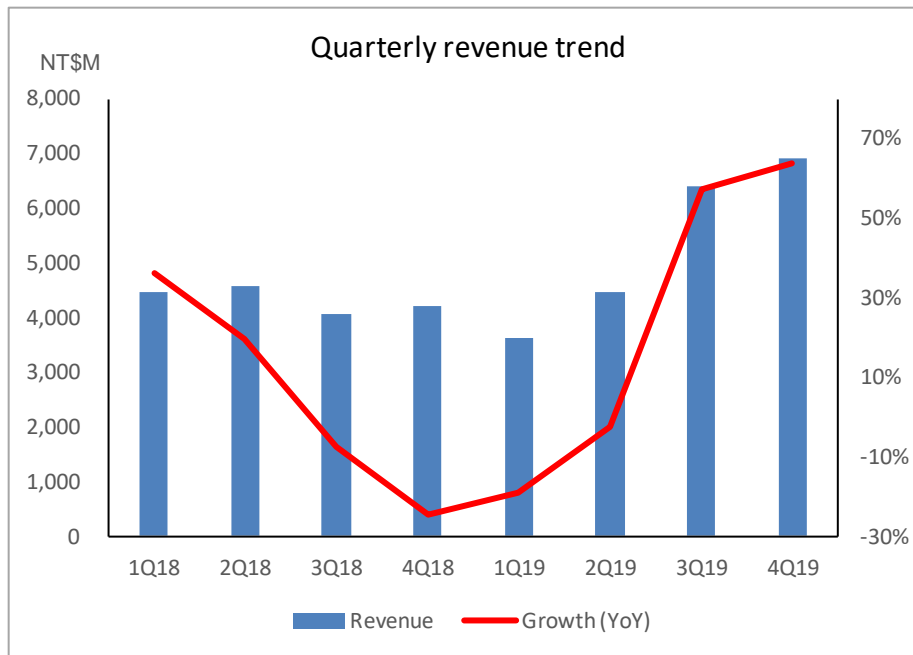
**Grow and acquire new customers in existing and new markets to diversify customer base**

# FINANCIAL REVIEW & GUIDANCE

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# Revenue & Margin Trend

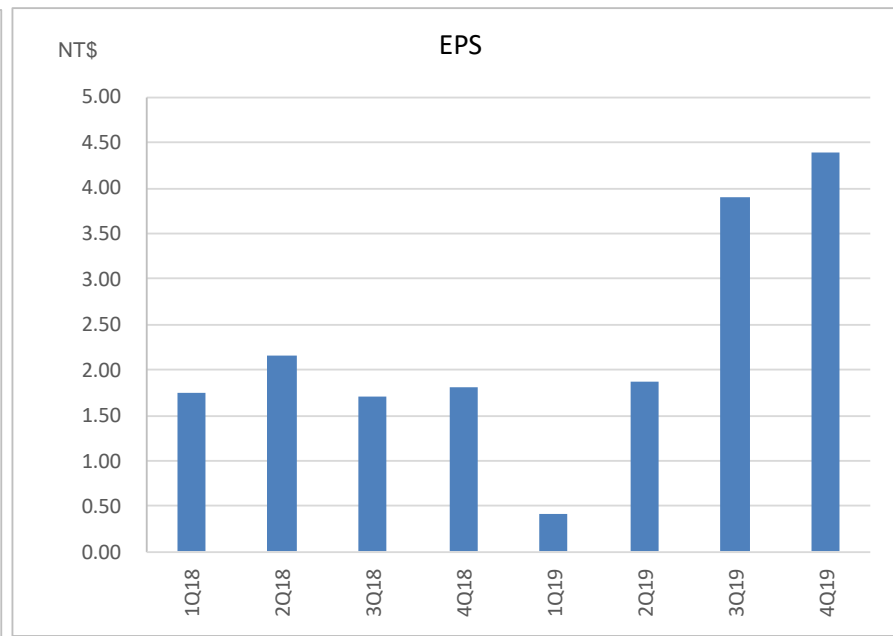
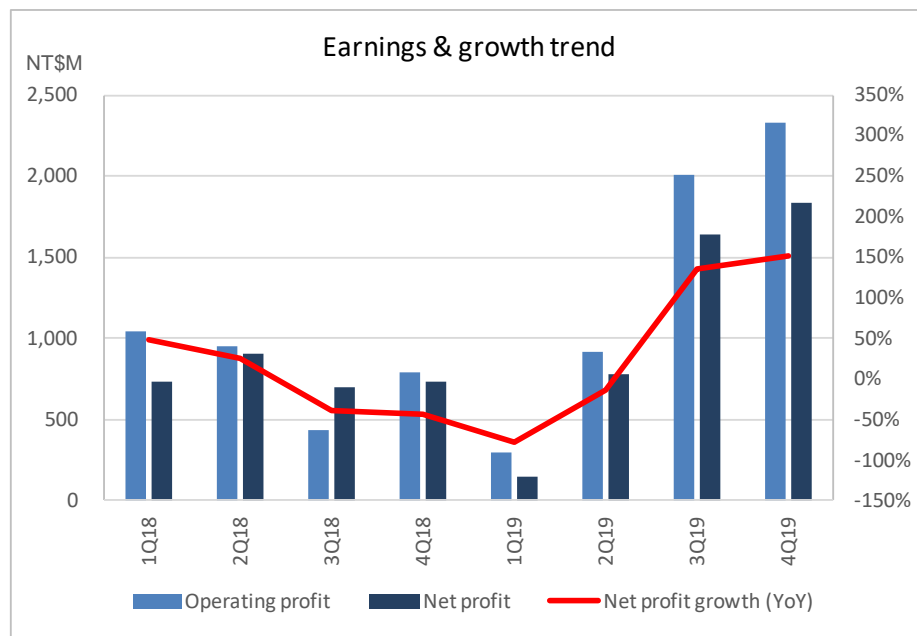
- 4Q19 revenue reached a record high at NT\$6,904m, up 8% QoQ and 64% YoY.
- In 4Q19, driven by higher utilization rate, gross margin and operating margin both set historical records for a single quarter. Gross margin increased by 2.1pp sequentially to 44.2%, and operating margin increased by 2.3pp sequentially to 33.7%.



Source: company.

# Earnings Trend

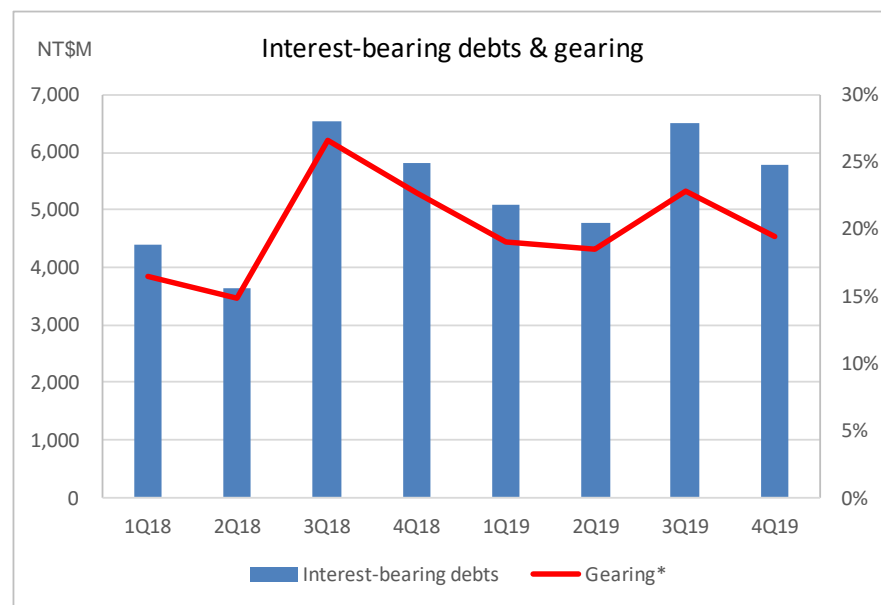
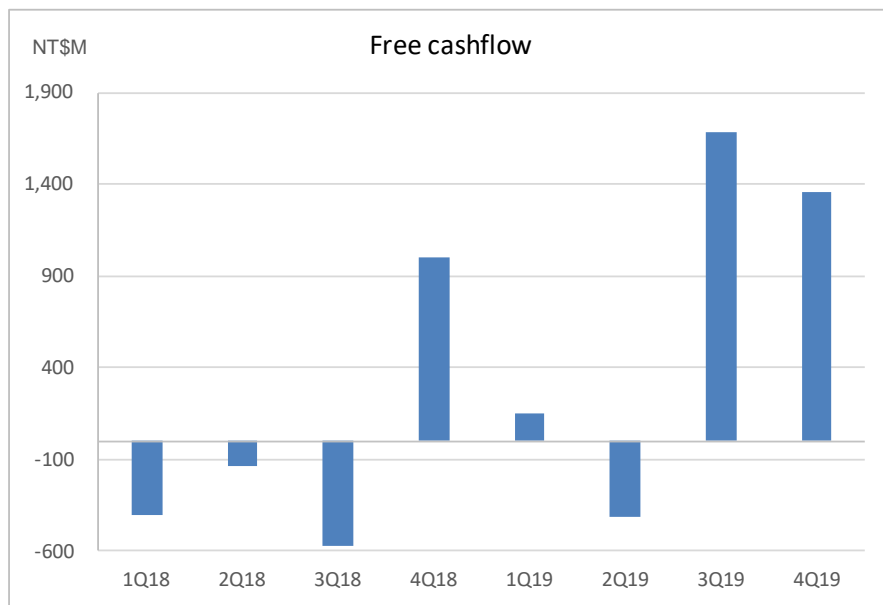
- In 4Q19, net profit and EPS both reached record highs. Net profit was NT\$1,840m, up 12% QoQ and 151% YoY. EPS came in at NT\$4.4, compares to NT\$3.9 in 3Q19.



Source: company.

# FCF & Gearing Trend

- In 4Q19, although our capex is higher than the previous quarter, we still had sufficient free cash flow.
- 4Q19 interest-bearing debts and gearing ratio both declined sequentially, indicating that our financial structure remained healthy.

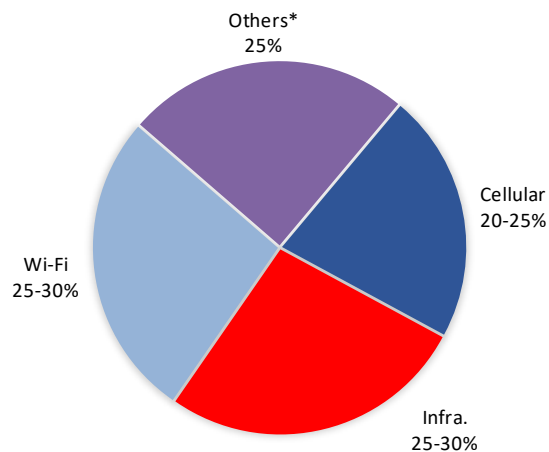


\* Gearing = interest-bearing debts / equity

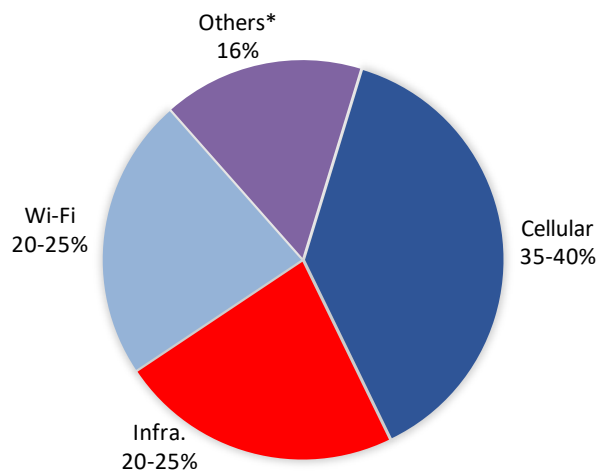
Source: company.

# Product Mix

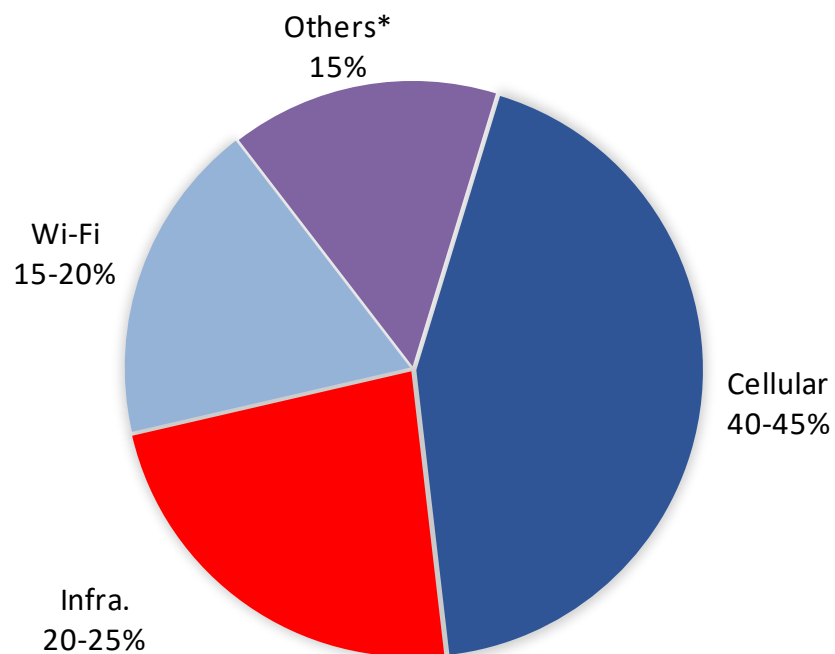
**4Q18**



**3Q19**



**4Q19**



\* Others: Revenue not attributable to main product segments and additional revenue being consolidated in accordance with IFRS.

Source: company.

# 1Q20 Guidance



- We expect 1Q20 revenue to decline low-teens QoQ.
- We expect 1Q20 gross margin to be around the level of low-forties.



# **APPENDIX - FINANCIAL SUMMARY**

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# Consolidated Statements of Comprehensive Income - Quarterly

Unit: NTD Million	4Q'18	3Q'19	4Q'19 (unaudited)	QoQ	YoY
<b>Net revenue</b>	<b>4,214</b>	<b>6,404</b>	<b>6,904</b>	<b>+8%</b>	<b>+64%</b>
Gross profit	1,374	2,693	3,052	+13%	+122%
<i>Gross margin (%)</i>	<i>32.6%</i>	<i>42.1%</i>	<i>44.2%</i>		
Operating expenses	(585)	(681)	(723)	+6%	+24%
<i>Operating expenses rate (%)</i>	<i>-14%</i>	<i>-11%</i>	<i>-10%</i>		
<b>Operating income</b>	<b>789</b>	<b>2,012</b>	<b>2,329</b>	<b>+16%</b>	<b>+195%</b>
<i>Operating margin (%)</i>	<i>18.7%</i>	<i>31.4%</i>	<i>33.7%</i>		
Non-operating incomes and expenses	72	(29)	(110)		
Income before income tax	861	1,983	2,219	+12%	+158%
Income tax expense	(128)	(346)	(379)		
<b>Net income</b>	<b>733</b>	<b>1,637</b>	<b>1,840</b>	<b>+12%</b>	<b>+151%</b>
<i>Net margin (%)</i>	<i>17.4%</i>	<i>25.6%</i>	<i>26.6%</i>		
<b>EPS (NT\$)</b>	<b>1.80</b>	<b>3.90</b>	<b>4.40</b>	<b>+13%</b>	<b>+144%</b>
Other comprehensive income, net	(226)	1,031	(535)		
<b>Comprehensive income</b>	<b>507</b>	<b>2,668</b>	<b>1,304</b>	<b>-51%</b>	<b>+157%</b>
ROE(%)	12%	24%	25%		
Approx. Utilization (%)	55%	95%	100%		
Depreciation	839	809	871		
CAPEX	838	1,116	1,701		

# Consolidated Statements of Comprehensive Income - YTD

Unit: NTD Million	2018Y	2019Y (unaudited)	YoY
<b>Net revenue</b>	<b>17,311</b>	<b>21,378</b>	<b>+23%</b>
Gross profit	5,415	8,161	+51%
<i>Gross margin (%)</i>	<i>31.3%</i>	<i>38.2%</i>	
Operating expenses	(2,210)	(2,602)	+18%
<i>Operating expenses rate (%)</i>	<i>-13%</i>	<i>-12%</i>	
<b>Operating income</b>	<b>3,205</b>	<b>5,559</b>	<b>+73%</b>
<i>Operating margin (%)</i>	<i>18.5%</i>	<i>26.0%</i>	
Non-operating incomes and expenses	529	(165)	
Income before income tax	3,735	5,393	+44%
Income tax expense	(669)	(993)	
<b>Net income</b>	<b>3,066</b>	<b>4,401</b>	<b>+44%</b>
<i>Net margin (%)</i>	<i>17.7%</i>	<i>20.6%</i>	
<b>EPS (NT\$)</b>	<b>7.39</b>	<b>10.59</b>	<b>+43%</b>
Other comprehensive income, net	(366)	1,970	
<b>Comprehensive income</b>	<b>2,700</b>	<b>6,371</b>	<b>+136%</b>
ROE(%)	12%	16%	
Approx. Utilization (%)	70%	80%	
Depreciation	3,159	3,348	
CAPEX	5,592	5,306	

# Non-operating Items

Unit: NTD Million	4Q'18	4Q'19 (unaudited)	2018Y	2019Y (unaudited)
Foreign exchange gains (losses)	21	(138)	129	(75)
Gains (losses) on disposals of property, plant and equipment	2	(87) (註)	2	(376) (註)
Gains (losses) on disposals of investments	11	208	286	256
Gains on financial assets (liabilities) at fair value through profit or loss, net	56	(128)	(32)	(60)
Share of loss of associates and joint ventures accounted for using equity method	(61)	(6)	(110)	(201)
Others	42	40	254	291
<b>Total</b>	<b>72</b>	<b>(110)</b>	<b>529</b>	<b>(165)</b>

(Note) We acquired the manufacturing equipment from our large customer Avago's all HBT production lines in 1H19. The loss was mainly due to the disposal of some unserviceable machines in 2H19.

# Consolidated Balance Sheets

(Unit: NTD Million)	Major Item	2018/12/31		2019/9/30		2019/12/31 (unaudited)	
		\$	%	\$	%	\$	%
	Cash and cash equivalents	5,462	15%	4,993	12%	5,926	14%
	Current financial assets at fair value through profit or loss	103	0.3%	720	1.8%	507	1.2%
	Notes and accounts receivable, net	1,422	4%	2,220	5%	2,407	6%
	Inventories	3,907	11%	4,364	11%	4,389	10%
	Long-term investments	3,641	10%	6,191	15%	5,655	13%
	Net property, plant and equipment	19,633	55%	20,432	50%	21,405	51%
	<b>Total Assets</b>	<b>35,460</b>	<b>100%</b>	<b>40,580</b>	<b>100%</b>	<b>42,126</b>	<b>100%</b>
	Current liabilities	3,828		4,971		5,976	
	Long-term borrowings	5,803		6,521		5,788	
	<b>Total Liabilities</b>	<b>9,855</b>	<b>28%</b>	<b>12,024</b>	<b>30%</b>	<b>12,287</b>	<b>29%</b>
	Common stock	4,238		4,241		4,241	
	Total equity attributable to owners of parent	25,380		28,427		29,657	
	<b>Total Equity</b>	<b>25,604</b>	<b>72%</b>	<b>28,557</b>	<b>70%</b>	<b>29,840</b>	<b>71%</b>
	Book value per share (NT\$) <sup>1</sup>	59.88		67.04		69.94	
	<b>Key Indices</b>						
	Current ratio ( <i>Current assets / Current liabilities</i> )	296%		253%		228%	
	Debt ratio ( <i>Total liabilities / Total assets</i> )	28%		30%		29%	

<sup>1</sup> Book value per share = total equity attributable to owners of parent / number of common shares

# Q & A

For more information regarding WIN  
[www.winfoundry.com](http://www.winfoundry.com)

For all inquiries, suggestions, and comments  
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