



WIN Semiconductors

*Compound Semiconductor Solutions
From RF to Light-Wave*

Company Presentation



March 2017

- *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.*

Outline

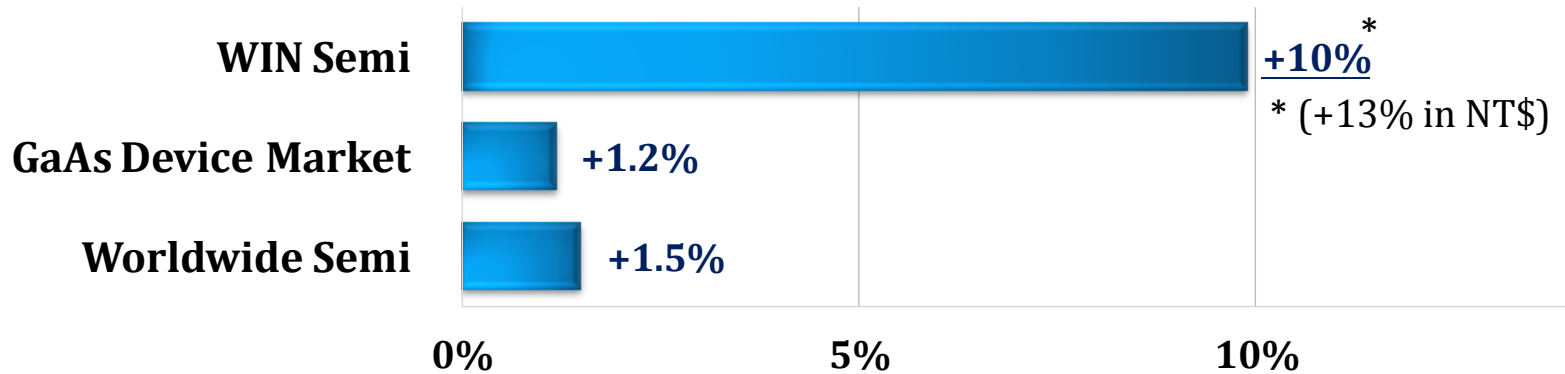
- ✓ **Market Outlook**
- ✓ **Technology**
- ✓ **The WIN Strategy**
- ✓ **Financial Review & Guidance**
- ✓ **Q&A**

Market Outlook

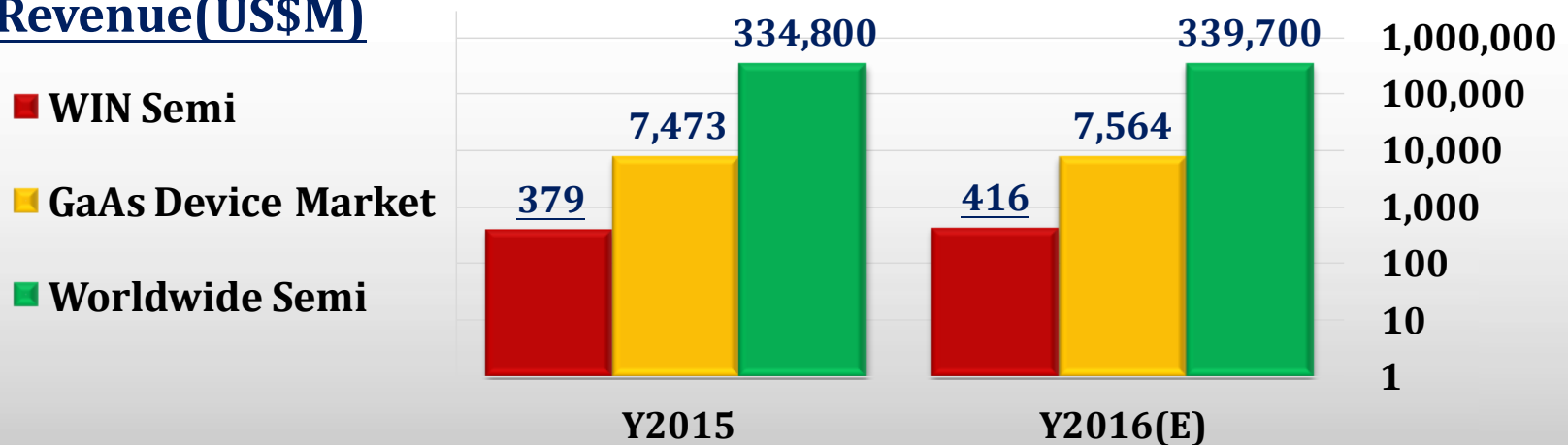
Semiconductor Revenue Growth



Y2016 Revenue Growth Rate



Revenue(US\$M)



Source : (1) Worldwide Semiconductors Revenue_Gartner_2017.Jan.
 (2) GaAs Device Forecast and Outlook_Strategy Analytics_2016.Sep.

Summary of Growth Momentum



**Smartphone
MIMO**



**Wireless
Infrastructure**



**Optical
Devices**



Vehicle to Vehicle

V2V, V2X



**Pre-5G Network
5G Network**

Near Term

1. Rapid increase of 5/6-mode smartphones
2. Strong WiFi adoption in smartphones, routers, and IoT devices
3. Strong infrastructure growth

Mid Term

1. Pre-5G launch (sub 6GHz)
2. Cellular MIMO CA
3. Automobile connectivity
4. Optical Devices

Long Term

1. 5G launch for broadband satellite, dense cells, ...
2. 5G launch along with massive IoT deployment

Cellular PA



- Global total frequency band count continues to increase (2016-2019 CAGR=17%)
- Rapid adoption of 5/6-mode smartphone (45% of total smartphone)
- Performance requirement continues to increase
 - CA, ET, PAE, higher frequency, higher output power

WiFi

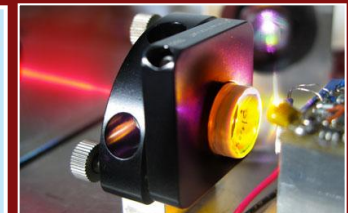


- Flagship phones adopt dual band (2G/5G) MIMO
- Mid/low-end phones start to adopt 5G band and MIMO
 - trend to include 5GHz 11ac Wi-Fi in China made smartphones
- Router and IoT gateway (e.g. 8x MIMO) markets are rapidly increasing

Non-handset



- Satellite communication Ku/Ka bands
- Fiberoptics is moving toward 25Gbps, 40Gbps, and even >50Gbps per channel
- Point-to-point radio
- Optical devices:
 - 3D sensing, depth camera



Cellular / Wi-Fi



- Continue to move toward higher frequency (sub 6GHz) as the pre-5G
- Cellular MIMO CA
- MU-MIMO enabled Wi-Fi chipset shipments (2017-2019 CAGR >60%)

Non-handset



- V2X; V2V (e.g. 5.9GHz) :
 - V2V DSRC will rapid ramp-up from 2018 to 2021 (CAGR 115%)
- Broadband satellite communication using Ku/Ka bands

Optical Device



- LD and PIN diodes for 2.5/10/25Gbps
- VCSEL for LiDAR (anti-collision and self-driving cars)

Long Term 5G Opportunities

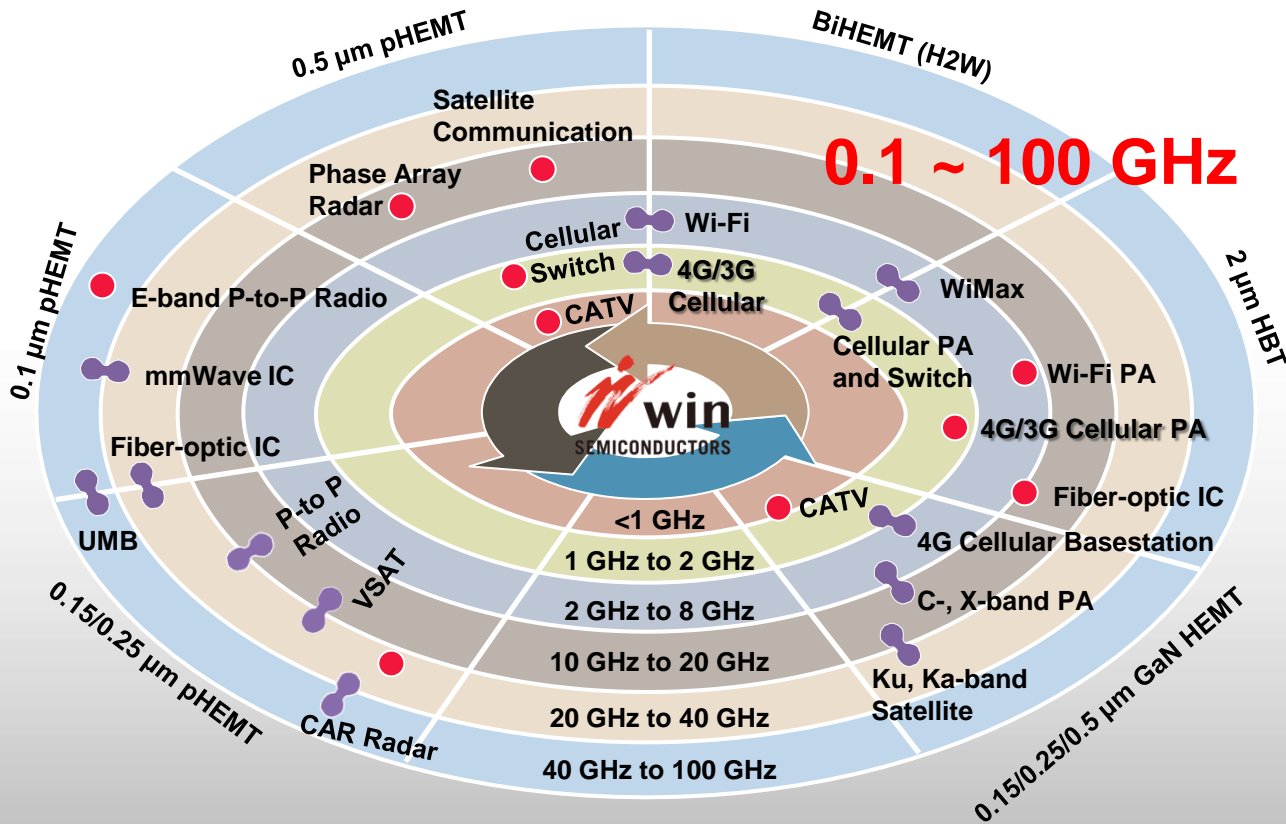
- 5G sub-6GHz (<6GHz) spectrum bands for ubiquitous network coverage
- 5G mmWave (~30GHz) likely for fixed wireless access as a start followed by extreme mobile broadband in the longer term

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

Technology

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 μm pHEMT on 6" GaAs wafer
- ✓ Industry leading 0.15–0.25 μm pHEMT technology
- ✓ Supports broad range of products such as PAs (from 50MHz–100GHz), switches, and fiber optic IC
- ✓ Developing GaN for high power devices (4G base station)

Unlike Si semiconductor technology in the digital world focuses on gate/line dimension shrinkage, the RF technology roadmap focuses on the following perspectives:

• Better Performance

GaAs vs CMOS

✓ Higher power efficiency → Longer battery power



✓ Better linearity → Faster speed



✓ Lower noise → Better quality of signal



• Higher Functionality Integration

WIN provides all of the GaAs solution for the above!

WiFi FEM : PA + LNA + Switch + Logic

BiHEMT = HBT + E/D pHEMT

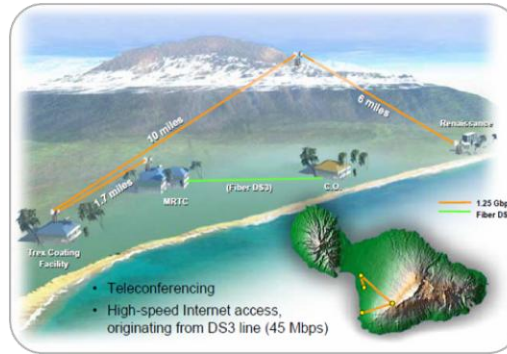
PA + LNA/Switch/Logic

PA/LNA/Switch/Logic

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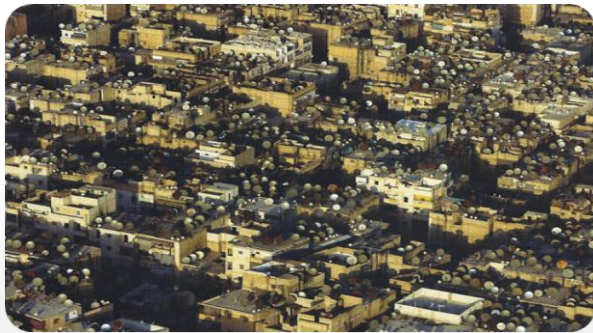
Cu Pillar Bump Flip Chip

WIN 0.25/0.15/0.10 μ m pHEMT Inside!



Ultra high frequency semiconductor technology provider!

Satellite Communications, Fiber optic Communication, Wireless infrastructure ...



The WIN Strategy

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

Scale & Remix

Invest in technologies to maintain competitive edge and sustain leadership

Technology Leadership

Cost & Efficiency

Customer Diversification

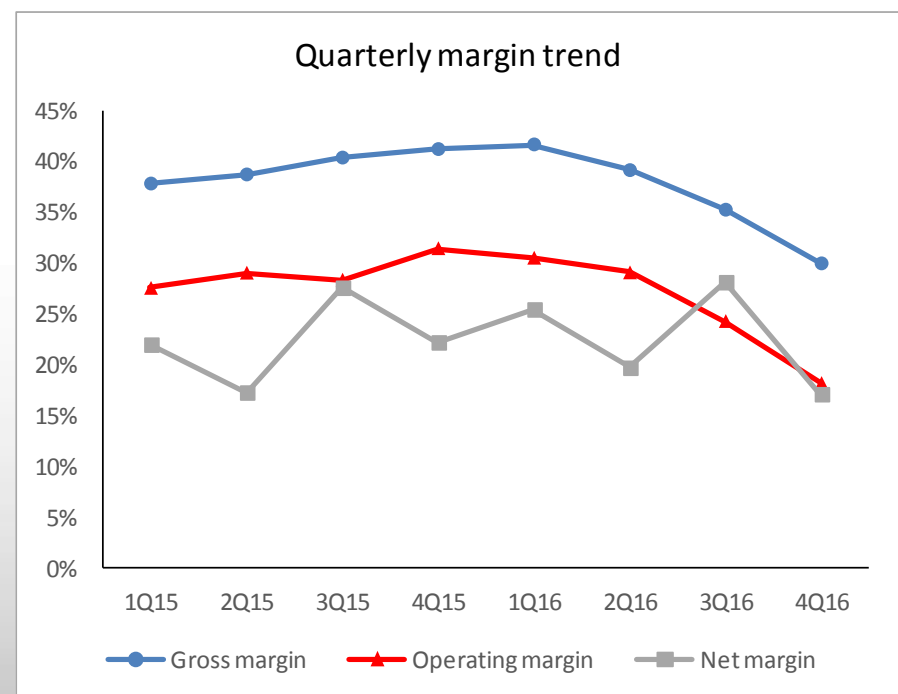
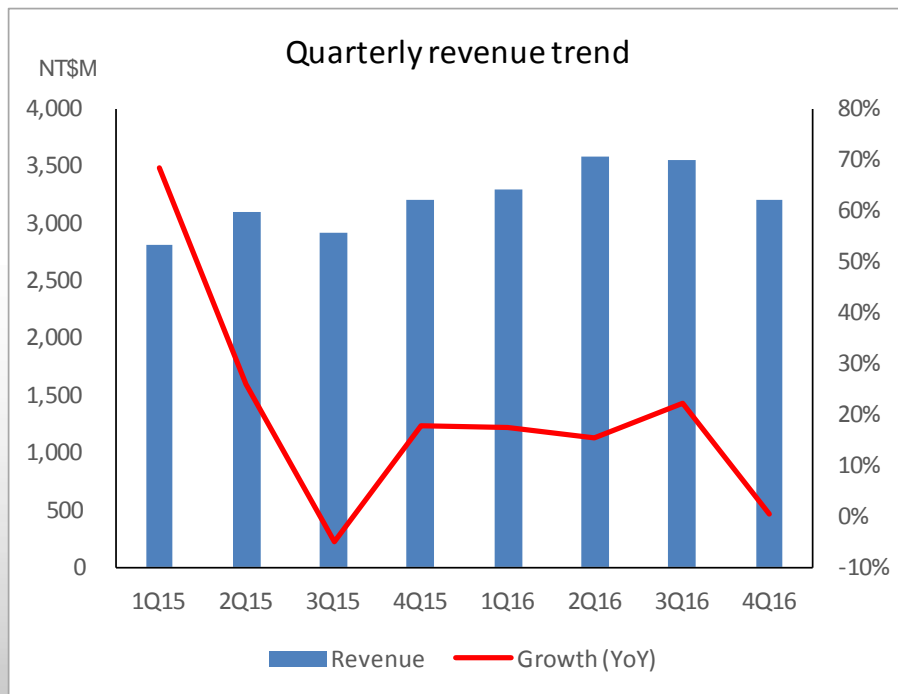
Leverage on technology and manufacture expertise to lift efficiency and drive cost down

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

Financial Review & Guidance

Revenue & Margin Trend

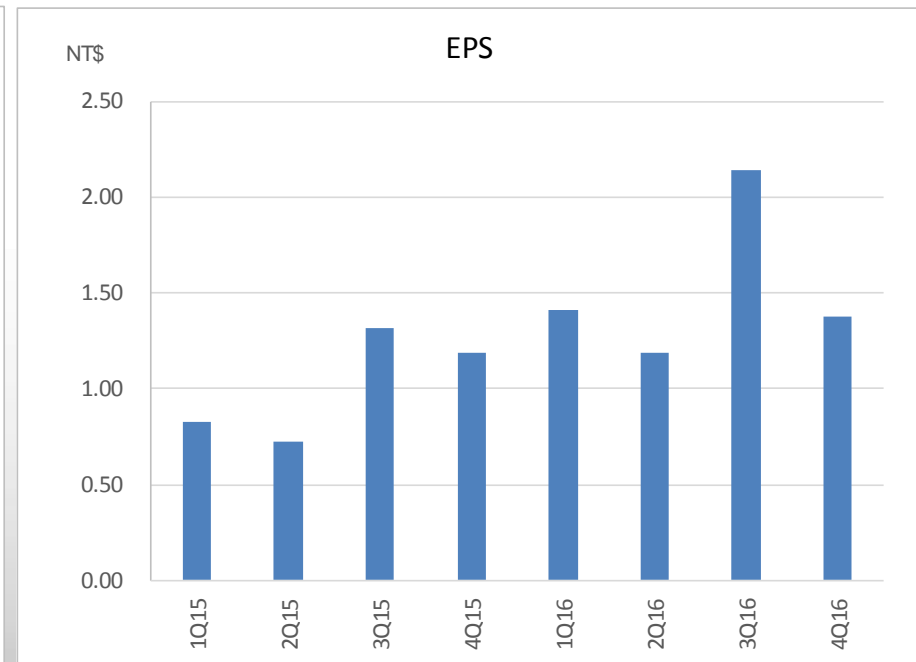
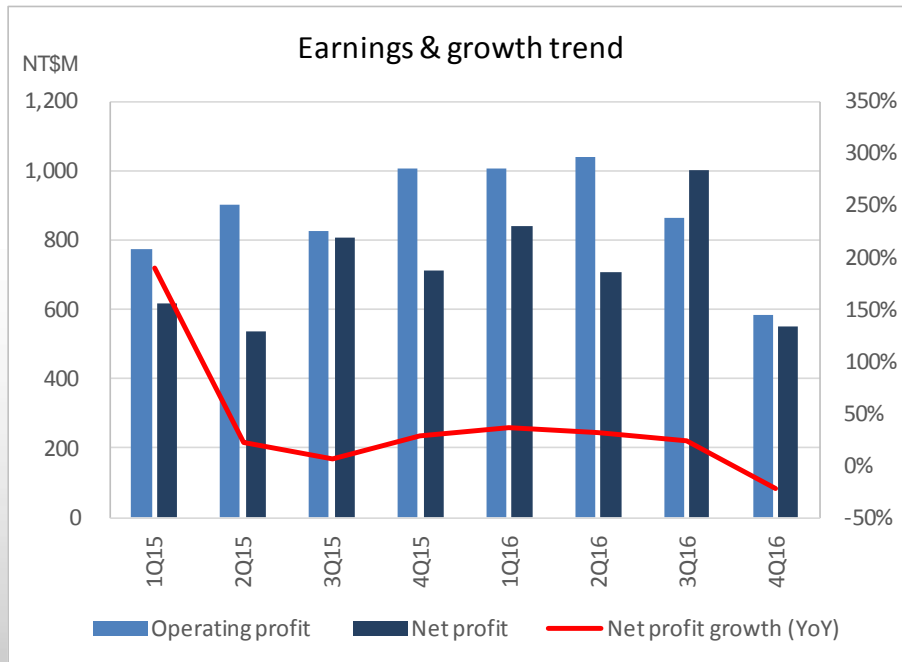
- 4Q16 revenue, reflecting traditional seasonality, declined 10% QoQ but increased 0.3% YoY.
- 4Q16 GM and OPM were 30% and 18.2%, respectively, with sequential decline of 5.3 and 6.1 pp. This was mainly due to the decline in capacity utilization, gold inventory valuation loss from the decline of gold prices, and the valuation impact for the items newly-consolidated into the consolidated financial report in accordance with IFRS.



Source: company.

Earnings Trend

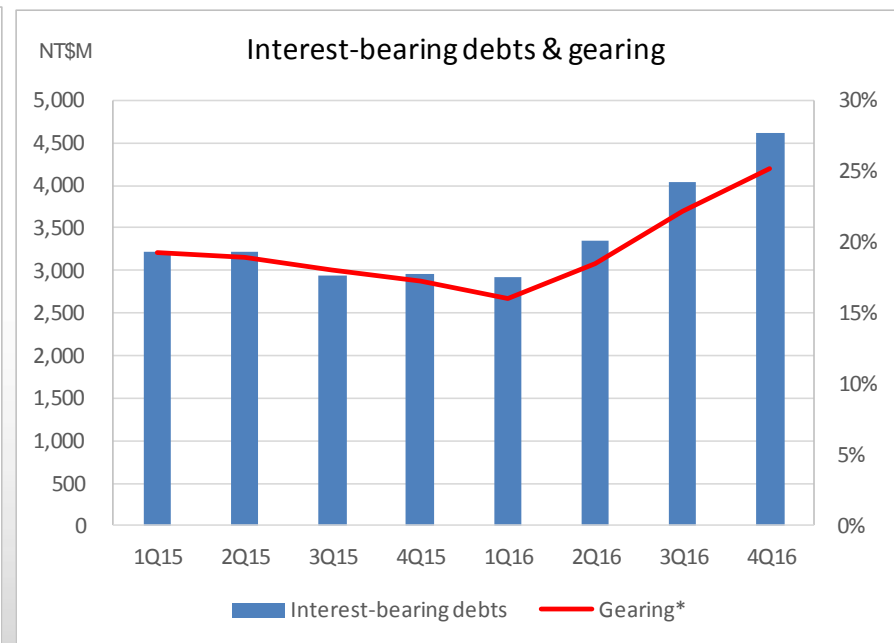
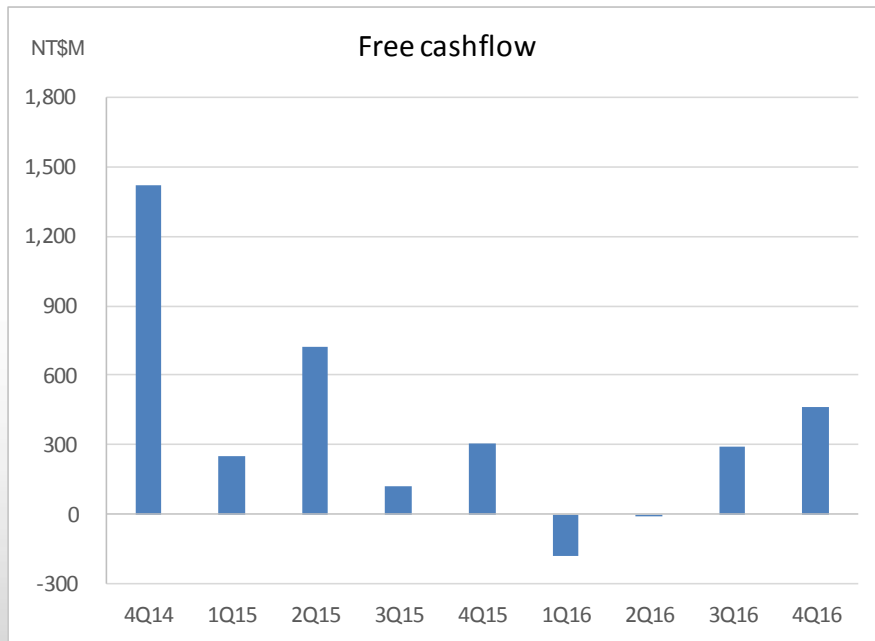
- 4Q16 net profit was NT\$550mn, down 45% QoQ and down 23% YoY. The sequential decline was due to the decline of non-op gain to NT\$61mn in 4Q16 from NT\$284mn in 3Q16. EPS came in at NT\$1.38, compared to NT\$2.14 in 3Q16



Source: company.

FCF & Gearing Trend

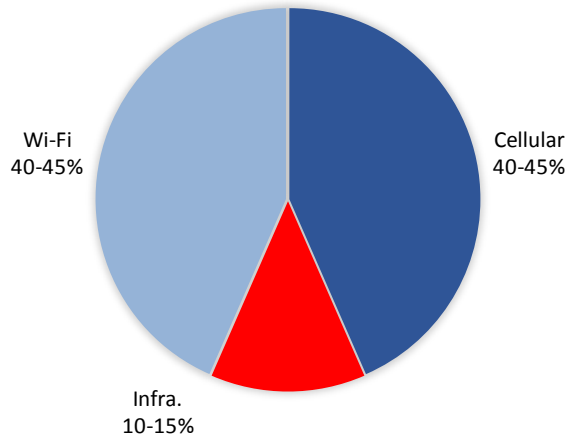
- Although 4Q16 capex remains high, free cash flow has materially improved in the quarter.
- Interest-bearing debts and gearing ratio modestly increased, as we moderately increase leverage while maintaining a healthy financial structure.



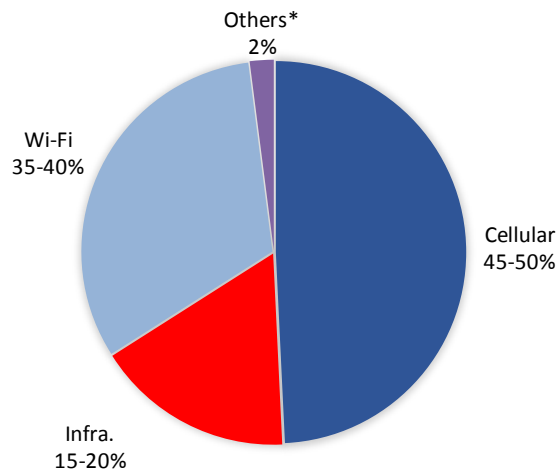
* Gearing = interest-bearing debts / equity
Source: company.

Product Mix

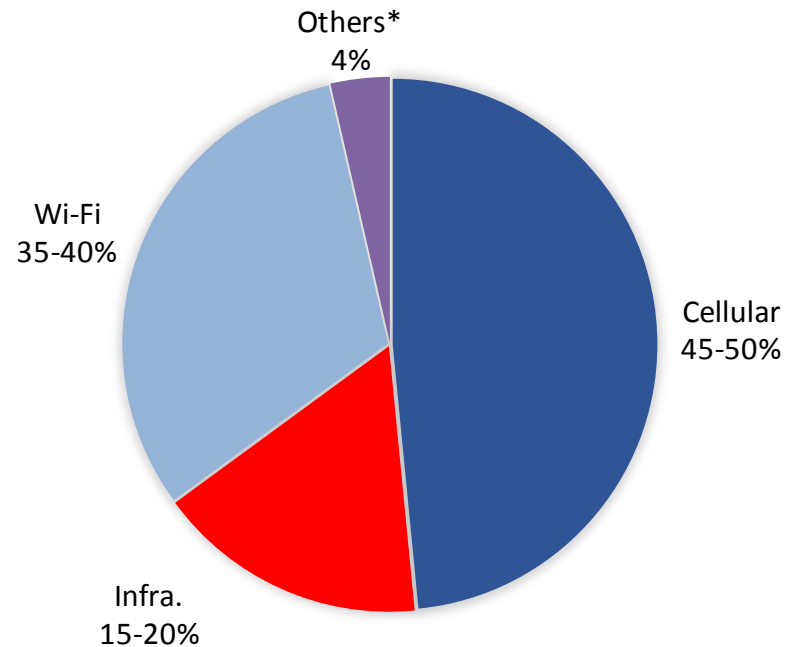
4Q15



3Q16



4Q16



* Others: additional revenue being consolidated in accordance with IFRS

Source: company.

1Q17 Guidance



- We expect 1Q17 revenue to be flat at the 4Q16 level.
- We expect 1Q17 gross margin to be better than the 4Q16 level.

Appendix - Financial Summary

Consolidated Statements of Comprehensive Income - Quarterly



Unit: NTD Million	4Q'15	3Q'16	4Q'16 (unaudited)	QoQ	YoY
Net revenue	3,197	3,553	3,206	-10%	+0.3%
Gross profit	1,319	1,254	962	-23%	-27%
<i>Gross margin (%)</i>	41.3%	35.3%	30.0%		
Operating expenses	(312)	(390)	(395)	+1%	+27%
<i>Operating expenses rate (%)</i>	-10%	-11%	-12%		
Other revenue and expenses	-	-	17		
Operating income	1,007	864	584	-32%	-42%
<i>Operating margin (%)</i>	31.5%	24.3%	18.2%		
Non-operating incomes and expenses	(122)	284	61		
Income before income tax	885	1,148	645	-44%	-27%
Income tax expense	(173)	(146)	(95)		
Net income	711	1,001	550	-45%	-23%
<i>Net margin (%)</i>	22.3%	28.2%	17.1%		
EPS (NT\$)	1.19	2.14	1.38	-36%	+16%
Other comprehensive income, net	156	69	(72)		
Comprehensive income	867	1,071	478	-55%	-45%
ROE(%)	17%	22%	12%		
Approx. Utilization (%)	90%	90%	80%		
Depreciation	487	637	636		
CAPEX	1,706	861	691		

Consolidated Statements of Comprehensive Income - YTD

Unit: NTD Million	2015	2016 (unaudited)	YoY
Net revenue	12,016	13,623	+13%
Gross profit	4,761	4,989	+5%
<i>Gross margin (%)</i>	39.6%	36.6%	
Operating expenses	(1,251)	(1,512)	+21%
<i>Operating expenses rate (%)</i>	-10%	-10%	
Other revenue and expenses	-	17	
Operating income	3,510	3,495	-0.4%
<i>Operating margin (%)</i>	29.2%	25.7%	
Non-operating incomes and expenses	(77)	393	
Income before income tax	3,434	3,888	+13%
Income tax expense	(762)	(791)	
Net income	2,672	3,096	+16%
<i>Net margin (%)</i>	22.2%	22.7%	
EPS (NT\$)			
EPS based on full year weighted-average outstanding shares*	3.97	6.04	+52%
EPS based on issued shares of 596 million as of Dec. 31, 2015 and 408 million as of Dec. 31, 2016	4.48	7.60	
Other comprehensive income, net	157	341	
Comprehensive income	2,828	3,437	+22%
ROE(%)	16%	17%	
Approx. Utilization (%)	85%	85%	
Depreciation	1,899	2,338	
CAPEX	3,493	3,226	

* Outstanding shares for full-year 2015 were 672 million

Outstanding shares for full-year 2016 were 516 million (excluding the un-canceled treasury shares of 3.92 million at period end)

Non-operating Items

Unit: NTD Million

	4Q'15	4Q'16 (unaudited)	2015	2016 (unaudited)
Foreign exchange gains (losses)	7	69	67	(16)
Gains (losses) on disposals of property, plant and equipment	1	(0)	1.8	(3)
Gains (losses) on disposals of investments	(17)	(1)	(13)	227
Gains on financial assets (liabilities) at fair value through profit or loss, net	3	(4)	(2)	14
Share of loss of associates and joint ventures accounted for using equity	(63)	(25)	(106)	(43)
Impairment loss on financial assets	(53)	-	(53)	-
Others	(0)	21	30	213
Total	(122)	61	(77)	393

Consolidated Balance Sheets

(Unit: NTD Million)	Major Item	2015/12/31		2016/9/30		2016/12/31 (unaudited)	
		\$	%	\$	%	\$	%
	Cash and cash equivalents	1,870	8%	1,813	7%	2,388	9%
	Current financial assets at fair value through profit or	1,015	4%	193	1%	218	1%
	Current available-for-sale financial assets	630	3%	922	4%	975	4%
	Notes and accounts receivable, net	700	3%	960	4%	1,069	4%
	Inventories	2,471	10%	2,569	10%	2,727	10%
	Long-term investments	2,086	9%	2,066	8%	2,034	8%
	Net property, plant and equipment	14,845	62%	15,889	63%	16,081	61%
	Total Assets	24,111	100%	25,306	100%	26,411	100%
	Current liabilities	4,606		4,048		4,194	
	Long-term borrowings	2,099		2,858		3,674	
	Total Liabilities	6,902	29%	7,119	28%	8,093	31%
	Common stock	5,966		4,077		4,077	
	Total Equity	17,209	71%	18,188	72%	18,318	69%
	Book value per share (NT\$)	28.85		44.61		44.93	
	Key Indices						
	Current ratio (<i>Current assets / Current liabilities</i>)	152%		171%		186%	
	Debt ratio (<i>Total liabilities / Total assets</i>)	29%		28%		31%	

Q & A

For more information regarding WIN
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