



Leading the
Global Communication
SEMICONDUCTORS



WIN Semiconductors

Wireless • Information • Networking



Company Presentation

February 2013

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.

Outline

- ✓ Corporate Strategy
- ✓ Company Overview
- ✓ Market and Industry Dynamics
- ✓ Competition from Silicon
- ✓ Summary
- ✓ Q&A

The WIN Strategy



A

Invest in capacity to capture market growth and maintain leadership

Scale

Technology

B

Invest in technology to maintain competitive edge and penetrate into new markets

Cost & Efficiency

Customers

D

Leverage on technology and manufacturing expertise for continuous cost & efficiency improvement

C

Grow and acquire new customer base in existing and new markets

Company Overview

Corporate Profile



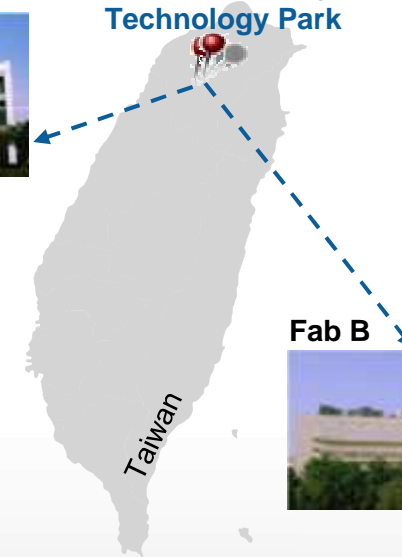
- **Founded in Oct. 1999, Taipei, Taiwan**
- **Listed on GTSM on Dec. 13, 2011 (Code: 3105)**
- **~1,500 employees worldwide**
- **Two installed 6-inch GaAs (Gallium Arsenide) fabs with monthly capacity of 22,500 wafers**
- **The largest pure-play GaAs wafer foundry service provider in the world (54% market share in GaAs foundry as of Dec 2011)**
- **Manufacturing semiconductor chips for wireless communication — delivered 2.2bn RF chips for wireless communications in 2011**

Volume Production Sites

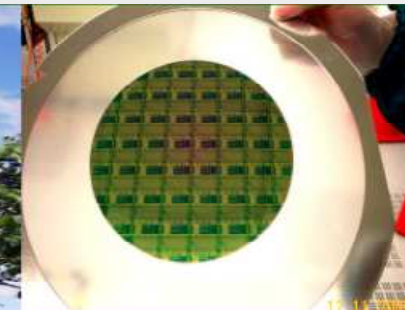
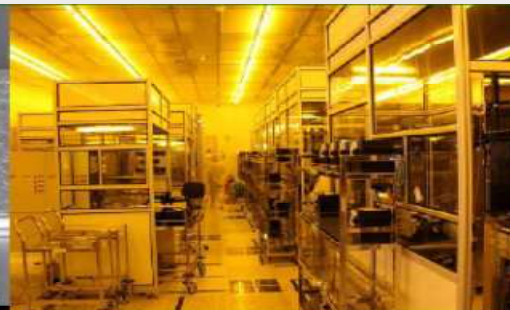
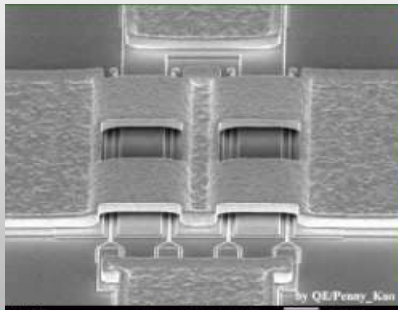
Fab A



Kuei Shan Hwaya Technology Park



Fab B



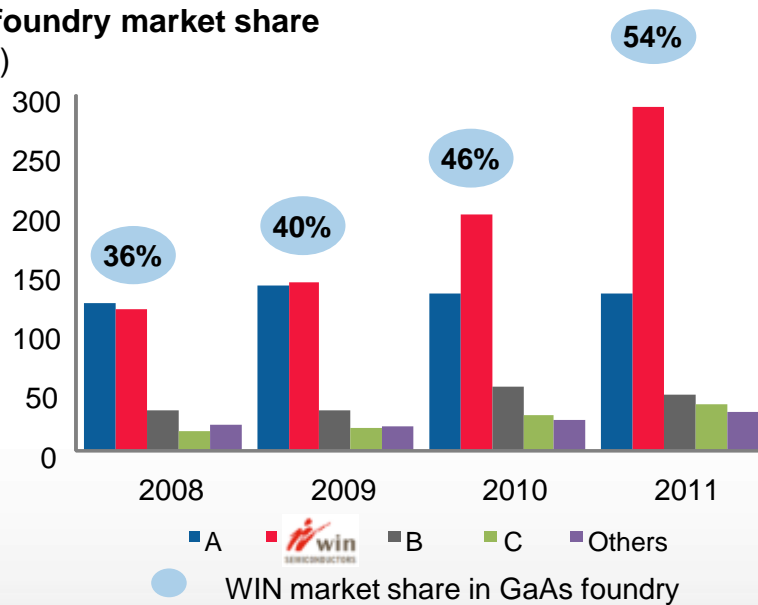
Industry Leading GaAs Foundry with Strong Growth Momentum



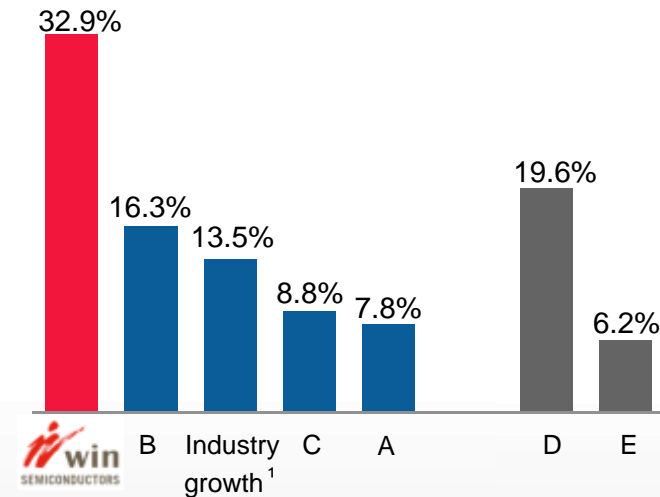
#1 Largest GaAs semiconductor foundry in the world

#1 Fastest growing GaAs and foundry player

GaAs foundry market share (US\$M)



Net revenue growth (CAGR in 2009–2012)



- ✓ Fastest growing semiconductor foundry with consistent share gains
- ✓ Shipped approximately 2.2bn chips, accounting for 20% of worldwide demand
- ✓ Pure-play conflict-free model attracts both IDMs and fabless customers

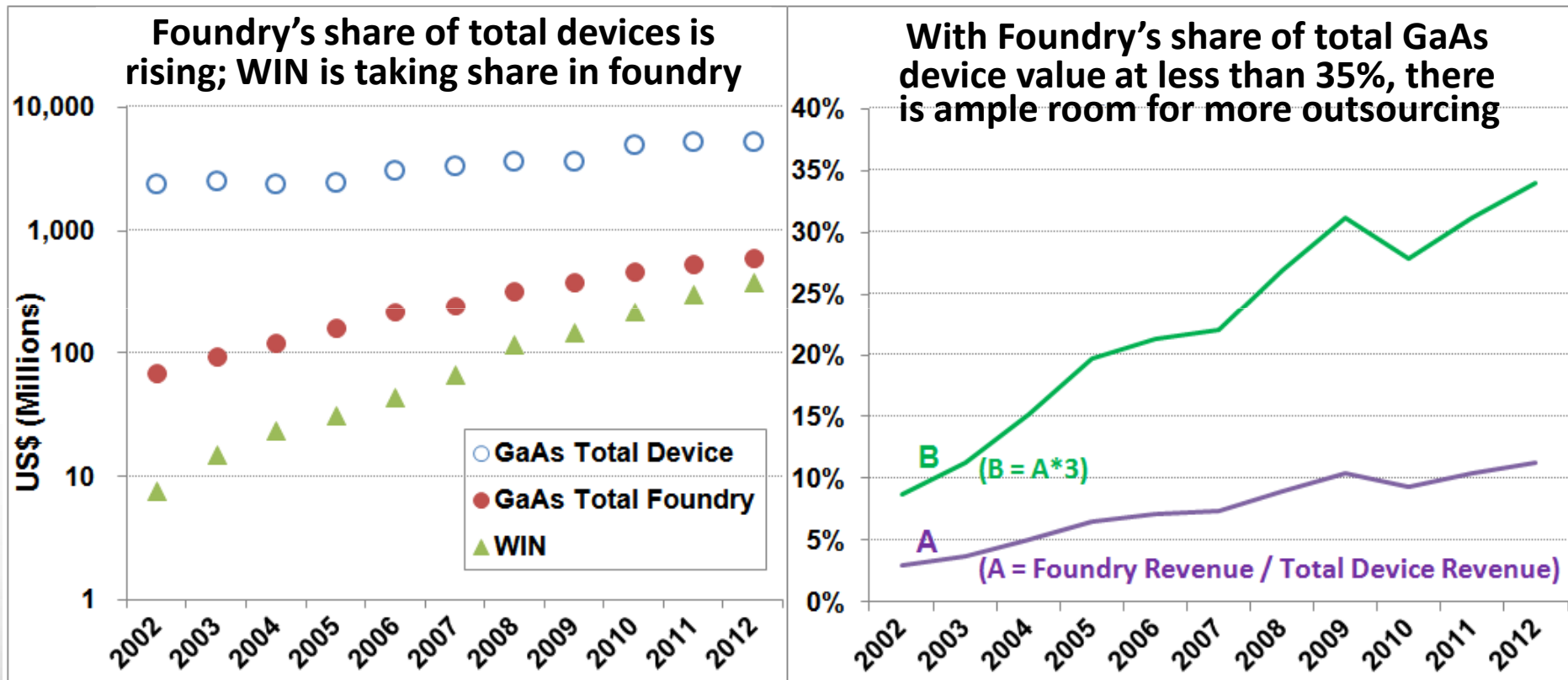
Note 1: Industry growth represents GaAs foundry industry growth

Source: Strategy Analytics, Company filings, management estimates

Taking Share in a Growing Market



Secular growth in GaAs demand, secular increase in outsourcing to foundry



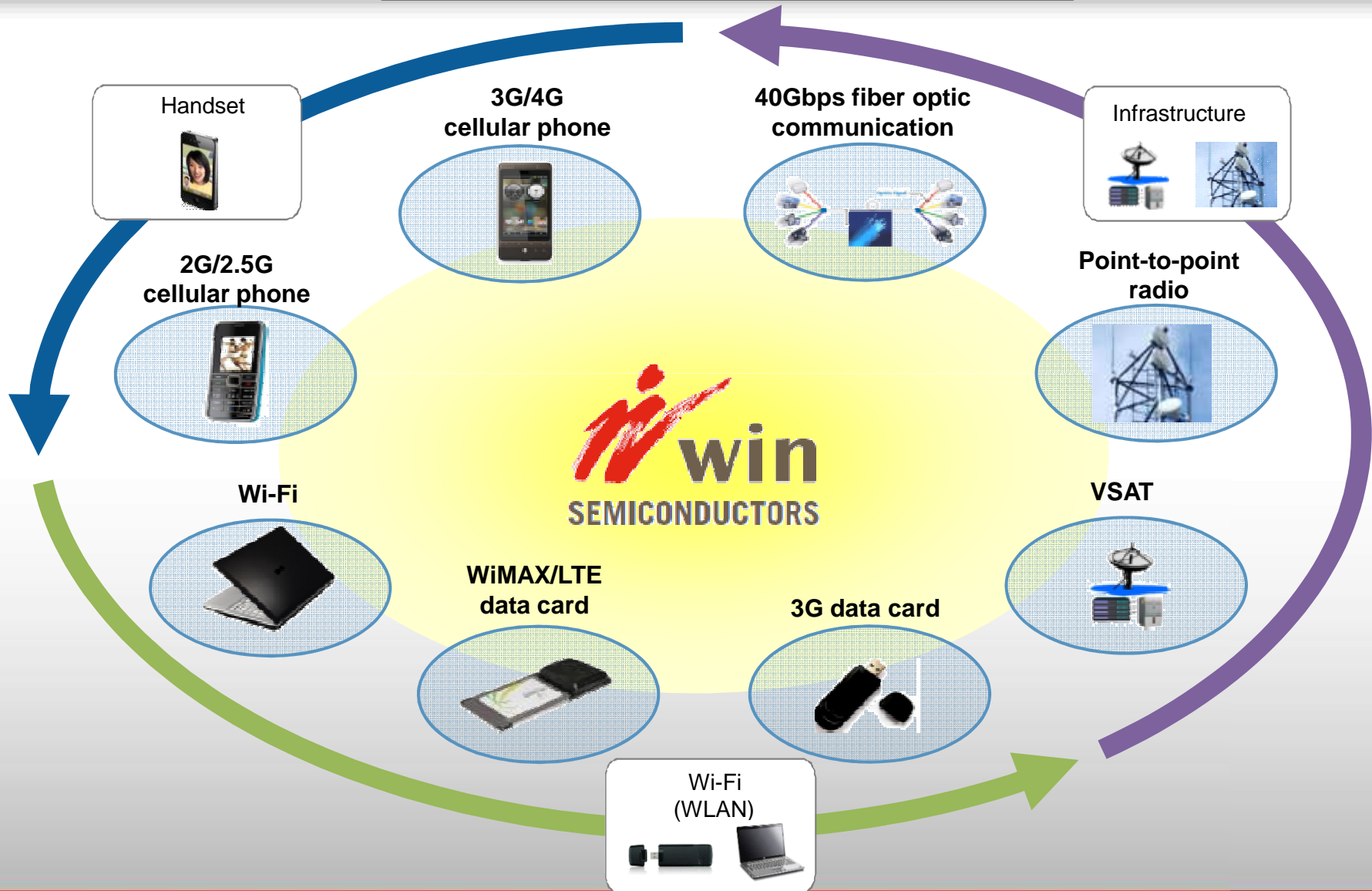
Note: WIN's total share of the GaAs foundry market was estimated at 54% as of Dec. 2011. It appears higher on this chart due to the use of geometric scale on the y-axis.

Note: Indicator B is the estimated revenue from finished products delivered from foundry wafers. WIN estimates this revenue to be 3 times the foundry wafer revenue.

Compound Semiconductor Applications



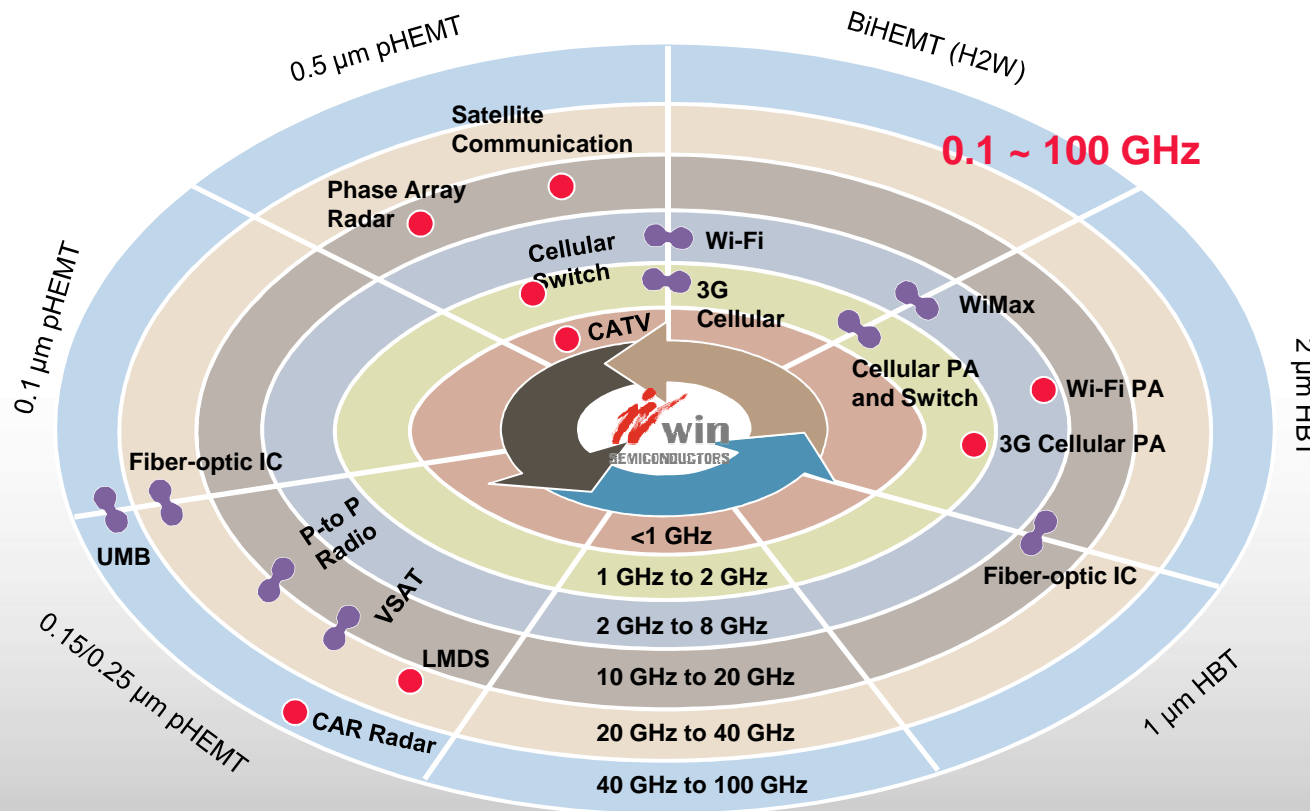
WIN plays in 3 LARGE and ATTRACTIVE end markets



Broad Portfolio of Advanced Technologies

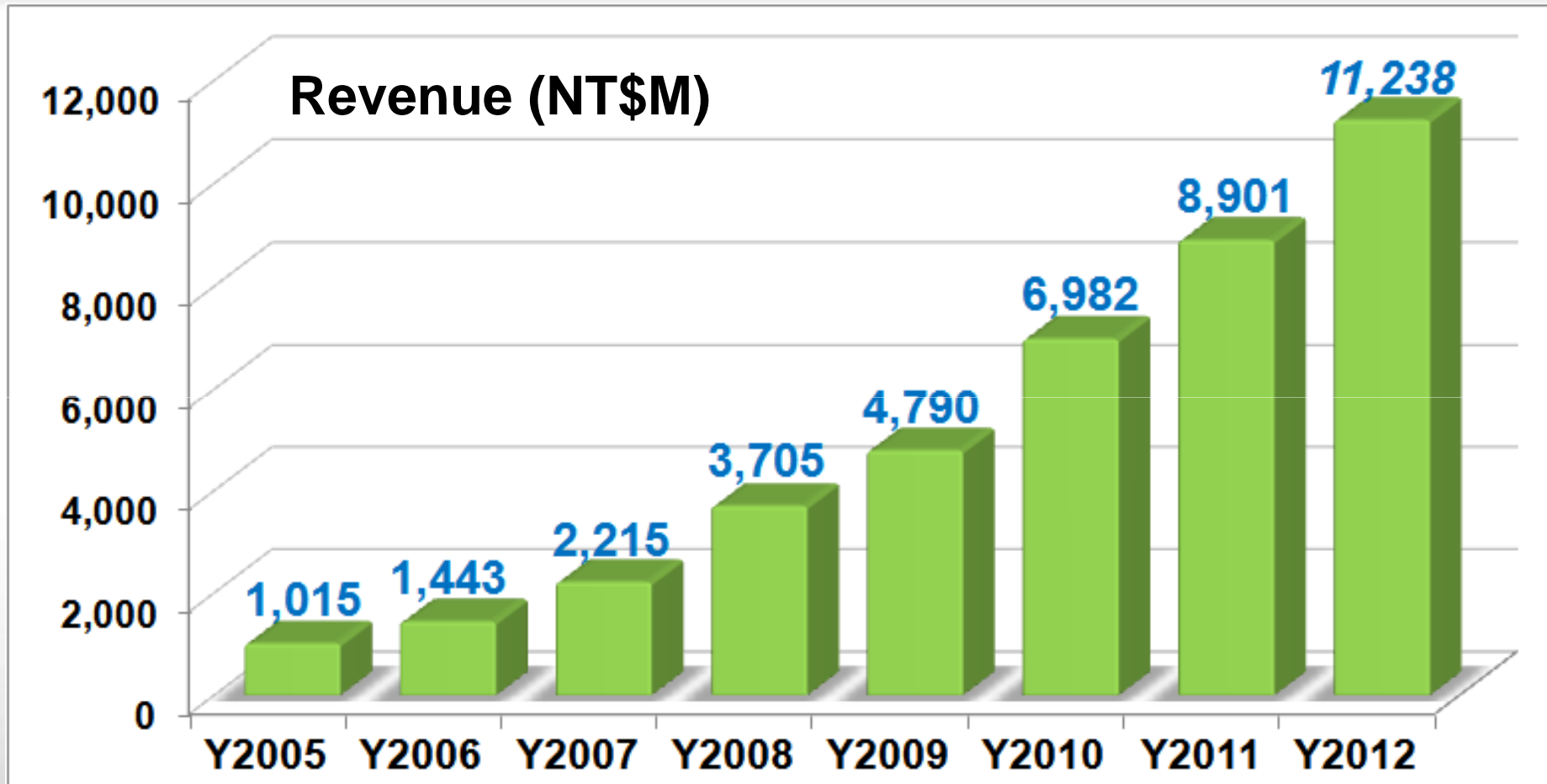


The most comprehensive technology portfolio in the industry enables customers to develop optimized products for a wide range of applications



- ✓ Dominant market share for high-performance HBT used in LTE PAs
- ✓ First and only foundry worldwide to commercially develop 0.1μm pHEMT on 6” GaAs wafer
- ✓ Industry leading 0.15–0.25μm pHEMT technology
- ✓ Leading BiHEMT technology for advanced integrated PA/switch chips
- ✓ 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)

Business Growth

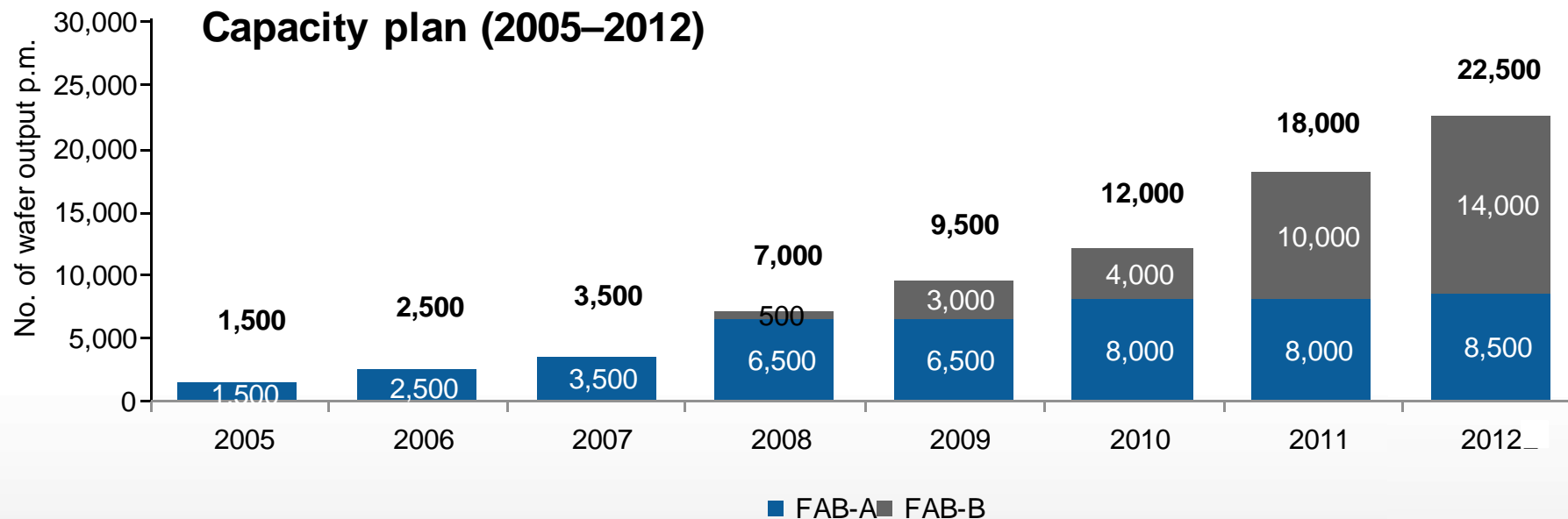


- WIN 2005-2011 CAGR is 41%
- GaAs industry average CAGR is 12% in the same period of time

Industry Leading GaAs Foundry with Strong Growth Momentum



#1 Largest manufacturing capacity among GaAs foundries in the world

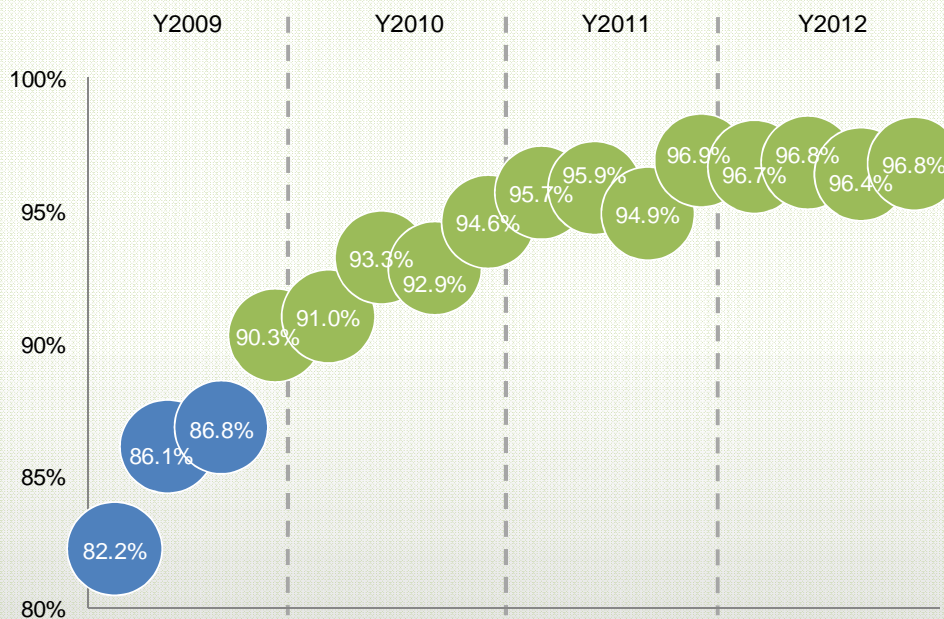


- ✓ Monthly wafer output 22,500 was ready end 2012 and start contributing on 1Q2013
- ✓ Unparalleled manufacturing capacity a key competitive advantage to attract orders
- ✓ Continued trend of IDMs going fabless and fablite

...and Superior Manufacturing Capabilities



Company wide production yield



Note: Production yield defined as total units completed/(total units completed + units disposed)

- ✓ Largest GaAs capacity in the industry
- ✓ Longest history of production on 6" wafer in industry
 - over 10 years experience in GaAs
- ✓ Short cycle times to help customers shorten products' time to market
- ✓ Excellent track record of on-time delivery
- ✓ One of the highest production yields in industry

Manufacturing capacity, process reliability, product quality and operation efficiency enables WIN to manage ASP erosion

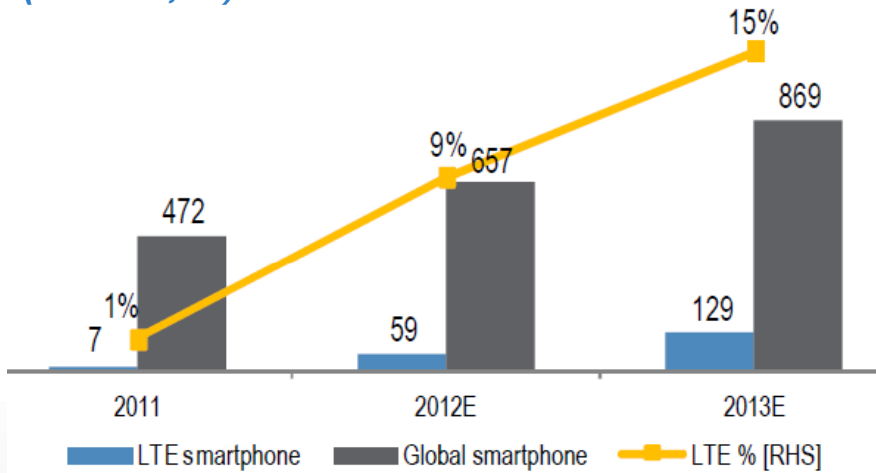
Market and Industry Dynamics

LTE Smartphone Driving Demand



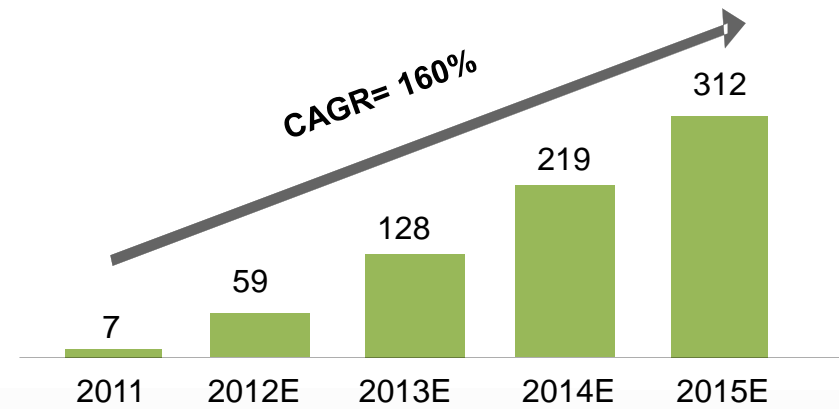
Total Smartphone and 4G LTE Smartphone Penetration Forecast

LTE market as % of total smartphone in unit (m units; %)



LTE Smartphone Demand Forecast

Long-Term LTE smartphone shipment (m units)



2G
14.4 Kbps
Voice



3G
14.4 Mbps
Internet Data



4G
1 Gbps
Multimedia
(Video)

Source: J.P. Morgan estimates,
*assuming base case scenario

Growth Drivers – More GaAs PAs Usage



Increase in GaAs content per device



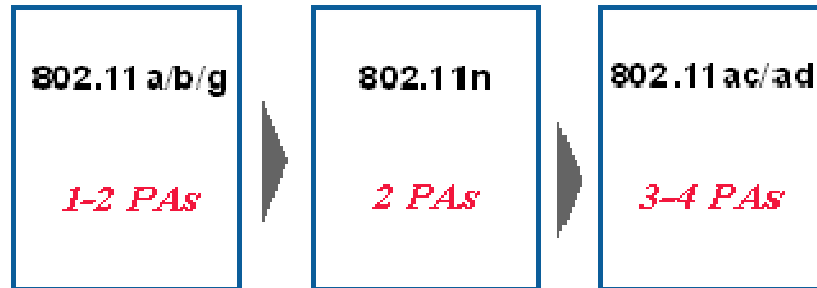
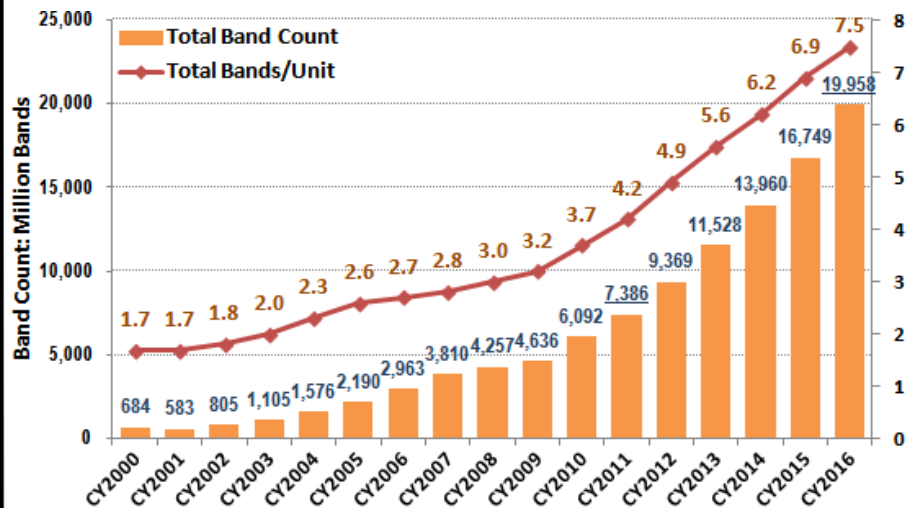
Handset

Higher band count per handset results in the need for more PAs in each handset

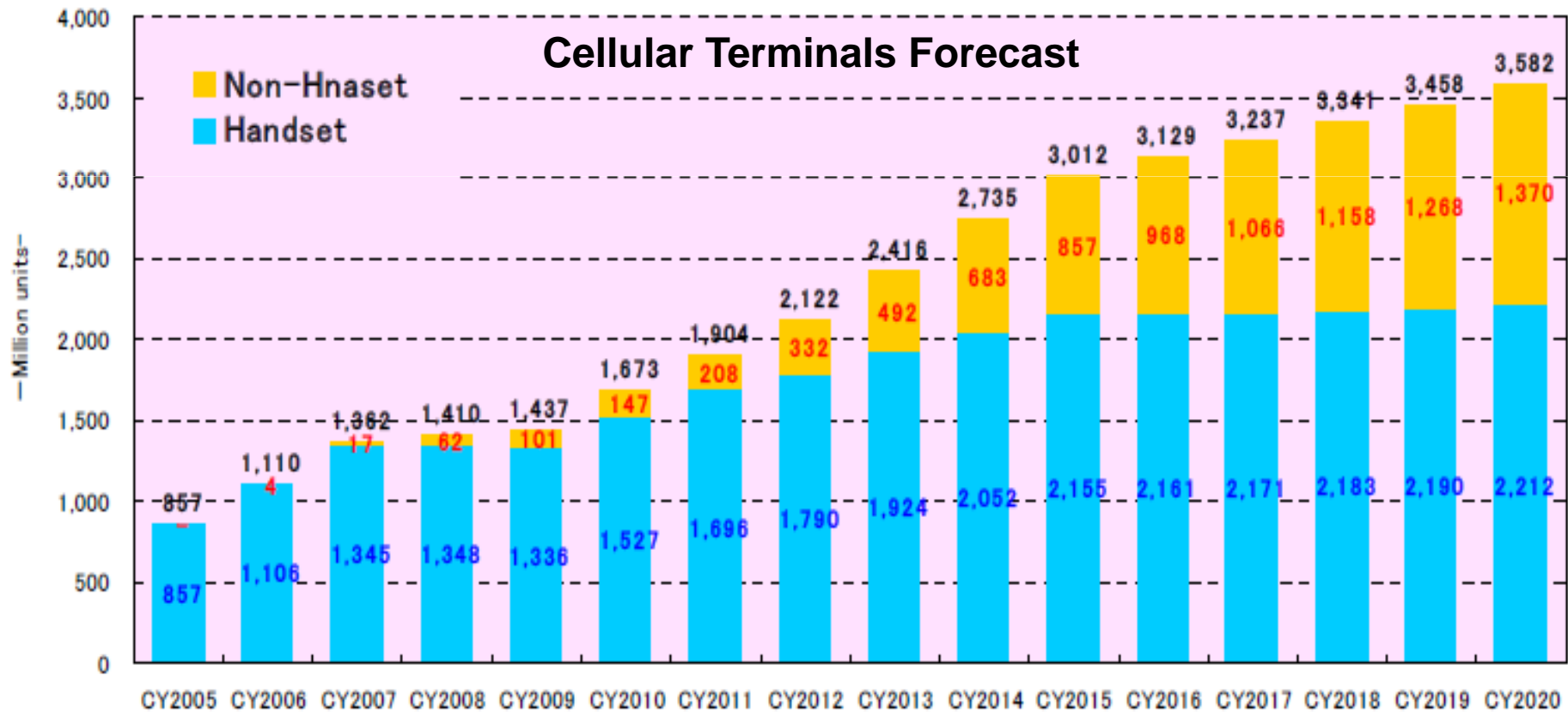


Wi-Fi (WLAN)

The PA count per device is increasing with each new generation of Wi-Fi standards



Other Growth Driver – Non-Handset Cellular Terminals



Summary of Growth Momentum



Wi-Fi widely used in cellular phone, notebook, tablet PC, home entertainment

P-t-P, satellite, fiberoptic communications

4G LTE, femto cell, and WiMAX

Short Term:
Fast growth of 3G Smartphones (30~40% YoY)

Mid-Term:

1. Entry level Smartphones replacing 2G feature phones
2. 4G LTE launch
3. 802.11ac MIMO

Long Term:

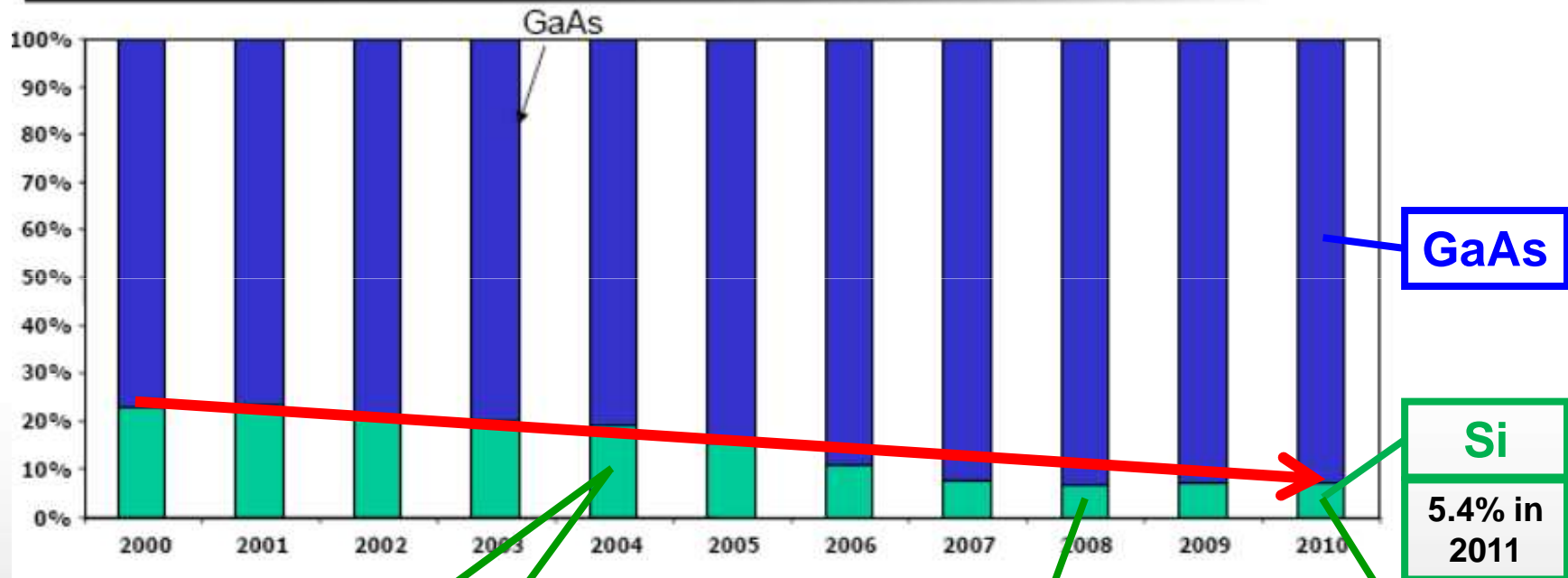
Machine-to-Machine (M2M).
Smart grid, smart traffic, smart city... etc.

Competition from Silicon

Threat from Silicon?

STRATEGYANALYTICS

GaAs versus Si in the Handset PA



First monolithic CMOS amplifier powers GSM/GPRS market

Silicon Labs launched the world's smallest power amplifier for handset

CMOS PA Paves the Way For A Single-Chip Cell Phone
- Who said you can't put a cell-phone power amplifier on a CMOS chip?

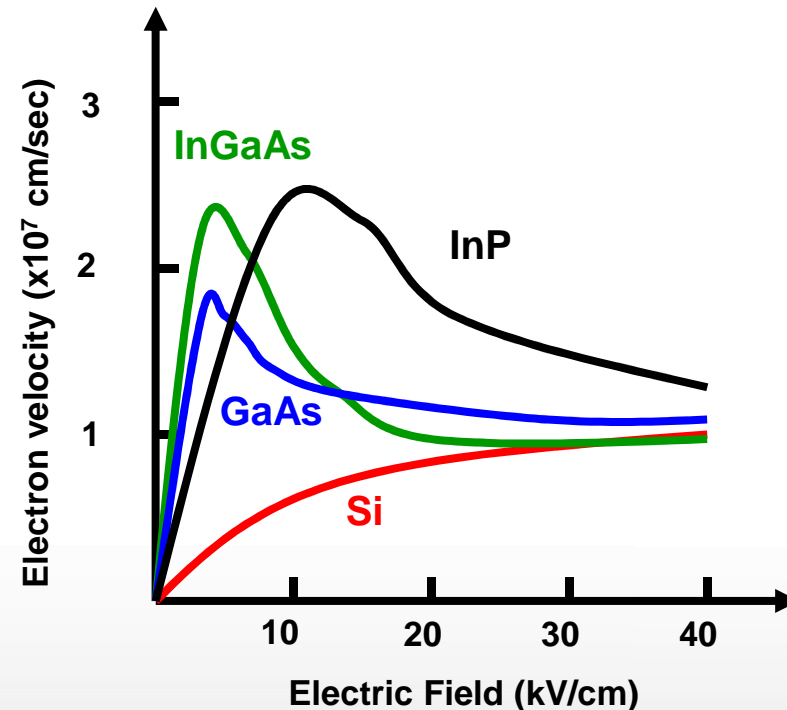
First CMOS 3G power amp heads for Mobile World Congress

Why GaAs?

Electron mobility Hole mobility

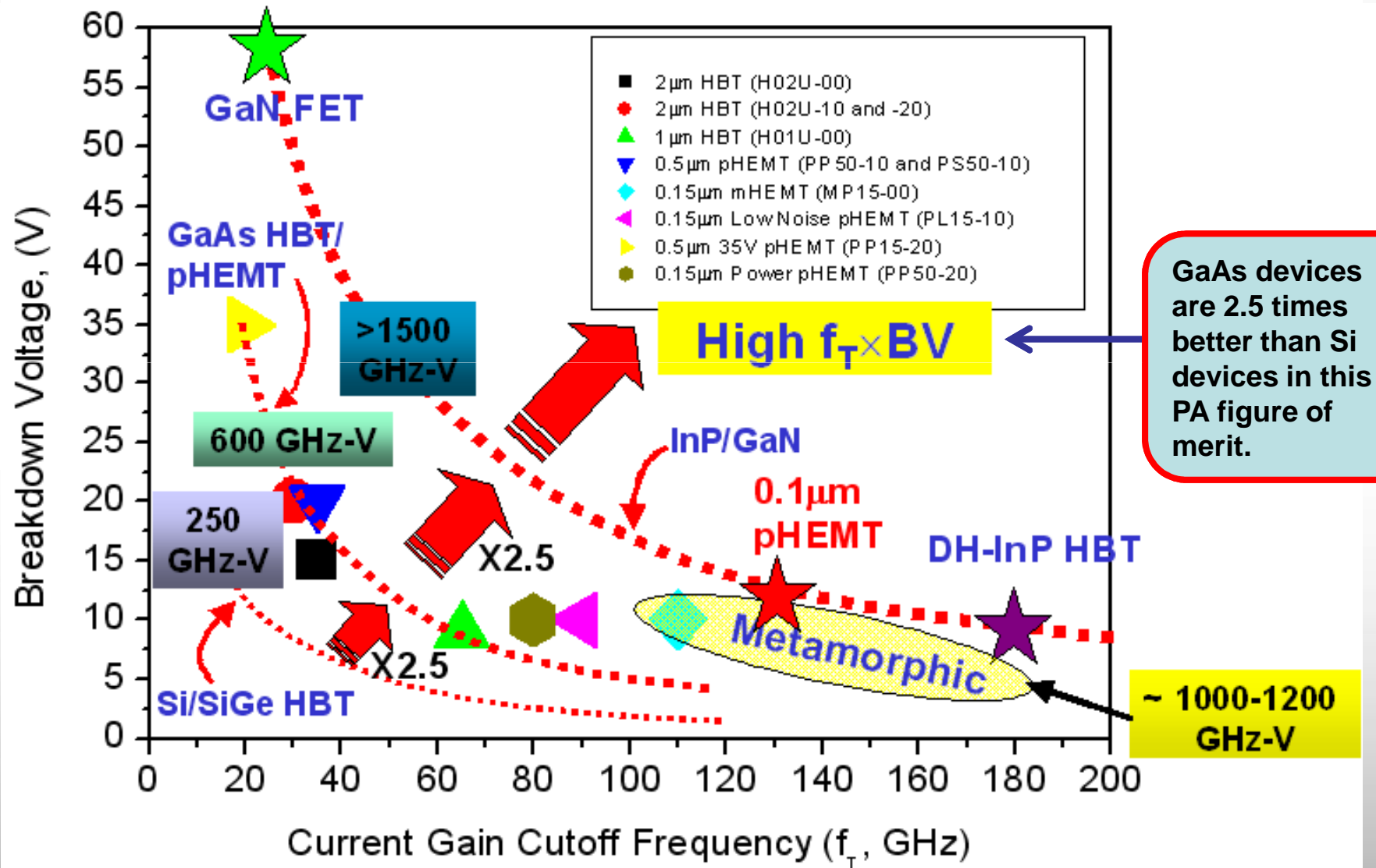
Low-doped only	μ_n (cm ² /V-Sec)	μ_p (cm ² /V-Sec)
Si	1360	460
GaAs	8000	320

Mobility is a measure of ease of carrier motion within a semiconductor crystal.



- ✓ The electrons move 5 times faster in GaAs than in silicon
- ✓ This translates to faster speed for GaAs-based transistors and circuits when compared to a silicon counterpart

Why GaAs is Better than Si for PA?



GaAs devices are 2.5 times better than Si devices in this PA figure of merit.

GaAs is the Technology of Choice for Modern Smartphone PA



- **GaAs has better power efficiency, higher linearity, and lower noise for GHz wireless applications.**
 - Faster data rate
 - More reliable (due to higher breakdown voltage than Si PA)
 - Longer talk time
- **GaAs PA solution has better C/P value than Si solution.**
- **GaAs has significantly lower product development cost and shorter product development cycle time.**
- **GaAs has shorter production cycle time (typically 4-6 weeks vs. Si CMOS 8-12 weeks).**

- **Driven by strong demand from smartphones and tablets, WIN's 2012 revenue grew 26% YoY, yet AGAIN reaching a new record high.**
- **We continue to see the GaAs industry growing rapidly and the value chain is moving in a very healthy direction.**
- **Mobile devices (smartphones, tablets, ... etc.) are major drivers for the growth in demand for GaAs. This growth should be further augmented by the fact that GaAs content per device is growing at a CAGR of >20%.**
- **WIN has consistently grown at a higher pace than the overall GaAs industry.**
- **The silicon threat to GaAs is very limited, and almost exclusively in low end phone.**

Q & A

For more information regarding WIN
www.winfoudry.com

For all inquiries, suggestions, and comments
ir@winfoundry.com



Appendix

3G/4G Band Plan

3GPP Band	Nicknames	Frequencies (MHz)		EU	NA	APAC	CHINA	INDIA	JAPAN	NOTES
		TX	RX							
BAND-1	2.1GHZ	1920-1980	2110-2170	●		●	●	●	●	UMTS main band for APAC, EU)
BAND-2	PCS	1850-1910	1930-1990		●					UMTS main band for NA
BAND-3	DCS (UMTS1800)	1710-1785	1805-1880	●		●				Mainly for FDD LTE
BAND-4	AWS	1710-1755	2110-2155		●					For UMTS of US T-Mobile
BAND-5	US Cellular	824-849	869-894		●	●				UMTS for NA (AT & T etc)
BAND-7	2.6GHz	2500-2570	2620-2690	●		●				LTE main band for EU
BAND-8	EGSM (UMTS900)	880-915	925-960	●		●			●	UMTS 900 for EU, APAC
BAND-13	Upper 700MHz C Block	777-787	746-756		●					US LTE: Verizon
BAND-17	-	704-716	734-746		●					US LTE: AT & T
BAND-20	Digital dividend: Europe	832-862	791-821	●						Digital dividend: Europe
For 4G	Digital dividend: APAC	756-806	698-748			●			●	Digital dividend: APAC 718-748/773-803MHz in JAPAN
BAND-22	LTE-Advanced	3510-3590	3410-3490	●	●	●	●	●	●	
TDD Band-34	TD-SCDMA	2010	2025				●			China Mobile
TDD Band-38	TD-LTE	2570	2620				●			China Mobile
TDD Band-39	TD-SCDMA	1880	1920				●			China Mobile
TDD Band-40	TD-LTE	2300	2400	●		●	●	●		China Mobile/India/Russia/Malaysia
TDD Band-41	TD-LTE	2496	2690		●				●	Clearwire Including Softbank XGP(2550.1 - 2569.9MHz)