



立積電子股份有限公司

2017年第三季報告

民國106年11月3日

COMPANY OVERVIEW

SHANGHAI
SHENZHEN
SUWON
TAIPEI
CHUPEI

LOS ANGELES



Founded
Jan. 2004



Listed in TSE
Nov. 2015

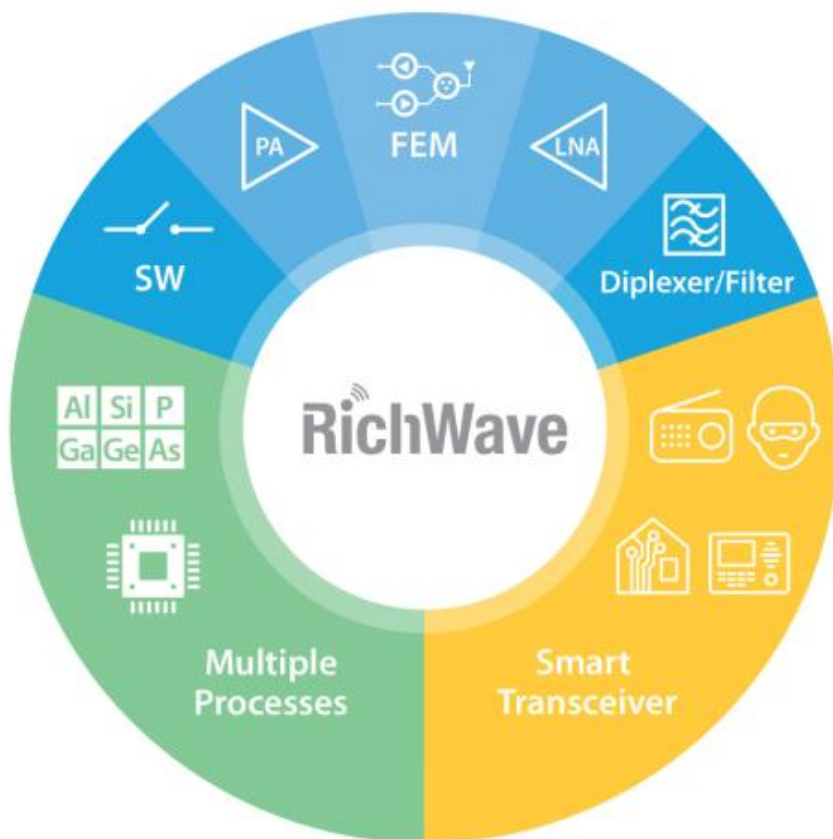


Customers
350



Products
270

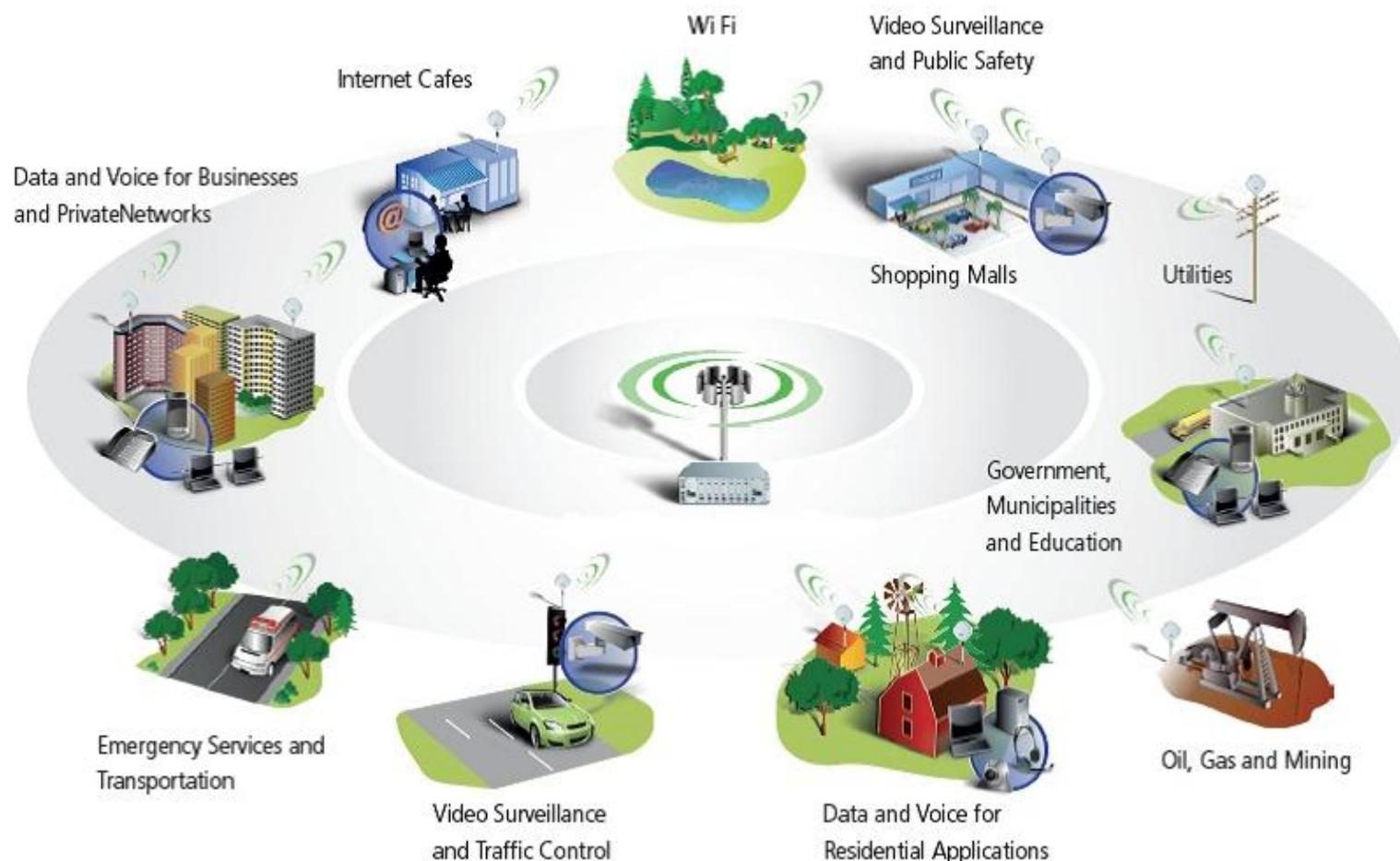
持續創新與品牌認同



- 2008 Q3 **FOXCONN**
- 2011 Q3 **BROADCOM**
- 2012 Q1 **MARVELL**
- Q2 **LG Innotek** **SAMSUNG**
- 2014 Q4 **amazon.com** **HUMAX**
verizon
- 2015 Q4 **muRata**
- 2017 Q4 **TEXAS INSTRUMENTS**

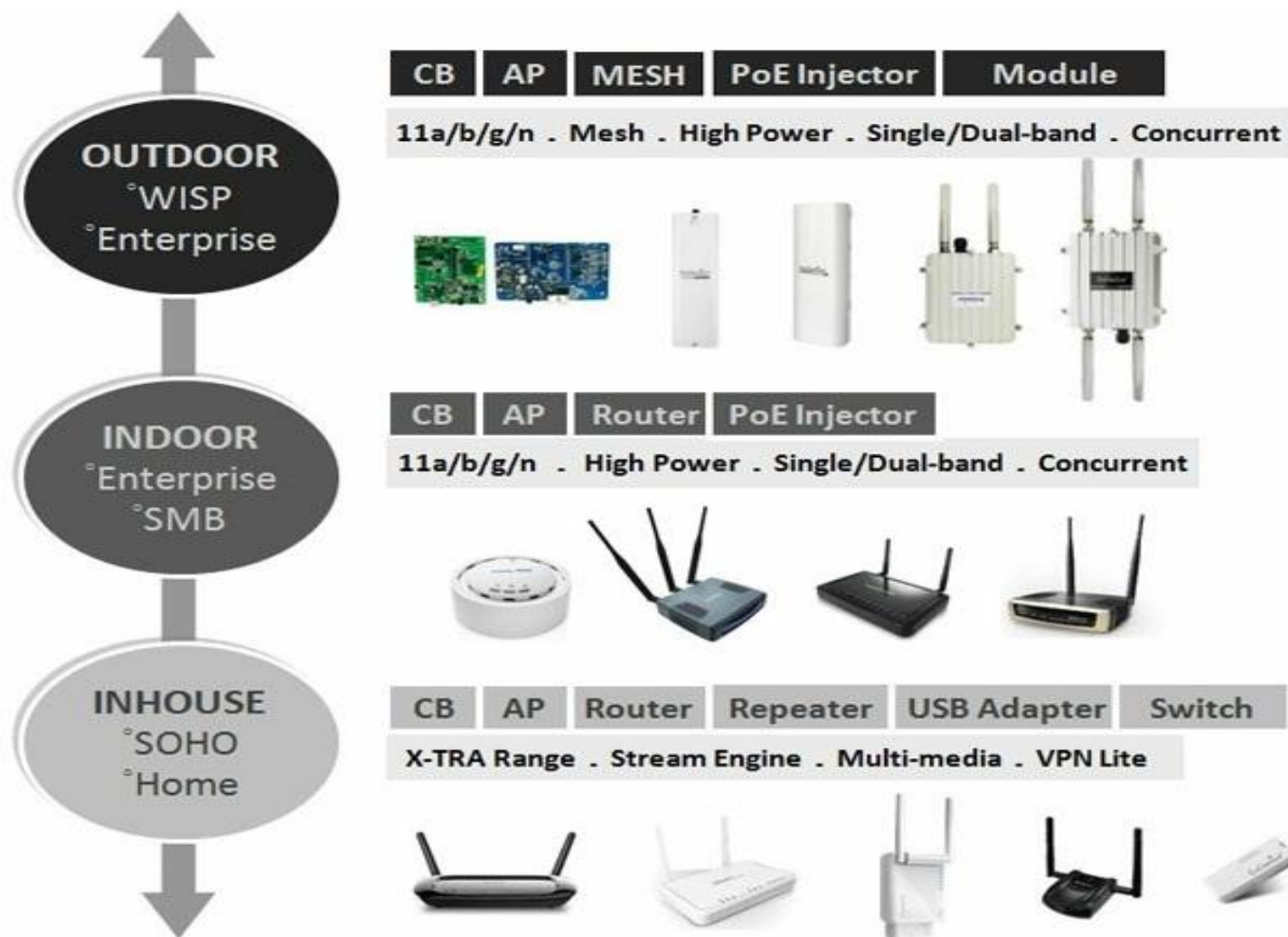
嵌入式Wi-Fi在物聯網上的應用

Point to Multi-Point – Enterprise Outdoor/Indoor Applications



Source: SIPSS-GLOBAL

頻寬範圍需求路由器搭配訊號延伸



Source: SIPSS-GLOBAL

WiFi應用領域之產品與品牌客戶

Retail Router	• TP-Link, ASUS, Netgear, Belkin, Buffalo...
Enterprise Router	• Cisco, HP/Aruba, HUAWEI
IP Cam	• Hike-Vision, Netgear, Nest
STB/ OTT	• Roku, Technicolor, Xiaomi
Gaming	• Nintendo, SONY, Microsoft
Smart Speaker	• Amazon, Google, Harman, Xiaomi, Alibaba
Smart TV	• Samsung, LG, Xiaomi
Smart Phone	• ASUS, Samsung, LG, TCL, Xiaomi, Meizu
Automotive	• KOR/JPN module companies
AI/ Robotics	• ASUS- Zenbo, Softbank- Pepper, Anki- Cozmo
IoT	• Gemtek, Azureware, WNC, Fujitsu, Panasonic



未來3年WiFi成長平均超過250%

Segments	2017 (f)	2020 (f)	Growth (%)	Remarks
AP Router (DSL, Cable, PON)	350	400	14%	M units
STB/OTT	380	460	21%	M units, 2020
Smart Phone	1,517	1,697	11.91%	M units
Game Consoles	135.2	184	36%	M units
Smart Speaker	8.3	94	1075%	M units, US, 2016
IoT	20,000	30,000	50%	M units
Smart TV	104	114	9.6%	M units, 2018
Smart Home	65	320	392%	M units
Automotive (info..)	1,062	7,914	645%	US\$M, 2016
PC/Laptop/ Tablet	435	433	-0.5%	M units, 2016

Source: IDC, IHS, Accelerating Biz analysis, frost & Sullivan, Ovum, Statista, IDATE, Gartner, Voicebot.ai, Edison Research, Digital Market Outlook, ABI Research

Number of connected devices/things by technology worldwide from 2015 to 2021 (in millions)*

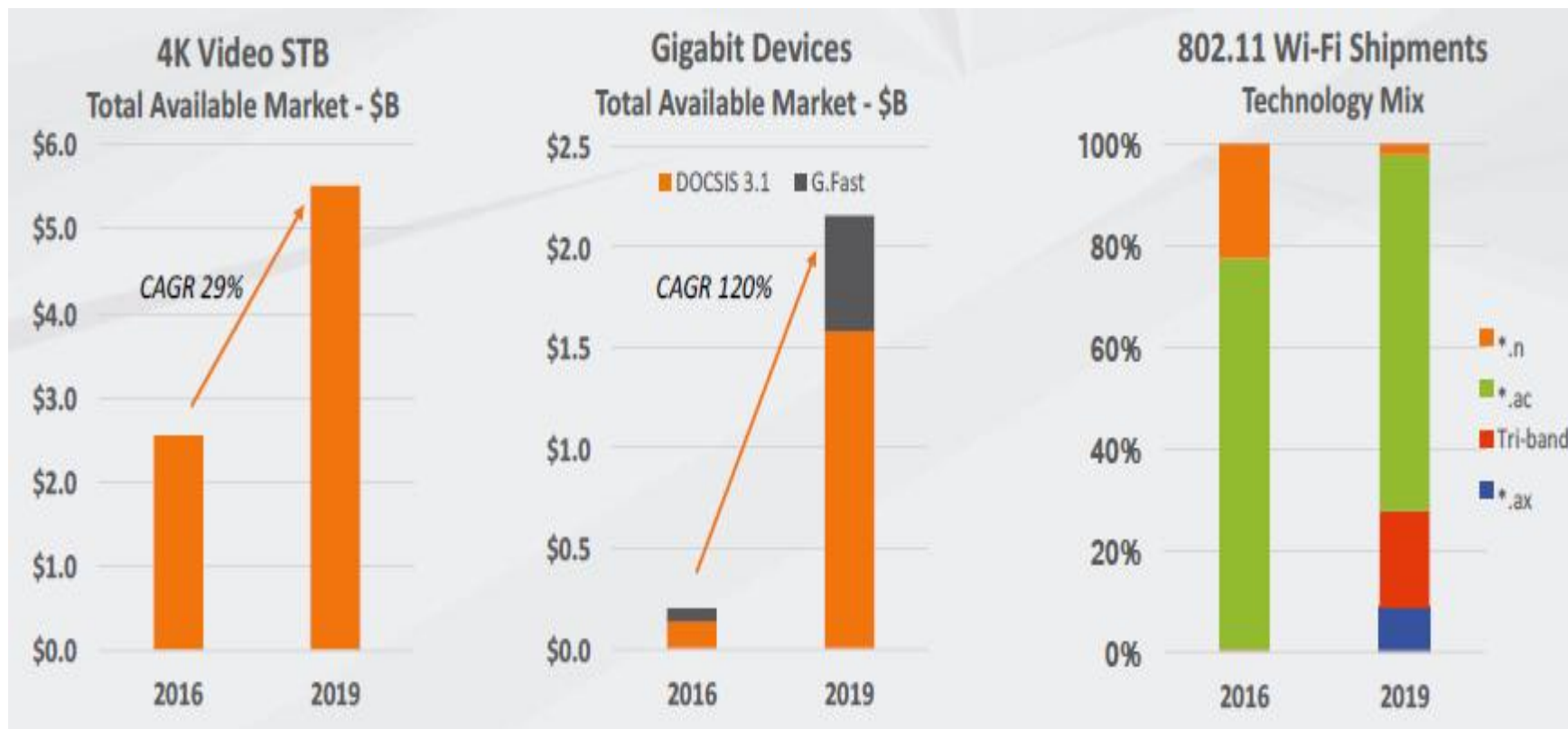


Source
Berg Insight
© Statista 2017

Additional Information:
Worldwide; Berg Insight; 2015 to 2016

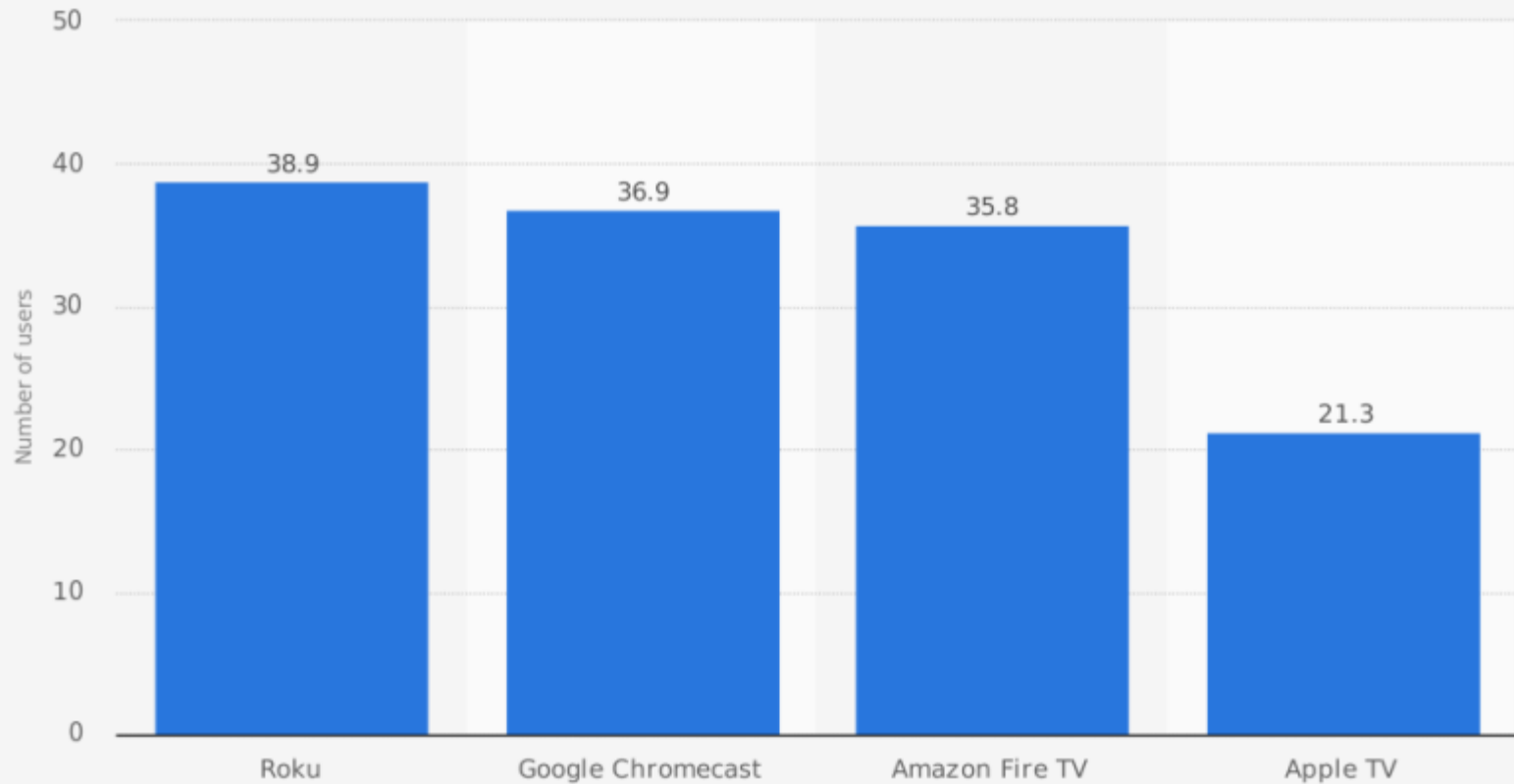
statista

Cable/ STB整合Wi-Fi技術帶來頂級無線體驗



Source: ARRIS Investor Day 2017

Number of connected TV users in the United States as of July 2017, by brand

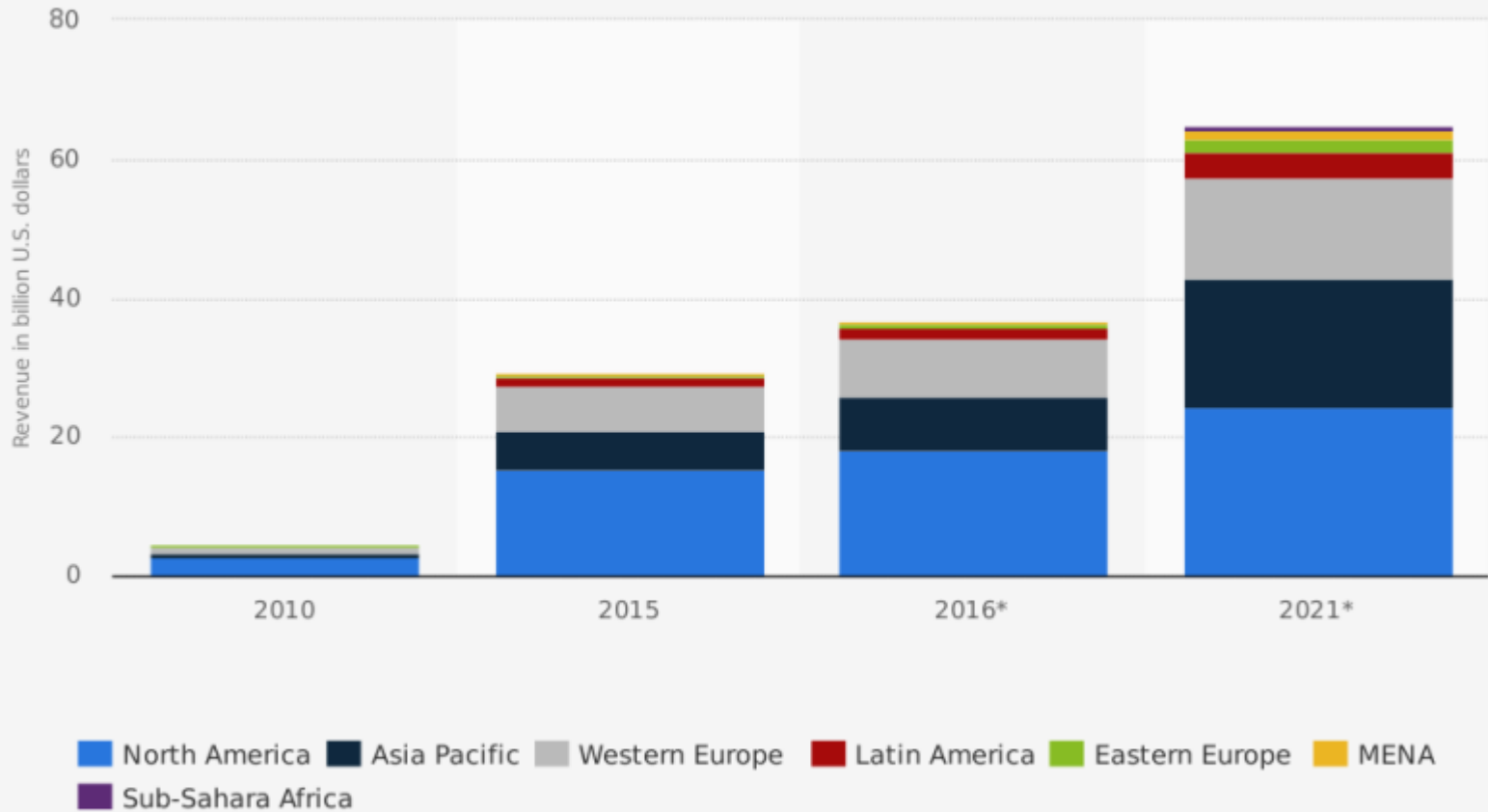


Source
eMarketer
© Statista 2017

Additional Information:
Worldwide; July 2017; based on individuals of any age who use the internet through each device at least once per month

statista

Over-the-top (OTT) TV and video revenue worldwide from 2010 to 2021, by region (in billion U.S. dollars)



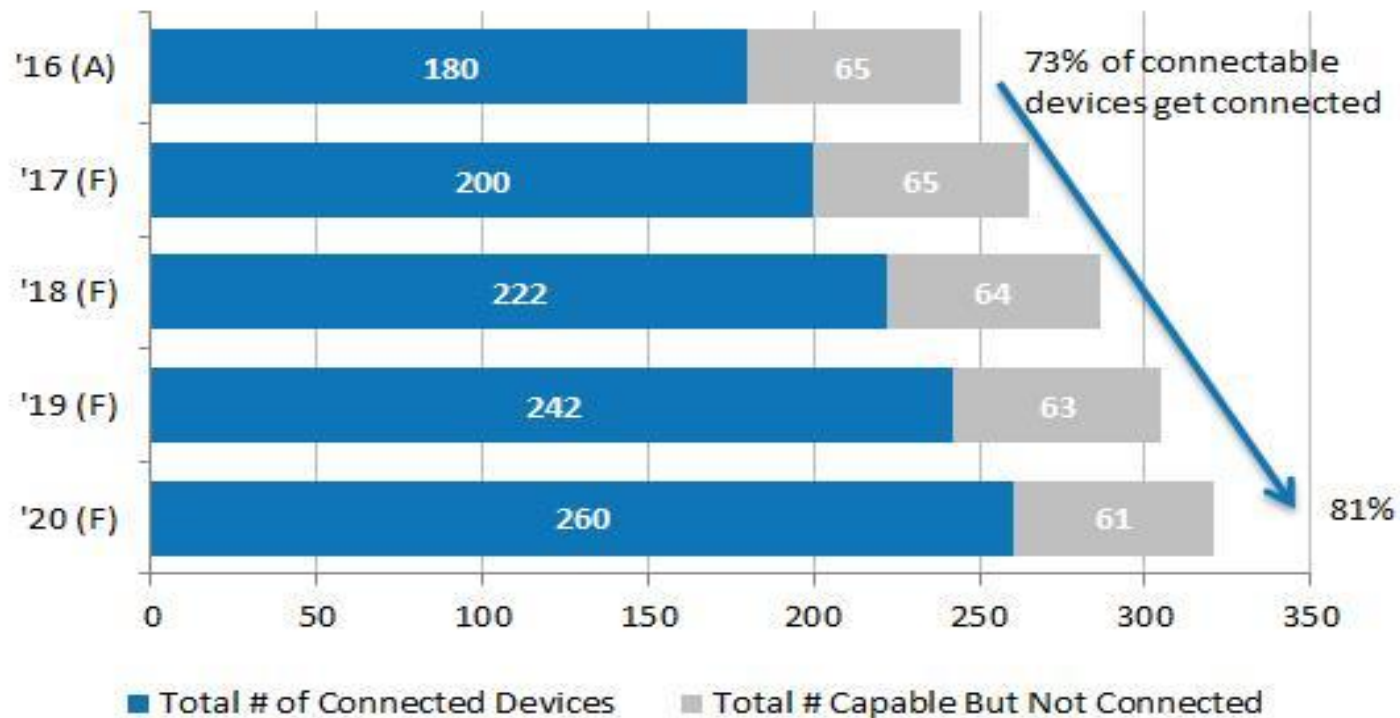
Source
Digital TV Research
© Statista 2017

Additional Information:
2010 and 2015

statista

客廳WiFi連接快速增加

Internet Connectable Device Forecast
(Connectable TVs, Blu-ray Disc Players, Game Consoles, & Streaming Media Players)

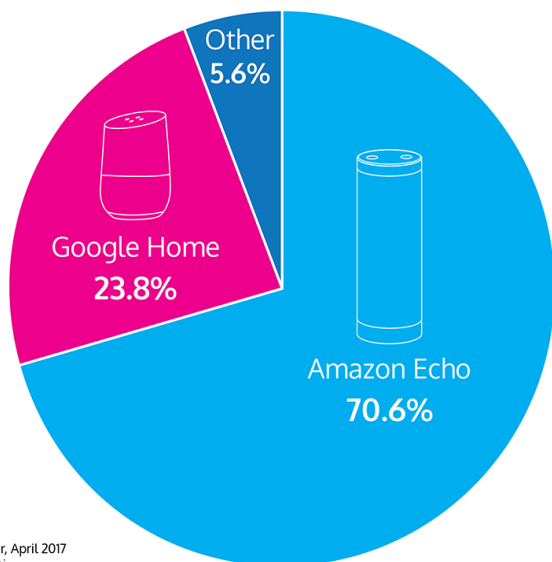


Base: U.S. Internet households

Source: The NPD Group/Connected Intelligence, TV-Connected Device Forecast
Includes a small percent of game consoles that are non-connectable

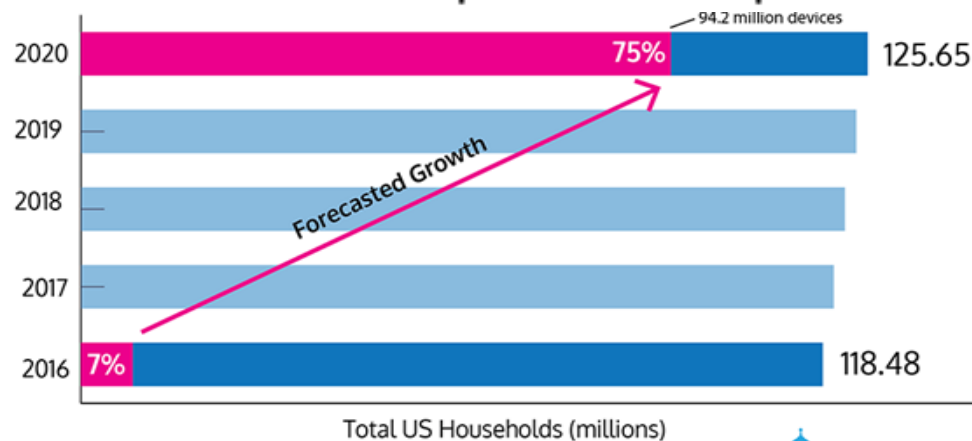
WiFi智能揚聲器快速增長

US Voice-Enabled Speaker User Share by Player, 2017



Source: eMarketer, April 2017
Image: Voicebot.ai

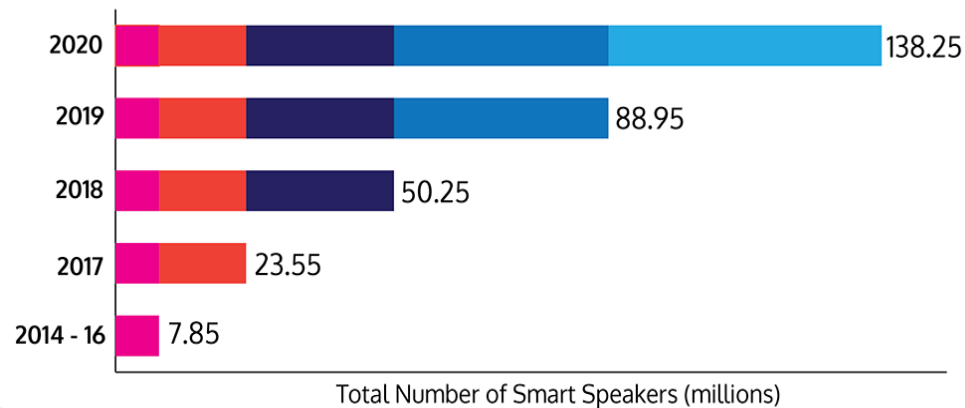
US Household Smart Speaker Ownership 2016-2020



Source: US Census, Gartner, Edison Research, Voicebot.ai



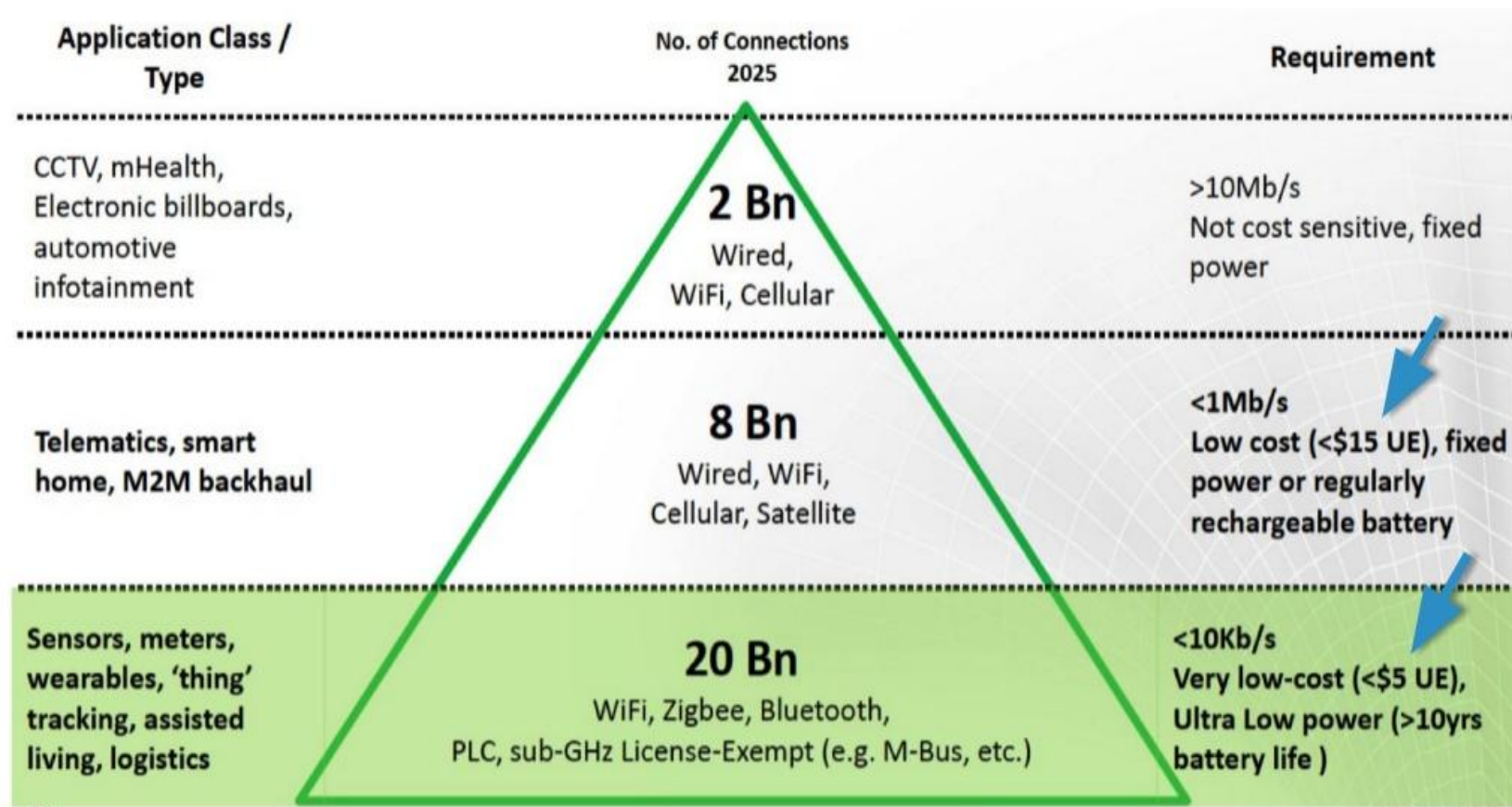
US Smart Speaker Installed Base - 2016 to 2020



Source: CIRP, VoiceLabs, Statista, Edison Research, Voicebot.ai



WiFi無處不在 從IOT、家庭、M2M到雲端





Wireless RF and Various Systems



第六代WiFi標準: 802.11ax高速高量傳訊

802.11ax promises:

- Up to 4X capacity increase
- Higher efficiency
- Improved coverage and performance

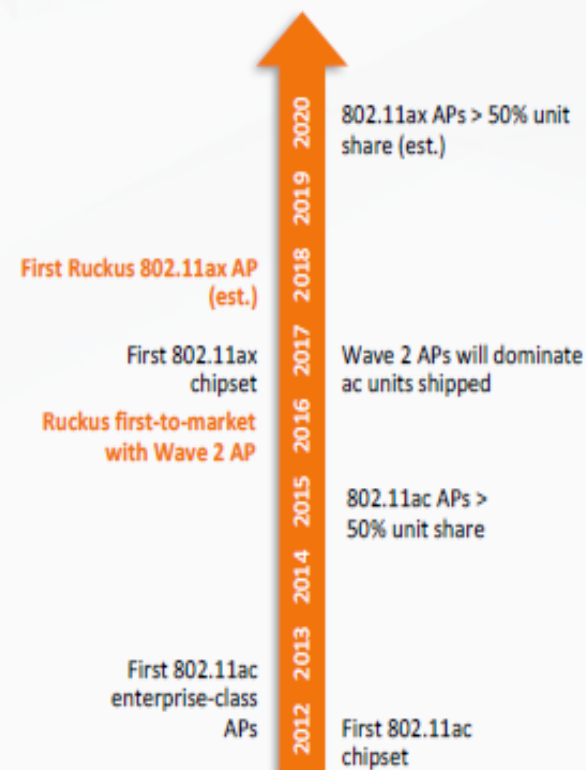
vs. 802.11ac Wave 2

11ax: simultaneously serves lots of devices per AP...



...and delivers optimal performance in dense environments with many APs

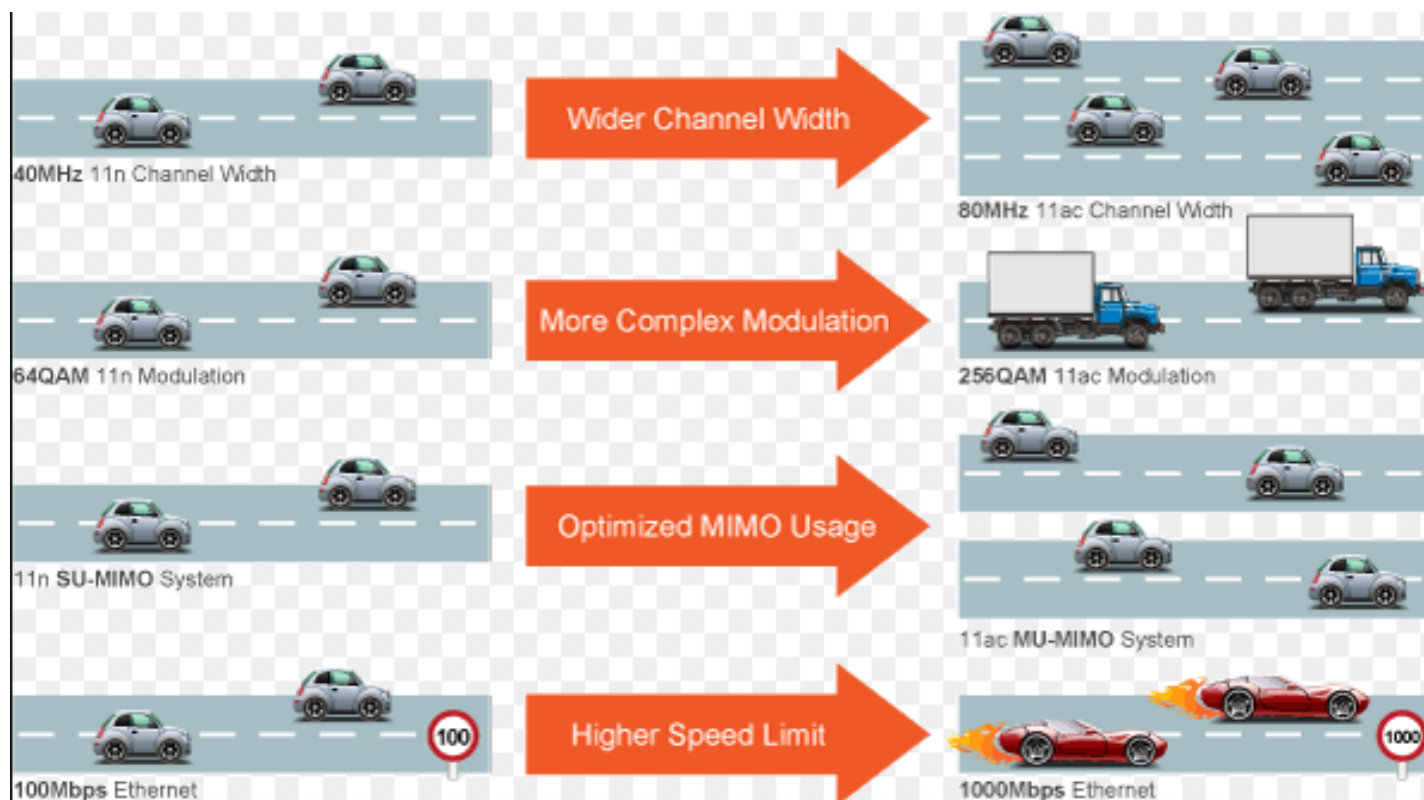
Enterprise AP Timeline



Source: ARRIS Investor Day 2017

WiFi技術演進：從11n到11ac

頻寬加倍，調變加密和MIMO加速應用

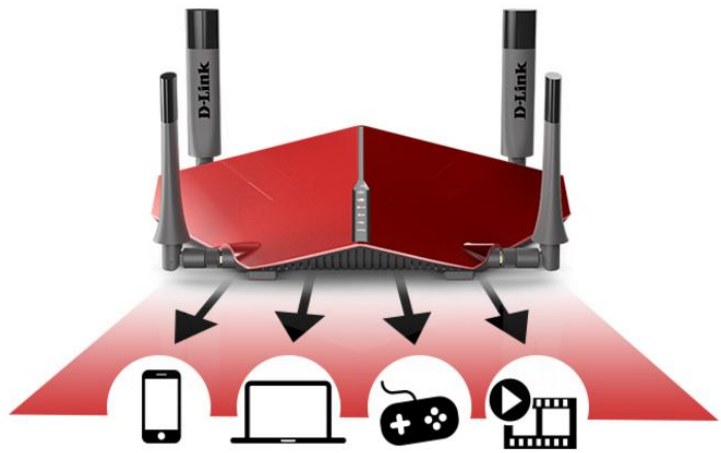
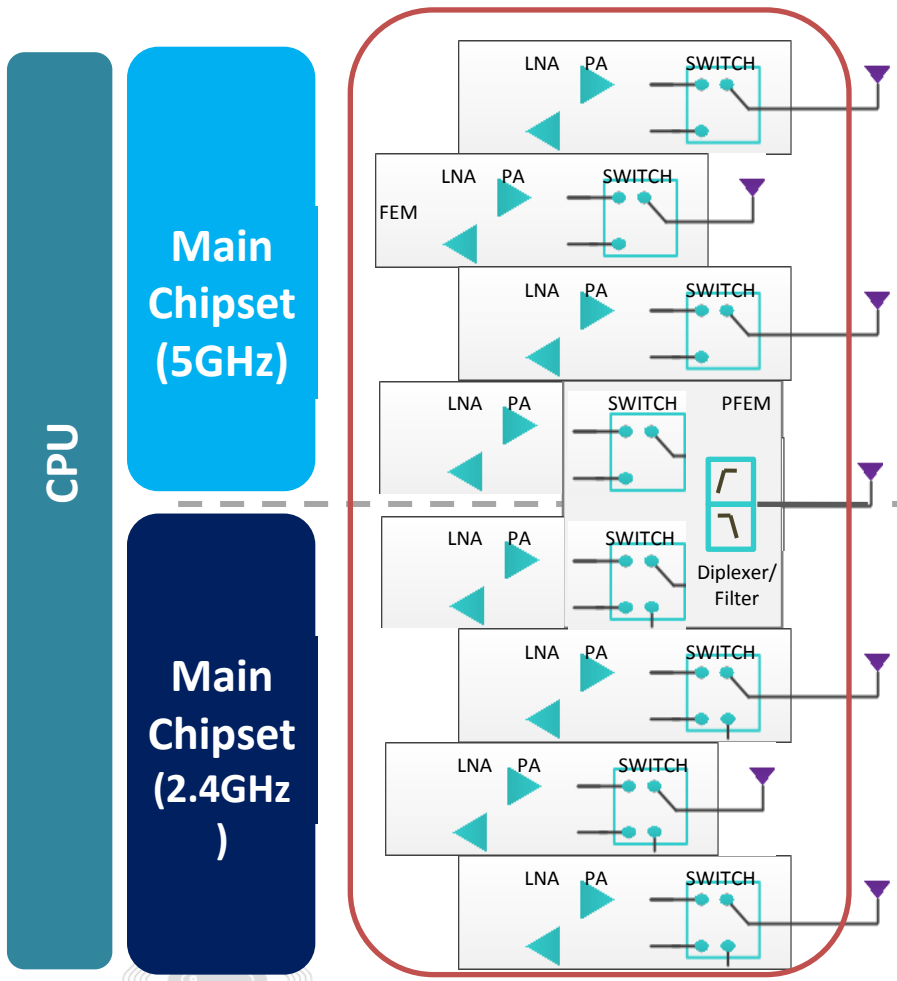


Go faster in wired & wireless

Take Advantage of 11ac to Optimize Data Link Speed

完整的 WiFi 解决方案

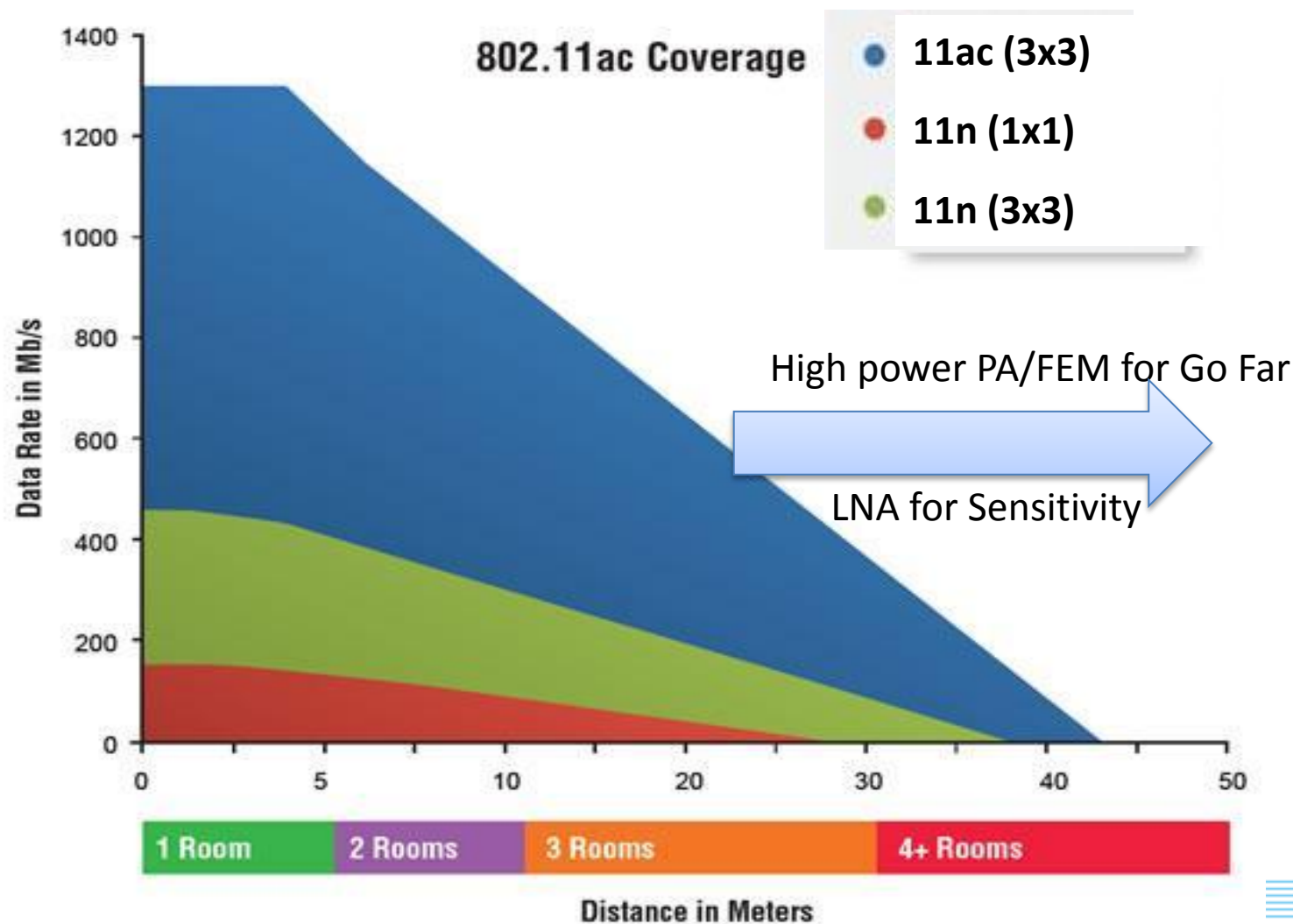
WiFi RFFE is Key for Performance: MU- MIMO Features Increase # RF Front End
PA for range, LNA for Sensitivity. RFFE Quantitv Proportional to MIMO



Source: D-Link

Antenna output	5GHz 11ac	5GHz 11n	2GHz 11ac	2GHz 11n
PA/LNA/SW	V	V	V	V
FEM (PA+LNA+SW)	V	V	V	V
FEM(LNA+SW)	V	V	V	V
Enterprise FEM (PA+LNA+SW)	V	V	V	V
Mobility FEM (PA+LNA+SW)	V	V	V	V

WiFi範圍覆蓋超過11ac 高功率FEM/PA & LNA需求大增



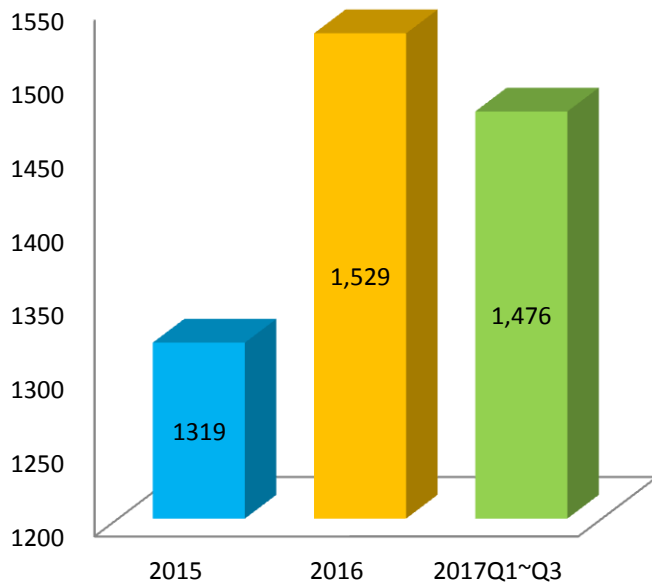


Growth Strategy & Advantages

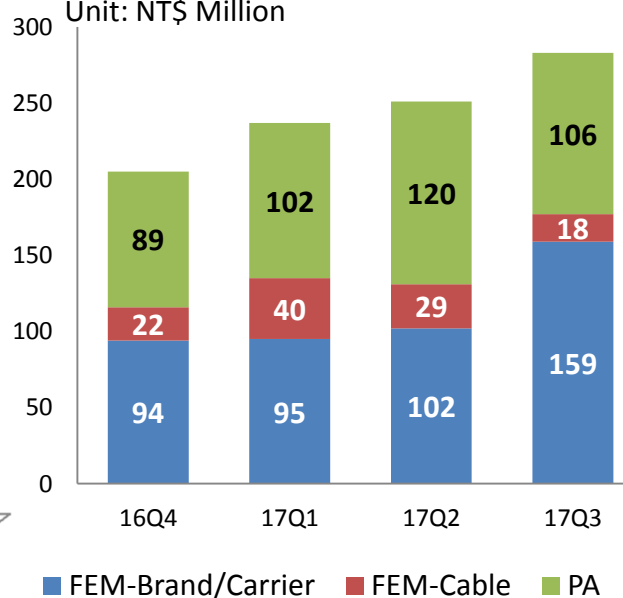
Wi-Fi年成長超過30%

- 2017Q3 FEM 的季增長超過55%，在於品牌/電信運營商採用802.11ac的運用
- 2017Q3 WiFi季增長14%，年增長30%以上。
- 11ac在全球驅動下，覆蓋範圍擴大，增加MIMO 2x2和3x3的需求成長。

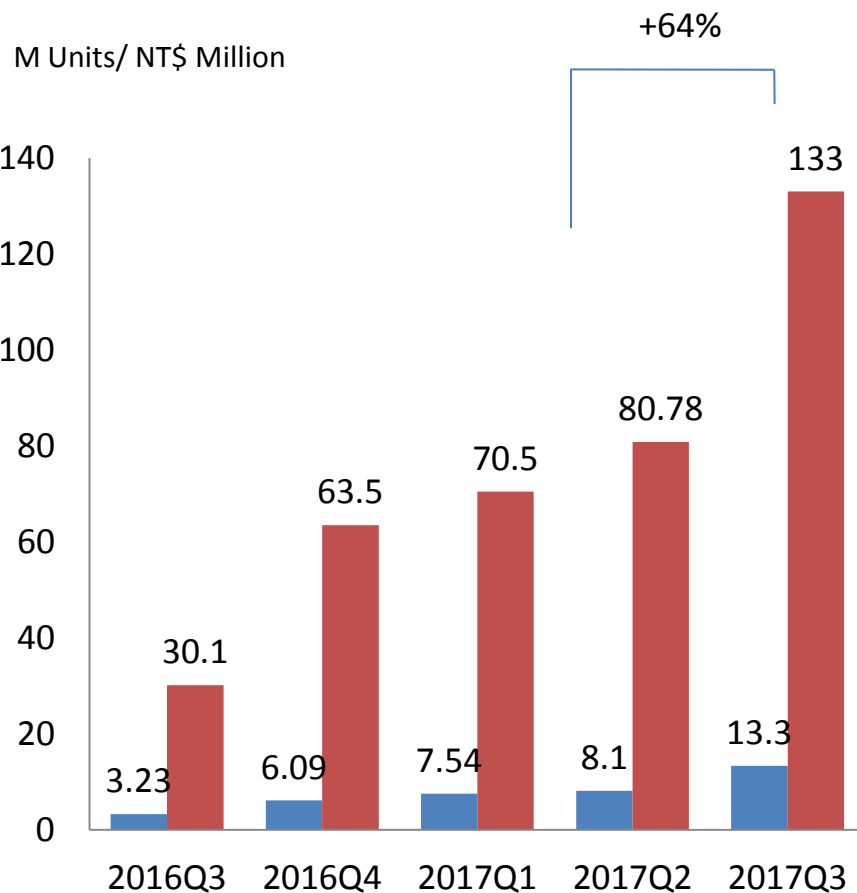
Unit: NT\$ Million



Unit: NT\$ Million



FEM在全球大品牌之 路由器和STB / OTT布局



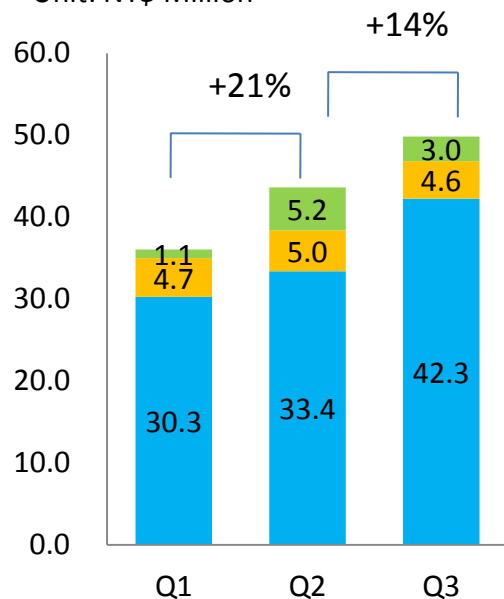
■ Quantity ■ Sales



LTE贏得中國第一品牌27%的增長

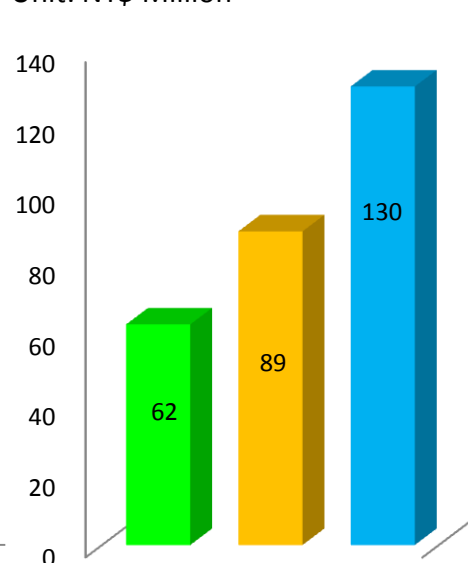
- LTE SW季增長27%，主要來自中國第一手機品牌
- 2017下半年繼續擴展全球品牌市場占有率

Unit: NT\$ Million



■ LTE SW ■ LTE LNA ■ Femtocell

Unit: NT\$ Million



■ 2015 ■ 2016 ■ 2017Q1~Q3



Top Five Smartphone Companies in PRC, Shipments, Market Share, and Year-Over-Year Growth, 2017Q1 Preliminary Data (Units in Millions)

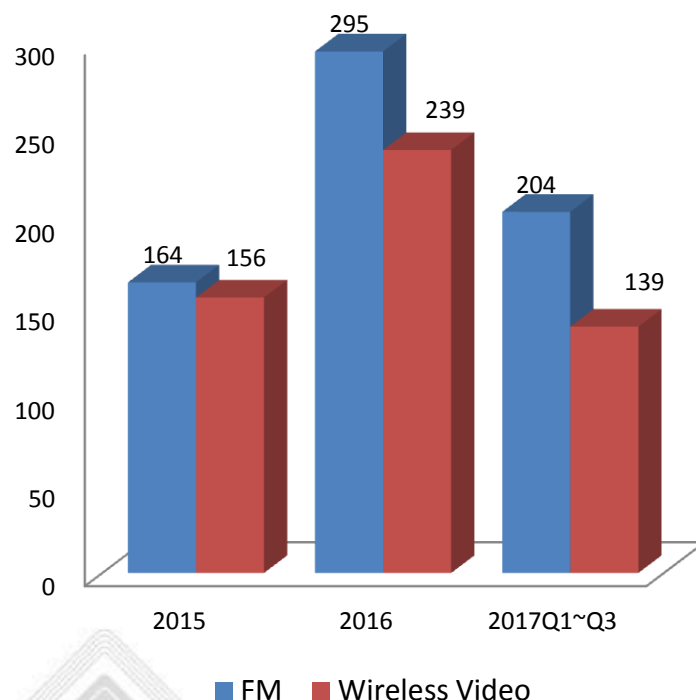
Company	2017Q1 Shipment Volumes	2017Q1 Market Share	2016Q4 Market Share	2016Q1 Market Share	Year-Over-Year Unit Change (2017Q1 over 2016Q1)
Huawei	20.8	20.0%	16.8%	16.0%	25.5%
OPPO	18.9	18.2%	18.1%	15.3%	19.5%
vivo	14.6	14.1%	16.0%	13.2%	7.6%
Apple	9.6	9.2%	11.0%	12.7%	-26.7%
Xiaomi	9.3	9.0%	7.4%	9.8%	-7.5%
Others	30.8	29.6%	30.7%	33.0%	-9.6%
Total	104.1	100%	100%	100%	0.8%

Source: IDC Quarterly Mobile Phone Tracker, May 4, 2017

持續攻占世佔第一品牌手機FM

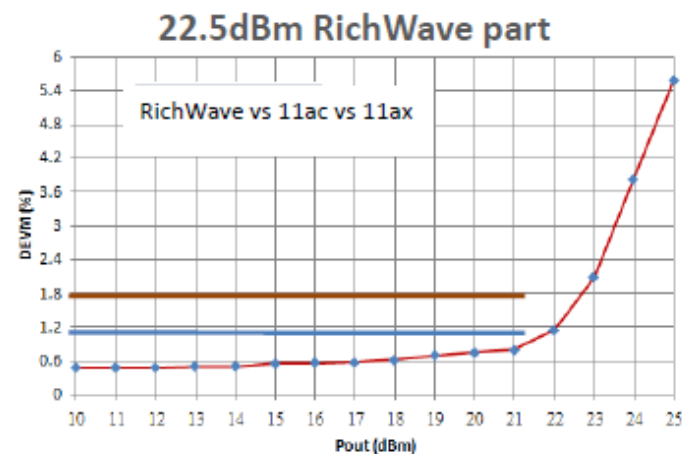
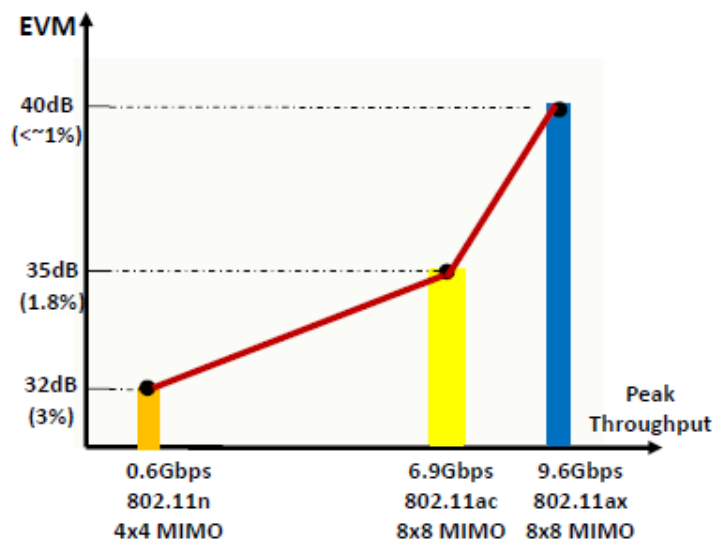
- FM 在韓國旗艦手機Note 8 後持續再下一城。
- 用自有技術開發，應用於智慧家庭、倒車後視、無人機...的長距離無線HD 影音晶片持續出貨。

Unit: NT\$ Million



未來競爭優勢

	Industry Trend	Our advantage
WiFi	11AC => 11AX+ 1AC MIMO 2x2~4x4 In Router/Cable/STB/PON	Good EVM Tech. Good Noise Tech. Complete FEM/PA+Passive-integration Integrated-Simple Process Tech.
LTE	WiFi-Mob => 11AC CA complexity & PAMid blended	Small-form/LP WiFi-Mob FEM technology With complete active-elements & Integration
Smarthome	Smart Speaker and Video	Good EVM Tech. Flexible Application Specific FEM



EVM floor and EVM win

WiFi 802.11ac的性能與競爭對手比較

Output Power

H



Video Stream



Data Connected



Set-top box



Data Connected



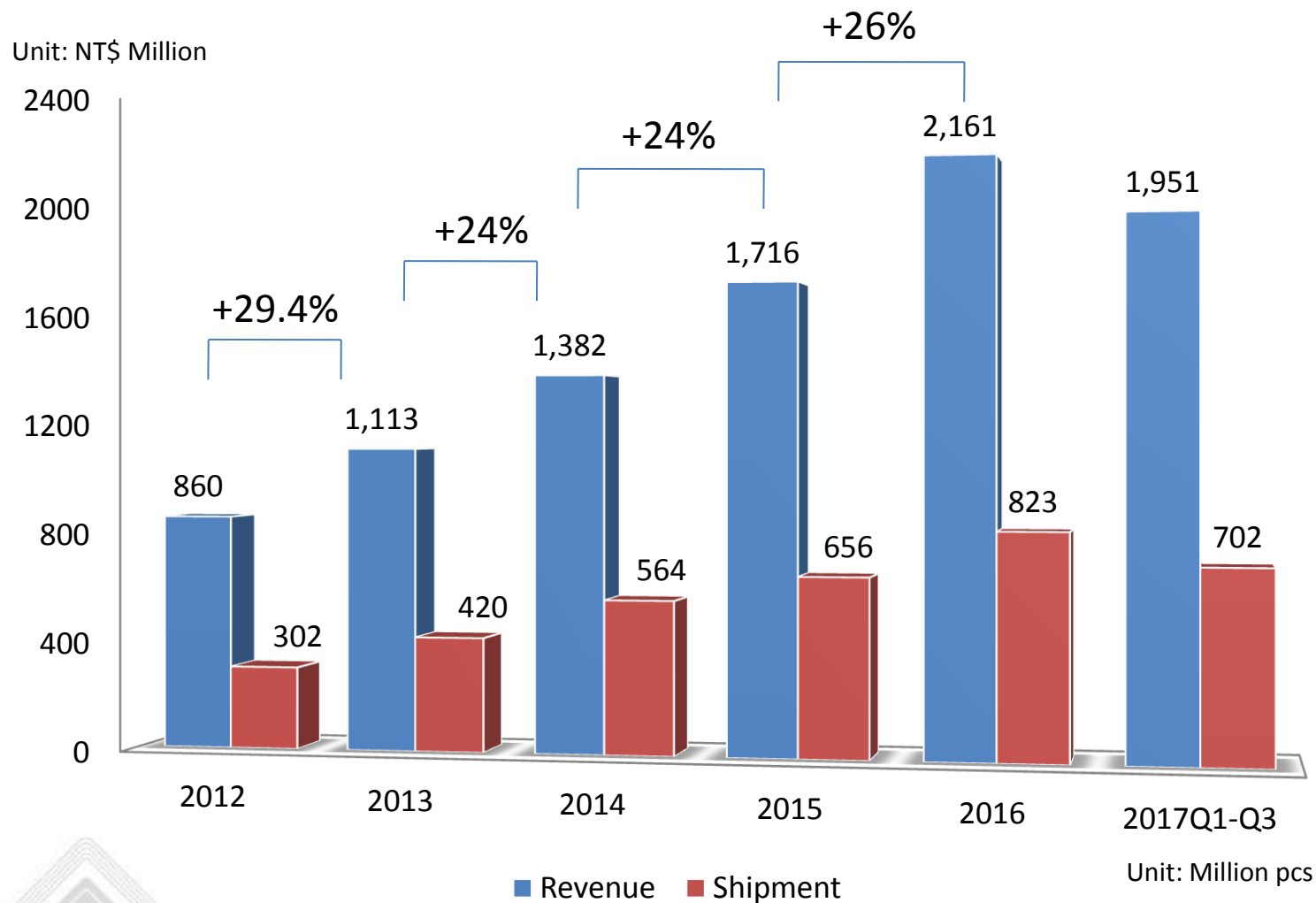
IOT

L

	Parameter		RichWave	Ref.
5GH FEM	H	Pout @1.8% EVM	22.5dBm	22.5dBm
	M	Pout @1.8% EVM	20dBm	19dBm
	L	Pout @1.8% EVM	16dBm	16dBm
2GHz FEM	Pout @3% EVM		27dBm	26dBm

1. 高功率產品：不分軒輊
2. 中低功率產品：性能勝出
3. 價格優勢：10~15%

歷年營收與出貨量成長

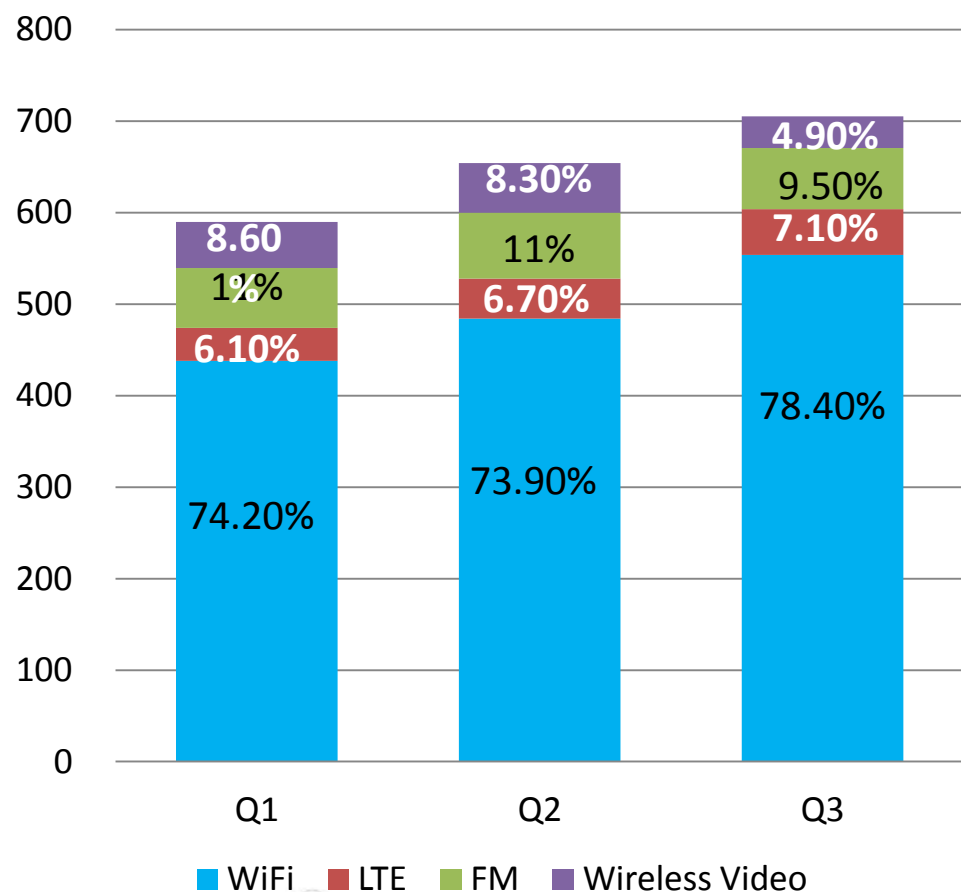


產品組合與營收比例

Unit: NT\$ Million

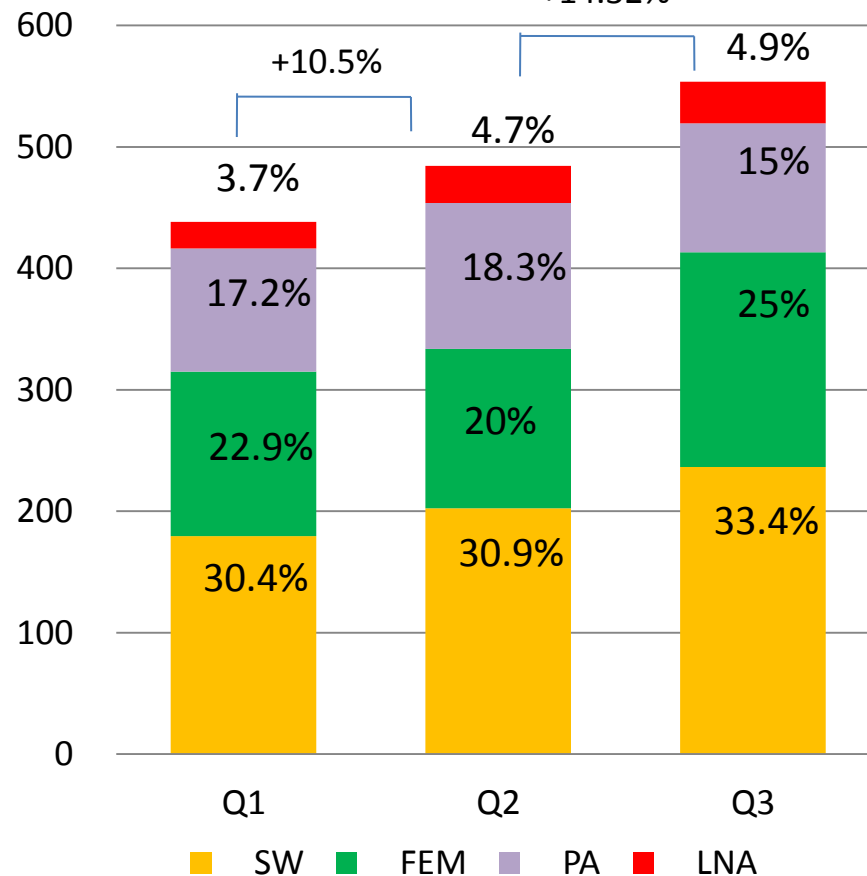
Product Portfolio

Unit: NT\$ Million



Wi-Fi 產品組合與比例

+14.32%

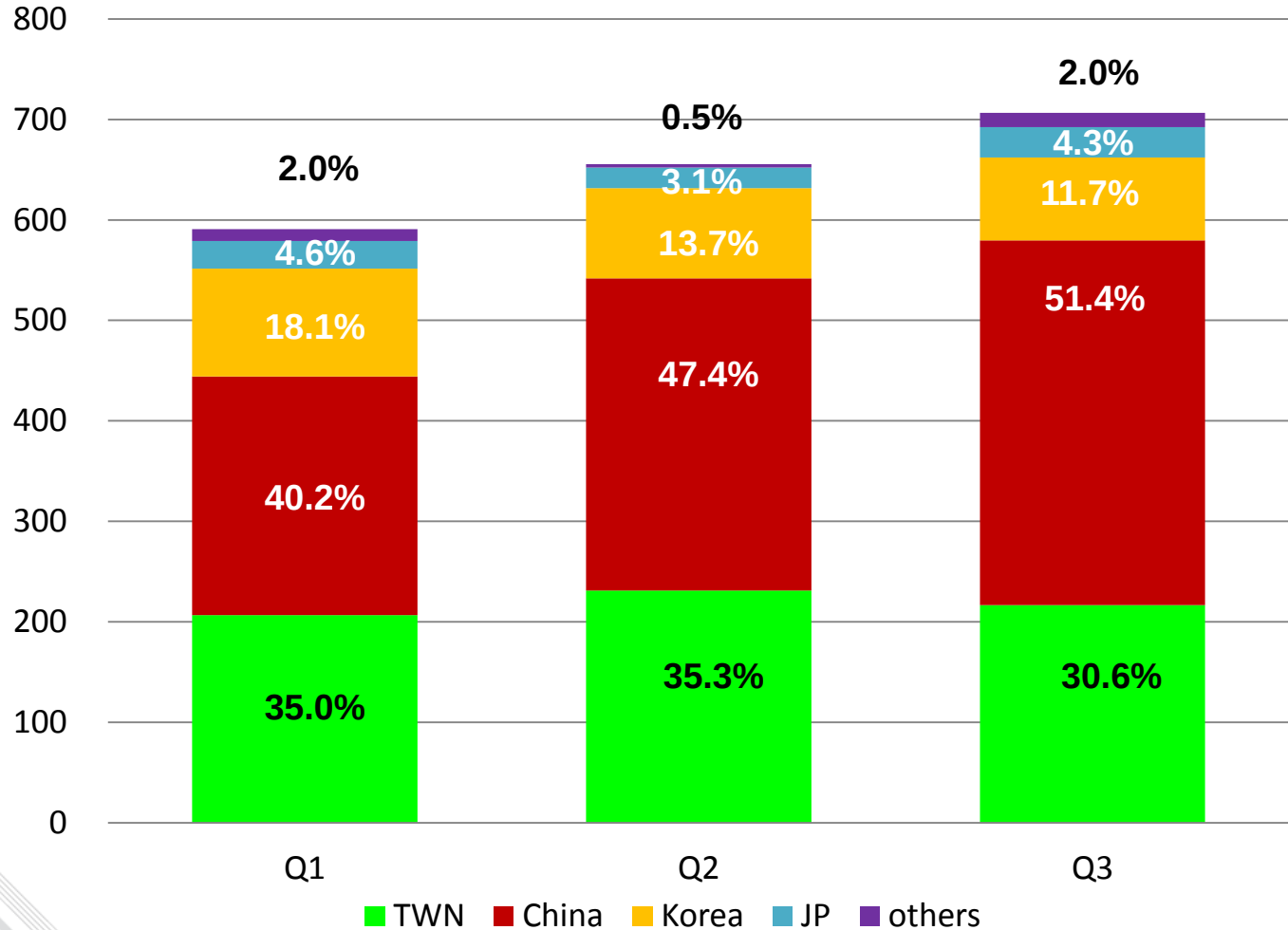


產品組合轉向高階PA和FEM攻佔市場

區域營收與佔比

Unit: NT\$ Million

Regional Sales



2017 第三季營運報告

單位: 百萬新台幣	2017 第三季		2017 第二季		QoQ	2016 第三季		YoY
	總金額	%	總金額	%	%	總金額	%	%
營業淨利	707	100.0%	655	100.0%	7.8%	557	100.0%	26.8%
營業毛利	223	31.5%	238	36.3%	-6.3%	193	34.6%	15.6%
營業費用	157	22.3%	152	23.2%	3.3%	140	25.1%	12.4%
營業利益	66	9.3%	86	13.1%	-23.5%	53	9.5%	24.3%
稅前純益	65	9.2%	89	13.6%	-26.6%	34	6.1%	92.5%
稅後純益	59	8.3%	74	11.3%	-21.0%	30	5.4%	95.5%
EPS	1.07		1.36			0.55		

營運績效隨市占率成長持續往前邁進

