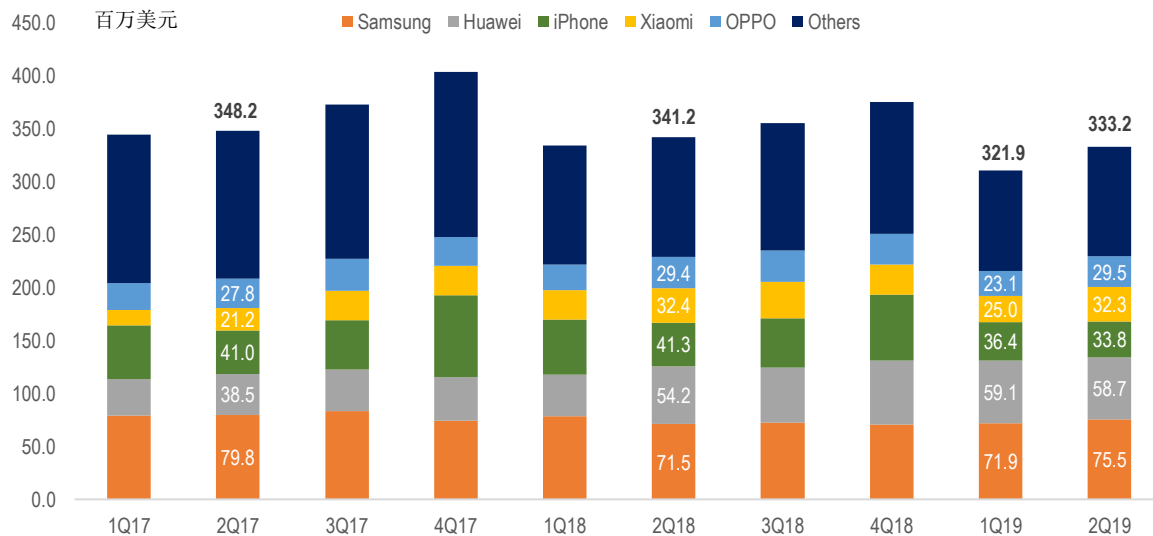




## 智能手机(出货量预测, 产品战略, 5G 影响, 摄像模组)

图 1: 全球前五大智能手机制造商出货量



资料来源: IDC, 尚乘研究

**尚乘评论:** 根据 IDC 的初步数据, 2019 年第二季度全球智能手机出货量达到 3.332 亿部, 环比增长 6.5%, 但同比下降 2.3%。随着 5G 的出现, 一些消费者更加耐心地等待新的 5G 智能手机发布。鉴于更换周期延长, 我们看到智能手机市场在过去几个季度已经失去了增长的动力。竞争格局方面, iPhone 销售增长从 18 年第四季度开始就落后于市场, 其全球市场份额在 19 年第二季度下跌至 10.1%。Android 阵营方面, 中国公司继续获得市场份额, 而市场领导者——三星则在努力保持其领导地位。

尚乘研究

李小明

+852 3163-3384

brian.li@amtdgroup.com



尚乘研究

李蕾

+852 3163-3383

michelle.li@amtdgroup.com

## Shipment forecast

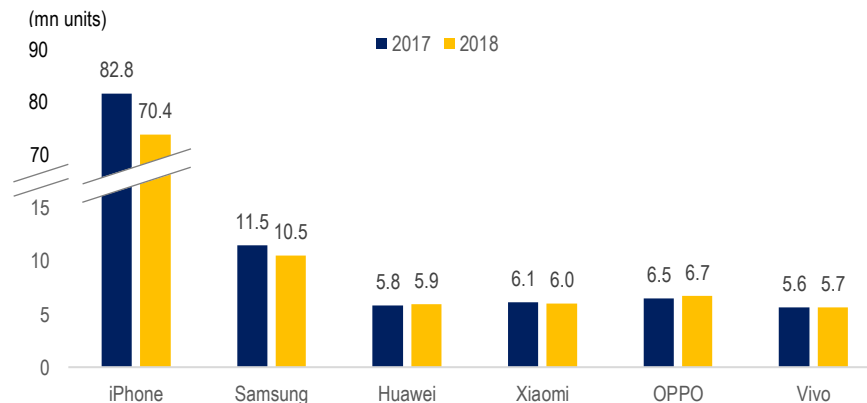
### The edge of Apple's ecosystem is fading

Apple released the iPhone in 2007 and launched the AppStore for the iPhone in 2008. In less than one year, the downloads from AppStore exceeded 500mn times. Since then the AppStore has provided a vastly extensive feature for the iPhone and created a unique ecosystem. Although the choice of iPhones is very limited, people are still keen to buy iPhone. It is not difficult to understand that the main reason behind this is the strong attraction of iPhone's ecosystem.

For iPhone, over 200mn units' annual sales was achieved by only three new iPhone products launched each year. Assuming 3-year replacement cycle, on average, each new product contributed around 70mn-80mn sales volume (single new product annual sales contribution). In contrast, Android camp has much lower figures. Each of the new product launched from Samsung can achieve 10.5mn units of sales, while Chinese brands can only bring around 6mn units of sales. That means, in order to match iPhone sales volume, Android smartphone company need to launch more products every year.

To fill the gap, on one hand, Android is catching up with iPhone on AppStore. According to App Annie, Google Play downloads grew 10% YoY in 2Q19 to nearly 22.5bn, leading iOS in global downloads by 185%. On the other hand, Android camp continues to improve smartphone hardware such as higher pixel and bigger screens, more camera features, etc., to boost the sales. The edge of Apple's ecosystem is now fading. Due to the macro headwinds, improving product competitiveness of Android smartphone, and iPhone's aggressive pricing strategy, iPhone sales have slumped since the fourth quarter of last year.

**Figure 2: Single new product annual sales contribution (3-year avg. sales volume / 3-year avg. no. of new products launched)**



Source: IDC, AMTD Research

However, given the timely adapting new pricing strategy and a series new launches of software updates, we saw the decline in iPhone sales has softened this quarter. According to a series of reports, Apple is expected to announce 3 new iPhones (11 models), comprising iPhone 11, 11 Max, and 11R, in September. Triple-camera system will be introduced in iPhone for the first time, and 7nm A13 SoC, new Taptic Engine, an upgraded Face ID system will be adopted in new iPhones as well. 2019 seems still a transition period for Apple as a batch of new technologies such as 5G, OLED Retina display, folding screen, and 3D ToF camera, would be introduced in September 2020 or later. Based on company's updated guidance, we project that 3Q iPhone shipment will be around 43mn units with full year shipment at around 180mn units.

### Extensive product portfolio helps to boost sales of Android smartphones

Different from iPhone, Android camp has an extensive product portfolio to boost sales. Samsung and Huawei have 6-7 product lines with around 30 new products launched each year, and they can sell 200mn units and 300mn units each year, respectively. Xiaomi, OPPO, Vivo have 5-7 product lines but launch fewer of 20 new models each year to achieve an annual sales of 100mn units. Among them, Samsung, the largest smartphone maker, is also a major smartphone component supplier, manufacturing chip, NAND/DRAM, screen, and OLED RF-PCB/CCM/MLCC (by SEMCO). Coupled with its first-mover advantage in global exposure, Samsung's single new product annual sales contribution is 10.5mn units, 50% to 80% higher than that of its Chinese rivals. (Figure 2)

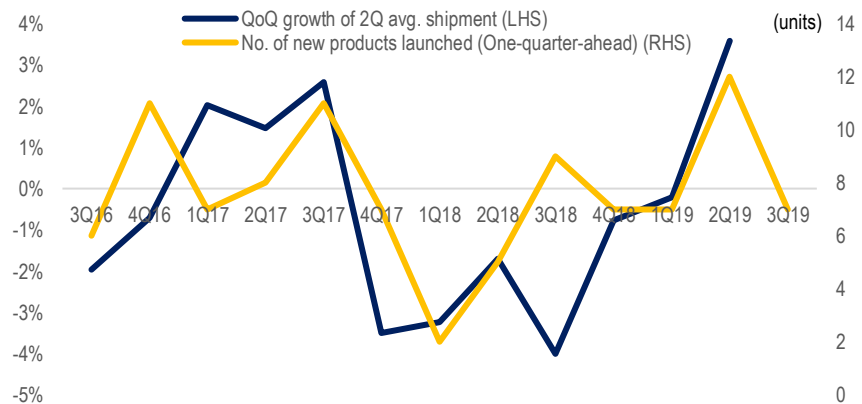
Figure 3: No. of new products launched

	No. product lines	No. of products			
		Current	2016	2017	2018
Samsung	6	31	28	28	19
Huawei	7	23	27	34	19
Xiaomi	5	15	13	17	12
OPPO	7	13	15	20	10
Vivo	7	14	13	22	14

Source: AMTD Research

In general, product development capability determines sales volume (or shipment). Looking into the quarterly data, we found that new products launched in current quarter has a clear positive correlation with the sales volume in this and next quarter. For example, from 3Q17, Samsung's new product launches continued to decrease every quarter, and the average quarterly sales volume growth rate also declined. Until 3Q18, the number of new products rebounded and quarterly sales volume growth regained momentum.

Figure 4: Shipment growth trend vs No. of new products launched trend by quarterly – Samsung



Source: IDC, AMTD Research

For Huawei, we found the same pattern. Based on that, we forecast that Samsung 3Q shipment average 2-month quarterly growth would be below 4%, and Huawei could achieve a growth of 10%.

**Figure 5: Shipment growth trend vs No. of new products launched trend by quarterly – Huawei**



Source: IDC, AMTD Research

**We expect Samsung/Huawei’s global market share increase to 21.7%/18.1% in 2019**

According to latest IDC’s forecast in Jun, global smartphone shipment will decline for the third consecutive year. A total of 1.38bn units will be shipped in 2019, down 1.9% from the 1.41bn units in 2018. From there, the shipment is expected to be back to the growth track as 5G will kick off a new round of smartphone replacement cycle.

Regarding the companies, despite the downward trend narrowing in 3Q, the market share of iPhone will still decline in 2019 due to its poor performance of China market in 1Q and 2Q. Samsung had launched 21 low/mid end (A/J/M series) new products in 4Q18 and 2Q19, helping to boost its sales, and topped Europe market in 2Q. As the US ban on Huawei has not been removed completely, we believe Samsung will continue to gain market share from Huawei in global market. Given the same reason, Huawei refocuses on domestic market to offset the impact from overseas. With its strong and extensive product portfolio, Huawei expanded its lead in China’s smartphone market and brought substantial pressure to its rivals in China market. We project that in 2019, Apple’s market share will drop to 13.0%, and Samsung and Huawei will increase to 21.7% and 18.1%, respectively.

**Figure 6: 2019 smartphone shipment forecast**

Company	Market share					Shipment (mn units)	
	2015	2016	2017	2018	2019E	2018	2019E
Apple	16.1%	14.6%	14.7%	14.4%	13.0%	203	180
Samsung	22.7%	21.0%	21.5%	20.8%	21.7%	292	300
Huawei	7.4%	9.4%	10.4%	14.6%	18.1%	206	250
Xiaomi	4.6%	3.8%	6.2%	8.8%	9.4%	123	130
OPPO	3.0%	6.6%	7.6%	8.0%	8.0%	112	110
Vivo	2.7%	5.1%	6.9%	7.3%	7.2%	102	100
Others	43.6%	39.5%	32.7%	26.2%	22.5%	368	310
Total					100%	1,407	1,380

Source: IDC, AMTD Research estimates

## Product strategy

### **Samsung: chip process determines different product lines; different screen/camera modules provide diversity within certain product line**

Samsung has a wide range of product lines, covering low/mid/high-end products with a price range from less RMB1,000 to more than RMB10,000. Low/mid-end products account for over 60% of total sales volume, so new low/mid-end products are launched every quarter to ensure steady sales growth. In the high-end market, Samsung adopts Dual-flagship product line strategy (Note and S series) to target different market segments (business/youth). In the meanwhile, Samsung launches Note series in 3Q before iPhone's new launches, normally in late 3Q and early 4Q each year, and S series in 1Q next year after iPhone's new launches. In each series, Samsung offers diversified product choices through a combination of different screens and camera modules. Because Samsung produces screens itself, it tends to offer better screens than its rivals at the same price level. On chip selection, Samsung uses its own Exynos (normally 14nm) for low/mid-end product and Qualcomm's Snapdragon 855 (7nm) for its high-end products.

### **Huawei: chip process determines different product lines; different camera modules provide diversity within certain product line**

In terms of number of new products launched each year, Huawei is catching up or even surpassed market leader – Samsung, but it still lags behind in high-end segment. Like Samsung, Huawei also has two high-end product lines, Mate and P series, to target business and youth segment respectively. Mainly competing against Note and S of Samsung, new products of Mate and P series are launched in 4Q and 1Q each year, respectively. AMOLED screen and its own Hisilicon Kirin 7nm process chip are used in high-end Mate and P series. A small portion of low-end products uses Snapdragon/Helio processor, in the same time, different camera modules provide diversified products choice in low/mid-end product lines, which are launched regularly in each quarter.

### **Xiaomi: multi-brand strategy to serve different user segments**

Through the strategy adjustment in the fourth quarter last year, Xiaomi began to adopt multi-brand strategy to serve different user segments. Mi and Redmi target high-end and low/mid end segment, respectively. POCO aims to serve overseas market while Black Shark and Meitu (CC) target to attract game players and young women. In general, each brand seeks high price-performance ratio within its own segment. Nearly all the products of Xiaomi are equipped with Qualcomm's Snapdragon processor. Different chip processes and camera module combinations expand its product portfolio.

### **OPPO & Vivo: expand product lines by different camera combination**

For both brand, quality of screen and chip choice are the major factors in distinguishing different product lines. Only their flagship products are equipped with Qualcomm's Snapdragon 855 7nm processor. Nearly half of OPPO's products use Snapdragon while another half use Helio from MediaTek. Vivo mainly relies on Snapdragon and only a small number of products use Helio. Both brands offer an extensive product choice based on combination of different camera modules. In addition, OPPO developed sub-brand Realme to target India market. Realme is developing its own RealmeOS, which is totally independent from OPPO ColorOS, and the new system will be available by the end of this year or early next year. Vivo also built its own sub-brand iQOO to tap high-end segment.

Figure 7: Summary of new products launched during 3Q18 to 2Q19

Tier	Series	No. of Product	Price range (RMB)	Processor		Camera		Screen	Launch timeline*			
				Majority/Minority	Process	Pixel (front)	CCM (rear)		1Q	2Q	3Q	4Q
<b>Samsung</b>												
Low	M	4	800 – 1,500	Exynos	14nm	500-1600	Dual/Triple	IPS	N			
Low/Mid	J/A	15	700 – 3,500	Exynos/Snapdragon	14nm	800-2400	Dual	AMOLED/IPS	R	R	R	R
High	S	4	> 4,000	Snapdragon	7nm	800-1000	Triple	D AMOLED*	R			
High	Note	5	> 6,000	Snapdragon	7nm	800-1000	Triple	D AMOLED			R	
<b>Huawei</b>												
Low	Changxiang	6	< 2,000	HiSilicon Kirin/ Snapdragon/Helio	12nm/14nm	800	Single/Dual	IPS	R			
Low	Maimang	2	2,000	HiSilicon Kirin/ Snapdragon/Helio	12nm/14nm	800	Dual/Triple	IPS		R		
Low/Mid	Honor	14	800 – 3,000	HiSilicon Kirin	7nm/12nm	800-4800	Single – Quad	IPS/AMOLED	R	R	R	R
Mid	Nova	8	1,000 – 2,500	HiSilicon Kirin	12nm/14nm	2400/3200	Dual/Quad	IPS/OLED	R	R	R	R
High	P	2	> 3,500	HiSilicon Kirin	7nm	3200	Triple	OLED	R			
High	Mate	4	> 3,500	HiSilicon Kirin	7nm	2400	Triple	AMOLED				R
<b>Xiaomi</b>												
Low/Mid	Redmi	7	500 – 2,500	Snapdragon	7nm – 14nm	500-2000	Single – Triple	IPS/AMOLED		R	R	
Mid/High	Xiaomi	10	> 1,500	Snapdragon	7nm – 12nm	2000-3200	Dual/Triple	AMOLED	R			R
<b>OPPO</b>												
Low	Realme	9	600 – 1,500	Snapdragon/Helio	10nm – 14nm	800 - 2500	Dual	IPS		R	R	
Low	K/A	7	1,000 – 2,000	Snapdragon/Helio	10nm – 14nm	800 - 2500	Dual	IPS/OLED	R	R	R	R
Mid/High	R/Reno	7	2,000 – 4,000	Snapdragon/Helio	7nm – 12nm	1600/3200	Dual/Triple	IPS/OLED		N		
Innovative	F/Find	2	2,500 – 5,000	Snapdragon/Helio	12nm	800-4800	Single – Quad	AMOLED	N			
<b>Vivo</b>												
Low	U/Y	12	799 – 2,000	Helio/Snapdragon	12nm	800 - 2000	Single – Triple	IPS				R
Mid	Z/S	9	1,000 – 2,500	Snapdragon/Helio	10nm – 12nm	800 - 2500	Dual/Triple	IPS/S AMOLED*	R	R	R	R
Mid/High	X/NEX	6	2,500 – 4,000	Snapdragon	10nm	1600/3200	Dual/Triple	S AMOLED				
Mid/High	iQOO	3	2,000 – 3,000	Snapdragon	7nm	800-4800	Triple	S AMOLED		N		

\*Note: "N" means "New product launch"; "R" means "regular launch"; "S AMOLED" stands for "Super AMOLED"; "D AMOLED" stands for "Dynamic AMOLED".

Smartphone

5G/Processor

## 5G implication

### 3GPP standard defines different capability requirements for 5G devices

5G is the next-generation mobile technology defined by 3GPP (3rd Generation Partnership Project) – the standard body that also oversaw the development of 3G UMTS (including HSPA) and 4G LTE standards. 3GPP unites telecommunications standard development organizations worldwide and develops protocols for mobile telephony. The first standard (called Release) related to 5G was Release 15, which focuses on the 5G expansion and lays the foundation for the first 5G networks. Release 15 (5G phase 1) defined two solutions for 5G networks: 1) Non-Standalone (NSA): 5G radio systems integrate in previous-generation LTE networks. This solution enables operators to provide 5G services with shorter time and lesser cost. 2) Standalone (SA): An all new 5G radio system is complemented by a next-generation core network.

As Release 15 has matured, 3GPP's focus is now shifting to the Release 16 (5G phase 2), which is expected to introduce standards of 5G NR-V2X for autonomous driving and 5G NR industrial IoT. Release 16 will be completed in June 2020.

### Integrating standalone 5G modem in smartphone is the transitional solution

To seize the first wave of 5G opportunities, smartphone companies cooperated with chip makers to launch the first batch of 5G smartphones. The 5G smartphone debut in 2019 is more symbolic in our view, as 5G network deployment is still in the early stage in many countries and the current 5G solution, which is to add a 5G modem to existing SoC processor, is transitional solution due to the uncertainty of the standards going forward.

Figure 8: Specs of 5G smartphone launched

Company	Product	Segment	Processor	5G modem	Network	Wave bands	Launch	Region
Huawei	Mate 20x	High-end	Hisilicon Kirin 980	Balong 5000	NSA/SA	Sub6 / mmWave	Aug 2019	China
Samsung	A90	Mid-end	Snapdragon 855	X50	NSA	Sub6 / mmWave	Sep 2019	Korea
	S10	High-end	Exynos 9820 /Snapdragon 855	Exynos 5100/X50	NSA	Sub6 / mmWave	Apr 2019	Korea, Europe, Australia, U.S.
	Note 10+	High-end	Exynos 9820 /Snapdragon 855	Exynos 5100/X50	NSA	Sub6 / mmWave	Aug 2019	China, U.S.
Xiaomi	MIX 3	High-end	Snapdragon 855	X50	NSA	Sub6 / mmWave	May 2019	Europe
OPPO	Reno	High-end	Snapdragon 855	X50	NSA	Sub6 / mmWave	May 2019	Europe, Australia
Vivo	iQOO Pro	Mid-end	Snapdragon 855+	X50	NSA	Sub6	Aug 2019	China

Source: AMTD Research

Some of current commercial 5G modems, such as Snapdragon X50 (7nm) and Exynos 5100 (10nm), need to be paired with an LTE modem, which is normally integrated in SoC, and processor to truly work in the mixed network of 5G and 4G. Other newly launched 5G modems, including Hisilicon's Balong 5000 (7nm) and Snapdragon X55 (7nm), although supporting 2/3/4/5G networks on their single chips, they still need to work with processor. As a result, the current 5G solution consumes more power and occupies more space on PCB, because the existing processor integrates useless LTE modem. On the other hand, for 5G network, current 5G modems, except for Hisilicon's Balong 5000 (7nm), only support Non-Standalone (NSA). However, as Standalone (SA) is ultimate goal, operators are accelerating the deployment of SA 5G networks. In particular, China Mobile revealed in MWC 2019 this June that starting from January 1<sup>st</sup>, 2020, new 5G smartphones that only support NSA will not be licensed in mainland China.

We believe, as more standards of 5G are to be settled in the future, SoC processor with integrated 5G modem will be the final solution and gear up for full performance with power efficiency improvement and saving space for other components. According the media report, Qualcomm will ship its first processor with a 5G modem built in in early 2020; integrated 5G SoC may feature new Samsung S11 next year; and MediaTek's first 5G SoC (Helio P70) will start sampling in 3Q and mass production in 1Q20.

**Qualcomm enjoys the first-move advantage in 5G era**

Qualcomm has built up the first-move advantage with the Snapdragon X50 and X55 5G modems and RF front-end (RFFE) solutions by offering a newly integrated Snapdragon 5G mobile platform. Qualcomm is at the heart of the 3GPP, driving many essential inventions across all aspects of the 5G design, from the air interface to the service layer. The number of design wins for 5G have doubled since last quarter to over 155 now, which should bode well for revenue in 2020, in our view.

On the other hand, Snapdragon X50 was introduced in Oct 2016 and now is widely used in the first batch of 5G smartphones by different companies. Snapdragon X55, announced in Feb 2019, with no doubt, will be adopted in different upcoming high-end 5G smartphones. In terms of company, Apple will very likely use Qualcomm chip in its first 5G smartphone launched next year. Samsung will primarily use internally developed Exynos 5G chips and also some Qualcomm chips. Huawei will use its own HiSilicon chips. For other major smartphone companies, such as Xiaomi, OPPO, Vivo, Qualcomm and MediaTek's Helio P70 may share most of the market share. However, if 5G smartphone rollouts are faster than expected, MediaTek would miss the opportunities due to its late 5G SoC timeline.



## Compact camera module (CCM)

### Multi-system camera and computational imaging have gone mainstream

As mentioned above, an extensive selection of camera is an important way to diversify product portfolio, and camera performance has become the focus of the rivalry between smartphone companies. In September 2016, Apple introduced the iPhone 7 Plus using a rear dual camera. With two 12MP sensors, the camera can combine the two perspectives to achieve a shallow depth of field effect. Since then, multi-system camera and computational imaging have gone mainstream. Nowadays, dual CCM has becoming commoditized in low/mid-end models, while premium and flagship handsets have come with quad camera system.

Figure 9: Proportion of different rear CCMs of new products launched during 3Q18 to 2Q19 by company

Company	Segment	Single	Dual	Triple	Quad	Total
Huawei	low/mid	18%	45%	18%	18%	100%
	high	0%	0%	100%	0%	100%
Samsung	low/mid	14%	55%	27%	5%	100%
	high	0%	25%	50%	25%	100%
Xiaomi	Redmi	14%	57%	29%	0%	100%
	Mi	0%	36%	55%	9%	100%
OPPO	low	0%	100%	0%	0%	100%
	mid/high	0%	78%	22%	0%	100%
Vivo	low	26%	42%	32%	0%	100%
	mid/high	0%	33%	67%	0%	100%

Source: AMTD Research

### Within the multi-camera system, more complicated lens sets are trending

Large aperture, long focal length, and big CMOS size are the key factors determining a high quality of photography. With the growing importance of camera performance to smartphone, multi-system camera with combination of ultra-wide, telephoto lens has made an array of new features possible, such as optical zoom, better HDR, portrait modes (depth), 3D, etc. Also, technology competition has led to the constant improvement of lens sets specs with a more complicated structure. Normally, it's impossible to have a set of long focal length lens fit in a slim smartphone, however, with the periscope design, it now can push the extra lens length inside the smartphone body without the need for a big camera hump. At MWC 2018, OPPO announced a 10x optical zoom camera on its high-end smartphone Reno, and in Mar 2019, Huawei launched P30 Pro, its flagship model, featuring a 5x optical zoom periscope-style camera.

Figure 10: Specs of 5G smartphone launched

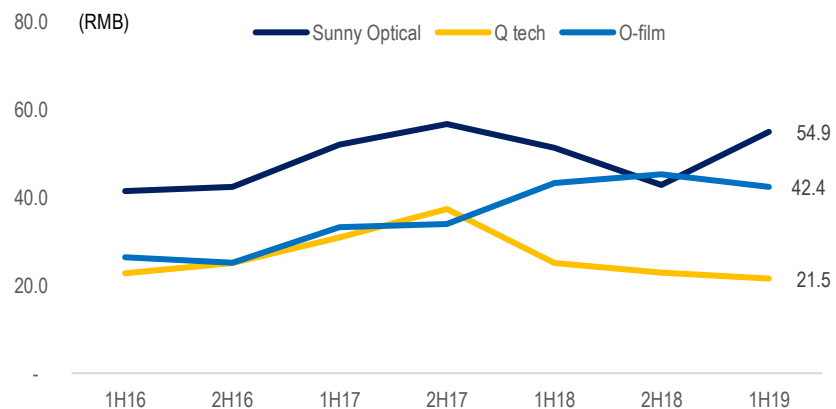
Company	Product	Front CCM		Rear CCM			
		Pixel Aperture	Type	Wide-angle (Main)	Ultra-Wide /Angle	Telephoto /Optical zoom	Other Cameras
Huawei	P30 Pro	3200w F/2.0	Triple+ToF	4000w F/1.6	2000w F/2.2, 120°	800w (Periscope) F/3.4, 5x	ToF
	Nova 5 Pro	3200w F/2.0	Quad	4800w F/1.8	1600w F/2.2, < 120°	-	200w (Depth), 200w (Macro) F/2.4
Samsung	S10	1000w F/1.9	Triple	1200w F/1.5	1600w F/2.2, 123°	1200w F/2.4, 2x	-
	A9s	2400w F/2.0	Quad	2400w F/1.7	800w F/2.4, 120°	1000w F/2.4, 2x	500w (Depth) F/2.2
Xiaomi	Mi9	2000w F/2.0	Triple	4800w F/1.75	1600w F/2.2, 117°	1200w F/2.2, 2x	-
OPPO	Reno	1600w F/2.0	Triple	4800w F/1.7	800w F/2.2, 120°	1300w (Periscope) F/3.0, 5x	-
Vivo	X27 Pro	3200w F/2.0	Triple	4800w F/1.79	1300w F/2.2, 120°	-	200w (Night Vision)

Source: AMTD Research

### CCM ASP growth slows down, while gross margin is under pressure

The wide adoption of Dual/Triple CCM in smartphone has indeed lifted the CCM's ASP since 2016. However, this effect has faded away when entering the second half of 2018. We believe that, on one hand, Dual/Triple CCM began to penetrate to lower price and profit low/mid-end segment (mass market); on the other hand, smartphone manufactures no longer purchase the whole Dual/Triple CCM from one supplier, but instead buy different lens sets of CCM from different suppliers. For example, Triple CCM can be separated into one single CCM plus another Dual CCM. It is because that Qualcomm, MediaTek and Apple have developed processors that integrate dual-lens image processing function, which eliminates the need for algorithms and tuning units within the Dual/Triple CCM.

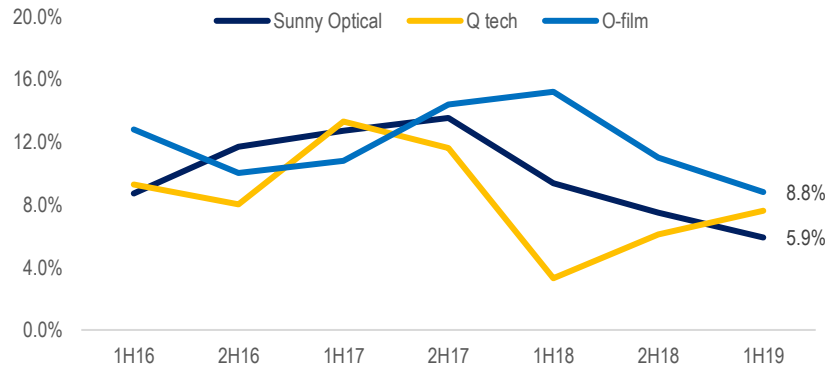
Figure 11: CCM ASP trends by company



Source: Company data, AMTD Research

For the gross margin, apart from the pressure of the ASP, product yield of new CCM products also brings challenges to the gross margin because CCM product cycle becomes shorter and product upgrades become faster. In 1H19, Sunny Optical and O film's gross margin reached record low of 5.9% and 8.8%, respectively.

**Figure 12: CCM gross margin trend by company**



Source: Company data, AMTD Research

**Sunny Optical: gross margin might recover in 2H19**

Sunny Optical reported 1H19 results on 13 Aug. Revenue came in at RMB15.6bn, up 30% YoY/12% HoH, among which CCM revenue was RMB11.7bn, up 27% YoY/12% HoH, and Lens revenue was RMB3.8bn, up 42% YoY/12% HoH, mainly driven by wide adoption of multi-camera module in our view. Blended gross margin was 18.4%. Among them, CCM gross margin hit record low of 5.9%, which we believe was mainly due to the lower product yield of high-end module. CCM ASP rebounded to RMB54.9 in 1H19. Lens gross margin reached 44.1% in 1H19, compared with 42% in 1H18 and 39.6% in 2H18. The gross profit contribution of Lens reached 74% and that of CCM declined to 24% in 1H19. Net profit was RMB1.4bn, up 21% YoY/9% HoH, thanks to non-operating item.

For 2H19, with the product yield improving, we expect a mild recovery of CCM gross margin. In the same time, we also expect good performance of handset lens as Triple CCM has penetrated mass market.

**Q Tech: profitability improved with the help of product mix optimization**

Q Tech reported 1H19 results on 12 Aug. Revenue reached RMB5bn, up 58% YoY, among which CCM revenue was RMB3.9bn, up 52% YoY, and fingerprint revenue was RMB1.1bn, up 81% YoY. CCM revenue was driven by volume (ASP down to RMB21.5) while fingerprint revenue was lifted by ASP (up 116% YoY). Blended gross margin improved slightly to 8.2% from 6.4% in 2H18. Among them, CCM gross margin increased to 7.6% from 6.1% in 2H18, and fingerprint gross margin grew substantially to 10.1% from 6.9% in 2H18, thanks to an improved product mix. Net profit came in at RMB181mn, compared to a net loss of RMB51mn in 1H18.

For the full year of 2019, management: 1) raised guidance of CCM volume growth to 50% YoY; 2) aims to expand capacity to no more than 50kk/month by the end of 2019; 3) maintains the proportion of underglass fingerprint shipment no less than 40%.

## 新闻更新

2019年8月14日

### Realme 将推出手机系统 RealmeOS

智能手机

Realme

Realme 的首席执行官 Madhav Sheth 透露，公司正在计划推出自己的手机系统 RealmeOS，应该在今年年底或明年年初问世。今年早些时候，Realme 在英国为 RealmeOS 申请了商标。有传闻称，该操作系统将基于 Android Q 进行定制。该公司的手机目前使用的是 OPPO 的 Color OS。Realme 曾经是 OPPO 子品牌，目前计划在十月底之前于印度市场发行三款 6,400 万像素的四摄手机。（来源：[Indiatoday](#)）

2019年8月13日

### 大疆发布 Osmo Mobile 灵眸手机云台 3

设备

大疆

大疆发布了一款便携的手机稳定器——Osmo Mobile 灵眸手机云台 3。灵眸手机云台 3 采用可折叠机身，体积大大缩小，并加入了智能跟随等新功能，可以基于深度学习和计算机视觉算法，自动识别、跟踪拍摄对象，将其保持在画面的中心。此外，灵眸手机云台 3 还支持用手势控制来开启自动拍摄。单机版售价为 699 元人民币。（来源：[Verge](#)）

2019年8月13日

### 英伟达在即时对话式 AI 方面取得突破

人工智能

英伟达

英伟达宣布其 AI 计算平台成为首个在 53 分钟内完成对 BERT 的训练、使其在 2.2 毫秒内完成 AI 推演的平台。BERT 是谷歌的开源方案，是当前最先进的 AI 语言模型之一。除了在速度上打破纪录，英伟达还在 Transformers 的基础上建构并训练世界上最大的语言模型，其定制化模型的大小足足是 BERT-Large 的 24 倍。这项语言理解领域的突破将使企业能够通过即时 AI 对话和客户展开互动。微软已经率先采纳这项技术成果。（来源：[NVIDIA](#)）

2019年8月13日

### 阿里平头哥正在研发专用 SoC 芯片

半导体

阿里巴巴

阿里平头哥正在研发一款专用 SoC 芯片，将用于新一代阿里云神龙服务器的核心组件 MOC 卡，以推动下一代云计算技术的升级。此前在 7 月，平头哥刚发布了首款基于 RISC-V 处理器玄铁 910，号称是目前业内性能最好的 RISC-V 处理器，适用于 5G、人工智能以及自动驾驶等领域。（来源：[Sina](#)）

2019年8月13日

### 天马微电子投资 480 亿元人民币建设第 6 代柔性 AMOLED 生产线

模组

天马微电子

天马微电子拟投资 480 亿元人民币，于厦门建设其第 6 代柔性 AMOLED 生产线，其中 210 亿元人民币来自银行贷款。建设周期预计为 30 个月，设计产能为 48,000 件/月。天马预计这次投资将进一步提升其在中小尺寸高端显示领域、特别是 AMOLED 领域的市场地位。（来源：[Sina](#)）

2019年8月11日

### 苹果进一步开发 micro-LED 显示屏

模组

苹果

苹果近期又于欧洲取得了一项新的 micro-LED 显示屏专利，在 micro-LED 领域又取得了新进展。今年，苹果已经获得了四项 micro-LED 显示屏专利，未来将被用于 MacBooks、苹果系列设备甚至电视，其中有两项专利基于量子点技术。另有传闻称，苹果未来将推出配备高端 micro-LED 显示屏的 Apple Watch，且已选中了两家台湾 micro-LED 供应商进行生产。（来源：[Patentlyapple](#)）

2019年8月9日

### 华为发布自主操作系统鸿蒙

智能手机

华为

华为正式发布其基于微内核、面向全场景的分布式自主操作系统鸿蒙。鸿蒙是一个完全开源的系统，有四大特点：满足全场景流畅体验、架构级可信安全、跨终端无缝协同以及一次开发多终端部署。此外，华为还公布了首款搭载鸿蒙操作系统的设备荣耀智慧屏（电视）。（来源：[Huawei](#)）

2019年8月8日

### 小米和三星合作发布 6,400 万像素相机和 1 亿像素相机传感器

模组

小米/三星

小米和三星共同发布一项 6,400 万像素超清相机技术，将首次搭载于 Redmi。这项技术采用了三星的 GW1 传感器，分辨率相比 4,800 万像素提高了 34%。两家公司同时宣布，将推出业内首款具有市场上最高像素数和分辨率的 1 亿像素相机传感器。三星同时在与 OPPO 合作，意图在索尼主导的相机传感器市场中分一杯羹。（来源：[Xiaomi](#)）

2019年8月8日

### 三星发布 Galaxy Note 10/10+

智能手机

三星

三星发布其新款旗舰手机 Galaxy Note 10 和 Note 10+，以应对华为的挑战。Note 10 和 Note 10+ 均可选购 5G 版本，售价分别为 949 美元、1,099 美元，将于 8 月 23 日正式上市。这是 Note 系列首次推出两种尺寸的产品（6.3 英寸/6.8 英寸），为客户带来更多选择，有望帮助三星旗舰销量的提升。华为在移动设备市场上对三星展开了追击，2Q19 市占率达 17.6%；尽管三星仍以 22.7% 的市场份额高居榜首，华为仍然是其不可忽视的竞争者。（来源：[NikkiAsianReview](#)）

2019年8月8日

### Salesforce 以 13.5 亿美元收购软件开发商 ClickSoftware

云服务

Salesforce

Salesforce 与 ClickSoftware 签订协议，将以 13.5 亿美元的现金和股票收购软件开发商 ClickSoftware。此次收购有望加强 Salesforce Service Cloud 作为排名第一的服务平台的领导地位，并推动公司在 Field Service Lightning 上的进一步创新。ClickSoftware 为博世和爱立信等客户提供基于云技术的现场服务管理软件。Salesforce 此前刚于 8 月 1 日完成了对数据可视化公司 Tableau 的 157 亿美元的收购。（来源：[Salesforce](#)）

2019年8月8日

## 韩国 5G 用户数量在 4 个月内突破 200 万

5G/服务

SK Telecom

据业内人士，在推出 5G 服务的 4 个月后，韩国 5G 用户的数量于 8 月 6 日突破 200 万，平均每天新增 2 万左右，速度是专家预测的两倍。这也表明，5G 用户数很可能在年底前翻倍。SK Telecom 以 84 万用户数居首，其次是 KT（63 万）和 LG Uplus（54 万）。预计 SK Telecom 将在本月内成为世界首个拥有超过 100 万 5G 用户的运营商。（来源：[Pulsenews](#)）

2019年8月7日

## 紫光展锐将于 2020 年推出 5G 芯片

半导体

紫光展锐

中国第二大移动芯片制造商紫光展锐计划于 2020 年下半年推出其 5G 移动平台虎贲，一款整合了核心处理器和 5G 调制解调器的 SoC 产品。紫光展锐面向的客户群体是体量较小的中国智能手机制造商及其他想要降低对美国供应商的依赖的企业。紫光展锐已投入了约 2 亿美元以革新其制造工艺、提升产品质量，并从华为和高通挖来了一批人才，希望能够赶上高通、联发科等技术巨头的脚步。（来源：[NikkiAsianReview](#)）

2019年8月7日

## 三星推出全球首款 7nm EUV 芯片 Exynos 9825

半导体

三星

三星发布全球首款采用 7nm EUV 工艺制造的芯片 Exynos 9825。这款芯片集成了 NPU（神经处理单元），以实现 AI 摄影和 AR 功能；且配备有 Exynos 调制解调器 5100，可支持 5G。Exynos 9825 将晶体管性能提高了 20-30%，同时耗电量减少了 30-50%。该芯片可能被装载在美国、日本市场之外所有市场的旗舰机型上。（来源：[Techrepublic](#)）

2019年8月7日

## AMD 发布第二代 EPYC 7002 处理器

半导体

AMD

AMD 推出第二代 EPYC 7002 系列处理器，也是全球第一款 7nm 服务器处理器。第二代 EPYC 7002 处理器在性能方面创造了 80 项世界纪录，性能是上一代产品的 2 倍，总获得成本比同级产品低了 25-50%。这款处理器是为现代数据中心工作负载设计的，覆盖了虚拟化、云端、HPC 和企业应用等方面。谷歌、推特、惠普和联想已经宣布了基于这款处理器的全新部署。（来源：[AMD](#)）

2019年8月7日

## 腾讯正向银行寻求约 50 亿美元的贷款

云服务

腾讯

据彭博社报道，腾讯将向银行寻求 50 亿美元的五年期俱乐部贷款。该公司目前正在进行价格谈判，贷款利率可能将比 Libor 高约 80 个基点。所得款项将主要用于再融资和一般企业用途。腾讯上一次债务融资是 2017 年的一笔五年期银团贷款，总值 46.5 亿美元，利率比 Libor 高 95 个基点，是腾讯迄今为止利率最低、金额最大的一笔贷款。（来源：[Bloomberg](#)）

2019年8月5日

### 1H19 全球半导体销量同比下降 14.5%

半导体

据 SIA，2Q19 全球半导体产业销售额为 982 亿美元，环比增长 0.3%、同比减少 16.8%，连续第三季度呈现年减。其中，6 月销售额为 327 亿美元，环比下降 0.9%、同比下滑 16.8%；上半年总销量同比减少 14.5%。从地区上看，所有区域市场的销售和去年同期相比均有所下滑，美洲下滑最多，降幅达 29.5%，其次是中国（-13.9%）、亚太/所有其他（-13.7%）、日本（-12.8%）和欧洲（-10.9%）。日本是唯一销售额月环比有所改善的地区，增长 2.6%。（来源：[SIA](#)）

2019年8月5日

### 苹果将于 9 月 20 日发布 iPhone 11

智能手机

苹果

软银总裁 Ken Miyuchi 透露新的 iPhone 11 将于 9 月 20 日上市。苹果计划于今年秋天发布三款新的 iPhone，其中两款将使用 OLED 屏幕，另一款则使用 LCD 屏幕。iPhone 11 将配备 Taptic 引擎、7nm 制程的 A13 芯片以及智能框架等新的相机功能。有传闻称新 iPhone 将首度以“Pro”命名。（来源：[9to5mac](#)）

2019年8月2日

### 2018 年索尼在全球 CMOS 市场的市场份额达 50.1%

模组

索尼

三星

据 IHS Markit 数据，索尼 2018 年在全球 CMOS 图像传感器市场上的市场份额为 50.1%，低于 2017 年，但仍占绝对优势。三星排第二，市场份额仅为 20.5%，豪威电子以 11.5%居第三；前五大公司的总市场份额达 90.3%。智能手机的多摄像头化是 CMOS 市场发展的重要动力，索尼在这一方面具有优势，并计划在截至 2020 年的 3 年里在 CMOS 设备上投入 6,000 亿日元。另一方面，车载领域应用于自动驾驶的传感器需求的增长也值得关注。（来源：[NikkiAsianReview](#)）

2019年8月1日

### 2Q19 全球平板电脑出货量同比下降 5.0%

设备

据 IDC，2Q19 全球平板电脑出货量同比下降 5.0%至 3,220 万台。苹果进一步加强其领先地位，出货量同比增长 6.1%，达 1,230 万台，市场份额提高到 38.1%。三星和华为紧随其后，市场份额分别为 15.2%和 10.3%，二者均录得个位数的同比下滑。亚马逊按年增长强劲，出货量增长了 46.3%，市场份额也从 2Q18 的 4.8%上涨到 7.4%，这主要得益于其 Prime 会员日所带来的季节性影响。前五大公司合计占全球总出货量的 76.7%（2Q18：70.1%），市场集中度有所增加。（来源：[IDC](#)）

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### 尚乘环球市场有限公司

地址：香港中环干诺道中 41 号盈置大厦 23 楼 - 25 楼

电话：(852) 3163-3288 传真：(852) 3163-3289

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