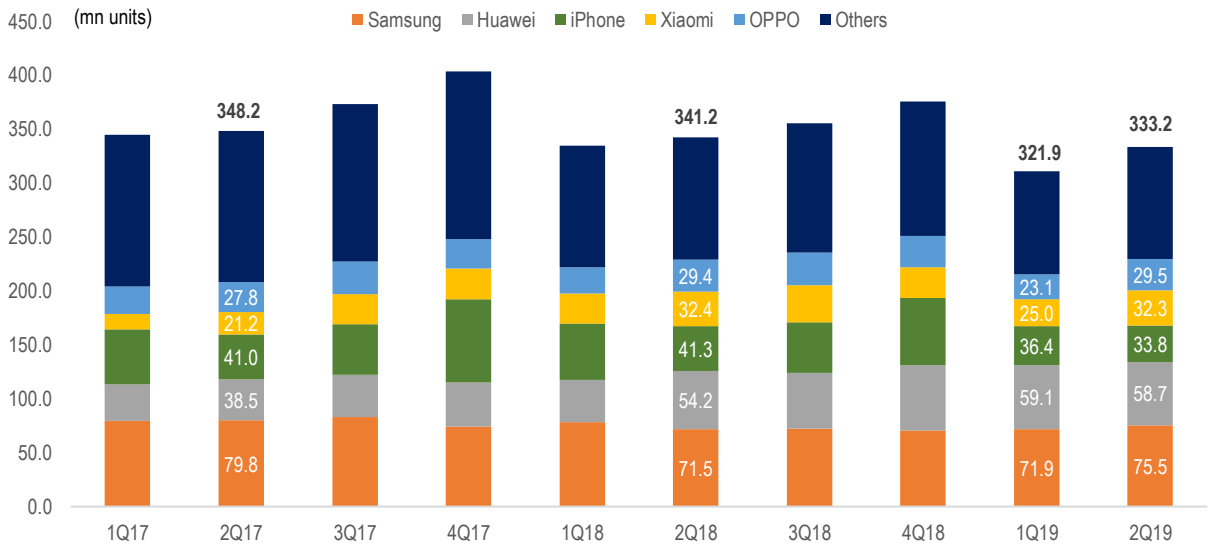
Global Tech Biweekly

Thrusday
22 August 2019

Smartphone (shipment forecast, product strategy, 5G implication, and CCM)

Figure 1: Top 5 smartphone companies' worldwide shipments



Source: IDC, AMTD Research

AMTD comments: According to preliminary data from IDC, global smartphone shipments amounted to 333.2mn units in 2Q19, up 6.5% QoQ but down 2.3% YoY. With 5G on the horizon, some of consumers become more patient and are waiting for new 5G smartphone launches. Given the replacement cycle lengthening, we saw the smartphone market has lost the steam in the past few quarters. Regarding the competitive landscape, iPhone sales growth has underperformed the market since 4Q18 and its global market share fell to 10.1% in 2Q19. Among the Android camp, Chinese companies continue to gain market share, while the market leader – Samsung struggles to maintain its leading position.

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Shipment forecast

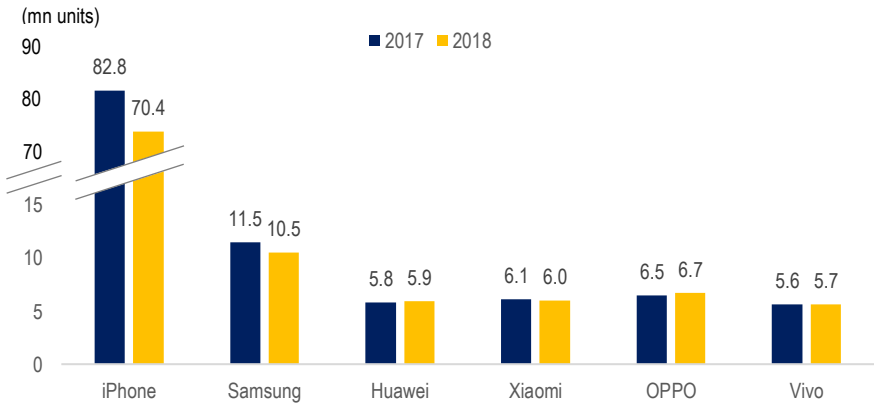
The edge of Apple's ecosystem is fading

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	1H2019
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

					Market share	Shipment (mn units)	
Company	**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		Price range	Processor		Camera		Screen	Launch timeline*			
	No. of Product		(RMB)	Majority/Minority	Process	Pixel (front)	CCM (rear)		1Q	2Q	3Q	4Q
Samsung												
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	
Huawei												
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
Xiaomi												
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
OPPO												
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			
Vivo												
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".

Source: AMTD Research

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 1st, 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

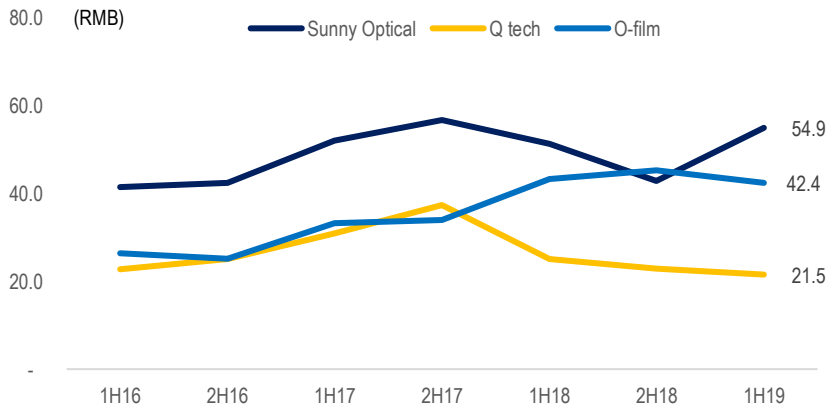
Company	Product	Front CCM	Rear CCM				
		Pixel	Type	Wide-angle (Main)	Ultra-Wide	Telephoto	Other Cameras
		Aperture			/Angle	/Optical zoom	
Huawei	P30 Pro	3200w	Triple+ToF	4000w	2000w	800w (Periscope)	ToF
		F/2.0		F/1.6	F/2.2, 120°	F/3.4, 5x	
	Nova 5 Pro	3200w	Quad	4800w	1600w	-	200w (Depth), 200w (Macro)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

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.

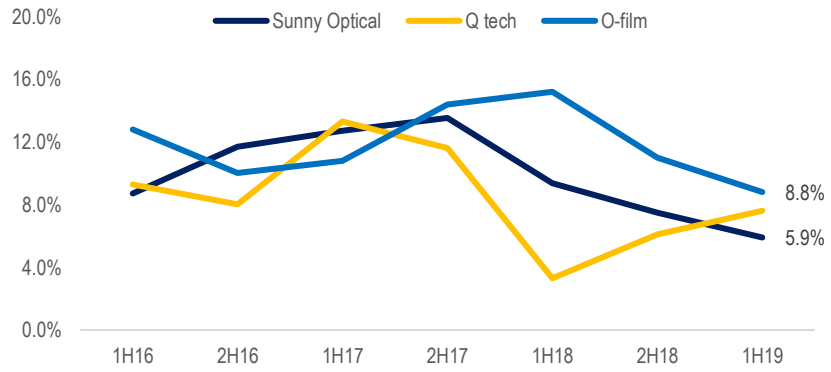
Figure 11: CCM ASP trends by company



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%.

News updates

14 Aug 2019

Smartphone

OPPO/Realme

Realme to launch operating system RealmeOS

Realme, once a sub-brand of OPPO, plans to launch its own operating system RealmeOS by the end of this year or early next year, confirmed by CEO Madhav Sheth. The company filed a trademark application for RealmeOS in the UK earlier this year, and it is rumored that the operating system will be based on Android Q. Realme has by now used OPPO's Color OS for its smartphones. Realme is also set to launch three 64MP quad-camera smartphones in India by the end of October. (Source: Indiatoday)

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13 Aug 2019

Devices

DJI

DJI unveiled phone stabilizer Osmo Mobile 3

DJI unveiled Osmo Mobile 3, a travel-friendly phone stabilizer to help record smoother video. It has a unique folding design which largely reduces its size, and some new features such as ActiveTrack that automatically tracks a subject and keeps them centered in the frame based on deep learning and computer vision algorithms. Osmo Mobile 3 also enables gesture controls to start a self-timer for shooting. The new gimbal is sold at RMB699. (Source: Verge)

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13 Aug 2019

Semiconductor/AI

NVIDIA

NVIDIA achieved breakthroughs in real-time conversational AI

NVIDIA announced its AI compute platform to be the first to train BERT in 53 minutes and complete AI inference in 2.2 milliseconds. BERT is Google's open-sourced technique as well as one of the most advanced AI language models. Apart from the speed record, NVIDIA built and trained the world's largest language model based on Transformers, and the model is 24 times the size of BERT-Large. Those breakthroughs in language understanding allow businesses to engage more naturally with customers using real-time conversational AI. Early adopters of technology include Microsoft. (Source: NVIDIA)

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13 Aug 2019

Semiconductor

Alibaba

Alibaba Pingtouge to develop a dedicated SoC

Alibaba Pingtouge is developing a special SoC for its new-gen X-Dragon Cloud Server's MOC. The company aims to promote the upgrades of next-gen cloud computing technology. Previously in July, Pingtouge has just released the first RISC-V processor Xuantie 910, which is said to provide the industry's highest performance and could be used in 5G, AI, self-driving and other fields. (Source: Sina)

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13 Aug 2019

Module

Tianma

Tianma to invest RMB48bn in its 6-gen flexible production line

Tianma Microelectronics plans to invest RMB48bn to build a 6-gen flexible AMOLED panel production line in Xiamen. Tianma will borrow RMB21bn from banks to meet the capital requirement. The construction period is expected to be 30 months with a designed monthly capacity of 48,000 pieces after completion. Tianma hopes this investment to further enhance its market position in the small and medium-sized high-end display, especially in the AMOLED field. (Source: Sina)

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11 Aug 2019

Module

Apple

Apple working on micro-LED display

Apple was granted a new micro-LED display patent in Europe recently, marking the company's further step into micro-LED fields. This year, Apple has won four patents for micro-LED displays to be used in future MacBooks, iDevices and even a TV, with two of the patents based on Quantum Dot technologies. It is rumored that two Taiwanese micro-LED suppliers had been chosen to produce a future Apple Watch with high-end micro-LED displays. (Source: Patentlyapple)

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9 Aug 2019

Smartphone

Huawei

Huawei launched distributed operating system HarmonyOS

Huawei officially launched its microkernel-based distributed operating system HarmonyOS, which supports a broad range of devices and scenarios. HarmonyOS is fully open-sourced and has 4 main features: 1) smooth: deterministic latency engine and high-performance IPC; 2) secure: a trustworthy and secure architecture; 3) seamless: supporting seamless collaboration across devices; 4) unified: powered by a multi-device IDE allowing apps to be developed once and deployed across multiple devices. Huawei also unveiled the first device embedded with HarmonyOS – Honor Smart Screen (TV). (Source: Huawei)

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8 Aug 2019

Module

Xiaomi/Samsung

Xiaomi and Samsung jointly unveiled 64MP camera and 100MP camera sensor

Xiaomi and Samsung jointly launched an ultra-high resolution 64MP camera technology which will first be adopted by Redmi. The technology is built on Samsung's GW1 sensor and could realize 34% higher resolution than 48MP sensors. The two companies also announced to bring the industry's first 100MP camera sensor featuring the highest pixel count and resolution on the market. Samsung is also collaborating with OPPO to challenge Sony in the camera sensor market. (Source: Xiaomi)

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8 Aug 2019

Smartphone

Samsung

Samsung launched Galaxy Note 10/10+

Samsung unveiled its new flagship phones Galaxy Note 10 and Note 10+ to fend off Huawei's challenge. Note 10 and 10+, with optional 5G connectivity, will be sold at US$949 and US$1,099 respectively. The phones will officially hit the market on Aug 23. It is the first time for the Note series to come with two sizes (6.3-inch/6.8-inch), bringing customers more choices to boost Samsung's flagship sales. Huawei has been catching up with Samsung in mobile devices with a market share of 17.6% in 2Q19, although Samsung still tops the market at 22.7%. (Source: NikkiAsianReview)

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8 Aug 2019

Cloud

Salesforce

Salesforce to buy software developer ClickSoftware at US$1.35bn

Salesforce signed a definitive agreement to buy the software developer ClickSoftware for US$1.35bn in cash and shares. The acquisition is expected to enhance Salesforce Service Cloud's leadership as the No.1 service platform, as well as drive further innovation with Field Service Lightning. ClickSoftware makes cloud-based field service management software tracking offsite work for customers like Bosch and Ericsson. Salesforce has just closed its US$15.7bn deal to purchase data visualization firm Tableau on Aug 1. (Source: Salesforce)

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8 Aug 2019

5G/Services

SK Telecom

South Korea 5G subscribers reached 2mn in 4 months

The number of mobile users subscribed to 5G service in South Korea has reached 2mn on Aug 6, 4 months after the official launch, according to industry sources. The users on average increased by 20,000 each day, twice faster than projected by the industry experts, which means the number of subscription could double by the end of 2019. SK Telecom tops the market with 840,000 subscribers, followed by KT with 630,000 and LG Uplus with 540,000. SK Telecom is expected to win 1mn 5G subscriptions this month. (Source: Pulsenews)

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7 Aug 2019

Semiconductor

UNISOC

UNISOC to launch 5G chip in 2020 to rival Qualcomm

UNISOC, China's second largest mobile chip developer, plans to launch its 5G Tiger mobile platform, an integrated solution combining processor and 5G modem into a SoC, in 2H20. The company targets China's smaller smartphone makers and other makers who aim to cut reliance on U.S. suppliers. UNISOC has invested around US$200mn to renew its processes and improve product quality, and hired talent from Huawei and Qualcomm, trying to catch up with tech giants like Qualcomm and MediaTek. (Source: NikkiAsianReview)

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7 Aug 2019

Semiconductor

Samsung

Samsung unveiled the world's first 7nm EUV processor Exynos 9825

Samsung officially announced its Exynos 9825, the world's first chip based on 7nm EUV process. The processor has an integrated NPU (neutral processing unit) designed for AI-powered photography and AR, and is ready for 5G with the Exynos Modem 5100. It allows for 20-30% higher transistor performance while consumes 30-50% less power. The chipset will probably be used in Samsung's flagship phones except those for the U.S. and Japan markets. (Source: Techrepublic)

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7 Aug 2019

Semiconductor

AMD

AMD announced the 2nd gen EPYC 7002 processors

AMD unveiled its 2nd gen EPYC 7002 processor, the world's first 7nm server processor. The 2nd gen EPYC 7002 sets 80 performance world records, provides 2x the performance compared to the previous generation and its TCO is 25-50% lower than competitive offerings. EPYC 7002 is designed for modern datacenter workloads in virtualization, cloud, HPC and enterprise applications. Google, Twitter, HPE and Lenovo have announced their deployments regarding the new processor. (Source: AMD)

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7 Aug 2019

Cloud

Tencent

Tencent to seek about US$5bn in loans from banks

Tencent sets to raise a five-year club loan of US$5bn from banks, according to Bloomberg. The company is now in price talks for the margin of around 80 bps over Libor. The proceeds will be used for refinancing and general corporate purposes. Tencent last came to the loan market in 2017 with a US$4.65bn five-year syndicated facility at a margin of Libor +95 bps – its cheapest and largest loan ever. (Source: Bloomberg)

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5 Aug 2019

Semiconductor

Global semiconductor sales in 1H19 down 14.5% YoY

According to SIA, the global semiconductor sales were US$98.2bn in 2Q19, up 0.3% QoQ/down 16.8% YoY, marking the industry's third consecutive quarter in year-on-year declines. Global sales for June arrived at US$32.7bn, down 0.9% MoM/16.8% YoY. Cumulatively, the total sales in 1H19 decreased by 14.5% YoY. In terms of regions, semiconductor sales were down YoY across all regional markets, with Americas suffering the heaviest decline of 29.5%, followed by China (-13.9%) and Asia Pacific/All Other (-13.7%), Japan (-12.8%) and Europe (-10.9%). Japan is the only region to enjoy a slight month-to-month increase of 2.6%. (Source: SIA)

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2 Aug 2019

Module

Sony

Samsung

Sony's market share in global CMOS market reached 50.1% in 2018

According to IHS Markit, Sony accounted for 50.1% of the global CMOS sensor market in 2018, lower than that in 2017 but still dominating the market. Samsung ranked 2nd with a market share of 20.5%, followed by OmniVision at 11.5%. The top 5 companies have a total market share of 90.3%. The multi-camera trend of smartphones is an important driver for CMOS market, in which Sony has an advantage and plans to invest JP¥600bn in the equipment. On the other hand, the demands of sensors for self-driving rise, showing a good future for CMOS. (Source: NikkiAsianReview)

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1 Aug 2019

Devices

Global tablet shipments down 5.0% YoY in 2Q19

The global tablet shipment fell to 32.2mn units in 2Q19, down 5.0% YoY, according to IDC. Apple strengthened its leading position with a shipment of 12.3mn units, up 6.1% YoY, which represents an increasing market share of 38.1%. Samsung and Huawei follow Apple with a market share of 15.2% and 10.3%, respectively, both suffering a single-digit YoY decline. Amazon has presented a strong YoY growth of 46.3%, with its market share rising from 4.8% to 7.4% - mainly due to its Prime Day's seasonal effect. The top five companies together accounted for 76.7% of total shipments (2Q18: 70.1%), showing a higher market concentration. (Source: IDC)

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