

Greater China Smartphones

All eyes on the iPhone X – all-new flagship

- Component leaders with spec upgrades should benefit the most, despite volume being back-loaded to 4Q17E
- We stick with our forecast for 95m new iPhones in 2H17; monitor rising risk over sell-through of iPhone 8/8 Plus on higher pricing
- Prefer iPhone X names and component leaders: Largan, AAC, and Sunny remain our sector top picks; take advantage of any pullbacks

 Negative Neutral **Positive**

Positive
 (unchanged)

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What's new: The specs and features of Apple's new iPhone line-up are in line with our expectations and hence dovetail with our positive view of component leaders (see [Benefiting from the ramp-up of new iPhones in 2H17](#), 31 July). We would not rule out share price-corrections amid profit-taking in the near term, which we would take as an opportunity to accumulate our preferred names.

What's the impact: What products were released? At its media event on 12 September, Apple unveiled new iPhones - iPhone X (5.8"), iPhone 8 (4.7"), iPhone 8 Plus (5.5") - as well as a new Apple Watch and Apple TV.

New iPhone specs in-line; iPhone X catches the eye. All the new iPhones take on a new form - metal frame and 2.5D glass cover - and feature faster processors, more memory, better cameras, better sound quality, better water/dust-proofing, and wireless/fast charging. As expected, the headline-grabbing iPhone X dispenses with the home button and Touch ID, features an edge-to-edge AMOLED screen, and includes a TrueDepth camera (3D sensing) to power Face ID for payment and augmented-reality applications such as Animoji (pages 3-4).

Pricing: X roughly in line, 8/8 Plus higher. iPhone X pricing starts at USD999, slightly higher than our USD949 estimate but less than some of the high estimates of USD1,100-1,200. The iPhone 8 will start at USD699 and the 8 Plus at USD799, vs. USD649 for the iPhone 7 and USD769 for the 7 Plus when they were released. The iPhone X will be available from 3 November, and the iPhone 8 and 8 Plus from 22 September, tying in with our view that volume will likely be backend-loaded into 4Q17. In sum, we maintain our new iPhone volume estimate of 95m units in 2H17 (page 2).

What we recommend: We reaffirm our Positive sector view and continue to favour component leaders. For the iPhone supply chain (page 5), we expect positive revenue momentum as shipments ramp up but will wait to see if there is any impact on volume from the higher price points (particularly for the 8/8 Plus). Our sector top picks remain **Largan** (lens upgrades and multi-cams), **AAC** (acoustics upgrades with multi new drivers), and **Sunny** (multi-cams in smart cars and smartphones, despite it not being an Apple play). We also like **GIS** (3D touch upgrades), **Hon Hai** (sole assembler of the iPhone X, with upward margin trends), and **Catcher** (attractive valuation, with market-share gains to offset the risks from no exposure to the iPhone X). Key risk: weaker iPhone sell-through.

How we differ: We are more upbeat than the market on the benefits from spec upgrades for our preferred names.

Greater China Smartphones: Daiwa's preferred names

Company	Ticker	Daiwa rating	Mkt cap (USDbn)
Largan	3008 TT	Buy (1)	26.2
AAC	2018 HK	Buy (1)	21.8
Sunny	2382 HK	Buy (1)	16.7
Hon Hai	2317 TT	Outperform (2)	67.5
Catcher	2474 TT	Outperform (2)	9.0
GIS	6456 TT	Outperform (2)	3.8

Source: Daiwa, based on 12 September, 2017

iPhone production volume by model

(m units)	1Q14	2Q14	3Q14	4Q14	1Q15	2Q15	3Q15	4Q15	1Q16	2Q16	3Q16	4Q16	1Q17	2Q17E	3Q17E	4Q17E	2015	2016	2017E	
iPhone 4/4S	7.5	7.5	5.0	2.0	2.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0
iPhone 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
iPhone 5C	6.5	5.0	4.0	3.0	2.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0
iPhone 5S/SE	26.5	24.0	13.0	6.0	8.0	4.5	4.0	2.5	6.0	9.0	8.0	7.5	5.5	5.5	0.0	0.0	0.0	19.0	30.5	11.0
iPhone 6/6 Plus	0.0	0.0	17.0	63.0	45.5	47.0	19.5	13.5	7.5	5.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	125.5	16.5	0.0
iPhone 6S/6S Plus	0.0	0.0	0.0	0.0	0.0	0.0	22.0	60.0	33.5	28.5	14.0	7.5	4.5	4.0	2.0	2.0	2.0	82.0	83.5	12.5
iPhone 7/7 Plus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.5	61.0	41.0	32.0	22.0	11.5	0.0	83.5	106.5	
iPhone 8/8 Plus/X	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.0	74.0	0.0	0.0	95.0	
Total	40.5	36.5	39.0	74.0	58.0	53.0	46.0	76.0	47.0	43.0	48.0	76.0	51.0	41.5	45.0	87.5	233.0	214.0	225.0	

Source: Daiwa estimates and forecasts; Note: This table represents Daiwa's iPhone production estimates and forecasts, which differ slightly from the iPhone sales figures reported by Apple

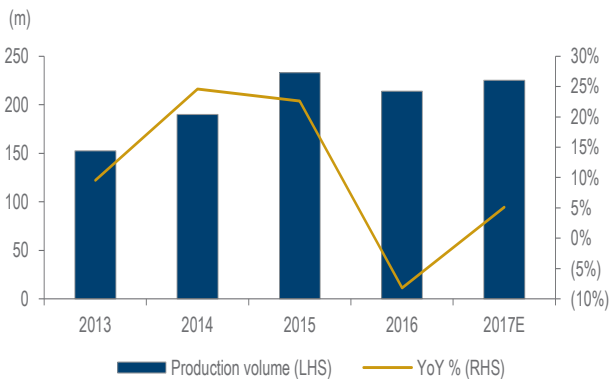
Daiwa's Apple plays and revenue contribution

Company	Ticker	Rating	Price	iPhone % of total sales			Apple % of total sales			2017 YTD PX performance*	
				2017E	2018E	2019E	2017E	2018E	2019E	Abs. (%)	Rel. (%)
Largan	3008 TT	Buy	5860.0	45-50%	45-50%	45-50%	45-50%	45-50%	45-50%	55%	40%
AAC	2018 HK	Buy	139.5	45-50%	45-50%	45-50%	45-50%	45-50%	45-50%	98%	71%
Hon Hai	2317 TT	Outperform	117.0	~50%	~50%	~50%	50-55%	50-55%	50-55%	39%	24%
GIS	6456 TT	Outperform	333.0	45-50%	50-55%	50-55%	~90%	~90%	~90%	264%	249%
Catcher	2474 TT	Outperform	352.5	60-65%	65-70%	70-75%	70-75%	75-80%	75-80%	57%	43%
TPK	3673 TT	Hold	115.5	35-40%	40-45%	40-45%	50-60%	50-60%	50-60%	94%	79%
Casetek	5264 TT	Hold	107.0	0%	<5%	5-10%	85-90%	85-90%	85-90%	25%	10%
ASE	2311 TT	Buy	36.6	20-25%	20%	20%	20-25%	20%	20%	11%	-4%
WinSemi	3105 TT	Buy	175.5	20-30%	20-30%	20-30%	20-30%	20-30%	20-30%	93%	78%
TSMC	2330 TT	Outperform	219.0	15-20%	15-20%	15-20%	15-20%	15-20%	15-20%	21%	6%
Pegatron	4938 TT	Hold	91.8	65-70%	65-70%	70-75%	65-70%	65-70%	70-75%	19%	5%

Source: Daiwa estimates and forecasts

Note: *Based on 12 Sep, 2017 share prices. Abs. represents absolute performance. Rel. represents relative performance. Rel. based on TWSE Index, except for 2018 HK, which is based on HSI Index.

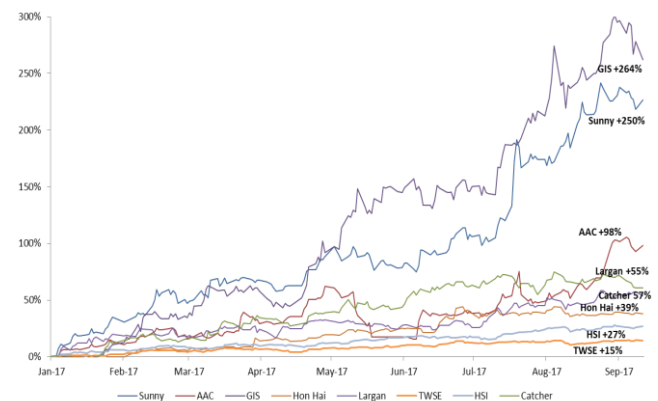
iPhone production volume and growth



Source: Daiwa estimates and forecasts

Note: This chart represents Daiwa's iPhone production estimates and forecasts, which differ slightly from the iPhone sales figures reported by Apple

Greater China Smartphone Sector: preferred names' share-performance YTD








Source: Bloomberg, Daiwa, based on 12 September 2017 closing prices

Valuation summary

Company	Ticker	Price (local curr.)	Daiwa Rating	Mkt cap (USD bn)	EPS (rpt)			PER (x)			EPS growth (%)			ROE (%)			PBR (x)		
					2017E	2018E	2019E	2017E	2018E	2019E	2017E	2018E	2019E	2017E	2018E	2019E	2017E	2018E	2019E
HON HAI PRECISION	2317 TT	117.0	Outperform	67.5	9.1	10.4	11.6	12.8	11.3	10.1	6.6	13.9	11.3	14.1	14.9	15.3	1.7	1.6	1.5
LARGAN PRECISION	3008 TT	5860.0	Buy	26.2	219.5	331.6	402.9	26.7	17.7	14.5	29.5	51.1	21.5	33.6	38.5	35.6	8.0	5.9	4.6
AAC TECHNOLOGIES	2018 HK	139.5	Buy	21.8	4.4	5.7	6.8	28.1	20.4	17.1	32.9	31.0	19.4	32.7	33.2	31.1	8.2	6.0	4.8
SUNNY OPTICAL	2382 HK	118.8	Buy	16.7	2.5	3.6	4.7	41.0	27.8	21.1	115.3	40.8	31.6	44.7	43.2	39.5	15.3	10.2	7.1
CATCHER	2474 TT	352.5	Outperform	9.0	31.5	38.5	42.9	11.2	9.2	8.2	10.1	22.4	11.3	18.5	19.9	19.5	2.0	1.7	1.5
GIS	6456 TT	333.0	Outperform	3.8	20.8	25.0	28.9	16.0	13.3	11.5	122.6	20.0	15.7	44.9	40.4	36.3	6.2	4.7	3.7
FIH Mobile	2038 HK	2.55	Hold	2.6	-0.01	0.02	0.02	n.m.	17.8	15.9	n.m.	n.m.	12.4	n.m.	4.2	4.6	0.8	0.7	0.7
HTC	2498 TT	65.9	Sell	1.8	-5.7	-3.9	-3.3	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	1.2	1.2	1.3
TPK	3673 TT	115.5	Hold	1.3	8.8	9.5	10.3	13.2	12.1	11.2	n.m.	8.7	8.5	9.9	9.8	9.9	1.2	1.1	1.1
Casetek	5264 TT	107.0	Hold	1.2	8.3	10.4	11.0	12.9	10.3	9.7	0.4	25.6	5.6	9.5	11.3	11.2	1.2	1.1	1.1
TXC	3042 TT	40.4	Hold	0.4	3.4	3.7	4.2	11.9	10.8	9.5	3.1	10.0	13.3	10.7	11.5	12.6	1.3	1.2	1.2

Source: Bloomberg, Daiwa; *based on 12 September 2017 closing prices

iPhone spec comparison

Name	iPhone X	iPhone 8 Plus	iPhone 8	iPhone 7 Plus	iPhone 7
Photo					
Launch Date	12 September, 2017	12 September, 2017	12 September, 2017	07 September, 2016	07 September, 2016
Price (Contract price)	USD 49.91/mo. (Upgrade programme) (64GB/256GB)	USD 39.50/mo. (Upgrade programme) (64GB/256GB)	USD 34.50/mo. (Upgrade programme) (64GB/256GB)	USD 37.41/mo. (Upgrade programme) (32GB/128GB/256GB)	USD 32.41/mo. (Upgrade programme) (32GB/128GB/256GB)
Price (unlock price)	USD 999 (64GB/256GB)	USD 799 (64GB/256GB)	USD 699 (64GB/256GB)	USD 769* (32GB/128GB/256GB)	USD 649* (32GB/128GB/256GB)
Cellular	LTE/ 3G	LTE/ 3G	LTE/ 3G	LTE/ 3G	LTE/ 3G
Dimensions	143.6 x 70.9 x 7.7 mm	158.4 x 78.1 x 7.5 mm	138.4 x 67.3 x 7.3 mm	158.2 x 77.9 x 7.3 mm	138.3 x 67.1 x 7.1 mm
Weight:	174 g (6.14 oz)	202 g (7.13 oz)	148 g (5.22 oz)	188 g (6.63 oz)	138 g (4.87 oz)
Casing	Stainless steel frame + 2.5D glass cover	Aluminium + 2.5D glass cover	Aluminium + 2.5D glass cover	Aluminium	Aluminium
Color	Sliver/Space gray	Gold/Silver/Space gray	Gold/Silver/Space gray	Jet black/Black/Gold/ Silver/Rose gold	Jet black/Black/Gold/ Silver/Rose gold
NFC	Yes	Yes	Yes	Yes	Yes
Fingerprint Scanner	No	Yes	Yes	Yes	Yes
Face ID	Yes	No	No	No	No
Embedded OS	iOS 11	iOS 11	iOS 11	iOS 10	iOS 10
Display Diagonal	5.8" (Super Retina)	5.5" (Retina)	4.7" (Retina)	5.5" (Retina)	4.7" (Retina)
Display Feature	3D Touch Display	3D Touch Display	3D Touch Display	3D Touch Display	3D Touch Display
Display Resolution	2436 x 1125 pixels	1920 x 1080 pixels	1334 x 750 pixels	1920 x 1080 pixels	1334 x 750 pixels
PPI	458 ppi	401 ppi	326 ppi	401 ppi	326 ppi
CPU	Apple A11 Bionic 64-bit with embedded M11 motion coprocessor	Apple A11 Bionic 64-bit with embedded M11 motion coprocessor	Apple A11 Bionic 64-bit with embedded M11 motion coprocessor	Apple A10 Fusion 64-bit	Apple A10 Fusion 64-bit
ROM capacity	64/256 GB	64/256 GB	64/256 GB	32/128/256 GB	32/128/256 GB
Wireless LAN:	802.11 ac Wi-Fi with MIMO	802.11 ac Wi-Fi with MIMO	802.11 ac Wi-Fi with MIMO	802.11 a/b/g/n/ac Wi-Fi with MIMO	802.11 a/b/g/n/ac Wi-Fi with MIMO
Camera resolution	12MP+12MP, Dual OIS	12MP+12MP, Single OIS	12MP, Single OIS	12MP+12MP, HDR	12MP+OIS, HDR
Flash	(Quad-LED True Tone flash)	(Quad-LED True Tone flash)	(Quad-LED True Tone flash)	(Quad-LED True Tone flash)	(Quad-LED True Tone flash)
Camcorder	4K@60fps	4K@60fps	4K@60fps	4K@30fps	4K@30fps
Secondary Camera	7MP, HDR	7MP, HDR	7MP, HDR	7MP, HDR	7MP, HDR
Stand-by	Up to 10 days	Up to 16 days	Up to 10 days	Up to 16 days	Up to 10 days
Wireless charging	Yes	Yes	Yes	No	No
Fast charging	Up to 50% charge in 30 mins	Up to 50% charge 30 mins	Up to 50% charge in 30 mins	No	No
Splash, water and dust resistant	IP67	IP67	IP67	IP67	IP67
Available Date	3-Nov-17	22-Sep-17	22-Sep-17	16-Sep-16	16-Sep-16
Pre-order Date	27-Oct-17	15-Sep-17	15-Sep-17	9-Sep-16	9-Sep-16
Availability	Andorra, Australia, Austria, Bahrain, Belgium, Bulgaria, Canada, China, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Greenland, Guernsey, Hong Kong, Hungary, Iceland, India, Ireland, Isle of Man, Italy, Japan, Jersey, Kuwait, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Mexico, Monaco, Netherlands, New Zealand, Norway, Poland, Portugal, Puerto Rico, Qatar, Romania, Russia, Saudi Arabia, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, Taiwan, UAE, the UK, the US and US Virgin Islands	Australia, Austria, Belgium, Canada, China, Denmark, Finland, France, Germany, Hong Kong, Ireland, Italy, Japan, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Portugal, Puerto Rico, Singapore, Spain, Sweden, Switzerland, Taiwan, UAE, the UK, the US and US Virgin Islands	Australia, Austria, Belgium, Canada, China, Denmark, Finland, France, Germany, Hong Kong, Ireland, Italy, Japan, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Portugal, Puerto Rico, Singapore, Spain, Sweden, Switzerland, Taiwan, UAE, the UK, the US and US Virgin Islands	US, Australia, Austria, Belgium, Canada, China, Denmark, Finland, France, Germany, Hong Kong, Ireland, Italy, Japan, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Portugal, Puerto Rico, Singapore, Spain, Sweden, Switzerland, Taiwan, UAE, UK, US Virgin Islands	US, Australia, Austria, Belgium, Canada, China, Denmark, Finland, France, Germany, Hong Kong, Ireland, Italy, Japan, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Portugal, Puerto Rico, Singapore, Spain, Sweden, Switzerland, Taiwan, UAE, UK, US Virgin Islands

Source: Companies, Daiwa

Note:*Apple lowered iPhone7/7 Plus prices by USD100 on 12 September to USD549/669, respectively.

Key features in the new iPhones

New form factor: iPhone X, iPhone 8 and iPhone 8 Plus



Wireless charging: iPhone X, iPhone 8 and iPhone 8 Plus



Stereo sound: iPhone X, iPhone 8 and iPhone 8 Plus



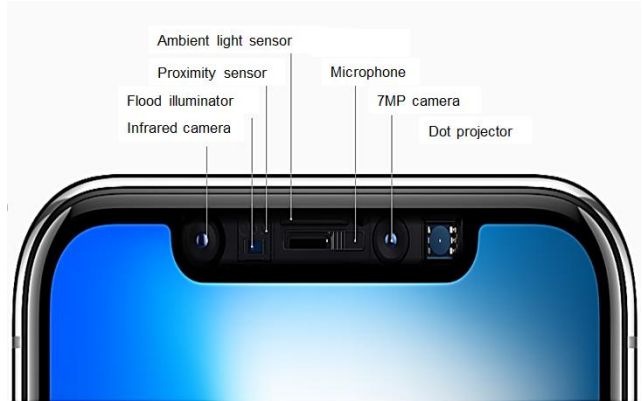
Improved splash, water and dust proofing: iPhone X, iPhone 8 and iPhone 8 Plus



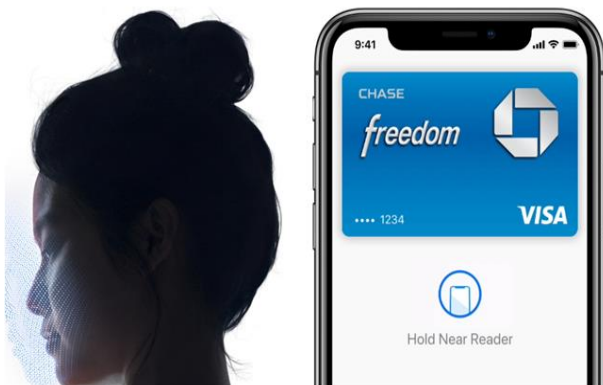
Better cameras calibrated for AR: iPhone X and iPhone 8 Plus



TrueDepth camera: iPhone X



Face ID: iPhone X



Animoji: iPhone X



Source: Company and Daiwa

Apple iPhone X and iPhone 8/8 Plus supply chain

	iPhone X	iPhone 8/8 Plus
Semiconductor		
Processor	TSMC (2230 TT)	
4G modem	Qualcomm (QCOM US), Intel (INTC US)	
Cellular PA IC	Avago (AVGO US), Skyworks (SWKS US), Qorvo (QRVO US)	
Cellular PA foundry	WinSemi (3105 TT), AWSC (8086 TT)	
WiFi module	Murata (6981 JP)	
WiFi , Bluetooth, GPS	Broadcom (AVGO US)	
Nand Flash	Toshiba (6502 JP), SK Hynix (000660 KS), Samsung (005930 KS)	
Mobile DRAM	Samsung (005930 KS), SK Hynix (000660 KS), Micron (MU US)	
3D sensing TX: Laser diode	Lumentum (LITE US), Winsemi (3105 TT)	
3D sensing TX: WLO/DOE	AMS (AMS SW), TSMC (2330 TT), Xintech (3374 TT), VisEra (Private)	N/A
PWM IC	Dialog semiconductor (DLG GR)	
NFC	NXP (NXPI US)	
Wireless charging IC	Broadcom (AVGO US)	
Proximity sensor: IC/WLO	ST Micron (STM US)/ Himax (HIMX US)	ST Micron (STM US)
Fingerprint sensor	N/A	AAPL (AAPL US)
SiP module	ASE (2311 TT)	
Gyro sensor	TDK (6762 JP)	
Display		
AMOLED	Samsung (005930 KS)	N/A
X-Y touch sensor	Nissha Printing (7915 JP)	N/A
Incell TFT-LCD	N/A	Japan Display (6740 JP), LG Display (034220 KS), Sharp (6753 JP)
Display driver IC	Samsung (005930 KS)	Synaptics (SYNA US)
Forcetouch IC	Broadcom (AVGO US)	
Forcetouch sensor	Nissha Printing (7915 JP)	NOK (7240 JP), ZD Tech (4958 TT)
Forcetouch lamination	GIS (6456 TT), TPK (3673 TT)	
Backlight module	N/A	Minebea (6479 JP), Radiant (6176 TT), Elitcom (041520 KS)
Components		
3D sensing module	LG Innotek (011070 KS)	
3D sensing RX: lens sets	Largan (3008 TT), Genius Optical (3406 TT)	
3D sensing RX: CMOS sensor/RW	ST Micron (STM US)/Tong Hsing (6271 TT)	N/A
3D sensing RX: filter	Viavi (VIAV US)	
Rear camera module	LG Innotek (011070 KS), Sharp (6753 JP)	
Front camera module	Cowell (1415 HK), O-film (002456 SZ), Hon Hai (2317 TT)	
Rear camera lens sets	Largan (3008 TT), Kantatsu (Private), Genius Optical (3406 TT)	
Front camera lens sets	Genius Optical (3406 TT), Largan (3008 TT)	
VCM/OIS module	ALPS (6770 JP), Mitsumi (6767 JP)	
Front/rear camera: CMOS sensor	SONY (6758 JP)	
Acoustic	AAC (2018 HK), Goertek (002241 CH), Merry (2439 TT)	
Haptics	AAC (2018 HK), NIDEC (6594 JP), ALPS (6770 JP)	
Casing: metal frame	Hon Hai (2317 TT), Foxconn Tech (2354 TT), Jabil (JBL US)	Catcher (2474 TT), Hon Hai (2317 TT), Foxconn Tech (2354 TT), Jabil (JBL US)
Casing: glass cover	Lens Technology (300433 CH), Biel Crystal (Private)	
Waterproofing o-ring	Jabil (JBL US), Tongda (698 HK)	
Crystal	TXC (3042 TT), Seiko Epson (6724 JP), NDK(6779 JP), Daishinku (6962 JP), Kyocera (6971 JP)	
MLCC	Murata (6981 JP), SEMCO (009150 KS), Taiyo Yuden (6976 JP), TDK (6762 JP)	
Connector, cable and charger	Luxshare (002475 CH), Hon Hai (2317 TT), Cheng Uei (2392 TT), Flextronics (FLEX US), JAE (6807 JP)	
Flexible PCB	Flexium (6269 TT), NOK (7240 JP), ZD Tech (4958 TT), MFLEX (MFLX US), Sumitomo (5802 JP), Interflex (051370 KS), Fujikura (5803 JP), Career (6153 TT)	
RF-PCB	ZD Tech (4958 TT), Compeq (2313 TT), Unitech (2367 TT), Unimicon (3037 TT), Interflex (051370 KS), BH (090460 KS), SEMCO (009150 KS), YoungPoong (Private)	
Substrate-like PCB	AT&S (ATS AV), TTM (TTMI US), Kinsus (3189 TT), Compeq (2313 TT), Ibsiden (4062 JP), Unimicon (3037 TT), ZD Tech (4958 TT)	
Battery cell	TDK/ATL (6762 JP), Tianjin Lishen (Private), Samsung SDI (006400 KS), LG Chemical (051910 KS)	
Battery packaging	Desay (000049 CH), Sunwoda (300207 CH), Simplo (6121 TT)	
Assembly		
	Hon Hai (2317 TT)	Pegatron (4938 TT), Hon Hai (2317 TT), Wistron (3231 TT)

Source: Company data, Daiwa research

Apple Watch specs comparison

Name	Apple Watch Series 3 (GPS+ cellular)	Apple Watch Series 3 (GPS)	Apple Watch Series 2*
Photo			
Launch Date	September, 2017	September, 2017	September, 2016
Price	USD 399	USD 329	USD 369
Dimensions	38mm/42mm	38mm/42mm	38mm/42mm
Casing	Stainless Steel/ Aluminium/Ceramic	Stainless Steel/ Aluminium/Ceramic	Stainless Steel/ Aluminium/Ceramic
Watch Color	Space gray/Gold/ Silver	Space gray/Gold/ Silver	Space gray/Gold/ Silver
Wireless Charging	Yes	Yes	Yes
NFC	Yes	Yes	Yes
Cellular	Yes	No	No
Heart Rate Sensor	Yes	Yes	Yes
Built-in GPS	Yes	Yes	Yes
Water resistance	Yes	Yes	Yes
Embedded OS	iOS-based	iOS-based	iOS-based
Bluetooth	4.2	4.2	4.0
Wireless LAN	802.11 b/g/n	802.11 b/g/n	802.11 b/g/n
Available Date	September, 2017	September, 2017	September, 2016

Source: Companies, Daiwa

Note:*Apple Watch Series 2 is no longer available in the Apple Store

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