

## Low earnings' visibility still keep investors aside

Rating Sell Maintain HK\$2.87 **Target** Current HK\$5.34

From HK\$3.03 Upside.-46.2%

1H18 loss in-line partly compensated by other gains; GM far short of consensus, FP posted a -ve GM

With similar reasons mentioned in the last profit warning alert, Q Tech's 1H18 result (net loss of ~RMB 50mn) was in-line with the announcement in July. However, Q Tech's GM was only at 1.2% (drop 10.9ppts Yoy) which was materially fell short of 1H18E and FY18E market estimates (1H18E:7.6%; FY18E:7.8%). Management further explained in the analyst meeting that FP posted a -7.9% GM, while CCM GM was only at 3% in 1H18.

This further confirms our previous view that the net loss was also contributed by i) adoption of more aggressive pricing strategy; ii) lower than expected CCM product yield dragged by wider adoption of integrated lens set (MOC) which Q Tech is still on the learning curve; iii) lower than expected utilization rate due to weakened market demand also contributed to the net loss and iv) RMB24.8mn share of loss of an associate (Newmax). In addition, we also noticed that the net operating loss of RMB14.4mn was partly compensated by i) RMB 96.6mn other income (incl. RMB82mn government grants and RMB13.9mn unrealized gain on other financial assets) and ii) ~RMB0.97mn net gain on FX option contracts, otherwise we believe the net operating loss would come in at ~RMB112mn and as a result a larger than expected net loss.

7M18 shipment slightly ahead of forecasts; Dual-cam CCM accounted for low-teens of shipment; Continue to target automobile industry

In 1H18, Q Tech's ≥ 10MP CCM accounted for 39.7% of total CCM shipment, while <10MP contributed the remaining 60.3% (vs. 47.5% in 2H17). Based on our calculation, <10MP CCMs' ASP slumped 51% to ~RMB11.6 as Q Tech supplied low margin <5MP CCM to Huawei. Meanwhile, Q Tech also disclosed for the first time that the dual cam shipment accounted for ~11% of total shipment (vs. 16.6% in 2H17 and 7.2% in 1H17).

Q Tech's 7M18 total CCM shipment rose 24.7% Yoy to ~126mn (+23.6% Yoy, accounted for 66.2% of our estimates. The CCM growth was well ahead of our FY18E forecast (190mn shipment, +10%), in which ≥10MP shipment rose 58.5% MoM/50.9% Yoy to 11.1mn pc and accounted for 48.1% of total CCM shipment.

Q tech announced in end July that they made substantial breakthrough in developing new products such as 3D structured light modules and under-glass fingerprint recognition modules. Q tech has secured the first batch of purchase orders and notices of material preparation in respect of supply >1mn units of 3D structured light modules from a leading Chinese leading smartphone brand. In our report in July, we have mentioned that that Q tech is reported to have already shipped 3D structured light camera module samples to Huawei and target to be one of the suppliers (other suppliers include Sunny Optical and O-film) for the rumoured Mate 20 (expected to be unveiled in late 2018).

In view of recent flagships unveiled by Chinese smartphone players tends to adopt under glass fingerprint module (UGFP), we do not expect a wide/ meaningful 3D structured light camera module adoption by Chinese players in 2H18 and 1H19 until Mate 20 has officially launched and hence received good market response. We are still looking forward to a more consistent improvement in CCM shipment mix

## Results Takeaway

30 August 2018

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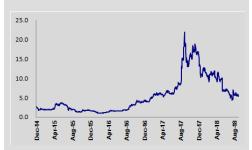
#### **Trading data**

52-Week Range (HK\$)	23.25/4.27
3 Mth Avg Daily Vol (m)	9.3
No. of Shares (m)	1,131.7
Market Cap (HK\$m)	6,043.4
Major Shareholders (%)	He Ning Ning
	(68.58%)
Auditors	KPMG
Result Due	FY18:Mar 2019

#### **Company description**

Established in 1997 and listed in HKEx in 2014, Q-tech is a leading PRC-based camera module manufacturer focusing on mid-to-high end camera module market for Chinese branded smart phone and tablet PC manufacturers. Q-tech was one of the first few manufacturers in China to use the COB (chip on board) and COF (chip on flex) assembly technologies in the manufacture of camera modules. Current customer portfolio includes leading Chinese smartphone players such as vivo, OPPO and Huawei etc

#### **Price chart**



Sources: Bloomberg, CIRL

Meanwhile, Q Tech is reported to be the sole supplier for OPPO Find X's 25M P O-face recognition front camera module, while also being the 2<sup>nd</sup> tier supplier for vivo NEX's 8MP front camera module, we expect the contribution to Q-tech would be minimal.

#### ■ UGFP expected to ramp up amongst Chinese Android camp

In 1H18, Q-Tech shipped 45.1mn pieces of FPC (+31.6% Yoy) which accounted for 46.6% of our FY18E estimates (volume +20% in FY18E) and vs. 42.50% in 1H17.

Q Tech has started to ship small amount of optical/under glass fingerprint recognition modules (UGFP) to clients in 2Q18, and they have also announced in end July that has secured the first batch of purchase orders and notices of material preparation in respect of supply >7mn units of UGFP from a leading Chinese leading smartphone brand.

We noticed that the adoption of optical/under glass FPC by Chinese brands' flagships has been gradual (adopted in Vivo X20 plus UD, X21 UD, NEX flagship, Huawei Mate RS Porsche Design, Xiaomi Mi 6, Mi 8 Explorer Edition and OPPO's Find X). However, we expect traditional FPC (on screen FP) would still make up the majority of FY18E shipment, hence expect ASP would still face downside pressure in FY18E.

# Unattractive valuation on low earnings visibility and product roadmap; Reiterate Sell

revised Q-tech's FY18E/FY19E/20E diluted EPS 6.2%/4.6%/-7.8% earnings, by factoring in one off gains in FY18E, gradual improvement in product mix and ASP, while we further revised down GM assumption to factor in weaker than expected 1H18 GM. Our FY19E/20E net profit forecasts are 17.1%/28.3% lower than Bloomberg consensus to reflect our conservative view towards Q Tech's earnings recovery and management's execution on medium term product roadmap. We lower Q Tech's TP from HK\$3.03 to HK\$2.87 (which implies FY19E 10.4x PE and similar to our last update), while their 45% discount unchanged to leading players including Sunny Optical (2382.HK), O-Film (002456 CH) and LG Innotek (011070 KS) to leading players' average PE at 18.7x., we reiterate Q-tech's Sell rating and advise investors to take profit/ reduce their position during recent rebound.

Exhibit 1: Q Tech's shipment from 1Q16-2Q18 Product Shipment (k pieces) 1Q16 2Q16 3Q16 4Q16 1Q17 2Q17 3Q17 4Q17 1Q18 2Q18 25,819 23,739 ≤8MP (k units) 27,033 35,032 31,217 39,093 18,597 28,250 18,816 36,111 Yoy(%) -31.2% -19.4% -24.0% -51.9% 38.8% 27.8% 25.2% QoQ(%) 29.6% -10.9% -52.4% 51.9% -16.0% -20.7% 37.2% 39.9% ≥10 MP (k units) 3,126 7,231 11,184 19,949 17,655 18,686 23,486 23,460 17,950 22,876 Yoy(%) 464.8% 158.4% 110.0% 17.6% 1.7% 22.4% QoQ(%) 131.3% 54.7% 78.4% -11.5% 5.8% 25.7% -0.1% -23.5% 27.4% **Total CCM** 30,159 42,263 42,401 59,042 36,252 46,936 47,225 42,276 43,769 58,987 Yoy(%) 20.2% 11.1% 11.4% -28.4% 20.7% 25.7% QoQ(%) 40.1% 0.3% 39.2% -38.6% 29.5% 0.6% -10.5% 3.5% 34.8% ≥ 10 MP % of CCM shipment 10.4% 17.1% 26.4% 33.8% 48.7% 39.8% 49.7% 55.5% 41.0% 38.8% 20,993 353 967 3,263 16,032 18,289 19,488 26,919 Fingerprint recognition module 16,421 24,179 269167.2% Yoy(%) 4441.6% 1791.3% 497.2% 63.9% 30.9% 32.2% QoQ(%) 5788.4% 173.9% 237.4% -2.4% 38.1% -22.0% 15.2% 403.2% 14.1% 6.6% Total 30,512 43,230 45,664 75,463 52,284 65,225 66,713 69,195 64,762 83,166

Source: Company data, CIRL

Exhibit 2: Q Tech's≥10MP CCM shipment % rebounded in Jul



Source: Company data, CIRL

Exhibit 3: Q Tech's revenue breakdo	wn									
		1H14	2H14	1H15	2H15	1H16	2H16	1H17	2H17	1H18
Revenue (RMB, Mn)		965	1,196	869	1,334	1,727	3,264	3,605	4,334	3,207
	Yoy(%)	-	-	-10.0%	11.5%	98.8%	144.7%	108.7%	32.8%	-11.0%
	HoH(%)	-	23.9%	-27.4%	53.5%	29.5%	89.0%	10.4%	20.2%	-26.0%
Camera module shipment ('k units)		-	-	36,990	61,360	72,432	105,392	83,188	89,501	102,756
Fingerprint recognition module shipment ('k uni	ts)			0	6	1,320	19,684	34,321	46,407	45,172
Volume ('k units)		35,129	47,604	36,990	61,385	75,478	122,470	117,760	135,908	147,928
	Yoy(%)	-	-	5.3%	28.9%	104.0%	99.5%	56.0%	11.0%	25.6%
	HoH(%)	-	35.5%	-22.3%	66.0%	23.0%	62.3%	-3.8%	15.4%	8.8%
GP		168	184	112	129	161	261	434	448	39
GM(%)		17.4%	15.4%	12.8%	9.7%	9.3%	8.0%	12.1%	10.3%	1.2%
Camera module (CCM)										
Camera module revenue (Mn RMB)						1,651	2,621	2,571	3,538	2,580
Camera modulo revenuo (mirrano)	Yoy(%)					-	-	55.7%	35.0%	0.4%
	HoH(%)					-	58.7%	-1.9%	37.6%	-27.1%
Camera module ASP (RMB)						22.8	24.9	30.9	39.5	25.1
,	Yoy(%)							35.5%	59.0%	-18.7%
	HoH(%)					-	9.1%	24.3%	27.9%	-36.5%
<10 MP						1,255.6	1,307.8	829.1	849.6	717.4
≥10 MP						430.0	1,278.9	1,744.8	2,685.1	1,863.1
<10MP (% of total revenue)						72.7%	40.1%	23.0%	19.6%	22.4%
≥10 MP(% of total revenue)						24.9%	39.2%	48.4%	62.0%	58.1%
Fingerprint Recognition module										
Fingerprint recognintion revenue (RMB)						39	680	1,033	1,007	621
	Yoy(%)					-	-	2535.1%	48.2%	-39.9%
	HoH(%)					-	1633.3%	52.0%	-2.5%	-38.4%
Fingerprint recognintion module ASP (RM	•					29.7	34.5	30.1	21.7	13.7
	Yoy(%)					-	-	1.3%	-37.1%	-54.3%
	HoH(%)					-	16.2%	-12.8%	-27.9%	-36.7%
Blended ASP(RMB)		27.5	25.1	23.5	21.7	22.9	26.7	30.6	31.9	21.7
	Yoy(%)	-	-	-14.5%	-13.5%	-2.6%	22.7%	33.8%	19.6%	-29.2%
	HoH(%)		-8.5%	-6.5%	-7.5%	5.3%	16.5%	14.9%	4.2%	-32.0%
Fingerprint Recognition module (% of total	l revenue)					2.3%	20.8%	28.7%	23.2%	19.4%

Source: Company data, CIRL estimates

## Exhibit 4: Under display FPC being adopted in Chinese leading brands' flagships

#### vivo X20 Plus UD



#### vivo X21 Plus UD

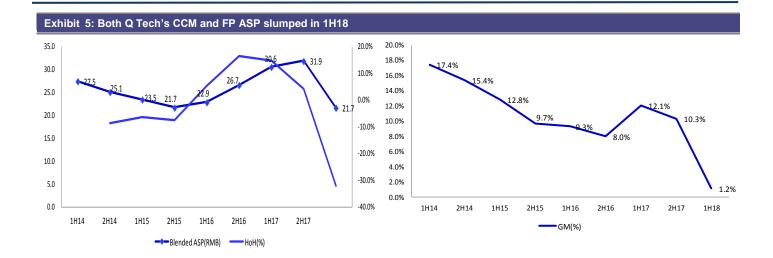


#### Huawei Mate RS Porsche Design



Network	Technology	GSM/CDMA/HSPA/LTE	GSM/CDMA/HSPA/LTE	GSM/HSPA/LTE
	2G bands	GSM 900 / 1800 - SIM 1 & SIM 2	GSM 850 / 900 / 1800 / 1900 - SIM 1 & SIM 2	GSM 850 / 900 / 1800 / 1900 - SIM 1 & SIM 2
		CDMA 800 & TD-SCDMA	CDMA 800 & TD-SCDMA	
	3G Network	HSDPA 850 / 900 / 1900 / 2100	HSDPA 850 / 900 / 1900 / 2100	HSDPA 850 / 900 / 1900 / 2100
	40.11	LTE band 1(2100), 2(1900), 3(1800),	LTE band 1(2100), 2(1900), 3(1800), 5(850),	
	4G Network	4(1700/2100), 5(850), 8(900), 38(2600),	8(900), 34(2000), 38(2600), 39(1900),	LTE
	0	39(1900), 40(2300), 41(2500)	40(2300), 41(2500)	LICDA LTE
	Speed	HSPA, LTE-A (2CA)	HSPA, LTE	HSPA, LTE
	GPRS	Yes	Yes	Yes
	EDGE	Yes	Yes	Yes
Launch	Announced	2018, January	2018, March	2018, March
	Status	Available. Released 2018, January	Available. Released 2018, March	Available. Released 2018, April
Body	Dimensions	155.3 x 80.1 x 7.5 mm (6.11 x 3.15 x 0.30 in)	154.5 x 74.8 x 7.4 mm (6.08 x 2.94 x 0.29 in)	152.9 x 72.5 x 8.5 mm (6.02 x 2.85 x 0.33 in)
-	Weight	181.5 q (6.42 oz)	156.2 g (5.50 oz)	183 g (6.46 oz)
	Build	Front glass, aluminum body	Front glass, aluminum body	g (
	SIM	Hybrid Dual SIM (Nano-SIM, dual stand-by)	Hybrid Dual SIM (Nano-SIM, dual stand-by)	Hybrid Dual SIM (Nano-SIM, dual stand-by)
Diamlau	Silvi	Super AMOLED capacitive touchscreen,	Super AMOLED capacitive touchscreen,	AMOLED capacitive touchscreen, 16M
Display	Type	16M colors	16M colors	colors
		6.43 inches, 106.7 cm <sup>2</sup> (~85.8% screen-to-	6.28 inches, 98.4 cm <sup>2</sup> (~85.2% screen-to-	6.0 inches, 92.6 cm <sup>2</sup> (~83.5% screen-to-
	Size	body ratio)	body ratio)	body ratio)
		1080 x 2160 pixels, 18:9 ratio (~376 ppi	1080 x 2280 pixels, 19:9 ratio (~402 ppi	1440 x 2880 pixels, 18:9 ratio (~538 ppi
	Resolution	density)	density)	density)
	Multitouch	Yes	Yes	Yes
	Widitioucii			
	-	- Funtouch 3.2	- Funtouch OS 4.0	- EMUI 8.1
		<del> </del>		
Platform	OS	Android 7.1.1 (Nougat)	Android 8.1 (Oreo)	Android 8.1 (Oreo)
	Chipset	Qualcomm SDM660 Snapdragon 660	Qualcomm SDM660 Snapdragon 660	Hisilicon Kirin 970
	CPU	Octa-core (4x2.2 GHz Kryo 260 & 4x1.8 GHz	Octa-core (4x2.2 GHz Kryo 260 & 4x1.8 GHz	Octa-core (4x2.4 GHz Cortex-A73 & 4x1.8
	CFU	Kryo 260)	Kryo 260)	GHz Cortex-A53)
	GPU	Adreno 512	Adreno 512	Mali-G72 MP12
Memory	Card slot	microSD, up to 256 GB (uses SIM 2 slot)	microSD, up to 256 GB (uses SIM 2 slot)	No
	Internal	128 GB, 4 GB RAM	128 GB, 6 GB RAM	256/512 GB, 6 GB RAM
	ii itorriai			
Camera				Triple: 40 MP (f/1.8, 1/1.7", OIS) + 20 MP
Calliera		Dual: 12 MP, f/1.8 + 5 MP, autofocus, LED	Dual: 12 MP (f/1.8, 1/2.5", 1.4µm, Dual Pixel	B/W (f/1.6) + 8 MP (f/2.4), Leica optics, 3x
	Primary	flash	PDAF) + 5 MP (f/2.4), phase detection	optical zoom, phase detection and laser
		lidati	autofocus, LED flash	autofocus, dual-LED dual-tone flash
		Geo-tagging, touch focus, face detection,	Geo-tagging, touch focus, face detection,	Geo-tagging, touch focus, face detection,
	Features	HDR, panorama	HDR, panorama	HDR, panorama
	Video	1080p@30fps	1080p@30fps	2160p@30fps, 1080p, 720p@960fps
	Secondary	12 MP, f/2.0	12 MP, f/2.0, 1080p	24 MP, autofocus, f/2.0, 1080p
Carrad			•	
Sound	Alert types	Vibration; MP3, WAV ringtones	Vibration; MP3, WAV ringtones	Vibration; MP3, WAV ringtones
	Loudspeaker	Yes	Yes	Yes
	3.5mm jack	Yes	Yes	No
		- 32-bit/192kHz audio	- 32-bit/192kHz audio	- 32-bit/384kHz audio
		<ul> <li>Active noise cancellation with dedicated</li> </ul>	- Active noise cancellation with dedicated	<ul> <li>Active noise cancellation with dedicated</li> </ul>
		mic	mic	mic
Comms	WLAN	Wi-Fi 802.11 a/b/g/n/ac, dual-band, WiFi	Wi-Fi 802.11 a/b/g/n/ac, dual-band, WiFi	Wi-Fi 802.11 a/b/g/n/ac, dual-band, WiFi
	WLAIN	Direct, hotspot	Direct, hotspot	Direct, hotspot
	Bluetooth	5.0, A2DP, LE	5.0, A2DP, LE	4.2, A2DP, LE, EDR, aptX HD
	GPS	Yes, with A-GPS	Yes, with A-GPS, GLONASS	Yes, with A-GPS, GLONASS
	NFC	-	-	Yes
	Infrared port	No	No	No
	Radio	No	FM radio	FM radio
				2.0, Type-C 1.0 reversible connector
	USB	microUSB 2.0, USB On-The-Go	microUSB 2.0, USB On-The-Go	
	USB	microUSB 2.0, USB On-The-Go	ITHICTOUSE 2.0, USB OTI-THE-GO	
	USB	microUSB 2.0, USB On-The-Go	MICTOUSE 2.0, USE OIT-THE-GO	
Features	USB			Fingerprints (rear-mounted and under
Features	Sensors	Fingerprint (under display),	Fingerprint (under display),	
Features				Fingerprints (rear-mounted and under
Features	Sensors	Fingerprint (under display),	Fingerprint (under display),	Fingerprints (rear-mounted and under display), accelerometer, gyro,
Features		Fingerprint (under display), accelerometer,proximity, compass	Fingerprint (under display), accelerometer,proximity, compass	Fingerprints (rear-mounted and under display), accelerometer, gyro, proximity,compass
Features	Sensors	Fingerprint (under display), accelerometer,proximity, compass SMS(threaded view), MMS, Email, Push	Fingerprint (under display), accelerometer,proximity, compass SMS(threaded view), MMS, Email, Push	Fingerprints (rear-mounted and under display), accelerometer, gyro, proximity,compass SMS(threaded view), MMS, Email, Push
Features	Sensors  Messaging	Fingerprint (under display), accelerometer,proximity, compass SMS(threaded view), MMS, Email, Push Email	Fingerprint (under display), accelerometer,proximity, compass SMS(threaded view), MMS, Email, Push Email	Fingerprints (rear-mounted and under display), accelerometer, gyro, proximity,compass SMS(threaded view), MMS, Email, Push Email, IM
Features	Sensors  Messaging Browser	Fingerprint (under display), accelerometer,proximity, compass  SMS(threaded view), MMS, Email, Push Email  HTML5 No	Fingerprint (under display), accelerometer,proximity, compass SMS(threaded view), MMS, Email, Push Email HTML5	Fingerprints (rear-mounted and under display), accelerometer, gyro, proximity,compass SMS(threaded view), MMS, Email, Push Email, IM HTML5 No
Features	Sensors  Messaging Browser	Fingerprint (under display), accelerometer,proximity, compass SMS(threaded view), MMS, Email, Push Email HTML5	Fingerprint (under display), accelerometer,proximity, compass SMS(threaded view), MMS, Email, Push Email	Fingerprints (rear-mounted and under display), accelerometer, gyro, proximity,compass SMS(threaded view), MMS, Email, Push Email, IM HTML5 No - Fast battery charging 4.5V/5A (58% in 30
Features	Sensors  Messaging Browser	Fingerprint (under display), accelerometer,proximity, compass  SMS(threaded view), MMS, Email, Push Email  HTML5  No  - Fast battery charging 5V/4.5A	Fingerprint (under display), accelerometer,proximity, compass SMS(threaded view), MMS, Email, Push Email HTML5 No - Fast battery charging	Fingerprints (rear-mounted and under display), accelerometer, gyro, proximity,compass SMS(threaded view), MMS, Email, Push Email, IM HTML5 No - Fast battery charging 4.5V/5A (58% in 30 min)
Features	Sensors  Messaging Browser	Fingerprint (under display), accelerometer,proximity, compass  SMS(threaded view), MMS, Email, Push Email  HTML5  No  - Fast battery charging 5V/4.5A  - MP4/H.264 player	Fingerprint (under display), accelerometer,proximity, compass SMS(threaded view), MMS, Email, Push Email HTML5 No - Fast battery charging - MP4/H.264 player	Fingerprints (rear-mounted and under display), accelerometer, gyro, proximity,compass SMS(threaded view), MMS, Email, Push Email, M HTML5 No - Fast battery charging 4.5V/5A (58% in 30 min) - Qi wireless charging
Features	Sensors  Messaging Browser	Fingerprint (under display), accelerometer,proximity, compass  SMS(threaded view), MMS, Email, Push Email  HTML5  No  - Fast battery charging 5V/4.5A  - MP4/H.264 player  - MP3/WAV/eAAC+/FLAC player	Fingerprint (under display), accelerometer,proximity, compass SMS(threaded view), MMS, Email, Push Email HTML5 No - Fast battery charging - MP4/H.264 player - MP3/WAV/eAAC+/FLAC player	Fingerprints (rear-mounted and under display), accelerometer, gyro, proximity,compass SMS(threaded view), MMS, Email, Push Email, IM HTML5 No - Fast battery charging 4.5V/5A (58% in 30 min) - Qi wireless charging - XviD/MP4/H.264/WMV player
Features	Sensors  Messaging Browser	Fingerprint (under display), accelerometer,proximity, compass  SMS(threaded view), MMS, Email, Push Email HTML5 No - Fast battery charging 5V/4.5A - MP4/H.264 player - MP3/WAV/eAAC+/FLAC player - Document viewer	Fingerprint (under display), accelerometer,proximity, compass SMS(threaded view), MMS, Email, Push Email HTML5 No - Fast battery charging - MP4/H.264 player - MP3/WAV/eAAC+/FLAC player - Document viewer	Fingerprints (rear-mounted and under display), accelerometer, gyro, proximity,compass SMS(threaded view), MMS, Email, Push Email, IM HTML5 No - Fast battery charging 4.5V/5A (58% in 30 min) - Qi wireless charging - XVID/MP4/H.264/WMV player - MP3/eAAC+/WMAWAV/Flac player
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Features	Sensors  Messaging Browser	Fingerprint (under display), accelerometer,proximity, compass  SMS(threaded view), MMS, Email, Push Email HTML5  No - Fast battery charging 5V/4.5A - MP4/H.264 player - MP3/WAV/eAAC+/FLAC player - Document viewer - Photo/video editor	Fingerprint (under display), accelerometer,proximity, compass SMS(threaded view), MMS, Email, Push Email HTML5 No - Fast battery charging - MP4/H.264 player - MP3/WAV/eAAC+/FLAC player - Document viewer - Photo/video editor	Fingerprints (rear-mounted and under display), accelerometer, gyro, proximity,compass SMS(threaded view), MMS, Email, Push Email, IM HTML5 No - Fast battery charging 4.5V/5A (58% in 30 min) - Qi wireless charging - XviD/MP4/H.264/WMV player - MP3/eAAC+/WMAWAV/Flac player - Document viewer - Photo/video editor
	Sensors  Messaging Browser	Fingerprint (under display), accelerometer,proximity, compass  SMS(threaded view), MMS, Email, Push Email HTML5 No - Fast battery charging 5V/4.5A - MP4/H.264 player - MP3/WAV/eAAC+/FLAC player - Document viewer	Fingerprint (under display), accelerometer,proximity, compass SMS(threaded view), MMS, Email, Push Email HTML5 No - Fast battery charging - MP4/H.264 player - MP3/WAV/eAAC+/FLAC player - Document viewer	Fingerprints (rear-mounted and under display), accelerometer, gyro, proximity,compass SMS(threaded view), MMS, Email, Push Email, M HTML5 No - Fast battery charging 4.5V/5A (58% in 30 min) - Qi wireless charging - XviD/MP4/H_264/WMV player - MP3/eAAC+/WMAWAV/Flac player - Document viewer
	Sensors  Messaging Browser	Fingerprint (under display), accelerometer,proximity, compass  SMS(threaded view), MMS, Email, Push Email HTML5  No - Fast battery charging 5V/4.5A - MP4/H.264 player - MP3/WAV/eAAC+/FLAC player - Document viewer - Photo/video editor	Fingerprint (under display), accelerometer,proximity, compass SMS(threaded view), MMS, Email, Push Email HTML5 No - Fast battery charging - MP4/H.264 player - MP3/WAV/eAAC+/FLAC player - Document viewer - Photo/video editor	Fingerprints (rear-mounted and under display), accelerometer, gyro, proximity,compass SMS(threaded view), MMS, Email, Push Email, IM HTML5 No - Fast battery charging 4.5V/5A (58% in 30 min) - Qi wireless charging - XviD/MP4/H.264/WMV player - MP3/eAAC+/WMAWAV/Flac player - Document viewer - Photo/video editor
	Sensors  Messaging Browser	Fingerprint (under display), accelerometer,proximity, compass  SMS(threaded view), MMS, Email, Push Email HTML5  No - Fast battery charging 5V/4.5A - MP4/H.264 player - MP3/WAV/eAAC+/FLAC player - Document viewer - Photo/video editor	Fingerprint (under display), accelerometer,proximity, compass SMS(threaded view), MMS, Email, Push Email HTML5 No - Fast battery charging - MP4/H.264 player - MP3/WAV/eAAC+/FLAC player - Document viewer - Photo/video editor	Fingerprints (rear-mounted and under display), accelerometer, gyro, proximity,compass SMS(threaded view), MMS, Email, Push Email, IM HTML5 No - Fast battery charging 4.5V/5A (58% in 30 min) - Qi wireless charging - XviD/MP4/H.264/WMV player - MP3/eAAC+/WMAWAV/Flac player - Document viewer - Photo/video editor

Source: GSMArena, CIRL



Source: Company data, CIRL

## Exhibit 8: Q Tech's 12 month Forward P/E Ratio



Source: Bloomberg, CIRL

	bloomberg	Mkt Cap	Price				PE (x)				Υ	ield (%)			
	code	(HKD mn)	(HKD)	3M	YTD	FY16	FY17	FY18E	FY19E	FY20E	FY16	FY17	FY18E	FY19E	FY20E
Listed Peers															
NOVO GROUP	992 HK	61,275	5.10	23.2	15.6	-56.7	13.5	-154.5	13.5	9.4	4.2%	3.6%	3.2%	3.7%	4
NNY OPTICAL	2382 HK	110,139	100.40	(37.2)	0.5	73.0	32.6	28.7	20.2	15.5	0.4%	0.0%	0.9%	1.2%	1
C TECHNOLOGIES	2018 HK	103,687	84.85	(29.1)	(39.1)	22.1	16.9	16.2	13.0	11.1	0.0%	0.0%	2.4%	2.8%	3
I MOBILE LTD	2038 HK	8,498	1.05	(28.1)	(55.9)	7.7	-2.0	-3.0	-11.7	19.1	3.8%	0.0%	0.0%	0.0%	0
HON TENG LTD	6088 HK	26,232	3.89	4.6	(26.5)	16.6	16.9	15.0	12.8	12.4	1.6%	1.8%	1.9%	2.2%	2
D ELECTRONIC	285 HK	19,918	8.84	(30.2)	(48.1)	13.7	6.7	6.7	5.7	4.9	0.9%	2.5%	2.5%	2.9%	3
NGDA GROUP HLD	698 HK	7,746	1.23	(33.5)	(38.5)	7.0	7.3	6.3	5.2	4.7	0.0%	0.0%	5.0%	5.9%	6
ULY INTL HLDGS	732 HK	4,119	1.32	(20.5)	(60.9)	6.6	62.0	7.0	4.5	3.5	6.9%	3.0%	4.0%	6.4%	9
INA DISPLAY OP	334 HK	1,064	0.51	(26.1)	(54.1)	8.9	7.7	0.5	7.3	4.9	0.0%	5.5%	2.5%	5.1%	
OLPAD	2369 HK	3,624	0.72	0.0	0.0	-0.8	-			-	0.0%	0.0%	0.0%	0.0%	
NGDA GROUP HLD	698 HK	7,746	1.23	(33.5)	(38.5)	7.0	7.3	6.3	5.2	4.7	0.0%	0.0%	5.0%	5.9%	
TENG INTL HDG	3336 HK	1,652	1.44	23.1	(43.5)	3.2	20.6	16.9	5.3	5.6	6.4%	3.0%	3.2%	3.1%	
NGDA HONG TAI	2363 HK	270	1.43	(2.1)	N/A	-	9.0	-	-	-	0.0%	0.0%	0.0%	0.0%	
TAL MOBILE HOL	6133 HK	242	0.29	(18.6)	(27.8)	12.2	-1.9				0.0%	0.0%	0.0%	0.0%	
Y LIGHT HOLDIN	3882 HK	583	0.68	(5.6)	(51.4)	10.3	-1.2	9.7	8.5	6.2	0.0%	0.0%	4.4%	5.9%	
WELL	1415 HK	1,098	1.32	(27.1)	(50.0)	5.0	5.1	5.1	5.1	4.6	0.0%	0.0%	3.3%	4.5%	
AI CHI HOLD	1305 HK	204	0.94	(13.0)	(27.1)	31.3	9.4	5.1			0.0%	0.0%	0.0%	0.0%	
GROUP HOLDING	2283 HK	5,083	6.10	4.5	25.0	24.4	16.9	13.1	10.6	9.1	2.0%	0.0%	3.5%	4.5%	
SHUI INTL HLD	822 HK	344	0.39	(6.1)	(34.7)	5.8	10.1	13.1	10.0		0.0%	0.0%	0.0%	0.0%	
S DRAGON HLDG	1184 HK	1,602	2.56	(5.2)	(1.5)	7.9	5.3				0.0%	0.0%	0.0%	0.0%	
NASIALUM HOLDI	2078 HK	1,002	0.86	0.0	0.0	-7.8	-6.6				0.0%	0.0%	0.0%	0.0%	
UD GROUP LTD	1399 HK	1,134	1.04	0.0	0.0	-8.2	46.4				0.0%	0.0%	0.0%	0.0%	
M TECH GROUP	2000 HK	780	0.31	(20.9)	(16.9)	10.1	7.0				0.0%	0.0%	0.0%	0.0%	
LLAS-ARRAY ELE	854 HK	354	4.15	(31.9)	(24.5)	-4.8	9.2				0.0%	0.0%	0.0%	0.0%	
Average	034 TIK	15,351	4.13	(13.0)	(26.0)	15.2	16.3	11.0	9.0	8.3	3.3%	3.2%	3.2%	4.1%	
TECHNOLOGY GRO	1478 HK	6,089	5.38	(21.6)	(51.1)	25.5	11.8	44.2	19.1	16.1	0.7%	1.6%	0.4%	0.9%	
ns/ lens set company															
RGAN PRECISION	3008 TT	163,323	1,217.55	12.0	18.5	29.8	24.5	23.9	18.7	16.1	1.3%	1.5%	1.5%	1.8%	
MAX TECHNO-ADR	HIMX US	8,699	50.55	(12.7)	(38.2)	21.7	40.5	169.1	27.8	15.7	3.7%	1.9%	0.9%	3.2%	
E-ON TECH	2301 TT	21,518	9.20	(1.4)	(5.3)	9.4	31.8	11.5	10.0	9.2	7.3%	7.9%	7.4%	7.3%	
NIUS ELEC	3406 TT	10,516	105.40	(5.4)	53.1	-284.2	39.2	30.1	-	-	0.0%	0.0%	0.0%	0.0%	
Average		51,014		(1.9)	7.0	20.3	34.0	58.6	18.8	13.7	0.0	0.0	0.0	0.0	
nera module company															
JLY INTL HLDGS	732 HK	4,119	1.32	(20.5)	(60.9)	6.6	16.9	7.0	4.5	3.5	6.9%	3.0%	4.0%	6.4%	
NNY OPTICAL	2382 HK	110,139	100.40	(37.2)	0.5	73.0	32.7	28.7	20.2	15.5	0.4%	0.7%	0.9%	1.2%	
WELL	1415 HK	1,098	1.32	(27.1)	(50.0)	5.0	3.3	5.1	5.1	4.6	3.3%	7.7%	3.3%	4.5%	
MAX ELEC	4915 TT	6,736	15.08	1.4	(25.3)	14.2	12.0	13.0	10.6	8.5	3.9%	4.7%	5.1%	6.6%	
INNOTEK CO LT	011070 KS	24,281	1,025.94	0.7	0.7	38.1	16.6	17.2	10.7	9.2	0.2%	0.2%	0.2%	0.2%	
ILM TECH CO-A	002456 CH	54,140	19.95	(10.7)	(16.0)	61.8	36.4	23.1	16.3	12.8	0.3%	0.4%	0.5%	0.7%	
Average	302.30 611	28,386	, , , , , , , , , , , , , , , , , , ,	(2.9)	(13.5)	33.1	19.6	15.7	11.2	9.0	0.0	0.0	0.0	0.0	
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Source: Bloomberg, CIRL

Exhibit	010010	240	0 100 0 10
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Year to Dec (RMB mn)	FY16A	FY17A	FY18E	FY19E	FY20E
Revenue	4,991	7,939	8,164	9,212	10,303
Gross profit (reported)	422	883	490	786	881
EBITDA	284	679	386	543	624
Depreciation	63	135	139	157	176
EBIT	220	543	247	385	448
Net interest income (exp.)	(6)	(17)	(42)	(20)	(22)
Associates	0	(17)	(48)	(32)	(32)
Exceptionals/others	0	0	0	0	0
Profit before tax	215	510	157	333	393
Tax expenses	(24)	(73)	(40)	(63)	(72)
Minority interest	0	0	0	0	0
Net profit	191	436	117	270	321
Diluted EPS (RMB)	0.181	0.389	0.104	0.240	0.286
Dividends	36	83	22	51	61

Year to Dec (RMB mn)	FY16A	FY17A	FY18E	FY19E	FY20E
Cash & equiv	161	543	757	55	92
Trade receivables	2,606	2,035	1,692	2,039	2,321
Other receivables	0	0	0	0	0
Inventories	799	688	875	800	895
Other current assets	127	881	881	881	882
Fixed assets	720	1,481	1,891	2,218	2,527
Intangible assets	1	1	1	1	1
Investment, associates etc	105	471	425	448	436
Total assets	4,520	6,100	6,520	6,442	7,154
Account payables	2,593	2,830	3,078	3,380	3,779
Other payables	0	0	0	0	0
Short-term debt	335	1,078	1,078	427	427
Other current liabs	10	26	26	26	26
Long-term debts	0	0	0	0	0
Deferred tax and others	2	6	6	6	6
Other long-term liabs	12	15	15	15	15
Total liabilities	2,952	3,955	4,202	3,853	4,252
Share capital	9	9	9	9	9
Reserves	1,559	2,137	2,309	2,580	2,892
Shareholders' equity	1,568	2,146	2,318	2,589	2,901
Minorities	0	0	0	0	0
Total equity	1,568	2,146	2,318	2,589	2,901
Net cash (debt)	(174)	(535)	(322)	(372)	(335)

Cash flow					
Year to Dec (RMB mn)	FY16A	FY17A	FY18E	FY19E	FY20E
Pre-tax profit	215	510	157	333	393
Taxes paid	(24)	(73)	(40)	(63)	(72)
Depreciation	(63)	(135)	(139)	(157)	(176)
Associates	0	17	48	32	32
CFO bef. WC change	128	318	25	145	177
Change in working cap	(337)	920	404	28	23
Cashflow from operation	(209)	1,238	430	174	201
CAPEX	(363)	(896)	(550)	(485)	(485)
Free cash flow	(572)	342	(120)	(311)	(284)
Dividends	36	83	22	51	61
Balance sheet adj.	76	(786)	311	209	261
Shares issued	0	0	0	0	0
Others	0	0	0	0	0
Net cash flow	(460)	(361)	213	(51)	37
Net cash (debt) start	286	(174)	(535)	(322)	(372)
Net cash (debt) at year-end	(174)	(535)	(322)	(372)	(335)

Ratios					
Year to Dec	FY16A	FY17A	FY18E	FY19E	FY20E
Growth rate (%)					
Revenue	99.9	59.1	2.8	12.8	11.8
EBITDA	70.1	139.0	(43.1)	40.4	15.0
EBIT	76.6	146.8	(54.6)	56.0	16.3
Net profit	87.0	128.7	(73.2)	131.1	18.8
Fully diluted EPS	85.1	115.7	(73.3)	131.1	18.8
Margins (%)					
Gross margin (reported)	8.5	11.1	6.0	8.5	8.5
EBITDA	5.7	8.6	4.7	5.9	6.1
EBIT	4.4	6.8	3.0	4.2	4.3
Net margin	3.8	5.5	1.4	2.9	3.1
Other ratios					
ROE (%)	12.2	20.3	5.0	10.4	11.1
ROA (%)	4.2	7.2	1.8	4.2	4.5
Net gearing (%)	11.1	24.9	13.9	14.4	11.5
Interest coverage (x)	39.7	32.1	5.9	19.6	20.4
Receivables days	127.8	106.7	83.3	73.9	77.2
Payables days	105.8	75.9	75.0	74.8	74.6
Inventory days	40.3	38.5	37.2	36.3	32.8
Effective tax rate (%)	11.1	13.9	19.5	17.2	17.0

Source: Company data, CIRL estimates

## **Risk Factors**

Downside risks include: 1) Further slowdown in PRC customers' smartphone shipment;2) Slower than expected dual cam/ triple cam CCM/ 3D sensing module/ UGFP adoption in Android camp; 3) CMOS supply shortage tightens, led to camera module shipment slowdown; 4)increasing RMB depreciation pressure and 5) pricing pressure arising from overseas players and domestic peers

## **Rating Policy**

	Rating	Definition
	Buy	Outperform HSI by 15%
Stock Rating	Neutral	Between -15% ~ 15% of the HSI
	Sell	Underperform HSI by -15%
	Accumulate	Outperform HSI by 10%
Sector Rating	Neutral	Between -10% ~ 10% of the HSI
	Reduce	Underperform HSI by -10%

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## **Analyst Certification**

I, Hayman Chiu, hereby certify that all of the views expressed in this report accurately reflect my personal views about the subject company or companies and its or their securities. I also certify that no part of my compensation was / were, is / are or will be directly or indirectly, related to the specific recommendations or views expressed in this report / note.

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