

China Technology Sector

CMBI Tech Virtual Corporate Day takeaways

We hosted CMBI Technology Virtual Corporate Day with 10 A/H listed companies last week. Overall, both corporates and investors are positive on 5G supply chain opportunities and technology trends post COVID-19. While most companies expect China 5G network rollout and 5G smartphone adoption are well on track in FY20/21E, there exists NT uncertainties from Huawei restriction and 2H demand recovery. We prefer 5G infra names, such as SY Tech, SCC and ZTE, given "New Infra" policy support and LT growth opportunities from strong data demand. We also like Apple plays and share gainer, such as BYDE, FIT Hon Teng and Luxshare amid Huawei uncertainties and China-India dispute.

- **5G infra: China 5G well on track; supply chain localization to accelerate.** Most companies expect China new 5G BTS to reach 60-80k in FY20E and 2H20E demand will remain robust despite Huawei concerns. We believe domestic PCB and BTS supply chain will benefit most, since Chinese operators will accelerate 5G rollout with localization trend in 2H20E.
- **Smartphone: NT uncertainties from Huawei restriction, China-India dispute and COVID-19 in India/ SEA.** All companies indicated China 5G shipment is ahead of expectations despite COVID-19 outbreak and Huawei ban. While trough is likely over, mgmt. remain cautious on overseas outlook in near term, given demand uncertainties in India/ SEA. Most investors hold a mixed view on Android camp given recent Huawei restriction and China-India dispute, and we see increasing investor interests in Apple 5G cycle.
- **Component: high-end Android under pressure; Focus on 5G iPhone cycle.** Recent industry datapoints suggested high-end Android models are under pressure given consumer budget constraints and lack of innovative features. Both Sunny and Q-tech expected HCM ASP/GPM to remain stable in FY20E, and benefit from further share gain amid industry consolidation. We expect 5G iPhone supply chain will enjoy strong cycle in 2H20/2021E.
- **Prefer 5G infra and Apple plays.** China tech supply chain has underperformed most sectors YTD due to supply chain disruption in 1Q, Huawei ban and demand weakness in 2Q. While most negatives in 1H20 are priced in, we suggest to focus on themes with high visibility into 2021. We recommend 5G infra and Apple plays as global 5G network will continue to build out in 2021 and 5G handset cycle will accelerate after 5G iPhone launch in 2H20E. We continue to like BYDE, FIT Hon Teng and Luxshare for Apple plays and share gainers, and we expect ZTE, Shengyi Tech and SCC will benefit from 5G infra upgrade.

Valuation Table

Name	Ticker	Rating	Mkt Cap (USD mn)	Price (LC)	TP (LC)	Up/Down -side	P/E (x) FY20E FY21E	P/B (x) FY20E FY21E	ROE
Xiaomi	1810 HK	Buy	35,582	12.50	16.3	30%	20.2 15.3	3.5 12.8	
BYDE	285 HK	Buy	4,983	16.92	22.2	31%	20.8 15.6	1.9 10.9	
Sunny Optical	2382 HK	Hold	16,332	115.7	115.0	-1%	25.6 19.6	6.8 27.0	
FIT Hon Teng	6088 HK	Buy	2,371	2.76	*2.6	NA	10.4 9.3	1.0 10.3	
Luxshare	002475 CH	Buy	42,280	42.52	55.4	30%	32.2 25.6	8.2 24.6	
ZTE - H	763 HK	NR	23,861	22.75	NA	NA	17.0 13.6	2.4 14.7	
Shengyi Tech	600183 CH	NR	9,407	29.28	NA	NA	34.5 28.3	6.7 19.9	

Source: Bloomberg, CMBIS estimates, * TP under review

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China Technology Sector

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Xiaomi (1810 HK, BUY, TP HK\$16.3)

Near-term drag by COVID-19/ India; Positive 5G outlook and share gain ahead

We hosted an investor call with Xiaomi mgmt. during our tech corporate day. Overall, we believe Xiaomi's 2Q20 smartphone shipment was negatively impacted by India lockdown, while China demand recovery, rapid 5G penetration and overseas share gain from Huawei will partly offset India uncertainties in 2H20E. We have a BUY rating on Xiaomi as we believe Xiaomi will outperform its peers and strengthen its market leadership with solid 5G strategy roadmap.

COVID-19 impact and China-India dispute may hurt near-term shipment

Mgmt. stated China production now normalized and smartphone shipment has returned to pre-pandemic level. In India, Xiaomi started to resume production after lockdown easing since early May, and demand now reached 60% of pre-pandemic level. In Europe, smartphone activations returned to 90% of that in Jan. We expect smartphone sales to decline 5% YoY in 2Q20E, and rebound with 20%/24% YoY in 3Q/4Q20E on China 5G demand and share gain from Huawei overseas, partly offsetting weakness in India.

Huawei restriction to drive Xiaomi's overseas share gain and China 5G leadership

Given recent US ban on Huawei, we believe Huawei will shift its strategic focus back to China market, benefiting other brands with high overseas exposure, such as Xiaomi and Samsung. We think Xiaomi is well positioned to gain the lion share of overseas market, esp. in Europe. In addition, as an early-mover of 5G smartphones, Xiaomi will continue to benefit from rapid 5G smartphone adoption in China and capture potential monetization opportunities of its expanding 5G user base.

Overseas internet strategy: diversifying advertiser base and product offerings

Leveraging its overseas smartphone sales and user base, Xiaomi have made impressive progress in overseas internet service (esp. India, Russia), including search, pre-installation and news feeds. We expect Xiaomi to continue to expand advertiser base and strengthen relationship with advertising platforms (e.g. Google, Facebook). For instance, in India, Xiaomi's Mi Browser, Mi Music, Mi Video and GetApps (overseas Mi App Store) are highly ranked locally in terms of DAU. These initiatives could increase the average revenue per user in overseas market.

Sunny Optical (2382 HK, HOLD, TP HK\$115.0)

China recovery offset by overseas impact; Camera upgrade trend intact

We hosted an investor call with Sunny Optical's mgmt. during our technology corporate day. We believe Sunny Optical is not immune from COVID-19 impact in 1H20E, and it may see challenges to reach previous FY20E shipment guidance (HCM +15%, HLS +10%, VLS +20%). However, we are confident that industry leader like Sunny is well positioned to gain further share during industry downturn and regain growth sooner than peers.

HCM: Share gain and China demand recovery ahead; Stable ASP/GPM outlook

Sunny delivered 5M20 HCM shipment growth of 31% YoY and May shipment grew 20% YoY/ 9% MoM, implying Sunny's share gain and gradual demand recovery of Chinese brands. Regarding Huawei ban impact, mgmt. stated no meaningful order cut so far and they will closely monitor market dynamics after 120-day grace period. Overall, we believe Sunny's HCM ASP and GPM will remain stable in FY20E.

HLS: Near-term dragged by Samsung weakness; Apple could be next potential client

Recent HSL shipment weakness (-9%/-2% YoY in May/Apr) was mainly due to overseas COVID-19 impact on its largest HLS client, Samsung, in our view. Mgmt. expected stable ASP/GPM for HLS in FY20E, given improving yield and product mix. In addition, we believe Apple would be next potential client for Sunny in near future, backed by Sunny's technology leadership and Apple's supplier diversification strategy.

VLS: EU/US lockdown to delay orders; Auto cam module as next driver

Sunny's VLS weakness (-8% YoY in 5M20) was driven by recent overseas factory shutdown, since Sunny's major VLS customers are located in EU and US. Mgmt. indicated part of 1H shipment will be delayed to 2H20E, rather than cancellations. In addition, Sunny is positive on recent progress on automobile camera module business, which will become next growth driver with a larger TAM and better profitability.

Handset camera upgrade trend intact in next 5G era

Despite COVID-19 impact in 1H20E, Sunny remains positive on camera upgrade trend in 5G era, including 1) imaging/video-cam: ultra-high pixel, large aperture, optical zoom and video lens, 2) 3D sensing-cam: ToF and 5G/AR applications, and 3) front-cam spec: miniaturized head, ultra-thin lens sets and auto focus feature.

Q Technology (1478 HK, BUY, TP HK\$14.8)

COVID-19 impact on HCM shipment but ASP/GPM largely intact

We spoke to Q-tech's Head of IR, Louis So, during our tech corporate day. Mgmt. believed 1H20 HCM shipment weakness was largely due to China/India lockdown, but HCM ASP/GPM was not impacted 1H20 given that both production yield and camera spec are improving, especially for mid/low-end models. Despite Huawei order uncertainties in near term, Q-tech believes recent order win from Samsung will be positive to a more balanced client mix in next few years. Overall, we expect gradual lockdown easing and product launch will drive shipment recovery in 2H20E, and we maintain BUY rating on the stock.

Camera Module (HCM): ASP/GPM holds well despite shipment dragged by COVID-19

Mgmt. stated HCM 5M20 shipment decline of -1.3% YoY was weaker than guidance of +20% YoY in FY20E, which is largely due to COVID-19 outbreak in China in 1Q20 and overseas in 2Q20 (esp. India). However, HCM product mix exceeded expectations with 10MP+/32MP+ mix reaching 72%/28% YTD, which is above full-year guidance of 60%/25% in FY20E. Mgmt. is also confident that ASP/GPM will remain solid in 1H20E with improving yield and product mix from mid/low-end models.

Fingerprint module (FPM): slower upgrade for high-end models in near term

Q-tech FPM 5M20 shipment grew 4% YoY, largely in-line, but under-display (UD) FPM shipment reported first YoY decline in May (-15% YoY) since product launch in 2Q18. We expected UD adoption headwinds may persist in near term given demand weakness from high-end OLED smartphones.

No large-scale order cut from Huawei; Expect HCM order win from Samsung

Regarding impact from US's recent restriction on Huawei, mgmt. saw no large-scale order cut from Huawei so far, and they will closely monitor the development before 120-days grace period. Mgmt. believes Huawei's mid/low-end handset models are less impacted and Q-tech's recent order win from Samsung will offset potential order volatility from Huawei in the near future.

BYD Electronic (285 HK, BUY, TP HK\$22.2)

Xiaomi/Apple share gain to offset Huawei uncertainties; Mask biz remains strong

We hosted an investor call with BYDE's Ms. Viola Zheng yesterday. Overall, despite Huawei's order uncertainties in near term, mgmt. believes FY20E growth drivers will come from 1) share gain and order wins from Xiaomi/Apple, 2) rapid 5G smartphone adoption to boost casing upgrade, and 3) strong mask demand from overseas into 3Q20E. We continue to like BYDE for its stronger EMS leadership in China and continued share gain with Xiaomi/Apple in next 2-3 years.

EMS business: Xiaomi/Apple order win to drive growth in FY20E

Mgmt. expects Xiaomi and Apple will become second and third largest client for BYDE in 2020, driven by 1) higher order allocation from Xiaomi with 10-20% share in 2020 (vs 5% in 2019) in new plants in Xian and India, 2) Apple's iPad share gain with 5mn shipment in 2020, and 3) expansion into Apple's ceramic components in watch back cover and 5G iPhone antenna.

Impact of US further restriction on Huawei

BYDE has not seen any order cut from Huawei so far since the ban announced in mid-May. While 120-day grace period will offer a near-term buffer to Huawei, mgmt. believes mid/long-term impact will depend on whether Huawei can solve the issue in 3Q/4Q20. That said, BYDE believes strong order from Xiaomi/Apple can offset uncertainties from Huawei.

Mask business: Strong overseas orders to continue into July-August

BYDE successfully obtained federal safety certification for its N95 masks and surgical masks on 8 June, and will start to ship to California this month. Mgmt. stated there is no financial impact of certification delay from California, as their masks were switched to other cities given strong overseas demand for masks. Mask capacity now reached 50mn/day (vs 30mn end-May), and surgical/N95 mask ASP are around Rmb2/8-10 per unit.

FY20 Core Revenue (ex-mask biz) Guidance maintained at Rmb70-80bn

Mgmt. maintained core biz sales guidance of RMB 70-80mn in 2020 (vs RMB 53bn in 2019), backed by +20% YoY from components, +30% YoY from smart OEM, +10% YoY in smart auto, and +20-30% YoY from EMS business. Looking beyond 2020, as the largest Chinese OEM player, BYDE is confident that overseas expansion, share gain in major clients and product category expansion will continue to drive long-term growth ahead.

FIT Hon Teng (6088 HK, BUY, TP HK\$2.64)

Worst is over; Belkin recovery and 5G iPhone demand in focus

We hosted an investor call with FIT Hon Teng IR Manager, Kevin Guo, yesterday. Overall, mgmt. believed 1H20 is challenging given US/EU lockdown and higher expense during COVID-19 outbreak. Investors are interested in optical module demand, automobile strategy, Vietnam plant relocation and product pipeline in TWS/AR/VR. We have a BUY rating on FIT Hon Teng as we believe they will benefit from 5G iPhone upcycle and Belkin's IoT product pipeline.

COVID-19 impact: Belkin uncertainties to continue in near term

Mgmt. explained COVID-19 outbreak has led to higher expense for production shutdown in 1Q20 and US/EU lockdown (Belkin) in 2Q20. FIT guided flattish revenue and slight earnings decline in 1H20, following profit warning in 1Q20. For 2H20E, mgmt. stated Belkin remains a major challenge since overseas distribution network is significantly impacted in 2Q/3Q.

Optical module: biz model restructuring is positive in long run

Following optical module's business model changes since 4Q19, FIT now only provides logistics service for Broadcom optical modules and continued to outsource manufacturing to factory partners. Overall, mgmt. expected to see lower GPM as well as less R&D expenses, which are positive to FIT's profitability in the long term.

Auto biz: ADAS and infotainment remain key focus areas

FIT's existing automobile clients include Tesla, Bosch and BMW, focusing on charging gun and smart keys. Looking ahead, FIT will continue to invest into infotainment and ADAS, while mgmt. stated that recent increase in stake of Sharp's Kantatsu was a financial investment for FIT.

Vietnam production base to mitigate trade war impact

FIT has completed transition of part of manufacturing from China to Vietnam mainly for iPhone/Belkin in 2019. Mgmt. believe the relocation will benefit FIT in long term, in terms of 1) pressure from rising labor cost, and 2) tariff impact given Belkin's cable and routers under US\$250bn tariff catalog. Number of workers in Vietnam will reach 30k in peak season in 2020 (vs 20k in 2019).

Tongda (698 HK, HOLD, TP HK\$0.53)

Expect 2H20 recovery driven by Xiaomi/Samsung share gain

We hosted an investor call with Tongda's General Manager, Anthony Hui, and IR Director, Long Li, this morning. Overall, mgmt. stated Tongda is not immune to COVID-19 impact in 1H20, given Chinese brands weakness (esp India lockdown) and Apple's product launch delay, but Tongda is confident on 2H20 recovery driven by Xiaomi/Samsung share gain and rapid 5G smartphone adoption.

Tongda is China's 2nd largest handset casing supplier behind BYDE (metal/glass/plastic), with a strong client base of Xiaomi, Apple, Samsung, Vivo and Huawei. Handset business accounted for 78% of FY20E revenue. It is the largest casing supplier to Xiaomi/Samsung in China (30%/10-15% of sales), and it also supplies waterproof components to Apple iPhone (15% of sales).

Casing: COVID-19 impact in Mar/Apr; Shipment recovery on track since mid-May.

Tongda stated that handset/casing/home/auto business were negatively impacted by COVID-19 in 1H20E. Mgmt. guided FY20E handset casing shipment of 150mn (vs prev. 160mn), compared to 140mn in 2019, given COVID-19 impact from China/India lockdown in 1H20E. However, casing orders have returned to normal level since mid-May, and thus they expect 2H20 recovery with product launches from Apple/Android brands as well as Xiaomi/Samsung momentum at the expense of Huawei weakness.

Apple: new 5G iPhones to boost 2H GPM; Strong AR/VR wearables pipeline in 2021

While iPhone's 1H20 was challenging due to order cut and US/China lockdown, Tongda expected new 5G iPhone rollout will drive content growth and margin recovery in 2H20E. Overall, they maintained guidance of US\$180mn sales and 19% GPM in 2020 (vs 230mn sales, 22-23% GPM in 2019). For R&D pipeline, we believe Tongda is involved in R&D of Apple's AR/VR projects since 3 years ago, which will bring new revenue stream in 2021-22.

Expect rapid 5G adoption to boost upgrade to glastic/glass casing

China's MIIT stated 5G smartphone adoption now reached 46% of total shipment in May, which is positive to casing upgrade from metal to glastic(plastic)/glass. Tongda is the largest glastic casing supplier to Xiaomi and Samsung in China, and glastic products will account for 85% of 150mn casing shipment in 2020. By product, high-end 3D glastic (40% of mix) will mainly ship to Samsung, 2.5D glastic (15% of mix) for Xiaomi/VOH, and Unibody glastic (25% of mix) for Xiaomi/Vivo.

Comba Telecom (2342 HK, NR)

Limited COVID-19 impact on China 5G but expect delays on overseas 5G deployment

We hosted an investor call with Comba's CFO, Ken Zhang, and IR Manager, Coco Kang, yesterday. Comba is global No.2 base station antenna provider, and China No.1 in wireless solutions. Its major clients include Chinese telecom operators (China Mobile, China Telecom, China Unicom) and telecom equipment vendors (Huawei/ZTE/Ericsson).

Antenna (50% of sales): expect share gain in passive antenna market

Mgmt. believes active antenna systems will become mainstream at initial stage of 5G construction. As 5G is expanding to wide-area coverage, mgmt. expects increasing adoption of passive antenna (e.g. 16TR) and "active/passive-in-one" will allow Comba to gain more market share ahead (vs 25-30% of passive antenna in 2018-19). 5G antenna now accounted for 30% of antenna sales, and Comba expects stronger growth in FY21E and procurement will kick off in 3Q/4Q20E.

Small cell: 30% YoY growth in FY20E backed by LTE upgrade

Comba forecasts 30% YoY for small cell business in FY20E (vs 60% YoY in FY19), mostly for 4G LTE upgrade and expects 5G small cell procurement in 2021E. We believe that CU/CT will deploy small cells to ensure indoor coverage out of weak building penetrability of 3.5GHz band, and small cells would enter mass production in 2021E.

COVID-19: limited impact in domestic market; overseas 5G deployment to postpone

Comba believed domestic 5G construction remains on track and will accelerate in 2H20E. Although COVID-19 have dragged overseas sales in 2Q20, Comba will continue overseas expansion strategy (e.g. Vodafone in UK, Telefonica in Brazil). Overall, mgmt. stated Comba is now gearing up to make up for 1.5-2 month delay caused by COVID-19 and expect moderate revenue growth for FY20E.

Shengyi Technology (600183 CH, NR)

5G CCL/PCB demand remains robust; Spinoff of PCB to unlock value

We hosted an investor call with Ms. Tang from Shengyi Technology (SY Tech) this morning. SY Tech is global 2nd largest CCL supplier for a broad range of downstream applications (e.g. telecom, IDC, consumer electronics, auto) and covers 70% of PCB manufacturers. During the call, SY Tech maintained positive view on strong revenue growth in 3Q20E backed by full utilization and robust orders from telecom clients despite COVID-19 impact on overseas demand.

Rapid growth of high-frequency/high-speed CCL and import substitution accelerates

As 5G BTS deployment accelerates in China, SY Tech's high-frequency/high-speed CCL revenue reached 10%+ of total revenue in 1Q20 (vs 5-6% in 2H19). SY Tech cultivated a comprehensive portfolio of high-frequency CCL, covering PTFE, hydrocarbon and PPO products. As early as in 2016, SY Tech has become a leading high-frequency CCL supplier focusing on PTFE. Later on, it expanded product offerings into hydrocarbon with enhanced processing flexibility for 5G antenna, and PPO for power amplifiers. While mgmt. expected weaker PTFE ASP due to intensifying competition, SY Tech are positive on import substitution opportunities and market share gain in hydrocarbon CCL, which is currently dominated by SY Tech and Rogers.

SY Electronics (SYE) eyeing on mid/high-end PCB for telecom

SY Electronics (SYE), a subsidiary of SY Tech of potential spin-off listing on STAR board, accounted for 23%/25% of SY Tech's 1Q20 revenue/net profit. It mainly focuses on mid/high-end PCB, especially multi-layer PCB (20+ layers) for telecom and server segments. SYE's client base includes major telecom equipment players, namely Huawei, ZTE, Samsung, Nokia and Ericsson. In view of booming demand for 5G-related PCB, SYE is rapidly ramping up capacity in Dongcheng Ph3 and Ji'an Ph1. Proceeds from spinoff will be invested into 5G PCB capacity expansion, PCB new factory in Jianxi, and new R&D center.

2H20E GPM to stabilize on improving mix and material cost control

Mgmt. stated SY Tech's GPM mainly depends on revenue mix and material costs. Given recent strong telecom demand, SY Tech will shift production lines from auto products to telecom products, leading to better product mix with higher-margin high-frequency CCL (GPM 30-40%, vs corp-avg. 25%). In addition, mgmt. emphasized efforts to hedge materials costs (e.g. copper, resin, glass fibre cloth), which account for ~70% of COGS.

Shennan Circuit (002916 CH, NR)

5G PCB upgrade trend remains solid in 2H20E

We hosted an investor call with Ms. Xie from Shennan Circuits (SCC) yesterday. During the call, mgmt. stated there is limited impact from COVID-19, as utilization rate resumed to 90%+ since March, close to running at full capacity. Looking ahead, SSC expected full utilization backed by 5G orders in 3Q20E, and mgmt. is also positive on strong 5G/IDC PCB upgrade demand in 2H20E.

SCC is the largest rigid PCB supplier in China, focusing on telecom market (55% of rev) with major clients like Huawei and ZTE. Major products include PCB (70% of total sales), PCBA and IC substrate to various downstream applications.

PCB (70% of sales): Nantong Ph2 new plant to meet strong telecom/IDC demand

SCC expects major growth drivers for PCB business to come from telecom (65-70% of PCB sales) and IDC (8% vs 6% in FY19) markets. Nantong Phase II has commenced operation in March 2020, focusing on IDC-related high-speed multi-layer PCB. Mgmt stated 5G-related PCB now accounts for 50%+ of orders on hand (vs 20-30% of 1Q rev), which will continue to boost ASP/margin in 2H20E thanks to high-frequency material upgrade and more complex manufacturing process.

IC substrate: Wuxi new capacity ramp on track to breakeven in 3Q20E

SCC's substrate consists of MEMS mic/sensors (30-40% of substrate's sales), fingerprint modules, etc. Wuxi Phase 2 plant (annual target output of RMB1.3bn) was completed in Jun 2019, focusing on NAND flash memory. Mgmt. expected to achieve monthly breakeven in Sep 2020 with 50% utilization.

Raising entry barrier and long-term R&D partnership with clients

Mgmt. believes SSC will continue to strengthen PCB industry leadership and benefit from higher entry barrier given 1) stricter environmental regulation of PCB industry, 2) higher technical requirement for high-end 5G PCB, and 3) closer R&D collaboration with clients at early stage.

TCL Technology (000100 CH, NR)

New capacity to drive share gain amid Samsung/LG's exit in 2H20E

We hosted an investor call with TCL Tech's mgmt. during our tech corporate day. Overall, mgmt. is positive on share gain and ASP hike in global TFT-LCD market following Samsung/LG's gradual exit from LCD business by end of 2020. TCL also expects overseas demand for LCD panels to pick up on seasonality in 2H20E, which will support panel pricing ahead.

TCL Tech is global 5th largest large-sized and 2nd largest small/mid-sized LCD panel supplier. For large-size LCD panels, TCL has two Gen 8.5 fab (T1, T2), one Gen 11 fab (T6), and one Gen 11 fab (T7) which will launch in 1Q21. For mid/small-sized panels, TCL has one Gen 6 LCD fab (T3) and one Gen 6 AMOLED fab (T4).

Samsung/LG to exit LCD capacity; Panel price to rebound in 2H20E

From supply side, mgmt. believes COVID-19 will accelerate Samsung/LG's closing all LCD production in Korea and China by 4Q20E. From demand end, TCL stated that overseas panel demand is recovering recently given stabilising COVID-19 situation, which will drive panel pricing to rebound in 3Q20E.

New capacity ramp to drive up market share in LCD market

TCL has been expanding panel capacity since 2015, and it now has 5 fabs (two Gen 8.5, one Gen 11, one Gen 6 LCD, one Gen 6 flexible OLED). It will add one more Gen 6 OLED plant in 1Q21. As such, TCL expects area output to increase 20% YoY in FY20E and 15% CAGR in next 3 years, supporting TCL's revenue growth ahead.

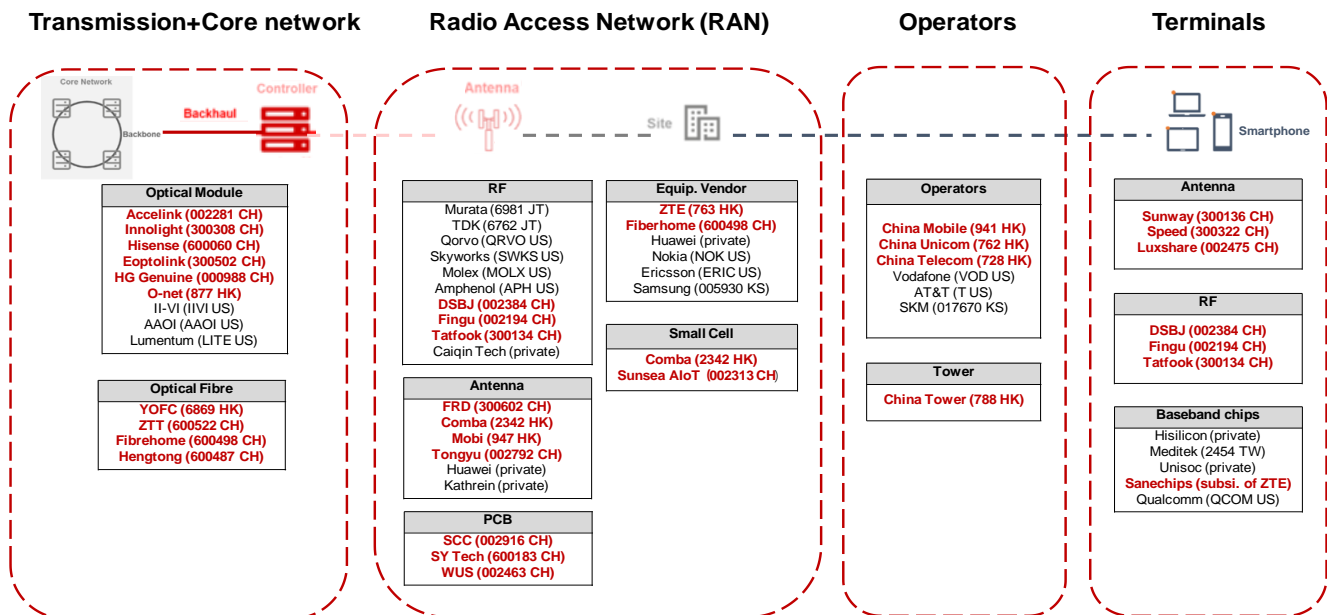
AMOLED products to target mid/high-end smartphone models in 2H20E

For mid/small-sized panels, TCL's Gen 6 AMOLED fab (T4) Ph 1 has commenced mass production with 15K/m capacity, and it started to ship to Xiaomi Mi 10 and Motorola RAZR-series. Ph 2 and Ph 3 of T4 fab will start to ship in 1Q21E, and account for 30K/m capacity for AMOLED panels. In terms of products, TCL's AMOLED panels will focus on mid/high-end smartphone models with features such as under-display camera and foldable display.

Figure 1: Supply chain mapping and sales mix exposure

Company	Ticker	Apple	Huawei	Samsung	Other CN brands	Others	Major handset products
AAC Tech	2018 HK	45%	15%	25%	10%	5%	Acoustics, haptics, casing, stepper motor
FIT Hon Teng	6088 HK	40%	3%			57%	Connector, wireless charging
Sunny Optical	2382 HK		30%	10%	45%	15%	Camera module, handset/auto lens
BYDE	285 HK	5%	30%	15%	35%	15%	Metal/glass casing, ODM/OEM
Tongda	698 HK	20%	5%	10%	35%	25%	Plastic casing, waterproof
Q-Tech	1478 HK		20%		70%	15%	Camera module/lens, fingerprint
TK Group	2283 HK	10%				90%	Plastic molding
Truly	732 HK			3%	62%	35%	CCM, fingerprint, display
Cowell	1445 HK	90%		5%		5%	Camera Module
Luxshare	002475 CN	60%	10%	3%		27%	Wireless, Airpod, acoustics/haptics
Goertek	002241 CN	35%	15%	10%	10%	30%	Acoustics, Airpod, AR/VR, Wearables
O-film	002456 CN	15%	20%	10%	45%	10%	CCM, fingerprint, touch panel
Lens Tech	300433 CN	50%	15%	10%	10%	15%	Glass casing

Source: Company data, CMBIS estimates

Figure 2: 5G supply chain

Source: Company, CMBIS

Figure 3: Peers Comparison – Technology supply chain

			Mkt Cap	Price	TP	Up/Down	P/E (x)		P/B (x)		ROE (%)	
Company	Ticker	Rating	(US\$ mn)	(LC)	(LC)	-side	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E
Optics												
Sunny Optical	2382 HK	Hold	16,332	115.70	115.0	-1%	25.6	19.6	6.8	5.3	26.7	27.0
Q Tech	1478 HK	Buy	1,528	10.30	14.8	44%	15.3	12.0	3.1	2.5	20.0	21.0
Truly	732 HK	NR	314	0.76	NA	NA	-	-	-	-	-	-
Cowell	1415 HK	NR	179	1.63	NA	NA	5.8	4.4	0.6	0.5	10.6	11.8
Largan	3008 TT	NR	18,837	4195	NA	NA	18.4	15.3	3.8	3.2	22.4	23.6
Genius	3406 TT	NR	2,291	627	NA	NA	21.5	15.3	4.1	3.4	21.5	25.4
Primax	4915 TT	NR	739	49.00	NA	NA	9.7	8.8	1.6	1.4	15.1	16.4
Lite-On	2301 TT	NR	4,051	51.10	NA	NA	13.3	12.6	1.6	1.5	11.5	11.8
O-Film	002456 CH	NR	6,443	16.67	NA	NA	35.1	25.7	4.3	3.6	12.2	14.3
Samsung Elec	009150 KS	NR	8,086	132000	NA	NA	21.7	15.8	1.8	1.6	8.4	10.6
Lg Innotek	011070 KS	NR	3,302	169500	NA	NA	12.0	10.5	1.6	1.4	14.4	14.1
Partron	091700 KS	NR	407	9330	NA	NA	9.6	7.3	1.2	1.1	14.3	16.2
Average							17.1	13.4	2.8	2.3	16.1	17.5
Acoustics/Haptics												
AAC Tech	2018 HK	Sell	6,666	43.15	36.0	-17%	27.8	21.6	2.3	2.1	8.3	9.9
Goertek	002241 CH	Hold	11,337	24.09	*9.1	NA	56.0	50.2	4.5	4.3	8.1	8.6
Shenzhen Sunwa	300136 CH	Buy	42,280	42.52	55.4	30%	32.2	25.6	8.2	6.3	25.4	24.6
Jinlong	300032 CH	NR	6,373	47.67	NA	NA	33.3	24.5	7.5	5.7	23.7	24.7
Merry	2439 TT	NR	961	137	NA	NA	13.1	10.7	2.4	2.3	17.9	21.7
Knowles	KN US	NR	1,477	16.17	NA	NA	29.2	14.4	1.2	1.2	4.5	8.0
Nidec	6594 JP	NR	37,847	6854	NA	NA	47.8	39.6	3.9	3.7	8.6	9.4
Alps Alpine	6770 JP	NR	3,096	1496	NA	NA	35.3	33.1	0.9	0.9	2.2	4.5
Average							34.3	27.5	3.8	3.3	12.3	13.9
Connector												
FIT Hon Teng	6088 HK	Buy	2,371	2.76	*2.6	NA	10.4	9.3	1.0	1.0	10.0	10.3
Luxshare	002475 CH	Buy	42,280	42.52	55.4	30%	32.2	25.6	8.2	6.3	25.4	24.6
TE	TEL US	NR	26,833	82.20	NA	NA	21.8	16.8	3.1	3.0	13.2	17.1
Amphenol	APH US	NR	29,104	98.57	NA	NA	32.7	26.7	6.7	6.3	20.5	24.3
Delphi	DLPH US	NR	1,177	13.38	NA	NA	-	11.2	9.3	7.5	(24.2)	28.5
Average							24.3	17.9	5.7	4.8	9.0	20.9
Casing												
BYDE	285 HK	Buy	4,983	16.92	22.2	31%	20.8	15.6	1.9	1.7	9.0	10.9
Tongda	698 HK	Hold	364	0.46	0.5	16%	6.1	5.2	0.4	0.4	7.1	8.1
TK Group	2283 HK	Buy	241	2.20	2.3	6%	4.0	3.4	1.4	1.4	35.7	41.7
Ju Teng	3336 HK	NR	406	2.70	NA	NA	10.2	10.6	0.5	0.4	4.6	4.4
Everwin	300115 CH	NR	2,698	20.90	NA	NA	33.7	23.4	3.9	3.5	10.9	13.6
Lens Tech	300433 CH	NR	13,171	21.60	NA	NA	26.4	22.0	3.8	3.3	15.4	16.1
Chaozhou Three	300408 CH	NR	5,205	21.45	NA	NA	31.7	23.9	4.3	3.8	13.4	15.3
Casetek	5264 TT	NR	898	59.30	NA	NA	-	22.0	0.9	0.8	0.7	4.6
Catcher	2474 TT	NR	5,773	223.0	NA	NA	10.0	9.0	1.1	1.0	11.3	12.4
Jabil	JBL US	NR	4,942	33.09	NA	NA	12.9	9.5	2.9	2.7	20.5	27.7
Average							17.3	14.5	2.1	1.9	12.8	15.5

Source: Bloomberg, CMBIS, * TP under review

Figure 4: Peers Comparison - 5G/datacenter supply chain

			Market Cap	Price	P/E (x)		P/B (x)		ROE (%)	
Company	Ticker	Rating	(US\$ mn)	(LC)	FY20E	FY21E	FY20E	FY21E	FY20E	FY21E
Operators & Tower										
China Mobile	941 HK	NR	143,062	54.15	9.4	9.2	0.9	0.8	9.6	9.6
China Unicom	762 HK	NR	17,490	4.43	10.0	8.6	0.4	0.4	3.9	4.4
China Telecom	728 HK	NR	23,809	2.28	8.5	7.9	0.5	0.5	5.7	5.9
China Tower	788 HK	NR	34,520	1.52	33.1	25.3	1.3	1.3	3.8	4.9
			Average		15.3	12.7	0.8	0.8	5.7	6.2
Equip. vendors										
ZTE (H)	763 HK	NR	23,861	22.75	17.0	13.6	2.4	2.1	14.7	15.5
ZTE (A)	000063 CH	NR	23,861	39.75	30.6	24.3	4.2	3.6	14.5	15.2
Fiberhome	600498 CH	NR	4,859	29.40	31.6	25.8	2.8	2.6	8.9	10.2
		NR	Average		26.4	21.2	3.1	2.8	12.7	13.6
PCB										
Shennan Circuit	002916 CH	NR	10,693	159.45	43.5	34.5	11.4	8.9	26.7	26.9
Shengyi Tech	600183 CH	NR	9,407	29.28	34.5	28.3	6.7	5.9	19.9	21.4
WUS Printed	002463 CH	NR	5,889	24.19	26.6	21.5	6.4	5.1	24.4	24.0
			Average		34.9	28.1	8.2	6.6	23.7	24.1
Antenna										
Tongyu Comm.	002792 CH	NR	1,170	24.54	40.9	29.0	9.0	8.6	-	-
Shenzhen FRD	300602 CH	NR	2,079	29.07	27.1	22.0	6.5	5.0	22.9	23.4
Mobi	947 HK	NR	84	0.79	-	-	-	-	-	-
Comba	2342 HK	NR	1,113	3.15	26.3	17.5	2.1	1.9	6.1	7.9
DSBJ	002384 CH	NR	6,193	27.31	27.8	21.4	4.4	3.7	15.6	17.8
Suzhou Shijia	002796 CH	NR	761	21.35	24.1	19.6	3.2	2.9	10.9	12.4
			Average		29.2	21.9	5.0	4.4	13.9	15.4
RF										
DSBJ	002384 CH	NR	6,193	27.31	27.8	21.4	4.4	3.7	15.6	17.8
Wuhan Fingu	002194 CH	NR	2,031	21.27	64.5	-	-	-	-	-
Shenzhen Tatfook	300134 CH	NR	1,584	14.62	30.5	-	-	-	-	-
			Average		40.9	21.4	4.4	3.7	15.6	17.8
Optical module										
Innolight	300308 CH	NR	6,125	60.85	49.4	37.6	5.7	5.0	11.6	13.6
Accelink	002281 CH	NR	3,126	32.71	51.6	40.1	4.6	4.2	8.7	10.0
Eoptolink	300502 CH	NR	2,446	52.35	51.3	38.5	10.8	9.0	20.1	21.5
O-Net	877 HK	NR	554	5.15	17.6	14.3	1.6	1.5	7.8	9.2
			Average		42.5	32.6	5.7	4.9	12.1	13.6
Optical fiber										
YOFC	6869 HK	NR	2,422	14.38	11.8	9.8	1.0	1.0	8.9	9.9
Zhongtian Tech	600522 CH	NR	4,895	11.31	15.0	12.3	1.5	1.3	10.2	11.3
Hengtong Optic	600487 CH	NR	4,548	16.50	17.3	14.1	2.1	1.8	11.7	12.4
			Average		14.7	12.0	1.5	1.4	10.2	11.2
IDC										
Inspur	000977 CH	NR	7,899	38.83	40.8	29.6	4.6	4.0	11.5	13.6
Ruijie networks	002396 CH	NR	2,808	34.11	25.7	20.8	4.0	3.4	16.6	17.4
Sinnet	300383 CH	NR	5,443	24.99	38.1	30.1	4.1	3.5	10.7	12.0
ATHub	603881 CH	NR	2,669	89.78	144.1	81.9	14.8	12.7	10.0	14.5
Ofide	300738 CH	NR	1,316	46.69	46.4	35.1	11.2	9.0	20.1	21.0
Sangfor	300454 CH	NR	10,099	174.90	77.0	56.3	13.5	11.0	17.7	19.9
BONC	300166 CH	NR	2,162	14.50	23.1	18.5	2.5	2.2	10.6	11.8
Vianet	VNET US	NR	1,842	16.25	-	-	4.4	4.4	(2.0)	0.7
GDS	GDS US	NR	10,852	71.37	-	882.4	9.5	9.1	(1.7)	1.2
			Average		56.5	144.3	7.6	6.6	10.4	12.5
Industrial IoT										
Foxconn Industrial	601138 CH		39,970	14.25	15.6	13.6	2.7	2.2	18.2	17.4

Source: Bloomberg, CMBIS

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