

Hana Microelectronics Pcl (HANA TB) - BUY

Pattadol Bunnak | Email: pattadol.bun@thanachartsec.co.th

News Update**Ramping up the new power management business**

- **HANA will build a new factory in Korea...**
- **...For the new power management business.**
- **HANA already received sizable orders from clients.**
- **We have yet to factor this in and see it as upside.**

HANA last Friday announced to the Stock Exchange of Thailand that it will start to build a new factory in Korea under its 100%-owned Power Master Semiconductor (PMS) company who produces ranges of standard Silicon and Silicon Carbide power management devices. The announcement was after PMS having received sufficient orders from clients who already signed a contractual agreement to buy products from PMS after the completion of the mass facility.

- To recap, HANA, 4 years ago, started a 100%-owned company, PMS, in Korea. It employed a group of engineers to develop the standard Silicon (Si) and Silicon Carbide (SiC) power management devices. Having completed its products, HANA sent out sample to various potential customers in areas of industrial electronic, renewable power, EV and EV-related charging stations and other consumer electronic devices during 1Q21.
- So far, HANA has received sufficient orders from clients, e.g., Korea's largest consumer electronic product producers, Chinese telecommunication & server companies, leading Japanese global electronics corporation, leading Korean auto infotainment brand and major Korean EV charger company. HANA will start building a factory in Korea which should be completed by late 2022. The mass production of its products is expected in early 2023. The investment budget is around Bt2.0bn. If the business works well, HANA will expand its factory further.
- Note that unlike its existing OEM business of chip packaging and PCB assembly, HANA will develop and manufacturer the power management-related chip, which is the core of the product, by itself.
- HANA's plan is to focus for clients in Korea and in China. Korea has been one of the main producers of new-trend electronic devices which use Si and SiC power management while there are still limited Si and SiC device makers in Korea. HANA believes they prefer to insource from producers in Korea first. For China, HANA believes they want to diversify from sourcing products from US (trade war fear). HANA plans to capture those demand. Note that major Si and SiC producers are in US.
- In brief, power management products are general devices installed in any electronic products to convert and control flow of electricity. So far, Silicon is one of the main materials use for the device. However, due to rising adoption of new generation products, e.g., IoT consumer electronic and EV and charging stations, which require higher voltage to operate (thus more heat generating from higher electricity usage), brand owners need better material for power management devices which is Silicon Carbide (standard Silicon + Carbon) or SiC. SiC is very hard and strong (close to diamond level) and it provides better heat resistance and helps to reduce power losses better than

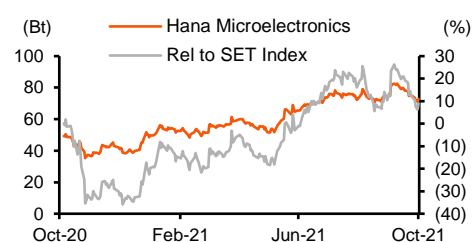
Key Valuations

Y/E Dec (Bt m)	2020	2021F	2022F	2023F
Revenue	19,283	23,441	27,114	28,282
Net profit	1,908	2,670	3,522	3,900
Norm net profit	1,798	2,670	3,522	3,900
Norm EPS (Bt)	2.2	3.3	4.4	4.8
Norm EPS gr (%)	20.2	48.6	31.9	10.7
Norm PE (x)	32.6	21.9	16.6	15.0
EV/EBITDA (x)	23.3	16.5	13.0	12.1
P/BV (x)	2.7	2.6	2.4	2.2
Div. yield (%)	1.9	2.7	3.5	3.9
ROE (%)	8.5	12.0	14.8	15.3
Net D/E (%)	(43.3)	(38.6)	(39.0)	(47.1)

Source: Thanachart estimates

Stock Data

Closing price (Bt)	72.75
Target price (Bt)	90.00
Market cap (US\$ m)	1,759
Avg daily turnover (US\$ m)	27.9
12M H/L price (Bt)	82.50/35.25

Price Performance

Source: Bloomberg

standard Si. However, SiC material is still more expensive than Si and it is still difficult to integrate them into the power management device. Therefore, still high defect rate.

- Of the two new products, HANA see better growth outlook for SiC devices. The SiC power management industry now worth below US\$1bn. According to Markets & Markets, an independent electronic product research house, the market value is expected to surge to US\$2bn by 2025, along with the rise of end products that use SiC we mentioned above. HANA's ambition is to have a low-single digit market share by 2025.
- HANA plans to mass produce the new products by early 2023 and expects to make some losses or small profits into 2023 or 2024 during the ramp-up periods. In 2025-26, HANA believes the power management business should generate 30%-plus gross margin vs. HANA's existing OEM chip packaging and PCB assembly businesses of 15%.
- We have yet to factor this in. We however provide a rough, potential value creation from the SiC power management business below. The way we derive the value is through price/sale methodology. We assume HANA's potential market share in 2025 when HANA believes it will have a decent business position, derive the sales value from the projected SiC market size of US\$2bn in 2025 as mentioned above, assume p/s levels and discount the values back to 2022F which is the based year to derive our TP.
- We use the global top five SiC device manufacturer, Wolfspeed, as a reference. Wolfspeed is the only listed company having SiC product as its main business. According to the Bloomberg consensus, Wolfspeed is forecasted to trade at 15x p/s in 2022F. Note that Wolfspeed is still making losses. We expect HANA, a new player with a much smaller business scale, to receive lower premium than Wolfspeed.
- Note that Wolfspeed is forecasted to generate US\$680m in sales with US\$100m losses in 2022F, according to the consensus. Its market capitalization is US\$9.9bn, implying it trades at 15x p/s in 2022F. HANA's existing OEM business generates revenues of US\$852m with US\$111m earnings in 2022F. Currently, HANA is trading at the OEM players' p/s of 2x in 2022F, implying US\$1.9bn market capitalization.

Ex 1: Potential Value Creation From The New Business

	2025F	2022F*
Projected SiC device market size in US\$ (m)	2,113	
Assumed market share	2%	
HANA's SiC US\$ sales (m)	42	
HANA's SiC Bt sales (m) @ US\$31/baht	1,310	
Bt value per share of SiC business at p/s of:		
-3x	4.9	3.4
-4x	6.5	4.5
-5x	8.1	5.6
-6x	9.8	6.8
-7x	11.4	7.9
-8x	13.0	9.0

Sources: Markets&Markets; Thanachart estimates

Note: *We discount 2025F value back to 2022F on 9.6% WACC

General Disclaimers And Disclosures:

This report is prepared and issued by Thanachart Securities Public Company Limited (TNS) as a resource only for clients of TNS, Thanachart Capital Public Company Limited (TCAP) and its group companies. Copyright © Thanachart Securities Public Company Limited. All rights reserved. The report may not be reproduced in whole or in part or delivered to other persons without our written consent.

This report is prepared by analysts who are employed by the research department of TNS. While the information is from sources believed to be reliable, neither the information nor the forecasts shall be taken as a representation or warranty for which TNS or TCAP or its group companies or any of their employees incur any responsibility. This report is provided to you for informational purposes only and it is not, and is not to be construed as, an offer or an invitation to make an offer to sell or buy any securities. Neither TNS, TCAP nor its group companies accept any liability whatsoever for any direct or consequential loss arising from any use of this report or its contents.

The information and opinions contained herein have been compiled or arrived at from sources believed reliable. However, TNS, TCAP and its group companies make no representation or warranty, express or implied, as to their accuracy or completeness. Expressions of opinion herein are subject to change without notice. The use of any information, forecasts and opinions contained in this report shall be at the sole discretion and risk of the user.

TNS, TCAP and its group companies perform and seek to perform business with companies covered in this report. TNS, TCAP, its group companies, their employees and directors may have positions and financial interest in securities mentioned in this report. TNS, TCAP or its group companies may from time to time perform investment banking or other services for, or solicit investment banking or other business from, any entity mentioned in this report. Therefore, investors should be aware of conflict of interest that may affect the objectivity of this report.

Note: Thanachart Securities Public Company Limited act as a Market Maker and Derivative Warrants Issuer. At present, TNS has issued 113 Derivative Warrants which are ACE16C2111A, ACE16C2201A, ACE16C2202A, ADVA16C2110A, ADVA16C2201A, AEON16C2201A, AEON16C2201B, AMAT16C2112A, AOT16C2112A, BAM16C2110A, BAM16C2112A, BANP16C2110A, BANP16C2112A, BANP16C2201A, BBL16C2201A, BCH16C2111A, BCH16C2111B, BCH16C2201A, BCPG16C2111A, BEC16C2202A, BGRI16C2110A, BGRI16C2112A, CBG16C2201A, CBG16C2202A, CHG16C2111A, CHG16C2112A, COM716C2110A, COM716C2112A, CPAL16C2111A, CPAL16C2112A, CPF16C2112A, CPN16C2202A, DELT16C2112A, DELT16C2202A, DOHO16C2111A, DOHO16C2112A, DTAC16C2112A, EA16C2110A, EA16C2201A, EGCO16C2110A, GLOB16C2201A, GPSC16C2110A, GPSC16C2201A, GPSC16C2201B, GULF16C2112A, GULF16C2202A, GUNK16C2110A, GUNK16C2112A, GUNK16C2201A, HANA16C2112A, INTU16C2201A, IRPC16C2110A, IRPC16C2112A, IVL16C2110A, IVL16C2111A, JMAR16C2111A, JMAR16C2201A, JMT16C2110A, JMT16C2201A, KBAN16C2111A, KBAN16C2111B, KBAN16C2201A, KCE16C2110A, KCE16C2201A, KTC16C2110A, KTC16C2110B, KTC16C2112A, KTC16C2202A, MAJO16C2201A, MEGA16C2112A, MINT16C2112A, MTC16C2112A, OR16C2112A, PTG16C2201A, PTG16C2202A, PTL16C2201A, PTT16C2112A, PTT16C2201A, PTTE16C2112A, PTTG16C2110A, PTTG16C2111A, RBF16C2110A, RBF16C2112A, RS16C2112A, RS16C2201A, S5016C2112A, S5016C2112A, S5016C2112B, S5016C2112C, S5016P2112C, S5016P2112A, S5016P2112B, SAWA16C2112A, SAWA16C2202A, SCB16C2111A, SCB16C2112A, SCB16C2201A, SCC16C2112A, SCGP16C2201A, SPRC16C2201A, STA16C2112A, STA16C2201A, STEC16C2110A, STEC16C2201A, STGT16C2111A, STGT16C2202A, SYNE16C2202A, TASC16C2201A, TOP16C2112A, TOP16C2202A, TRUE16C2202A, TU16C2110A, TU16C2111A (underlying securities are ACE, ADVANC, AEONTS, AMATA, AOT, BAM, BANPU, BBL, BCH, BCPG, BEC, BGRIM, CBG, CHG, COM7, CPALL, CPF, CPN, DELTA, DOHOME, DTAC, EA, EGCO, GLOBAL, GPSC, GULF, GUNKUL, HANA, INTUCH, IRPC, IVL, JMART, JMT, KBANK, KCE, KTC, MAJOR, MEGA, MINT, MTC, OR, PTG, PTL, PTT, PTTEP, PTTGC, RBF, RS, SAWAD, SCB, SCC, SCGP, SPRC, SET50, STA, STEC, STGT, SYNTEC, TASCO, TOP, TRUE, TU). Since TNS covers those underlying securities in research report, consequently TNS incurs conflicts of interest. Moreover, Investors are advised to carefully review the details and information in the prospectus before making investment decisions.

Note: Thanachart Securities has an indirect financial interest in Ratchthani Leasing Pcl (THANI). Thanachart Securities Pcl is a subsidiary of Thanachart Capital Pcl (TCAP) which holds more than 56% of the shareholding in Ratchthani Leasing Pcl (THANI).

Note: Thanachart Capital Public Company Limited (TCAP), TMBThanachart Bank Public Company Limited (TTB), are related companies to Thanachart Securities Public Company Limited (TNS). Thanachart Securities Pcl is a subsidiary of Thanachart Capital Pcl (TCAP) which holds 20.1% of the shareholding in TMBThanachart Bank Pcl.

Thanachart Capital Public Company Limited (TCAP), Ratchthani Leasing Public Company Limited (THANI), TMB Public Company Limited, MBK PUBLIC COMPANY LIMITED (MBK) and PATUM RICE MILL AND GRANARY PUBLIC COMPANY LIMITED (PRG) are related companies to Thanachart Securities Public Company Limited (TNS) . Since TNS covers those securities in research report, consequently TNS incurs conflicts of interest.

Disclosure of Interest of Thanachart Securities

Investment Banking Relationship

Within the preceding 12 months, Thanachart Securities has lead-managed public offerings and/or secondary offerings (excluding straight bonds) of the securities of the following companies: Saksiam Leasing Pcl. (SAK TB)