

Asia Taiwan

Technology Semiconductor &amp; Semiconductor Equipment

Deutsche Bank



9 February 2009

# MediaTek

Reuters: **2454.TW** Bloomberg: **2454 TT** Exchange: **TAI** Ticker: **2454**

## Stalling new product cycles; retain Sell

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### Limited contribution from new products

Management's comments confirmed our view that the new products (WCDMA, TD-SCDMA, and mid/low-end single-chip handset solutions and Blu-ray chip) should have limited sales contribution in 2009. In addition, we are concerned about the margins and growth prospects of WCDMA handset chips as the company will likely pay the licensing fee to Qualcomm. We believe the Street is overly optimistic about the outlook of 3G handset chips and we expect earnings downside risks to the Street's 2009-10 estimates. We reiterate Sell.

### 4Q08 below expectation, slightly better 1Q09 outlook

EPS reached NT\$2.70 in 4Q08, below DBE NT\$3.54 and consensus of NT\$4.48 owing to higher inventory provision and investment loss. Management guided for 8-16% QoQ sales decline in 1Q09 vs. DBE 10-15% decrease and consensus estimate of a 13-18% decline. GM is guided to stay flat at 54.5% or improve slightly in 1Q09 vs. DBE 54.5%. We attribute this to NT\$ depreciation and product mix change.

### Challenges in new products and unfavorable competitive landscape

We expect its 3G WCDMA handset chips margins to be below the level of current products (2.5/2.75G handset chips) due to the licensing fee for WCDMA. We believe MediaTek will have to pay the licensing fee to the market leader – Qualcomm, which has more patterns in WCDMA standard than MediaTek. In addition, handset makers still have to pay the royalty fee to Qualcomm when they adopt MediaTek's 3G WCDMA handset chips (Qualcomm can offer a lower royalty fee requirement if handset makers use Qualcomm's solutions) and MediaTek has to cut prices more aggressively to obtain design wins. These negative factors may cap MediaTek's market share gain in 3G and lead to margin downside risks. We anticipate 3G handset chips to account for less than 3% of total handset chip shipment in 2009 and 7-10% in 2010 and a 2ppt margin erosion in 2010.

### Structural de-rating; faster-than-expected ramp-up in new products a risk

Our TP is based on 11.8x 2009E EPS, which is below the 2003-08 average of 13.7x. This reflects the 2009-10E earnings CAGR of -3% which is lower than the 13% earnings CAGR in 2003-08. Upside risks include faster-than-expected ramp-up in new products and stronger demand. See page 5.

### Forecasts and ratios

Year End Dec 31	2007A	2008A	2009E	2010E	2011E
Sales (TWDm)	80,409.7	90,402.2	<b>82,749.0</b>	85,155.0	88,103.0
Reported EPS FD(TWD)	31.55	18.82	<b>17.27</b>	17.52	16.96
DB EPS FD(TWD)	20.10	18.82	<b>17.27</b>	17.52	16.96
DB EPS growth (%)	52.3	-6.4	<b>-8.2</b>	1.5	-3.2
PER (x)	23.2	17.4	<b>14.8</b>	14.6	15.1
DPS (net) (TWD)	19.00	12.00	<b>12.50</b>	12.60	0.00
Yield (net) (%)	4.1	3.7	<b>4.9</b>	4.9	0.0

Source: Deutsche Bank estimates, company data

<sup>1</sup> DB EPS is fully diluted and excludes non-recurring items<sup>2</sup> Multiples and yields calculations use average historical prices for past years and spot prices for current and future years, except P/B which uses the year end close

### Forecast change

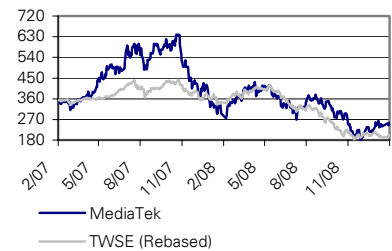
#### Sell

Price at 6 Feb 2009 (TWD)	<b>255.50</b>
Price target - 12mth (TWD)	<b>203.00</b>
52-week range (TWD)	<b>433.50 - 181.50</b>
TWSE	<b>4,471</b>

#### Key changes

Sales (FYE)	82,209 to 82,749	↑	<b>0.7%</b>
Op prof margin (FYE)	23.1 to 23.4	↑	<b>1.1%</b>
Net profit (FYE)	18,530.9 to 18,398.0	↓	<b>-0.7%</b>

#### Price/price relative



Performance (%)	1m	3m	12m
Absolute	5.6	-1.9	-13.7
TWSE	-5.4	-4.7	-41.7

#### Stock data

Market cap (TWDm)	<b>272,207</b>
Market cap (USDm)	<b>8,071</b>
Shares outstanding (m)	<b>1,065.4</b>
Major shareholders	<b>Ming-Chieh Tsai (3.85%)</b>
Free float (%)	<b>76</b>
Avg daily value traded (USDm)	<b>61.2</b>

#### Key indicators (FY1)

ROE (%)	<b>21.7</b>
Net debt/equity (%)	<b>-51.6</b>
Book value/share (TWD)	<b>82.31</b>
Price/book (x)	<b>3.1</b>
Net interest cover (x)	<b>-</b>
Operating profit margin (%)	<b>23.4</b>

#### Related recent research

Date

MediaTek: Too early to get excited; retain Sell  
Michael Chou 05 Feb 2009

Deutsche Bank AG/Hong Kong

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Model updated:06 February 2009

**Running the numbers****Asia****Taiwan****Semiconductor & Semiconductor****MediaTek**

Reuters: 2454.TW

Bloomberg: 2454 TT

**Sell**

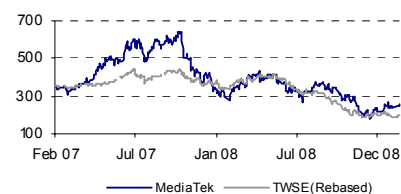
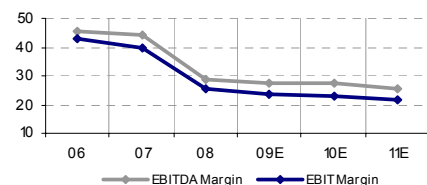
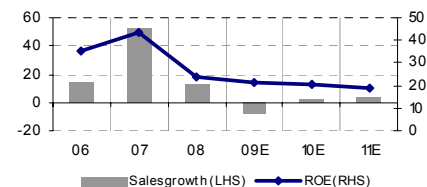
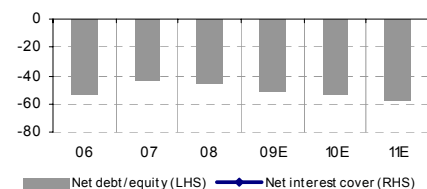
Price (6 Feb 09) TWD 255.50

Target price TWD 203.00

52-week Range TWD 181.50 - 433.50

Market Cap (m) TWDm 272,207  
USDm 8,071**Company Profile**

MediaTek Inc. is one of the top 5 fabless designers globally. Its product portfolio includes optical storage, digital multimedia, and wireless. The company is the largest supplier of PC optical storage and DVD player chipsets in the world. The company has 55-60% of sales from handset chips and 19% global shipment market share in 2008.

**Price Performance****Margin Trends****Growth & Profitability****Solvency****Michael Chou**

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Fiscal year end 31-Dec

	2006	2007	2008	2009E	2010E	2011E
<b>Financial Summary</b>						
DB EPS (TWD)	13.19	20.10	18.82	17.27	17.52	16.96
Reported EPS (TWD)	20.11	31.55	18.82	17.27	17.52	16.96
DPS (TWD)	15.00	19.00	12.00	12.50	12.60	0.00
BVPS (TWD)	78.8	89.6	79.3	82.3	87.3	91.7
Weighted average shares (m)	857	961	1,031	1,065	1,065	1,065
Average market cap (TWDm)	256,751	447,492	337,884	272,207	272,207	272,207
Enterprise value (TWDm)	220,096	410,079	300,803	227,001	222,400	215,983
<b>Valuation Metrics</b>						
P/E (DB) (x)	22.7	23.2	17.4	14.8	14.6	15.1
P/E (Reported) (x)	14.9	14.8	17.4	14.8	14.6	15.1
P/BV (x)	4.08	4.70	2.78	3.10	2.93	2.79
FCF Yield (%)	8.5	9.6	10.0	7.7	6.6	7.5
Dividend Yield (%)	5.0	4.1	3.7	4.9	4.9	0.0
EV/Sales (x)	4.2	5.1	3.3	2.7	2.6	2.5
EV/EBITDA (x)	9.1	11.6	11.5	9.9	9.5	9.5
EV/EBIT (x)	9.7	12.8	13.0	11.7	11.3	11.5

**Income Statement (TWDm)**

<b>Sales revenue</b>	<b>52,942</b>	<b>80,410</b>	<b>90,402</b>	<b>82,749</b>	<b>85,155</b>	<b>88,103</b>
<b>Gross profit</b>	<b>32,126</b>	<b>48,685</b>	<b>51,635</b>	<b>47,934</b>	<b>47,711</b>	<b>47,646</b>
<b>EBITDA</b>	<b>24,140</b>	<b>35,454</b>	<b>26,222</b>	<b>22,860</b>	<b>23,382</b>	<b>22,671</b>
Depreciation	1,473	3,461	3,053	3,516	3,676	3,836
Amortisation	0	0	0	0	0	0
<b>EBIT</b>	<b>22,668</b>	<b>31,993</b>	<b>23,169</b>	<b>19,344</b>	<b>19,706</b>	<b>18,835</b>
Net interest income/(expense)	1,151	1,554	1,290	1,395	1,485	1,550
Associates/affiliates	0	0	0	0	0	0
Exceptionals/extraordinaries	0	0	0	0	0	0
Other pre-tax income/(expense)	-600	1,515	-2,484	-750	-859	-524
<b>Profit before tax</b>	<b>23,218</b>	<b>35,062</b>	<b>21,975</b>	<b>19,989</b>	<b>20,332</b>	<b>19,861</b>
Income tax expense	1,798	1,461	1,925	1,591	1,667	1,787
Minorities	0	-8	0	0	0	0
Other post-tax income/(expense)	0	0	0	0	0	0
<b>Net profit</b>	<b>21,421</b>	<b>33,609</b>	<b>20,050</b>	<b>18,398</b>	<b>18,665</b>	<b>18,073</b>
DB adjustments (including dilution)	-7,364	-12,194	0	0	0	0
<b>DB Net profit</b>	<b>14,057</b>	<b>21,415</b>	<b>20,050</b>	<b>18,398</b>	<b>18,665</b>	<b>18,073</b>

**Cash Flow (TWDm)**

<b>Cash flow from operations</b>	<b>23,335</b>	<b>45,602</b>	<b>35,819</b>	<b>23,031</b>	<b>20,079</b>	<b>22,735</b>
Net Capex	-1,466	-2,526	-1,994	-2,120	-2,160	-2,220
<b>Free cash flow</b>	<b>21,869</b>	<b>43,075</b>	<b>33,825</b>	<b>20,911</b>	<b>17,919</b>	<b>20,515</b>
Equity raised/(bought back)	0	0	0	0	0	0
Dividends paid	-9,505	-14,525	-19,630	-12,785	-13,317	-13,424
Net inc/(dec) in borrowings	0	41	-21	-1	0	0
Other investing/financing cash flows	-7,115	-27,818	-14,656	0	0	-674
<b>Net cash flow</b>	<b>5,249</b>	<b>774</b>	<b>-483</b>	<b>8,125</b>	<b>4,601</b>	<b>6,417</b>
Change in working capital	-11,558	-10,415	7,958	1,117	-2,262	826

**Balance Sheet (TWDm)**

Cash and other liquid assets	36,655	37,429	37,081	45,206	49,807	56,224
Tangible fixed assets	4,815	5,922	6,260	4,888	3,376	1,761
Goodwill/intangible assets	0	0	0	0	0	0
Associates/investments	23,855	17,569	17,845	17,845	17,845	18,519
Other assets	11,341	37,946	37,888	41,869	45,067	44,875
<b>Total assets</b>	<b>76,666</b>	<b>98,867</b>	<b>99,074</b>	<b>109,808</b>	<b>116,095</b>	<b>121,380</b>
Interest bearing debt	0	16	0	0	0	0
Other liabilities	9,141	12,781	17,315	22,119	23,054	23,688
<b>Total liabilities</b>	<b>9,141</b>	<b>12,797</b>	<b>17,315</b>	<b>22,119</b>	<b>23,054</b>	<b>23,688</b>
Shareholders' equity	67,526	86,069	81,759	87,689	93,041	97,691
Minorities	0	0	0	0	0	0
<b>Total shareholders' equity</b>	<b>67,526</b>	<b>86,069</b>	<b>81,759</b>	<b>87,689</b>	<b>93,041</b>	<b>97,691</b>
Net debt	-36,655	-37,413	-37,081	-45,206	-49,807	-56,224

**Key Company Metrics**

Sales growth (%)	13.9	51.9	12.4	-8.5	2.9	3.5
DB EPS growth (%)	15.1	52.3	-6.4	-8.2	1.5	-3.2
EBITDA Margin (%)	45.6	44.1	29.0	27.6	27.5	25.7
EBIT Margin (%)	42.8	39.8	25.6	23.4	23.1	21.4
Payout ratio (%)	60.0	54.3	61.7	72.4	71.9	0.0
ROE (%)	35.6	43.8	23.9	21.7	20.7	19.0
Capex/sales (%)	3.8	3.1	2.2	2.6	2.5	2.5
Capex/depreciation (x)	1.3	0.7	0.7	0.6	0.6	0.6
Net debt/equity (%)	-54.3	-43.5	-45.4	-51.6	-53.5	-57.6
Net interest cover (x)	nm	nm	nm	nm	nm	nm

Source: Company data, Deutsche Bank estimates

# Too early to turn positive

- The company would need to address the following structural issues before we turn positive. Earnings decline in 2009E and limited growth in 2010E led by stalling new product cycles – Due to the slowing new product ramp-up of WCDMA, TD-SCDMA, and Blu-ray, these new products may not offset the decline in earnings from red-ray PC ODD (optical disk drive) and DVD player chips and 2.5G handset chips in 2009-10E
- Lower margins of new WCDMA handset chips - The margins of WCDMA handset chips should be below the 2.5/2.75G level due to the licensing fee for WCDMA handset chips required by Qualcomm.
- Tougher game in WCDMA handset chip market – Qualcomm can adopt the strategy of high licensing and royalty fees based on its strong pattern pool and IP library. This could raise the bar for MediaTek to enter the WCDMA handset chip market.

## 4Q08 results below expectation

- **Sales** – declined 26% QoQ to NT\$20.7bn in 4Q08, which was better than revised guidance of 30-33% QoQ decrease. This stemmed from order pull-in from 1Q09 to Dec 08 for the CNY inventory build-up.
- **Gross margin** – rose by 0.2ppt to 54.5% in 4Q08, which was in line with guided flat gross margin but lower than DBE 55.5%. The gross margin improvement was due to NT\$ depreciation and product mix change.
- **Operating margin** – dropped by 4.3ppt to 22.9% in 4Q08, which was in line with DBE 22.6% but much lower than consensus estimate of 26.0%. Management attributed this to higher R&D expenses from new product development, amortization of various payments for royalty and IP procurement, and the expansion of overseas operations.
- **Non-operating income/loss** – NT\$1.6bn loss in 4Q08, which was worse than DBE NT\$0.7bn loss, due mainly to the inventory loss of NT\$400m and impairment loss of NT\$1.3bn from the investment of fixed income securities and equity-method affiliates.
- **EPS** – NT\$2.70, which missed DBE NT\$3.54 and consensus of NT\$4.48.
- **Inventory** – Total dollar amount decreased by 38% QoQ to NT\$5.5bn in 4Q08 and inventory days fell by two days to 71 days in 4Q08, which were 17 days higher than the 2000-07 average of 54 days due to the longer cycle time of 90nm node.

**Figure 1: MediaTek's 4Q08 results vs. DBE**

NT\$m	4Q07	3Q08	4Q08	QoQ (%)	YoY (%)	DB 4Q08E	Diff (%)
Net Sales	20,380	28,052	20,654	-26%	1%	20,492	1%
Gross Profit	11,148	15,219	11,252	-26%	1%	11,373	-1%
Operating Profit	4,166	7,639	4,732	-38%	14%	4,631	2%
PBT	4,466	7,567	3,103	-59%	-31%	3,921	-21%
Tax	(443)	(385)	(222)	-42%	-50%	(216)	-3%
PAT	4,023	7,182	2,881	-60%	-28%	3,706	-22%
EPS (NT\$)	3.78	6.74	2.70	-60%	-28%	3.45	-22%
							<b>Diff (pt %)</b>
Gross Margin	54.7%	54.3%	54.5%	0.2%	-0.2%	55.5%	-1.0%
Operating Margin	20.4%	27.2%	22.9%	-4.3%	2.5%	22.6%	0.3%
Net Margin	19.7%	25.6%	14.0%	-11.7%	-5.8%	18.1%	-4.1%

Source: Deutsche Bank estimates

***Downside risks in China handset demand after the CNY due to weak macro***

## 1Q09 guidance slightly better than expected

- **Sales** – Management guided for sales to fall 8-16% QoQ in 1Q09 vs. DBe 10-15% decrease and consensus estimate of 13-18% decline. Our concerns are that demand may start to weaken after the CNY led by the deteriorating macro environment in China. In addition, there will be no “Golden week” holidays in the beginning of May. China handset makers may be more conservative towards inventory level for Mar and Apr this year.
- **Gross margin** – Management guided for gross margin to stay flat at 54.5% or slightly improve in 1Q09 vs. DBe 54.5% This is attributable to continued NT\$ depreciation and better product mix. We expect NT\$ to depreciate 1.5-2% QoQ in 1Q09, which may provide gross margin improvement of 0.4-0.7ppt.
- **Operating margin** – Management guided for operating expenses to be NT\$4.5-4.7bn in 1Q09 as the company implements more measures to reduce cost.
- **Inventory** – Management indicated that total dollar amount would stay flat in 1Q09, which implies that inventory days may decrease to 58-63 days in 1Q09 from 71 days in 4Q08.

***New product of WCDMA handset chips may have lower margins due to Qualcomm’s licensing fee***

## Higher entry barriers in the WCDMA handset chip market

We expect the margins of its 3G WCDMA handset chips to be below the level of current products of 2.5/2.75G handset chips due to the licensing fee for WCDMA (i.e., the gross margin of 2.5/2.75G handset chips is 55-70% depending on the prices). We believe MediaTek will have to pay the licensing fee to Qualcomm which has more patterns in WCDMA standard than MediaTek. MediaTek is currently negotiating with Qualcomm regarding the licensing fee. We believe this should be settled by end-2Q09 as MediaTek plans to ship its 3G WCDMA handset chips beginning in 3Q09.

In addition, handset makers still have to pay the royalty fee to Qualcomm when they adopt MediaTek’s 3G WCDMA handset chips. Qualcomm can offer a lower royalty fee requirement if handset makers use Qualcomm’s solutions. This may lead more handset makers to adopt Qualcomm’s WCDMA handset chips rather than MediaTek’s related solutions. We agree that China grey-market handset makers may not pay royalty fees to Qualcomm. China grey-market handset makers tend to avoid tax payment and royalty fees, which is not illegal. As China grey-market handset makers account for only 15-20% of the total China handset market and MediaTek’s 10-15% handset chip shipments, we believe most of MediaTek’s handset customers will need to pay the royalty fee to Qualcomm.

***We expect MediaTek’s 3G handset chips to contribute a low sales proportion in 2009-10***

In our view, handset makers can leverage Qualcomm to request more price cuts from MediaTek. This may cap MediaTek’s market share gain and lead to margin downside risks in 2010 and beyond. We project 3G handset chips to account for less than 3% of total handset chip shipment in 2009 and 7-10% in 2010 and a 2ppt margin erosion in 2010.

## Retain Sell

### Weakening long-term growth prospects to trigger more de-rating

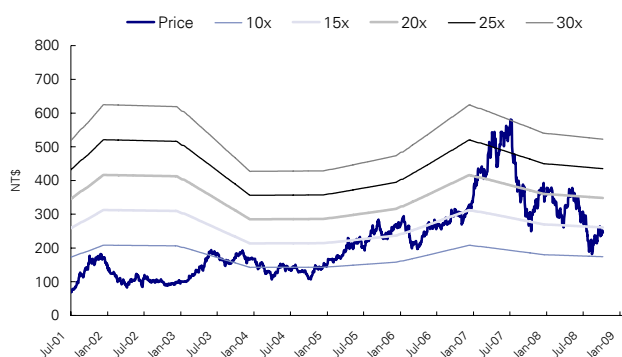
The stock has rebounded over 40% from the near-term low in November 08 on inventory restocking for the CNY and anticipation of strong growth of 3G handset chips in 2H09 and 2010. However, we see downside risks to the Street’s estimates once the market starts to factor in the challenges in 3G handset chip market led by Qualcomm’s dominant strength and the deteriorating long-term outlook. We believe this may trigger another wave of sharp share price corrections by end-2009.

**TP basis and investment risks**

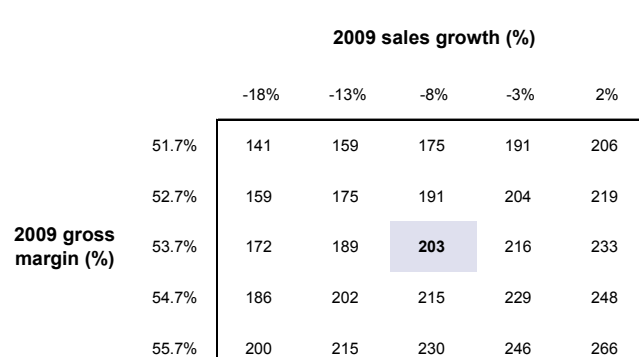
Our TP is based on 11.8x 2009E EPS, which is below the 2003-08 average of 13.7x. This reflects 2009-10E earnings CAGR of -3%, which is lower than the 13% earnings CAGR in 2003-08. Upside risks include a faster-than-expected ramp-up in new products and stronger demand.

**TP analysis for MediaTek**

Our TP of NT\$203 assumes 8% YoY sales decline and 53.7% gross margin for 2009. If sales growth reaches 2% and gross margin can improve to 55.7% in 2009, then our valuation can rise to NT\$266. In contrast, a sales decrease of 18% YoY and 51.7% gross margin could generate a share price of NT\$141.

**Figure 2: MediaTek's forward PE band – US GAAP**

Source: TEJ; Deutsche Bank estimates

**Figure 3: TP analysis for MediaTek**

Source: Deutsche Bank estimates

**Figure 4: Earnings model for MediaTek – US GAAP**

NT\$mnn	1Q08	2Q08	3Q08	4Q08	2008	1Q09E	2Q09E	3Q09E	4Q09E	2009E
Net Sales	19,378	22,318	28,052	20,654	90,402	18,426	20,019	23,276	21,028	82,749
Gross Profit	10,102	12,010	15,219	11,252	48,582	10,107	10,820	12,441	11,050	44,418
Operating Profit	4,112	5,826	7,639	4,732	23,169	4,229	4,747	5,677	4,691	19,344
PBT	4,286	6,158	7,567	3,103	21,975	4,454	4,927	5,792	4,816	19,989
Tax	(255)	(1,063)	(385)	(222)	(1,925)	(223)	(838)	(290)	(241)	(1,591)
PAT	4,031	5,095	7,182	2,881	19,189	4,231	4,089	5,502	4,576	18,398
EPS (NT\$)	3.78	4.78	6.74	2.70	18.01	3.97	3.84	5.16	4.29	17.27
<b>Margin (%)</b>										
Gross Margin	52.1%	53.8%	54.3%	54.5%	53.7%	54.9%	54.1%	53.5%	52.6%	53.7%
Operating Margin	21.2%	26.1%	27.2%	22.9%	25.6%	23.0%	23.7%	24.4%	22.3%	23.4%
Net Margin	20.8%	22.8%	25.6%	14.0%	21.2%	23.0%	20.4%	23.6%	21.8%	22.2%
<b>Growth (%)</b>										
Sales YoY	30%	21%	5%	1%	12%	-5%	-10%	-17%	2%	-8%
PAT YoY	-19%	5%	-5%	-28%	-10%	5%	-20%	-23%	59%	-4%
Sales QoQ	-5%	15%	26%	-26%		-11%	9%	16%	-10%	
PAT QoQ	0%	26%	41%	-60%		47%	-3%	35%	-17%	

Source: Deutsche Bank estimates, Company Data

# Appendix 1

## Important Disclosures

Additional information available upon request

### Disclosure checklist

Company	Ticker	Recent price*	Disclosure
MediaTek	2454.TW	255.50 (TWD) 6 Feb 09	6

\*Prices are sourced from local exchanges via Reuters, Bloomberg and other vendors. Data is sourced from Deutsche Bank and subject companies.

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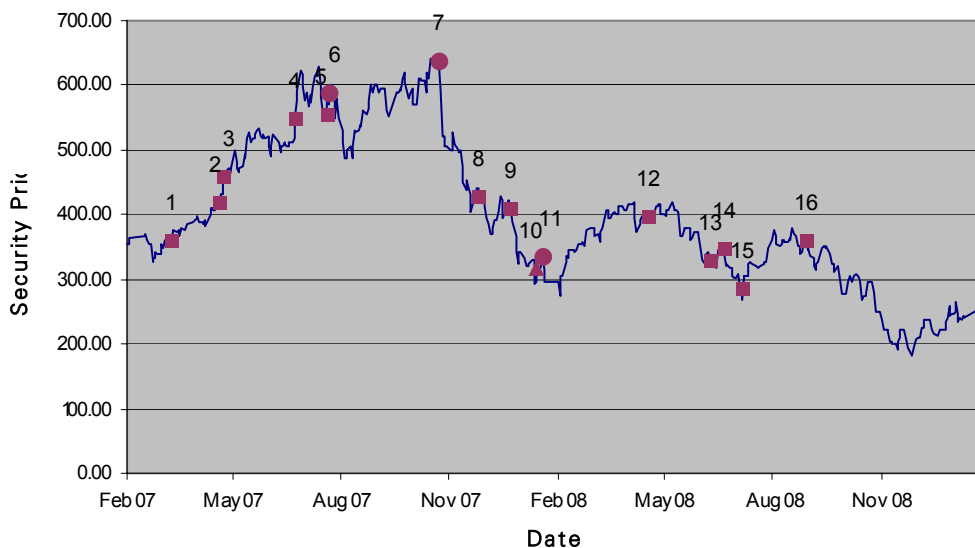
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**Historical recommendations and target price: MediaTek (2454.TW)**

(as of 2/6/2009)



Previous Recommendations

- Strong Buy
- Buy
- Market Perform
- Underperform
- Not Rated
- Suspended Rating

Current Recommendations

- Buy
- Hold
- Sell
- Not Rated
- Suspended Rating

\*New Recommendation Structure as of September 9, 2002

1.	21/3/2007:	Buy, Target Price Change TWD455.00	9.	3/1/2008:	Sell, Target Price Change TWD280.00
2.	30/4/2007:	Buy, Target Price Change TWD530.00	10.	25/1/2008:	Upgrade to Hold, TWD280.00
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4.	4/7/2007:	Buy, Target Price Change TWD655.00	12.	29/4/2008:	Sell, Target Price Change TWD240.00
5.	30/7/2007:	Buy, Target Price Change TWD624.00	13.	19/6/2008:	Sell, Target Price Change TWD230.00
6.	2/8/2007:	Downgrade to Hold, Target Price Change TWD500.00	14.	1/7/2008:	Sell, Target Price Change TWD220.00
7.	2/11/2007:	Downgrade to Sell, TWD500.00	15.	16/7/2008:	Sell, Target Price Change TWD212.00
8.	7/12/2007:	Sell, Target Price Change TWD350.00	16.	9/9/2008:	Sell, Target Price Change TWD203.00

**Equity rating key** **Equity rating dispersion and banking relationships**

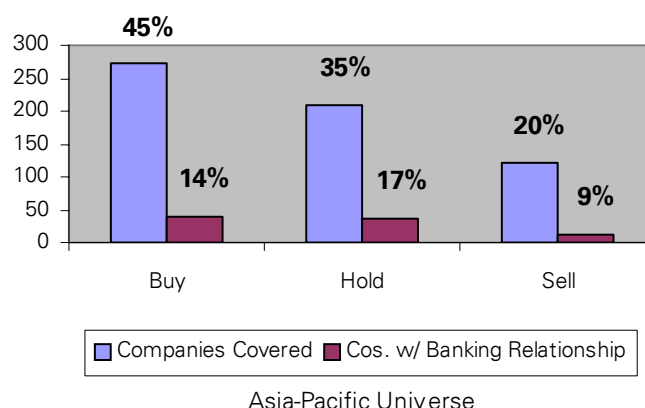
**Buy:** Based on a current 12- month view of total shareholder return (TSR = percentage change in share price from current price to projected target price plus projected dividend yield ) , we recommend that investors buy the stock.

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**Hold:** We take a neutral view on the stock 12-months out and, based on this time horizon, do not recommend either a Buy or Sell.

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2. Ratings definitions prior to 27 January, 2007 were:
  - Buy: Expected total return (including dividends) of 10% or more over a 12-month period
  - Hold: Expected total return (including dividends) between -10% and 10% over a 12-month period
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