

# Exhibit 28



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July 31, 2012

## 2Q12 Wireless Snapshot

### TECHNOLOGY/COMMUNICATION TECHNOLOGY

#### SUMMARY

The overall wireless market was sluggish in 2Q12 (+0.2% QoQ to 383M) as anticipated product transitions (Apple iPhone 5), OS gaps (Nokia and RIM) and macro headwinds weighed on demand. We view Apple's lull as temporary and would buy ahead of new product launches. At this point, 3Q12 visibility is poor and our checks suggest another slower than normal quarter. Outside of Apple, vendor trends are largely unchanged. Samsung's execution remains very good and Nokia and RIM continue to struggle. We've made small tweaks to our handset projections, mainly reflecting the demand lull in Apple's volume. Meanwhile, we've raised our tablet forecast reflecting strong iPad demand. Our top picks are Apple (iPhone snap-back, international expansion), Qualcomm (expanding TAM, FY13 potential), and Skyworks (strong execution, potential Apple gains).

#### KEY POINTS

- **Sluggish.** We've lowered our 2012 industry volume forecast slightly to 1.6B (+0.2% YoY). Unlike past adjustments, our cut reflects lower smartphone volume (611M, +24.4% YoY) and a small increase to feature phones (985M, -10.6%). The decrease mainly reflects lower than expected iPhone shipments with consumers pulling back in anticipation of an iPhone 5 introduction. We're modeling only 2.3% QoQ growth for 3Q12 with 2012 looking very back-end loaded.
- **Market share.** Samsung and HTC gained modest share during 2Q12, highlighted by Samsung's steady smartphone execution and a recovery by HTC. With the pause in iPhone demand, Apple lost most share (-25.8% QoQ to 26.0M). Nokia, LG, RIM, Motorola and Sony continue to face challenges due to product transitions and competitive pressures, but didn't see dramatic losses during in 2Q12.
- **Key trends.** Samsung looks well positioned to capitalize on the gap in Apple's portfolio in 3Q12, although Apple's likely to recover quickly in 4Q12 as pent-up demand materializes. The top Chinese OEMs, ZTE and Huawei, continue to make strides with value smartphones. Motorola looks ready to exit feature phones leaving the market to Nokia and Samsung, the only traditional vendors with enough scale to make feature phones worthwhile.
- **Tablet market.** We're raising our 2012 tablet forecast to 99.5M (+74.0% YoY) vs. 94M previously. The increase primarily reflects stronger Apple iPad volume (record vol. in 2Q12 at 17.0M, +44.4% QoQ). So far non-iPad tablets have mostly disappointed, but there are two meaningful 2H12 wild-cards that could change this and drive upside to our projections: 1) Google's recent launch of its value-priced Nexus 7 tablets, and 2) Windows 8 tablets potential impact in 4Q12.
- **Top picks.** Our top picks are Apple, Qualcomm and Skyworks. We view Apple's 2Q12 miss as a product transition hiccup ahead of a strong Dec. Qualcomm and Skyworks are both exposed to Samsung (3Q12) and Apple (4Q12) growth, as well as overall smartphone/tablet strength and the associated increase in device complexity and \$/device. We expect Qualcomm's capacity constraints to ease in 4Q12 making for greater upside opportunity in 2013.

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## Wireless Market Supporting Data

### Handset Shipments by Region

**Exhibit 10: Total Handset Shipments by Region**

Total Handset and Smartphone Shipments by Region (Sell In)												(Thousands of Units)	
	2005	2006	2007	2008	2009	2010	2011	2012(E)	2013(E)	2014(E)	2015(E)	CAGR 06-10	CAGR 11-15
North America	122,226	142,790	153,509	170,822	164,729	169,069	184,213	177,252	178,534	179,834	181,806	4.3%	-0.3%
Latin America	94,216	106,596	119,149	139,586	113,581	129,724	142,066	141,842	148,490	157,067	162,115	5.0%	3.4%
West Europe	155,422	169,166	179,616	174,760	150,243	158,279	157,838	139,604	168,961	168,984	167,600	-1.6%	1.5%
East Europe	76,542	105,238	115,192	117,200	98,596	107,535	118,005	113,428	120,595	127,800	134,663	0.5%	3.4%
Asia Pacific	276,266	376,123	489,003	594,849	606,675	709,729	822,702	860,532	882,635	905,654	931,390	17.2%	3.2%
MEA	94,723	107,447	135,130	154,168	134,987	151,645	168,553	163,905	167,595	171,746	177,494	9.0%	1.3%
<b>Total</b>	<b>819,395</b>	<b>1,007,362</b>	<b>1,191,599</b>	<b>1,351,384</b>	<b>1,268,811</b>	<b>1,425,981</b>	<b>1,593,376</b>	<b>1,596,562</b>	<b>1,666,811</b>	<b>1,711,085</b>	<b>1,755,068</b>	<b>9.1%</b>	<b>2.4%</b>
<b>Growth</b>	<b>23.3%</b>	<b>22.9%</b>	<b>18.3%</b>	<b>13.4%</b>	<b>-6.1%</b>	<b>12.4%</b>	<b>11.7%</b>	<b>0.2%</b>	<b>4.4%</b>	<b>2.7%</b>	<b>2.6%</b>		

Source: Oppenheimer & Co. Inc.

**Exhibit 11: Total Handset Shipment Growth by Region**

Total Handset and Smartphone Shipment Growth by Region (Sell In)											
	2005	2006	2007	2008	2009	2010	2011	2012(E)	2013(E)	2014(E)	2015(E)
North America	19.8%	16.8%	7.5%	11.3%	-3.6%	2.6%	9.0%	-3.8%	0.7%	0.7%	1.1%
Latin America	24.2%	13.1%	11.8%	17.2%	-18.6%	14.2%	9.5%	-0.2%	4.7%	5.8%	3.2%
West Europe	10.4%	8.8%	6.2%	-2.7%	-14.0%	5.3%	-0.3%	-11.6%	21.0%	0.0%	-0.8%
East Europe	12.5%	37.5%	9.5%	1.7%	-15.9%	9.1%	9.7%	-3.9%	6.3%	6.0%	5.4%
Asia Pacific	26.3%	36.1%	30.0%	21.6%	2.0%	17.0%	15.9%	4.6%	2.6%	2.6%	2.8%
MEA	60.2%	13.4%	25.8%	14.1%	-12.4%	12.3%	11.1%	-2.8%	2.3%	2.5%	3.3%
<b>Total</b>	<b>23.3%</b>	<b>22.9%</b>	<b>18.3%</b>	<b>13.4%</b>	<b>-6.1%</b>	<b>12.4%</b>	<b>11.7%</b>	<b>0.2%</b>	<b>4.4%</b>	<b>2.7%</b>	<b>2.6%</b>

Source: Oppenheimer & Co. Inc.

**Exhibit 12: Total Handset Shipments by Region - % Contribution**

Total Handset and Smartphone Shipments by Region (Sell In - % of Total Market)											
	2005	2006	2007	2008	2009	2010	2011	2012(E)	2013(E)	2014(E)	2015(E)
North America	14.9%	14.2%	12.9%	12.6%	13.0%	11.9%	11.6%	11.1%	10.7%	10.5%	10.4%
Latin America	11.5%	10.6%	10.0%	10.3%	9.0%	9.1%	8.9%	8.9%	8.9%	9.2%	9.2%
West Europe	19.0%	16.8%	15.1%	12.9%	11.8%	11.1%	9.9%	8.7%	10.1%	9.9%	9.5%
East Europe	9.3%	10.4%	9.7%	8.7%	7.8%	7.5%	7.4%	7.1%	7.2%	7.5%	7.7%
Asia Pacific	33.7%	37.3%	41.0%	44.0%	47.8%	49.8%	51.6%	53.9%	53.0%	52.9%	53.1%
MEA	11.6%	10.7%	11.3%	11.4%	10.6%	10.6%	10.6%	10.3%	10.1%	10.0%	10.1%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: Oppenheimer & Co. Inc.

## Replacement Rate

**Exhibit 13: Annual Replacement Rates**

Total Handset and Smartphone Replacement Rate By Region (Sell In)											
	2005	2006	2007	2008	2009	2010	2011	2012(E)	2013(E)	2014(E)	2015(E)
North America	48.0%	51.3%	53.4%	57.2%	53.9%	53.4%	56.0%	52.2%	52.0%	51.4%	51.0%
Latin America	22.9%	21.5%	22.3%	25.7%	18.9%	21.7%	22.5%	23.0%	23.6%	25.0%	25.3%
West Europe	45.1%	46.8%	49.3%	47.6%	40.3%	41.7%	40.6%	35.5%	43.1%	42.9%	42.3%
East Europe	26.0%	31.6%	36.6%	39.0%	32.8%	34.5%	37.1%	34.0%	35.7%	37.4%	38.7%
Asia Pacific	26.0%	28.1%	32.3%	34.5%	27.5%	28.1%	31.2%	30.9%	29.8%	29.6%	29.0%
MEA	17.5%	21.6%	17.3%	18.9%	12.6%	16.3%	18.2%	17.0%	16.9%	16.8%	16.6%
<b>Total</b>	<b>31.4%</b>	<b>32.9%</b>	<b>34.5%</b>	<b>35.7%</b>	<b>28.6%</b>	<b>29.6%</b>	<b>31.5%</b>	<b>30.0%</b>	<b>30.2%</b>	<b>30.2%</b>	<b>29.8%</b>

Source: Oppenheimer & Co. Inc.

## Smartphones Supporting Data

### Smartphone Shipments by Region

**Exhibit 17: Smartphone Shipments by Region**

Total Smartphone Shipments by Region (Sell In)											(Thousands of Units)	
	2006	2007	2008	2009	2010	2011	2012(E)	2013(E)	2014(E)	2015(E)	CAGR 06-10	CAGR 11-15
North America	11,684	20,825	35,414	46,394	80,418	132,906	147,725	154,098	160,851	167,109	62.0%	5.9%
Latin America	2,043	3,450	6,132	7,461	11,254	23,231	36,011	46,327	58,246	72,268	53.2%	32.8%
West Europe	14,870	25,754	33,728	42,293	63,087	89,736	102,150	141,530	149,381	153,571	43.5%	14.4%
East Europe	5,311	8,749	11,498	13,578	19,131	29,272	39,643	51,499	64,105	78,867	37.8%	28.1%
Asia Pacific	42,731	56,190	55,344	67,553	111,954	182,683	244,076	303,578	362,936	424,141	27.2%	23.4%
MEA	5,066	8,256	11,191	13,027	18,767	33,500	41,789	51,093	61,282	71,542	38.7%	20.9%
<b>Total</b>	<b>81,703</b>	<b>123,223</b>	<b>153,307</b>	<b>190,307</b>	<b>304,611</b>	<b>491,328</b>	<b>611,395</b>	<b>748,125</b>	<b>856,801</b>	<b>967,498</b>	<b>39.0%</b>	<b>18.5%</b>
<b>Growth</b>	<b>57.7%</b>	<b>50.8%</b>	<b>24.4%</b>	<b>24.1%</b>	<b>60.1%</b>	<b>61.3%</b>	<b>24.4%</b>	<b>22.4%</b>	<b>14.5%</b>	<b>12.9%</b>		

Source: Oppenheimer & Co. Inc.

**Exhibit 18: Smartphone Shipment Growth by Region**

Smartphone Shipment Growth by Region (Sell In)											
	2006	2007	2008	2009	2010	2011	2012(E)	2013(E)	2014(E)	2015(E)	
North America	86.7%	78.2%	70.1%	31.0%	73.3%	65.3%	11.1%	4.3%	4.4%	3.9%	
Latin America	481.9%	68.9%	77.7%	21.7%	50.8%	106.4%	55.0%	28.6%	25.7%	24.1%	
West Europe	12.5%	73.2%	31.0%	25.4%	49.2%	42.2%	13.8%	38.6%	5.5%	2.8%	
East Europe	101.3%	64.7%	31.4%	18.1%	40.9%	53.0%	35.4%	29.9%	24.5%	23.0%	
Asia Pacific	66.7%	31.5%	-1.5%	22.1%	65.7%	63.2%	33.6%	24.4%	19.6%	16.9%	
MEA	35.6%	63.0%	35.6%	16.4%	44.1%	78.5%	24.7%	22.3%	19.9%	16.7%	
<b>Total</b>	<b>57.7%</b>	<b>50.8%</b>	<b>24.4%</b>	<b>24.1%</b>	<b>60.1%</b>	<b>61.3%</b>	<b>24.4%</b>	<b>22.4%</b>	<b>14.5%</b>	<b>12.9%</b>	

Source: Oppenheimer & Co. Inc.

**Exhibit 19: Smartphone Shipments by Region - % Contribution**

Smartphone Shipments by Region (Sell In - % of Total Market)										
	2006	2007	2008	2009	2010	2011	2012(E)	2013(E)	2014(E)	2015(E)
North America	14.3%	16.9%	23.1%	24.4%	26.4%	27.1%	24.2%	20.6%	18.8%	17.3%
Latin America	2.5%	2.8%	4.0%	3.9%	3.7%	4.7%	5.9%	6.2%	6.8%	7.5%
West Europe	18.2%	20.9%	22.0%	22.2%	20.7%	18.3%	16.7%	18.9%	17.4%	15.9%
East Europe	6.5%	7.1%	7.5%	7.1%	6.3%	6.0%	6.5%	6.9%	7.5%	8.2%
Asia Pacific	52.3%	45.6%	36.1%	35.5%	36.8%	37.2%	39.9%	40.6%	42.4%	43.8%
MEA	6.2%	6.7%	7.3%	6.8%	6.2%	6.8%	6.8%	6.8%	7.2%	7.4%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: Oppenheimer & Co. Inc.

## Smartphone Replacement Rate by Region

**Exhibit 20: Smartphone Annual Replacement Rates**

Smartphone Replacement Rate By Region (Sell In)										
	2006	2007	2008	2009	2010	2011	2012(E)	2013(E)	2014(E)	2015(E)
North America	48.7%	52.1%	55.9%	60.5%	65.5%	78.5%	53.9%	53.5%	50.3%	48.1%
Latin America	41.7%	44.5%	51.7%	51.5%	61.1%	62.9%	58.9%	54.1%	64.4%	70.9%
West Europe	43.9%	45.7%	52.1%	57.3%	61.6%	59.4%	41.3%	45.9%	43.9%	42.5%
East Europe	38.5%	42.5%	48.6%	52.8%	57.5%	62.7%	60.0%	55.5%	56.6%	57.4%
Asia Pacific	42.9%	45.1%	49.8%	56.0%	55.0%	61.0%	53.5%	53.7%	53.8%	54.1%
MEA	29.2%	35.5%	41.4%	47.8%	55.5%	72.4%	65.1%	61.3%	59.2%	51.8%
<b>Total</b>	<b>42.9%</b>	<b>45.4%</b>	<b>50.6%</b>	<b>56.1%</b>	<b>59.2%</b>	<b>65.8%</b>	<b>52.6%</b>	<b>52.7%</b>	<b>52.2%</b>	<b>51.6%</b>

Source: Oppenheimer & Co. Inc.