EMERGING GROWTH EQUITIES, LTD.

EGE INSTITUTIONAL RESEARCH REPORT

INITIATION OF COVERAGE

JANUARY 4, 2006

ParkerVision, Inc.

NASDAQ: PRKR — $9.10

Semiconductors – Integrated Circuits

Breakthrough Radio Frequency Technology Creates Sizable Opportunity

- **Trends in the mobile handset market create a favorable growth environment for ParkerVision.** As the cell phone continues to morph into an all-in-one device OEMs are scrambling to extend battery life, increase talk time, reduce costs, conserve circuit board space, and enhance performance. The push towards 3G networks will create increased demands for power and space as high performance services become the standard. ParkerVision's patented integrated circuits address all of these needs and can be tailored to meet the stringent requirements of OEMs.

- **We estimate that the key growth driver will be unit shipments of 3G enabled handsets.** We estimate shipments for 3G enabled handsets during the 2005-2009 period will see a 37% CAGR with unit shipments topping 1B in 2009. The migration to 3G networks will bring increased capacity, higher speeds, and better quality which will enable OEMs to introduce increasingly feature rich handsets.

- **ParkerVision is targeting the top six mobile handset manufacturers who account for 80% of the total handset market.** Discussions between ParkerVision and several of these OEMs are currently taking place and we believe the first contract will be signed in 1Q06. ParkerVision could supply integrated circuits to OEMs or enable technology integration through a licensing model. A pure licensing model has the potential to produce a 90% gross margin, while a pure chip sales model could produce a 50% gross margin. We believe the company will ultimately end up in a blended model yielding a gross margin in the 60-70% range.

- **Contract signings with top tier OEMs could translate into significant revenue.** Approximately 440m 3G handsets will ship in 2006. Our model assumes two chip sales contracts and one licensing contract will be signed in 2006. We believe these contracts will cover approximately 8m units in their first year with revenue booked in early 2007. By 2008 we assume these same contracts will cover approximately 28m units as the 3G market grows and OEMs expand their product lines to include ParkerVision's technology. We believe we have made conservative estimates with regard to pricing, margins, and unit shipments, once ParkerVision signs its first contract we will be in a better position to model future revenues.

- **Initiating Coverage on ParkerVision (PRKR) with a BUY rating and $17.50 price target.** Our target price is based on a 30x multiple on our $0.76 EPS estimate for 2008 discounted to 2007 at 30%. We rate ParkerVision shares a BUY based on its potential to penetrate the rapidly growing 3G mobile handset market. *(See discussion of investment risks on pages 2 and 3)*

Rating: BUY
Target: $17.50

52-Week Range:	$13.27H - $3.70L
Market Cap.:	$187.6m
Shares Out:	20.9m
Estimated Float:	17.1m
Short Interest:	2.9m
Avg. Daily Vol.:	95.8k
Insider Ownership:	33.3%
Inst. Ownership:	22.2%
FY Ends:	Dec.

Source: BigCharts.com

Revenues (M)

	F05E	F06	F07	F08
Mar.	0.17	0.14		
June	0.12	0.00		
Sept.	0.43	0.00		
Dec	0.16	0.00		
Yr.	**0.89**	**0.14**	**28.9**	**120.2**
P/S	**NA**	**NA**	**6.2x**	**1.5x**

Earnings per Share

	F05E	F06	F07	F08
Mar.	(0.30)	(0.26)		
June	(0.49)	(0.25)		
Sept.	(0.19)	(0.27)		
Dec.	(0.24)	(0.29)		
Yr.	**(1.23)**	**(1.05)**	**(0.69)**	**0.76**
P/E	**NA**	**NA**	**NA**	**11.4x**

Balance Sheet (9/30/05)

Cash:	$14.5m ($0.72/sh.)
Debt:	$0.00
Tangible Book:	$25.5m ($1.27/sh.)

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Note: Please refer to the last 2 pages of this report for rating definitions, possible conflicts of interest and other important disclosures concerning these recommendations.

CORPORATE OVERVIEW

ParkerVision Inc. was founded in 1989 with two distinct business segments, a Wireless Division and a Video Division. In May of 2004 the company sold its Video Division assets in order to focus its efforts on the Wireless division, specifically the commercialization of its proprietary wireless technologies. The result was the patented Energy Signal Processing (ESP) technology, which is now the foundation of ParkerVision's wireless radio frequency (RF) solutions. ESP represents a complete departure from traditional RF technology allowing for enhanced performance and advancements in all wireless products by optimally processing waveform energy and eliminating inefficiencies in traditional RF circuitry. The company has obtained 59 patents and has over 90 patent applications pending.

ParkerVision Inc. has approximately 55 employees at its headquarters in Jacksonville, Florida with additional facilities in Orlando, Florida. The company operates as a fabless semiconductor organization focusing on the commercialization of its patented proprietary RF communication technologies. The company has commercialized ESP into its two primary technology solutions, Direct2RFPower (d2p) and Direct2Data (d2d). These two offerings will target the cellular handset market addressing the needs for extended battery life, reduced handset cost, and better performance as the cellular industry migrates to 3G networks. The company's business strategy includes forming relationships with original equipment manufacturers (OEMs) and original design manufacturers (ODMs) for incorporation of the company's integrated circuits into products manufactured by others or to license its technology for use by others.

ParkerVision operates as a pure play fabless semiconductor organization. This business model allows ParkerVision to focus the majority of its efforts on the design, development, and commercialization of new technologies without having to manage the logistics of a full scale manufacturing operation. The company has a strategic relationship with IBM Microelectronics to manufacture chips on an as needed basis.

Corporate Restructuring

In June 2005 ParkerVision decided to exit its retail business activities and pursue an OEM business strategy as a pure play semiconductor company. The capital requirements involved in growing the retail business model were detracting from the company's ability to capitalize on OEM opportunities. As a result of this restructuring, ParkerVision took charges totaling approximately $4.7m in 2Q05. Although the company did not succeed in the retail marketplace we do believe this venture accomplished three objectives: 1) Proved the technology worked and was far superior than competing products, 2) Showcased the technology to OEMs/ODMs 3) Established ParkerVision as a reputable player in the space.

INVESTMENT RISKS

Disruptive Technology – The technology ParkerVision has developed can be classified as a disruptive technology since it is a complete and radical shift from traditional RF technology utilized today. There is no assurance this technology will gain market acceptance. A particular challenge is that OEM/ODMs may not be willing to take on the risk associated with bringing a new unproven technology to market or they may find incorporating the technology into existing products is too cumbersome.

Business Model Execution - ParkerVision's success rests solely on its ability to penetrate the mobile handset market by licensing and selling its d2p and d2d technology to OEM/ODMs. Failure to execute this plan could have an adverse effect on future revenues as well as the long term viability of the company.

Customer Conversion and Base - Currently ParkerVision has no customers and no sources of revenue. The company is in the process of attracting OEM/ODMs to either purchase or license its technology. There is no guarantee that its marketing efforts will attract customers. Additionally, if and when the company signs its first customers, revenue is likely to be concentrated around a few large customers.

Competitive Products – The microelectronics industry is highly competitive ranging from established players to smaller start-ups. To succeed, substantial capital must continually be invested in R&D to ensure new and more innovative products are developed. Although ParkerVision has developed a new RF technology there are current

products on the market that address similar needs without assuming the risks of implementing a completely new technology.

Intellectual Property – ParkerVision's sustainable competitive advantage hinges on its patent portfolio of new technologies. There is no guarantee that the company's existing patents are broad enough to fully protect its newly developed technology.

Revenue Recognition – It is still unclear whether the company will sell its technology via licensing, direct sales, or a combination of both models. This translates into many unknowns as to how and when revenue will be booked. An OEM contract signing under a sales model may not produce revenue for one year after the signing date, while a license sale could result in immediate upfront revenue.

INVESTMENT CONCLUSION

The need for extended battery life, lower bill of materials, and increased performance in the mobile handset market is creating a big opportunity. We believe ParkerVision is uniquely positioned to address these needs with the possibility of rapid market penetration. Potential investors should know that we believe we have used a very conservative revenue model in forecasting earnings for the Company. Our model assumes no revenue until 2007. However revenue could be recognized earlier if the Company enters into a licensing contract with upfront fees. Furthermore, we have modeled for a small number of contract signings over the next two years, each with a small amount of units being delivered in relation to the size of the market. The global handset market is expected to have 880m shipments in 2006. We have assumed that approximately 50% of these shipments include 3G technology, ParkerVision's target market. If ParkerVision were to deliver 8m (1.3% of its target market) integrated circuits in 2007 that same contract would equate to 28m units in 2008 based purely on growth and penetration of 3G handsets. This assumes that an OEM is increasing its 3G handset product line to keep up with global demand and that no additional contracts were signed. In viewing ParkerVision's prospects in this light it becomes easy to see how multiple contracts with top tier OEMs could translate in $1B in revenue in just a few years.

VALUATION & INVESTMENT RECOMMENDATION

We value ParkerVision at $17.50 per share in one year based on a 30x multiple of diluted 0.76 EPS in 2008 discounted to 2007 at 30%. We caution investors that ParkerVision is still a pre-revenue story and it remains unclear when the company will recognize significant revenue. Furthermore, at this point we can not anticipate what type (license versus sales) or how many contracts the company will sign in the coming years.

We rate ParkerVision shares a BUY based on the company's breakthrough technology which may provide immediate benefits to the growing mobile handset market. We believe this market will continue to grow at a CAGR of 8% between 2006 and 2010. More importantly we estimate that next generation handsets, (3G and beyond), will grow at a rate of 37% CAGR between 2006 and 2010. We advise investors to build positions in ParkerVision at current price levels and to buy more aggressively on announcements of contract wins.

The companies presented in the table below operate in the integrated circuit space by way of licensing technology, manufacturing chips, or a combination of both. ParkerVision is still a pre-revenue story and direct comparisons to its peers may not provide proper valuation. The table is presented to highlight the earnings and sales multiples the market places on these companies as well as expected performance and growth over the next two years. As ParkerVision begins to generate revenue we expect the company to trade at a valuation in line with the comparables listed below.

Comparative Valuation Table

	Price		Shares	Market	EPS Est.			PE			Sales Est. (millions)			2006 Sales	2006 EPS	2006	P/S		
	1/4/2006	Rating	Out. (M)	Cap. (M)	2005	2006	2007	2005	2006	2007	2005	2006	2007	Growth	Growth	PEG	2005	2006	2007
ParkerVision	**$9.10**	**Buy**	20.9	$190	-$1.23	-$1.07	-$0.69	NA	NA	NA	$1	$0	$29	-89%	-13%	NA	211.3x	1901.9x	6.6x
Anadigics Inc	**$6.00**	--	34.1	$205	-$0.90	-$0.20	$0.20	NA	NA	30x	$109	$144	$166	32%	78%	NA	1.9x	1.4x	1.2x
Arm Holdings	**$6.20**	--	475.6	$2,949	$0.20	$0.30	$0.30	31x	21x	21x	$414	$475	$524	15%	50%	0.4x	7.1x	6.2x	5.6x
Infineon Technologies	**$9.10**	--	746.8	$6,796	$0.00	$0.30	$0.40	NA	30x	23x	$8,338	$8,634	$9,115	4%	NA	NA	0.8x	0.8x	0.7x
Linear Technology Corp	**$36.10**	--	315.9	$11,404	$1.50	$1.70	$1.90	24x	21x	19x	$1,089	$1,250	$1,384	15%	13%	1.6x	10.5x	9.1x	8.2x
Maxim Integrated	**$36.20**	--	344.9	$12,485	$1.70	$1.90	$2.10	21x	19x	17x	$1,801	$2,108	$2,504	17%	12%	1.6x	6.9x	5.9x	5.0x
Qualcomm Inc	**$43.10**	--	1,686.0	$72,667	$1.50	$1.80	$1.80	29x	24x	24x	$7,035	$8,178	$8,246	16%	20%	1.2x	10.3x	8.9x	8.8x
Rambus Inc	**$16.20**	--	103.2	$1,672	$0.30	$0.30	-	54x	54x	NA	$156	$166	-	6%	0%	NA	10.7x	10.1x	NA
RF Micro Devices	**$5.40**	--	192.2	$1,038	$0.20	$0.30	$0.30	27x	18x	18x	$739	$844	$897	14%	50%	0.4x	1.4x	1.2x	1.2x
Silicon Laboratories	**$36.70**	--	53.8	$1,974	$1.10	$1.20	$1.70	33x	31x	22x	$422	$457	$536	8%	9%	3.4x	4.7x	4.3x	3.7x
Skyworks Solutions	**$5.10**	--	163.9	$836	$0.20	$0.30	-	26x	17x	NA	$768	$856	-	11%	50%	0.3x	1.1x	1.0x	NA
Triquint Semiconductor	**$4.50**	--	141.2	$635	$0.00	$0.10	$0.10	NA	45x	45x	$294	$333	$345	13%	NA	NA	2.2x	1.9x	1.8x
Comparable average (excluding outliers)								*31x*	*28x*	*24x*				*15%*	*31%*	*1.3x*	*5.2x*	*4.6x*	*4.0x*
Philadelphia Semiconductor Index (SOX)								*24x*	*18x*	*17x*				*16%*	*32%*	*0.6x*	*5.0x*	*4.4x*	*4.0x*

*EGE estimates; others are Reuters consensus estimates.
**Intraday Price

COMPANY FINANCIAL OVERVIEW

Q205 Restructuring – ParkerVision Exits Retail Operations

ParkerVision initially delivered its technology to end users through a retail business model, selling wireless routers, PC card adapters, and USB adapters. OEM/ODMs were not convinced the technology worked and had little faith in a small unknown company which is why the retail model was selected. From a financial standpoint the results of ParkerVision's retail operations were not good, as substantial losses were generated in 2004 and 2005. However, the retail effort did accomplish three things: 1) Proved the technology worked and was far superior than competing products, 2) Showcased the technology to OEMs/ODMs 3) Established ParkerVision as a reputable player in the space.

In Q205 elevated interest from OEM/ODMs in ParkerVision's products prompted the decision to exit the retail business model in favor of an OEM business strategy as a pure play fabless semiconductor company. ParkerVision could now focus all of its efforts on technology design as well as establishing and building relationships with OEM/ODMs. The exit from the retail business enabled the company to reduce its quarterly cash utilization rate by 25-35%, which it should be able to sustain going forward. The company took charges of approximately $4.7m and 44 employees were terminated. As of June 30, 2005, termination benefits of $575,000 were accrued and charged to expense in the consolidated statement of operations. These benefits were paid as of September 30, 2005. The company also recognized impairment charges on certain long lived assets related to its retail activities. Charges included the impairment of prepaid license fees of $662,000, impairment of other intangible assets of $584,000 and impairment of the manufacturing and prototype facility assets of $626,000. These impairment charges are included as impairment loss in the consolidated statement of operations. The company also reduced the carrying value of its inventories to their estimated realizable value at June 30, 2005, resulting in a charge of approximately $2.25 million which is included as a separate component of cost of goods sold in the consolidated statement of operations. The company is also in the process of reclaiming unsold inventory from its retail channels and reselling this inventory through wholesale channels. This process should be completed by 1Q06.

We view this restructuring as a major positive event. The company no longer has to divert its capital and resources towards launching ad campaigns, expanding distribution channels, or any other activity associated with operating a retail business model. The retail products showcased the technology and the interest level of OEM/ODMs was peaked. The company can now leverage the success of it products to license or sell its technology to OEM/ODMs.

Financials

Liquidation of finished inventory to wholesalers and recognition of sell-through revenues based on expiration of retailer's right to return unsold merchandise are the only sources of revenue for ParkerVision at this moment. As of September 30th, the company has $295k in deferred revenue which it expects to book over the next 2 quarters. The company is actively pursuing design wins from OEM/ODMs, but does not anticipate generating any revenue from sales in 2006. Even if the company secures contract wins, revenue may not be recognized until 2007.

The company is debt free and has total assets of $28m, of which $14.6m is cash and cash equivalents. Working capital as of 3Q05 was $13.8m. Recent operations have been funded through the sale of the Video Business Unit (June 2004) as well as the issuance of equity securities. On March 14th 2005 the company received $20.2m from a private placement. Given the company's exit from the retail business and other associated reductions in operating expenses, we believe ParkerVision will have sufficient capital resources to fund operations through 1H 2006.

REVENUE MODEL

We believe ParkerVision could choose to utilize up to three operating models as it pursues OEM design wins. 1.) In a 100% chips sales model the company would rely on its relationship with IBM Microelectronics to manufacture its ICs for delivery to OEMs. We believe the chip sales model would result in a 40% gross margin, with upward potential of 50%. Most likely, revenue under this model would not be recognized for at least one year after a contract is signed. 2.) In a 100% license only model we believe ParkerVision would derive revenue from access fees, standard license fees, and non-recurring engineering fees. This type of model could produce a gross margin of 90%. A contract signing under a license only model could produce revenue immediately from access fees or upfront license fees. 3.) The last type of model which we believe ParkerVision will eventually evolve into will be a blended one consisting of both licensing and chip sales that should produce a gross margin in the 60-70% range.

ParkerVision is currently targeting the top tier handset makers and we believe they will have success signing several customers in 2006. At this point it is unlikely that we will be able to predict which type contract they will agree upon.

MARKET AND COMPETITIVE OVERVIEW

Following its exit from the retail marketplace ParkerVision will direct its focus toward gaining design wins from OEMs/ODMs. The company will be addressing the market using a two pronged approach, first by acting as a supplier of integrated circuits (ICs), and second, by acting as an enabler of technology integration through licensing. Solutions will initially target the mobile handset market addressing the needs for extended battery life, the reduction of manufacturing costs, and enhanced performance of handsets. After traction is gained in the handset space we believe the company will have sizable opportunities in the wireless network infrastructure market.

Potential Customers – Significant Interest from Top Tier Handset Manufacturers

ParkerVision is currently targeting the top tier mobile handset makers as these players have been receptive to hear and learn more about ParkerVision's new technology, The top 6 mobile handset manufacturers (Nokia, Motorola, LG, Samsung, Sony Ericsson, and Siemens) account for approximately 80% of the total handset market. Performance, time to market, and cost, are all major concerns for handset manufacturers and we believe ParkerVision will be able to tailor its solution to meet each customer's specific needs.

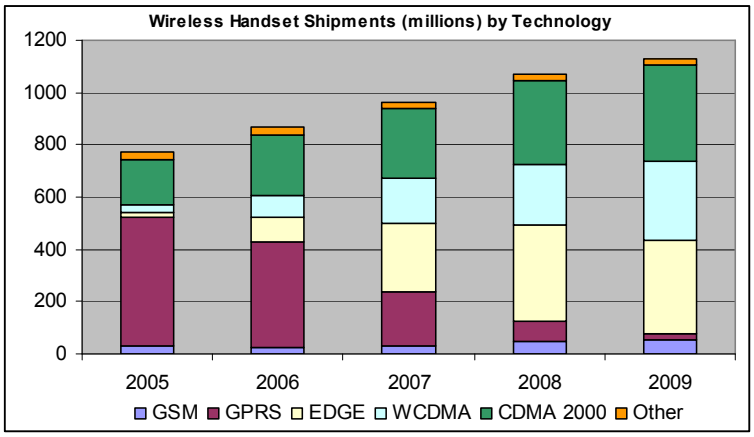
Market Trends – 3G and Feature Rich Handsets Will Drive Growth

The driving force in the mobile handset market has been the rapid increase in demand for data based mobile services. The transition to next generation networks (2.5G, 3G, and 3.5G) with more capacity, higher speeds, and better quality is making this possible. Consumers have demanded more features and functions, all seamlessly integrated into the handset. In response, handsets are now equipped with cameras, radio, full internet access, video capabilities, mp3 players, and anything and everything to allow someone to stay connected while carrying fewer devices. As more features have been added the user interface has grown rapidly and most displays are now exclusively in color. These additional features have resulted in more components being packed into the handset, as well as placing increased demands on battery life. End users are unwilling to accept size increases in handsets, in fact the trend favors an overall reduction in size. On top of these functional features, many handsets are multi-band and multi-mode, which adds to the complexity, component count, and cost. On the opposite end of the spectrum the demand for low-cost handsets is increasing as emerging markets desire

mobility. OEMs are faced with a major dilemma: How to manufacture a cost competitive handset with extreme size limitations, while not depleting battery power. Reducing overall chip counts and components will be critical to achieving low cost structures for both the upper and lower end handsets.

Market Statistics – 1.1B Handsets By 2009, 3G Handset Market Poised For 37% CAGR Through 2009

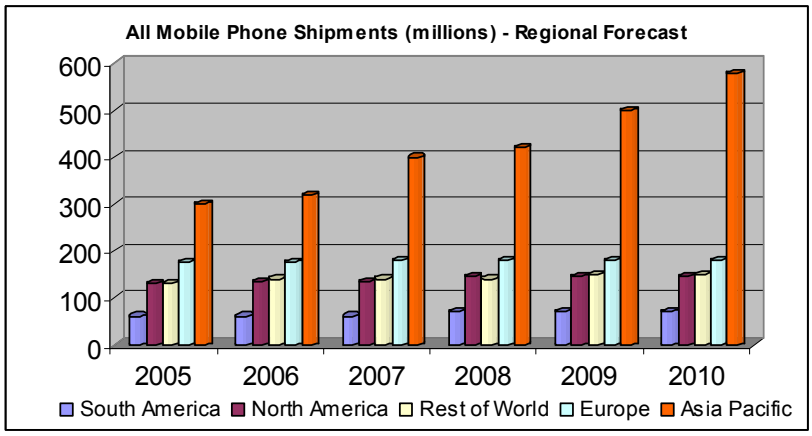
We estimate that the mobile handset market will top 1.1B units by 2009 exhibiting a CAGR of 8% during that period. We believe the driving force behind the demand for ParkerVision's groundbreaking technology solutions will be the migration to 3G (Third Generation) cellular networks utilizing EDGE, WCDMA, and CDMA2000. The chart below depicts how 3G technology enabled handsets will ramp up over the next four years, while the now dominant GPRS will begin to fall out of favor.



Source: ABIresearch

The 3G market that ParkerVision is targeting (WCDMA, CDMA2000, and EDGE) is expected to have a 37% CAGR between 2006 and 2010. As the migration to 3G networks accelerates so should the demand for smart phones. Smart phones, with robust computing features, encompass many of the challenges mentioned above. Gartner predicts that sales of smart phones will exceed 200m devices in 2008 compared to approximately 51m in 2005.

The demand for mobile handsets is driving growth in the telecommunications and semiconductor industry. Telecommunications market revenue is expected to grow at 5% CAGR, with the majority of growth coming from mobile handsets. The semiconductor industry expects 7.6% CAGR in 2006 and 5.1% CAGR in 2007, with the majority of growth coming from the shift to 3G and the convergence of handset functions. This bodes very well for ParkerVision's products which we believe will be able to capture a piece of this market. Juniper Research estimates that worldwide mobile subscribers will hit 2.7B by 2010. Of this number 1.2B will be utilizing 3G technology. Even though market saturation has occurred in some regions, the demand for newer handsets propelled by next generation networks will trigger a high level of shipments as end users upgrade. The Asia/Pacific market represents a vast opportunity which will see the most growth in the coming years.

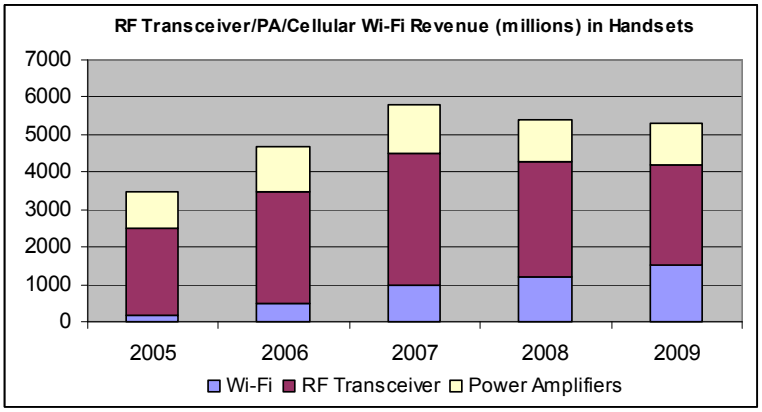


Source: Juniper Research

Low End Handsets will Help Fuel Growth in Emerging Markets

OEMs will be pushing hard to lower their BOM (bill of materials) as the trend in falling prices continues. This will be especially important for the low-end and ultra low-end handset market. Approximately 75% of the world's population lives within a cellular network, but only 25% subscribe to mobile services. The goal is to have a $30 handset on the market that will attract the less affluent in under developed nations. Reducing components and integration will be a key ingredient to reaching this price level. We believe the market for ultra low-end and low-end handsets will experience significant growth over the next several years.

ParkerVision's products will target the transmit/receive chain of the mobile handset integrated circuit board (ICB). The company's long term goal is to be the owner of the RF chain regardless of wireless application being utilized. Total market revenue is comprised of RF transceivers, power amplifiers, and cellular WiFi sales to OEM/ODMs. ABIResearch estimates that the total addressable market for its products will continue to grow through 2007 to an estimated $6B at a 30% CAGR. Currently, no one competitor has greater than a 20% market share, which we believe represents a solid opportunity for ParkerVision's products to gain traction.



Source: ABIresearch

Competition – Unique Technology Gives ParkerVision an Advantage

ParkerVision operates in the highly competitive and highly volatile semiconductor industry. The industry is characterized by intense rivalry that demands high levels of R&D spending in order to support constant innovation. Many of its competitors have established product lines as well as established customers. The industry trend has favored the "fabless" business model allowing players to focus their efforts on design and marketing. The primary competitive factors within this industry are level of integration, intellectual property, product capabilities, reliability, reputation, and ability to introduce new products to the market. We believe ParkerVision and its products excel in each one of these categories, while they are in the process of building a

solid reputation. We believe ParkerVision's technology provides them with a sustainable competitive advantage in terms of size, price, performance, and level of integration.

ParkerVision has literally rewritten the way RF communication and circuitry design takes place, and in doing so it has developed a patented technology that none of its competitors can offer. However, many players in the semiconductor industry are developing alternative solutions utilizing existing technology to address battery life, limited circuit board space, and costs. We believe that these solutions are not nearly as efficient as ParkerVision's products and may also place greater demands on other components within the handset.

Atmel (ATML) – Recently released a new Integrated Circuit (IC), ATR0981, that will help keep component counts low due to a high level of integration, and also includes a very efficient power amplifier (PA) and low noise amplifier for the receive path.

BitWave Semiconductor Corp. – A fabless semiconductor start-up that recently announced the development of a new transceiver for use in mobile devices to be released in the summer of 2006. The transceiver can operate on multiple frequencies and communication protocols allowing for smaller chip size, lower costs, and lower power consumption.

Sequoia Communications – The fabless semiconductor company has developed a single chip, multi-mode RF transceiver. This chip is expected to reduce development costs of a handset by 50% and reduce power amplifier requirements by 50%. The company has the backing of Motorola and Nokia and the chip is expected to be production ready by mid 2006.

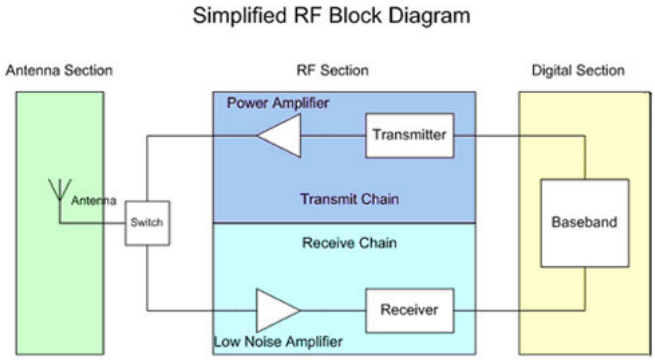
Texas Instruments (TXN) – One of the world's leading semiconductor companies specializing in digital signal processing and analog technology. TXN has recently introduced SmartReflex technologies, a process designed to enable the highest performance while using the lowest power. TXN has already shipped over 100m devices with SmartReflex technology.

THE TECHNOLOGY

Introduction to Traditional Radio Frequency Communication

In order to understand how ParkerVision's technology works and what it means to wireless communications we must first discuss traditional radio architecture and its development. Developed by Guglielmo Marconi in 1895 the radio and wireless communication is based on a technique of "mixing" signals. The mixing process takes a carrier frequency, modulates (information is added in the transmit process, demodulation occurs in the receive process as information is extracted) it with data and mixes it with another frequency to either speed up (in the case for transmitters) or slow down (in the case for receivers) the RF wave. The use of integrated circuits has allowed for this process to become more sophisticated, but fundamentally it remains the same today.

Radio architecture can be divided into three sections: the digital section, the RF section, and the antenna section. The digital section houses the baseband processor, the RF section houses a transmitter and a receiver (or transceiver) as well as the antenna section. The RF section also contains amplifiers which are used to increase a transmitted signal or increase a received signal.



The transmit chain, responsible for sending a signal, contains a transmitter and power amplifier, while the receive chain, responsible for receiving a signal, contains a receiver and low noise amplifier. The Power Amplifier is a critically important device that takes the on channel RF signal and gains the signal to a power level that allows it to be received by other wireless devices. The PA is the most significant limiting factor to talk time on cellular handset.

How RF Works in a Cell Phone

1. The baseband processor emits low frequency signals to be transmitted.
2. The signals are modulated onto an RF wave through the transmitter.
3. Unwanted noise generated by the transmit process is filtered using a SAW (sonic acoustic wave filter)
4. Transmitted signal is sent through a power amplifier to increase power of the signal.
5. Unwanted noise generated by power amplification is filtered using another SAW.
6. The RF wave is sent via antenna.
7. On the receive side the signal is captured by the antenna, mixed to convert the signal, filtered using a SAW, demodulated by a receiver, and sent to the baseband processor.

This technology and architecture has been in place for years, and has been accepted as the defacto standard as the way RF devices are built. Literally, the design has not been changed since 1895. The technology has improved, and engineers have been able to push the limits of the design, but they still find themselves held back by the laws of physics. The current design has approached the point of diminishing returns.

The existing technology has numerous shortcomings which are beginning to place limits on wireless networks, applications, and devices. The technique of "mixing" signals requires the use of more board space on the printed circuit board and each stage also represents an additional draw of current, limiting battery life. The reason for this is that mixing preserves the noise on a signal which must ultimately be filtered out. The outdated architecture is complex, requiring multiple radios and power amplifiers to support multiple modes and bands. Additionally, multiple chips are required to perform multiple transmit chain functions resulting in size constraints on the integrated circuit board. Running multiple chips also creates inefficient use of power. For example, a multimode cell phone capable of processing CDMA and WCDMA would require multiple transmit chains (multiple transmitters and amplifiers) to be designed into a circuit board. Each transmit chain would have to be isolated while drawing current from the battery.

Challenges Engineers Face when Designing RF Links

1. A cell phone with low power efficiency results in low talk time
2. A cell phone receiving a signal with poor linearity produces unreliable signal qualities
3. A high cost solution will experience an unsuccessful adoption rate

Energy Signal Processing - ESP

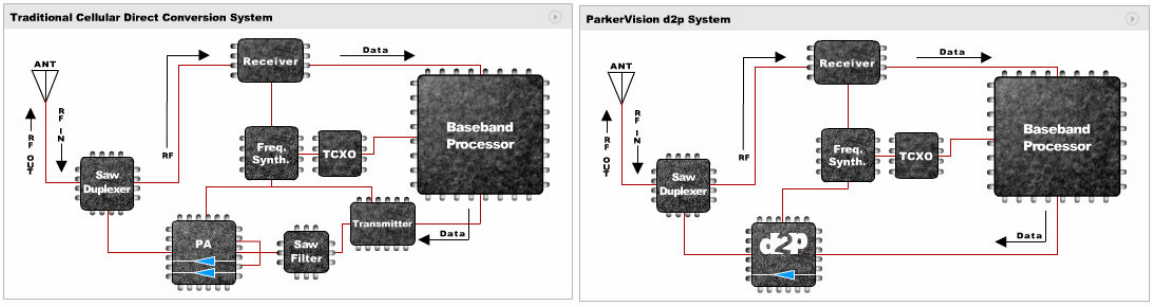
The foundation of ParkerVision's technology and possibly the next generation of RF communication is ESP. ESP targets the energy of a radio signal in order to understand the information that it is carrying, and optimally processes that signal into bits of data. ESP technology uses a switch based energy processing architecture that simplifies the modulation (RF transmitters) and demodulation (RF Receivers) of data, compared to traditional RF architecture that relies on a mixed-based architecture.

Why is ESP better than traditional RF?

- Eliminates costly and inefficient circuit processes found in traditional RF designs.
- Greatly reduces the "noise" on an RF wave resulting in a clean and highly linear signal.
- Creates a signal that is able to travel further on the transmit side with less signal degradation due to external RF interference.
- Allows for greater design freedom of mobile handsets by combining the transmitter and power amplifier into a single device.
- Permits a transmit chain architecture that will support multiple bands (frequencies) or multiple modes (CDMA,WCDMA,EDGE,etc.).

Direct2RFPower – d2p

Using its core ESP technology ParkerVision has developed a transmit chain replacement technology, Direct2RFPower or d2p. The d2p architecture is baseband independent, which means it can work with analog or digital data and is not baseband specific. The d2p solution can be thought of as replacement architecture that eliminates the need for transmitters, power amplifiers, and corresponding filters. In a single step d2p takes low power signals and produces RF carriers at the prescribed power levels. The diagram below depicts how d2p integrates multiple processes into a single chip.



The d2p solution will address the cellular handset market which is being driven by the demand for better performance, more features, and increased quality.

Why d2p?

- Because d2p is a single chip replacement handset manufacturers may be able to reduce the size and space required on the circuit board which allows for additional features.
- Mobile handsets equipped with d2p will exhibit extended battery life, fewer dropped calls, better clarity, and enhanced performance as the cellular industry moves to 2.5G and 3G networks.
- The handset's bill of materials (BOM) will be reduced as the number of components can be reduced. The multi-band and multi-mode single chip design will help to make this possible.
- d2p is backward compatible for applications that incorporate 2G.

Direct2Data – d2d

Direct2Data or d2d is new receiver architecture created by ParkerVision that represents a complete departure from the traditional standards of RF communication. d2d extracts data content from a modulated radio signal by way of sampling the energy transfer of the signal. This process not only distorts the radio carrier waveform, but actually destroys it resulting in the carriers own energy to create data. The result of this process is a higher quality data transmission.

Current receive technology is mixer based using oscillators to separate the data from the signal. This process requires multiple steps, creates data leakage, and preserves noise. d2d cancels out the noise and leaves pure data bits by sampling the high and low points of the signal.

Why d2d?

- When used in mobile handsets d2d will result in fewer dropped calls, better hand-offs, and better coverage.
- Cellular service providers who chose to implement d2d will realize increased network capacity and better ability to stabilize load balancing.
- Naturally reduces random electromagnetic noise while enhancing quality.
- d2d can help expand coverage in a WiFi network as well as improving performance.
- Frees up capacity on baseband processor to process more data.

Management Team

Jeffrey Parker – Chairman of the Board, CEO, and President
Jeffrey has been Chairman of the Board and Chief Executive Officer of the Company since its inception and President of the Company since April 1993. From March 1983 to August 1989, Mr. Parker served as Executive Vice President and Sales Manager for Parker Electronics, Inc., a joint venture partner with Carrier Corporation, performing research, development and marketing for the heating, ventilation, and air conditioning industry.

Cynthia Poehlman - CFO
Cynthia has been the Chief Financial Officer of ParkerVision since June 2004. From March 1994 to June 2004 Ms. Poehlman was ParkerVision's Chief Accounting Officer and Controller. From October 1991until she joined the Company, Ms. Poehlman served as Audit Manager with Arthur Andersen, LLP, a public accounting firm.

David F. Sorrells – Chief Technical Officer
David has been the Chief Technical Officer of ParkerVision since September 1996 and has been a director of the company since January 1997. From June 1990 to September 1996, Mr. Sorrells served as Engineering Manager for ParkerVision.

Todd Parker – VP Corporate Development
Todd has been a director since ParkerVision's inception and was a vice president from inception to June 1997. Mr. Parker acted as a consultant for ParkerVision from June 1997 through November 1997 and from September 2001 to July 2002. On July 31, 2002, Mr. Parker was appointed president of the Video Business Unit of the Company until that division was sold in May 2004 when his title was changed to Vice President for Corporate Development. From January 1985 to August 1989, Mr. Parker served as general manager of manufacturing for Parker Electronics.

John Stuckey – VP of Corporate Strategy and Business Development
John joined ParkerVision in July 2004 as VP of Corporate Strategy and Business Development. Prior to joining ParkerVision, Mr. Stuckey spent five years at Thomson, Inc. where he most recently served as Director of Business Development. Mr. Stuckey has held key management positions in marketing, product management, business development, and strategic acquisitions for global organizations in retail, professional, and OEM markets.

Board of Directors

William A. Hightower – Director since March 1999
Richard A. Kashnow – Director since August 1999
John Metcalf – Director since June 2004
William L. Sammons – Director since October 1993
Nam P. Suh – Director since December 2003
Papken S. der Torossian – Director since June 2003

RECENT WIRELESS NEWS

DECEMBER 2005

China May Allow 3G Mobile Service In the Coming Year - The Chinese government is apparently close to issuing licenses for next generation wireless services in 2006. China is the world's biggest wireless market with 388m mobile phone users. Licenses are expected to be issued in 1H06 to allow network construction to be completed in time for the 2008 Olympics. 3G service is currently available in Europe and other parts of Asia.

Cell Phone Costs to Fall Further – It is widely expected that the prices of mobile handsets will drop over the next several years, with a $20 handset being available as early as 2007. Low cost handsets are being made possible by eliminating certain features, thus reducing component count. Infineon and Philips Electronics are attempting to integrate key functions of a handset into a single chip that will reduce components to 50 by 2007.

Cingular Goes High Speed – Cingular entered the 3G world by launching its high speed downlink packet access (HSDPA) network in 16 U.S. markets. The service will offer customers data speeds of 400 to 700 kbps. Cingular expects to realize a 45 to 70% cost savings as it moves traffic over to the new network.

For Qualcomm, the Buzz is Concurrence – At the 3G World Conference Qualcomm emphasized that convergence of networks cannot take place without concurrence of applications and services. This would entail a mobile handset user receiving a voice call, checking email and downloading files while still on the call. Later that user could watch video while having a group chat with friends. During the course of that time a wide-area network such ass CDMA 2000 EV-DO, Bluetooth, WiFi, Qualcom's MediaFlo and GPS would be used.

2006 Predictions – Phones with built in hard disks may hit the market, however they may be short lived as memory card capacities continue to improve. Music phones will gain in popularity as over the air downloads become more popular with the implementation of high speed networks. 3G phone releases will outpace GSM releases by the major manufacturers.

NOVEMBER 2005

WiMax to Grow Quickly, But 3G To Dominate – According to a study by Northern Sky Research 3G cellular service will dominate over the next few years. It is believed that 3G users will hit 1.2B in 2010 and will be the leading technology over the next 5 years. As of now 3G has a 3 year time to market advantage over WiMAX and will likely extend that lead as new 3G technologies emerge.

Sources: Wall Street Journal, Mobile Pipeline, Wireless Week, Mobile Gazette

ParkerVision, Inc ($ thousands)			2004					2005 E					2006							
	2002	2003	Mar	Jun	Sep	Dec	2004	Mar	Jun	Sep A	Dec	2005	Mar	Jun	Sep	Dec	2006	2007	2008	2009
Total Revenue	11,911	6,738	296	64	62	19	440	172	122	430	160	884	135	-	-	-	135	28,900	120,200	231,500
Sales Revenue	10,734	5,576	296	64	62	19	190	172	122	430	160	884	135	-		-	135	24,700	88,500	174,000
License Revenue	1,178	1,161	-	-			250	-	-	-	-						-	4,200	31,700	57,500
Cost of Goods	7,209	4,665	48	81	83	313	525	261	133	338	128	860	108	-	-	-	108	15,450	57,855	104,325
Inventory write down						2,768	2,768		2,251	-										
Gross Profit	4,702	2,073	248	(17)	(21)	(3,062)	(2,853)	(89)	(2,262)	92	32	(2,227)	27	-	-	-	27	13,450	62,345	127,175
R & D Expenditures	13,939	15,026	2,977	2,399	2,784	3,262	11,422	2,921	3,192	2,187	3,200	11,500	3,350	3,450	3,700	3,800	14,300	16,800	24,000	36,000
Marketing and Selling	3,568	3,679	262	453	622	1,147	2,484	989	1,282	561	650	3,482	700	750	850	900	3,200	4,000	6,000	8,000
General and Administrative	5,320	5,774	1,035	1,135	1,668	2,206	6,044	1,536	1,806	1,387	1,400	6,129	1,550	1,700	1,800	1,950	7,000	8,800	12,000	22,000
Other Expense	51	84	-	-	-	-		-	1,871	(5)	-	1,866					-	-	-	-
Total Operating Expenses	22,878	24,563	4,274	3,987	5,074	6,615	19,950	5,446	8,151	4,130	5,250	22,977	5,600	5,900	6,350	6,650	24,500	29,600	42,000	66,000
Operating Income	(18,176)	(22,490)	(4,026)	(4,004)	(5,095)	(9,677)	(22,803)	(5,535)	(10,413)	(4,038)	(5,218)	(25,204)	(5,573)	(5,900)	(6,350)	(6,650)	(24,473)	(16,150)	20,345	61,175
Interest Income and other income	905	476	53	46	56	62	217	34	223	138	125	520	45	150	140	100	435	300	350	460
Income Before Tax	(17,271)	(22,014)	(3,973)	(3,958)	(5,039)	(9,615)	(22,586)	(5,501)	(10,190)	(3,900)	(5,093)	(24,684)	(5,528)	(5,750)	(6,210)	(6,550)	(24,038)	(15,850)	20,695	61,635
Income Tax																			1,002	8,045
Income After Tax	(17,271)	(22,014)	(3,973)	(3,958)	(5,039)	(9,616)	(22,586)	(5,501)	(10,190)	(3,900)	(5,093)	(24,684)	(5,528)	(5,750)	(6,210)	(6,550)	(24,038)	(15,850)	19,693	53,590
Gain/Loss Discontinued Ops.			(1,390)	9,179	(81)	65	7,773													
Net Income Before Extras			(5,363)	5,221	(5,120)	(9,551)	(14,813)	(5,501)	(10,190)	(3,900)	(5,093)	(24,684)	(5,528)	(5,750)	(6,210)	(6,550)	(24,038)	(15,850)	19,693	53,590
Unrealized G/L on securities				(25)	(2)		(32)	(3)	1	-	-		-	-	-	-				
Net Income (Loss)	(17,271)	(22,014)	(5,363)	5,196	(5,122)	(9,622)	(14,845)	(5,504)	(10,189)	(3,900)	(5,093)	(24,686)	(5,528)	(5,750)	(6,210)	(6,550)	(24,038)	(15,850)	19,693	53,590
Basic EPS	(1.24)	(1.43)	(0.30)	0.29	(0.28)	(0.53)	(0.82)	(0.30)	(0.49)	(0.19)	(0.24)	(1.23)	(0.26)	(0.25)	(0.27)	(0.29)	(1.05)	(0.69)	0.85	2.29
Fully Diluted EPS																			0.76	1.99
Basic Shares Outstanding	13,929	15,395	17,870	18,045	18,171	18,155	18,104	18,343	20,794	20,126	20,910	20,100	20,910	22,910	22,910	22,910	22,910	23,035	23,235	23,435
Diluted Shares Outstanding																			26,060	26,935
MARGIN ANALYSIS																				
Cost of Goods	61%	69%	16%	127%	134%	1647%	119%	152%	109%	79%	80%	97%	80%				80%	53%	48%	45%
Gross Margin																		47%	52%	55%
Operating Margin	-153%	-334%	-1360%	-6256%	-8218%	-50932%	-5183%	-3218%	-8535%	-939%	-3261%	-2851%	-4128%				-18128%	-56%	17%	26%
Pre Tax Margin	-145%	-327%	-1342%	-6184%	-8127%	-50605%	-5133%	-3198%	-8352%	-907%	-3183%	-2792%	-4095%				-17806%	-55%	17%	27%
Tax Rate																			5%	13%
Net Margin	-145%	-327%	-1812%	8119%	-8261%	-50642%	-3374%	-3200%	-8352%	-907%	-3183%	-2793%	-4095%				-17806%	-55%	16%	23%

ParkerVision, Inc			2004					2005		
Balance Sheet (Thousands)			Q1	Q2	Q3	Q4		Q1	Q2	Q3
Fiscal Year ending December	2002	2003	Mar	Jun	Sep	Dec	2004	Mar	Jun	Sep
Assets										
Cash	1,087	17,468	13,788	18,232	13,443	6,434	6,434	21,745	17,610	13,275
Marketable Securities	13,868	3,008	2,694	2,158	1,478	1,363	1,363	1,052	1,296	1,288
Receivables	2,158	989	1,133	794	920	310	310	199	122	27
Inventories	3,091	2,477	2,982	2,211	4,250	2,625	2,625	2,714	403	153
Interest and other receivables				2,202	1,396	1,277	1,277	1,247	248	264
Other Current Assets	2,587	2,366	2,214	1,712	1,259	1,781	1,781	1,726	1,503	1,261
Total Current Assets	**22,791**	**26,308**	**22,811**	**27,309**	**22,746**	**13,790**	**13,790**	**28,683**	**21,182**	**16,268**
Property, Plant, & Equipment	6,183	4,860	4,581	3,755	3,678	3,372	3,372	3,109	2,377	2,297
Intangibles and Other Assets	8,870	11,314	11,191	10,397	11,063	10,914	10,914	10,631	9,139	9,371
Total Assets	**37,844**	**42,482**	**38,583**	**41,461**	**37,487**	**28,076**	**28,076**	**42,423**	**32,698**	**27,936**
LIABILITIES										
Accounts Payable	759	694	2,170	1,338	1,434	858	858	713	435	568
Accrued Expenses										
Salaries and Wages	951	592	669	391	593	1,131	1,131	923	1,561	802
Warranty Reserves	248	199	207	2	2	5	5		37	10
Lease Obligation	357	186					-			
Professional Fees	271	144	330	55	176	202	202	193	98	572
Other Accrued Expenses	108	42	147	147	357	525	525	321	324	174
Other						194	194	194	-	-
Deferred Revenue	1,003	1,227	1,026	58	543	407	407	594	830	295
Total Current Liabilities	**3,697**	**3,084**	**4,549**	**1,991**	**3,105**	**3,322**	**3,322**	**2,938**	**3,285**	**2,421**
Deferred Income Taxes	101	-								
Total Liabilities	**3,798**	**3,084**	**4,549**	**1,991**	**3,105**	**3,322**	**3,322**	**2,938**	**3,285**	**2,421**
Preferred Stock	14	-					-			
Common Stock Net	140	179	179	180	180	180	180	209	209	209
Warrants	16,807	16,807	16,807	16,807	14,573	14,573	14,573	17,693	17,693	17,693
Capital Surplus	90,429	118,049	118,049	118,254	120,488	120,488	120,488	137,576	137,693	137,699
Retained Earnings	(73,654)	(95,669)	(101,031)	(95,773)	(100,861)	(110,483)	(110,483)	(115,987)	(126,179)	(130,080)
Other Comprehensive Income	310	32	30	5	3	-	-	(4)	(3)	(3)
Shareholders' Equity	34,046	39,398	34,034	39,473	34,383	24,758	24,758	39,487	29,413	25,518
Ttl. Liab. & Net Worth	**37,844**	**42,482**	**38,583**	**41,464**	**37,488**	**28,080**	**28,080**	**42,425**	**32,698**	**27,939**

RATIO ANALYSIS										
Fixed Asset Turns	1.93	1.39	0.06	0.02	0.02	0.01	0.13	0.06	0.05	0.19
Asset Turns	0.31	0.16	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Return on Assets	-45.6%	-51.8%	-13.9%	12.5%	-13.7%	-34.3%	-52.9%	-13.0%	-31.2%	-14.0%
Return on Equity, T4Q	-50.7%	-55.9%	-15.8%	13.2%	-14.9%	-38.9%	-60.0%	-13.9%	-34.6%	-15.3%
Accounts Receivable Turnover	5.52	6.81	0.26	0.08	0.07	0.06	1.42	0.86	1.00	15.93
Days Sales Outstanding	66	54	1397	4528	5416	5955	257	422	365	23
Accounts Payable Turnover	9	7	0.02	0.06	0.06	0.36	0.61	0.37	0.31	0.60
Days of Payables	38	54	16501	6029	6306	1001	597	997	1194	613
Inventory Turnover	2.33	1.88	0.02	0.04	0.02	0.12	0.20	0.10	0.33	2.21
Days of Inventory (annualized)	157	194	22676	9963	18690	3061	1825	3795	1106	165
Cash Conversion Cycle	184	193	7572	8462	17800	8016	1486	3221	277	-425
Quick Ratio	4.63	6.96	3.87	10.64	5.10	2.44	2.44	7.83	5.79	6.03
Current Ratio	6.16	8.53	5.01	13.72	7.33	4.15	4.15	9.76	6.45	6.72
Working Capital	19,094	23,224	18,262	25,318	19,641	10,468	10,468	25,745	17,897	13,847
Book Value/Share	$2.44	$2.56	$1.90	$2.19	$1.89	$1.36	$1.37	$2.15	$1.41	$1.27
Cash/Share	$1.07	$1.33	$0.92	$1.13	$0.82	$0.43	$0.43	$1.24	$0.91	$0.72
Sales/Share (annualized)	$0.86	$0.44	$0.02	$0.00	$0.00	$0.00	$0.02	$0.01	$0.01	$0.02
Employee Headcount	125	104					95			55
Cash and Marketable Securities	$14,955	$20,476	$16,482	$20,390	$14,921	$7,797	$7,797	$22,797	$18,906	$14,563
Share Price	$8.16	$9.79	$6.83	$5.70	$3.95	$8.90	$8.90	$10.50	$7.84	$6.29

ParkerVision, Inc			2004					2005		
Cash Flow (Thousands)	2002	2003	Mar	Jun	Sep	Dec	2004	Mar	Jun	Sep
Fiscal Year End December										
Operating Cash Flow										
Net Income (loss)	(17,271)	(22,014)	(5,363)	5,221	(5,122)	(9,622)	(14,814)	(5,504)	(10,189)	(3,900)
Charges not affecting cash										
Depreciation and amortization	2,950	2,952	796	742	766	797	3,101	801	785	443
Ammortization of premium (discounts) on Investments	281	156	13	10	8	11	42	7	7	7
Provision for obsolete inventories	522	401	75	20	45	180	320	68	-	-
Inventory write down						2,768	2,768		2,250	-
Impairment loss on other assets									1,245	-
Stock Compensation	1,275	972	-	405	200	400	1,005	200	229	229
Gain/Loss on sale of equipment/investments	(107)	(145)	-	-	-	-	-	-	625	(5)
Gain on sale of discontinued ops.				(11,209)	53	(64)	(11,220)	8		-
Total non-cash items	4,921	4,336	884	(10,032)	1,072	4,092	(3,984)	1,084	5,141	674
Change in working capital										
Accounts receivable	(1,212)	1,169	(143)	338	(125)	688	758	110	76	94
Inventory	707	212	(580)	(1,559)	(2,092)	(1,304)	(5,535)	(156)	59	250
Prepaid expenses and other assets	(1,435)	402	131	(648)	322	300	105	66	1,417	4
Accounts payable and accrued expenses	85	(837)	1,666	(1,386)	630	351	1,261	(570)	111	(327)
Deferred Revenue	17	223	(200)	249	484	(136)	397	187	236	(535)
Total change in working capital	(1,838)	1,169	874	(3,006)	(781)	(101)	(3,014)	(363)	1,899	(514)
Total operating cash flow	**(14,188)**	**(16,509)**	**(3,605)**	**(7,817)**	**(4,831)**	**(5,631)**	**(21,812)**	**(4,783)**	**(3,149)**	**(3,740)**
Investing Cash Flow										
Purchase of investments	(16,786)	(5,603)	-	-	-	-	-	-	(250)	-
Proceeds from maturity/sale of investments	29,864	16,256	300	500	670	100	1,570	300	-	-
Purchase of property, plant, and equipment	(1,319)	(1,172)	(223)	(199)	(439)	(134)	(995)	(177)	(302)	(180)
Proceeds from sale of equipment	7	437	-	12,153	30	(30)	12,153	-	-	15
Payments for patent costs	(1,556)	(1,175)	(152)	(230)	(1,158)	(412)	(1,952)	(268)	(437)	(434)
Collection of purchase price receivables					903	(903)	-	-	-	-
Total investing cash flow	**10,210**	**8,743**	**(75)**	**12,224**	**6**	**(1,379)**	**10,776**	**(145)**	**(989)**	**(599)**
Financing Cash Flow										
Proceeds from issuance of common stock	500	24,145	-	-	-	-	-	20,236	-	6
Total financing cash flow	**500**	**24,145**	**-**	**-**	**-**	**-**	**-**	**20,236**	**-**	**6**
Net Cash Flow	**(3,478)**	**16,379**	**(3,680)**	**4,407**	**(4,825)**	**(7,010)**	**(11,036)**	**15,308**	**(4,138)**	**(4,333)**
Change in Cash*										
Cash & securities, end of period	1,087	17,467	16,482	20,390	14,921	7,797	7,797	22,797	18,906	14,563
Cash & securities, beginning of period	4,563	1,087	17,467	16,482	20,390	14,921	17,467	7,797	22,797	18,906
Net increase (decrease) in cash	(3,476)	16,380	(985)	3,908	(5,469)	(7,124)	(9,670)	15,000	(3,891)	(4,343)
Cash Flow Analysis										
Net income	(17,271)	(22,014)	(5,363)	5,221	(5,122)	(9,622)	(14,814)	(5,504)	(10,189)	(3,900)
Non-cash items	4,921	4,336	884	(10,032)	1,072	4,092	(3,984)	1,084	5,141	674
Change in working capital	(1,838)	1,169	874	(3,006)	(781)	(101)	(3,014)	(363)	1,899	(514)
Operating cash flow	(14,188)	(16,509)	(3,605)	(7,817)	(4,831)	(5,631)	(21,812)	(4,783)	(3,149)	(3,740)
Operating cash flow	(14,188)	(16,509)	(3,605)	(7,817)	(4,831)	(5,631)	(21,812)	(4,783)	(3,149)	(3,740)
(less) Capital expense	(1,319)	(1,172)	(223)	(199)	(439)	(134)	(995)	(177)	(302)	(180)
Free cash flow	(15,507)	(17,681)	(3,828)	(8,016)	(5,270)	(5,765)	(22,807)	(4,960)	(3,451)	(3,920)

ANALYST CERTIFICATION

I, Michael Ciarmoli, certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. In addition, no part of my compensation was, is, or will be directly or indirectly related to this recommendation or views contained in this report.

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