Title: ParkerVision Confirms D2D(TM) Technology Supports the World's Most Popular Digital Cellular Communications Standard.

Date: 1/31/2000; **Publication**: PR Newswire;

GSM Transmitter Demonstration Platform Uses Standard

CMOS Semiconductor Implementation and Zero if Architecture

JACKSONVILLE, Fla., Jan. 31 /PRNewswire/ -- ParkerVision, Inc. (Nasdaq: PRKR), announced today the completion of a RF transmitter demonstration platform that confirms the Company's Direct2Data(TM)" (D2D) technology exceeds the requirements of the GSM cellular telephone transmitter specifications by significant margins. GSM compliant performance was achieved using the identical 13213-based transmitter hardware that verified D2D IS-95 CDMA transmitter compliance. The D2D demonstration hardware is implemented in standard bulk CMOS and using a true Zero intermediate frequency (IF) architecture, eliminating the need for all IF amplifiers, fifters and other supporting IF components. The Company believes this achievement represents another significant step towards the commercialization of its unique wireless technology as well as a significant opportunity to reduce cost, size, and power consumption in CDMA and GSM RF transmitter applications.

Jim Baker, Vice President of Business Development, stated: "This is another significant achievement in our progress towards confirming the benefits of the D2D technology in a variety of important wireless applications. Since we have now verified that the same D2D transmitter meets the requirements of both CDMA and GSM applications, the development of multimode wireless telephones incorporating CDMA and GSM capabilities can be greatly simplified. Dual mode CDMA and GSM transmitters based on D2D technology can now be realized in standard CMOS while reducing power consumption, parts count, size, and cost compared with today's traditional hardware approaches. This provides for the opportunity to create very cost-effective stand-alone chips. Alternatively, the entire RF to baseband function can be easily integrated within the cell phone's CIVICS baseband processor IC, eliminating a separate RF conversion chip altogether.

Baker continued, "We are very excited about this result and are confident that the D2D technology will deliver similar successes in CDMA and GSM receiver applications. This moves us one more step towards our goals of wireless products which incorporate important multiple communications standards in a cost-effective yet high performance manner."

GSM is currently the world's most popular digital cellular standard. The Company believes it is a significant accomplishment to address this specification using standard CIVIOS semiconductors and a true Zero IF architecture. The current D2D GSIVI transmitter demonstrator exceeds key performance requirements of the GSM standard by significant margins.

For example:

-- The output power level of the D2D GSM transmitter was measured at 30

dBm and the spectral mask requirements were achieved with significant

margins.

-- Adjacent channel interference rejection specifications are met with at

least a 3.8 dB margin across the deviation band specified in the ETSI

GSIVI specification.

The GSM specifications allow no more than 5 degrees RMS and 20 degrees

peak deviation from the ideal phase trajectory. The D2D GSM transmitter

achieves a phase deviation of better than 2.5 degrees RIVIS and less

than 6 degrees peak.

No additional baseband processing or DAC speed/resolution is required to meet these specifications.

D2D achieves very high linearity radio performance per milliwatt and excellent preservation of the information content of the signal. The D2D GSM and CDMA transmitter demonstrator uses a sub-harmonic local oscillator that typically operates at one third or less of the RF carrier frequency and eliminates the need for synthesizers and other components operating at the RF frequency. This enables lower power, high performance implementations and reduces noise and design issues that are inherent in traditional or other direct conversion designs. 13213 can be implemented in standard CMOS at RF frequencies up to 6 GHz.

13213 can also be implemented in other semiconductors such as BiCMOS, GaAs, SiGe, etc., where other system partitioning approaches and/or even higher RF input/output frequencies are desired. D213 enables the application of Moore's Law of semiconductor integration and advancement to highly integrated radio chip sets.

ParkerVision announced that a complete test report should be available at www.Q2Q.corn next month.

ParkerVision, headquartered in Jacksonville, Florida, designs, develops and manufactures communications technology platforms and products for the wireless and video industries. Additional information about ParkerVision and its 132D technology is available at www.parkervision.com and www.D2D.com .

This press release contains forward-looking, information. Readers are cautioned not to place undue reliance on any such forward-looking statements, each of which speak only as of the date made. Such statements an. subject to certain risks and uncertainties which are disclosed in the Company's SEC reports, including the Form 10K for the year ended December 31, 1998 and Forms IOQ for the quarters ended March 31, 1999, June 30, 1999 and September 30, 1999. These risks and uncertainties could cause actual results to differ materially from those presently anticipated or projected.