

07-30-2003

U.S. DEPARTMENT OF COMMERCE
U.S. Patent and Trademark Office

102511932

To the Honorable Commissioner of Patents and Trademarks, Please forward the attached original documents or copy thereof.

1. Name of conveying party(ies): 7-24-03
Tantivy Communications, Inc.
1450 South Babcock Street
Melbourne, Florida 32901

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance:

- ☐ Assignment ☐ Merger
☒ Security Agreement ☐ Change of Name
☐ Other _____

Execution Date: 7/22/03

2. Name and address of receiving party(ies)

Name: IPR Holdings Delaware, Inc.

Internal Address: _____

Street Address: 781 Third AvenueCity: King of Prussia State: PA Zip: 19406Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: _____

A. Patent Application No.(s) _____
SEE SCHEDULE A ATTACHEDB. Patent No.(s) _____
SEE SCHEDULE B ATTACHEDAdditional numbers attached? ☒ Yes ☐ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Mindy Ellis Schwartz, Esq.Internal Address: Pepper Hamilton LLP3000 Two Logan SquareStreet Address: 18th and Arch StreetsCity: Phila., State: PA Zip: 19103-27996. Total number of applications and patents involved: 147. Total fee (37 CFR 3.41).....\$ 5,720.00

- ☒ Enclosed
☒ Authorized to be charged to deposit account

8. Deposit account number:

16-1322 (f\$160.00 additional fee)

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9. Signature.

Mindy Ellis Schwartz

Name of Person Signing

Mindy Ellis Schwartz

Signature

July 24, 2003

Date

Total number of pages including cover sheet, attachments, and documents: 19

Mail documents to be recorded with required cover sheet information to:

Commissioner of Patents & Trademarks, Box Assignments
Washington, D.C. 20231

07/29/2003 LNWELLER 00000187 161322 09320663

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PATENT
REEL: 014289 FRAME: 0207

RECORDATION FORM COVER SHEET – PATENTS ONLY**SCHEDULE A****UNITED STATES PATENT APPLICATIONS**

<u>Title</u>	<u>Application No.</u>	<u>Application Date</u>
Floating IP Address for Roaming Internet Connected Subscriber Units	09/328,663	6/9/99
Fast Acquisition of Traffic Channels for a Highly Variable Data Rate Reverse Link of a CDMA Wireless Communication System	09/730,376	12/5/00
System and Method for Maintaining Wireless Channels Over a Reverse Link of CDMA Wireless Communication System	09/997,621	11/29/01
System and Method for Maintaining Timing of Synchronization Messages Over a Reverse Link of CDMA Wireless Communication System	09/997,732	11/29/01
System and Method for Controlling Signal Strength Over a Reverse Link of CDMA Wireless Communication System	09/997,733	11/29/01
Fast Acquisition of Traffic Channels for a Highly Variable Data Rate Reverse Link of a CDMA Wireless Communication System	10/179,121	6/24/02
Maintenance of Channel Usage in a Wireless Communication System (Amended)	09/288,229	4/8/99
System and Method for Interleaving Compressed Audio/Video (A/V) Data Frames	09/847,859	5/2/01
Optimal Load-Based Wireless Session Context Transfer	09/626,784	7/27/00
Power Control Protocol for Highly Variable Data Rate Reverse Link of a Wireless Communication System	09/158,421	9/21/98
Method and Apparatus for a Spectrally Compliant Cellular Communication System	10/409,031	4/7/03
Method and Apparatus Providing an Adaptive Antenna for Use in Same Frequency Networks	09/157,736	9/21/98
Queuing Far/Far Service Requests in Wireless Network	09/773,255	1/31/01
Forward Error Correction on Multiplexed CDMA Channels Enabling High Performance Coding	09/263,358	3/5/99
Forward Error Correction Scheme for High Rate Data Exchange in a Wireless System	09/301,484	4/28/99
Method for Using a Non-Orthogonal Pilot Signal with Data Channel Interference Cancellation	09/772,200	1/29/01
Subscriber-Controlled Registration Technique in a CDMA System	10/435,927	5/12/03
Variable Rate Coding for Forward Link	09/447,022	11/22/99

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Time-Slotted Data Packets with a Preamble	09/845,240	4/30/01
Method and Apparatus for Adapting Antenna Array Using Received Predetermined Signal	10,282,928	10/28/02
Method and System for Economical Beam Forming in a Radio Communication System	09/791,503	2/23/01
Dual Mode Unit for Short Range, High Rate and Long Range, Lower Rate Data Communications	10/341,528	1/13/03
Dual Mode Unit for Short Range, High Rate and Long Range, Lower Rate Data Communications	10/358,082	2/3/03
Two-Tier Hi-Speed Wireless Communication Link	09/384,072	8/26/99
Minimal Maintenance Link to Support Synchronization	09/778,474	2/7/01
Method for Searching Pilot Signals to Synchronize a CDMA Receiver with an Associated Transmitter	60/184,363	2/23/00
Method for Searching Pilot Signals to Synchronize a CDMA Receiver with an Associated Transmitter	09/789,476	2/20/01
Reverse Link Pilot Integrated with Block Codes	09/728,575	11/30/00
Reverse Link Correlation Filter in Wireless Communication Systems	60/184,364	2/23/00
Reverse Link Correlation Filter in Wireless Communication Systems	09/738,934	12/15/00
Access Channel Structure for Wireless Communication System	09/766,875	1/19/01
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Method and Apparatus for Simple PPP Handoff for Mobile Users	09/771,929	1/29/01
Grade of Service and Fairness Policy for Bandwidth Reservation System	09/778,478	2/7/01
Staggering Forward and Reverse Channel Allocation Timing	09/691,874	10/19/00
Method and Apparatus for Wireless Router Multicast	09/630,024	7/31/00
Wireless Channel Allocation in a Base Station Processor	09/565,095	5/5/00
Receiver for Time Division Multiplex System Without Explicit Time Slot Assignment	10/266,079	10/7/02

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<u>Title</u>	<u>Application No.</u>	<u>Application Date</u>
Automatic Reverse Channel Assignment in a Two-Way TDM Communication System	09/574,622	5/19/00
Firewall Protection for Wireless Users	09/847,865	5/2/01
Maximizing Data Rate by Adjusting Codes and Code Rates in CDMA System	09/773,253	1/31/01
Wireless Communication System Having Mobility-Based Content Delivery	09/845,241	4/30/01
Electronic Phase Shifter with Enhanced Phase Shift Performance	09/774,534	1/31/01
Method and Apparatus for Frequency Selective Beam Forming	10/234,036	8/30/02
Adaptive Antenna for Use in Wireless Communication System	09/847,065	5/1/01
Achieving PPP Mobility Via the Mobile IP Infrastructure	09/773,364	1/31/01
Proxy Mobile Node Capability for Mobile IP	09/826,060	4/4/01
Method for Allowing Multi-User Orthogonal and Non-Orthogonal Interoperability of Code Channels	09/898,514	7/3/01
System and Method to Perform Directional Re-Scan of an Adaptive Antenna	09/776,396	2/2/01
Adaptive Antenna for Use in Wireless Communication Systems	09/859,001	5/16/01
Adaptive Antenna for Use in Wireless Communication Systems	10/441,977	5/20/03
Dynamic Internet Content Filtering by Means of Measured Throughput to the User	09/820,204	3/28/01
Improving Resources Utilization Efficiency During Hand-Off in Mobile Communication Systems	09/802,128	3/8/01
Folding Directional Antenna	10/288,256	11/4/02
Efficient Handoffs Using LTCP in Cellular Packet Networks	09/823,288	8/28/00
Link-Aware Transmission Control Protocol	09/777,557	2/5/01
Application Specific Traffic Optimization in a Wireless Link	09/777,555	2/5/01
Alternate Channel for Carrying Selected Message Types	09/775,304	2/1/01
Antenna for Array Applications	10,146,501	5/14/02
Method of Detection of Signals Using an Adaptive Antenna in a Peer-to-Peer Network	09/952,198	9/13/01
Antenna Control System and Method	09/999,172	11/30/01

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<u>Title</u>	<u>Application No.</u>	<u>Application Date</u>
Directional Antenna	10,282,955	10/28/02
Narrowband Gain Control of Receiver with Digital Post-Filtering	09,847,056	5/1/01
Method and Apparatus for Detecting Rapid Changes in Signaling Path Environment	09/772,176	1/29/01
Wireless Subscriber Network Registration System for Configurable Services	09/841,695	4/24/01
Dynamic Bandwidth Allocation for Multiple Access Communications Using Session Queues	09/773,252	1/31/01
Maintenance Link Using Active/Standby Request Channels	09/775,305	2/1/01
Dual Split Proxy Gateway for Improving Throughout Performance Over a Wireless Interface	09/850,531	5/7/01
Qualifying Available Reverse Link Coding Rates from Access Channel Power Setting	09/792,637	2/23/01
High Gain Planar Scanned Array	09/845,133	4/30/01
Fast Switching of Forward Link in Wireless System	09/847,860	5/02/01
Method and Apparatus for Improving Utilization Efficiency of Wireless Link for Web-Based Applications	09/876,843	6/6/01
Use of Correlation Combination to Achieve Channel Detection	10/119,522	4/9/02
Non-Intrusive Detection of Enhanced Capabilities at Existing Cellsites in a Wireless Data Communication System	09/871,154	5/31/01
Coded Reverse Link Messages for Closed-Loop Power Control of Forward Link Control Messages	10/137,116	5/1/02
Adaptive Pointing for Use with Directional Antennas Operating in Wireless Networks	10/429,183	5/2/03
Aperiodic Array Antenna	10/357,276	1/31/03
System and Method for Coordination of Wireless Maintenance Channel Power Control	10/170,015	6/11/02
Transmittal of Heartbeat Signal at a Lower Level than Heartbeat Request	10/171,080	6/12/02
Multi-Detection of Heartbeat to Reduce Error Probability	10/171,378	6/12/02
Use of Orthogonal or New Orthogonal Codes in Reverse Link	10/196,569	7/15/02
ASIC Interface for Controlling Adaptive Antenna Array	60/361,418	3/1/02

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<u>Title</u>	<u>Application No.</u>	<u>Application Date</u>
Dual Band Phased Array Employing Spatial Second Harmonics	10/292,384	11/8/02
Applying Session Services Based on Packet Flows	10/166,576	6/10/02
Random Early Detection Over Wireless Links	10/302,797	11/21/02
Component Technology Proposal for an Orthogonal Reverse Link	60/427,847	11/20/02
Techniques for Reducing Overhead in a Communications System	10/350,309	1/22/03
Techniques for Setting Up Traffic Channels in a Communications System	10/350,308	1/22/03
Beamforming Using a Backplane and Passive Antenna Element	10/348,202	1/20/03
Antenna Adaptation Comparison Method for High Mobility	60/363,669	3/11/02
Antenna Adaptation Comparison Method for High Mobility	10/386,364	3/10/03
Antenna Adaptation During Power Control Bits Times at High Mobility	60/363,214	3/8/02
Antenna Adaptation to Manage the Active Set to Manipulate Soft Hand-Off Regions	10/386,392	3/10/03
Adaptive Receive and Omnidirectional Transmit Antenna Array	10/386,393	3/10/03
Aperiodic Array Antenna	60/419,431	10/17/02
Mobile Communication Handset with Adaptive Antenna Array	10/390,531	3/14/03
Antenna Adaptation in the TIME Division Duplexing System	10/434,437	5/7/03
Adaptive Terminal Based Smart Antenna for Use in a Time Division Multiple Access (TDMA) System	60/378,908	5/7/02
Antenna Steering Scheduler for Mobile Station in Wireless Local Area Network	10/462,569	6/16/03
Covert Spatially Separated Antenna Package for Wireless Repeater	10/462,582	6/16/03
Low Cost Multiple Pattern Antenna for Use with Multiple Receiver Systems	60/411,570	9/17/02
Directional Antenna Physical Layer Steering for WLAN	60/414,947	9/30/02
Directional Antenna Physical Layer Steering for WLAN	60/415,847	10/3/02
Software Based Antenna Steering for WLAN	60/414,946	9/30/02

RECORDATION FORM COVER SHEET – PATENTS ONLY**SCHEDULE A****UNITED STATES PATENT APPLICATIONS**

<u>Title</u>	<u>Application No.</u>	<u>Application Date</u>
Intelligent Interface for Controlling an Adaptive Antenna Array	60/415,265	9/30/02
Intelligent Interface for Controlling an Adaptive Antenna Array	10/378,565	3/3/03
Antenna Steering Algorithm for an 802.11 Access Point	60/479,701	6/19/03
Antenna Steering Algorithm for an 802.11 Station	60/479,640	6/19/03
Application of User Equipment Antenna to Time Division Duplex System	60/466,535	4/29/03
Repeater for Extending Range of Time Division Duplex Communication System	60/390,094	6/15/02
Maintaining a Maintenance Channel in a Reverse Link of a Wireless Communication System	10/339,183	1/8/03

RECORDATION FORM COVER SHEET – PATENTS ONLY**SCHEDULE B****UNITED STATES PATENTS**

<u>Title</u>	<u>Patent No.</u>	<u>Grant Date</u>
A Protocol Conversion and Bandwidth Reduction Technique Providing Multiple nB+D ISND Basic Rate Interface Links Over a Wireless Code Division Multiple Access Communication System	6,151,332	11/21/00
Dynamic Bandwidth Allocation to Transmit a Wireless Protocol Across a Code Division Multiple Access (CDMA) Radio Link	6,081,536	6/27/00
Dynamic Frame Size Adjustment and Selective Reject on a Multi-Link Channel to Improve Effective Throughput and Bit Error Rate	6,236,647	5/22/01
Dynamic Bandwidth Allocation for Multiple Access Communications Using Buffer Urgency Factor	6,388,999	5/14/02
Fast Acquisitions of Traffic Channels for a Highly Variable Data Rate Reverse Link of a CDMA Wireless Communication System	6,222,832	4/24/01
Fast Acquisitions of Traffic Channels for a Highly Variable Data Rate Reverse Link of a CDMA Wireless Communication System	6,452,913	9/17/02
Arbitration Method for High Power Transmissions in a Code Division Multiple Access System	6,456,835	9/24/02
Method and Apparatus for a Spectrally Compliant Cellular Communication System	6,545,990	4/8/03
Adaptive Antenna for Use in Same Frequency Networks	6,100,843	8/8/00
A Method of Use for an Adaptive Antenna in Same Frequency Networks (As Amended)	6,304,215	10/16/01
Adaptive Antenna for Use in Same Frequency Networks	6,404,386	6/11/02
Adaptive Antenna for Use in Same Frequency Networks	6,518,920	2/11/03
Packaging Timeout Spoofing in a Wireless Data Communications Network	6,553,032	4/22/03
Antenna Array Structure Stacked Over Printed Wiring Board with Beamforming Components	6,362,790	3/26/02
Subscriber-Controlled Registration Technique in a CDMA System	6,563,809	5/13/03
Method and Apparatus for Creating Non-Interfacing Signals Using Non-Orthogonal Techniques	6,212,220	4/3/01

RECORDATION FORM COVER SHEET – PATENTS ONLY**SCHEDULE B****UNITED STATES PATENTS**

<u>Title</u>	<u>Patent No.</u>	<u>Grant Date</u>
Variable Rate Orthogonally Coded Reverse Link Structure	6,421,336	7/16/02
Method and Apparatus for Adapting Antenna Array to Reduce Adaptation Time While Increasing Array Performance	6,473,036	10/29/02
Dual Mode Subscriber Unit for Short Range, High Rate and Long Range, Lower Rate Data Communications	6,526,034	2/25/03
Pilot Symbol Assisted Modulation and Demodulation in Wireless Communication Systems	6,301,291	10/9/01
Antenna Array with Housing	6,239,756	5/29/01
Access Probe Acknowledgment Including Collision Detection to Avoid Oversetting Initial Power Level	6,545,994	4/8/03
Stacked Dipole Antenna for Use in Wireless Communications System	6,396,456	5/28/02
Receiver for Time Division Multiplex System Without Explicit Time Slot Assignment	6,463,074	10/8/02
Method and Apparatus for Frequency Selective Beam Forming	6,448,938	9/10/02
Method and Apparatus for Antenna Control in a Communications Network	6,400,317	6/4/02
Adaptive Antenna for Use in Wireless Communication Systems	6,515,635	2/4/03
Printed or Etched Folding Directional Antenna	6,476,773	11/5/02
Monopole Antenna for Array Applications	6,417,806	7/9/02
Low Profile Dipole Antenna for Use in Wireless Communications Systems	6,369,771	4/9/02
Closely Spaced Antenna Array	6,369,770	4/9/02
Foldable Directional Antenna	6,480,157	11/12/02
Clarification of the Dynamic Bandwidth Allocation for Multiple Access Communications using Buffer Urgency Factor	6,542,481	4/1/03
Dynamic Bandwidth Allocation To Transmit A Wireless ISDN Protocol Across A Code Division Multiple Access (CDMA) Radio Link	6,526,281	2/25/03

NOTICE OF INTELLECTUAL PROPERTY SECURITY AGREEMENT

NOTICE dated the 22nd day of July, 2003, from Tantivy Communications, Inc., a Delaware corporation having a mailing address at 1450 South Babcock Street, Melbourne, Florida 32901 ("Debtor"), to and in favor of IPR Holdings Delaware, Inc., a Delaware corporation having a mailing address at 781 Third Avenue, King of Prussia, Pennsylvania 19406 ("Secured Party").

WHEREAS, Debtor is the owner of intellectual property as listed on Schedules A and Schedule B hereto; and

WHEREAS, Secured Party has agreed to extend certain financial accommodations to Debtor under that certain Security Agreement dated April 3, 2003, as amended on July 10, 2003 and as may be amended in the future (the "Security Agreement"), on condition that the Debtor pledges and grants to Secured Party as collateral for the obligations of the Debtor to Secured Party, a security interest and lien in and to such intellectual property collateral and application therefore described above, including the registrations thereof, the goodwill associated therewith and all other related claims and rights as more fully described in a certain Security Agreement in favor of Secured Party ("Intellectual Property");

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and as security for the due and timely payment and performance of the obligations, Debtor hereby pledges, grants and collaterally assigns to Secured Party a security interest and lien in and to all rights, title and interest in and to the aforesaid Intellectual Property, and gives notice of such security interest and the existence of such Security Agreement providing therefor.

Executed as of the date first above written.

TANTIVY COMMUNICATIONS, INC.

By: 

Name: Lisa M. Kolb

Title: President & CEO

STATE OF Florida :
COUNTY OF Brevard : S.S.

On this 22nd day of July, 2003 before me, a Notary Public for the said County and State, personally appeared LISA M. KOLB known to me, and who, being first by me duly sworn, deposed and said that s/he is the PRESIDENT/CEO of Tantivy Communications, Inc. and that s/he executed said instrument on behalf of said corporation by authority of its Board of Directors, and that s/he acknowledged said instrument to be the free act and deed of said corporation.

Kathleen K. Renyo
Notary Public

My Commission expires:

May 3, 2005

(Notarial Seal)



3000 Two Logan Square
Eighteenth and Arch Streets
Philadelphia, PA 19103-2799
215.981.4000
Fax 215.981.4750

215.981.4714
schwartzme@pepperlaw.com

July 24, 2003

EXPRESS MAIL NO. EL825395677US

Commissioner for Patents and Trademarks
BOX ASSIGNMENT
Washington, DC 20231

Re: Recordation of Notice of Intellectual Property Security Agreement

Sir/Madam:

I am enclosing the following documents:

1. An original and one copy of Recordation Form Cover Sheet – Patents Only to record the Notice of Intellectual Property Security Agreement against the patents listed on Schedules A and B attached thereto;
2. A copy of the Notice of Intellectual Property Security Agreement between Tantivy Communications, Inc. and IPR Holdings Delaware, Inc., dated July 22, 2003; and
3. This Firm's check in the amount of \$5,720.00 to cover the required filing fee. The Commissioner is authorized to deduct the additional filing fee of \$160.00 from Deposit Account No. 16-1322.

Please acknowledge receipt of this filing by time stamping and returning the enclosed self-addressed postcard.

Thank you for your attention to this matter.

Sincerely yours,



Mindy Ellis Schwartz

Enclosures

RE: Recordation Cover Sheet (Patents Only)
Notice of Intellectual Property Security Agreement between Tantivy
Communications, Inc. and IPR Holdings Delaware, Inc. dated July 22, 2003

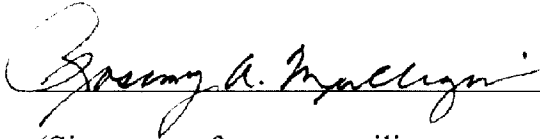
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DATE OF DEPOSIT: July 24, 2003

I HEREBY CERTIFY THAT THIS PAPER OR FEE IS BEING DEPOSITED WITH THE
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ASSIGNMENTS, WASHINGTON, DC 20231.

Rosemary A. Mulligan

(Typed or printed name of person mailing paper or fee)



(Signature of person mailing paper or fee)

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Efficient Handoffs Using LTCP in Cellular Packet Networks	09/823,288	8/28/00
Link-Aware Transmission Control Protocol	09/777,557	2/5/01
Application Specific Traffic Optimization in a Wireless Link	09/777,555	2/5/01
Alternate Channel for Carrying Selected Message Types	09/775,304	2/1/01
Antenna for Array Applications	10,146,501	5/14/02
Method of Detection of Signals Using an Adaptive Antenna in a Peer-to-Peer Network	09/952,198	9/13/01
Antenna Control System and Method	09/999,172	11/30/01
Directional Antenna	10,282,955	10/28/02
Narrowband Gain Control of Receiver with Digital Post-Filtering	09,847,056	5/1/01
Method and Apparatus for Detecting Rapid Changes in Signaling Path Environment	09/772,176	1/29/01

SCHEDULE A (Continued)**UNITED STATES PATENT APPLICATIONS**

<u>Title</u>	<u>Application No.</u>	<u>Application Date</u>
Wireless Subscriber Network Registration System for Configurable Services	09/841,695	4/24/01
Dynamic Bandwidth Allocation for Multiple Access Communications Using Session Queues	09/773,252	1/31/01
Maintenance Link Using Active/Standby Request Channels	09/775,305	2/1/01
Dual Split Proxy Gateway for Improving Throughout Performance Over a Wireless Interface	09/850,531	5/7/01
Qualifying Available Reverse Link Coding Rates from Access Channel Power Setting	09/792,637	2/23/01
High Gain Planar Scanned Array	09/845,133	4/30/01
Fast Switching of Forward Link in Wireless System	09/847,860	5/02/01
Method and Apparatus for Improving Utilization Efficiency of Wireless Link for Web-Based Applications	09/876,843	6/6/01
Use of Correlation Combination to Achieve Channel Detection	10/119,522	4/9/02
Non-Intrusive Detection of Enhanced Capabilities at Existing Cellsites in a Wireless Data Communication System	09/871,154	5/31/01
Coded Reverse Link Messages for Closed-Loop Power Control of Forward Link Control Messages	10/137,116	5/1/02
Adaptive Pointing for Use with Directional Antennas Operating in Wireless Networks	10/429,183	5/2/03
Aperiodic Array Antenna	10/357,276	1/31/03
System and Method for Coordination of Wireless Maintenance Channel Power Control	10/170,015	6/11/02
Transmittal of Heartbeat Signal at a Lower Level than Heartbeat Request	10/171,080	6/12/02
Multi-Detection of Heartbeat to Reduce Error Probability	10/171,378	6/12/02
Use of Orthogonal or New Orthogonal Codes in Reverse Link	10/196,569	7/15/02
ASIC Interface for Controlling Adaptive Antenna Array	60/361,418	3/1/02
Dual Band Phased Array Employing Spatial Second Harmonics	10/292,384	11/8/02
Applying Session Services Based on Packet Flows	10/166,576	6/10/02
Random Early Detection Over Wireless Links	10/302,797	11/21/02
Component Technology Proposal for an Orthogonal Reverse Link	60/427,847	11/20/02

SCHEDULE A (Continued)**UNITED STATES PATENT APPLICATIONS**

<u>Title</u>	<u>Application No.</u>	<u>Application Date</u>
Techniques for Reducing Overhead in a Communications System	10/350,309	1/22/03
Techniques for Setting Up Traffic Channels in a Communications System	10/350,308	1/22/03
Beamforming Using a Backplane and Passive Antenna Element	10/348,202	1/20/03
Antenna Adaptation Comparison Method for High Mobility	60/363,669	3/11/02
Antenna Adaptation Comparison Method for High Mobility	10/386,364	3/10/03
Antenna Adaptation During Power Control Bits Times at High Mobility	60/363,214	3/8/02
Antenna Adaptation to Manage the Active Set to Manipulate Soft Hand-Off Regions	10/386,392	3/10/03
Adaptive Receive and Omnidirectional Transmit Antenna Array	10/386,393	3/10/03
Aperiodic Array Antenna	60/419,431	10/17/02
Mobile Communication Handset with Adaptive Antenna Array	10/390,531	3/14/03
Antenna Adaptation in the TIME Division Duplexing System	10/434,437	5/7/03
Adaptive Terminal Based Smart Antenna for Use in a Time Division Multiple Access (TDMA) System	60/378,908	5/7/02
Antenna Steering Scheduler for Mobile Station in Wireless Local Area Network	10/462,569	6/16/03
Covert Spatially Separated Antenna Package for Wireless Repeater	10/462,582	6/16/03
Low Cost Multiple Pattern Antenna for Use with Multiple Receiver Systems	60/411,570	9/17/02
Directional Antenna Physical Layer Steering for WLAN	60/414,947	9/30/02
Directional Antenna Physical Layer Steering for WLAN	60/415,847	10/3/02
Software Based Antenna Steering for WLAN	60/414,946	9/30/02
Intelligent Interface for Controlling an Adaptive Antenna Array	60/415,265	9/30/02
Intelligent Interface for Controlling an Adaptive Antenna Array	10/378,565	3/3/03
Antenna Steering Algorithm for an 802.11 Access Point	60/479,701	6/19/03
Antenna Steering Algorithm for an 802.11 Station	60/479,640	6/19/03

SCHEDULE A (Continued)

UNITED STATES PATENT APPLICATIONS

<u>Title</u>	<u>Application No.</u>	<u>Application Date</u>
Application of User Equipment Antenna to Time Division Duplex System	60/466,535	4/29/03
Repeater for Extending Range of Time Division Duplex Communication System	60/390,094	6/15/02
Maintaining a Maintenance Channel in a Reverse Link of a Wireless Communication System	10/339,183	01/08/03

SCHEDULE A (Continued)

UNITED STATES PATENTS

<u>Title</u>	<u>Patent No.</u>	<u>Grant Date</u>
A Protocol Conversion and Bandwidth Reduction Technique Providing Multiple nB+D ISND Basic Rate Interface Links Over a Wireless Code Division Multiple Access Communication System	6,151,332	11/21/00
Dynamic Bandwidth Allocation to Transmit a Wireless Protocol Across a Code Division Multiple Access (CDMA) Radio Link	6,081,536	6/27/00
Dynamic Frame Size Adjustment and Selective Reject on a Multi-Link Channel to Improve Effective Throughput and Bit Error Rate	6,236,647	5/22/01
Dynamic Bandwidth Allocation for Multiple Access Communications Using Buffer Urgency Factor	6,388,999	5/14/02
Fast Acquisitions of Traffic Channels for a Highly Variable Data Rate Reverse Link of a CDMA Wireless Communication System	6,222,832	4/24/01
Fast Acquisitions of Traffic Channels for a Highly Variable Data Rate Reverse Link of a CDMA Wireless Communication System	6,452,913	9/17/02
Arbitration Method for High Power Transmissions in a Code Division Multiple Access System	6,456,835	9/24/02
Method and Apparatus for a Spectrally Compliant Cellular Communication System	6,545,990	4/8/03
Adaptive Antenna for Use in Same Frequency Networks	6,100,843	8/8/00
A Method of Use for an Adaptive Antenna in Same Frequency Networks (As Amended)	6,304,215	10/16/01
Adaptive Antenna for Use in Same Frequency Networks	6,404,386	6/11/02
Adaptive Antenna for Use in Same Frequency Networks	6,518,920	2/11/03
Packaging Timeout Spoofing in a Wireless Data Communications Network	6,553,032	4/22/03
Antenna Array Structure Stacked Over Printed Wiring Board with Beamforming Components	6,362,790	3/26/02
Subscriber-Controlled Registration Technique in a CDMA System	6,563,809	5/13/03
Method and Apparatus for Creating Non-Interfacing Signals Using Non-Orthogonal Techniques	6,212,220	4/3/01

SCHEDULE A (Continued)**UNITED STATES PATENTS**

<u>Title</u>	<u>Patent No.</u>	<u>Grant Date</u>
Variable Rate Orthogonally Coded Reverse Link Structure	6,421,336	7/16/02
Method and Apparatus for Adapting Antenna Array to Reduce Adaptation Time While Increasing Array Performance	6,473,036	10/29/02
Dual Mode Subscriber Unit for Short Range, High Rate and Long Range, Lower Rate Data Communications	6,526,034	2/25/03
Pilot Symbol Assisted Modulation and Demodulation in Wireless Communication Systems	6,301,291	10/9/01
Antenna Array with Housing	6,239,756	5/29/01
Access Probe Acknowledgment Including Collision Detection to Avoid Oversetting Initial Power Level	6,545,994	4/8/03
Stacked Dipole Antenna for Use in Wireless Communications System	6,396,456	5/28/02
Receiver for Time Division Multiplex System Without Explicit Time Slot Assignment	6,463,074	10/8/02
Method and Apparatus for Frequency Selective Beam Forming	6,448,938	9/10/02
Method and Apparatus for Antenna Control in a Communications Network	6,400,317	6/4/02
Adaptive Antenna for Use in Wireless Communication Systems	6,515,635	2/4/03
Printed or Etched Folding Directional Antenna	6,476,773	11/5/02
Monopole Antenna for Array Applications	6,417,806	7/9/02
Low Profile Dipole Antenna for Use in Wireless Communications Systems	6,369,771	4/9/02
Closely Spaced Antenna Array	6,369,770	4/9/02
Foldable Directional Antenna	6,480,157	11/12/02
Clarification of the Dynamic Bandwidth Allocation for Multiple Access Communications using Buffer Urgency Factor	6,542,481	04/01/03
Dynamic Bandwidth Allocation To Transmit A Wireless ISDN Protocol Across A Code Division Multiple Access (CDMA) Radio Link	6,526,281	02/25/03

SCHEDULE B

UNITED STATES TRADEMARKS

<u>Mark</u>	<u>Reg./Serial No.</u>	<u>Reg./Filing Date</u>
I-CDMA	2,733,597	7/1/03
TANTIVY	2,724,112	6/10/03
TANTIVY and Design	2,724,111	6/10/03
TSP	76/195,758	1/18/01

RECORDATION FORM COVER SHEET – PATENTS ONLY**SCHEDULE A****UNITED STATES PATENT APPLICATIONS**

<u>Title</u>	<u>Application No.</u>	<u>Application Date</u>
Floating IP Address for Roaming Internet Connected Subscriber Units	09/328,663	6/9/99
Fast Acquisition of Traffic Channels for a Highly Variable Data Rate Reverse Link of a CDMA Wireless Communication System	09/730,376	12/5/00
System and Method for Maintaining Wireless Channels Over a Reverse Link of CDMA Wireless Communication System	09/997,621	11/29/01
System and Method for Maintaining Timing of Synchronization Messages Over a Reverse Link of CDMA Wireless Communication System	09/997,732	11/29/01
System and Method for Controlling Signal Strength Over a Reverse Link of CDMA Wireless Communication System	09/997,733	11/29/01
Fast Acquisition of Traffic Channels for a Highly Variable Data Rate Reverse Link of a CDMA Wireless Communication System	10/179,121	6/24/02
Maintenance of Channel Usage in a Wireless Communication System (Amended)	09/288,229	4/8/99
System and Method for Interleaving Compressed Audio/Video (A/V) Data Frames	09/847,859	5/2/01
Optimal Load-Based Wireless Session Context Transfer	09/626,784	7/27/00
Power Control Protocol for Highly Variable Data Rate Reverse Link of a Wireless Communication System	09/158,421	9/21/98
Method and Apparatus for a Spectrally Compliant Cellular Communication System	10/409,031	4/7/03
Method and Apparatus Providing an Adaptive Antenna for Use in Same Frequency Networks	09/157,736	9/21/98
Queuing Far/Far Service Requests in Wireless Network	09/773,255	1/31/01
Forward Error Correction on Multiplexed CDMA Channels Enabling High Performance Coding	09/263,358	3/5/99
Forward Error Correction Scheme for High Rate Data Exchange in a Wireless System	09/301,484	4/28/99
Method for Using a Non-Orthogonal Pilot Signal with Data Channel Interference Cancellation	09/772,200	1/29/01
Subscriber-Controlled Registration Technique in a CDMA System	10/435,927	5/12/03
Variable Rate Coding for Forward Link	09/447,022	11/22/99

RECORDATION FORM COVER SHEET – PATENTS ONLY**SCHEDULE A****UNITED STATES PATENT APPLICATIONS**

<u>Title</u>	<u>Application No.</u>	<u>Application Date</u>
Time-Slotted Data Packets with a Preamble	09/845,240	4/30/01
Method and Apparatus for Adapting Antenna Array Using Received Predetermined Signal	10,282,928	10/28/02
Method and System for Economical Beam Forming in a Radio Communication System	09/791,503	2/23/01
Dual Mode Unit for Short Range, High Rate and Long Range, Lower Rate Data Communications	10/341,528	1/13/03
Dual Mode Unit for Short Range, High Rate and Long Range, Lower Rate Data Communications	10/358,082	2/3/03
Two-Tier Hi-Speed Wireless Communication Link	09/384,072	8/26/99
Minimal Maintenance Link to Support Synchronization	09/778,474	2/7/01
Method for Searching Pilot Signals to Synchronize a CDMA Receiver with an Associated Transmitter	60/184,363	2/23/00
Method for Searching Pilot Signals to Synchronize a CDMA Receiver with an Associated Transmitter	09/789,476	2/20/01
Reverse Link Pilot Integrated with Block Codes	09/728,575	11/30/00
Reverse Link Correlation Filter in Wireless Communication Systems	60/184,364	2/23/00
Reverse Link Correlation Filter in Wireless Communication Systems	09/738,934	12/15/00
Access Channel Structure for Wireless Communication System	09/766,875	1/19/01
Adaptive Compression in an Edge Router	09/774,545	1/31/01
Reverse Link Initial Power Setting Using Effective Radiated Power Message to Compute Path Loss	09/792,870	2/23/01
Reverse Link Initial Power Setting Using Effective Radiated Power Message to Compute Path Loss	10/401,115	3/26/03
Method and Apparatus for Simple PPP Handoff for Mobile Users	09/771,929	1/29/01
Grade of Service and Fairness Policy for Bandwidth Reservation System	09/778,478	2/7/01
Staggering Forward and Reverse Channel Allocation Timing	09/691,874	10/19/00
Method and Apparatus for Wireless Router Multicast	09/630,024	7/31/00
Wireless Channel Allocation in a Base Station Processor	09/565,095	5/5/00
Receiver for Time Division Multiplex System Without Explicit Time Slot Assignment	10/266,079	10/7/02

RECORDATION FORM COVER SHEET – PATENTS ONLY**SCHEDULE A****UNITED STATES PATENT APPLICATIONS**

<u>Title</u>	<u>Application No.</u>	<u>Application Date</u>
Automatic Reverse Channel Assignment in a Two-Way TDM Communication System	09/574,622	5/19/00
Firewall Protection for Wireless Users	09/847,865	5/2/01
Maximizing Data Rate by Adjusting Codes and Code Rates in CDMA System	09/773,253	1/31/01
Wireless Communication System Having Mobility-Based Content Delivery	09/845,241	4/30/01
Electronic Phase Shifter with Enhanced Phase Shift Performance	09/774,534	1/31/01
Method and Apparatus for Frequency Selective Beam Forming	10/234,036	8/30/02
Adaptive Antenna for Use in Wireless Communication System	09/847,065	5/1/01
Achieving PPP Mobility Via the Mobile IP Infrastructure	09/773,364	1/31/01
Proxy Mobile Node Capability for Mobile IP	09/826,060	4/4/01
Method for Allowing Multi-User Orthogonal and Non-Orthogonal Interoperability of Code Channels	09/898,514	7/3/01
System and Method to Perform Directional Re-Scan of an Adaptive Antenna	09/776,396	2/2/01
Adaptive Antenna for Use in Wireless Communication Systems	09/859,001	5/16/01
Adaptive Antenna for Use in Wireless Communication Systems	10/441,977	5/20/03
Dynamic Internet Content Filtering by Means of Measured Throughput to the User	09/820,204	3/28/01
Improving Resources Utilization Efficiency During Hand-Off in Mobile Communication Systems	09/802,128	3/8/01
Folding Directional Antenna	10/288,256	11/4/02
Efficient Handoffs Using LTCP in Cellular Packet Networks	09/823,288	8/28/00
Link-Aware Transmission Control Protocol	09/777,557	2/5/01
Application Specific Traffic Optimization in a Wireless Link	09/777,555	2/5/01
Alternate Channel for Carrying Selected Message Types	09/775,304	2/1/01
Antenna for Array Applications	10,146,501	5/14/02
Method of Detection of Signals Using an Adaptive Antenna in a Peer-to-Peer Network	09/952,198	9/13/01
Antenna Control System and Method	09/999,172	11/30/01

RECORDATION FORM COVER SHEET – PATENTS ONLY**SCHEDULE A****UNITED STATES PATENT APPLICATIONS**

<u>Title</u>	<u>Application No.</u>	<u>Application Date</u>
Directional Antenna	10,282,955	10/28/02
Narrowband Gain Control of Receiver with Digital Post-Filtering	09,847,056	5/1/01
Method and Apparatus for Detecting Rapid Changes in Signaling Path Environment	09/772,176	1/29/01
Wireless Subscriber Network Registration System for Configurable Services	09/841,695	4/24/01
Dynamic Bandwidth Allocation for Multiple Access Communications Using Session Queues	09/773,252	1/31/01
Maintenance Link Using Active/Standby Request Channels	09/775,305	2/1/01
Dual Split Proxy Gateway for Improving Throughout Performance Over a Wireless Interface	09/850,531	5/7/01
Qualifying Available Reverse Link Coding Rates from Access Channel Power Setting	09/792,637	2/23/01
High Gain Planar Scanned Array	09/845,133	4/30/01
Fast Switching of Forward Link in Wireless System	09/847,860	5/02/01
Method and Apparatus for Improving Utilization Efficiency of Wireless Link for Web-Based Applications	09/876,843	6/6/01
Use of Correlation Combination to Achieve Channel Detection	10/119,522	4/9/02
Non-Intrusive Detection of Enhanced Capabilities at Existing Cellsites in a Wireless Data Communication System	09/871,154	5/31/01
Coded Reverse Link Messages for Closed-Loop Power Control of Forward Link Control Messages	10/137,116	5/1/02
Adaptive Pointing for Use with Directional Antennas Operating in Wireless Networks	10/429,183	5/2/03
Aperiodic Array Antenna	10/357,276	1/31/03
System and Method for Coordination of Wireless Maintenance Channel Power Control	10/170,015	6/11/02
Transmittal of Heartbeat Signal at a Lower Level than Heartbeat Request	10/171,080	6/12/02
Multi-Detection of Heartbeat to Reduce Error Probability	10/171,378	6/12/02
Use of Orthogonal or New Orthogonal Codes in Reverse Link	10/196,569	7/15/02
ASIC Interface for Controlling Adaptive Antenna Array	60/361,418	3/1/02

RECORDATION FORM COVER SHEET – PATENTS ONLY**SCHEDULE A****UNITED STATES PATENT APPLICATIONS**

Title	Application No.	Application Date
Dual Band Phased Array Employing Spatial Second Harmonics	10/292,384	11/8/02
Applying Session Services Based on Packet Flows	10/166,576	6/10/02
Random Early Detection Over Wireless Links	10/302,797	11/21/02
Component Technology Proposal for an Orthogonal Reverse Link	60/427,847	11/20/02
Techniques for Reducing Overhead in a Communications System	10/350,309	1/22/03
Techniques for Setting Up Traffic Channels in a Communications System	10/350,308	1/22/03
Beamforming Using a Backplane and Passive Antenna Element	10/348,202	1/20/03
Antenna Adaptation Comparison Method for High Mobility	60/363,669	3/11/02
Antenna Adaptation Comparison Method for High Mobility	10/386,364	3/10/03
Antenna Adaptation During Power Control Bits Times at High Mobility	60/363,214	3/8/02
Antenna Adaptation to Manage the Active Set to Manipulate Soft Hand-Off Regions	10/386,392	3/10/03
Adaptive Receive and Omnidirectional Transmit Antenna Array	10/386,393	3/10/03
Aperiodic Array Antenna	60/419,431	10/17/02
Mobile Communication Handset with Adaptive Antenna Array	10/390,531	3/14/03
Antenna Adaptation in the TIME Division Duplexing System	10/434,437	5/7/03
Adaptive Terminal Based Smart Antenna for Use in a Time Division Multiple Access (TDMA) System	60/378,908	5/7/02
Antenna Steering Scheduler for Mobile Station in Wireless Local Area Network	10/462,569	6/16/03
Covert Spatially Separated Antenna Package for Wireless Repeater	10/462,582	6/16/03
Low Cost Multiple Pattern Antenna for Use with Multiple Receiver Systems	60/411,570	9/17/02
Directional Antenna Physical Layer Steering for WLAN	60/414,947	9/30/02
Directional Antenna Physical Layer Steering for WLAN	60/415,847	10/3/02
Software Based Antenna Steering for WLAN	60/414,946	9/30/02

RECORDATION FORM COVER SHEET – PATENTS ONLY**SCHEDULE A****UNITED STATES PATENT APPLICATIONS**

<u>Title</u>	<u>Application No.</u>	<u>Application Date</u>
Intelligent Interface for Controlling an Adaptive Antenna Array	60/415,265	9/30/02
Intelligent Interface for Controlling an Adaptive Antenna Array	10/378,565	3/3/03
Antenna Steering Algorithm for an 802.11 Access Point	60/479,701	6/19/03
Antenna Steering Algorithm for an 802.11 Station	60/479,640	6/19/03
Application of User Equipment Antenna to Time Division Duplex System	60/466,535	4/29/03
Repeater for Extending Range of Time Division Duplex Communication System	60/390,094	6/15/02
Maintaining a Maintenance Channel in a Reverse Link of a Wireless Communication System	10/339,183	1/8/03

RECORDATION FORM COVER SHEET – PATENTS ONLY**SCHEDULE B****UNITED STATES PATENTS**

<u>Title</u>	<u>Patent No.</u>	<u>Grant Date</u>
A Protocol Conversion and Bandwidth Reduction Technique Providing Multiple nB+D ISND Basic Rate Interface Links Over a Wireless Code Division Multiple Access Communication System	6,151,332	11/21/00
Dynamic Bandwidth Allocation to Transmit a Wireless Protocol Across a Code Division Multiple Access (CDMA) Radio Link	6,081,536	6/27/00
Dynamic Frame Size Adjustment and Selective Reject on a Multi-Link Channel to Improve Effective Throughput and Bit Error Rate	6,236,647	5/22/01
Dynamic Bandwidth Allocation for Multiple Access Communications Using Buffer Urgency Factor	6,388,999	5/14/02
Fast Acquisitions of Traffic Channels for a Highly Variable Data Rate Reverse Link of a CDMA Wireless Communication System	6,222,832	4/24/01
Fast Acquisitions of Traffic Channels for a Highly Variable Data Rate Reverse Link of a CDMA Wireless Communication System	6,452,913	9/17/02
Arbitration Method for High Power Transmissions in a Code Division Multiple Access System	6,456,835	9/24/02
Method and Apparatus for a Spectrally Compliant Cellular Communication System	6,545,990	4/8/03
Adaptive Antenna for Use in Same Frequency Networks	6,100,843	8/8/00
A Method of Use for an Adaptive Antenna in Same Frequency Networks (As Amended)	6,304,215	10/16/01
Adaptive Antenna for Use in Same Frequency Networks	6,404,386	6/11/02
Adaptive Antenna for Use in Same Frequency Networks	6,518,920	2/11/03
Packaging Timeout Spoofing in a Wireless Data Communications Network	6,553,032	4/22/03
Antenna Array Structure Stacked Over Printed Wiring Board with Beamforming Components	6,362,790	3/26/02
Subscriber-Controlled Registration Technique in a CDMA System	6,563,809	5/13/03
Method and Apparatus for Creating Non-Interfacing Signals Using Non-Orthogonal Techniques	6,212,220	4/3/01

RECORDATION FORM COVER SHEET – PATENTS ONLY**SCHEDULE B****UNITED STATES PATENTS**

<u>Title</u>	<u>Patent No.</u>	<u>Grant Date</u>
Variable Rate Orthogonally Coded Reverse Link Structure	6,421,336	7/16/02
Method and Apparatus for Adapting Antenna Array to Reduce Adaptation Time While Increasing Array Performance	6,473,036	10/29/02
Dual Mode Subscriber Unit for Short Range, High Rate and Long Range, Lower Rate Data Communications	6,526,034	2/25/03
Pilot Symbol Assisted Modulation and Demodulation in Wireless Communication Systems	6,301,291	10/9/01
Antenna Array with Housing	6,239,756	5/29/01
Access Probe Acknowledgment Including Collision Detection to Avoid Oversetting Initial Power Level	6,545,994	4/8/03
Stacked Dipole Antenna for Use in Wireless Communications System	6,396,456	5/28/02
Receiver for Time Division Multiplex System Without Explicit Time Slot Assignment	6,463,074	10/8/02
Method and Apparatus for Frequency Selective Beam Forming	6,448,938	9/10/02
Method and Apparatus for Antenna Control in a Communications Network	6,400,317	6/4/02
Adaptive Antenna for Use in Wireless Communication Systems	6,515,635	2/4/03
Printed or Etched Folding Directional Antenna	6,476,773	11/5/02
Monopole Antenna for Array Applications	6,417,806	7/9/02
Low Profile Dipole Antenna for Use in Wireless Communications Systems	6,369,771	4/9/02
Closely Spaced Antenna Array	6,369,770	4/9/02
Foldable Directional Antenna	6,480,157	11/12/02
Clarification of the Dynamic Bandwidth Allocation for Multiple Access Communications using Buffer Urgency Factor	6,542,481	4/1/03
Dynamic Bandwidth Allocation To Transmit A Wireless ISDN Protocol Across A Code Division Multiple Access (CDMA) Radio Link	6,526,281	2/25/03