

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PETITIONERS LENOVO (UNITED STATES) INC. and
MOTOROLA MOBILITY LLC
Petitioners,

v.

COLLISION COMMUNICATIONS, INC.,
Patent Owner.

IPR2025-00927
Patent 7,593,492

PETITIONERS' UPDATED EXHIBIT LIST

EXHIBITS

- EX1001 U.S. Patent No. 7,593,492 to Robinson et al. (“the ’492 Patent”)
- EX1002 Prosecution History of the ’492 Patent (“the Prosecution History”)
- EX1003 Declaration of Dr. Paul S. Min
- EX1004 U.S. Publication No. 2004/0213360 (“McElwain”)
- EX1005 International Publication No. WO2006/092090 (“Wang”)
- EX1006 U.S. Publication No. 2007/0060061 (“Sampath”)
- EX1007 U.S. Publication No. 2003/0193966 (“Mills”)
- EX1008 U.S. Publication No. 2006/0188031 (“Liu”)
- EX1009 Adaptive Modulation and Adaptive Antenna Array Assisted Network Performance of Multi-User Detection Aided UTRA-like FDD/CDMA Systems (2002), *available at* <https://eprints.soton.ac.uk/257148/1/jsb-lh-vtcfall-2002.pdf>
- EX1010 Single- and Multi-Carrier CDMA: Multi-User Detection, Space-Time Spreading, Synchronization and Standards (2003), *available at* https://eprints.soton.ac.uk/258485/3/sample-chaps1%252C2%252C9%252C17_singlepdf.pdf
- EX1011 U.S. Publication No. 2002/0037061 (“Learned”)
- EX1012 Adaptive Symbol and Parameter Estimation in Asynchronous Multiuser CDMA Detectors (1997), *available at* https://www.researchgate.net/profile/Teng-Lim-3/publication/3159141_Adaptive_symbol_and_parameter_estimation_in_asynchronous_multiuser_CDMA_detectors/links/09e4150b595e286cbf000000/Adaptive-symbol-and-parameter-estimation-in-asynchronous-multiuser-CDMA-detectors.pdf

- EX1013 Hybrid Iterative Multiuser Detection for Channel Coded Space Division Multiple Access OFDM Systems (2006), *available at* <https://eprints.soton.ac.uk/262110/1/46-tvt06-jiang-ng-hanzo.pdf>
- EX1014 Multi-User Detection for DS-CDMA Communications (1996), *available at* http://cs-www.cs.yale.edu/homes/yry/readings/wireless/wireless_readings/article16.pdf
- EX1015 Hopfield Neural Network Implementation of the Optimal CDMA Multiuser Detector (1995), *available at* <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=aff318a439822a7ab47683b1e604a03bce633d26>
- EX1016 Application of Density Evolution in Turbo-MUD Design for Overloaded Coded CDMA Systems (2004), *available at* <https://flore.unifi.it/bitstream/2158/238224/1/Application%20of%20Density%20Evolution%20in%20Turbo-MUD%20Design%20for%20Overloaded%20Coded%20CDMA%20Systems.pdf>
- EX1017 An Iterative Multiuser Receiver Using Partial Parallel Interference Cancellation for Turbo-Coded DS-CDMA Systems (2004), *available at* <https://ieeexplore.ieee.org/document/965116>
- EX1018 A Low-Complexity Iterative Multiuser Receiver for Turbo-Coded DS-CDMA Systems (2001), *available at* <https://core.ac.uk/download/pdf/61613862.pdf>

- EX1019 Computational Complexity and Performance of RAKE Receivers with Channel Estimation for DS-UWB (2005), *available at* https://www.researchgate.net/profile/Tomoaki-Ohtsuki/publication/220242734_Computational_Complexity_and_Performance_of_RAKE_Receivers_with_Channel_Estimation_for_DS-UWB/links/551d5c0a0cf2fcae4456d460/Computational-Complexity-and-Performance-of-RAKE-Receivers-with-Channel-Estimation-for-DS-UWB.pdf
- EX1020 Iterative Multiuser Interference Reduction: Turbo CDMA (1999), *available at* https://www.researchgate.net/publication/3159939_Iterative_Multiuser_Interference_Reduction_Turbo_CDMA
- EX1021 Complexity in Geometric SINR (2007), *available at* https://www.researchgate.net/profile/Yvonne-Anne-Pignolet/publication/221628472_Complexity_in_geometric_SINR/links/544129930cf2a6a049a56308/Complexity-in-geometric-SINR.pdf
- EX1022 The Eigen-decomposition: Eigenvalues and Eigenvectors (2007), *available at* <https://malabdali.com/wp-content/uploads/2023/10/Abdi-EVD2007-pretty.pdf>
- EX1023 Harville, *Matrix Algebra From a Statistician's Perspective* (1997)
- EX1024 Direction of Arrival Estimation Using the Parameterized Spatial Correlation Matrix (2007), *available at* https://www.wirelesslab.ca/File/pdf_files/journals/J015.pdf
- EX1025 Correlation Matrix Distance, a Meaningful Measure for Evaluation of Non-Stationary MIMO Channels (2005), *available at* <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=d09aefac68ac3ef15829ef55e18b7fb166c559c5>

EX1026-1099	RESERVED
EX1100	Claim Construction Order in <i>Collision Communications, Inc. v. Nokia Networks and Solutions Oy et al.</i> , 2-21-cv-00308 (EDTX) (Aug. 31, 2022)
EX1101	<i>Samsung Electronics America, Inc. v. Collision Communications, Inc.</i> , Case No IPR2024-01247, Paper No. 14 (PTAB Feb. 7, 2025)
EX1102	Memorandum, Interim Processes for PTAB Workload Management, March 26, 2025, <i>available at</i> https://www.uspto.gov/sites/default/files/documents/InterimProcesses-PTABWorkloadMgmt-20250326.pdf
EX1103	Patent Trial and Appeal Board (PTAB) Boardside Chat: Interim processes relating to institution in AIA proceedings, April 17, 2025, <i>available at</i> https://www.uspto.gov/sites/default/files/documents/boardside_chat_interim_process_for_aia_institution_decisions_.pdf
EX1104	June 4, 2025 <i>Sotera</i> Stipulation

Respectfully submitted,

Dated June 5, 2025

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR § 42.6(e)(4), the undersigned certifies that on June 5, 2025, a complete and entire copy of this Petitioners' Updated Exhibit and associate exhibit were provided via email, to the Patent Owner by serving the email correspondence addresses of record as follows:

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