

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD., SAMSUNG ELECTRONICS
AMERICA, INC.,
Petitioners,

v.

NANOCO TECHNOLOGIES LTD.,
Patent Owner.

IPR2021-00186
Patent No. 8,524,365

PETITIONERS' NOTICE OF APPEAL

Under 35 U.S.C. §§ 319, 141(c), and 142 and 37 C.F.R. §§ 90.2(a) and 90.3(a)(1), Petitioners Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. hereby appeal to the United States Court of Appeals for the Federal Circuit from the Patent Trial and Appeal Board's final written decision, entered May 16, 2022 (Paper No. 47), and from all underlying and related findings, orders, decisions, rulings, and opinions.

For the limited purpose of providing the Director with the information requested in 37 C.F.R. § 90.2(a)(3)(ii), Petitioners further indicate that the issues on appeal may include, but are not limited to, for the challenged claims:

1. Whether the Board properly held claims 1, 7-12, 17, 22, and 23 were not unpatentable as anticipated under 35 U.S.C. § 102 by WO 03/097904 to Banin et al. ("Banin");
2. Whether the Board properly held claims 1, 7-12, 15-17, 22, and 23 were not unpatentable as obvious under 35 U.S.C. § 103 over Banin;
3. Whether the Board properly held claims 2-6 and 18-21 were not unpatentable as obvious under 35 U.S.C. § 103 over the asserted combination of Banin and Herron et al., *Crystal Structure and Optical Properties of $Cd_{32}S_{14}(SC_6H_5)_{36} \cdot DMF_4$, a Cluster with a 15 Angstrom CdS Core*, 259 SCIENCE 1426-1428 (1993) ("Herron");

4. Whether the Board properly held claims 13 and 14 were not unpatentable as obvious under 35 U.S.C. § 103 over the asserted combination of Banin and U.S. Patent No. 6,815,064 to Treadway et al. (“Treadway”);
5. Whether the Board properly held claims 1-9 and 17-23 were not unpatentable as obvious under 35 U.S.C. § 103 over the asserted combination of Zaban et al., *Photosensitization of Nanoporous TiO₂ Electrodes with InP Quantum Dots*, 14 LANGMUIR 3153-3156 (1998) (“Zaban”), Farneth et al., *Bulk Semiconductors from Molecular Solids: A Mechanistic Investigation*, 4 CHEM. MATER. 916-922 (1992) (“Farneth”), and Yu et al., *Heterogeneous Seeded Growth: A Potentially General Synthesis of Monodisperse Metallic Nanoparticles*, 123 J. AM. CHEM. SOC’Y 9198-9199 (2001) (“Yu”); and
6. Whether the Board violated the Administrative Procedure Act by disregarding principal arguments and evidence regarding obviousness of the challenged claims.

Petitioners further reserve the right to challenge any finding or determination supporting or relating to the issues above.

Under 37 C.F.R. § 90.2(a), Petitioners are also filing this notice with the Director and serving it on the Federal Circuit with the requisite filing fee.

Notice of Appeal: IPR2021-00186

DATED: May 27, 2022

Respectfully submitted,

/s/ F. Christopher Mizzo, P.C.

F. Christopher Mizzo, P.C. (No. 73,156)

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CERTIFICATE OF SERVICE

I certify that on May 27, 2022, this document was served on the Director at this address, under 35 U.S.C. § 142 and 37 C.F.R. §§ 90.2(a)(1) and 90.3(a)(1).

Director of the United States Patent and Trademark Office
c/o Office of the General Counsel
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

I certify that on May 27, 2022, this document was electronically served on the United States Court of Appeals for the Federal Circuit, under 37 C.F.R. § 90.2(a)(2), Fed. Cir. R. 15(a), and Fed. R. App. P. 15(a).

I certify that on May 27, 2022, this document was electronically served on counsel for Patent Owner, under 37 C.F.R. § 42.6(e)(1)-(3):

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