UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

REALTEK SEMICONDUCTOR CORP., Petitioner,

v.

ATI TECHNOLOGIES ULC Patent Owner.

Case No. IPR2023-00564 U.S. Patent No. 7,742,053

PATENT OWNER'S RESPONSE PURSUANT TO 37 C.F.R. § 42.107(A)



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Gemalto S.A. v. HTC Corp., 754 F.3d 1364 (Fed. Cir. 2014)	13
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