

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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LG ELECTRONICS, INC.

Petitioner,

v.

CONSTELLATION DESIGNS, LLC

Patent Owner.

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Case IPR2023-00319  
U.S. Patent 10,693,700

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**PETITIONER'S SUR-REPLY TO PATENT OWNER SUR-REPLY**

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**EXHIBITS**

LGE1001	U.S. Patent No. 10,693,700
LGE1002	Prosecution History for U.S. Patent No. 10,693,700
LGE1003	Expert Declaration of Dr. Bertrand Hochwald
LGE1004	RESERVED
LGE1005	RESERVED
LGE1006	RESERVED
LGE1007	RESERVED
LGE1008	Ulrich Reimers et al., <i>DVB The Family of International Standards for Digital Video Broadcasting</i> , Second Edition, 2005 (“Ulrich”)
LGE1009	RESERVED
LGE1010	U.S. Provisional application No. 60/933,319 (“’319 Provisional”)
LGE1011	Declaration of June Munford (ATSC322)
LGE1012	Second Stipulation by Petitioner, LGE, <i>Constellation Designs, LLC v. LG Electronics, Inc. et al</i> , Case No. 2:21-cv-00448 (E.D. Tex.)
LGE1013	RESERVED
LGE1014	De Gaudenzi et al., <i>Turbo-coded APSK modulations design for satellite broadband communications</i> , Int. J. Satell. Commun. Network. 2006; 24:261–281, Published online 19 May 2006 in Wiley InterScience (“DeGaudenzi”)

LGE1015	U.S. Patent No. 7,978,777
LGE1016	RESERVED
LGE1017	RESERVED
LGE1018	Memorandum, Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (USPTO June 21, 2022) (“Interim Procedure”)
LGE1019	Docket Control Order, <i>Constellation Designs, LLC v. LG Electronics, Inc. et al</i> , Case No. 2:21-cv-00448 (E.D. Tex.)
LGE1020	Complaint, <i>Constellation Designs, LLC v. LG Electronics, Inc. et al</i> , Case No. 2:21-cv-00448 (E.D. Tex.)
LGE1021	RESERVED
LGE1022	ATSC Recommended Practice: Guidelines for the Physical Layer Protocol, Document no. A/327:2018
LGE1023	ATSC 3.0 Standard: Physical Layer Protocol, Document no. A/322:2018
LGE1024	Loghin, et al., <i>Non-Uniform Constellations for ATSC 3.0</i> , IEEE Transactions on Broadcasting, Vol 62, No. 1, March 2016. (“Loghin”)
LGE1025	G. Ungerboeck, Channel Coding with Multilevel/Phase Signals, IEEE Trans. Inform. Theory, Vol. IT-28, No. 1, Jan. 1982, pp. 55-67 (“Ungerboeck”)
LGE1026	Declaration of June Munford (ATSC327)
LGE1027	Declaration of June Munford (DG)
LGE1028	Declaration of June Munford (Loghin)

- LGE1029            Second Declaration of Dr. Bertrand Hochwald
- LGE1030            Muela, Manuel Fuentes, *Non-Uniform Constellations for Next-Generation Digital Terrestrial Broadcast Systems*,  
Departamento de Comunicaciones Universitat Politècnica de  
València, June 2017. (“Fuentes”)
- LGE1031            Proakis, John G. *Digital Communications*, Fourth Edition,  
2000. (“Proakis”)
- LGE1032            Transcript of the Deposition of Dr. Caire

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