EXHIBIT 1

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TYLER DIVISION

CELLULAR COMMUNICATIONS EQUIPMENT LLC, Plaintiff, v. LG ELECTRONICS, INC., ET AL., Defendants.	**CASE NO. 6:14-cv-982-KNM** **LEAD CASE**

DECLARATION OF DR. ANDREW C. SINGER ACCOMPANYING
DEFENDANTS' JOINT RESPONSIVE *MARKMAN* BRIEF

I, Andrew C. Singer, declare:

I.   INTRODUCTION

1.   My name is Andrew C. Singer. I am the Fox Family Professor in the Department of Electrical and Computer Engineering at the University of Illinois at Urbana Champaign.

2.   I have been retained as a consultant to Defendants, through their attorneys, in this Civil Action, No. 6:14-cv-982-JRG-KNM, to assist in interpreting U.S. Patent Nos. 8,385,966 ("the '966 patent"); 8,848,556 ("the '556 patent");[*] and 8,868,060 ("the '060 patent") (collectively, the "Patents in Suit") with regard to claim construction. I am being compensated at my usual rate of $500 per hour, plus reimbursement for expenses. No portion of my compensation is dependent or otherwise contingent upon the results of this matter or the specifics of my testimony.

3.   My opinions are based on my general knowledge and experience and the information I considered in connection with the preparation of this Declaration. Those materials are listed in Section III below.

4.   I submit this Declaration in connection with Defendants' responsive claim construction brief. The Patents in Suit relate generally to the field of wireless communication technology.

5.   Specifically, I address the appropriate interpretation of the terms:

(1)   "accurate receipt" in claim 15 of the '060 patent;

(2)   "type 1 power headroom report" / "type 2 power headroom report" in claims 15 and 23 of the '556 patent;

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[*] The '556 patent has not been asserted against defendant Kyocera Communications, Inc. and, accordingly, I have not been retained to consult with Kyocera on that patent.

(3)   "wherein the initial transmit power P_{Msg3} [of the third message] for i=0 is equal to: $P_{Msg3}=\min\{P_{max},P_{preamble}+\Delta_{0, preamble\_Msg3}+\Delta_{PC\_Msg3}+10 \log_{10}(M_{PUSCH}(i))+ \Delta_{TF}(TF(i))\}$" in claims 5 and 14 of the '966 patent;

(4)   "wherein the first power control adjustment state g(i) for i=0 is initialized as: $P_{O\_UE\_PUCCH} + g(0) = \Delta P_{PC} + \Delta P_{rampup}$" in claims 3 and 12 of the '966 patent;

(5)   "wherein the second power control adjustment state f(i) for i=0 is initialized as: $P_{O\_UE\_PUSCH} + f(0) = \Delta P_{PC} + \Delta P_{rampup}$" in claims 1, 10 of the '966 patent; and

(6)   "wherein the second accumulation power control adjustment state f(i) for i=0 is initialized as: $P_{O\_UE\_PUSCH} + f(0) = \Delta P_{PC} + \Delta P_{rampup}$" in claim 9 of the '966 patent.

II.   SUMMARY OF MY PROFESSIONAL BACKGROUND AND EXPERIENCE

6.   I am currently a Professor in the Department of Electrical and Computer Engineering, a Professor in the Coordinated Science Laboratory, and the Director of the Technology Entrepreneur Center at the University of Illinois at Urbana Champaign. I also hold a Fox Family Endowed Professorship in the College of Engineering at the University of Illinois at Urbana Champaign. My research focuses in the fields of signal processing and communication systems, and I have performed research relating to various communication systems and networks.

7.   I earned a Bachelor of Science degree, Master of Science degree, and Doctor of Philosophy degree, all in Electrical Engineering and Computer Science, from the Massachusetts Institute of Technology (MIT).

8.   I have designed, built, and patented various components of communication and signal processing systems. These include various radio-frequency, SONAR, LIDAR, air-acoustic and underwater acoustic signal processing systems as well as wire-line, wireless, optical and underwater acoustic communication systems.

9.   I was the co-founder and CEO of Intersymbol Communications, Inc., a communications component manufacturer focused on the development of components used in communication networks. Intersymbol Communications, Inc. was acquired by Finisar Corporation, the world's largest supplier of optical communication modules and subsystems.

10.   I was appointed the Director of the Technology Entrepreneur Center (TEC) in the College of Engineering at the University of Illinois at Urbana Champaign, where I direct a wide range of entrepreneurship activities. The TEC directs the campus-wide Illinois Innovation Prize, celebrating our most innovative students on campus, as well as our annual Cozad New Venture Competition. I am also leading the National Science Foundation's Innovation Corps Sites program at the University of Illinois, working with faculty and student startup companies.

11.   I have taught both undergraduate and graduate level courses in signal processing, communications, and communications systems, which included extensive applicability to communication systems, networks and components. For example, I have taught (Advanced) Digital Signal Processing and Embedded DSP Laboratory classes.

12.   I have authored several papers based on my extensive research and commercial experience. I have authored over 200 papers on digital signal processing and communication systems, several of which were voted "Best Paper of the Year" by technical committees of the IEEE. Citing these and other contributions, I was elected Fellow of the Institute of Electrical and Electronics Engineers ("IEEE").

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