Filed on behalf of TQ Delta, LLC
By: Peter J. McAndrews
      McAndrews, Held & Malloy, Ltd.
      500 W. Madison St., 34th Floor
      Chicago, IL 60661
      Tel: 312-775-8000
      Fax: 312-775-8100
      E-mail: pmcandrews@mcandrews-ip.com

UNITED STATES PATENT AND TRADEMARK OFFICE
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BEFORE THE PATENT TRIAL AND APPEAL BOARD
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CISCO SYSTEMS, INC., DISH NETWORK, LLC,
COMCAST CABLE COMMUNICATIONS, LLC,
COX COMMUNICATIONS, INC.,
TIME WARNER CABLE ENTERPRISES LLC,
VERIZON SERVICES CORP., and ARRIS GROUP, INC.,
Petitioners,

v.

TQ DELTA, LLC
Patent Owner
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Case No. IPR2016-01021[1]
Patent No. 8,718,158

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**PATENT OWNER'S REQUEST FOR REHEARING
PURSUANT TO 37 C.F.R. § 42.71(d)**

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[1] DISH Network, L.L.C., who filed a Petition in IPR2017-00255, and Comcast Cable Communications, L.L.C., Cox Communications, Inc., Time Warner Cable Enterprises L.L.C., Verizon Services Corp., and ARRIS Group, Inc., who filed a Petition in IPR2017-00417, have been joined in this proceeding.

I.   INTRODUCTION

Pursuant to 37 C.F.R. § 42.71(d), TQ Delta, LLC ("Patent Owner") requests rehearing of the Panel's final written decision ("FWD"), Paper 44. The FWD is based on an overbroad construction of "scrambling the phase characteristics of the carrier signals" that misapprehends or overlooks the specification of the '158 patent, Patent Owner's discussion, and the statements of Petitioners, including their own expert. Furthermore, given a proper construction of "scrambling the phase characteristics of the carrier signals," the FWD misapprehends or overlooks that Stopler's[2] alleged phase scrambling is different than what is claimed. The FWD also mistakenly concludes, based on a misapprehension of the record, that one of skill in the art would have (1) considered Shively's[3] PAR without the frame of reference of its clipping rate and (2) considered Shively to have a "high" or "increased" PAR. But the relative terms "high" or "increased" PAR lack meaning without a frame of reference.

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[2] U.S. Patent No. 6,625,219 B1; issued Sept. 23, 2003 (Ex. 1012) ("Stopler").

[3] U.S. Patent No. 6,144,696 B1; issued Nov. 9, 2000 (Ex. 1011) ("Shively").

II. THE PANEL'S CONSTRUCTION OF "SCRAMBLING THE PHASE CHARACTERISTICS OF THE CARRIER SIGNALS" IS OVERBROAD

Patent Owner asserted that this term (and the similar term "scramble … a plurality of carrier phases") should be construed to mean "adjusting the phases of a plurality of carriers in a single multicarrier symbol by pseudo-randomly varying amounts." POR, Paper 15 at 14. Petitioners, on the other hand, argued that it needs no construction, "since [Stopler] uses the same 'phase scrambling' terminology to describe pseudo-random phase changes." Reply, Paper 20 at 7.

The FWD, however, diverged from both of these approaches and construed the term to mean "adjusting the phases of a plurality of carriers in a single multicarrier symbol." FWD, Paper 44 at 11. But this cannot be a proper construction of this term because it leaves open the possibility that all of the phases within a single multicarrier symbol are adjusted by a single (*i.e.*, same) amount. The FWD misapprehends or overlooks that, under any proper construction, there must at a minimum be *varying amounts* by which the phases are adjusted within a single multicarrier symbol (*i.e.*, *from carrier-to-carrier*) such that PAR is reduced. Under the construction set forth in the FWD, the claim term would still be met where the phases of a plurality of carriers in a single multicarrier signal are adjusted even if each of the phases of the plurality of carriers in the single

multicarrier symbol are adjusted by the same amount. Such uniform adjustment, however, would not result in the recited "scrambling" where phase adjustment varies among carriers—and therefore would not reduce PAR.

A. There Is Universal Agreement That Scrambling Phases As Claimed Reduces PAR

As both Patent Owner and Petitioners explained, the claimed "scrambling" must lower PAR. Patent Owner's discussion on this point is clear, unrefuted, and fully supported by the '158 patent. *See, e.g.*, POR, Paper 15 at 16 ("As the '158 patent explains, PAR in the transmission signal is reduced by adjusting the carrier phases within a single DMT symbol. *See* [Ex. 1001] at 6:32–53. If the carrier phases were only adjusted from one symbol to the next, PAR would not be reduced. *See* Ex. 2003 at ¶¶ 41–42."); Ex. 2003 (Short Decl.) at ¶ 42; Ex. 1001 at 6:32–53.

Petitioners' arguments showed that they agree that the claims required adjusting phase*s* of the individual carrier*s*. For example, Petitioners alleged:

> A POSITA would have known that one way to reduce PAR is to scramble phases of individual carriers.

Reply, Paper 20 at 12.[4] As another example of Petitioners' agreement:

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[4] Patent Owner disagrees and contests Petitioners' conclusions and untimely

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