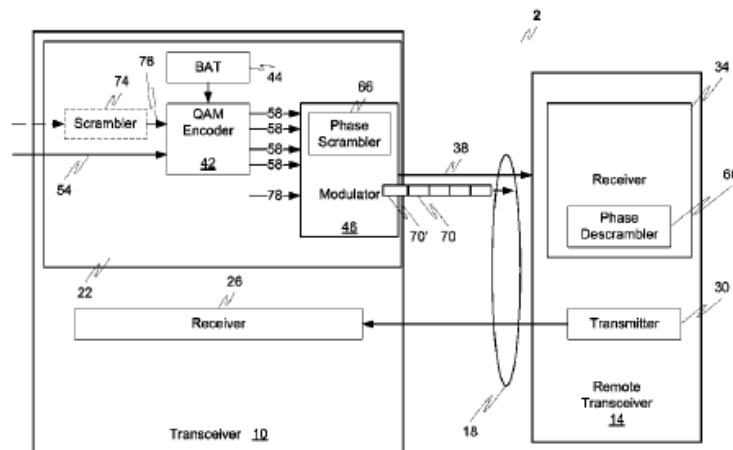


**CONCLUSORY STATEMENTS WITH NO EXPLANATION ARE INADEQUATE TO SUPPORT A FINDING THAT THERE WOULD HAVE BEEN A MOTIVATION TO COMBINE REFERENCES TO INVALIDATE A PATENT CLAIM**

By: Mel R. Quintos

In *TQ Delta, LLC v. Cisco Systems, Inc.*, decided on November 22, 2019, all the challenged claims of two patents (U.S. Patent Nos. 9,014,243 and 8,718,158) owned by TQ Delta were invalidated by the U.S. PTO Patent Trial and Appeal Board in a pair of inter partes review (IPRs) proceedings.



**Facts** The challenged patents relate to an electronic communication system that lowers the “peak-to-energy power ratio” (PAR) of transmitted signals (for example, a maximum voltage signal / average voltage signal ratio) so as to reduce power consumption. Shown above is a schematic view of TQ Delta’s patented system common in both of its challenged patents.

As background, in a communication system, multiple bits are simultaneously transmitted across a narrow frequency band (“carriers”) by way of a DMT (“Discrete Multitone Modulation”) process. Each carrier is modulated depending on its assigned bit; and the carriers are then combined into a single multi-carrier signal for data transmission. TQ Delta’s patented system uses a phase scrambler 66 to “scramble” the phases of parallel carriers so that the carriers will not peak simultaneously. This is done by using scrambling algorithms within the phase scrambler 66 that shift the phase of each carrier to reduce the chance of parallel carriers peaking simultaneously, thereby reducing PAR and power consumption.

**Issue** The issue in this case is whether the Board was correct in invalidating all of the challenged claims in TQ Delta's patents. On appeal, the Federal Circuit further limited the issue to whether there was motivation to combine two prior art references (namely, patents to Shively and Stopler) to invalidate the claims.

**On Appeal** Both the Shively and Stopler prior art references never mention PAR, but the secondary reference, Stopler, briefly mentions applying a phase scrambling sequence "to randomize the overhead channel symbols" that it sends with the transmitted data. The Federal Circuit narrowed its review to the Board's finding of "motivation" to combine the teachings of Shively and Stopler based on Cisco's reliance on certain disclosures in these references and to the Declaration of Cisco's expert witness, Dr. Tellado.

According to the Federal Circuit, *first*, "[t]he Board [merely] relied on two paragraphs in Cisco's IPR petition to conclude that Stopler discloses the use of phase scrambling as a solution to reduce the PAR of Shively." *Second*, Dr. Tellado's Declaration in support of Cisco's IPR petition also merely relied on two sentences at the end of Stopler's specification, but the court found no express discussion or suggestion of the PAR of a multi-carrier transmission of data in these sentences. The court further found the following:

[1] Dr. Tellado instead offers only unsupported and conclusory statements asserting that an ordinary skilled artisan at the time of the invention would have been motivated to apply the randomization disclosed in Stopler as a means to reduce PAR in Shively.

[2] Dr. Tellado first provides a brief high-level explanation of how randomizing the phase of each subcarrier in Shively will reduce its PAR, but that explanation is unsupported by any evidence other than the disclosure of the invention in the patents-in-suit.

[3] Then, Dr. Tellado states in conclusory fashion-again without any support-that the combination "would have been a relatively simple and obvious solution to reduce Shively's PAR."

Therefore, there is no motivation to combine the prior art references to invalidate TQ Delta's patented claims.

**Decision** REVERSED.

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