

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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.,
Petitioner

v.

TQ DELTA, LLC,
Patent Owner

Case IPR2016-01020¹
Patent 9,014,243

Case IPR2016-01021²
Patent 8,718,158

**PETITIONER'S OPPOSITION TO PATENT OWNER'S
MOTION FOR DISCOVERY**

¹ DISH Network, LLC, who filed a Petition in IPR2017-00254, and Comcast Cable Communications, LLC, Cox Communications, Inc., Time Warner Cable Enterprises LLC, Verizon Services Corp., and ARRIS Group, Inc., who filed a Petition in IPR2017-00418, have been joined in this proceeding.

² DISH Network, LLC, who filed a Petition in IPR2017-00255, and Comcast Cable Communications, LLC, Cox Communications, Inc., Time Warner Cable Enterprises LLC, Verizon Services Corp., and ARRIS Group, Inc., who filed a Petition in IPR2017-00417, have been joined in this proceeding.

I. Introduction

The Board should deny Patent Owner TQ Delta's extraordinary request for information that was never cited or relied upon by Petitioner or Petitioner's expert, Dr. Jose Tellado. The requested information is not within the scope of routine discovery, and Patent Owner fails to show how additional discovery would be in the interests of justice. Notably, Patent Owner *already has* access to the same or equivalent information. Accordingly, the Motion for Discovery should be denied.

II. The 18,000-Foot Scenario is Not Subject to Routine Discovery

A. Neither Petitioner nor Dr. Tellado cited the requested information

Routine discovery requires that "any exhibit cited in a paper or in testimony must be served with the citing paper or testimony." 37 C.F.R. § 42.51(b)(1)(i). TQ Delta requests discovery pertaining to the Matlab simulation code and results for an 18,000-foot scenario ("requested information"). Patent Owner's Motion for Discovery ("Mot."), p. 1; *see* Ex. 2015.

But the papers filed with Petitioner's Reply—including Dr. Tellado's Second Declaration, Ex. 1026—do not cite to any exhibit relating to a simulation of an 18,000-foot scenario. Indeed, Petitioner's papers do not even discuss a simulation of an 18,000-foot scenario. Patent Owner does not allege otherwise.

TQ Delta argues that Petitioner "necessarily relied" on an 18,000-foot scenario because only a simulation could "quantify whether a PAR problem is

created on a given loop.” Mot. pp. 4-5. But Dr. Tellado did not quantify the amount of PAR increase from using Shively's technique on an 18,000-foot loop. Dr. Tellado explained that his “quick estimate” evaluated whether Dr. Short's “Gaussian approximation was correct” and that he “determined it was not.” Ex. 2013, 47:14-16; *see also id.*, 49:7-10 & 50:6-51:20. As Dr. Tellado showed in his second declaration, demonstrating that Dr. Short's approach was wrong and unreliable did not require a simulation. *See* Ex. 1026, ¶¶ 15-29.

Patent Owner's citation to *Lumentum v. Capella* is plainly distinguished. *See* Mot., p. 5. In *Lumentum*, the petitioner filed a paper “relying upon, expressly referencing, and quoting” the document being sought in discovery. *Lumentum Holdings, Inc. v. Capella Photonics, Inc.*, IPR2015-00731, Paper 32, p. 3 (P.T.AB 2016). As discussed above, Petitioner's Reply and Dr. Tellado's second declaration did not refer in any way to a simulation of an 18,000-foot scenario.

Because the requested information was not cited in Petitioner's papers, the motion for discovery under § 42.51(b)(1)(i) should be denied.

B. Simulation of an 18,000-foot scenario would be consistent with Dr. Tellado's testimony that Dr. Short's analysis is flawed.

TQ Delta alleges that Petitioner should provide the “records of the 18,000 foot simulation” because the 18,000-foot scenario is “inconsistent with Petitioner's allegations that Dr. Short is wrong and Shively does have a PAR problem.” Mot., p. 6; *see* 37 C.F.R. § 42.51(b)(1)(iii).

However, Dr. Tellado did not testify that he performed a simulation that showed effects of the Shively carriers on PAR for an 18,000-foot scenario. Instead, Dr. Tellado testified that his "quick estimate" of an 18,000-foot scenario looked at whether Dr. Short's "Gaussian approximation was correct" and confirmed that "it was not." Ex. 2013, 47:14-16; *see also* 49:7:10 & 50:6-51:20. When TQ Delta asked how the "quick estimate" would compare to another scenario, Dr. Tellado emphasized that his "quick estimate" did not look at that issue, but instead looked at the appropriateness of Dr. Short's application of a Gaussian approximation to a system having 88 "usable" and 16 "Shively" carriers:

Q. Are you suggesting that Dr. Short's – if you had run a full simulation on Dr. Short's 18,000-foot loop, assuming the 88 usable carriers and 16 Shively carriers and the remainder unusable, are you telling me that that would be worse than your Scenario 1 here?

A. I didn't say that. I just said it was diverging relative to a Gaussian process.

Ex. 2013, 50:6-13.

Q. Earlier, you said you observed this quick simulation diverging from something. Did you say that earlier?

A. Dr. Short makes the statement that you could approximate -- I forget his exact number of carriers and Shively carriers -- and he said that you could approximate it with the Gaussian process. You asked me

if I checked that case. And I said I checked it, and it showed it was not a good approximation.

Ex. 2013, 51:5-14; *see also id.*, 53:8 (“88 plus 16 is not equal to 104 Gaussian”).

Regarding Shively, Petitioner's position is that “Shively's transmitter would suffer from an increased peak-to-average power ratio [PAR].” IPR2016-01020, Paper 2, p. 13; IPR2016-01021, Paper 2, p. 14. TQ Delta does not allege that the “quick estimate” would show Shively's technique decreasing PAR or be otherwise inconsistent with such statements by Petitioner.

TQ Delta does not identify *any* statement in Petitioner's Reply or in Dr. Tellado's declaration or testimony that is allegedly inconsistent with what would be shown by a “quick estimate” comparing (a) a scenario with 88 usable carriers with 16 Shively carriers, and (b) a Gaussian process with the same power as 104 carriers. To the contrary, the quick estimate would be entirely consistent with Dr. Tellado's testimony. For example, Dr. Tellado's declaration uses simple logic to conclude that “Dr. Short's analysis is flawed ... in assuming a Gaussian approximation....” Ex. 1026, ¶ 29. Dr. Tellado testified that his “quick estimate” showed the same conclusion: “it was not a good approximation.” Ex. 2013, 51:13-14.

Accordingly, Patent Owner's motion fails to identify any “inconsistent information” that would be discoverable under 37 C.F.R. § 42.51(b)(1)(iii).

III. The 18,000-Foot Scenario is Not Subject to Additional Discovery

TQ Delta bears the burden of showing that additional discovery is necessary

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