

IPA 2018-1152  
EX 1026  
IPA 2018-1153  
EX 1126

IPA 2018-1154  
EX 1227  
IPA 2018-1246  
EX 1328

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UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF CALIFORNIA

QUALCOMM INCORPORATED,  
Plaintiff,  
v.  
APPLE INCORPORATED,  
Defendant.

Case No.: 17cv1375 DMS(MDD)

**ORDER CONSTRUING CLAIMS**

APPLE INCORPORATED,  
Counter Claimant,  
v.  
QUALCOMM INCORPORATED,  
Counter Defendant.

This matter came before the Court for a claim construction hearing on August 7, 2018. David Nelson, Nathan Hamstra and Patrick Schmidt appeared on behalf of Qualcomm, and Juanita Brooks, James Dowd and Joseph Mueller appeared on behalf of Apple. After a thorough review of the parties' claim construction briefs and all other material submitted in connection with the hearing, the Court issues the following order construing the disputed terms of the patents at issue here.

Intel v. Qualcomm  
Exhibit 1126

I.

**BACKGROUND**

There are four Qualcomm patents at issue in this case, two of which contain claim terms that require construction: United States Patents Numbers 8,698,558 (“the ‘558 Patent”) and 8,633,936 (“the ‘936 Patent”).<sup>1</sup> There are three terms at issue in each of these Patents. In the ‘558 Patent, the disputed terms are “envelope signal,” “based on” and “receive ... a first supply voltage” / “receiving ... the first supply voltage.” Each of these terms is found in claim 6, which recites:

An apparatus for wireless communication, comprising:

a power amplifier operative to receive and amplify an input radio frequency (RF) signal and provide an output RF signal; and

a supply generator operative to receive an envelope signal and a first supply voltage, to generate a boosted supply voltage having a higher voltage than the first supply voltage, and to generate a second supply voltage for the power amplifier based on the envelope signal and the boosted supply voltage, wherein the supply generator incorporates an operational amplifier (op-amp) operative to receive the envelope signal and provide an amplified signal, a driver operative to receive the amplified signal and provide a first control signal and a second control signal, a P-channel metal oxide semiconductor (PMOS) transistor having a gate receiving a first control signal, a source receiving the boosted supply voltage or the first supply voltage, and a drain providing the second supply voltage, and an N-channel metal oxide semiconductor (NMOS) transistor having a gate receiving the second control signal, a drain providing the second supply voltage, and a source coupled to circuit ground.”

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<sup>1</sup> The other Qualcomm Patents at issue are United States Patents Numbers 8,838,949 (“the ‘949 Patent”) and 9,535,490 (“the ‘490 Patent”). The parties also briefed claim construction issues for another Qualcomm Patent, U.S. Patent No. 9,608,675 (“the ‘675 Patent”). However, the parties have since dismissed all claims related to the ‘675 Patent. Accordingly, the Court does not address any claim construction issues on that Patent.

1 In the '936 Patent, the disputed terms are “programmable streaming processor”,  
2 “conversion instruction that ... converts graphics data ... from a first data precision to  
3 converted graphics data having a second data precision,” and “graphics instruction.” Each  
4 of these terms is found in claim 19, which recites:

5 A device comprising:

6 a controller configured to receive a graphics instruction for execution within  
7 a programmable streaming processor, wherein the indication of the data  
8 precision is contained within the graphics instruction and wherein the graphics  
9 instruction is a first executable instruction generated by a compiler that  
10 complies graphics application instructions, to receive an indication of a data  
11 precision for execution of the graphics instruction, and to receive a conversion  
12 instruction that, when executed by the programmable streaming processor,  
13 converts graphics data associated, with the graphics instruction, from a first  
data precision to converted graphics data having a second data precision,  
wherein the conversion instruction is different than the graphics instruction  
and wherein the conversion instruction is generated by the compiler; and

14 a plurality of execution units within the processor,

15 wherein the controller is configured to select one of the execution units based  
16 on the indicated data precision and cause the selected execution unit to execute  
17 the graphics instruction with the indicated data precision using the converted  
18 graphics data associated with the graphics instruction.

19 Four of the disputed terms at issue here were the subject of claim construction  
20 proceedings before the International Trade Commission (“ITC”), specifically, “envelope  
21 signal,” “based on,” “programmable streaming processor” and “conversion instruction that  
22 ... converts graphics data ... from a first data precision to converted graphics data having  
23 a second data precision.” (*See* Qualcomm’s Opening Claim Construction Br., Ex. 9.) The  
24 parties rely on the ITC’s claim constructions in their arguments here, but the ITC’s claim  
25 constructions are not binding on this Court. *Texas Instruments Inc. v. Cypress*  
26 *Semiconductor Corp.*, 90 F.3d 1558, 1569 (Fed. Cir. 1996) (stating “that ITC decision are  
27 not binding on district court in subsequent cases brought before them[.]”) With this  
28 background, the Court turns to the claim construction issues.

## II.

### DISCUSSION

Claim construction is an issue of law, *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996), and it begins “with the words of the claim.” *Nystrom v. TREX Co., Inc.*, 424 F.3d 1136, 1142 (Fed. Cir. 2005) (citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). Generally, those words are “given their ordinary and customary meaning.” *Id.* (citing *Vitronics*, 90 F.3d at 1582). This ““is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.”” *Id.* (quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005)). “The person of ordinary skill in the art views the claim term in the light of the entire intrinsic record.” *Id.* Accordingly, the Court must read the claims ““in view of the specification, of which they are a part.”” *Id.* (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995)). In addition, ““the prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.”” *Id.* (quoting *Phillips*, 415 F.3d at 1318).

#### A. The ‘558 Patent

As stated above, there are three terms at issue in the ‘558 Patent: (1) “envelope signal,” (2) “based on” and (3) “receive ... a first supply signal” / “receiving ... the first supply signal.”

##### 1. “Envelope signal”

Turning to the first term “envelope signal,” Qualcomm proposes the Court construe this term as “signal indicative of the upper boundary of the output RF signal.” Apple proposes the Court construe this term according to its plain and ordinary meaning, or in the alternative, that the term be construed as “signal indicative of the upper boundary of another signal.”

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1 Both sides rely on the specification to support their proposed constructions.  
2 Qualcomm relies specifically on Figure 2C, which depicts an envelope tracker receiving  
3 “an envelope of the RFout signal[.]” (‘558 Patent at 4:22-24.) However, this sole  
4 embodiment does not warrant imposition of Qualcomm’s proposed limitation into the  
5 claim language. As Qualcomm concedes, another portion of the specification refers to “the  
6 envelope of the RFin signal[.]” (*Id.* at 3:64-65.) Accordingly, the Court adopts Apple’s  
7 proposed construction of “envelope signal” as “signal indicative of the upper boundary of  
8 another signal.”

9 2. “Based on”

10 The second term at issue is “based on.” Qualcomm asserts this term should be  
11 construed according to its plain and ordinary meaning. Apple argues the term is indefinite  
12 as used in claim 7 of the ‘558 Patent.<sup>2</sup>

13 Claim 7 depends from claim 6, which is set out above. Whereas claim 6 recites “a  
14 second supply voltage for the power amplifier based on the envelope signal *and* the boosted  
15 supply voltage[.]” (emphasis added), claim 7 provides: “The apparatus of claim 6, wherein  
16 the supply generator is operative to generate the second supply voltage based on the  
17 envelope signal *and either* the boosted supply voltage *or* the first supply voltage.”  
18 (emphasis added). In *Multilayer Stretch Cling Film Holding, Inc. v. Berry Plastics Corp.*,  
19 831 F.3d 1350 (Fed. Cir. 2016), the court discussed claims with a structure similar to claims  
20 6 and 7 here, and that were subject to a similar challenge of indefiniteness. There, the  
21 independent claim was construed to be limited to the four resins recited therein, while the  
22 dependent claim included a different type of resin. *Id.* at 1360-62. The district court found  
23 the dependent claim was invalid, and the Federal Circuit affirmed that decision, stating:  
24 “A dependent claim that contradicts, rather than narrows, the claim from which it depends  
25 is invalid.” *Id.* at 1362.

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28 <sup>2</sup> Outside of claim 7, it appears the parties agree that “based on” should be construed  
according to its plain and ordinary meaning.

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