

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

NEOMAGIC CORPORATION,	:	
	:	
Plaintiff,	:	
	:	
v.	:	Civil Action No. 98-699-KAJ
	:	
TRIDENT MICROSYSTEMS, INC.,	:	
	:	
Defendant.	:	

MEMORANDUM OPINION

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Wilmington, Delaware
May 9, 2003

Thynge, U.S. Magistrate Judge

I. INTRODUCTION

This is a patent infringement case on remand from the Federal Circuit. Initially, NeoMagic Corporation (hereinafter “NeoMagic”)¹ filed this suit in December 1998, alleging infringement by Trident Microsystems, Inc. (hereinafter “Trident”)² of two of its patents, U.S. Patent Nos. 5,650,955 (the ‘955 patent) and 5,703,806 (the ‘806 patent) which involve technologies related to integrated circuits, specifically graphic controllers. The parties submitted claims construction briefs, and after a hearing, an opinion construing the disputed terms was issued.³ Subsequently, applying its claim construction, the court granted summary judgment of noninfringement in favor of Trident, and NeoMagic appealed.⁴ While reviewing Judge McKelvie’s decision on infringement, the Federal Circuit necessarily reviewed the court’s construction of the patent claims and upheld the construction of the disputed terms in the ‘955 patent and affirmed the summary judgment of noninfringement of the ‘955 patent.⁵ The Federal Circuit vacated the summary judgment of noninfringement of the ‘806 patent, found error in the construction of “negative with respect to,” and remanded to this court for further proceedings on the appropriate construction of “power supply” and on infringement based on the proper interpretation of the claims.⁶ The Federal Circuit largely agreed with the construction of “power supply,” however, was unable to determine from the record whether a “power supply” must provide

¹ NeoMagic is a Delaware Corporation with its principal place of business in Santa Clara, California.

² Trident is a Delaware Corporation with its principal place of business in Mountain View, California.

³ *NeoMagic Corp. v. Trident Microsystems, Inc.*, 98 F. Supp. 2d 538 (D. Del. 2000).

⁴ *NeoMagic Corp. v. Trident Microsystems, Inc.*, 129 F. Supp. 2d 689 (D. Del. 2001).

⁵ *NeoMagic Corp. v. Trident Microsystems, Inc.*, 287 F.3d 1062, 1076 (Fed. Cir. 2002).

⁶ *Id.*

a constant voltage to a circuit, as argued by Trident. The Federal Circuit noted that, given the complexity of the technology, the resolution of the disputed terms could only be ascertained by additional evidence and argument.⁷ Furthermore, the Federal Circuit noted that the determination of the location of the capacitor had been withdrawn in District Court's prior decision and held that this issue could be revisited on remand.⁸

In light of the Federal Circuit's decisions, this court ordered the parties to submit additional briefing, and on November 5, 2002, held a claims construction hearing in which the court heard additional expert testimony.⁹ Presently before the court are the parties' claim construction arguments and summary judgment motions on infringement.

II. BACKGROUND¹⁰

The computer technology in this case involves combining a graphics controller system and dynamic random access memory ("DRAM") on a single integrated circuit. A graphic controller system controls the display of images on a computer monitor by taking data from the central processing unit ("CPU"), shunting the data to the DRAM for storage and then retrieving the data for display at the appropriate time. The graphics controller system is made up of a graphics engine and various interfaces which communicate with external devices such as the memory, CPU, and display monitor.

Prior to NeoMagic's patent, the graphics controller and the DRAM were placed on separate chips which became problematic with the advent of notebook computers that

⁷ *Id.* at 1075.

⁸ *Id.* at 1076.

⁹ *D.I.* 344.

¹⁰ All information and facts included in this opinion were taken from the parties' briefs, oral arguments, previous decisions of the District Court, *NeoMagic Corp. v. Trident Microsystems, Inc.*, 98 F. Supp. 2d 538 (D. Del. 2000), *NeoMagic Corp. v. Trident Microsystems, Inc.*, 129 F. Supp. 2d 689 (D. Del. 2001), and the Federal Circuit's decision, *NeoMagic Corp. v. Trident Microsystems, Inc.*, 287 F.3d 1062, 1076 (Fed. Cir. 2002).

require compact circuitry, speed, light weight, and high battery power to be as efficient as desktop computers. Combining the graphics controller and the DRAM on a single chip would increase the efficiency of the notebook computer by consuming less space and power.

The graphics controller and the DRAM, however, are electrically incompatible, and, when combined on a single chip, the DRAM creates unacceptable interference (noise) with the logic portions of the graphics controller preventing the system from functioning properly. As detailed by the Federal Circuit, NeoMagic's inventors' solution to the noise problem was twofold.¹¹

First, they designed a new circuit for the logic gates. The new circuit decouples the voltage source for the logic gates from the voltage source for the substrate, thereby preventing latchup from disabling the transistors. In essence, because the voltage source for the logic gate transistors is separate from that for the substrate, the noise no longer effects the logic gates. As for the analog circuits, the inventors' solution to the noise problem was to place them in an n-well, an n-type region created on a p-type semiconductor. The interface between the p-type semiconductor substrate and the n-type semiconductor in the n-well, called a p-n junction, can be reversed-biased so that components in the n-well are electrically isolated from the p-type substrate.

Therefore, as long as the voltage applied to the n-well is more positive than the voltage of the p-substrate, the p-n junction between the two is reversed-biased, which blocks the flow of unwanted charge or 'noise' from the substrate to the n-well, where the noise could alter or disrupt the performance of the analog circuit therein. By isolating the analog components of the graphics controller in an n-well and reverse-biasing the p-n junction, the inventors were able to combine on a single chip the DRAM and analog portions of the graphics controller.

¹¹ *NeoMagic Corp.*, 287 F.3d at 1067.

Claims 7 and 18 of the '806 patent are at issue. Claim 7 reads as follows (with the disputed claim terms in bold and italicized):

7. In an integrated circuit having a logic portion having at least 30K logic gates and ***a memory portion coupled to said logic portion***, said memory portion having a capacity of at least 2 megabits, a ***capacitor*** comprising

a first dopant-type transistor in an a second dopant-type well in a first dopant-type semiconductor substrate, said first dopant-type transistor having a gate, first and second source/drains, said first source/drain connected in common to said second source/drain to form a first terminal of said capacitor, said gate forming a second terminal of said capacitor, said a second dopant-type well connected to a ***first power supply***, and said substrate connected to a ***second power supply*** at a negative voltage with respect to said first power supply;

whereby said capacitor is isolated from electrical noise in said substrate.¹²

Claim 18 of the '806 patent reads as follows (with the disputed terms in bold and italicized):

18. An integrated circuit comprising

a logic portion having at least 30K logic gates;

a memory portion coupled to said logic portion, said memory portion having a capacity of at least 2 megabits, and

an analog circuit having a ***capacitor***, said capacitor comprising a first dopant-type transistor in a second dopant-type well in a first dopant-type semiconductor substrate, said first dopant-type transistor having a gate, first and second source/drains, said first source/drain connected in common to said second source/drain to form a first terminal of said capacitor, said gate forming a second terminal of said capacitor, said second dopant-type well connected to a ***first power supply***, and said substrate connected to a ***second power supply*** at a negative voltage with respect to said first power supply;

whereby said capacitor is isolated from electrical noise in said substrate.¹³

¹² '806 at 10:64-11:12.

¹³ '806 at 11:38-12:13.

The meaning of the following terms of the asserted claims remain in dispute:

1. “coupled”;
2. “capacitor”;
3. “power supply”.

The court will construe each of these claims in turn.

III. CLAIM CONSTRUCTION

A. Legal Principles

In a patent infringement case, the court’s analysis requires two steps. First, the court must determine as a matter of law the correct scope and meaning of the disputed claim terms.¹⁴ Second, “the analysis requires a comparison of the properly construed claims to the accused device, to see whether that device contains all the limitations, either literally or by equivalents, in the claimed invention.”¹⁵

In making its determination of the proper construction of a claim, the court may consider “both intrinsic evidence (e.g., the patent specification and file history) and extrinsic evidence (e.g., expert testimony),” but should first examine “the intrinsic evidence of record, *i.e.*, the patent itself, including the claims, the specification and, if in evidence, the prosecution history.”¹⁶ Only when the court is “unable to determine the meaning of the asserted claims after assessing the intrinsic evidence” should the court consider extrinsic evidence.¹⁷ Starting with the intrinsic evidence, examination should be done in a particular

¹⁴ See *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002) (citing *Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 988 (Fed. Cir. 1999)).

¹⁵ *Id.*

¹⁶ *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). Normally, however, it will be unnecessary for the court to consider extrinsic evidence in interpreting claim language.

¹⁷ See *Bell Atlantic Network Servs., Inc. v. Covad Communications Group, Inc.*, 262 F.3d 1258, 1269 (Fed. Cir. 2001).

order.¹⁸

The starting point for the court's examination of the intrinsic evidence is the language of the disputed claims themselves, as the words of the claim, chosen by the inventor, delimitate the breadth of protection provided by the patent grant.¹⁹ There is a "heavy presumption" that a claim term carries its ordinary and customary meaning, and, if the claim includes a term of art, that term is given its ordinary and accustomed meaning to one of ordinary skill in the relevant art at the time of the invention.²⁰ "If an apparatus claim recites a general structure without limiting that structure to a specific subset of structures, we will generally construe the term to cover all known types of that structure' that the patent disclosure supports."²¹ The "heavy presumption" of the ordinary meaning of a claim term may be overcome and the term narrowed, but an accused infringer cannot simply point to "the preferred embodiment or other structures or steps disclosed in the specification or prosecution history."²² A patentee need not "describe in the specification every conceivable and possible future embodiment of his invention."²³

Rather, a court may constrict the ordinary meaning of a claim term in at least four ways, as recently outlined by the Federal Circuit in *CCS Fitness, Inc. v. Brunswick Corp.*²⁴

First, a patentee is permitted to be his own lexicographer, however, for the court to

¹⁸ See *Digital Biometrics, Inc. v. Identix, Inc.*, 149 F.3d 1335, 1344 (Fed. Cir. 1998) (noting that "[e]ven within the intrinsic evidence . . . there is a hierarchy of analytical tools").

¹⁹ See *Phonometrics, Inc. v. Northern Telecom Inc.*, 133 F.3d 1459, 1464 (Fed. Cir. 1998); *Vitronics*, 90 F.3d at 1582; *Bell Communications Research Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 620 (Fed. Cir. 1995).

²⁰ *Zelinski v. Brunswick Corp.*, 185 F.3d 1311, 1315 (Fed. Cir. 1999); see also *Johnson Worldwide Assoc.*, 175 F.3d at 985.

²¹ *CCS Fitness, Inc.*, 288 F.3d at 1367 (citing *Renishaw PLC v. Marposs Societa' Per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)).

²² *CCS Fitness, Inc.*, 288 F.3d at 1367.

²³ *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1344 (Fed. Cir. 2001) (citations omitted).

²⁴ 288 F.3d 1359 (Fed. Cir. 2002).

accept a suggested meaning that is contrary to the ordinary and accustomed meaning of a word, the novel meaning must be clearly set forth in either the specification or the prosecution history “so as to put one reasonably skilled in the art on notice that the patentee intended to so redefine the claim term.”²⁵ To determine whether the patentee has used a term in a manner contrary to its accepted meaning, the court’s next step is to review the patent’s specification.²⁶ Because the specification must include a written description which is sufficient to enable one of ordinary skill in the art to make and use the invention, “the specification is always relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.”²⁷ Although the specification “provide[s] a context to illuminate the meaning of claim terms,”²⁸ the court should not interpret those claim terms “by adding limitations appearing only in the specification.”²⁹ Furthermore, the general rule is that unless the claims themselves so limit, “the claims of a patent are not limited to the preferred embodiment” set forth in the specification.³⁰ Additionally, the court may consider a patent’s prosecution history in determining the meaning of a claim term. The prosecution history “may contain contemporaneous exchanges between the patent applicant and the PTO about what the claims mean.”³¹

Second, a claim term will not carry its ordinary meaning “if the intrinsic evidence

²⁵ *CCS Fitness, Inc.*, 288 F.3d at 1367-68; *Bell Atlantic Network Servs., Inc.*, 262 F.3d at 1268.

²⁶ *Vitronics Corp.*, 90 F.3d at 1582.

²⁷ *Id.*

²⁸ *Abtox, Inc. v. Exitron Corp.*, 122 F.3d 1019, 1023 (Fed. Cir. 1997).

²⁹ *Electro Medical Sys., S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 1054 (Fed. Cir. 1994)

³⁰ *Karlin Technology, Inc. v. Surgical Dynamics, Inc.*, 177 F.3d 968, 973 (Fed. Cir. 1999); *see also Laitram Corp. v. NEC Corp.*, 163 F.3d 1342 (Fed. Cir. 1998) (stating that “the mere repetition in the written description of a preferred aspect of a claimed invention does not limit the scope of an invention that is described in the claims in different and broader terms”).

³¹ *Digital Biometrics, Inc.*, 149 F.3d at 1344.

shows that the patentee distinguished that term from prior art on the basis of a particular embodiment, expressly disclaimed subject matter, or described a particular embodiment as important to the invention.”³² Amendments to the patent and arguments made to the patent examiner may each be used to exclude an interpretation disclaimed during prosecution³³ and each are given equal weight by the court in its interpretation.³⁴

Third, “a claim term also will not have its ordinary meaning if the term ‘chosen by the patentee so deprives the claim of clarity’ as to require resort to the other intrinsic evidence for a definite meaning.” Finally, if the patentee phrased a claim in a means-plus-function format, the claim term will only cover the corresponding structure or step, or its equivalents, disclosed in the specification.³⁵

Only if there is still ambiguity as to the meaning of a claim after reviewing the intrinsic evidence should a court consider extrinsic evidence, such as, expert testimony or inventor testimony.³⁶

The Federal Circuit recently revisited the issue of a court’s use of dictionaries when construing claim terms in *Texas Digital Sys., Inc. v. Telegenix, Inc.*³⁷ Prior opinions had referred to dictionaries as a “special form of extrinsic evidence” which courts consulted during claim construction.³⁸ In contrast to those earlier opinions, the *Texas Digital* court stated that “categorizing [dictionaries, encyclopedias and treatises available at the time a

³² *CCS Fitness, Inc.*, 288 F.3d at 1367-68 (citations omitted).

³³ *Southwall Technologies, Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1576 (Fed. Cir. 1995).

³⁴ *Elkay Mfg. Co. v. Ebco Mfg. Co.*, 192 F.3d 973, 979 (Fed. Cir. 1999).

³⁵ *CCS Fitness, Inc.*, 288 F.3d at 1368 (citations omitted).

³⁶ *Vitronics Corp.*, 90 F.3d at 1584.

³⁷ 308 F.3d 1193 (Fed. Cir. 2002).

³⁸ See *Intel Corp. v. Broadcom Corp.*, 172 F. Supp. 2d 478, 486 (D. Del. 2001) (stating that “[d]ictionaries, however, are a special form of extrinsic evidence that may be considered along with the intrinsic evidence in determining a claim’s ordinary meaning” (citing *Interactive Gift Express, Inc. v. CompuServe Inc.*, 231 F.3d 859, 866 (Fed. Cir. 2000)).

patent issued] as ‘extrinsic evidence’ or even a ‘special form of extrinsic evidence’ is misplaced and does not inform the analysis.”³⁹ In its extensive commentary on the use of dictionaries in claim construction, the *Texas Digital* court reiterated longstanding precedent that dictionaries are useful resources always available to the court to determine the meanings of claim terms.⁴⁰ The court noted that “[d]ictionaries . . . publicly available at the time the patent issued, are objective resources that serve as reliable sources of information on the established meanings that would have been attributed to the terms of the claims by those of skill in the art.”⁴¹ Since dictionary definitions recite the meanings of terms unbiased by motives of parties engaged in litigation, the outcome of which may depend on the court’s construction of those terms, dictionaries (along with encyclopedias and treatises) “may be the most meaningful sources of information to aid judges in better understanding both the technology and the terminology used by those skilled in the art to describe the technology.”⁴² The *Texas Digital* court suggests that when construing the words of a claim, the court should first determine the ordinary and accustomed meanings of disputed claim words through an examination of relevant dictionaries, encyclopedias, or treatises. This determination will reveal the broadest definition of those terms as understood by one of skill in the art. Having made that determination, the *Texas Digital* court suggests, as in *CCS Fitness*,⁴³ that a court must next examine the written description and prosecution history to determine whether the scope of a disputed term has been limited as a result of the patentee clearly setting forth an inconsistent definition of the disputed

³⁹ *Texas Digital Sys., Inc.*, 308 F.3d at 1203.

⁴⁰ *Id.* at 1202.

⁴¹ *Id.* at 1202-03.

⁴² *Id.* at 1203.

⁴³ *CCS Fitness, Inc.*, 288 F.3d at 1368.

term or otherwise disavowing or disclaiming the full scope of the term's meaning. Following this procedure, the court construing claims may avoid improperly importing limitations into a claim based on a single embodiment described in the specification, which might occur if the court begins its analysis with an examination of the written description and the prosecution history.⁴⁴

B. The Court's Claim Construction

I. "coupled"⁴⁵

NeoMagic argues that the common and ordinary meaning of the term 'coupled to' within claims 7 and 18, which recite "a memory portion coupled to said logic portion," should apply. They argue that the Federal Circuit's construction of the term 'coupling' from the '955 patent should not apply to the term 'coupled to' of the '806 patent because the claim in the '955 patent had an additional limitation within the claim language that required the 'coupling' to be "determined by a voltage of said underlying substrate."⁴⁶ They argue that 'coupled' requires that the memory and graphics (logic) portions electrically communicate, which is consistent with the use of the term 'coupled' in the asserted claims, with the common and ordinary meaning of the term 'coupled' and with the specification.

Trident argues that the disputed term 'coupled' should be construed consistently with the Federal Circuit's construction of the term in the '955 patent. They assert that the terms 'coupled' and 'coupling' between these two related patents are essentially identical and that one skilled in the art would understand that the way in which the memory portion is 'coupled

⁴⁴ *Texas Digital Sys., Inc.*, 308 F.3d at 1204-05.

⁴⁵ See *D.I.* 321 Exhibit A, for their proposed constructions and claim language.

⁴⁶ *NeoMagic Corp.*, 287 F.3d at 1069.

to' the logic portion is "determined by the voltage of the underlying substrate." Further they contend that 'coupled to' cannot simply mean 'connected to' because both terms are present in the disputed claims and because in claims 1 and 4 of the '806 patent, 'connected to' is used to describe a simple connection. Lastly, Trident argues that its construction is consistent with the rest of the language of the claim ("negative with respect to") as interpreted by the Federal Circuit.

The Federal Circuit held that the ordinary meaning of 'coupling' refers to "an electrical communication—the transfer of energy—between two circuits . . . See New IEEE Standard Dictionary of Electrical and Electronics Terms 277 (5th ed. 1993) (defining coupling as 'the association of two or more circuits or systems in such a way that power or signal information may be transferred from one to another')."⁴⁷ Furthermore, the Federal Circuit stated that

the parties agree that "coupling" refers to electrical communication between the two specified components. Their position is consistent with the technical definition of coupling, which means "[a] mutual relation between two circuits that permits energy transfer from one to another, through a wire, resistor, transformer, capacitor, or other device." McGraw-Hill Dictionary of Scientific and Technical Terms 474 (5th ed. 1994); see also Rudolf F. Graf, Modern Dictionary of Electronics 157 (7th ed. 1999) (defining coupling as "the association or mutual relationship of two or more circuits or systems in such a way that power may be transferred from one to the other").⁴⁸

Neither the District Court in its previous decisions nor the Federal Circuit construed the term 'coupled to' in reference to the '806 patent. Judge McKelvie's and the Federal Circuit's previous constructions started with the plain meaning of the term, just described above, then further limited the meaning of 'coupling' in the '955 patent to the language of

⁴⁷ *Id.* at 1071.

⁴⁸ *Id.* at 1072.

its claim which includes the limitation “determined by a voltage of said underlying substrate regions.” This limiting language of the ‘955 patent is not present in the disputed claims of the ‘806 patent.

The analysis starts with the language of the claims of the ‘806 patent. Claims 7 and 18 simply recite “a memory portion coupled to said logic portion” without any additional limitation. The technical definition stated above, to which the parties agree, delimitates the term ‘coupled’ as an electrical communication between the two specified components, here being the memory portion and the logic portion of the integrated circuit. There is a “heavy presumption” that a claim term carries its ordinary and customary meaning.⁴⁹ The limitation that Trident would like to read into the claim language is based on the Federal Circuit’s interpretation of the term ‘coupling’ in the ‘955 patent. Even though both the ‘955 and the ‘806 patents share the same specification, they recite two separate inventions, which is supported by the prosecution history outlined in detail in Judge McKelvie’s previous decision.⁵⁰ The two coupled components of the ‘955 patent are the logic gates and the substrate, whereas the two coupled components in the ‘806 patent are the memory portion and the logic portion of the integrated circuit. Furthermore the limitation of the ‘955 patent requiring that the ‘coupling’ be “determined by a voltage of said underlying substrate regions” is not within the language of the ‘806 patent claims. These are two separate inventions. The ordinary meaning of the terms of the claims of the patent at issue are controlling.

Therefore, as already elaborated in detail in previous decisions of this court and the

⁴⁹ *Zelinski*, 185 F.3d at 1315.

⁵⁰ *NeoMagic Corp.*, 98 F. Supp. 2d at 545-49.

Federal Circuit, the term ‘coupled to’ means an electrical communication between the two specified components, here being the memory portion and the logic portion of the integrated circuit.

II. “capacitor”⁵¹

The issue regarding the “capacitor” recited in the claims relates to the location of the capacitor in the integrated circuit.

NeoMagic argues that the plain language of the claims do not specify a location for the capacitor, and that the only limitation restricting the location of the capacitor in claim 7 is that it be “in an integrated circuit” and in claim 18 that it be in an “analog circuit.” NeoMagic asserts that, based on the specification, the analog circuits can be located anywhere in the graphics controller portion of the integrated circuit which, not only, includes the graphics engine, but also, various interfaces. It further notes that such intrinsic evidence is sufficient to construe the claim, and that extrinsic evidence should not be considered. Lastly, NeoMagic asserts that as long as the goal of the claim is met (isolating the capacitor from the noise in the substrate), the capacitor and/or analog circuit may be present anywhere in the graphics controller portion of the integrated circuit.

Trident argues that the specification describes the exact placement of the claimed capacitor: “Additionally, the graphics engine 22 of the integrated circuit 20 has analog circuits.”⁵² Trident asserts that if the capacitor was anywhere other than the graphics engine, the patented technology would not be enabled and that anyone attempting to use the patent would have to experiment unduly. Trident further argues that the graphic

⁵¹ See *D.I.* 321 Exhibit A, for their proposed constructions and claim language.

⁵² ‘806 4:44-45.

engine, the DRAM memory, and the interfaces are distinct components of the integrated circuit, and that the graphics engine performs the graphics controller functions. Based on Trident's interpretation of the specification, the graphics engine and the graphics controller are one and the same, that the various interfaces are not part of the graphics controller, and, thus, the analog circuits/capacitor cannot be anywhere else but located in the graphics engine.

Starting with the language of the claims, claim 7 recites that the capacitor simply be in an integrated circuit, and claim 18 recites "[a]n integrated circuit comprising . . . an analog circuit having a capacitor."⁵³ Based on the language of the claims, no further limitation as to the location of the capacitor is expressed. The language of the claims does not restrict the location of the capacitor in claim 7 nor the location of the analog circuit in claim 18 to the graphics engine as asserted by Trident.

An accused infringer cannot narrow a claim's term plain meaning by "pointing to the preferred embodiment or other structures or steps in the specification or prosecution history."⁵⁴ As outlined by the Federal Circuit in *CCS Fitness, Inc.*, the court may constrict the ordinary meaning if the patentee acted as his own lexicographer, if the intrinsic evidence shows that the patentee distinguished that term from the prior art or described a particular embodiment as important to the invention, if the term "is so deprived of clarity" as to require resort to other intrinsic evidence, and lastly if the claim is phrased in a means-plus-function format.⁵⁵

⁵³ '806 at 11:38, 12:1.

⁵⁴ *CCS Fitness, Inc.*, 288 F.3d at 1367.

⁵⁵ *Id.* at 1367-8.

Applying these principles, the specification refers to analog circuits in two main places. First, Figure 5 depicts the structure of “most of the analog circuits in the graphic controller portion of the integrated circuit.”⁵⁶ Second, the specification simply recites that “the graphics engine has analog circuits,” and that the capacitors and the rest of the analog circuits are in the n-wells to isolate them from the “noisy” substrate.⁵⁷ From this language, all that is specified is that analog circuits are found in the graphic controller portion of the integrated circuit and in the graphics engine. There is no further elaboration of the location of the analog circuits or the capacitors. For the patentee to have acted as his own lexicographer, he would have clearly set forth his own definition in either the specification or the prosecution history.⁵⁸ The patentee did not further elaborate or restrict the location of the analog circuits or the capacitors, and, thus, did not act as his own lexicographer.

However, the patentee did distinguish its invention from the prior art. In the prior art, the graphics controller and the DRAM were on two separate chips, whereas the present invention integrated these two components on one chip. The prior art is illustrated in Figure 1, and describes the structure of the two separate chips with the graphics controller chip consisting of a graphics engine and various interfaces.⁵⁹ The present invention integrated the two prior art chips into one by changing the connection between the two previous chips to a wide bus and by isolating certain circuits into n-wells to rectify the electrical incompatibility problem. As recited in the specification, the new integrated chip contains all the components of the previous two chips except for the wide bus.

⁵⁶ ‘806 at 2:37-40.

⁵⁷ ‘806 at 4:44-60.

⁵⁸ *CCS Fitness, Inc.*, 288 F.3d at 1367-68; *Bell Atlantic Network Servs., Inc.*, 262 F.3d at 1268.

⁵⁹ ‘806 at 1:9-26, 2:24-25.

The present invention also provides for particular arrangements for logic circuits and output buffer circuits so that large amounts of logic circuitry sufficient to perform graphics controller system functions may be integrated with the large amounts of memory sufficient to act as a high performance video memory.⁶⁰

The present invention combines the *random logic, the graphics engine 12 and interfaces, with the DRAM 11*, in an integrated circuit 20 manufactured in accordance with a DRAM process.⁶¹ (emphasis added).

The graphics controller chip from the prior art, which included the graphics engine and the various interfaces, has become the logic circuitry or graphics controller portion of the new chip. Therefore, the graphics controller portion of the new chip would also include the same components as the prior art graphics controller chip, the graphics engine and the various interfaces. The distinction between the prior art and the present invention is the structure associated with eliminating the electrical incompatibility of the logic circuitry and the DRAM when placed on one chip. Trident's interpretation of the invention as to the graphics controller comprising only the graphics engine contradicts the distinctions made by the patentee between the prior art and the present invention.

Claim 18 recites an integrated circuit comprising a logic portion, a memory portion, and an analog circuit having a capacitor. Trident argues that the analog circuits are in the graphics engine, based on the language "[a]dditionally, the graphics engine has analog circuits."⁶² The specification refers to the term analog in three main parts, one as just mentioned, as being in the graphics engine with the description of the novel structure to eliminate the electrical noise in the substrate, the second place is in Figure 5 which

⁶⁰ '806 at 2:9-14.

⁶¹ '806 at 4:31-34.

⁶² '806 at 4:44-45.

describes the structure of “most of the analog circuits in the graphics controller portion of the integrated circuit,”⁶³ and third referring to the DAC 84, a “digital-to-analog converter” which “generates the analog signals for a CRT color display.”⁶⁴ The DAC is part of the display interface, one of the interfaces from the prior art graphics controller chip and also part of the graphics controller portion of the integrated circuit of the present invention.⁶⁵ However, the only portion of the specification which refers to the description of the novel structure of the analog circuits is in the same paragraph prefaced by the graphics engine having analog circuits.

The language of claim 7 is different than that of claim 18 in that the capacitor itself is claimed with no reference to an analog circuit.⁶⁶ The limitation in both claims is that the capacitor with its structural configuration (the n-well structure and reverse-biasing of the junction between the well and the substrate) be isolated from electrical noise in the substrate. Whether or not the only location for analog circuits be in the graphics engine, is irrelevant, since claim 7 simply claims a capacitor in an integrated circuit and, as just mentioned, the structural configuration of the capacitor is the critical component to the invention. This structural configuration is depicted in Figure 5 and further detailed in Figure 7. Figure 5 represents the well structure “which form most of the analog circuits in the graphics controller portion of the integrated circuit” and Figure 7 details the “organization of the graphics controller system.” Based on the distinction made by the patentee with the prior art, the graphics controller portion of the integrated circuit comprises the graphics

⁶³ ‘806 at 2:37-40.

⁶⁴ ‘806 at 9:48-51.

⁶⁵ ‘806 at 6:63-65. See also Figures 2 and 7, ‘806 at 2:26-28, 46-48.

⁶⁶ ‘806 at 10:64-66, 11:1-12.

engine and the various interfaces, and, thus, as long as the capacitor, whether or not in an analog circuit, has the structural configuration depicted in Figure 5, the capacitor may be located anywhere within that graphics controller portion, which includes the graphics engine and the various interfaces.

III. “power supply”⁶⁷

NeoMagic asserts that the plain and ordinary meaning of power supply should control. Thus, the word constant should not be read into the claim as to require a constant power supply. NeoMagic states that power supply is a generic term, which has a common and ordinary meaning in the art, and that there are many different types of power supplies including regulated and unregulated power supplies. Further, it argues that since the specification does not define power supply, it should be given its plain meaning.

Trident argues that

‘power supply’ does not connote a constant supply of voltage . . . ‘constancy,’ when construed as it must be from the vantage point of one skilled in the art, rather, it is determined with reference to its average over time, and means that the average value over time of voltage does not change when input voltage, temperature or output load changes.⁶⁸

Further, Trident argues that one skilled in the art would understand that power supplies provide power as constant as possible given the design tolerances. Trident explains, that although “power supplies are intended and designed to deliver a constant DC voltage, their particular implementations always are less than perfect.”⁶⁹ Thus, one skilled in the art would look at the average value over time, changes in the input voltage, changes in

⁶⁷ See *D.I.* 321 Exhibit A, for their proposed constructions and claim language.

⁶⁸ *D.I.* 332 at 17.

⁶⁹ *Id.*

temperature of the chip and changes in output load to evaluate constancy. Trident further elaborates that the “first power supply” delivers power to the logic gates on the integrated circuit, and that the “second power supply . . . must be used to deliver a non-zero, negative voltage to bias the substrate.”⁷⁰

The Federal Circuit agreed with the District Court that “one of ordinary skill in the art would understand power supply to mean ‘a source of electrical energy . . . that requires at least two power supply lines to deliver power in an electrical circuit.’”⁷¹ The present debate over this term is whether the power supply must provide a constant voltage. As stated in the Federal Circuit’s opinion, Trident proposed this definition, which was adopted by Judge McKelvie, to “fairly draw the distinction between the substrate bias generator and the split bias device” of the accused product. The Federal Circuit agreed with NeoMagic that the constant voltage definition from Judge McKelvie’s previous decision was construed based on the accused device. However, the error would be harmless if in fact the construction was correct. The Federal Circuit noted that Trident did not present any probative evidence of record in support of the requirement for a constant power supply and that further evidentiary hearings would be required.

Starting with the term in the claims themselves, the parties agree that claim 7 and claim 18 simply recite ‘power supply’ with no further limitation. Furthermore, the parties agree that the patent does not mention the term ‘power supply’ and, thus, does not disclose any definition of power supply. There is a “heavy presumption” that a claim term carries

⁷⁰ *Id.* at 21.

⁷¹ *NeoMagic Corp.*, 287 F.3d at 1074.

its ordinary and customary meaning.⁷² As elaborated in detail by Judge McKelvie in his previous decisions and by the Federal Circuit, the ordinary meaning of ‘power supply’ is “a source of electrical energy . . . that requires at least two power supply lines to deliver power in an electrical circuit.”⁷³

To determine whether the delivery of power should be constant and would be so understood by one of skilled in the art, the use of dictionaries and treatises is entirely proper at this stage, as outlined by the Federal Circuit in *Texas Digital*.⁷⁴ Following the determination of the dictionary definitions, “[t]he intrinsic evidence must always be consulted to identify which of the different possible dictionary meanings of the claim terms in issue is most consistent with the use of the words by the inventor.”⁷⁵

‘Power supply’ is a generic term that can refer to regulated as well as unregulated supplies.⁷⁶ Within integrated circuits both types of power supplies may be found.⁷⁷ With inconsistent definitions, one must look to the patent specification, the words of the inventor, to determine which is applicable to the invention.⁷⁸ The patent specification recites that the substrate bias generator, which is an on-chip charge pump and the power supply for biasing the substrate, “has a limited capacity and high output impedance.”⁷⁹ NeoMagic asserts that this describes the non-constant nature of this power supply.⁸⁰ Trident argues

⁷² *Zelinski*, 185 F.3d at 1315 (Fed. Cir. 1999); see also *Johnson Worldwide Assoc., Inc.*, 175 F.3d 985.

⁷³ See *NeoMagic Corp.*, 98 F. Supp. 2d at 554, *NeoMagic Corp.* 129 F. Supp. 2d at 697, and *NeoMagic Corp.*, 287 F.3d at 1074.

⁷⁴ *Texas Digital Sys., Inc.* 308 F.3d at 1203.

⁷⁵ *Id.*

⁷⁶ Regulated refers to power supplies that deliver regulated or constant output voltage. Elaborated in detail during the claims’ construction hearing of November 5, 2002, *D.I.* 344, and in NeoMagic’s various briefs, especially *D.I.* 335 at 20-22.

⁷⁷ *Id.*

⁷⁸ *Texas Digital Sys., Inc.* 308 F.3d at 1203.

⁷⁹ ‘806 at 4:1-3.

⁸⁰ *D.I.* at 22-23.

that this means constant within design tolerances and that integrated circuits are designed to operate consistently.⁸¹ NeoMagic admits that “limited capacity” means that “the output is limited due to the constraints of the circuit generating it.”⁸² The patent further recites that the high output impedance “results in the substrate voltage being relatively ‘noisy’ due to the precharging and discharging . . .”⁸³ The patent specification, itself, describes that the on-chip charge pump, the substrate bias generator, functions by precharging and discharging, similar to a switch turning off and on, thus causing the substrate voltage to be ‘noisy’. The specification also particularly recites that the on-chip charge pump “has limited capacity.”

Although cautioning against reading limitations from the specification into the claims, the Federal Circuit held that a general structure recited in a claim will generally be construed “to cover all known types of that structure that the patent disclosure supports.”⁸⁴ Although claims 7 and 18 only refer to the generic term ‘power supply’, they recite that the “second power supply [be] at a negative voltage with respect to said first power supply.”⁸⁵ The Federal Circuit held to specifically require that different voltages be applied to the substrate and the logic circuit, that “the second power supply must have a voltage that is less positive than that of the first power supply,” and that the “second power supply need not have a voltage output that is negative with respect to ground.”⁸⁶ The limitations in the claims themselves require that the voltage output of the two power supplies be distinct,

⁸¹ *D.I.*332 at 18-21.

⁸² *D.I.* 335 at 22.

⁸³ ‘806 at 4:3-5.

⁸⁴ *CCS Fitness, Inc.*, 288 F.3d at 1367 (citing *Renishaw PLC*, 158 F.3d at 1250).

⁸⁵ ‘806 at 11:9-10, 12:10-11.

⁸⁶ *NeoMagic Corp.*, 287 F.3d at 1072, 1076.

different, not overlap, and one be negative with respect to the other, and, thus, have a specific output voltage with respect to each other. The patent disclosure identifies the on-chip charge pump, the second power supply recited in the claims, as having limited capacity. The claims themselves supported by the patent disclosure require that specific constraints be placed on the power supplies and their output for the invention to be enabled. Furthermore, indiscriminate reliance on dictionary definitions can produce “absurd results” and should not “fly in the face of the patent disclosure.”⁸⁷ NeoMagic’s assertion that the generic term ‘power supply’ should not be restricted and should include all types of power supplies is unsupported by the claims or the specification. If the power supplies recited in the claims were to include widely fluctuating power supplies, the limitations imposed by the claims could not be met.

NeoMagic argues that Trident’s construction would exclude the preferred embodiment⁸⁸ referring to Trident’s interpretation that the second power supply be “used to deliver a non-zero, negative voltage to bias the substrate.”⁸⁹ As detailed above, the Federal Circuit already addressed the meaning of the claim language “negative with respect to” and the parties further arguments relating to these terms are moot. Furthermore, the Federal Circuit held that it is “elementary that a claim construction that excludes the preferred embodiment is rarely, if ever correct and would require highly persuasive evidentiary support.”⁹⁰ Based on the claim language and the limitations therein, the only way these power supplies could deliver the appropriate voltages within the limits

⁸⁷ *Id.* at 1204-5, citations omitted.

⁸⁸ *D.I.* 335 at 23.

⁸⁹ *D.I.* 332 at 22.

⁹⁰ *NeoMagic Corp.*, 287 F.3d at 1074 (citing *Vitronics Corp.*, 90 F.3d at 1583).

of the claims is by providing power to the integrated circuit at a voltage that enable the junction between the well and the substrate to remain reverse-biased.

The Federal Circuit directed this court to define 'constant' if the proper claim interpretation required the power supply to provide a constant voltage, "since 'constant voltage' is itself a somewhat ambiguous term," and to further "consider the impact of the degree of fluctuation of the preferred embodiment, the on-chip substrate bias generator, on the definition of constant."⁹¹ As noted in previous decisions, "some power supplies can come closer to ideal than others" in terms of constant voltage supply.⁹² The claim limitations require that the on-chip substrate bias generator deliver voltage to the substrate that is less positive than that delivered to the logic gates by the first power supply. This limitation and the n-well structure resolve the latchup problem associated with combining the two electrically incompatible components, the graphics controller system and the DRAM, on one chip. If fluctuations in the relative voltage outputs of the two power supplies were too great, the n-p junction would not remain reverse-biased and latchup would occur, which would defeat the purpose of the invention. As long as the range of fluctuations in the voltage output of the power supplies can be maintained to meet the limitations of the claims, an actual value is not relevant. Based on the language of the claims and supported by the specification, there is no need to address the issue of whether or not the output voltage is actually constant. The critical factor is that the n-p junction remain reverse-biased for the invention to function and, therefore, the range of fluctuations of the output voltages of the power supplies cannot overlap and the output voltage of the second

⁹¹ *NeoMagic Corp.*, 287 F.3d at 1074.

⁹² *Id.*; *NeoMagic Corp.*, 129 F. Supp. 2d at 696.

power supply must be different with respect to the first power supply to maintain the reverse-biasing.

Both parties rely on expert testimony. However, this court did not find this testimony particularly helpful. As in *CCS Fitness*, the battle between the experts was contradictory and inconclusive.⁹³ Furthermore, it is only when the court is “unable to determine the meaning of the asserted claims after assessing the intrinsic evidence” should the court consider extrinsic evidence.⁹⁴ There is no need to resort to extrinsic evidence in this case.

Trident would like this court to further interpret ‘power supply’ to “deliver a constant output voltage (within design tolerances) when: (1) averaged over time; (2) the input voltage changes; (3) the temperature changes; and (4) the output load changes.”⁹⁵ This language is based on testimony from Trident’s expert. As just stated, there is no need to resort to extrinsic evidence and these further limitations are unnecessary.

Therefore, the term power supply means “a source of electrical energy . . . that requires at least two power supply lines to deliver power in an electrical circuit” as held by the Federal Circuit and the District Court to be the ordinary meaning understood by one skilled in the art. Furthermore, the power supply claimed by this invention requires it to “deliver power at a voltage to enable the junction between the well and the substrate to remain reverse-biased” as delimited by the claims themselves and supported by the specification.

⁹³ *CCS Fitness, Inc.*, 288 F.3d at 1368.

⁹⁴ See *Bell Atlantic Network Servs., Inc.*, 262 F.3d at 1269.

⁹⁵ *D.I.* 321 Exhibit A, *D.I.* 332 at 17-19; *D.I.* 334 at 21-22.

C. Conclusion

The court has, thus, construed the following terms in claims 7 and 18 as follows:

<u>Claim Language</u>	<u>Court's Construction</u>
"coupled to"	an electrical communication between the two specified components, here being the memory portion and the logic portion of the integrated circuit.
"capacitor"	the capacitor may be located anywhere within that graphics controller portion, which includes the graphics engine and the various interfaces.
"power supply"	a source of electrical energy that requires at least two power supply lines to deliver power in an electrical circuit at a voltage to enable the junction between the well and the substrate to remain reverse-biased.

IV. INFRINGEMENT UNDER THE PROPER INTERPRETATION OF THE CLAIMS

A. Legal Principles

A grant of summary judgment pursuant to Fed. R. Civ. P. 56(c) is appropriate “if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law.”⁹⁶ This standard is applicable to patent cases.⁹⁷ “A dispute is genuine if the evidence is such that a reasonable jury could not return a verdict for the nonmoving party.”⁹⁸

A court’s consideration of a patent infringement claim is a two step process. The first step is for the court to make the legal determination of how the claims at issue are to be construed.⁹⁹ The second step is a factual determination of whether the accused product infringes, either literally or by equivalents, made by comparing the properly construed claims to the accused product.¹⁰⁰ In order to prevail on a claim of literal infringement, “the patentee must show that the accused products contain every limitation in the asserted claims. If even one limitation is missing or not met as claimed, there is no literal infringement.”¹⁰¹ Frequently, as here, the parties do not dispute the structure of the accused device and the court’s claim construction will be determinative of the infringement issue.¹⁰² As stated by Judge McKelvie in the prior summary judgment decision,

⁹⁶ Fed. R. Civ. Pro. 56(c).

⁹⁷ *Johnston v. IVAC Corp.*, 885 F.2d 1574, 1576-77 (Fed. Cir. 1989).

⁹⁸ *NeoMagic Corp.*, 129 F. Supp. 2d at 695 (citations omitted).

⁹⁹ *CCS Fitness, Inc.*, 288 F.3d at 1365.

¹⁰⁰ *Id.*

¹⁰¹ *Mas-Hamilton Group v. LaGard, Inc.*, 156 F.3d 1206, 1211 (Fed. Cir. 1998) (citations omitted).

¹⁰² *CCS Fitness*, 288 F.3d at 1365; see also *Athletic Alternatives, Inc. v. Prince Mfg., Inc.*, 73 F.3d 1573, 1578 (Fed. Cir. 1996) (stating that where “the parties do not dispute any relevant facts regarding the accused product but disagree over which of two possible meanings of [the claim at issue] is the proper one,

To establish that it is entitled to summary judgment of infringement, NeoMagic has the burden to demonstrate that Trident's products contain all of the limitations of the claims, either literally, or by a substantial equivalent. Conversely, if Trident demonstrates that any of the claim limitations is absent from its products, there can be no infringement, either literally, or under the doctrine of equivalents.¹⁰³

B. Comparison of the properly construed claims to the accused product

I. “coupled”

NeoMagic asserts that Trident admitted that the logic and memory portions of the accused device are interconnected for communication purposes.¹⁰⁴

Trident argues that because the accused device uses a grounded substrate, there is no voltage differential between the substrate and the logic gates which is required for an electrical coupling to occur between the logic gates and the substrate. They further assert that because of the lack of coupling between the logic gates and the substrate, there is “no coupling between the logic portion and the memory portion that are integrated on the common substrate.”¹⁰⁵

Trident’s arguments regarding the coupling between the logic gates and the substrate relate to the Federal Circuit’s construction of the term ‘coupling’ in the ‘955 patent. As discussed above, it would be inappropriate to read limitations from the ‘955 patent claims into the ‘806 patent claims. Based on the court’s construction of the term ‘coupled’, there simply needs to be “an electrical communication between the two specified components, here being the memory portion and the logic portion of the integrated circuit.”

the question of literal infringement collapses to one of claim construction and is thus amenable to summary judgment”).

¹⁰³ *NeoMagic Corp.*, 129 F. Supp. 2d at 696 (citations omitted).

¹⁰⁴ *D.I.* 335 at 28.

¹⁰⁵ *D.I.* 334 at 27.

From Trident's admissions and the block diagram of Trident's product, the accused device meets the 'coupled' language of claims 7 and 18 of the '806 patent.

II. "capacitor"

NeoMagic argues that the capacitor can be located anywhere on the integrated circuit including the digital-to-analog converter and not just in the graphics engine.¹⁰⁶ NeoMagic further asserts that the '806 patent teaches that the DAC "generates analog signals" and thus analog circuits in the DAC can contain capacitors which would benefit from the claimed n-well structure.¹⁰⁷ NeoMagic contends that Trident only disputes the location of the capacitors and not whether the capacitors identified in the accused product contain the claimed structural limitations.

Trident argues that the '806 patent specification requires the claimed capacitors to be located in the graphics engine and that the accused products do not have any such capacitors in the graphics engine, and thus cannot infringe.¹⁰⁸

Based on the court's construction, the location of the capacitor may be anywhere within the graphics controller portion of the integrated circuit, which includes the various interfaces and the DAC. The accused devices have capacitors with the claimed structure within the DAC portion of their integrated circuit and thus fit within the scope of claims 7 and 18 of the '806 patent.

III. "power supply"

Neomagic argues that the accused device has two power supplies as recited in the

¹⁰⁶ *D.I.* 327 at 32, *D.I.* 335 at 27.

¹⁰⁷ *D.I.* 335 at 27.

¹⁰⁸ *D.I.* 332 at 31, *D.I.* 334 at 28.

'806 patent. The AVDD/AVSS constitutes the first power supply which connects to the n-well and BIAS/AVSS is the second power supply connecting to the capacitor. NeoMagic asserts that the BIAS voltage of the accused device is generated from an on-chip voltage bias generator in a similar way to the substrate V_{BB} voltage which is generated from the on-chip substrate bias generator of the claimed invention.¹⁰⁹

Trident argues that the accused devices do not infringe because its products have only one power supply. Trident asserts that their products do not use reverse-biasing, rather, they are grounded at zero. Furthermore, they have a triple-well process to isolate memory from noise. Trident contends that their products do not have a substrate bias generator or on-chip charge pump, but rather contain a split-bias device, which is simply a “signal line that changes in magnitude to keep current sources in the DAC at nearly constant value,” and that it is not a power supply.¹¹⁰ Trident asserts that the BIAS line “is not the dc power supply for any transistors in the DAC, and has no impact at all on the power supplied to the logic gates on the chip” and that the substrate is grounded.¹¹¹

The District Court in its prior decisions held that a substrate bias generator is an on-chip power source, and that one of ordinary skill in the art would not find a bias line to be a power supply. Rather, it “controls sources of power in a manner to make them constant and independent of both power supply variations and temperature.”¹¹² The Federal Circuit affirmed the District Court’s ordinary meaning of power supply to be “a source of electrical energy . . . that requires at least two power supply lines to deliver power in an electrical

¹⁰⁹ *D.I.* 327 at 33-34.

¹¹⁰ *D.I.* 334 at 25-27.

¹¹¹ *D.I.* 334 at 26.

¹¹² *NeoMagic Corp.*, 129 F. Supp. 2d at 696.

circuit,” but did not elaborate further regarding whether or not the BIAS line was a power supply.¹¹³ The claims construction above added to the ordinary meaning held by the Federal Circuit in that the power supply delivers “power in an electric circuit at a voltage to enable the junction between the well and the substrate to remain reverse-biased.”

Based on this new construction, the accused device must have two power supplies which fit within the scope of this definition for there to be infringement. Each power supply must be “a source of electrical energy . . . that requires at least two power supply lines to deliver power in an electrical circuit at a voltage to enable the junction between the well and the substrate to remain reverse-biased.” To maintain the junction in a reverse-biased state, the voltage from the two power supplies must be different with one negative with respect to the other. Both parties agree that the accused device has one power supply in the AVDD/AVSS or V_{DD}/V_{SS} .¹¹⁴ The question remains as to whether or not the split-bias device is a second power supply which meets the new construction.

To be considered a second power supply, the split-bias device must first be able to deliver power to an electrical circuit regardless of the other components of the definition. A split-bias device is simply a BIAS signal line that controls the current in the digital-analog-converter at a constant value, not a power supply, as held by Judge McKelvie in his previous decisions. NeoMagic stated that the “BIAS [line] . . . helps regulate the operation of the DAC circuit”¹¹⁵. The AVSS line does not deliver a voltage to the substrate in the accused device but grounds the substrate at 0 volts.¹¹⁶ Therefore, the Bias line does not

¹¹³ *NeoMagic Corp.*, 287 F.3d at 1074.

¹¹⁴ *D.I.* 327 at 33, *D.I.* 334 at 26.

¹¹⁵ *D.I.* 327 at 34.

¹¹⁶ *Id.*

deliver power to the substrate as required, and, thus, cannot be a second power supply based on this court's claim construction. Given that the accused device does not have the requisite second power supply, there can be no infringement, and no further arguments need addressing.¹¹⁷

C. CONCLUSION

For the reasons stated herein, NeoMagic's motion for summary judgment of infringement of its '806 patent¹¹⁸ is DENIED, and Trident's motion for summary judgment of non-infringement¹¹⁹ is GRANTED.

An Order consistent with this opinion shall follow.

¹¹⁷ Following the findings of this opinion, the issues raised in the parties letter motions of December 30, 2002 (*D.I.* 347) and January 2, 2003 (*D.I.* 348) are moot.

¹¹⁸ *D.I.* 326.

¹¹⁹ *D.I.* 331.