

**UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

PARTHENON UNIFIED MEMORY ARCHITECTURE LLC,

Plaintiff,

v.

ZTE CORP., ZTE USA, INC. AND ZTE (TX), INC.,

Defendants.

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Case No. 2:15-cv-00225-JRG-RSP  
(Lead)

**MEMORANDUM OPINION AND ORDER**

On October 26, 2015, the Court held a hearing to determine the proper construction of the disputed terms in nine Asserted Patents. The Court, having considered the parties’ claim construction briefing (Dkt. Nos. 56, 60, and 64) and their arguments at the hearing, issues this Memorandum Opinion and Order construing the disputed terms.

**BACKGROUND AND THE ASSERTED PATENTS**

Parthenon Unified Memory Architecture LLC (“PUMA”) brought this action against ZTE Corp., ZTE USA, Inc., and ZTE (TX), Inc. (collectively, “Defendants”) alleging that Defendants infringe U.S. Patent Nos. 5,812,789 (“the ’789 Patent”), 6,058,459 (“the ’459 Patent”), 6,427,194 (“the ’194 Patent”), 7,321,368 (“the ’368 Patent”), 7,542,045 (“the ’045 Patent”), 7,777,753 (“the ’753 Patent”), 8,054,315 (“the ’315 Patent”), 8,681,164 (“the ’164 Patent”) and 5,960,464 (“the ’464 Patent”) (collectively, “the Asserted Patents”). The ’789 Patent and the ’459 Patent were filed on the same day, have similar specifications, and incorporate each other by reference. Six patents are based on continuation applications of the ’459 Patent: the ’194 Patent, the ’368 Patent, the ’045 Patent, the ’753 Patent, the ’315 Patent,

and the '164 Patent.<sup>1</sup> All nine Asserted Patents were subject to claim construction orders issued by this Court in *Parthenon Unified Memory Architecture, LLC v. HTC Corp. et al.*, 2:14-cv-0690-JRG-RSP, Dkt. No. 155 (E.D. Tex. July 30, 2015) (“the *Parthenon I* Order”) and *Parthenon Unified Memory Architecture, LLC v. Samsung Elecs. Co., Ltd. et al.*, 2:14-cv-902-JRG-RSP, Dkt. No. 155 (E.D. Tex. Jan. 24, 2016) (“the *Parthenon II* Order”). Furthermore, one additional Eastern District of Texas claim construction order involved the '789 Patent. *STMicroelectronics, Inc. v. Motorola, Inc.*, 327 F. Supp. 2d 687 (E.D. Tex. 2004).

In general, the '789 Patent, the '459 Patent, the '194 Patent, the '368 Patent, the '045 Patent, the '753 Patent, the '315 Patent, and the '164 Patent relate to systems in which a first device (for example a processor) and a decoder/encoder share a common memory. The '459 Patent abstract recites:

An electronic system provides direct access between a first device and a decoder/encoder and a memory. The electronic system can be included in a computer in which case the memory is a main memory. Direct access is accomplished through one or more memory interfaces. Direct access is also accomplished in some embodiments by direct coupling of the memory to a bus, and in other embodiments, by direct coupling of the first device and decoder/encoder to a bus. The electronic system includes an arbiter for determining access for the first device and/or the decoder/encoder to the memory for each access request. The arbiter may be monolithically integrated into a memory interface of the decoder/encoder or the first device. The decoder may be a video decoder configured to decode a bit stream formatted to comply with the MPEG-2 standard. The memory may store predicted images which are obtained from a single preceding image and may also store intra images. Bidirectional images which are directly supplied to a display adapter may be obtained from two preceding intra or predicted images.

'459 Patent Abstract.

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<sup>1</sup> The specification of the '464 Patent is not shared by the other Asserted Patents.

The '464 Patent relates, generally, to a system whereby a decoder, which requires contiguous blocks of memory, can utilize noncontiguous blocks of the system's memory. The '464 patent abstract recites:

A method and apparatus employing a memory management system that can be used with applications requiring a large contiguous block of memory, such as video decompression techniques (e.g., MPEG 2 decoding). The system operates with a computer and the computer's operating system to request and employ approximately 500 4-kilobyte pages in two or more noncontiguous blocks of the main memory to construct a contiguous 2-megabyte block of memory. The system can employ, on a single chip, a direct memory access engine, a microcontroller, a small block of optional memory, and a video decoder circuit. The microcontroller retains the blocks of multiple pages of the main memory, and the page descriptors of these blocks, so as to lock down these blocks of memory and prohibit the operating system or other applications from using them. The microcontroller requests the page descriptors for each of the blocks, and programs a lookup table or memory mapping system in the on-chip memory to form a contiguous block of memory. As a result, the video decoder circuit can perform operations on a 2-megabyte contiguous block of memory, where the microcontroller employs the lookup table to translate each 2-megabyte contiguous address requested by the video decoder circuit to its appropriate page in the main memory. As soon as the video decoding operations are complete, the microcontroller releases the blocks of multiple pages of memory back for use by the computer.

'464 Patent Abstract.

## APPLICABLE LAW

### 1. Claim Construction

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To determine the meaning of the claims, courts start by considering the intrinsic evidence. *Id.* at 1313; *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Grp., Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the

specification, and the prosecution history. *Phillips*, 415 F.3d at 1314; *C.R. Bard, Inc.*, 388 F.3d at 861. Courts give claim terms their ordinary and accustomed meanings as understood by one of ordinary skill in the art at the time of the invention in the context of the entire patent. *Phillips*, 415 F.3d at 1312–13; *Alloc, Inc. v. International Trade Comm’n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003).

The claims themselves provide substantial guidance in determining the meaning of particular claim terms. *Phillips*, 415 F.3d at 1314. First, a term’s context in the asserted claim can be very instructive. *Id.* Other asserted or unasserted claims can also aid in determining the claim’s meaning, because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term’s meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314–15.

“[C]laims ‘must be read 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) (en banc)). “[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). This is true because a patentee may define his own terms, give a claim term a different meaning than the term would otherwise possess, or disclaim or disavow the claim scope. *Phillips*, 415 F.3d at 1316. In these situations, the inventor’s lexicography governs. *Id.* The specification may also resolve ambiguous claim terms “where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone.” *Teleflex, Inc.*, 299 F.3d at

1325. But, “[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.” *Comark Commc’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); *see also Phillips*, 415 F.3d at 1323. The prosecution history is another tool to supply the proper context for claim construction because a patent applicant may also define a term in prosecuting the patent. *Home Diagnostics, Inc., v. Lifescan, Inc.*, 381 F.3d 1352, 1356 (Fed. Cir. 2004) (“As in the case of the specification, a patent applicant may define a term in prosecuting a patent.”).

Although extrinsic evidence can be useful, it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc.*, 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert’s conclusory, unsupported assertions as to a term’s definition are entirely unhelpful to a court. *Id.* Generally, extrinsic evidence is “less reliable than the patent and its prosecution history in determining how to read claim terms.” *Id.*

## 2. Claim Indefiniteness

Patent claims must particularly point out and distinctly claim the subject matter regarded as the invention. 35 U.S.C. § 112, ¶ 2. “[I]ndefiniteness is a question of law and in effect part of

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