

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

**Omni MedSci, Inc.,**

*Plaintiff/Counter-Defendant,*

v.

**Apple Inc.,**

*Defendant/Counter-Plaintiff.*

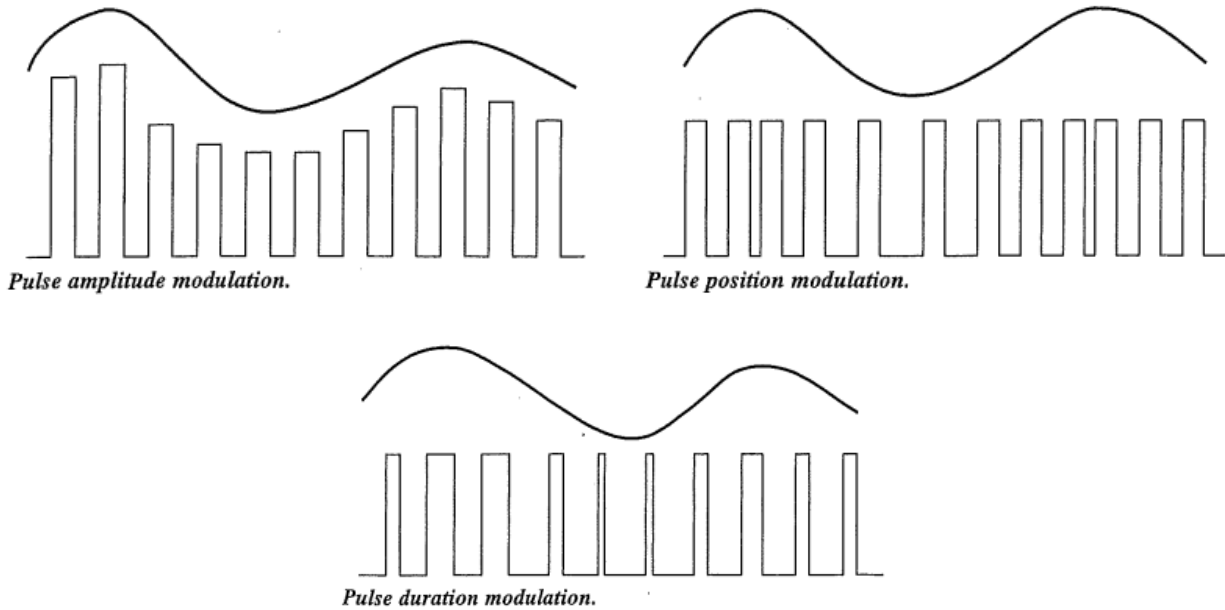
**Case No. 2:18-cv-134-RWS**

**JURY TRIAL DEMANDED**

**OMNI MEDSCI, INC.'S OPENING CLAIM  
CONSTRUCTION BRIEF**

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specifications in which the detection system “captures the signal *with the light source on and with the light source off.*”



(Ex. F, Microsoft Computer Dictionary, 4<sup>th</sup> Ed. (1999), p. 365; *see also*, Ex. H, Microsoft Press Computer Dictionary, 3<sup>rd</sup> Ed. (1997), pp. 389-90.)

The American Heritage Science Dictionary from 2011 (just before Omni MedSci filed its patents) defines “modulating” as “to vary the *amplitude*, frequency, or some *other characteristic* of a signal or power source.” (Ex. I, American Heritage Science Dictionary 2011, emphasis added.) Likewise, the Merriam Webster’s Dictionary (cited by Apple) defines “modulate” as “to vary the *amplitude*, frequency, or phase of (a carrier wave or a light wave) for the transmission of information (as by radio).” (Ex. G, Merriam Webster’s Collegiate Dictionary 11<sup>th</sup> Ed. (2003) at APL-OMNI\_00075927, emphasis added.)

Two common types of modulation that radio listeners know of are AM and FM—“amplitude modulation” and “frequency modulation.” In an AM radio signal, the intensity of the carrier signal changes based on the modulation, whereas in an FM radio signal, the frequency of

the carrier signal changes based on the modulation. (*See, e.g.*, Ex. J, Newton’s Telecom Dictionary 26<sup>th</sup> Ed. (2011) at APL-OMNI\_00075937, defining “frequency modulation.”) Consistent with the asserted patent claims and specifications, it is common to modulate by amplitude or frequency.

This extrinsic evidence further supports what is clear from the claims and the specification of the asserted patents: the term “modulating” is not limited to varying only the “frequency” of light; it includes varying the amplitude or pulse width of the light (“pulsing the light”) consistent with Omni’s proposed construction. There is no basis in the claims or the specification for excluding amplitude modulation as Apple effectively proposes. Accordingly, the Court should construe “modulating [of] at least one of the LEDs” to mean “pulsing the light, or varying the frequency of the light, produced by at least one of the LEDs.”

#### 4. “lock-in technique”

Term	Patent: Claims	Omni’s Construction	Apple’s Construction
<b>wherein the receiver is configured to use a lock-in technique that detects the modulation frequency</b>	‘698: 1	The receiver is configured to detect the modulation frequency of the optical beam and lessen noise outside the modulation frequency.	Plain and ordinary meaning. The receiver is configured to analyze the optical beam to identify and then lock onto the modulation frequency.

Omni’s proposed construction is consistent with ‘698 claim 1 and the description of “lock-in technique” in the ‘698 patent specification. Apple’s construction, in contrast, adds limitations not required by the claim or specification, specifically, analysis of the optical beam instead of simply detection of the modulation frequency. The ‘698 Patent describes “lock-in technique” as follows:

- “one way to improve the signal-to-noise ratio would be to use modulation and *lock-in techniques*. . . In a particular embodiment, the *techniques from lock-in detection* may be