IPR2022-00246 U.S. Patent No. 7,292,835

## UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

## LG ELECTRONICS INC.,

Petitioners,

v.

### PARKERVISION, INC.,

Patent Owner.

Case IPR2022-00246

U.S. Patent No. 7,292,835

## DECLARATION OF DEAN P. NEIKIRK, PH.D.

**REGARDING U.S. PATENT NO. 7,292,835** 

DOCKET

IPR2022-00246 U.S. Patent No. 7,292,835

I, Dean P. Neikirk, Ph.D., do hereby declare and state, that all statements are made herein of my own knowledge are true and that all statements made on information and belief are believed to be true. I am over the age of 21 and am competent to make this declaration. These statements were made with the knowledge that willful false statements are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Dated: December 17, 2021

Den At

Dean P. Neikirk, Ph.D.

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		2. Ground 2: Gibson in View of Schiltz
		3. "Cable Modem"
Х.	SPE	CIFIC GROUNDS FOR PETITION
	A.	Ground I: Claims 1, 12, 15, and 17 are Obvious Over Hulkko in View of Gibson
		1. Claim 1
		<ul> <li>(a) Element [1 preamble]: "A cable modem for down-converting an electromagnetic signal having complex modulations, comprising"</li></ul>
		(b) Element [1A]: "an oscillator to generate an in-phase oscillating signal"71
		<ul> <li>(c) Element [1B]: "a phase shifter to receive said in-phase oscillating signal and to create a quadrature-phase oscillating signal"</li></ul>

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(d)	Element [1C]: "a first frequency down-conversion module to receive the electromagnetic signal and said in-phase oscillating signal"	
(e)	Element [1D]: "a second frequency down-conversion module to receive the electromagnetic signal and said quadrature-phase oscillating signal"	
(f)	Element [1E]: "wherein said first frequency down-conversion module further comprises a first frequency translation module"	
(g)	Element [1F]: "and a first storage module"78	
(h)	Element [1G]: "wherein said first frequency down-conversion module samples the electromagnetic signal at a rate that is a function of said in-phase oscillating signal, thereby creating a first sampled signal" 	
(i)	Element [1H]: "said second frequency down-conversion module further comprises a second frequency translation module"	
(j)	Element [11]: "and a second storage module"81	
(k)	Element [1J]: "wherein said second frequency down-conversion module samples the electromagnetic signal at a rate that is a function of said quadrature-phase oscillating signal, thereby creating a second sampled signal"	
Claim 12: "The cable modem of claim 1, wherein said sampled signal is a first information output signal, and said second sampled signal is a second information output signal."		
first f first f	15: "The cable modem of claim 1, further comprising a ilter receiving said first sampled signal and outputting a iltered signal, and a second filter receiving said second ed signal and outputting a second filtered signal."	
electr	17: "The cable modem of claim 1, wherein the omagnetic signal has been transmitted by a wireless od to the cable modem."	

2.

3.

4.

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