UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD
TCL INDUSTRIES HOLDINGS CO., LTD. AND HISENSE CO., LTD. Petitioners,
v.
PARKERVISION, INC. Patent Owner
Case No. IPR2021-00990

# PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 7,110,444



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		1.	Indep	endent Claim 2	.35
			(a)	Element [2-preamble]: "A wireless modem apparatus, comprising"	35
			(b)	Element [2A]: "a receiver for frequency down-converting an input signal including"	
			(c)	Element [2B]: "a first frequency down-conversion module to down-convert the input signal, wherein said first frequency down-conversion module down-converts said input signal according to a first control signal and outputs a first down-converted signal"	38
			(d)	Element [2C]: "a second frequency down-conversion module to down-convert the input signal, wherein said second frequency down-conversion module down-converts said input signal according to a second control signal and outputs a second down-converted signal"	.46



	(e)	Element [2D]: "a subtractor module that subtracts said second down-converted signal from said first down-converted signal and outputs a down-converted signal"	.51
	(f)	Element [2E]: "wherein said first frequency down-conversion module under-samples said input signal according to said first control signal, and"	.54
	(g)	Element [2F]: "said second frequency down-conversion module under-samples said input signal according to said second control signal"	.55
2.	Indep	pendent Claim 3	.56
	(a)	Element [3-preamble]: "A wireless modem apparatus, comprising"	.57
	(b)	Element [3A]: "a receiver for frequency down-converting an input signal including"	.57
	(c)	Element [3B]: "a first frequency down-conversion module to down-convert the input signal, wherein said first frequency down-conversion module down-converts said input signal according to a first control signal and outputs a first down-converted signal"	.57
	(d)	Element [3C]: "a second frequency down-conversion module to down-convert said input signal, wherein said second frequency down-conversion module down-converts said input signal according to a second control signal and outputs a second down-converted signal; and"	.57
	(e)	Element [3D]: "a subtractor module that subtracts said second down-converted signal from said first down-converted signal and outputs a down-converted signal"	.57
	(f)	Element [3E]: "wherein said first and said second frequency down-conversion modules each comprise a switch and a storage element"	.58



B.			Claims 2, 3 and 4 Are Obvious Over Lam in View of Enz
	1.	Inde	pendent Claim 260
		(a)	Element [2-preamble]: "A wireless modem apparatus, comprising"60
		(b)	Element [2A]: "a receiver for frequency down-converting an input signal including"61
		(c)	Element [2B]: "a first frequency down-conversion module to down-convert the input signal, wherein said first frequency down-conversion module down-converts said input signal according to a first control signal and outputs a first down-converted signal"62
		(d)	Element [2C]: "a second frequency down-conversion module to down-convert the input signal, wherein said second frequency down-conversion module down-converts said input signal according to a second control signal and outputs a second down-converted signal"
		(e)	Element [2D]: "a subtractor module that subtracts said second down-converted signal from said first down-converted signal and outputs a down-converted signal"
		(f)	Element [2E]: "wherein said first frequency down-conversion module under-samples said input signal according to said first control signal, and said second frequency down-conversion module under-samples said input signal according to said second control signal."
	2.	Inde	pendent Claim 374
		(a)	Element [3-preamble]: "A wireless modem apparatus, comprising"74
		(b)	Element [3A]: "a receiver for frequency down-converting an input signal including"74



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