UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LG ELECTRONICS INC.,

Petitioner,

v.

PARKERVISION, INC.,

Patent Owner.

Case IPR2022-00245

U.S. Patent No. 7,110,444

PETITION FOR *INTER PARTES* REVIEW

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A. Ground I: Claims 2 and 3 Are Obvious Over Tayloe in View of TI Datasheet 36

1. Independent Claim 2 36

(a) Element [2-preamble]: "A wireless modem apparatus, comprising" 36

(b) Element [2A]: "a receiver for frequency down-converting an input signal including" 38

(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" 39

(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" 47

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(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" 52

(f) Element [2E]: "wherein said first frequency down-conversion module under-samples said input signal according to said first control signal, and" 55

(g) Element [2F]: "said second frequency down-conversion module under-samples said input signal according to said second control signal" 57

2. Independent Claim 3 58

(a) Element [3-preamble]: "A wireless modem apparatus, comprising" 58

(b) Element [3A]: "a receiver for frequency down-converting an input signal including" 58

(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" 59

(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" 59

(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" 59

(f) Element [3E]: "wherein said first and said second frequency down-conversion modules each comprise a switch and a storage element" 59

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1. Independent Claim 2 61

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(a) Element [2-preamble]: "A wireless modem apparatus, comprising" 62

(b) Element [2A]: "a receiver for frequency down-converting an input signal including" 63

(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" 64

(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" 70

(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" 71

(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."....74

2. Independent Claim 3 75

(a) Element [3-preamble]: "A wireless modem apparatus, comprising" 75

(b) Element [3A]: "a receiver for frequency down-converting an input signal including" 76

(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" 76

(d) Element [3C]: "a second frequency down-conversion module to down-convert said input signal, wherein said second frequency

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