United States District Court, S.D. California.

QUALCOMM INCORPORATED, Plaintiff. v. BROADCOM CORPORATION, Defendants. Broadcom Corporation, Counter-Claimant. v. Qualcomm Incorporated, Counter-Defendant. Civil No. 05CV1392-B(BLM)

May 1, 2006.

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## CLAIM CONSTRUCTION ORDER FOR UNITED STATES PATENT NUMBER 5,946,344

#### RUDI M. BREWSTER, Senior District Judge.

Pursuant to Markman v. Westview Instruments, Inc., 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996), on March 27-30, 2006, and April 3, 2006, the Court conducted a Markman hearing concerning the abovetitled patent infringement action regarding construction of the disputed claim terms for U.S. Patent Number 5,946,344 ("the '344 patent"). Plaintiff Qualcomm, Inc. was represented by the law firm of Heller Ehrman LLP, and Defendant Broadcom Corp. was represented by the law firm of McAndrews, Held & Malloy, Ltd.

At the Markman hearing, the Court, with the assistance of the parties, analyzed the claim terms in order to prepare jury instructions interpreting the pertinent claims at issue in the '344 patent. Additionally, the Court prepared a case glossary for terms found in the claims and specification for the '344 patent considered to be technical in nature which a jury of laypersons might not understand clearly without a specific definition.

After careful consideration of the parties' arguments and the applicable statutes and case law, the Court **HEREBY CONSTRUES** the claims in dispute for the '344 patent and **ISSUES** the relevant jury instructions as written in Exhibit A, attached hereto. Further, the Court **HEREBY DEFINES** all pertinent technical terms as written in Exhibit B, attached hereto.

## IT IS SO ORDERED.

## EXHIBIT A FN1

#### UNITED STATES PATENT NUMBER 5,946,344-CLAIM CHART

| VERBATIM CLAIM LANGUAGE                  | COURT'S CONSTRUCTION   |
|--|--|
| Claim 1                                  | Claim 1  |
| 1. A digital matched filter for a spread | A digital matched filter for a spread spectrum                 |
| spectrum communication system comprises: | communication system [ a detector that recovers an original    |
|  | digital information signal that was spread over a wide band of |

|   | frequencies ] comprises [ includes but is not limited to ]:   |
|---|---|
|   | digital delay line having a plurality of successive delay stages<br>adapted to receive a digital signal and propagate said digital<br>signal therethrough at a fixed rate [ a device that moves]  |
| therethrough at a fixed rate;   | digital input values through successive storage locations at a fixed rate. The digital values are delayed by being held in each storage location ];   |
| a first correlator coupled to said digital delay<br>line to correlate said digital signal to a first<br>spreading code having a length M;   | a first correlator [ device which is capable of comparing two<br>signals to determine the extent to which they agree or<br>disagree ] coupled [ operativelv connected ] to said digital<br>delay line to correlate [ to compare two signals to determine<br>the extent to which they agree or disagree ] said digital signal<br>to a first spreading code [ a predetermined length sequence of<br>chips that is used to modulate or 'spread' the signal before it<br>is sent and that is used to demodulate or despread the signal<br>after it is received ] having a length M;   |
| a second correlator coupled to said digital<br>delay line to correlate said digital signal to a<br>second spreading code having a length N,<br>wherein N is less than M; and  | a second <i>correlator coupled</i> to said <i>digital delay line</i> to <i>correlate</i> said digital signal to a second <i>spreading code</i> having a length N, wherein N is less than M; and   |
| second correlators, said multiplexer selecting<br>an output from one of said first and second<br>correlators that correlates to a respective one<br>of said first and second spreading codes,<br>whereby said first spreading code is used to<br>transmit at a lower data rate with higher<br>jamming resistance, and said second | da <i>multiplexer</i> [ a device that selects one of its inputs to<br>provide an output ] coupled to each of said first and second<br>correlators, said <i>multiplexer</i> selecting an output from one of<br>said first and second correlators that correlates to a respective<br>one of said first and second spreading codes, whereby said<br>first spreading code is used to transmit at a lower data rate [<br>amount of factual information per unit of time ] with higher<br>jamming resistance [ resistance to interfering and/or noise-<br>like signals ], and said second spreading code is used to<br>transmit at a higher data rate with lower jamming resistance.<br>Claim 2 |
| 2. The digital matched filter of claim 1,<br>wherein said first correlator further<br>comprises:  | 2. The <i>digital matched filter</i> of claim 1, wherein said first <i>correlator</i> farther <i>comprises:</i>   |
| M logic gates each having a first input<br>coupled to a corresponding one of said stages<br>of said digital delay line and a second input<br>coupled to a corresponding bit of said first<br>spreading code; and  | M logic gates [ basic electrical building blocks where the<br>state of a logic gate's output is determined by the states of its<br>inputs ] each having a first input coupled to a corresponding<br>one of said stages of said digital delay line and a second input<br>coupled to a corresponding bit [ a character used to represent<br>one of two digits in a system having two possible states, e.g.,<br>high or low, on or off, one or zero, + or -, true or false, etc.]<br>of said first spreading code; and   |
| a summing device coupled to respective<br>outputs of each of said M logic gates to<br>provide a sum of said outputs indicating a<br>correlation between said first spreading code<br>and said digital signal.   | a summing device <i>coupled</i> to respective outputs of each of said M <i>logic gates</i> to provide a sum of said outputs indicating a <i>correlation</i> between said first <i>spreading code</i> and said digital signal.   |

| Claim 3   | Claim 3   |
|---|---|
| 3. A digital matched filter for a spread  | 3. A digital matched filter for a spread spectrum   |
| spectrum communication system comprising:   |   |
| a digital delay line having a plurality of<br>successive delay stages adapted to receive a<br>digital signal and propagate said digital signal<br>therethrough at a fixed rate;   | a digital delay line having a plurality of successive delay<br>stages adapted to receive a digital signal and propagate said<br>digital signal therethrough at a fixed rate;  |
| a first correlator coupled to said digital delay<br>line to correlate said digital signal to a first<br>spreading code having a length M;   | a first <i>correlator coupled</i> to said <i>digital delay line</i> to <i>correlate</i> said digital signal to a first <i>spreading code</i> having a length M;   |
| a second correlator coupled to said digital<br>delay line to correlate said digital signal to a<br>second spreading code having a length N,<br>wherein N is less than M; and  | a second <i>correlator coupled</i> to said <i>digital delay line</i> to <i>correlate</i> said digital signal to a second <i>spreading code</i> having a length N, wherein N is less than M; and   |
|   | a <i>multiplexer coupled</i> to each of said first and second<br><i>correlators</i> , said <i>multiplexer</i> selecting an output from one of<br>said first and second <i>correlators</i> that <i>correlates</i> to a respective<br>one of said first and second <i>spreading codes</i> , wherein said<br>first <i>correlator</i> further <i>comprises:</i>   |
| M logic gates each having a first input<br>coupled to a corresponding one of said stages<br>of said digital delay line and a second input<br>coupled to a corresponding bit of said first<br>spreading code; and  | M <i>logic gates</i> each having a first input <i>coupled</i> to a corresponding one of said stages of said <i>digital delay line</i> and a second input <i>coupled</i> to a corresponding <i>bit</i> of said first <i>spreading code;</i> and  |
| a summing device coupled to respective<br>outputs of each of said M logic gates to<br>provide a sum signal therefrom indicating a<br>correlation between said first spreading code<br>and said digital signal, wherein said first<br>correlator further comprises means for<br>deriving a data signal and a clock signal from<br>said sum signal. | a summing device <i>coupled</i> to respective outputs of each of<br>said M <i>logic gates</i> to provide a sum signal therefrom<br>indicating a <i>correlation</i> between said first <i>spreading code</i> and<br>said digital signal, wherein said first <i>correlator</i> further<br><i>comprises means for deriving a data signal and a clock</i><br><i>signal from said sum signal [This is a means-plus-function</i><br><i>limitation.</i> The function is deriving a data signal and a clock<br>signal from said sum signal. The corresponding structure is a<br>tracking and bit synchronization logic unit and equivalents<br>thereof.]. |
| Claim 5   | Claim 5   |
| 5. The digital matched filter of claim 2,<br>wherein said logic gates further comprise<br>exclusive-OR logic gates.   | The <i>digital matched filter</i> of claim 2, wherein said <i>logic gates</i> further <i>comprise exclusive-OR logic gates</i> [ <i>logic gates whose outputs are true if either one of their respective inputs, but not both inputs, is true</i> ].  |
| Claim 7   | Claim 7   |
| 7. A digital matched filter for a spread spectrum communication system comprising:  | 7. A digital matched filter for a spread spectrum communication system comprising:  |
| a digital delay line having a plurality of  | a digital delay line having a plurality of successive delay   |
| successive delay stages adapted to receive a  | stages adapted to receive a digital signal and propagate said   |

| digital signal and propagate said digital signal | digital signal therethrough at a fixed rate; |
|--|--|
| therethrough at a fixed rate;                    |  |

| therethrough at a fixed rate;   |  |
|---|--|
| a first correlator coupled to said digital delay  | a first <i>correlator coupled</i> to said <i>digital delay line</i> to <i>correlate</i>  |
| line to correlate said digital signal to a first  | said digital signal to a first <i>spreading code</i> having a length M;  |
| spreading code having a length M;   |  |
| a second correlator coupled to said digital   | a second <i>correlator coupled</i> to said <i>digital delay line</i> to  |
| delay line to correlate said digital signal to a  | correlate said digital signal to a second spreading code   |
| second spreading code having a length N,  | having a length N, wherein N is less than M; and   |
| wherein N is less than M; and   |  |
|   | a <i>multiplexer coupled</i> to each of said first and second  |
| · ·   |  |
| second correlators, said multiplexer selecting  |  |
| an output from one of said first and second   | said first and second <i>correlators</i> that <i>correlates</i> to a respective  |
| correlators that correlates to a respective one   | one of said first and second <i>spreading codes</i> , wherein said   |
| of said first and second spreading codes,   | second <i>correlator</i> further <i>comprises:</i>   |
| wherein said second correlator further  |  |
| comprises:  |  |
| N logic gates each having a first input   | N <i>logic gates</i> each having a first input <i>coupled</i> to a   |
|   | corresponding one of said stages of said <i>digital delay line</i> and   |
| of said digital delay line and a second input   | a second input coupled to a corresponding <i>bit</i> of said second  |
| coupled to a corresponding bit of said second   | spreading code; and  |
| spreading code; and   |  |
| a summing device coupled to respective  | a summing device <i>coupled</i> to respective outputs of each of   |
| outputs of each of said N logic gates to  | said N logic gates to provide a sum signal therefrom   |
| provide a sum signal therefrom indicating a   | indicating a <i>correlation</i> between said second <i>spreading code</i>  |
| correlation between said second spreading   | and said digital signal, wherein said second <i>correlator</i> further   |
| code and said digital signal, wherein said  | comprises means for deriving a data signal and a clock   |
| second correlator further comprises means for   |  |
| deriving a data signal and a clock signal from  |  |
| said sum signal.  |  |
| Claim 16  | Claim 16   |
| 16. A digital matched filter for a spread   | 16. A digital matched filter for a spread spectrum   |
| spectrum communication system comprises:  | communication system comprises:  |
|   | a digital delay line having a plurality of successive delay  |
| a digital delay line having a plurality of  |  |
| successive delay stages adapted to receive a  | stages adapted to receive a digital signal and propagate   |
|   | lsaid digital signal therethrough at a fixed rate:   |
| therethrough at a fixed rate;   |  |
| a plurality of correlators coupled to said  | a <i>plurality</i> [ <i>two or more</i> ] of <i>correlators coupled</i> to said  |
|   | digital delay line and adapted to correlate said digital signal  |
|   | to a <i>plurality</i> of different length <i>spreading codes:</i>  |
| spreading codes;  |  |
| a multiplexer coupled to each of said   | a <i>multiplexer coupled</i> to each of said <i>plurality</i> of <i>correlators</i> ,  |
| plurality of correlators, said multiplexer  | said <i>multiplexer</i> selecting an output from one of said <i>plurality</i>  |
| calacting on output from one of said plurality  |  |
| selecting an output from one of said plurality  | of <i>correlators</i> that <i>correlates</i> to a respective one of said   |
| of correlators that correlates to a respective  |  |
| of correlators that correlates to a respective  | of correlators that correlates to a respective one of said   |
| of correlators that correlates to a respective<br>one of said plurality of spreading codes, | of <i>correlators</i> that <i>correlates</i> to a respective one of said <i>plurality</i> of <i>spreading codes</i> , whereby said <i>spreading codes</i> are selected for transmitting at a <i>data rate</i> based on a desired |
| of correlators that correlates to a respective<br>one of said plurality of spreading codes, | of <i>correlators</i> that <i>correlates</i> to a respective one of said <i>plurality</i> of <i>spreading codes</i> , whereby said <i>spreading codes</i>  |

| level of data throughput and jamming resistance.  |  |
|---|--|
| Claim 17  | Claim 17   |
| 17. The digital matched filter of claim 16,<br>wherein each one of said plurality of<br>correlators further comprises:  | 17. The <i>digital matched filter</i> of claim 16, wherein each one of said <i>plurality</i> of <i>correlators</i> further <i>comprises:</i>   |
| a plurality of logic gates each having a first<br>input coupled to a corresponding one of said<br>stages of said digital delay line and a second<br>input coupled to a corresponding bit of a<br>respective one of said plurality of spreading<br>codes; and  | a <i>plurality</i> of <i>logic gates</i> each having a first input <i>coupled</i> to<br>a corresponding one of said stages of said <i>digital delay line</i><br>and a second input <i>coupled</i> to a corresponding <i>bit</i> of a<br>respective one of said <i>plurality</i> of <i>spreading codes;</i> and   |
| a summing device coupled to respective<br>outputs of each of said plurality of logic gates<br>to provide a sum of said outputs indicating a<br>correlation between said respective one of<br>said spreading codes and said digital signal.  | a summing device <i>coupled</i> to respective outputs of each of said <i>plurality</i> of <i>logic gates</i> to provide a sum of said outputs indicating a <i>correlation</i> between said respective one of said <i>spreading codes</i> and said digital signal.  |
| Claim 18  | Claim 18   |
| 18. A digital matched filter for a spread   | 18. A digital matched filter for a spread spectrum   |
| spectrum communication system comprising:   |  |
| a digital delay line having a plurality of<br>successive delay stages adapted to receive a<br>digital signal and propagate said digital signal<br>therethrough at a fixed rate;   | a digital delay line having a plurality of successive delay<br>stages adapted to receive a digital signal and propagate said<br>digital signal therethrough at a fixed rate:   |
| a plurality of correlators coupled to said<br>digital delay line and adapted to correlate said<br>digital signal to a plurality of different length<br>spreading codes;   | a <i>plurality</i> of <i>correlators coupled</i> to said <i>digital delay line</i><br>and adapted to <i>correlate</i> said digital signal to a <i>plurality</i> of<br>different length <i>spreading codes:</i>   |
| a multiplexer coupled to each ot said plurality<br>of correlators, said multiplexer selecting an<br>output from one of said plurality of<br>correlators that correlates to a respective one<br>of said plurality of spreading codes, wherein<br>each one of said plurality of correlators<br>further comprises: | a <i>multiplexer coupled</i> to each of said <i>plurality</i> of <i>correlators</i> ,<br>said <i>multiplexer</i> selecting an output from one of said <i>plurality</i><br>of <i>correlators</i> that <i>correlates</i> to a respective one of said<br><i>plurality</i> of <i>spreading codes</i> , wherein each one of said<br><i>plurality</i> of <i>correlators</i> further <i>comprises</i> :   |
| a plurality of logic gates each having a first<br>input coupled to a corresponding one of said<br>stages of said digital delay line and a second<br>input coupled to a corresponding bit of a<br>respective one of said plurality of spreading<br>codes; and  | a <i>plurality</i> of <i>logic gates</i> each having a first input coupled to a corresponding one of said stages of said <i>digital delay line</i> and a second input coupled to a corresponding <i>bit</i> of a respective one of said <i>plurality</i> of <i>spreading codes;</i> and  |
| a summing device coupled to respective  | a summing device <i>coupled</i> to respective outputs of each of<br>said <i>plurality</i> of <i>logic gates</i> to provide a sum signal therefrom<br>indicating a <i>correlation</i> between said respective one of said<br><i>spreading codes</i> and said digital signal, wherein said each one<br>of said <i>plurality</i> of <i>correlators</i> further <i>comprises means for</i><br><i>deriving a data signal and a clock signal from said sum</i> |

| correlators further comprises means for  | signal.  |
|--|--|
| deriving a data signal and a clock signal from   | 1  |
| said sum signal.<br>Claim 20   | Claim 20   |
| 20. The digital matched filter of claim 17,<br>wherein each one of said plurality of logic<br>gates further comprises exclusive-OR logic<br>gates.   | 20. The <i>digital matched filter</i> of claim 17, wherein each one of said <i>plurality</i> of <i>logic gates</i> further <i>comprises exclusive-OR logic gates</i> .   |
| Claim 21   | Claim 21   |
| 21. The digital matched filter of claim 16<br>wherein said plurality of correlators further<br>comprises at least two correlators, wherein a<br>first one of said at least two correlators is<br>adapted to correlate said digital signal to a<br>first one of said plurality of spreading codes<br>having a length M, and a second one of said<br>at least two correlators is adapted to correlate<br>said digital signal to a second one of said<br>plurality of spreading codes having a length<br>N. | 21. The digital matched inter of claim 16 wherein said<br>plurality of correlators further comprises at least two<br>correlators, wherein a first one of said at least two correlators<br>is adapted to correlate said digital signal to a first one of said<br>plurality of spreading codes having a length M, and a second<br>one of said at least two correlators is adapted to correlate said<br>digital signal to a second one of said plurality of spreading<br>codes having a length N. |
| Claim 22   | Claim 22   |
| 22. In a spread spectrum communication<br>system including a receiver adapted to<br>receive a digital signal at a fixed chipping<br>rate, a method for despreading the digital<br>signal comprises:  | 22.In a <i>spread spectrum communication system</i> including a receiver adapted to receive a digital signal at a fixed <i>chipping rate</i> [ <i>the rate at which information is received or transmitted</i> as a sequence of data chips ], a method for <i>despreading</i> [ <i>using a spreading code to recover information from the received signal</i> ] the digital signal <i>comprises:</i>   |
| propagating the digital signal at the chipping<br>rate through a digital delay line having a<br>plurality of successive delay stages;  | propagating the digital signal at the <i>chipping rate</i> through a <i>digital delay line having a plurality of successive delay stages;</i>  |
| correlating said digital signal in said digital<br>delay line to a first spreading code having a<br>length M and to a second spreading code<br>having a length N, wherein N is less than M;<br>and   |  |
| selecting an output signal based on a<br>correlation with one of said first and second<br>spreading codes, whereby said first spreading<br>code is used to transmit at a lower data rate<br>with higher jamming resistance, and said<br>second spreading code is used to transmit at a<br>higher data rate with lower jamming<br>resistance.   | selecting an output signal based on a <i>correlation</i> with one of said first and second <i>spreading codes</i> , whereby said first <i>spreading code</i> is used to transmit at a lower <i>data rate</i> with higher <i>jamming resistance</i> , and said second <i>spreading code</i> is used to transmit at a higher <i>data rate</i> with lower <i>jamming resistance</i> .   |
| Claim 23   | Claim 23   |
| 23. The method of claim 22, wherein said correlating step further comprises:   | 23. The method of claim 22, wherein said correlating step further <i>comprises:</i>  |

|  | comparing each respective <i>data chip</i> [ <i>the smallest element in a spread spectrum information signal</i> ] from a corresponding one of said delay stages of said <i>digital delay line</i> to corresponding chips of said first and second <i>spreading codes:</i> and |
|--|--|
| providing a sum value of each said<br>comparison indicating a degree of correlation<br>between said first spreading code and said<br>digital signal and between said second<br>spreading code and said digital signal.     | providing a sum value of each said comparison indicating a degree of <i>correlation</i> between said first <i>spreading code</i> and said digital signal and between said second <i>spreading code</i> and said digital signal.  |
| Claim 24   | Claim 24   |
| 24. In a spread spectrum communication<br>system including a receiver adapted to<br>receive a digital signal at a fixed chipping<br>rate, a method for despreading the digital<br>signal comprises:                        | 24. In a <i>spread spectrum communication system</i> including a receiver adapted to receive a digital signal at a fixed <i>chipping rate</i> , a method for <i>despreading</i> the digital signal <i>comprises:</i>   |
| propagating the digital signal at the chipping<br>rate through a digital delay line having a<br>plurality of successive delay stages;  | propagating the digital signal at the <i>chipping rate</i> through a <i>digital delay line having a plurality of successive delay stages:</i>  |
| correlating said digital signal in said digital<br>delay line to a first spreading code having a<br>length M and to a second spreading code<br>having a length N, wherein N is less than M;<br>and                         | <i>correlating</i> said digital signal in said <i>digital delay line</i> to a first <i>spreading code</i> having a length M and to a second <i>spreading code</i> having a length N, wherein N is less than M; and   |
| selecting an output signal based on a<br>correlation with one of said first and second<br>spreading codes, wherein said correlating step<br>further comprises:   | selecting an output signal based on a <i>correlation</i> with one of said first and second <i>spreading codes</i> , wherein said correlating step further <i>comprises</i> :   |
| comparing each respective data chip from a<br>corresponding one of said delay stages of<br>said digital delay line to corresponding chips<br>of said first and second spreading codes;                                     | comparing each respective <i>data chip</i> from a corresponding<br>one of said delay stages of said <i>digital delay line</i> to<br>corresponding chips of said first and second <i>spreading codes:</i>   |
| providing a sum value of each said<br>comparison indicating a degree of correlation<br>between said first spreading code and said<br>digital signal and between said second<br>spreading code and said digital signal; and | providing a sum value of each said comparison indicating a degree of <i>correlation</i> between said first <i>spreading code</i> and said digital signal and between said second <i>spreading code</i> and said digital signal; and  |
| deriving a respective data signal and clock signal from each said sum value.   | deriving a respective data signal and clock signal from each said sum value.   |
| Claim 26   | Claim 26   |
| 26. The method of claim 22, wherein said correlating step is performed at a rate that is at least double said chipping rate.   | 26. The method of claim 22, wherein said correlating step is performed at a rate that is at least double said <i>chipping rate</i> .   |

# EXHIBIT B

# **UNITED STATES PATENT NUMBER 5.946.344-GLOSSARY OF TERMS**

| TERM   | DEFINITION   |
|--|--|
| bit  | a character used to represent one of two digits in a system  |
|  | having two possible states, e.g., high or low, on or off, one  |
|  | or zero, + or-true or false, etc.  |
| chipping rate  | the rate at which information is received or transmitted as a  |
|  | sequence of data chips   |
| comprises  | includes but is not limited to   |
| correlate  | to compare two signals to determine the extent to which  |
|  | they agree or disagree   |
| correlating  | See definition of "correlate"  |
| correlation  | See definition of "correlate"  |
| correlator   | device which is capable of comparing two signals to  |
|  | determine the extent to which they agree or disagree   |
| coupled  | operatively connected  |
| data chip  | the smallest element in a spread spectrum information signal   |
| data rate  | amount of factual information per unit of time   |
| despreading  | using a spreading code to recover information from the   |
|  | received signal  |
| digital delay line having a plurality of   | a device that moves digital input values through successive  |
| successive delay stages adapted to receive a   | storage locations at a fixed rate. The digital values are  |
| digital signal and propagate said digital  | delayed by being held in each storage location   |
| signal therethrough at a fixed rate  |  |
| digital delay line   | See definition of " digital delay line having a plurality of   |
|  | successive delay stages adapted to receive a digital signal  |
|  | and propagate said digital signal therethrough at a fixed  |
|  | rate "   |
|  |  |
| digital matched filter for a spread spectrum   | a detector that recovers an original digital information signal  |
| digital matched filter for a spread spectrum communication system  | a detector that recovers an original digital information signal<br>that was spread over a wide band of frequencies   |
|  | a detector that recovers an original digital information signal  |
| communication system<br>exclusive-OR logic gates   | a detector that recovers an original digital information signal<br>that was spread over a wide band of frequencies<br>logic gates whose outputs are true if either one of their<br>respective inputs, but not both inputs, is true   |
| communication system   | a detector that recovers an original digital information signal<br>that was spread over a wide band of frequencies<br>logic gates whose outputs are true if either one of their  |
| communication system<br>exclusive-OR logic gates   | a detector that recovers an original digital information signal<br>that was spread over a wide band of frequencies<br>logic gates whose outputs are true if either one of their<br>respective inputs, but not both inputs, is true   |
| communication system<br>exclusive-OR logic gates<br>jamming resistance   | <ul> <li>a detector that recovers an original digital information signal that was spread over a wide band of frequencies</li> <li>logic gates whose outputs are true if either one of their respective inputs, but not both inputs, is true</li> <li>resistance to interfering and/or noise-like signals</li> </ul>  |
| communication system<br>exclusive-OR logic gates<br>jamming resistance<br>logic gates  | a detector that recovers an original digital information signal<br>that was spread over a wide band of frequencies<br>logic gates whose outputs are true if either one of their<br>respective inputs, but not both inputs, is true<br>resistance to interfering and/or noise-like signals<br>basic electrical building blocks where the state of a logic   |
| communication system<br>exclusive-OR logic gates<br>jamming resistance<br>logic gates  | <ul> <li>a detector that recovers an original digital information signal that was spread over a wide band of frequencies</li> <li>logic gates whose outputs are true if either one of their respective inputs, but not both inputs, is true</li> <li>resistance to interfering and/or noise-like signals</li> <li>basic electrical building blocks where the state of a logic gate's output is determined by the states of its inputs</li> <li><b>This is a means-plus-function limitation.</b> The function is deriving a data signal and a clock signal from said sum</li> </ul>   |
| communication system<br>exclusive-OR logic gates<br>jamming resistance<br>logic gates<br>means for deriving a data signal and a clock  | <ul> <li>a detector that recovers an original digital information signal that was spread over a wide band of frequencies</li> <li>logic gates whose outputs are true if either one of their respective inputs, but not both inputs, is true</li> <li>resistance to interfering and/or noise-like signals</li> <li>basic electrical building blocks where the state of a logic gate's output is determined by the states of its inputs</li> <li><b>This is a means-plus-function limitation.</b> The function is deriving a data signal and a clock signal from said sum signal. The corresponding structure is a tracking and bit</li> </ul>   |
| communication system<br>exclusive-OR logic gates<br>jamming resistance<br>logic gates<br>means for deriving a data signal and a clock  | <ul> <li>a detector that recovers an original digital information signal that was spread over a wide band of frequencies</li> <li>logic gates whose outputs are true if either one of their respective inputs, but not both inputs, is true</li> <li>resistance to interfering and/or noise-like signals</li> <li>basic electrical building blocks where the state of a logic gate's output is determined by the states of its inputs</li> <li><b>This is a means-plus-function limitation.</b> The function is deriving a data signal and a clock signal from said sum signal. The corresponding structure is a tracking and bit synchronization logic unit and equivalents thereof.</li> </ul>   |
| communication system<br>exclusive-OR logic gates<br>jamming resistance<br>logic gates<br>means for deriving a data signal and a clock  | <ul> <li>a detector that recovers an original digital information signal that was spread over a wide band of frequencies</li> <li>logic gates whose outputs are true if either one of their respective inputs, but not both inputs, is true</li> <li>resistance to interfering and/or noise-like signals</li> <li>basic electrical building blocks where the state of a logic gate's output is determined by the states of its inputs</li> <li><b>This is a means-plus-function limitation.</b> The function is deriving a data signal and a clock signal from said sum signal. The corresponding structure is a tracking and bit</li> </ul>   |
| communication system<br>exclusive-OR logic gates<br>jamming resistance<br>logic gates<br>means for deriving a data signal and a clock<br>signal from said sum signal<br>multiplexer<br>plurality | <ul> <li>a detector that recovers an original digital information signal that was spread over a wide band of frequencies</li> <li>logic gates whose outputs are true if either one of their respective inputs, but not both inputs, is true</li> <li>resistance to interfering and/or noise-like signals</li> <li>basic electrical building blocks where the state of a logic gate's output is determined by the states of its inputs</li> <li><b>This is a means-plus-function limitation.</b> The function is deriving a data signal and a clock signal from said sum signal. The corresponding structure is a tracking and bit synchronization logic unit and equivalents thereof.</li> </ul>   |
| communication system<br>exclusive-OR logic gates<br>jamming resistance<br>logic gates<br>means for deriving a data signal and a clock<br>signal from said sum signal<br>multiplexer              | <ul> <li>a detector that recovers an original digital information signal that was spread over a wide band of frequencies</li> <li>logic gates whose outputs are true if either one of their respective inputs, but not both inputs, is true</li> <li>resistance to interfering and/or noise-like signals</li> <li>basic electrical building blocks where the state of a logic gate's output is determined by the states of its inputs</li> <li><b>This is a means-plus-function limitation.</b> The function is deriving a data signal and a clock signal from said sum signal. The corresponding structure is a tracking and bit synchronization logic unit and equivalents thereof.</li> <li>a device that selects one of its inputs to provide an output two or more</li> <li>a predetermined length sequence of chips that is used to</li> </ul>   |
| communication system<br>exclusive-OR logic gates<br>jamming resistance<br>logic gates<br>means for deriving a data signal and a clock<br>signal from said sum signal<br>multiplexer<br>plurality | <ul> <li>a detector that recovers an original digital information signal that was spread over a wide band of frequencies</li> <li>logic gates whose outputs are true if either one of their respective inputs, but not both inputs, is true</li> <li>resistance to interfering and/or noise-like signals</li> <li>basic electrical building blocks where the state of a logic gate's output is determined by the states of its inputs</li> <li><b>This is a means-plus-function limitation.</b> The function is deriving a data signal and a clock signal from said sum signal. The corresponding structure is a tracking and bit synchronization logic unit and equivalents thereof.</li> <li>a device that selects one of its inputs to provide an output two or more</li> </ul>   |
| communication system<br>exclusive-OR logic gates<br>jamming resistance<br>logic gates<br>means for deriving a data signal and a clock<br>signal from said sum signal<br>multiplexer<br>plurality | <ul> <li>a detector that recovers an original digital information signal that was spread over a wide band of frequencies</li> <li>logic gates whose outputs are true if either one of their respective inputs, but not both inputs, is true</li> <li>resistance to interfering and/or noise-like signals</li> <li>basic electrical building blocks where the state of a logic gate's output is determined by the states of its inputs</li> <li><b>This is a means-plus-function limitation.</b> The function is deriving a data signal and a clock signal from said sum signal. The corresponding structure is a tracking and bit synchronization logic unit and equivalents thereof.</li> <li>a device that selects one of its inputs to provide an output two or more</li> <li>a predetermined length sequence of chips that is used to</li> </ul>   |
| communication system<br>exclusive-OR logic gates<br>jamming resistance<br>logic gates<br>means for deriving a data signal and a clock<br>signal from said sum signal<br>multiplexer<br>plurality | <ul> <li>a detector that recovers an original digital information signal that was spread over a wide band of frequencies</li> <li>logic gates whose outputs are true if either one of their respective inputs, but not both inputs, is true</li> <li>resistance to interfering and/or noise-like signals</li> <li>basic electrical building blocks where the state of a logic gate's output is determined by the states of its inputs</li> <li><b>This is a means-plus-function limitation.</b> The function is deriving a data signal and a clock signal from said sum signal. The corresponding structure is a tracking and bit synchronization logic unit and equivalents thereof.</li> <li>a device that selects one of its inputs to provide an output two or more</li> <li>a predetermined length sequence of chips that is used to modulate or 'spread' the signal before it is sent and that is</li> </ul> |

FN1. All terms appearing in bold face type and underlined have been construed by the court and appear with their definitions in the glossary in Exhibit B. The definition for each construed term appears in italics after its first use in the patent.

S.D.Cal.,2006. Qualcomm Inc. v. Broadcom Corp.

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