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Services Overview



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Essential Patent Analysis



- Matching analysis between patent descriptions and standard specifications
- Essentiality opinion for potential essential patent candidates

United States
Patent Application Publication (35) Pub. No. US 2006027883A1
Khan

Publication Classification
(51) Int. Cl. H04B 1/66 (2006.01)
(52) U.S. Cl. 375/248

ABSTRACT
A subscriber station for use in a wireless network, capable of communicating according to a multi-carrier protocol, such as OFDM or CDMA. The subscriber station comprises a size M Fourier Transform (FT) or IFT block for receiving input symbols and generating M FT pre-coded outputs and a size N inverse Fourier Transform (IFT) or IFT block capable of receiving N inputs, where the N inputs include the M FT pre-coded outputs from the size M FT block. The size N IFT block generates N outputs to be transmitted to a base station of the wireless network. The input symbols comprise user data traffic to be transmitted to the base station. The size N IFT block also receives signaling and control information on at least some of N M inputs. The FT pre-coding generates a transmission signal that has a white-trace lower peak-to-average power ratio (PAPR).

3GPP LTE US ESSENTIAL PATENTS

Patent No. 2006027883A1 Assignee: Samsung Electronics Title: Apparatus and method for pre-coding of data to reduce PAPR in multi-carrier wireless network

TS 36.211 Version: 6.5 Section: 5

Claims

1. For use in a wireless network, a subscriber station capable of communicating with the wireless network according to a multi-carrier protocol, the subscriber station comprising:

a size M Fourier Transform (FT) block capable of receiving input symbols and generating therefrom M FT pre-coded outputs; and

a size N inverse Fourier Transform (IFT) block capable of receiving N inputs, the N inputs including the M FT pre-coded outputs from the size M FT block.

Detailed Description

[0028] A transmission technique is disclosed for reducing the peak-to-average power (PAPR) ratio—or crest factor—of the transmitted waveforms for multi-carrier signals, such as orthogonal frequency division multiplexing (OFDM) or orthogonal frequency division multiple access (OFDMA) signals. Reducing PAPR provides improved power amplifier efficiency, reduced heat dissipation requirements, smaller heat sinks, reduced power supply load, and lower cost for wireless base stations and subscriber stations. In the descriptions that follow, it shall be assumed generally that transmitters and receivers are operating in OFDMA mode. However, this embodiment should not be construed to limit the scope of the disclosure. In alternate embodiments, the transmitters and receivers may operate in OFDM mode or another multi-carrier mode without departing from the principles of the disclosure.

Essentiality Opinion

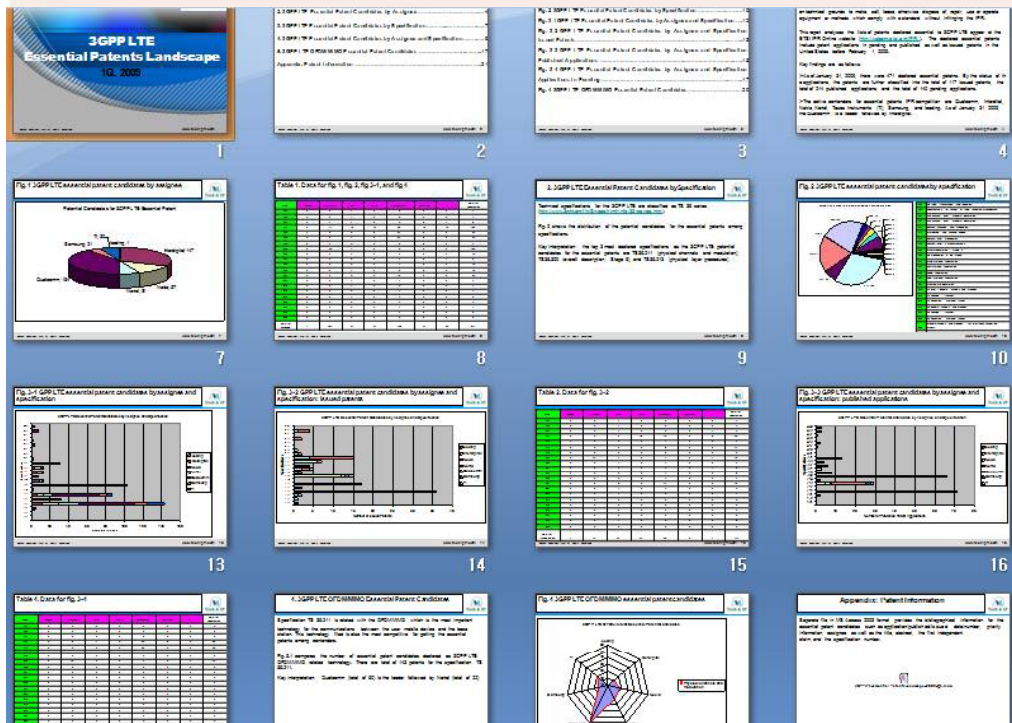
This is a preliminary opinion for patent candidates that may be essential to the implementation of the standard. It is not a final opinion and should not be used for legal purposes.

Related Specifications

TS 36.211, 36.212, 36.213, 36.214, 36.215, 36.216, 36.217, 36.218, 36.219, 36.220, 36.221, 36.222, 36.223, 36.224, 36.225, 36.226, 36.227, 36.228, 36.229, 36.230, 36.231, 36.232, 36.233, 36.234, 36.235, 36.236, 36.237, 36.238, 36.239, 36.240, 36.241, 36.242, 36.243, 36.244, 36.245, 36.246, 36.247, 36.248, 36.249, 36.250, 36.251, 36.252, 36.253, 36.254, 36.255, 36.256, 36.257, 36.258, 36.259, 36.260, 36.261, 36.262, 36.263, 36.264, 36.265, 36.266, 36.267, 36.268, 36.269, 36.270, 36.271, 36.272, 36.273, 36.274, 36.275, 36.276, 36.277, 36.278, 36.279, 36.280, 36.281, 36.282, 36.283, 36.284, 36.285, 36.286, 36.287, 36.288, 36.289, 36.290, 36.291, 36.292, 36.293, 36.294, 36.295, 36.296, 36.297, 36.298, 36.299, 36.300, 36.301, 36.302, 36.303, 36.304, 36.305, 36.306, 36.307, 36.308, 36.309, 36.310, 36.311, 36.312, 36.313, 36.314, 36.315, 36.316, 36.317, 36.318, 36.319, 36.320, 36.321, 36.322, 36.323, 36.324, 36.325, 36.326, 36.327, 36.328, 36.329, 36.330, 36.331, 36.332, 36.333, 36.334, 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36.960, 36.961, 36.962, 36.963, 36.964, 36.965, 36.966, 36.967, 36.968, 36.969, 36.970, 36.971, 36.972, 36.973, 36.974, 36.975, 36.976, 36.977, 36.978, 36.979, 36.980, 36.981, 36.982, 36.983, 36.984, 36.985, 36.986, 36.987, 36.988, 36.989, 36.990, 36.991, 36.992, 36.993, 36.994, 36.995, 36.996, 36.997, 36.998, 36.999, 37.000, 37.001, 37.002, 37.003, 37.004, 37.005, 37.006, 37.007, 37.008, 37.009, 37.010, 37.011, 37.012, 37.013, 37.014, 37.015, 37.016, 37.017, 37.018, 37.019, 37.020, 37.021, 37.022, 37.023, 37.024, 37.025, 37.026, 37.027, 37.028, 37.029, 37.030, 37.031, 37.032, 37.033, 37.034, 37.035, 37.036, 37.037, 37.038, 37.039, 37.040, 37.041, 37.042, 37.043, 37.044, 37.045, 37.046, 37.047, 37.048, 37.049, 37.050, 37.051, 37.052, 37.053, 37.054, 37.055, 37.056, 37.057, 37.058, 37.059, 37.060, 37.061, 37.062, 37.063, 37.064, 37.065, 37.066, 37.067, 37.068, 37.069, 37.070, 37.071, 37.072, 37.073, 37.074, 37.075, 37.076, 37.077, 37.078, 37.079, 37.080, 37.081, 37.082, 37.083, 37.084, 37.085, 37.086, 37.087, 37.088, 37.089, 37.090, 37.091, 37.092, 37.093, 37.094, 37.095, 37.096, 37.097, 37.098, 37.099, 37.100, 37.101, 37.102, 37.103, 37.104, 37.105, 37.106, 37.107, 37.108, 37.109, 37.110, 37.111, 37.112, 37.113, 37.114, 37.115, 37.116, 37.117, 37.118, 37.119, 37.120, 37.121, 37.122, 37.123, 37.124, 37.125, 37.126, 37.127, 37.128, 37.129, 37.130, 37.131, 37.132, 37.133, 37.134, 37.135, 37.136, 37.137, 37.138, 37.139, 37.140, 37.141, 37.142, 37.143, 37.144, 37.145, 37.146, 37.147, 37.148, 37.149, 37.150, 37.151, 37.152, 37.153, 37.154, 37.155, 37.156, 37.157, 37.158, 37.159, 37.160, 37.161, 37.162, 37.163, 37.164, 37.165, 37.166, 37.167, 37.168, 37.169, 37.170, 37.171, 37.172, 37.173, 37.174, 37.175, 37.176, 37.177, 37.178, 37.179, 37.180, 37.181, 37.182, 37.183, 37.184, 37.185, 37.186, 37.187, 37.188, 37.189, 37.190, 37.191, 37.192, 37.193, 37.194, 37.195, 37.196, 37.197, 37.198, 37.199, 37.200, 37.201, 37.202, 37.203, 37.204, 37.205, 37.206, 37.207, 37.208, 37.209, 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3GPP LTE Essential Patents Landscape

This is a brief report for 3GPP LTE (Long Term Evolution) essential patents landscape. This report analyzes the lists of patents declared essential to 3GPP LTE appear at the ETSI IPR Online website. The declared essential patents include patent applications in pending and published as well as issued patents in the United States before February 1, 2009.



The thumbnails display various data visualizations and tables:

- Thumbnail 1: Title slide '3GPP LTE Essential Patents Landscape Q3 2008'.
- Thumbnail 2: Table of contents for the report.
- Thumbnail 3: Summary text and a pie chart showing patent distribution.
- Thumbnail 4: Table of patent candidates by specification.
- Thumbnail 5: Pie chart showing patent distribution by assignee.
- Thumbnail 6: Table of patent candidates by assignee and specification.
- Thumbnail 7: Pie chart showing patent distribution by assignee.
- Thumbnail 8: Table of patent candidates by assignee and specification.
- Thumbnail 9: Table of patent candidates by assignee and specification.
- Thumbnail 10: Pie chart showing patent distribution by assignee.
- Thumbnail 11: Table of patent candidates by assignee and specification.
- Thumbnail 12: Table of patent candidates by assignee and specification.
- Thumbnail 13: Table of patent candidates by assignee and specification.
- Thumbnail 14: Table of patent candidates by assignee and specification.
- Thumbnail 15: Table of patent candidates by assignee and specification.
- Thumbnail 16: Appendix with 'Patent Information' and a radar chart.

3GPP LTE US ESSENTIAL PATENT CANDIDATES

TS 36 300 Overall description: Stage 5 Assignee: Interdigital Priority

Application Date: 1998-02-17 Publication Date: Issued Date: 1999-11-23
 Application Number: 1998-024473 Publication Number: Issue Number: 5991332

Title: Adaptive matched filter and vector correlator for a code division multiple access (CDMA) modem

Claim
 3. A pilot vector correlator apparatus for collecting signal power of a spread pilot channel of a received spread signal, the spread signal having a plurality of received multipath signal components and the spread pilot channel being spread by a predetermined spreading code sequence, to produce a pilot data value and to provide a plurality of multipath signal weighting values determined from the spread pilot channel; the apparatus comprising: local pilot code sequence generator means for generating a plurality of local code sequences, each of the local code sequences being a code phase-shifted version of the pilot spreading code sequence; a plurality of pilot spreading code correlators, each pilot spreading code correlator correlating a respective one of the local code sequences with the spread signal, each spreading code correlator comprising i) a multiplier which multiplies the spread signal by a respective one of the local code sequences to produce a correlated pilot signal value, and ii) accumulator means for accumulating the correlated signal for a predetermined period to produce a despreading multipath pilot signal component having a respective carrier signal phase value; filter means including a plurality of lowpass filters, wherein each one of the plurality of despreading multipath pilot signal components is applied to a respective one of the plurality of lowpass filters to produce a respective one of the plurality of multipath signal weighting values.

Abstract
 A CDMA modem includes a modem transmitter having: a code generator which provides an associated pilot code signal and which generates a plurality of message code signals; a spreading circuit which produces a spread-spectrum message signal by combining each of the information signals with a respective one of the message code signals; and a global pilot code generator that provides a global pilot code signal to which the message code signals are synchronized. The CDMA modem also includes a modem receiver having an associated pilot code generator and a group of associated pilot code correlators for correlating code-phase delayed versions of the associated pilot signal with a received CDMA signal to produce a despreading associated pilot signal. The code phase of the associated pilot signal is chosen sequentially to be a respective signal value.

Thank you!



- If you have any questions please contact Dr. Alex G. Lee at alexglee@techipm.com