COOPERATIVE PATENT CLASSIFICATION

H ELECTRICITY

H04 ELECTRIC COMMUNICATION TECHNIQUE

H04W WIRELESS COMMUNICATIONS NETWORKS (radio transmission systems H04B 7/00; transmission systems using electromagnetic waves other than radio waves, e.g. light, infrared H04B 10/00; communication systems using wireless extensions, i.e. wireless links without selective communication, e.g. cordless telephones H04M 1/72; broadcast communication H04H)

NOTES
1. This subclass covers:
   • communication networks for selectively establishing one or a plurality of wireless communication links between a desired number of users or between users and network equipment, for the purpose of transferring information via these wireless communication links;
   • networks deploying an infrastructure for mobility management of wireless users connected thereto, e.g. cellular networks, WLAN [Wireless Local Area Network], wireless access networks, e.g. WLL [Wireless Local Loop] or self-organising wireless communication networks, e.g. ad hoc networks;
   • planning or deployment specially adapted for the above-mentioned wireless networks;
   • arrangements or techniques specially adapted for the operation of the above-mentioned wireless networks.
2. This subclass does not cover:
   • communication systems using wireless extensions, i.e. wireless links without selective communication, e.g. cordless telephones, which are covered by group H04M 1/72;
   • broadcast communication, which is covered by subclass H04H.
3. In this subclass, the first place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the first appropriate place.

4/00 Services specially adapted for wireless communication networks; Facilities therefor

NOTES
1. This group covers mobile application services or application service signalling for communication over wireless networks.
2. This group focuses on application services specially adapted for wireless networks or adjusted to the wireless environment.
3. In this group, the first place priority rule is not applied, i.e. the common rule is applied.

4/02 Services making use of location information

WARNING
Group H04W 4/02 is incomplete pending reclassification of documents from groups H04W 4/04, H04W 4/043, and H04W 4/046. Group H04W 4/02 is also impacted by reclassification into groups H04W 4/024 and H04W 4/029. All groups listed in this Warning should be considered in order to perform a complete search.

4/021 Services related to particular areas, e.g. point of interest [POI] services, venue services or geofences

WARNING

4/022 Services making use of location information {with dynamic range variability}

WARNING
4/023 . . [using mutual or relative location information between multiple location based services [LBS] targets or of distance thresholds]

**WARNING**


Groups H04W 4/04, H04W 4/043, H04W 4/046 and H04W 4/023 should be considered in order to perform a complete search.

4/024 . . . Guidance services

**WARNING**


Groups H04W 4/02, H04W 4/04, H04W 4/043, H04W 4/046 and H04W 4/024 should be considered in order to perform a complete search.

4/025 . . . [using location based information parameters]

**WARNING**


Groups H04W 4/04, H04W 4/043, H04W 4/046 and H04W 4/025 should be considered in order to perform a complete search.

4/026 . . . [using orientation information, e.g. compass]

**WARNING**


Groups H04W 4/04, H04W 4/043, H04W 4/046 and H04W 4/026 should be considered in order to perform a complete search.

4/027 . . . [using movement velocity, acceleration information]

**WARNING**


Groups H04W 4/04, H04W 4/043, H04W 4/046 and H04W 4/027 should be considered in order to perform a complete search.

4/029 . . . Location-based management or tracking services

**WARNING**


Groups H04W 4/02, H04W 4/04, H04W 4/043, H04W 4/046 and H04W 4/029 should be considered in order to perform a complete search.

4/04 . . {using association of physical positions and logical data} in a dedicated environment, e.g. buildings or vehicles

**WARNING**


All groups listed in this Warning should be considered in order to perform a complete search.

4/043 . . . [using ambient awareness, e.g. involving buildings using floor or room numbers]

**WARNING**

Group H04W 4/043 is no longer used for the classification of documents as of February 1, 2018. The content of this group is being reclassified into groups H04W 4/02 – H04W 4/029, and H04W 4/33.

All groups listed in this Warning should be considered in order to perform a complete search.

4/046 . . . [involving vehicles, e.g. floating traffic data [FTD] or vehicle traffic prediction]

**WARNING**

Group H04W 4/046 is no longer used for the classification of documents as of February 1, 2018. The content of this group is being reclassified into groups H04W 4/02 – H04W 4/029, and H04W 4/40 – H04W 4/48.

All groups listed in this Warning should be considered in order to perform a complete search.

4/06 . . Selective distribution of broadcast services, e.g. multimedia broadcast multicast service [MBMS]; Services to user groups; One-way selective calling services

4/08 . . User group management

4/10 . . Push-to-Talk [PTT] or Push-On-Call services

4/12 . . Messaging; Mailboxes; Announcements

4/14 . . Short messaging services, e.g. short message services [SMS] or unstructured supplementary service data [USSD]

4/16 . . Communication-related supplementary services, e.g. call-transfer or call-hold
Information format or content conversion, e.g. adaptation by the network of the transmitted or received information for the purpose of wireless delivery to users or terminals

Services signaling; Auxiliary data signalling, i.e. transmitting data via a non-traffic channel

WARNING
Group H04W 4/20 is impacted by reclassification into groups H04W 4/21 and H04W 4/23.
Groups H04W 4/20, H04W 4/21, and H04W 4/23 should be considered in order to perform a complete search.

4/20

for converged personal network application service interworking, e.g. OMA converged personal network services [CPNS]

WARNING
Group H04W 4/21 is incomplete pending reclassification of documents from group H04W 4/20.
Groups H04W 4/20 and H04W 4/21 should be considered in order to perform a complete search.

4/21

for social networking applications

ACCOUNTING OR BILLING

WARNING
Group H04W 4/30 is incomplete pending reclassification of documents from group H04W 4/04.
Groups H04W 4/04 and H04W 4/30 should be considered in order to perform a complete search.

4/30

for the management of goods or merchandise

WARNING
Group H04W 4/35 is incomplete pending reclassification of documents from group H04W 4/04.
Groups H04W 4/04 and H04W 4/35 should be considered in order to perform a complete search.

4/35

for collecting sensor information

WARNING
Group H04W 4/38 is incomplete pending reclassification of documents from group H04W 4/04.
Groups H04W 4/04 and H04W 4/38 should be considered in order to perform a complete search.

4/38

for vehicles, e.g. vehicle-to-pedestrians [V2P]

WARNING
Group H04W 4/40 is incomplete pending reclassification of documents from groups H04W 4/04 and H04W 4/046.
Groups H04W 4/04, H04W 4/046 and H04W 4/40 should be considered in order to perform a complete search.

4/40

for mobile advertising

WARNING
Group H04W 4/42 is incomplete pending reclassification of documents from groups H04W 4/04 and H04W 4/046.
Groups H04W 4/04, H04W 4/046 and H04W 4/42 should be considered in order to perform a complete search.

4/42

for vehicle-to-vehicle communication [V2V]

WARNING
Group H04W 4/46 is incomplete pending reclassification of documents from groups H04W 4/04 and H04W 4/046.
Groups H04W 4/04, H04W 4/046 and H04W 4/46 should be considered in order to perform a complete search.

4/46

for mass transport vehicles, e.g. buses, trains or aircraft

WARNING
Group H04W 4/44 is incomplete pending reclassification of documents from groups H04W 4/04 and H04W 4/046.
Groups H04W 4/04, H04W 4/046 and H04W 4/44 should be considered in order to perform a complete search.

4/44

for communication between vehicles and infrastructures, e.g. vehicle-to-cloud [V2C] or vehicle-to-home [V2H]

WARNING
Group H04W 4/43 is incomplete pending reclassification of documents from groups H04W 4/04 and H04W 4/043.
Groups H04W 4/04, H04W 4/043 and H04W 4/43 should be considered in order to perform a complete search.

4/43

for indoor environments, e.g. buildings

WARNING
Group H04W 4/33 is incomplete pending reclassification of documents from groups H04W 4/04 and H04W 4/043.
Groups H04W 4/04, H04W 4/043 and H04W 4/33 should be considered in order to perform a complete search.

4/33

for accounting or billing

Services specially adapted for particular environments, situations or purposes

WARNING
Group H04W 4/04 is incomplete pending reclassification of documents from group H04W 4/04.
Groups H04W 4/04 and H04W 4/046 should be considered in order to perform a complete search.

4/04

for vehicles, e.g. vehicle-to-pedestrians [V2P]
Network data management

8/00  Network data management

8/005  [Discovery of network devices, e.g. terminals]

8/02  Processing of mobility data, e.g. registration information at HLR [Home Location Register] or VLR [Visitor Location Register]; Transfer of mobility data, e.g. between HLR, VLR or external networks

8/04  . Registration at HLR or HSS [Home Subscriber Server]

8/06  . Registration at serving network Location Register, VLR or user mobility server

8/065  . . [involving selection of the user mobility server]

8/08  . Mobility data transfer

8/082  . . [for traffic bypassing of mobility servers, e.g. location registers, home PLMNs or home agents]

8/085  . . [involving hierarchical organized mobility servers, e.g. hierarchical mobile IP [HMIP]]

8/087  . . [for preserving data network PoA address despite hand-offs]

8/10  . . between location register and external networks

8/12  . . between location registers or mobility servers

8/14  . . between corresponding nodes

8/16  . . selectively restricting mobility [data] tracking

8/18  . Processing of user or subscriber data, e.g. subscribed services, user preferences or user profiles; Transfer of user or subscriber data

8/183  . . [Processing at user equipment or user record carrier]

8/186  . . [Processing of subscriber group data]

8/20  . Transfer of user or subscriber data

8/205  . . [Transfer to or from user equipment or user record carrier]

8/22  . Processing or transfer of terminal data, e.g. status or physical capabilities

8/24  . Transfer of terminal data

8/245  . . [from a network towards a terminal]

8/26  . Network addressing or numbering for mobility support

8/265  . . [for initial activation of new user]

8/28  . Number portability { ; Network address portability}

8/30  . Network data restoration; [Network data reliability; Network data fault tolerance]

12/00  Security arrangements, e.g. access security or fraud detection; Authentication, e.g. verifying user identity or authorisation; Protecting privacy or anonymity

12/02  . Protecting privacy or anonymity

12/04  . Key management

12/06  . Authentication

12/08  . Access security

12/10  . Integrity

12/12  . Fraud detection

16/00  Network planning, e.g. coverage or traffic planning tools; Network deployment, e.g. resource partitioning or cells structures

16/02  . Resource partitioning among network components, e.g. reuse partitioning

16/04  . . Traffic adaptive resource partitioning

16/06  . . Hybrid resource partitioning, e.g. channel borrowing

16/08  . . . Load shedding arrangements

16/10  . . Dynamic resource partitioning

16/12  . . . Fixed resource partitioning

16/14  . . Spectrum sharing arrangements [between different networks]

16/16  . for PBS [Private Base Station] arrangements

16/18  . Network planning tools

16/20  . for indoor coverage or short range network deployment

16/22  . Traffic simulation tools or models

16/225  . . [for indoor or short range network]

16/24  . Cell structures

16/26  . . Cell enhancers { enhancement], e.g. for tunnels, building shadow

16/28  . . using beam steering

16/30  . . Special cell shapes, e.g. doughnuts or ring cells

16/32  . . Hierarchical cell structures

24/00  Supervisory, monitoring or testing arrangements

24/02  . Arrangements for optimising operational condition

24/04  . Arrangements for maintaining operational condition

24/06  . Testing, { supervising or monitoring } using simulated traffic

24/08  . Testing, { supervising or monitoring } using real traffic

24/10  . Scheduling measurement reports { ; Arrangements for measurement reports}

28/00  Network traffic or resource management

28/02  . Traffic management, e.g. flow control or congestion control

28/0205  . . [at the air interface (dynamic wireless traffic scheduling H04W 72/12)]

28/021  . . [in wireless networks with changing topologies, e.g. ad-hoc networks (self-organizing networks H04W 84/18)]
28/0215 . . . [based on user or device properties, e.g. MTC-capable devices (services for machine-to-machine communication [M2M] or machine type communication [MTC] H04W 47/07; wireless resource selection or allocation plan definition based on terminal or device properties H04W 72/048)]

28/0221 . . . [power availability or consumption]

28/0226 . . . [based on location or mobility (handoff or reselection H04W 36/06; mobile application services making use of the location of users or terminals H04W 47/02)]

28/0231 . . . [based on communication conditions (dynamic wireless traffic scheduling definition based on channel quality criteria H04W 72/126)]

28/0236 . . . [Determining whether packet losses are due to overload or to deterioration of radio communication conditions]

28/0247 . . . [based on conditions of the access network or the infrastructure network (central resource management H04W 28/16)]

28/0252 . . . [per individual bearer or channel (dynamic wireless traffic scheduling H04W 72/12)]

28/0257 . . . [the individual bearer or channel having a maximum bit rate or a bit rate guarantee]

28/0263 . . . [involving mapping traffic to individual bearers or channels, e.g. traffic flow template [TFT]]

28/0268 . . . [using specific QoS parameters for wireless networks, e.g. QoS class identifier [QCI] or guaranteed bit rate [GBR] (negotiating QoS H04W 28/24)]

28/0273 . . . [adapting protocols for flow control or congestion control to wireless environment, e.g. adapting transmission control protocol [TCP] (wireless network protocols or protocol adaptations to wireless operation, e.g. wireless application protocol H04W 80/00)]

28/0278 . . . [using buffer status reports (dynamic wireless traffic scheduling definition H04W 72/1205)]

28/0284 . . . [detecting congestion or overload during communication (monitoring arrangements H04L 43/00)]

28/0289 . . . [Congestion control (performing reselection for handling the traffic H04W 36/22; load shedding arrangements in network planning H04W 16/08; dynamic wireless traffic scheduling H04W 72/12)]

28/0294 . . . [forcing collision (non-scheduled or contention based wireless access channel H04W 74/08)]

28/04 . . . Error control

**NOTE**

When classifying in this group, classification is also made in the appropriate groups under H04L 1/00.

28/06 . . . Optimizing [the usage of the radio link], e.g. header compression, information sizing [], discarding information (system modifying transmission characteristic according to link quality by modifying frame length H04L 1/0007; dynamic adaptation of the packet size for flow control or congestion control H04L 47/365)

28/065 . . . [using assembly or disassembly of packets]

28/08 . . . Load balancing or load distribution

28/085 . . . [among bearers or channels]

28/10 . . . Flow control [between communication endpoints]

28/12 . . . using signalling between network elements

28/14 . . . using intermediate storage

28/16 . Central resource management; Negotiation of resources [or communication parameters], e.g. negotiating bandwidth or QoS [Quality of Service]

28/18 . Negotiating wireless communication parameters

28/20 . Negotiating bandwidth

28/22 . Negotiating communication rate

28/24 . Negotiating SLA [Service Level Agreement]; Negotiating QoS [Quality of Service]

28/26 . . . Resource reservation

36/00 Handoff or reselection arrangements

**NOTE**

In this group, local priority rules supersede the first-place priority rule (FPPR) applying throughout H04W

36/0005 . . . [Control or signalling for completing the hand-off]

36/0011 . . . [for session connection]

36/0016 . . . [for hand-off preparation]

36/0022 . . . [for transferring sessions between adjacent core network technologies]

36/0027 . . . [for a plurality of sessions or connections, e.g. multi-call, multi-bearer connections]

36/0033 . . . [with transfer of context information]

36/0038 . . . . [of security context information]

36/0044 . . . [of quality context information]

36/005 . . . [involving radio access media independent information, e.g. MIH [Media independent Hand-off]]

36/0055 . . . [Transmission and use of information for re-establishing the radio link]

36/0061 . . . [of neighbor cell information]

36/0066 . . . [of control information between different types of networks in order to establish a new radio link in the target network]

36/0072 . . . [of resource information of target access point]

36/0077 . . . [of access information of target access point]

36/0083 . . . [Determination of parameters used for hand-off, e.g. generation or modification of neighbour cell lists]

36/0088 . . . [Scheduling hand-off measurements]

36/0094 . . . [Definition of hand-off measurement parameters]

36/02 . Buffering or recovering information during reselection [; Modification of the traffic flow during hand-off]

36/023 . . . [Buffering or recovering information during reselection]

36/026 . . . [Multicasting of data during hand-off]

36/04 . Reselecting a cell layer in multi-layered cells

36/06 . Reselecting a communication resource in the serving access point

36/08 . Reselecting an access point

36/10 . Reselecting an access point controller

36/12 . Reselecting a serving backbone network switching or routing node
· Reselecting a network or an air interface
· Performing reselection for specific purposes
· [for improving the overall network performance (H04W 36/18 - H04W 36/22 take precedence)]
· for allowing seamless reselection, e.g. soft reselection
· for optimising the interference level
· for handling the traffic
· Reselection being triggered by specific parameters [used to improve the performance of a single terminal]
· [by historical data]
· by agreed or negotiated communication parameters
· involving a plurality of connections, e.g. multi-call, multi-bearer connections
· by measured or perceived connection quality data
· by location or mobility data, e.g. speed data
· Reselection control
· by user or terminal equipment
· [by manual user interaction]
· by fixed network equipment
· [of the core network]

**Communication routing or communication path finding**

- [Routing actions in the presence of nodes in sleep or doze mode]
- Communication route or path selection, e.g. power-based or shortest path routing
- [Limited or focused flooding to selected areas of a network]
- Route selection considering the moving speed of individual devices
- based on wireless node resources
- based on characteristics of available antennas
- based on transmission power
- based on available power or energy
- based on transmission quality or channel quality
- [using a measured number of retransmissions as a link metric]
- based on stability
- based on interference
- based on predicted events
- based on geographic position or location
- [using topographical information, e.g. hills, high rise buildings]
- using selective relaying for reaching a BTS [Base Transceiver Station] or an access point
- Connectivity information management, e.g. connectivity discovery or connectivity update
- [aging of topology database entries]
- [using a network of reference devices, e.g. beaconing]
- [Connectivity information discovery]
- [Connectivity information update]
- for hybrid routing by combining proactive and reactive routing
- for reactive routing
- for proactive routing
- for defining a routing cluster membership
- Modification of an existing route
- due to handover

· adapting due to varying relative distances between nodes

**Access restriction; Network selection; Access point selection**

- Access restriction performed under specific conditions
- based on user or terminal location or mobility data, e.g. moving direction, speed
- based on traffic conditions
- Access restriction or access information delivery, e.g. discovery data delivery
- using broadcasted information
- using downlink control channel
- using user query [or user detection]
- Discovering, processing access restriction or access information

- [Selecting a data network PoA [Point of Attachment]]
- Selecting a network or a communication service
- Selecting an access point

**Power management, e.g. TPC [Transmission Power Control], power saving or power classes**

- [gain control in transmitters or power amplifiers H03G 3/3042]
- Power saving arrangements [in wired systems H04L 12/12: signaling of mobile application services, e.g. low battery notifications H04W 4/20]
- in the radio access network or backbone network of wireless communication networks
- in access points, e.g. base stations [access point devices per se H04W 88/08]
- in terminal devices [terminal devices per se H04W 88/02]
- [managed by the network, e.g. network or access point is master and terminal is slave]
- [using a pre-established activity schedule, e.g. traffic indication frame]
- [where the power saving management affects multiple terminals]
- [in packet switched networks]
- [using monitoring of external events, e.g. the presence of a signal]
- [where the received signal is a wanted signal]
- [according to average transmission signal activity]
- [where the received signal is a power saving command]
- [where the received signal is an unwanted signal, e.g. interference or idle signal]
- [where no transmission is received, e.g. out of range of the transmitter]
- [according to signal strength]
- [dependent on the time of the day, e.g. according to expected transmission activity]
- [using monitoring of local events, e.g. events related to user activity]
- [detecting a user operation or a tactile contact or a motion of the device]
- [controlling an operation mode according to history or models of usage information, e.g. activity schedule or time of day]
TPC [Transmission power control] parameters

TPC being performed according to specific TPC algorithms

TPC being performed in particular situations using constraints in the total amount of available transmission power

TPC of broadcast or control channels

TPC of control or pilot channels

TPC of broadcast channels

TPC being performed according to specific parameters

using error rate

taking into account previous information or commands

using past power control commands

predicting future states of the transmission

Calculation of statistics, e.g. average, variance

using past references to control power, e.g. look-up-table

using past power values or information

using SIR [Signal to Interference Ratio] or other wireless path parameters

taking into account channel quality metrics, e.g. SIR, SNR, CIR, Eb/lo

taking into account path loss

taking into account interferences

Interferences in heterogeneous networks, e.g. among macro and femto or pico cells or other sector / system interference [OSI]

taking into account received signal strength

where the output power of a terminal is based on a path parameter calculated in said terminal

where transmission power control commands are generated based on a path parameter

using transmission rate or quality of service QoS [Quality of Service]

TPC being performed in multi hop networks, e.g. wireless relay networks

during retransmission after error or non-acknowledgment

at the moment of starting communication in a multiple access environment

using AGC [Automatic Gain Control] circuits or amplifiers
52/54 . . . Signalisation aspects of the TPC commands, e.g. frame structure
52/545 . . . [modifying TPC bits in special situations]
52/56 . . . Detection of errors of TPC bits
52/58 . . . Format of the TPC bits
52/60 . . . using different transmission rates for TPC commands

56/00 Synchronisation arrangements
56/0005 . . . [synchronizing of arrival of multiple uplinks]
56/001 . . . [Synchronization between nodes]
56/0015 . . . [one node acting as a reference for the others]
56/002 . . . [Mutual synchronization]
56/0025 . . . [synchronizing potentially movable access points]
56/003 . . . [Arrangements to increase tolerance to errors in transmission or reception timing]
56/0035 . . . [detecting errors in frequency or phase]
56/004 . . . [compensating for timing error of reception due to propagation delay]
56/0045 . . . [compensating for timing error by altering transmission time]
56/005 . . . [compensating for timing error by adjustment in the receiver]
56/0055 . . . [determining timing error of reception due to propagation delay]
56/006 . . . [using known positions of transmitter and receiver]
56/0065 . . . [using measurement of signal travel time]
56/007 . . . . [Open loop measurement]
56/0075 . . . . [based on arrival time vs. expected arrival time]
56/008 . . . . . [detecting arrival of signal based on received raw signal]
56/0085 . . . . . [detecting a given structure in the signal]
56/009 . . . . . [Closed loop measurements]
56/0095 . . . . . [estimated based on signal strength]

60/00 Registration, e.g. affiliation to network; De-registration, e.g. terminating affiliation
60/0005 . . . [Multiple registrations, e.g. multihoming]
60/002 . . . by periodical registration
60/004 . . . using triggered events
60/006 . . . De-registration or detaching

64/00 Locating users or terminals (or network equipment) for network management purposes, e.g. mobility management
64/0003 . . . [locating network equipment]
64/0006 . . . [with additional information processing, e.g. for direction or speed determination]

68/00 Notification of users, e.g. alerting for incoming communication or change of service
68/0005 . . . [Transmission of information for alerting of incoming communication]
68/002 . . . Arrangements for increasing efficiency of notification or paging channel
68/0025 . . . [Indirect paging]
68/004 . . . multi-step notification using statistical or historical mobility data
68/006 . . . using multi-step notification by changing the notification area
68/008 . . . using multi-step notification by increasing the notification area

68/10 . . . using simulcast notification
68/12 . . . Inter-network notification

72/00 Local resource management, e.g. wireless traffic scheduling or selection or allocation of wireless resources

NOTE
In this group, local priority rules supersede the first-place priority rule (FPPR) applying throughout H04W.

72/005 . . . [Resource management for broadcast services]
72/02 . . . Selection of wireless resources by user or terminal
72/04 . . . Wireless resource allocation
72/0406 . . . [involving control information exchange between nodes]
72/0413 . . . [in uplink direction of a wireless link, i.e. towards network]
72/042 . . . [in downlink direction of a wireless link, i.e. towards terminal]
72/0426 . . . [between access points]
72/0433 . . . [between access point and access point controlling device]
72/044 . . . [where an allocation plan is defined based on the type of the allocated resource]
72/0446 . . . [the resource being a slot, sub-slot or frame]
72/0453 . . . [the resource being a frequency, carrier or frequency band]
72/046 . . . [the resource being in the space domain, e.g. beams]
72/0466 . . . [the resource being a scrambling code]
72/0473 . . . [the resource being transmission power]
72/048 . . . [where an allocation plan is defined based on terminal or device properties]
72/0486 . . . [where an allocation plan is defined based on load]
72/0493 . . . [where an allocation plan is defined based on a resource usage policy]
72/06 . . . [where an allocation plan is defined based on a ranking criteria of the wireless resources]
72/08 . . . [where an allocation plan is defined based on quality criteria]
72/082 . . . [using the level of interference]
72/085 . . . [using measured or perceived quality]
72/087 . . . [using requested quality]
72/10 . . . [where an allocation plan is defined] based on priority criteria
72/12 . . . [Dynamic] Wireless traffic scheduling [; Dynamically scheduled allocation on shared channel]
72/1205 . . . [Schedule definition, set-up or creation]
72/121 . . . [for groups of terminals or users]
72/1215 . . . [for collaboration of different radio technologies]
72/1221 . . . [based on age of data to be sent]
72/1226 . . . [based on channel quality criteria, e.g. channel state dependent scheduling]
72/1231 . . . [using measured or perceived quality]
72/1236 . . . [using requested quality]
72/1242 . . . [based on precedence or priority of the traffic information]
72/1247 . . . [based on priority of the information source or recipient]
NOTE

In this main group, the first place priority rule is not applied, i.e. the common rule is applied.

76/00 Connection management

76/10 Connection setup
76/11 Allocation or use of connection identifiers
76/12 Setup of transport tunnels
76/14 Direct-mode setup
76/15 Setup of multiple wireless link connections
76/16 Involving different core network technologies, e.g. a packet-switched [PS] bearer in combination with a circuit-switched [CS] bearer
76/18 Management of setup rejection or failure
76/19 Connection re-establishment
76/20 Manipulation of established connections
76/22 Manipulation of transport tunnels
76/23 Manipulation of direct-mode connections
76/25 Maintenance of established connections

76/27 Transitions between radio resource control [RRC] states
76/28 Discontinuous transmission [DTX]; Discontinuous reception [DRX]
76/30 Connection release
76/32 Release of transport tunnels
76/34 Selective release of ongoing connections
76/36 for reassigning the resources associated with the released connections
76/38 triggered by timers
76/40 for selective distribution or broadcast
76/45 Push-to-Talk [PTT] or Push-to-Talk over cellular [PoC] services
76/50 for emergency connections

80/00 Wireless network protocols or protocol adaptations to wireless operation, e.g. WAP

[Wireless Application Protocol]

80/02 Data link layer protocols

WARNING

This group is used only for indicating additional information when it is of interest for search

80/04 Network layer protocols, e.g. mobile IP [Internet Protocol]

WARNING

This group is used only for indicating additional information when it is of interest for search

80/045 Involving different protocol versions, e.g. MIPv4 and MIPv6

WARNING

This group is used only for indicating additional information when it is of interest for search

80/06 Transport layer protocols, e.g. TCP [Transport Control Protocol] over wireless {(transmission control protocol)/Internet protocol [TCP/IP] or user datagram protocol [UDP] [H04L 69/16]}

80/08 Upper layer protocols {(network arrangements or communication protocols for networked applications [H04L 67/00]}

80/085 Involving different upper layer protocol versions, e.g. LCS - SUPL or WSN-SOA-WSDP

80/10 Adapted for [application] session management, e.g. SIP [Session Initiation Protocol] {connection management [H04W 76/00; arrangements for session management [H04L 67/14]}

80/12 Application layer protocols, e.g. WAP

84/00 Network topologies

NOTE

In this group, local priority rules supersede the first-place priority rule (FPPR) applying throughout H04W

84/005 Moving wireless networks

84/02 Hierarchically pre-organised networks, e.g. paging networks, cellular networks, WLAN [Wireless Local Area Network] or WLL [Wireless Local Loop]
84/022 . . {One-way selective calling networks, e.g. wide area paging}
84/025 . . {with acknowledge back capability}
84/027 . . {providing paging services}
84/04 . . Large scale networks; Deep hierarchical networks
84/042 . . {Public Land Mobile systems, e.g. cellular systems}
84/045 . . . {using private Base Stations, e.g. femto Base Stations, home Node B}
84/047 . . . {using dedicated repeater stations}
84/06 . . Airborne or Satellite Networks
84/08 . . Trunked mobile radio systems
84/10 . . Small scale networks; Flat hierarchical networks
84/105 . . . {PBS [Private Base Station] network (H04W 84/12 - H04W 84/16 take precedence)}
84/12 . . WLAN [Wireless Local Area Networks]
84/14 . . WLL [Wireless Local Loop]; RLL [Radio Local Loop]
84/16 . . WPBX [Wireless Private Branch Exchange]
84/18 . . Self-organising networks, e.g. ad-hoc networks or sensor networks
84/20 . . . Master-slave {selection or change} arrangements
84/22 . . . with access to wired networks
88/00 Devices specially adapted for wireless communication networks, e.g. terminals, base stations or access point devices
88/005 . . . {Data network PoA devices}
88/02 . . Terminal devices
88/021 . . . {adapted for Wireless Local Loop operation}
88/022 . . {Selective call receivers}
88/023 . . . {with message or information receiving capability}
88/025 . . . {Selective call decoders}
88/026 . . . . {using digital address codes}
88/027 . . . . {using frequency address codes}
88/028 . . . . {using pulse address codes}
88/04 . . . adapted for relaying to or from another terminal or user
88/06 . . . adapted for operation in multiple networks {or having at least two operational modes}, e.g. multi-mode terminals
88/08 . . Access point devices
88/085 . . . {Access point devices with remote components}
88/10 . . adapted for operation in multiple networks, e.g. multi-mode access points
88/12 . . Access point controller devices
88/14 . . Backbone network devices
88/16 . . Gateway arrangements
88/18 . . Service support; Network management devices
88/181 . . . {Transcoding devices; Rate adaptation devices}
88/182 . . . {Network node acting on behalf of an other network entity, e.g. proxy}
88/184 . . . {Messaging devices, e.g. message centre}
88/185 . . . {Selective call encoders for paging networks, e.g. paging centre devices}
88/187 . . . . {using digital or pulse address codes}
88/188 . . . . {using frequency address codes}
92/00 Interfaces specially adapted for wireless communication networks
92/02 . . Inter-networking arrangements
92/04 . . Interfaces between hierarchically different network devices
92/045 . . . {between access point and backbone network device}
92/05 . . . between gateways and public network devices
92/08 . . . between user and terminal device
92/10 . . . between terminal device and access point, i.e. wireless air interface
92/12 . . . between access points and access point controllers
92/14 . . . between access point controllers and backbone network device
92/16 . . Interfaces between hierarchically similar devices
92/18 . . . between terminal devices
92/20 . . . between access points
92/22 . . . between access point controllers
92/24 . . . between backbone network devices
99/00 Subject matter not provided for in other groups of this subclass