

CPC COOPERATIVE PATENT CLASSIFICATION

H ELECTRICITY

(NOTE omitted)

H04 ELECTRIC COMMUNICATION TECHNIQUE

(NOTE omitted)

H04W WIRELESS COMMUNICATION NETWORKS (broadcast communication [H04H](#); communication systems using wireless links for non-selective communication, e.g. wireless extensions [H04M 1/72](#))

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;
 - services or facilities 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](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

4/00	Services specially adapted for wireless communication networks; Facilities therefor	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
		4/18	. 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
4/02	. Services making use of location information		
4/021	. . Services related to particular areas, e.g. point of interest [POI] services, venue services or geofences	4/185	. . {by embedding added-value information into content, e.g. geo-tagging}
4/022	. . . {with dynamic range variability}	4/20	. Services signaling; Auxiliary data signalling, i.e. transmitting data via a non-traffic channel
4/023	. . {using mutual or relative location information between multiple location based services [LBS] targets or of distance thresholds}	4/203	. . {for converged personal network application service interworking, e.g. OMA converged personal network services [CPNS]}
4/024	. . Guidance services		
4/025	. . {using location based information parameters}	4/21	. . for social networking applications
4/026	. . . {using orientation information, e.g. compass}	4/23	. . for mobile advertising
4/027	. . . {using movement velocity, acceleration information}		
4/029	. . Location-based management or tracking services		
4/06	. Selective distribution of broadcast services, e.g. multimedia broadcast multicast service [MBMS]; Services to user groups; One-way selective calling services		

4/24	<ul style="list-style-type: none"> • Accounting or billing <p>WARNING</p> <p>Group H04W 4/24 is incomplete pending reclassification of documents from group G06Q 50/40.</p> <p>Groups G06Q 50/40 and H04W 4/24 should be considered in order to perform a complete search.</p>	8/183	<ul style="list-style-type: none"> • • {Processing at user equipment or user record carrier}
4/30	<ul style="list-style-type: none"> • Services specially adapted for particular environments, situations or purposes 	8/186	<ul style="list-style-type: none"> • • {Processing of subscriber group data}
4/33	<ul style="list-style-type: none"> • • for indoor environments, e.g. buildings 	8/20	<ul style="list-style-type: none"> • • Transfer of user or subscriber data
4/35	<ul style="list-style-type: none"> • • for the management of goods or merchandise 	8/205	<ul style="list-style-type: none"> • • • {Transfer to or from user equipment or user record carrier}
4/38	<ul style="list-style-type: none"> • • for collecting sensor information 	8/22	<ul style="list-style-type: none"> • Processing or transfer of terminal data, e.g. status or physical capabilities
4/40	<ul style="list-style-type: none"> • • for vehicles, e.g. vehicle-to-pedestrians [V2P] 	8/24	<ul style="list-style-type: none"> • • Transfer of terminal data
4/42	<ul style="list-style-type: none"> • • • for mass transport vehicles, e.g. buses, trains or aircraft 	8/245	<ul style="list-style-type: none"> • • • {from a network towards a terminal}
4/44	<ul style="list-style-type: none"> • • • for communication between vehicles and infrastructures, e.g. vehicle-to-cloud [V2C] or vehicle-to-home [V2H] 	8/26	<ul style="list-style-type: none"> • Network addressing or numbering for mobility support
4/46	<ul style="list-style-type: none"> • • • for vehicle-to-vehicle communication [V2V] 	8/265	<ul style="list-style-type: none"> • • {for initial activation of new user}
4/48	<ul style="list-style-type: none"> • • • for in-vehicle communication 	8/28	<ul style="list-style-type: none"> • • Number portability {; Network address portability}
4/50	<ul style="list-style-type: none"> • Service provisioning or reconfiguring 	8/30	<ul style="list-style-type: none"> • Network data restoration; {Network data reliability; Network data fault tolerance}
4/60	<ul style="list-style-type: none"> • Subscription-based services using application servers or record carriers, e.g. SIM application toolkits 	12/00	Security arrangements; Authentication; Protecting privacy or anonymity
4/70	<ul style="list-style-type: none"> • Services for machine-to-machine communication [M2M] or machine type communication [MTC] 	12/009	<ul style="list-style-type: none"> • {specially adapted for networks, e.g. wireless sensor networks, ad-hoc networks, RFID networks or cloud networks}
4/80	<ul style="list-style-type: none"> • Services using short range communication, e.g. near-field communication [NFC], radio-frequency identification [RFID] or low energy communication 	12/02	<ul style="list-style-type: none"> • Protecting privacy or anonymity, e.g. protecting personally identifiable information [PII]
4/90	<ul style="list-style-type: none"> • Services for handling of emergency or hazardous situations, e.g. earthquake and tsunami warning systems [ETWS] 	12/03	<ul style="list-style-type: none"> • Protecting confidentiality, e.g. by encryption
8/00	Network data management	12/033	<ul style="list-style-type: none"> • • of the user plane, e.g. user's traffic
8/005	<ul style="list-style-type: none"> • {Discovery of network devices, e.g. terminals} 	12/037	<ul style="list-style-type: none"> • • of the control plane, e.g. signalling traffic
8/02	<ul style="list-style-type: none"> • 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 	12/04	<ul style="list-style-type: none"> • Key management, e.g. using generic bootstrapping architecture [GBA]
8/04	<ul style="list-style-type: none"> • • Registration at HLR or HSS [Home Subscriber Server] 	12/041	<ul style="list-style-type: none"> • • Key generation or derivation
8/06	<ul style="list-style-type: none"> • • Registration at serving network Location Register, VLR or user mobility server 	12/043	<ul style="list-style-type: none"> • • using a trusted network node as an anchor
8/065	<ul style="list-style-type: none"> • • • {involving selection of the user mobility server} 	12/0431	<ul style="list-style-type: none"> • • • Key distribution or pre-distribution; Key agreement
8/08	<ul style="list-style-type: none"> • • Mobility data transfer 	12/0433	<ul style="list-style-type: none"> • • • Key management protocols
8/082	<ul style="list-style-type: none"> • • • {for traffic bypassing of mobility servers, e.g. location registers, home PLMNs or home agents} 	12/047	<ul style="list-style-type: none"> • • without using a trusted network node as an anchor
8/085	<ul style="list-style-type: none"> • • • {involving hierarchical organized mobility servers, e.g. hierarchical mobile IP [HMIP]} 	12/0471	<ul style="list-style-type: none"> • • • Key exchange
8/087	<ul style="list-style-type: none"> • • • {for preserving data network PoA address despite hand-offs} 	12/06	<ul style="list-style-type: none"> • Authentication
8/10	<ul style="list-style-type: none"> • • • between location register and external networks 	12/062	<ul style="list-style-type: none"> • • Pre-authentication
8/12	<ul style="list-style-type: none"> • • • between location registers or mobility servers 	12/065	<ul style="list-style-type: none"> • • Continuous authentication
8/14	<ul style="list-style-type: none"> • • • between corresponding nodes 	12/068	<ul style="list-style-type: none"> • • {using credential vaults, e.g. password manager applications or one time password [OTP] applications}
8/16	<ul style="list-style-type: none"> • • • selectively restricting mobility {data} tracking 	12/069	<ul style="list-style-type: none"> • • using certificates or pre-shared keys
8/18	<ul style="list-style-type: none"> • Processing of user or subscriber data, e.g. subscribed services, user preferences or user profiles; Transfer of user or subscriber data 	12/08	<ul style="list-style-type: none"> • Access security
		12/082	<ul style="list-style-type: none"> • • using revocation of authorisation
		12/084	<ul style="list-style-type: none"> • • using delegated authorisation, e.g. open authorisation [OAuth] protocol
		12/086	<ul style="list-style-type: none"> • • using security domains
		12/088	<ul style="list-style-type: none"> • • using filters or firewalls
		12/10	<ul style="list-style-type: none"> • Integrity
		12/102	<ul style="list-style-type: none"> • • Route integrity, e.g. using trusted paths
		12/104	<ul style="list-style-type: none"> • • Location integrity, e.g. secure geotagging
		12/106	<ul style="list-style-type: none"> • • Packet or message integrity
		12/108	<ul style="list-style-type: none"> • • Source integrity
		12/12	<ul style="list-style-type: none"> • Detection or prevention of fraud
		12/121	<ul style="list-style-type: none"> • • Wireless intrusion detection systems [WIDS]; Wireless intrusion prevention systems [WIPS]
		12/122	<ul style="list-style-type: none"> • • • Counter-measures against attacks; Protection against rogue devices
		12/125	<ul style="list-style-type: none"> • • Protection against power exhaustion attacks
		12/126	<ul style="list-style-type: none"> • • Anti-theft arrangements, e.g. protection against subscriber identity module [SIM] cloning

- 12/128 . . Anti-malware arrangements, e.g. protection against SMS fraud or mobile malware
- 12/30 . Security of mobile devices; Security of mobile applications
- 12/33 . . using wearable devices, e.g. using a smartwatch or smart-glasses
- 12/35 . . {Protecting application or service provisioning, e.g. securing SIM application provisioning}
- 12/37 . . Managing security policies for mobile devices or for controlling mobile applications
- 12/40 . Security arrangements using identity modules
- 12/42 . . using virtual identity modules
- 12/43 . . using shared identity modules, e.g. SIM sharing
- 12/45 . . using multiple identity modules
- 12/47 . . using near field communication [NFC] or radio frequency identification [RFID] modules
- 12/48 . . using secure binding, e.g. securely binding identity modules to devices, services or applications
- 12/50 . Secure pairing of devices
- 12/55 . . involving three or more devices, e.g. group pairing
- 12/60 . Context-dependent security
- 12/61 . . Time-dependent
- 12/63 . . Location-dependent; Proximity-dependent
- 12/64 . . . using geofenced areas
- 12/65 . . Environment-dependent, e.g. using captured environmental data
- 12/66 . . {Trust-dependent, e.g. using trust scores or trust relationships}
- 12/67 . . Risk-dependent, e.g. selecting a security level depending on risk profiles
- 12/68 . . Gesture-dependent or behaviour-dependent
- 12/69 . . Identity-dependent
- 12/71 . . . Hardware identity
- 12/72 . . . Subscriber identity
- 12/73 . . . Access point logical identity
- 12/75 . . . Temporary identity
- 12/76 . . . Group identity
- 12/77 . . . Graphical identity
- 12/79 . . . Radio fingerprint
- 12/80 . Arrangements enabling lawful interception [LI]
- 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 {or 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 management; Network 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 4/70](#); wireless resource selection or allocation plan definition based on terminal or device properties [H04W 72/51](#))}
- 28/0221 . . . {power availability or consumption}
- 28/0226 . . {based on location or mobility (handoff or reselection [H04W 36/00](#); mobile application services making use of the location of users or terminals [H04W 4/02](#))}
- 28/0231 . . {based on communication conditions (dynamic wireless traffic scheduling definition based on channel quality criteria [H04W 72/54](#))}
- 28/0236 . . . {radio quality, e.g. interference, losses or delay}
- 28/0242 . . . {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 SLA or 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 72/12)}	28/0942	. . . . . {based on measured or predicted load of entities- or links}
28/0284	. . {detecting congestion or overload during communication (monitoring arrangements H04L 43/00)}	28/095	. . . . . {based on usage history, e.g. usage history of devices}
28/0289	. . {Congestion control (load shedding arrangements in network planning H04W 16/08 ; performing reselection for handling the traffic H04W 36/22 ; wireless traffic scheduling H04W 72/12)}	28/0958	. . . . . {based on metrics or performance parameters}
28/0294	. . {forcing collision (non-scheduled or contention based wireless access channel H04W 74/08)}	28/0967	. . . . . {Quality of Service [QoS] parameters}
28/04	. . Error control	28/0975	. . . . . {for reducing delays}
	NOTE	28/0983	. . . . . {for optimizing bandwidth or throughput}
	When classifying in this group, classification is also made in the appropriate groups under H04L 1/00 .	28/0992	. . . . . {based on the type of application}
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)}	28/10	. . Flow control {between communication endpoints}
28/065	. . . {using assembly or disassembly of packets}	28/12	. . . using signalling between network elements
28/08	. . Load balancing or load distribution (transferring a connection for handling the traffic H04W 36/22 ; wireless traffic scheduling H04W 72/12)	28/14	. . . using intermediate storage
28/082	. . . among bearers or channels	28/16	. Central resource management; Negotiation of resources or communication parameters, e.g. negotiating bandwidth or QoS [Quality of Service]
28/0827	. . . {Triggering entity}	28/18	. . Negotiating wireless communication parameters
28/0831	. . . . {Core entity}	28/20	. . . Negotiating bandwidth
28/0835	. . . . {Access entity, e.g. eNB}	28/22	. . . Negotiating communication rate
28/0838	. . . . {User device}	28/24	. . Negotiating SLA [Service Level Agreement]; Negotiating QoS [Quality of Service]
28/084	. . . among network function virtualisation [NFV] entities; among edge computing entities, e.g. multi-access edge computing	28/26	. . Resource reservation
28/0846	. . . {between network providers, e.g. operators (selecting a network or a communication service H04W 40/18)}	36/00	Hand-off or reselection arrangements
28/0858	. . . {among entities in the uplink}		NOTE
28/086	. . . among access entities		In this group, local priority rules supersede the first-place priority rule (FPPR) applying throughout H04W
28/0861	. . . . {between base stations}	36/0005	. {Control or signalling for completing the hand-off}
28/0862	. . . . . {of same hierarchy level}	36/0007	. . {for multicast or broadcast services, e.g. MBMS (multicast or broadcast application services H04W 4/06 ; resource management for broadcast services H04W 72/30 ; connection management for selective distribution or broadcast H04W 76/40)}
28/0864	. . . . . {of different hierarchy levels, e.g. Master Evolved Node B [MeNB] or Secondary Evolved node B [SeNB]}	36/0009	. . {for a plurality of users or terminals, e.g. group communication or moving wireless networks (user group management H04W 4/08 ; processing of subscriber group data H04W 8/186)}
28/0865	. . . . . {of different Radio Access Technologies [RATs], e.g. LTE® or Wi-Fi®}	36/0011	. . {for data sessions of end-to-end connection}
28/0866	. . . . . {between wireless and wire-based access points, e.g. via LTE and via DSL connected access points}	36/0016	. . . {Hand-off preparation specially adapted for end-to-end data sessions}
28/0867	. . . {among entities in the downlink}	36/0019	. . . {adapted for mobile IP [MIP]}
28/0875	. . . {to or through Device to Device [D2D] links, e.g. direct-mode links}	36/0022	. . . {for transferring data sessions between adjacent core network technologies}
28/088	. . . among core entities	36/00222	. . . . . {between different packet switched [PS] network technologies, e.g. transferring data sessions between LTE and WLAN or LTE and 5G}
28/0883	. . . {between entities in ad-hoc networks}	36/00224	. . . . . {between packet switched [PS] and circuit switched [CS] network technologies, e.g. circuit switched fallback [CSFB]}
28/0892	. . . . {between different intermediate nodes}	36/00226	. . . . . {wherein the core network technologies comprise IP multimedia system [IMS], e.g. single radio voice call continuity [SRVCC]}
28/09	. . . {Management thereof}	36/0027	. . . {for a plurality of data sessions of end-to-end connections, e.g. multi-call or multi-bearer end-to-end data connections}
28/0908	. . . . {based on time, e.g. for a critical period only}	36/0033	. . . {with transfer of context information}
28/0917	. . . . {based on the energy state of entities}	36/0038	. . . . {of security context information}
28/0925	. . . . {using policies}		
28/0933	. . . . . {based on load-splitting ratios}		

36/0044	. . . . {of quality context information}	36/083	. . {wherein at least one of the access points is a moving node}
36/005	. . {involving radio access media independent information, e.g. MIH [Media independent Hand-off]}	36/085	. . {involving beams of access points}
36/0055	. . {Transmission or use of information for re-establishing the radio link}	36/087	. . {between radio units of access points}
36/0058	. . . . {Transmission of hand-off measurement information, e.g. measurement reports}	36/10	. Reselecting an access point controller
36/0061	. . . . {of neighbour cell information}	36/12	. Reselecting a serving backbone network switching or routing node
36/0064	. . . . {of control information between different access points}	36/125	. . {involving different types of service backbones}
36/0066	. . . . {of control information between different types of networks in order to establish a new radio link in the target network}	36/13	. {Cell handover without a predetermined boundary, e.g. virtual cells}
36/0069	. . . . {in case of dual connectivity, e.g. decoupled uplink/downlink}	36/14	. Reselecting a network or an air interface
36/00692	. . . . {using simultaneous multiple data streams, e.g. cooperative multipoint [CoMP], carrier aggregation [CA] or multiple input multiple output [MIMO] (allocation of physical resources in CoMP or in CA H04L 5/0035)}	36/142	. . {over the same radio air interface technology}
36/00695	. . . . {using split of the control plane or user plane}	36/144	. . {over a different radio air interface technology}
36/00698	. . . . {using different RATs}	36/1443	. . . . {between licensed networks}
36/0072	. . . . {of resource information of target access point}	36/1446	. . . . {wherein at least one of the networks is unlicensed}
36/00725	. . . . {Random access channel [RACH]-less handover}	36/16	. Performing reselection for specific purposes
36/0077	. . . . {of access information of target access point}	36/165	. . {for reducing network power consumption (H04W 36/18 - H04W 36/22 take precedence)}
36/0079	. . . . {in case of hand-off failure or rejection}	36/18	. . for allowing seamless reselection, e.g. soft reselection
36/0083	. . {Determination of parameters used for hand-off, e.g. generation or modification of neighbour cell lists}	36/185	. . . . {using make before break}
36/00833	. . . . {Handover statistics}	36/20	. . for optimising the interference level
36/00835	. . . . {Determination of neighbour cell lists}	36/22	. . for handling the traffic
36/008355	. . . . {Determination of target cell based on user equipment [UE] properties, e.g. UE service capabilities}	36/24	. Reselection being triggered by specific parameters
36/008357	. . . . {Determination of target cell based on access point [AP] properties, e.g. AP service capabilities}	36/247	. . {by using coverage extension}
36/00837	. . . . {Determination of triggering parameters for hand-off}	36/249	. . {according to timing information}
36/008375	. . . . {based on historical data}	36/26	. . by agreed or negotiated communication parameters
36/00838	. . . . {Resource reservation for handover}	36/28	. . . involving a plurality of connections, e.g. multi-call or multi-bearer connections
36/0085	. . . . {Hand-off measurements}	36/30	. . by measured or perceived connection quality data
36/0088	. . . . {Scheduling hand-off measurements}	36/302	. . . . {due to low signal strength}
36/0094	. . . . {Definition of hand-off measurement parameters}	36/304	. . . . {due to measured or perceived resources with higher communication quality}
36/02	. Buffering or recovering information during reselection ; Modification of the traffic flow during hand-off	36/305	. . . . {Handover due to radio link failure (control signalling for hand-off failure H04W 36/0079)}
36/023	. . {Buffering or recovering information during reselection}	36/32	. . by location or mobility data, e.g. speed data
36/0235	. . . . {by transmitting sequence numbers, e.g. SN status transfer}	36/322	. . . . {by location data}
36/026	. . {Multicasting of data during hand-off}	36/324	. . . . {by mobility data, e.g. speed data}
36/03	. {Reselecting a link using a direct mode connection}	36/326	. . . . {by proximity to another entity}
36/033	. . {in pre-organised networks}	36/328	. . . . {by altitude}
36/035	. . {in self-organising networks}	36/34	. Reselection control
36/037	. . {by reducing handover delay, e.g. latency}	36/36	. . by user or terminal equipment
36/04	. Reselecting a cell layer in multi-layered cells	36/362	. . . . {Conditional handover}
36/06	. Reselecting a communication resource in the serving access point	36/365	. . . . {by manual user interaction}
36/08	. Reselecting an access point	36/38	. . by fixed network equipment
		36/385	. . . . {of the core network}
		40/00	Communication routing or communication path finding
		40/005	. {Routing actions in the presence of nodes in sleep or doze mode}
		40/02	. Communication route or path selection, e.g. power-based or shortest path routing
		40/023	. . {Limited or focused flooding to selected areas of a network}
		40/026	. . {Route selection considering the moving speed of individual devices}
		40/04	. . based on wireless node resources
		40/06	. . . . based on characteristics of available antennas
		40/08	. . . . based on transmission power
		40/10	. . . . based on available power or energy

40/12	. . based on transmission quality or channel quality	52/0225	. . . {using monitoring of external events, e.g. the presence of a signal}
40/125	. . . {using a measured number of retransmissions as a link metric}	52/0229	. . . . {where the received signal is a wanted signal}
40/14	. . . based on stability	52/0232	. . . . . {according to average transmission signal activity}
40/16	. . . based on interference	52/0235	. . . . . {where the received signal is a power saving command}
40/18	. . based on predicted events	52/0238	. . . . . {where the received signal is an unwanted signal, e.g. interference or idle signal}
40/20	. . based on geographic position or location	52/0241	. . . . . {where no transmission is received, e.g. out of range of the transmitter}
40/205	. . . {using topographical information, e.g. hills, high rise buildings}	52/0245	. . . . . {according to signal strength}
40/22	. . using selective relaying for reaching a BTS [Base Transceiver Station] or an access point	52/0248	. . . . . {dependent on the time of the day, e.g. according to expected transmission activity}
40/24	. Connectivity information management, e.g. connectivity discovery or connectivity update	52/0251	. . . . {using monitoring of local events, e.g. events related to user activity}
40/242	. . {aging of topology database entries}	52/0254	. . . . . {detecting a user operation or a tactile contact or a motion of the device}
40/244	. . {using a network of reference devices, e.g. beaconing}	52/0258	. . . . . {controlling an operation mode according to history or models of usage information, e.g. activity schedule or time of day}
40/246	. . {Connectivity information discovery}	52/0261	. . . . {managing power supply demand, e.g. depending on battery level}
40/248	. . {Connectivity information update}	52/0264	. . . . . {by selectively disabling software applications}
40/26	. . for hybrid routing by combining proactive and reactive routing	52/0267	. . . . . {by controlling user interface components}
40/28	. . for reactive routing	52/027	. . . . . {by controlling a display operation or backlight unit}
40/30	. . for proactive routing	52/0274	. . . . . {by switching on or off the equipment or parts thereof}
40/32	. . for defining a routing cluster membership	52/0277	. . . . . {according to available power supply, e.g. switching off when a low battery condition is detected}
40/34	. Modification of an existing route	52/028	. . . . . {switching on or off only a part of the equipment circuit blocks}
40/36	. . due to handover	52/0283	. . . . . . {with sequential power up or power down of successive circuit blocks, e.g. switching on the local oscillator before RF or mixer stages}
40/38	. . adapting due to varying relative distances between nodes	52/0287	. . . . . {changing the clock frequency of a controller in the equipment}
48/00	Access restriction (access security to prevent unauthorised access H04W 12/08); Network selection; Access point selection	52/029	. . . . . {reducing the clock frequency of the controller}
48/02	. Access restriction performed under specific conditions	52/0293	. . . . . {having a sub-controller with a low clock frequency switching on and off a main controller with a high clock frequency}
48/04	. . based on user or terminal location or mobility data, e.g. moving direction, speed	52/0296	. . . . . {switching to a backup power supply}
48/06	. . based on traffic conditions	52/04	. Transmission power control [TPC]
48/08	. Access restriction or access information delivery, e.g. discovery data delivery (signalling during connection H04W 76/00)	52/06	. . TPC algorithms
48/10	. . using broadcasted information	52/08	. . . Closed loop power control
48/12	. . using downlink control channel	52/10	. . . Open loop power control
48/14	. . using user query {or user detection}	52/12	. . . Outer and inner loops
48/16	. Discovering, processing access restriction or access information	52/125	. . . . . {cascaded outer loop power control}
48/17	. {Selecting a data network PoA [Point of Attachment]}	52/14	. . . Separate analysis of uplink or downlink
48/18	. Selecting a network or a communication service	52/143	. . . . . {Downlink power control}
48/20	. Selecting an access point	52/146	. . . . . {Uplink power control}
52/00	Power management {, e.g. Transmission Power Control [TPC] or power classes}	52/16	. . . Deriving transmission power values from another channel
52/02	. Power saving arrangements	52/18	. . TPC being performed according to specific parameters
52/0203	. . {in the radio access network or backbone network of wireless communication networks}	52/20	. . . using error rate
52/0206	. . . {in access points, e.g. base stations}	52/22	. . . taking into account previous information or commands
52/0209	. . {in terminal devices}		
52/0212	. . . {managed by the network, e.g. network or access point is leader and terminal is follower}		
52/0216	. . . . {using a pre-established activity schedule, e.g. traffic indication frame}		
52/0219	. . . . {where the power saving management affects multiple terminals}		
52/0222	. . . . {in packet switched networks}		

- 52/221 {using past power control commands}
- 52/223 {predicting future states of the transmission}
- 52/225 {Calculation of statistics, e.g. average or variance}
- 52/226 {using past references to control power, e.g. look-up-table}
- 52/228 {using past power values or information}
- 52/24 . . . using SIR [Signal to Interference Ratio] or other wireless path parameters
- 52/241 {taking into account channel quality metrics, e.g. SIR, SNR, CIR or Eb/lo}
- 52/242 {taking into account path loss}
- 52/243 {taking into account interferences}
- 52/244 {Interferences in heterogeneous networks, e.g. among macro and femto or pico cells or other sector / system interference [OSI]}
- 52/245 {taking into account received signal strength}
- 52/246 {where the output power of a terminal is based on a path parameter calculated in said terminal}
- 52/247 {where the output power of a terminal is based on a path parameter sent by another terminal}
- 52/248 {where transmission power control commands are generated based on a path parameter}
- 52/26 . . . using transmission rate or quality of service QoS [Quality of Service]
- 52/262 {taking into account adaptive modulation and coding [AMC] scheme}
- 52/265 {taking into account the quality of service QoS}
- 52/267 {taking into account the information rate}
- 52/28 . . . using user profile, e.g. mobile speed, priority or network state, e.g. standby, idle or non-transmission
- 52/281 {taking into account user or data type priority}
- 52/282 {taking into account the speed of the mobile}
- 52/283 {Power depending on the position of the mobile}
- 52/285 {taking into account the mobility of the user}
- 52/286 {during data packet transmission, e.g. high speed packet access [HSPA]}
- 52/287 {when the channel is in stand-by}
- 52/288 {taking into account the usage mode, e.g. hands-free, data transmission or telephone}
- 52/30 . . . using constraints in the total amount of available transmission power
- 52/32 . . . TPC of broadcast or control channels
- 52/322 {Power control of broadcast channels}
- 52/325 {Power control of control or pilot channels}
- 52/327 {Power control of multicast channels}
- 52/34 . . . TPC management, i.e. sharing limited amount of power among users or channels or data types, e.g. cell loading
- 52/343 {taking into account loading or congestion level}
- 52/346 {distributing total power among users or channels}
- 52/36 . . . with a discrete range or set of values, e.g. step size, ramping or offsets
- 52/362 {Aspects of the step size}
- 52/365 {Power headroom reporting}
- 52/367 {Power values between minimum and maximum limits, e.g. dynamic range}
- 52/38 . . . TPC being performed in particular situations
- 52/383 {power control in peer-to-peer links}
- 52/386 {centralized, e.g. when the radio network controller or equivalent takes part in the power control}
- 52/40 . . . during macro-diversity or soft handoff
- 52/42 . . . in systems with time, space, frequency or polarisation diversity
- 52/44 . . . in connection with interruption of transmission
- 52/46 . . . in multi-hop networks, e.g. wireless relay networks
- 52/48 . . . during retransmission after error or non-acknowledgment
- 52/50 . . . at the moment of starting communication in a multiple access environment
- 52/52 . . . 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}

<p>60/00 Affiliation to network, e.g. registration; Terminating affiliation with the network, e.g. de- registration</p> <p>WARNING</p> <p>Group H04W 60/00 is impacted by reclassification into groups H04W 60/001 and H04W 60/002.</p> <p>Groups H04W 60/00, H04W 60/001 and H04W 60/002 should be considered in order to perform a complete search.</p>	<p>64/003</p> <p>64/006</p>	<ul style="list-style-type: none"> • {locating network equipment} • {with additional information processing, e.g. for direction or speed determination}
<p>60/001</p> <ul style="list-style-type: none"> • {Registration rejection or failure} <p>WARNING</p> <p>Group H04W 60/001 is incomplete pending reclassification of documents from groups H04W 60/00, H04W 60/005, H04W 60/02 and H04W 60/04.</p> <p>All groups listed in this Warning should be considered in order to perform a complete search.</p>	<p>68/00</p> <p>68/005</p> <p>68/02</p> <p>68/025</p> <p>68/04</p> <p>68/06</p> <p>68/08</p> <p>68/10</p> <p>68/12</p>	<p>User notification, e.g. alerting and paging, for incoming communication, change of service or the like</p> <ul style="list-style-type: none"> • {Transmission of information for alerting of incoming communication} • Arrangements for increasing efficiency of notification or paging channel • . . {Indirect paging} • multi-step notification using statistical or historical mobility data • using multi-step notification by changing the notification area • using multi-step notification by increasing the notification area • using simulcast notification • Inter-network notification
<p>60/002</p> <ul style="list-style-type: none"> • {Registration for requesting network slices} <p>WARNING</p> <p>Group H04W 60/002 is incomplete pending reclassification of documents from groups H04W 60/00, H04W 60/005, H04W 60/02 and H04W 60/04.</p> <p>All groups listed in this Warning should be considered in order to perform a complete search.</p>	<p>72/00</p> <p>72/02</p>	<p>Local resource management</p> <ul style="list-style-type: none"> • Selection of wireless resources by user or terminal <p>WARNING</p> <p>Group H04W 72/02 is impacted by reclassification into group H04W 72/40.</p> <p>Groups H04W 72/02 and H04W 72/40 should be considered in order to perform a complete search.</p>
<p>60/005</p> <ul style="list-style-type: none"> • {Multiple registrations, e.g. multihoming} <p>WARNING</p> <p>Group H04W 60/005 is impacted by reclassification into groups H04W 60/001 and H04W 60/002.</p> <p>Groups H04W 60/005, H04W 60/001 and H04W 60/002 should be considered in order to perform a complete search.</p>	<p>72/04</p>	<ul style="list-style-type: none"> • Wireless resource allocation <p>WARNING</p> <p>Group H04W 72/04 is impacted by reclassification into groups H04W 72/11, H04W 72/115 and H04W 72/40.</p> <p>All groups listed in this Warning should be considered in order to perform a complete search.</p>
<p>60/02</p> <ul style="list-style-type: none"> • by periodical registration <p>WARNING</p> <p>Group H04W 60/02 is impacted by reclassification into groups H04W 60/001 and H04W 60/002.</p> <p>Groups H04W 60/02, H04W 60/001 and H04W 60/002 should be considered in order to perform a complete search.</p>	<p>72/044</p> <p>72/0453</p> <p>72/0457</p>	<ul style="list-style-type: none"> • . . based on the type of the allocated resource <p>WARNING</p> <p>Group H04W 72/044 is impacted by reclassification into group H04W 72/0457.</p> <p>Groups H04W 72/044 and H04W 72/0457 should be considered in order to perform a complete search.</p>
<p>60/04</p> <ul style="list-style-type: none"> • using triggered events <p>WARNING</p> <p>Group H04W 60/04 is impacted by reclassification into groups H04W 60/001 and H04W 60/002.</p> <p>Groups H04W 60/04, H04W 60/001 and H04W 60/002 should be considered in order to perform a complete search.</p>	<p>72/0446</p> <p>72/0453</p> <p>72/0457</p>	<ul style="list-style-type: none"> • . . . Resources in time domain, e.g. slots or frames • . . . Resources in frequency domain, e.g. a carrier in FDMA • . . . Variable allocation of band or rate <p>WARNING</p> <p>Group H04W 72/0457 is incomplete pending reclassification of documents from group H04W 72/044.</p> <p>Groups H04W 72/044 and H04W 72/0457 should be considered in order to perform a complete search.</p>
<p>60/06</p> <ul style="list-style-type: none"> • De-registration or detaching 	<p>72/046</p>	<ul style="list-style-type: none"> • . . . {the resource being in the space domain, e.g. beams}
<p>64/00 Locating users or terminals {or network equipment} for network management purposes, e.g. mobility management</p>	<p>72/0466</p> <p>72/0473</p>	<ul style="list-style-type: none"> • . . . {the resource being a scrambling code} • . . . {the resource being transmission power}

- 72/11 . . Semi-persistent scheduling
 - WARNING**
 - Group [H04W 72/11](#) is incomplete pending reclassification of documents from group [H04W 72/04](#).
 - Groups [H04W 72/04](#) and [H04W 72/11](#) should be considered in order to perform a complete search.

- 72/115 . . Grant-free or autonomous transmission
 - WARNING**
 - Group [H04W 72/115](#) is incomplete pending reclassification of documents from group [H04W 72/04](#).
 - Groups [H04W 72/04](#) and [H04W 72/115](#) should be considered in order to perform a complete search.

- 72/12 . Wireless traffic scheduling
 - WARNING**
 - Group [H04W 72/12](#) is impacted by reclassification into groups [H04W 72/40](#), [H04W 72/50](#), [H04W 72/51](#) and [H04W 72/512](#).
 - All groups listed in this Warning should be considered in order to perform a complete search.

- 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}
- 72/1263 . . Mapping of traffic onto schedule, e.g. scheduled allocation or multiplexing of flows
- 72/1268 . . . of uplink data flows
- 72/1273 . . . of downlink data flows
- 72/20 . Control channels or signalling for resource management
 - WARNING**
 - Group [H04W 72/20](#) is impacted by reclassification into groups [H04W 72/25](#), [H04W 72/27](#) and [H04W 72/29](#).
 - All groups listed in this Warning should be considered in order to perform a complete search.

- 72/21 . . in the uplink direction of a wireless link, i.e. towards the network
- 72/23 . . in the downlink direction of a wireless link, i.e. towards a terminal
 - WARNING**
 - Group [H04W 72/23](#) is impacted by reclassification into groups [H04W 72/231](#) and [H04W 72/232](#).
 - Groups [H04W 72/23](#), [H04W 72/231](#) and [H04W 72/232](#) should be considered in order to perform a complete search.

- 72/231 . . . the control data signalling from the layers above the physical layer, e.g. RRC or MAC-CE signalling
 - WARNING**
 - Group [H04W 72/231](#) is incomplete pending reclassification of documents from group [H04W 72/23](#).
 - Groups [H04W 72/23](#) and [H04W 72/231](#) should be considered in order to perform a complete search.

- 72/232 . . . the control data signalling from the physical layer, e.g. DCI signalling
 - WARNING**
 - Group [H04W 72/232](#) is incomplete pending reclassification of documents from group [H04W 72/23](#).
 - Groups [H04W 72/23](#) and [H04W 72/232](#) should be considered in order to perform a complete search.

- 72/25 . . between terminals via a wireless link, e.g. sidelink
 - WARNING**
 - Group [H04W 72/25](#) is incomplete pending reclassification of documents from group [H04W 72/20](#).
 - Groups [H04W 72/20](#) and [H04W 72/25](#) should be considered in order to perform a complete search.

- 72/27 . . between access points
 - WARNING**
 - Group [H04W 72/27](#) is incomplete pending reclassification of documents from group [H04W 72/20](#).
 - Groups [H04W 72/20](#) and [H04W 72/27](#) should be considered in order to perform a complete search.

- 72/29 . . between an access point and the access point controlling device
 - WARNING**
 - Group [H04W 72/29](#) is incomplete pending reclassification of documents from group [H04W 72/20](#).
 - Groups [H04W 72/20](#) and [H04W 72/29](#) should be considered in order to perform a complete search.

- 72/30 . Resource management for broadcast services
- 72/40 . Resource management for direct mode communication, e.g. D2D or sidelink
 - WARNING**
 - Group [H04W 72/40](#) is incomplete pending reclassification of documents from groups [H04W 72/02](#), [H04W 72/04](#) and [H04W 72/12](#).
 - All groups listed in this Warning should be considered in order to perform a complete search.

- 72/50 . Allocation or scheduling criteria for wireless resources
 - WARNING**
 - Group [H04W 72/50](#) is incomplete pending reclassification of documents from group [H04W 72/12](#).
 - Groups [H04W 72/12](#) and [H04W 72/50](#) should be considered in order to perform a complete search.

- 72/51 . . based on terminal or device properties
 - WARNING**
 - Group [H04W 72/51](#) is incomplete pending reclassification of documents from group [H04W 72/12](#).
 - Group [H04W 72/51](#) is also impacted by reclassification into group [H04W 72/512](#).
 - Groups [H04W 72/12](#), [H04W 72/51](#) and [H04W 72/512](#) should be considered in order to perform a complete search.

- 72/512 . . . for low-latency requirements, e.g. URLLC
 - WARNING**
 - Group [H04W 72/512](#) is incomplete pending reclassification of documents from groups [H04W 72/12](#) and [H04W 72/51](#).
 - Groups [H04W 72/12](#), [H04W 72/51](#) and [H04W 72/512](#) should be considered in order to perform a complete search.

- 72/52 . . based on load
- 72/53 . . based on regulatory allocation policies
- 72/535 . . {based on resource usage policies}
- 72/54 . . based on quality criteria
 - WARNING**
 - Group [H04W 72/54](#) is impacted by reclassification into group [H04W 72/541](#).
 - Groups [H04W 72/54](#) and [H04W 72/541](#) should be considered in order to perform a complete search.

- 72/541 . . . using the level of interference
 - WARNING**
 - Group [H04W 72/541](#) is incomplete pending reclassification of documents from group [H04W 72/54](#).
 - Groups [H04W 72/54](#) and [H04W 72/541](#) should be considered in order to perform a complete search.

- 72/542 . . . using measured or perceived quality
- 72/543 . . . based on requested quality, e.g. QoS
- 72/56 . . based on priority criteria
 - WARNING**
 - Group [H04W 72/56](#) is impacted by reclassification into group [H04W 72/566](#).
 - Groups [H04W 72/56](#) and [H04W 72/566](#) should be considered in order to perform a complete search.

- 72/563 . . . of the wireless resources

- 72/566 . . . of the information or information source or recipient
 - WARNING**
 - Group [H04W 72/566](#) is incomplete pending reclassification of documents from group [H04W 72/56](#).
 - Groups [H04W 72/56](#) and [H04W 72/566](#) should be considered in order to perform a complete search.

- 72/569 {of the traffic information}

- 74/00 Wireless channel access**
- 74/002 . {Transmission of channel access control information}
- 74/004 . . {in the uplink, i.e. towards network}
- 74/006 . . {in the downlink, i.e. towards the terminal}
- 74/02 . Hybrid access
- 74/04 . Scheduled access (hybrid access [H04W 74/02](#))
- 74/06 . . using polling
- 74/08 . Non-scheduled access, e.g. ALOHA (hybrid access [H04W 74/02](#))
- 74/0808 . . using carrier sensing, e.g. carrier sense multiple access [CSMA]
- 74/0816 . . . with collision avoidance
- 74/0825 . . . {with collision detection}
- 74/0833 . . Random access procedures, e.g. with 4-step access
- 74/0836 . . . with 2-step access
- 74/0838 . . . using contention-free random access [CFRA]
- 74/0841 . . . {with collision treatment}
- 74/085 {collision avoidance}
- 74/0858 {collision detection}
- 74/0866 . . {using a dedicated channel for access}
- 74/0875 . . . {with assigned priorities based access}
- 74/0883 . . . {for un-synchronized access}
- 74/0891 . . . {for synchronized access}

- 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 . . . for 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**
- 80/02 . . . Data link layer protocols
- 80/04 . . . Network layer protocols, e.g. mobile IP [Internet Protocol]
- 80/045 . . . {involving different protocol versions, e.g. MIPv4 and MIPv6}
- 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 [Wireless Application Protocol]
- 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 ([space-based or airborne stations H04B 7/185](#))
- 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 . . . Leader-follower 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 devices; 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}
- 92/06 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**