Methods for transmitting a downlink control signal are disclosed, by which localized allocation and distributed allocation are efficiently used in transmitting a downlink control signal. One of the methods includes multiplexing the downlink control signal in a manner of if there exists downlink data transmission to a prescribed user equipment (UE), applying localized allocation to a transmission of the downlink control signal including the scheduling information on the uplink data transmission of the UE and applying distributed allocation to another transmission of the downlink control signal and transmitting the multiplexed downlink control signal.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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A. CLASSIFICATION OF SUBJECT MATTER
IPC\(^8\): \textit{H04L \textit{27/26} (2006.01); H04W \textit{72/14} (2009.01)}
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
IPC\(^8\): H04L; H04Q; H04W

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPDOC, WPI, NPL, IEEE Xplore

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

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