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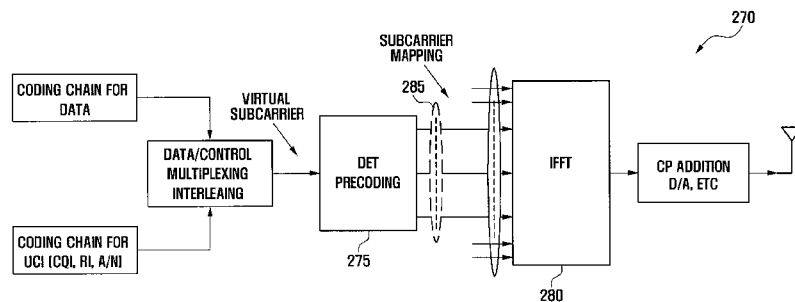
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Fig. 3



(57) Abstract: A mobile station includes a transmission chain capable of communicating via an uplink transmission to at least one base station in a Multiple Input Multiple Output wireless network. The mobile station includes a plurality of transmit antenna and a transmitter coupled to the plurality of transmit antenna. The transmitter includes a layer mapper that maps data and uplink control information to at least one layer. The mapping is performed prior to Discrete Fourier Transform precoding such that the data and uplink control information are multiplexed and interleaved. The transmitter is configured to simultaneously transmit the data and uplink control information on at least one of a plurality of transmission layers.

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INTERNATIONAL SEARCH REPORT

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B. FIELDS SEARCHED

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: DFT , UPLINK , MIMO , Mapping

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 03-084097 A1 (INTERDIGITAL TECHNOLOGY CORPORATION) 09 October 2003 See abstract; claims 1-6; Fig.2	1-34
A	US 2005-0041750 A1 (KIN NANG LAU) 24 February 2005 See abstract; claims 1-8; Fig.1	1-34
A	KR 10-2005-0067331 A (ETRI) 01 July 2005 See abstract; claims 1-8; page.4	1-34
A	KR 10-2007-0080402 A (SAMSUNG ELECTRONICS CO., LTD., et al.) 10 August 2007 See abstract; claims 1-8; Fig.1	1-34

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

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