

Amended

Exhibit 9

Exhibit 9

Claim 13 of U.S. Patent No. 10,000,000

"13. A mobile station served by a serving base station in an Orthogonal Frequency Division Multiplexing (OFDM)

13. A mobile station served by a serving base station in an Orthogonal Frequency Division Multiplexing (OFDM) communication system,

VW's Accused Products include vehicles equipped with components and/or 4G/LTE networks and services, including services sold and provided by VW

To the extent the preamble is considered a limitation, VW's Accused Product patent. *E.g.*,

The LTE specification (Series 36, Release 8) specifies user equipments (UE) information.

For clarity, release 8 of the 36 series 3GPP specifications was frozen in December 2009 and used as the basis for the first wave of LTE equipment. The LTE marketplace includes releases from Release 8 through Release 17. Though for ease of review releases cited below, the same or functionally identical content exists in each corresponding

LTE uses orthogonal frequency division multiplexing (OFDM) for downlink

4.2 General description of Layer 1

4.2.1 Multiple Access

The multiple access scheme for the LTE physical layer is based on Orthogonal Frequency Division Multiplexing (OFDM) with a cyclic prefix (CP) in the downlink, and on Single-Carrier Frequency Division Multiple Access (SC-FDMA) with a cyclic prefix in the uplink. To support transmission in paired and unpaired spectrum, two duplexing modes are supported: Frequency Division Duplex (FDD), supporting full duplex and half duplex operation, and Time Division Duplex (TDD).

The Layer 1 is defined in a bandwidth agnostic way based on resource blocks, allowing the LTE to support various spectrum allocations. A resource block spans either 12 sub-carriers with a sub-carrier bandwidth of 15 kHz or 6 sub-carriers with a sub-carrier bandwidth of 7.5 kHz each over a slot duration of 0.5 ms.

See e.g., 3GPP TS 36.201 V8.3.0 at pgs. 7-8.

LTE downlink transmission use OFDM.

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5.1 Downlink Transmission Scheme

5.1.1 Basic transmission scheme based on OFDM

The downlink transmission scheme is based on conventional OFDM using a cyclic prefix. The spacing is $\Delta f = 15$ kHz. 12 consecutive sub-carriers during one slot correspond to one downlink frequency domain, the number of resource blocks, N_{RB} , can range from $N_{RB-min} = 6$ to $N_{RB-max} =$

In addition there is also a reduced sub-carrier spacing $\Delta f_{low} = 7.5$ kHz, only for MBMS-dedicated

In the case of 15 kHz sub-carrier spacing there are two cyclic-prefix lengths, corresponding to 2 symbols per slot respectively.

- Normal cyclic prefix: $T_{CP} = 160 \times T_s$ (OFDM symbol #0), $T_{CP} = 144 \times T_s$ (OFDM symbol #1-11)

See e.g., 3GPP TS 36.300 V8.12.0 at pg. 25

LTE uplink transmissions use discrete Fourier transform spread OFDM (DFT-S-SS)

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5.2 Uplink Transmission Scheme

5.2.1 Basic transmission scheme

For both FDD and TDD, the uplink transmission scheme is based on single-carrier FDMA, OFDM.

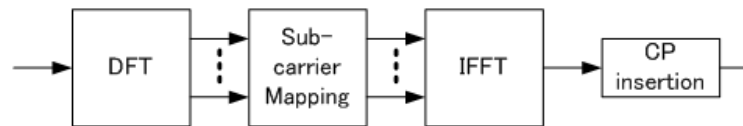


Figure 5.2.1-1: Transmitter scheme of SC-FDMA

The uplink sub-carrier spacing $\Delta f = 15$ kHz. The sub-carriers are grouped into sets of 12 consecutive sub-carriers corresponding to the uplink resource blocks. 12 consecutive sub-carriers during one slot correspond to one *resource block*. In the frequency domain, the number of resource blocks, N_{RB} , can range from 1 to 110.

There are two cyclic-prefix lengths defined: Normal cyclic prefix and extended cyclic prefix. There are six SC-FDMA symbols per slot respectively.

- Normal cyclic prefix: $T_{CP} = 160 \times T_s$ (SC-FDMA symbol #0), $T_{CP} = 144 \times T_s$ (SC-FDMA symbol #1-5)

See e.g., 3GPP TS 36.300 V8.12.0 at pgs. 27-28.

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