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(54) **FIXED WIRELESS ACCESS USING ORTHOGONAL TIME FREQUENCY SPACE MODULATION**

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(57) **ABSTRACT**

A fixed wireless access system is implemented using orthogonal time frequency space multiplexing (OTFS). Data transmissions to/from different devices share transmission resources using—delay Doppler multiplexing, time-frequency multiplexing, multiplexing at stream and/or layer level, and angular multiplexing. Time-frequency multiplexing is achieved by dividing the time-frequency plan into subgrids, with the subsampled time frequency grid being used to carry the OTFS data. Antenna implementations include a hemispherical antenna with multiple antenna elements arranged in an array to achieve multiplexing.