

## (19) United States

# (12) Patent Application Publication (10) Pub. No.: US 2023/0232451 A1

Moammad Soleymani et al.

Jul. 20, 2023 (43) **Pub. Date:** 

## (54) SIDELINK DYNAMIC RESOURCE ALLOCATION USING SINGLE SHOT SENSING SUPPORTED BY LOOK-AHEAD INFORMATION

(71) Applicant: Fraunhofer-Gesellschaft zur Förderung der angewandten

Forschung e.V., München (DE)

(72) Inventors: Dariush Moammad Solevmani.

Erlangen (DE); Martin Levh, Erlangen (DE); Elke Roth-Mandutz, Erlangen (DE); Shubhangi Bhadauria, Erlangen (DE): **Mehdi Harounabadi**. Erlangen (DE); **Dietmar Lipka**, Erlangen (DE)

Appl. No.: 18/158,521

(22) Filed: Jan. 24, 2023

### Related U.S. Application Data

(63) Continuation of application No. PCT/EP2021/ 071415, filed on Jul. 30, 2021.

#### (30)Foreign Application Priority Data

(EP) ...... 20188849.2

#### **Publication Classification**

(51)Int. Cl. H04W 74/08 (2006.01)H04W 72/1263 (2006.01)H04W 72/0446 (2006.01)

U.S. Cl. CPC ... H04W 74/0808 (2013.01); H04W 72/1263 (2013.01); H04W 72/0446 (2013.01)

#### (57)**ABSTRACT**

A transceiver of a wireless communication system is configured to operate in a sidelink in-coverage, out of coverage or partial coverage scenario, in which resources for a sidelink communication are pre-configured by the wireless communication system or allocated or scheduled autonomously by the transceiver, configured to perform a single-shotsensing on resources of the sidelink prior to a sidelink transmission to transceiver(s) of the wireless communication system, to obtain a sensing information, configured to determine, for said sidelink transmission, a set of candidate resources out of the resources of the sidelink based on the sensing information, configured to select resources out of candidate resources and to perform said sidelink transmission using the selected resources, wherein the resources of the sidelink are accessed in the time domain on a slot basis, configured to select the resources out of candidate resources for said sidelink transmission and to be ready to perform said sidelink transmission until an end of a last occurring slot of a sensing window used for said single-shot-sensing.

