

## (19) United States

# (12) Patent Application Publication (10) Pub. No.: US 2022/0377900 A1

Nov. 24, 2022 (43) Pub. Date:

### (54) COMPONENT CARRIER WITH INDUCTIVE ELEMENT INCLUDED IN LAYER BUILD-UP, AND MANUFACTURING METHOD

(71) Applicant: AT&S Austria Technologies & Systemtechnik Aktiengesellschaft, Leoben (AT)

(72) Inventor: Günther MAYR, Milpitas, CA (US)

Appl. No.: 17/663,965

(22) Filed: May 18, 2022

#### Related U.S. Application Data

(60) Provisional application No. 63/189,762, filed on May 18, 2021.

#### **Publication Classification**

(51)	Int. Cl.	
	H05K 1/18	(2006.01)
	H05K 1/11	(2006.01)
	H05K 3/10	(2006.01)

H01F 27/28	(2006.01)
H01F 27/32	(2006.01)
H01F 41/04	(2006.01)
H01F 41/12	(2006.01)

(52) U.S. Cl. CPC ...... H05K 1/182 (2013.01); H05K 1/115 (2013.01); H05K 3/10 (2013.01); H01F 27/2804 (2013.01); H01F 27/323 (2013.01); H01F 41/041 (2013.01); H01F 41/122 (2013.01); H05K 2201/08 (2013.01); H05K 2201/1003 (2013.01); H01F 2027/2809

(2013.01)

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

A component carrier includes a stack with at least one electrically insulating layer structure, a structured electrically conductive layer assembled to the stack, where a part of the structured electrically conductive layer is configured as an inductive element, and a magnetic matrix embedded in the stack. The magnetic matrix at least partially surrounds the inductive element. Further, a manufacturing method is described.

