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(19) **United States**(12) **Patent Application Publication**
PARK et al.(10) **Pub. No.: US 2024/0215156 A1**(43) **Pub. Date: Jun. 27, 2024**(54) **FLEXIBLE PRINTED CIRCUIT BOARD, COF
MODULE, AND ELECTRONIC DEVICE
COMPRISING THE SAME**(71) Applicant: **LG INNOTEK CO., LTD.**, Seoul (KR)(72) Inventors: **Ki Tae PARK**, Seoul (KR); **Chae Won
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Seoul (KR)(21) Appl. No.: **18/601,312**(22) Filed: **Mar. 11, 2024****Related U.S. Application Data**(63) Continuation of application No. 17/933,704, filed on
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2201/10128 (2013.01)(57) **ABSTRACT**

A flexible printed circuit board according to an embodiment includes: a substrate; a circuit pattern disposed on the substrate; and a protective layer on the circuit pattern, wherein the circuit pattern includes a first circuit pattern and a second circuit pattern connected to a chip in a chip mounting region, a first direction in which the circuit pattern extends and a second direction perpendicular to the first direction are defined in the substrate, the substrate includes first and second ends facing each other in the first direction and third and fourth ends facing each other in the second direction, the protective layer includes fifth and sixth ends spaced apart from ends of the substrate and facing in the first direction and seventh and eighth ends spaced apart from ends of the substrate and facing in the second direction, and an outer pattern disposed adjacent to the third end and the fourth end on the substrate, wherein the outer pattern includes: a first outer pattern and a second outer pattern adjacent to a pad portion of the first circuit pattern and facing in the second direction; and a third outer pattern and a fourth outer pattern adjacent to a pad portion of the second circuit pattern and facing in the second direction, the first outer pattern includes a first pattern portion and a second pattern portion spaced apart from each other, the second outer pattern includes a third pattern portion and a fourth pattern portion spaced apart from each other, the third outer pattern includes a fifth pattern portion and a sixth pattern portion spaced apart from each other, the fourth outer pattern includes a seventh pattern portion and an eighth pattern portion spaced apart from each other, and a fifth end of the protective layer is disposed between the first pattern portion and the second pattern portion and between the third pattern portion and the fourth pattern portion.

