



(12) **United States Design Patent**  
**Choi**

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(54) **CONNECTOR**

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(73) Assignee: **LS MTRON LTD.**, Anyang-si (KR)  
(\*\*) Term: **15 Years**

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(30) **Foreign Application Priority Data**

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(51) **LOC (15) Cl.** ..... **13-03**

(52) **U.S. Cl.**  
USPC ..... **D13/147**

(58) **Field of Classification Search**

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D13/101, 107, 116, 118, 120, 121, 123,  
D13/137.1, 137.2, 137.4, 153, 154  
CPC ..... H01R 24/00; H01R 24/46; H01R 12/00;  
H01R 12/70; H01R 12/52; H01R 12/707;  
H01R 12/716; H01R 13/40; H01R 13/58;  
H01R 13/627; H01R 13/62; H01R 13/66;  
H01R 13/6335; H01R 13/6272; H01R  
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H01R 31/06; H01R 43/26; H01R  
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12/73; H01R 13/00; H01R 13/02; H01R  
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H01R 4/363; H01R 2201/00; H01R 3/08;  
G02B 6/38; G02B 6/38875; G02B 6/4284

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D767,499 S \* 9/2016 Goto ..... D13/147  
D923,581 S \* 6/2021 Oosaka ..... D13/147  
D923,582 S \* 6/2021 Oosaka ..... D13/147  
D967,033 S \* 10/2022 Horino ..... D13/133  
D967,034 S \* 10/2022 Horino ..... D13/133  
D972,514 S \* 12/2022 Horino ..... D13/133

(Continued)

FOREIGN PATENT DOCUMENTS

CN 306308459 \* 2/2021  
JP D1675220 \* 12/2023

(Continued)

OTHER PUBLICATIONS

2401305G mmWave antenna module connector, posted Jan. 30,  
2024 [online], [retrieved Sep. 18, 2024]. Retrieved from internet,  
<https://www.youtube.com/watch?v=dqrLH52Tf2g> (Year: 2024).\*

(Continued)

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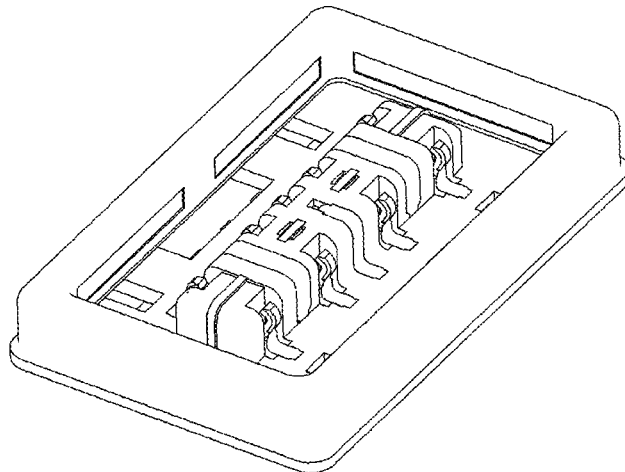
(57) **CLAIM**

The ornamental design for a connector as shown and  
described herein.

**DESCRIPTION**

FIG. 1 is a perspective view of a connector showing the new  
design;  
FIG. 2 is a front view thereof;  
FIG. 3 is a rear view thereof;  
FIG. 4 is a left-side view thereof;  
FIG. 5 is a right-side view thereof;  
FIG. 6 is a top plan view thereof;  
FIG. 7 is a bottom view thereof; and,  
FIG. 8 is a bottom perspective view thereof.

**1 Claim, 8 Drawing Sheets**



(56)

**References Cited**

U.S. PATENT DOCUMENTS

D985,509 S \* 5/2023 Yokoyama ..... D13/147  
D1,042,355 S \* 9/2024 Ishida ..... D13/147  
2021/0359471 A1 \* 11/2021 Oosaka ..... H01R 12/73  
2022/0052470 A1 \* 2/2022 Hosoda ..... H01R 12/7005

FOREIGN PATENT DOCUMENTS

KR 301041468.0000 \* 1/2020  
KR 301180480.0000 \* 9/2022  
TW 231182-0001 \* 5/2024

OTHER PUBLICATIONS

Molex RF mmWave connectors, posted Sep. 29, 2021 [online], [retrieved Sep. 18, 2024]. Retrieved from internet, <https://www.connectortips.com/flex-to-board-rf-mmwave-connectors-meet-high-speed-5g-needs/> (Year: 2021).\*

LS Mtron GB170 LST03, posted Jan. 21, 2024 [online], [retrieved Sep. 18, 2024]. Retrieved from internet, <https://www.lsmtron.com/us/en/pr/press/1979> (Year: 2024).\*

Jae WP7 series, posted Sep. 18, 2024 [online], [retrieved Sep. 18, 2024]. Retrieved from internet, [https://www.jae.com/en/connectors/series/detail/id=64346&type\\_code=T1020](https://www.jae.com/en/connectors/series/detail/id=64346&type_code=T1020) (Year: 2024).\*

\* cited by examiner

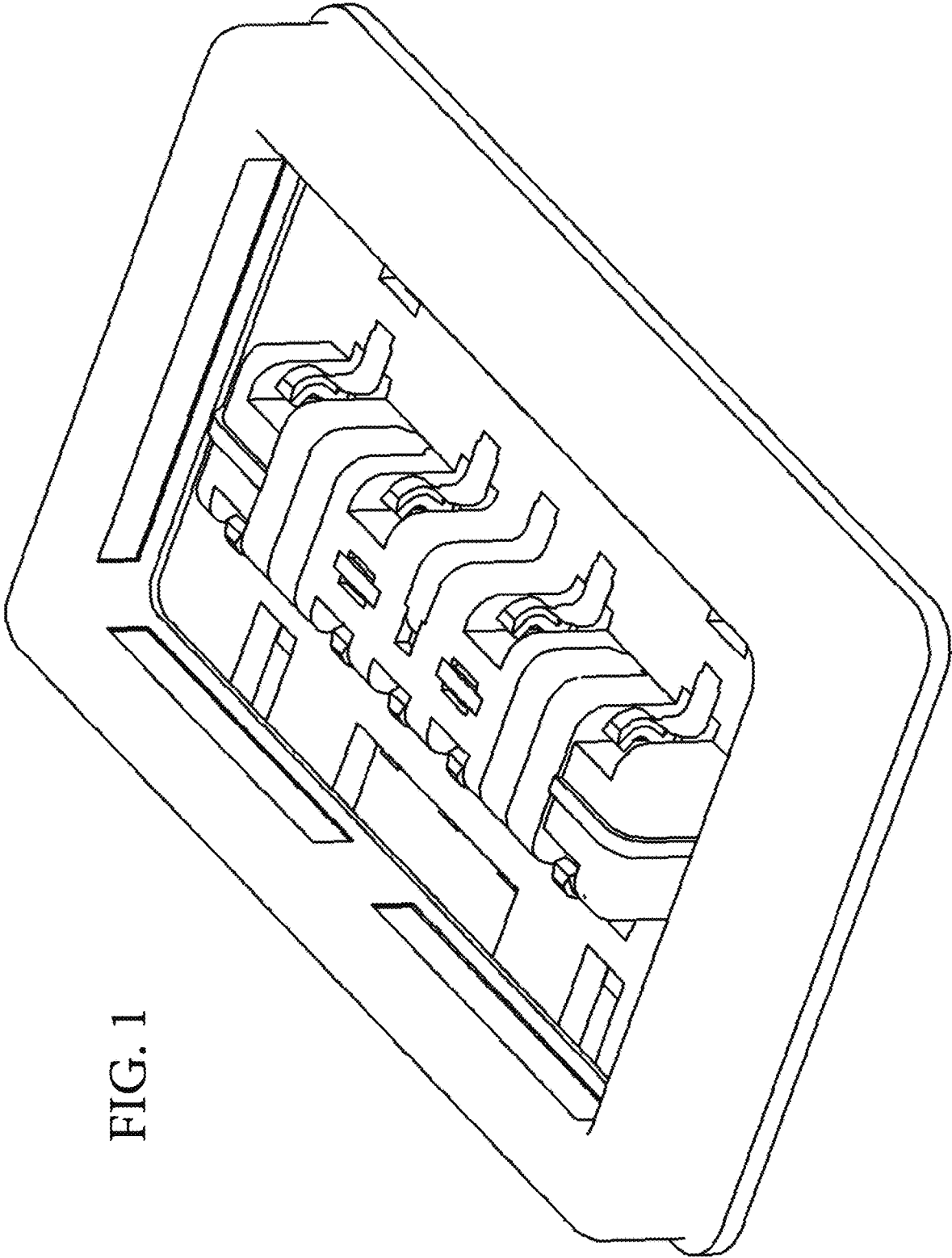


FIG. 1

FIG. 2

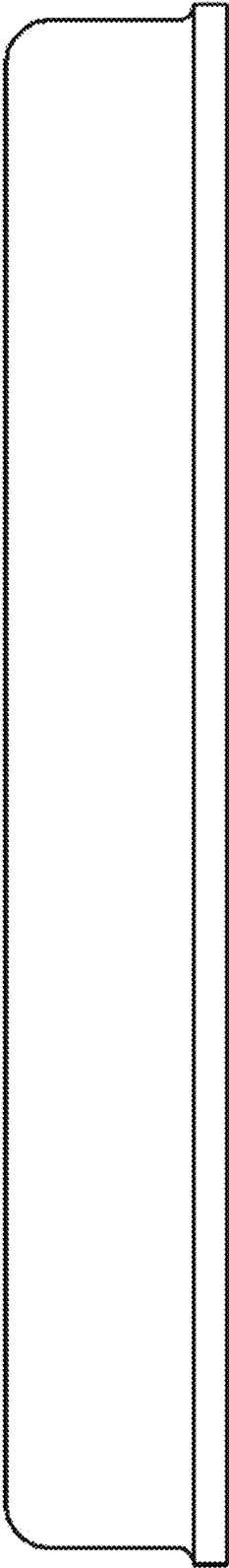


FIG. 3

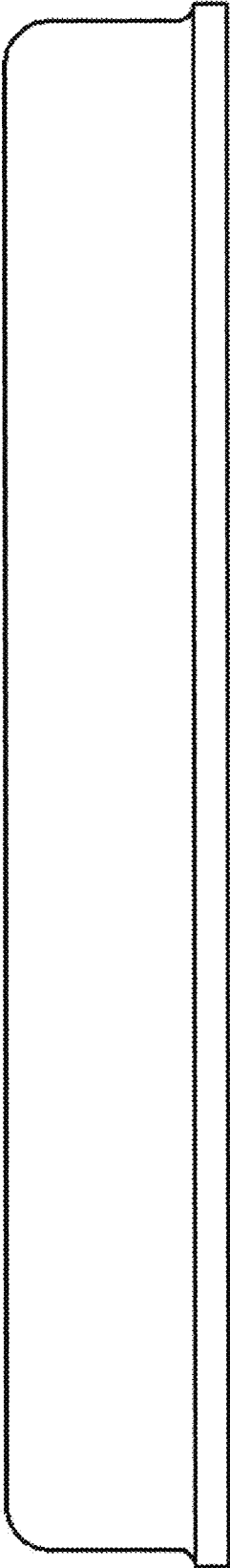


FIG. 4

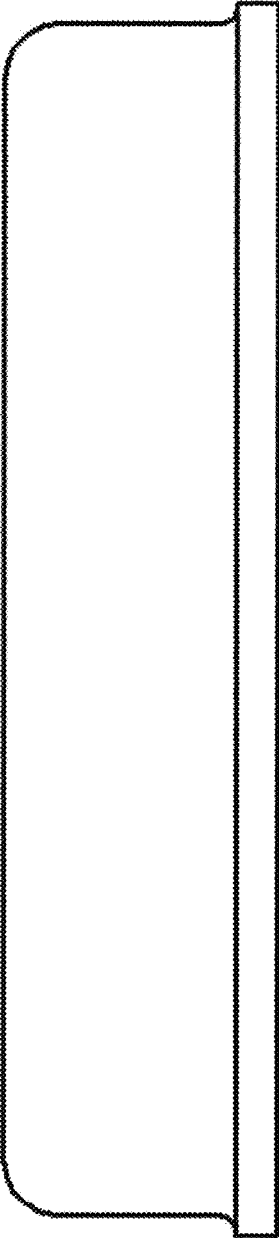


FIG. 5

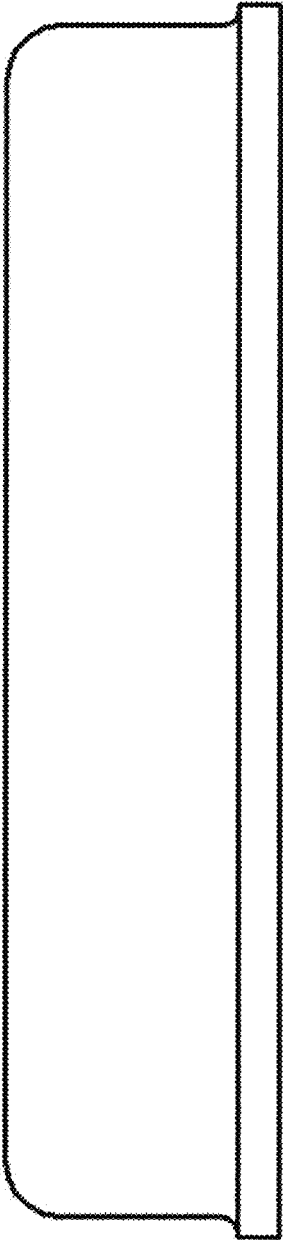


FIG. 6

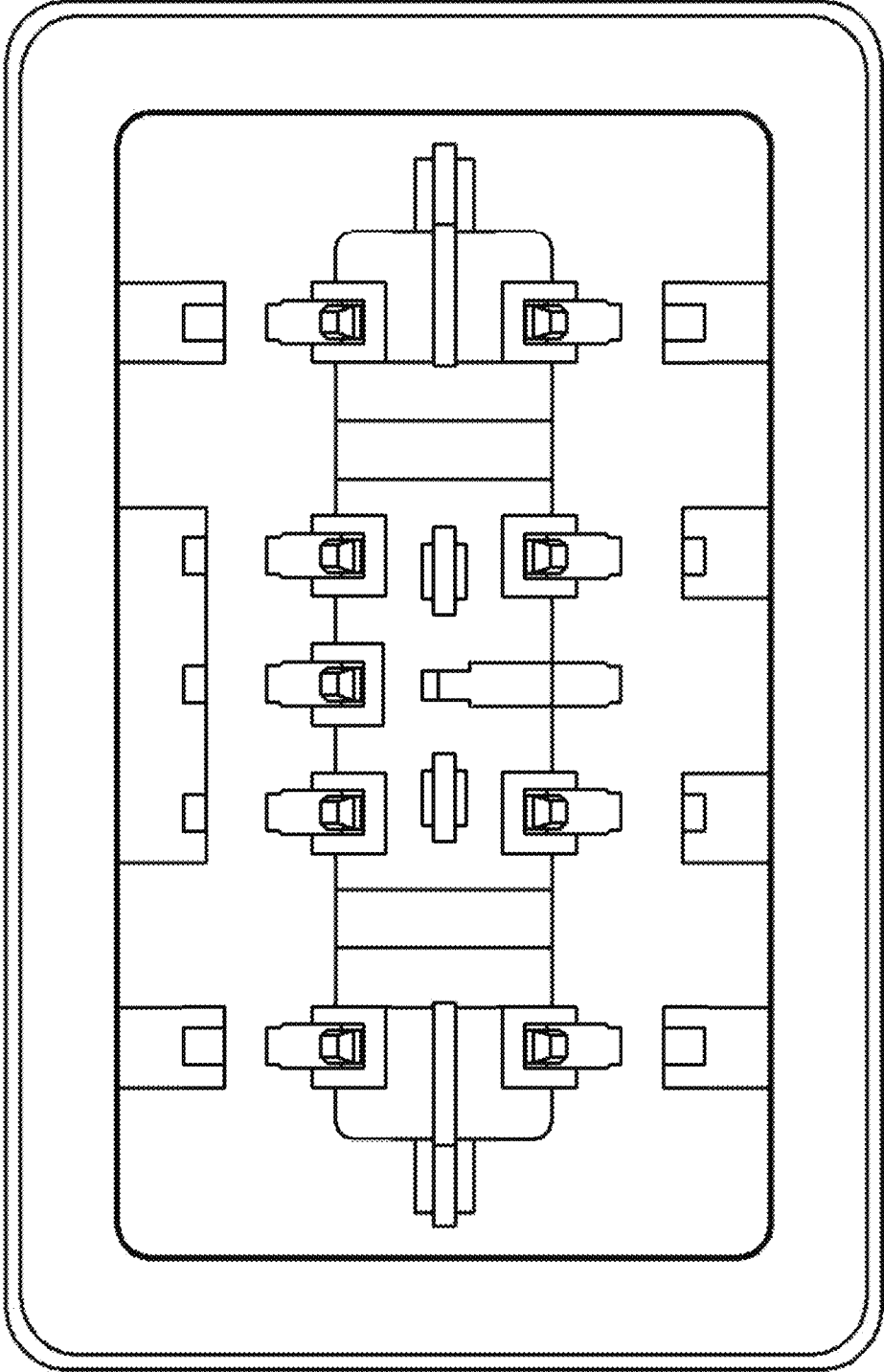


FIG. 7

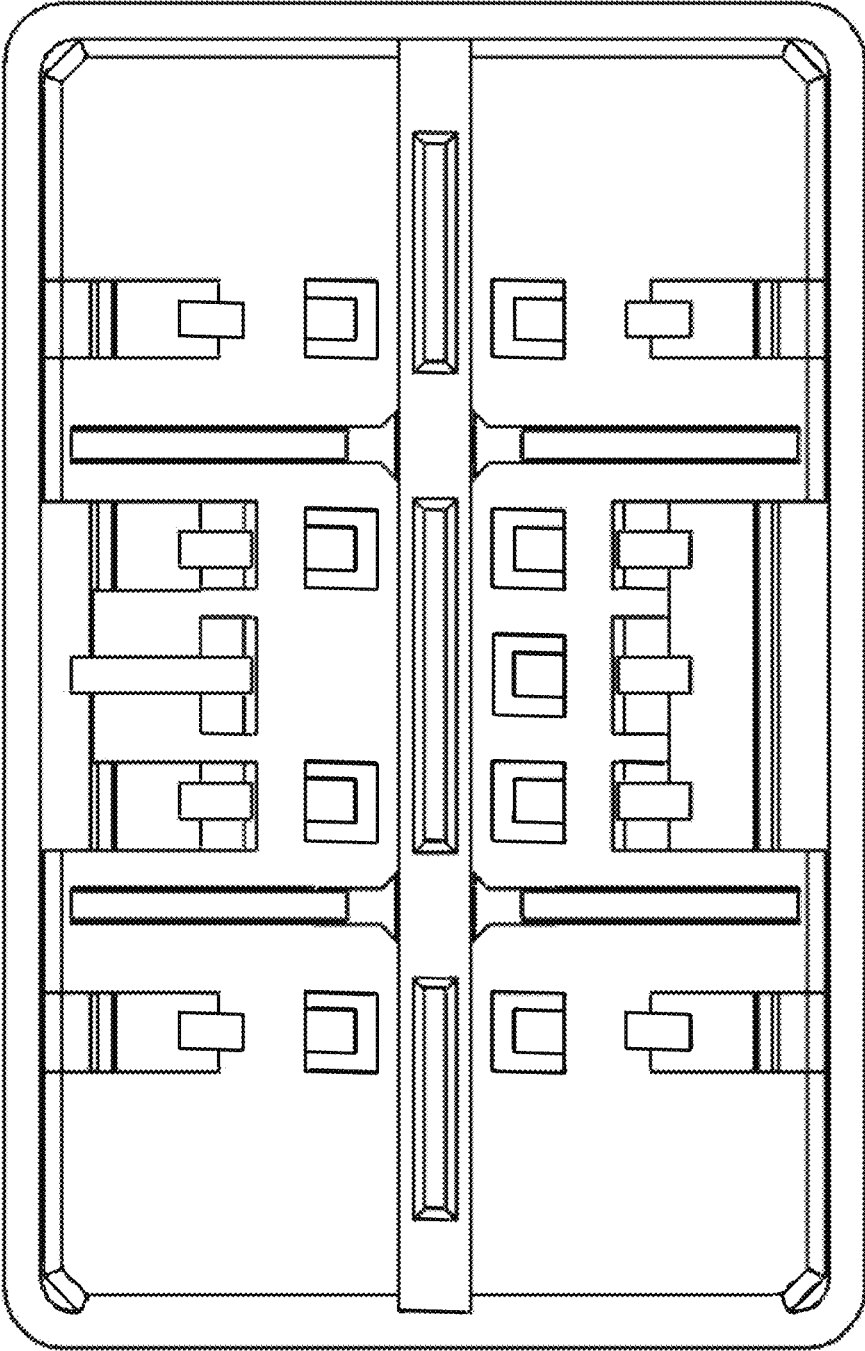


FIG. 8

