

(12)

United States Design Patent

Avellan et al.

(10)

Patent No.:

US D1,037,220 S

(45)

Date of Patent:

** Jul. 30, 2024

(54) SATELLITE ANTENNA ARRAY

(71) Applicant: AST & Science, LLC, Miami, FL (US)

(72) Inventors: Abel Avellan, Coral Gables, FL (US);
Javier Hernandez-Bahlsen, Esplugues de Llobregat (ES)

(73) Assignee: AST & Science, LLC, Miami, FL (US)

(**) Term: 15 Years

(21) Appl. No.: 29/845,971

(22) Filed: Jul. 12, 2022

(51) LOC (14) Cl. 14-03

(52) U.S. Cl. D14/230

(58) Field of Classification Search

USPC D14/230, 231-240, 238.1, 243, 299, 358, D14/217, 138; D13/182; D23/264, 266, D23/367

CPC H01Q 1/243; H01Q 1/36; H01Q 1/50; H01Q 7/00; H01Q 9/045; H01Q 9/285; H01W 1/38; H04B 1/034; H04B 1/045; H04B 2001/0408; H05K 11/00

See application file for complete search history.

(56) References Cited

U.S. PATENT DOCUMENTS

D515,075	S	*	2/2006	Kusanagi	.....	D14/230
D582,400	S	*	12/2008	Takisawa	.....	D14/230
D582,904	S	*	12/2008	Martinez	.....	D14/230
D668,638	S	*	10/2012	Matsumoto	.....	D14/230
D668,639	S	*	10/2012	Matsumoto	.....	D14/230

D668,640	S	*	10/2012	Matsumoto	.....	D14/230
D791,748	S	*	7/2017	Bel lows	.....	D14/230
D831,009	S	*	10/2018	Horn	.....	D14/230
D904,355	S	*	12/2020	Horn	.....	D14/230
D924,856	S	*	7/2021	Chun	.....	D14/230
D942,974	S	*	2/2022	Horn	.....	D14/230
D964,971	S	*	9/2022	Atojoko	.....	D14/230
11,587,744	B2	*	2/2023	Chen	.....	H01H 13/7065
D986,229	S	*	5/2023	Fan	.....	D14/230
2020/0366237	A1	*	11/2020	Hernandez Bahlsen	.....	H02S 40/30

FOREIGN PATENT DOCUMENTS

JP	D1713286	*	4/2022
KR	301207305.0000	*	3/2023

* cited by examiner

Primary Examiner — Daniel J Domino

Assistant Examiner — Samina Vieth

(74) Attorney, Agent, or Firm — Botos Churchill IP Law LLP

(57) CLAIM

The ornamental design for a satellite antenna array, as shown and described.

DESCRIPTION

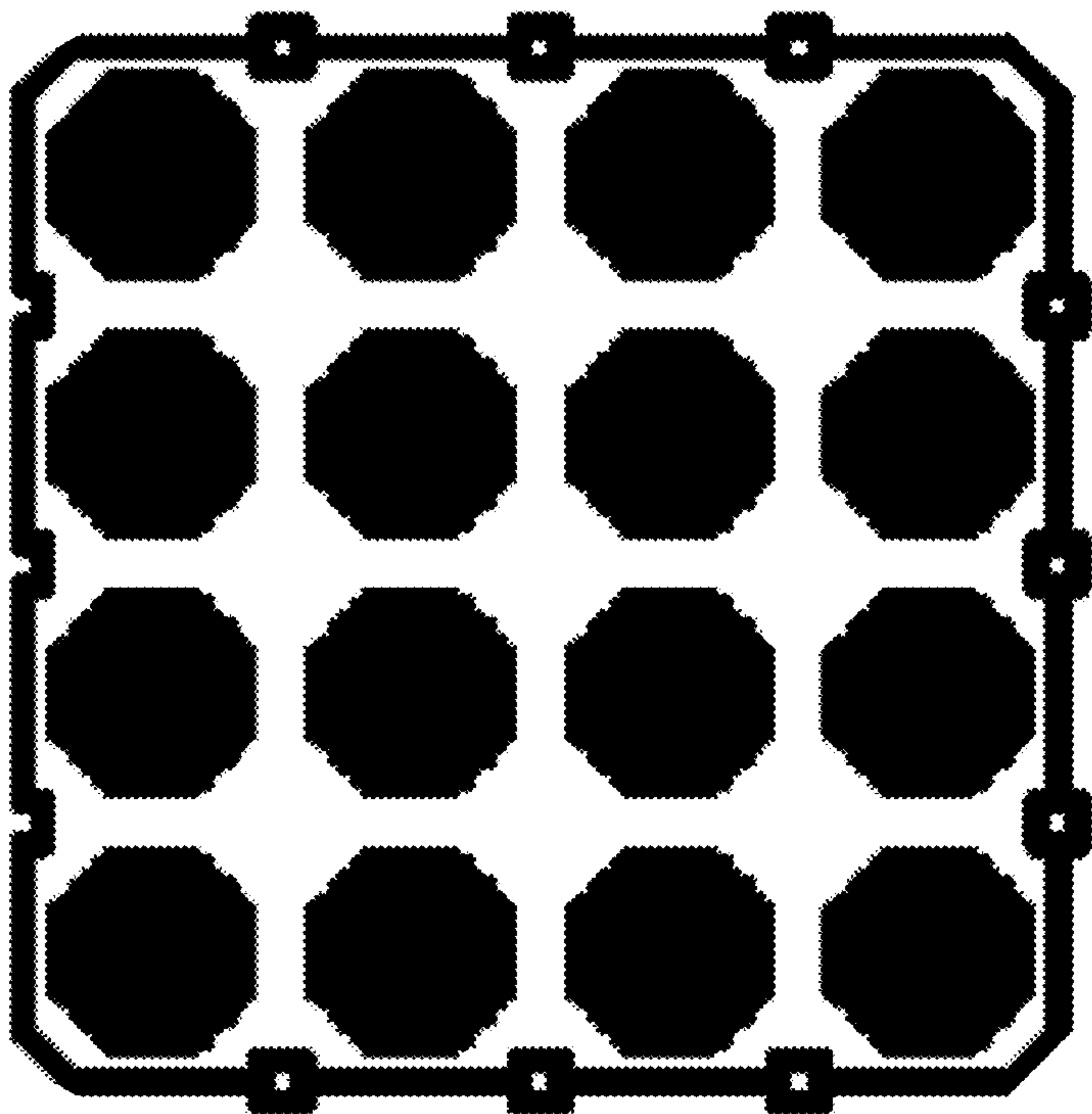
FIG. 1 is a plan view of an edge antenna element according to a first embodiment of our design;

FIG. 2 is a plan view of an interior antenna element according to a second embodiment of our design;

FIG. 3 is a plan view of a corner antenna element according to a third embodiment of our design; and,

FIG. 4 is a plan view of a group of antenna elements according to a fourth embodiment of our design.

1 Claim, 3 Drawing Sheets



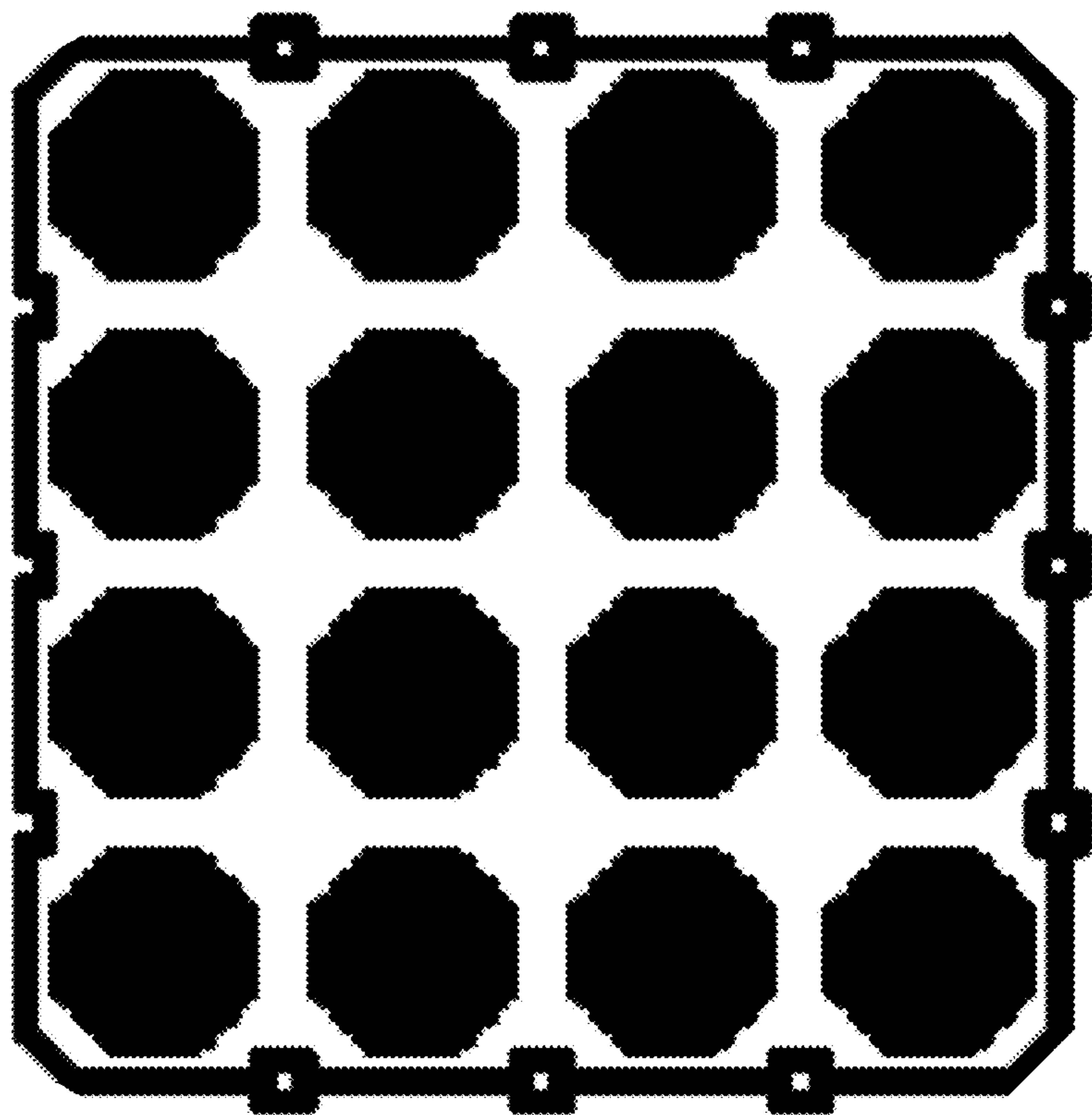


FIG. 1

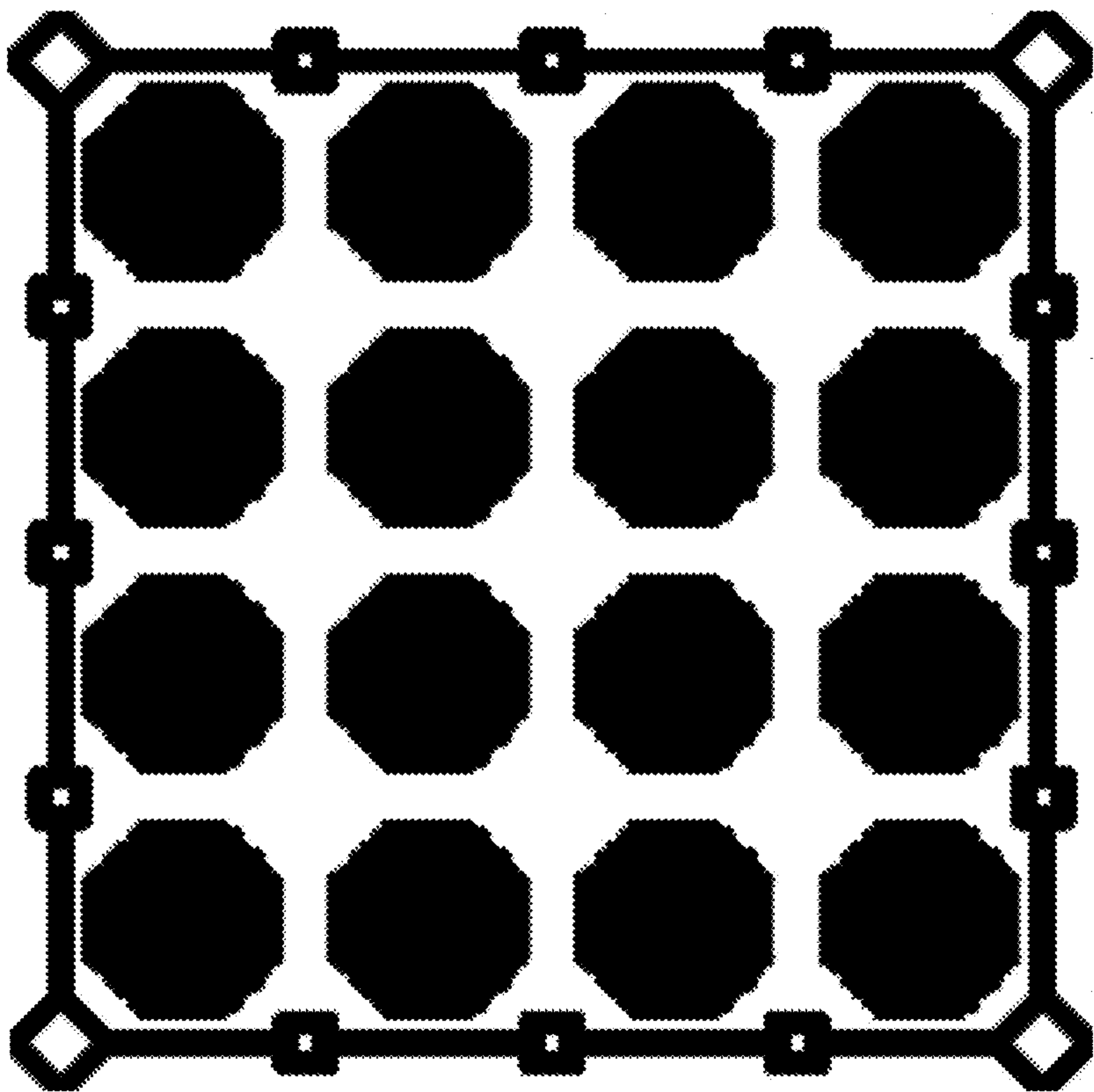


FIG. 2

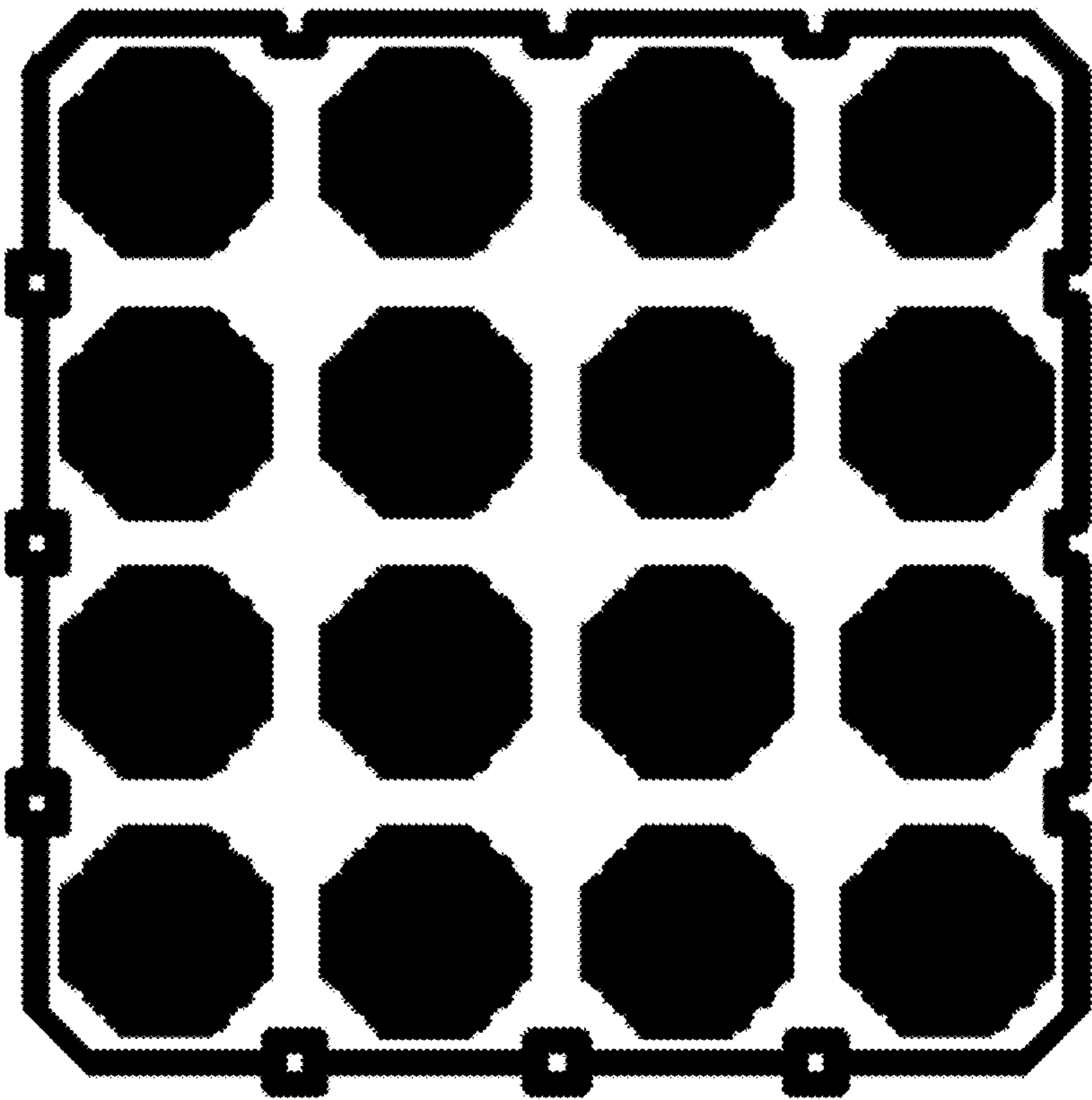


FIG. 3

FIG. 4

