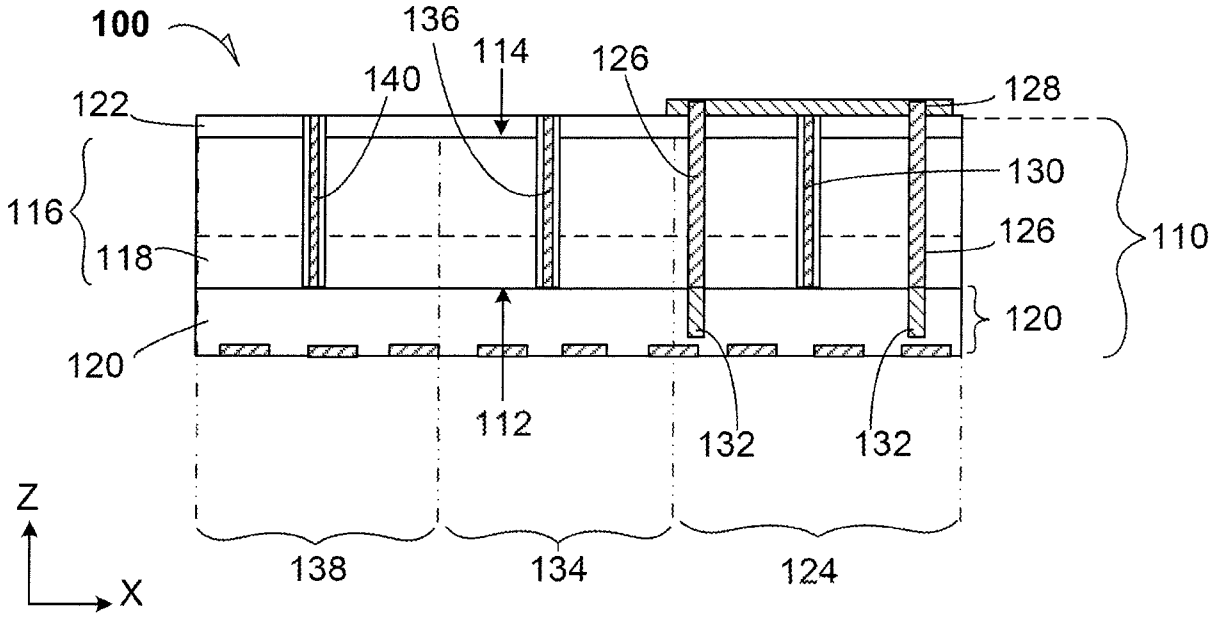

100
136
114
140
126
128
122
130
116
126
110
118
120
120
112
132
132
Z
X
138
134
124

Fig. 1a

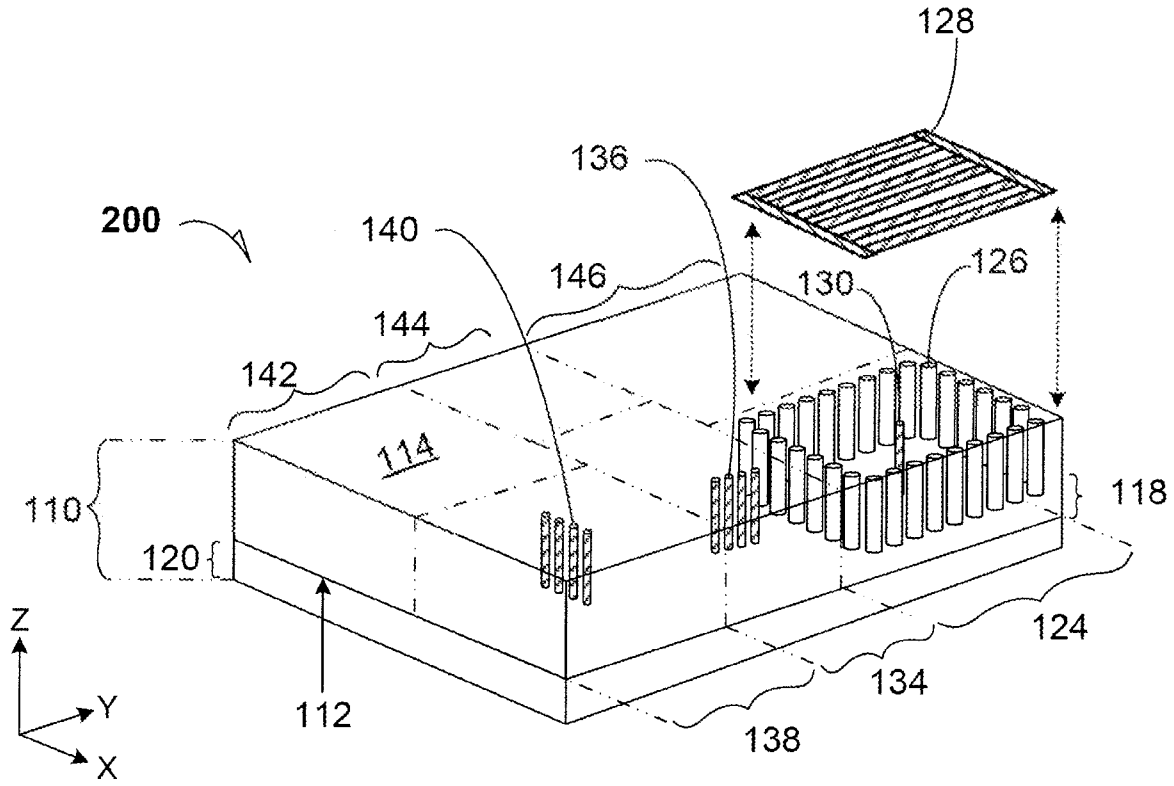

128
136
200
140
146
126
130
144
142
114
110
118
120
Z
Y
X
112
124
134
138

Fig. 2

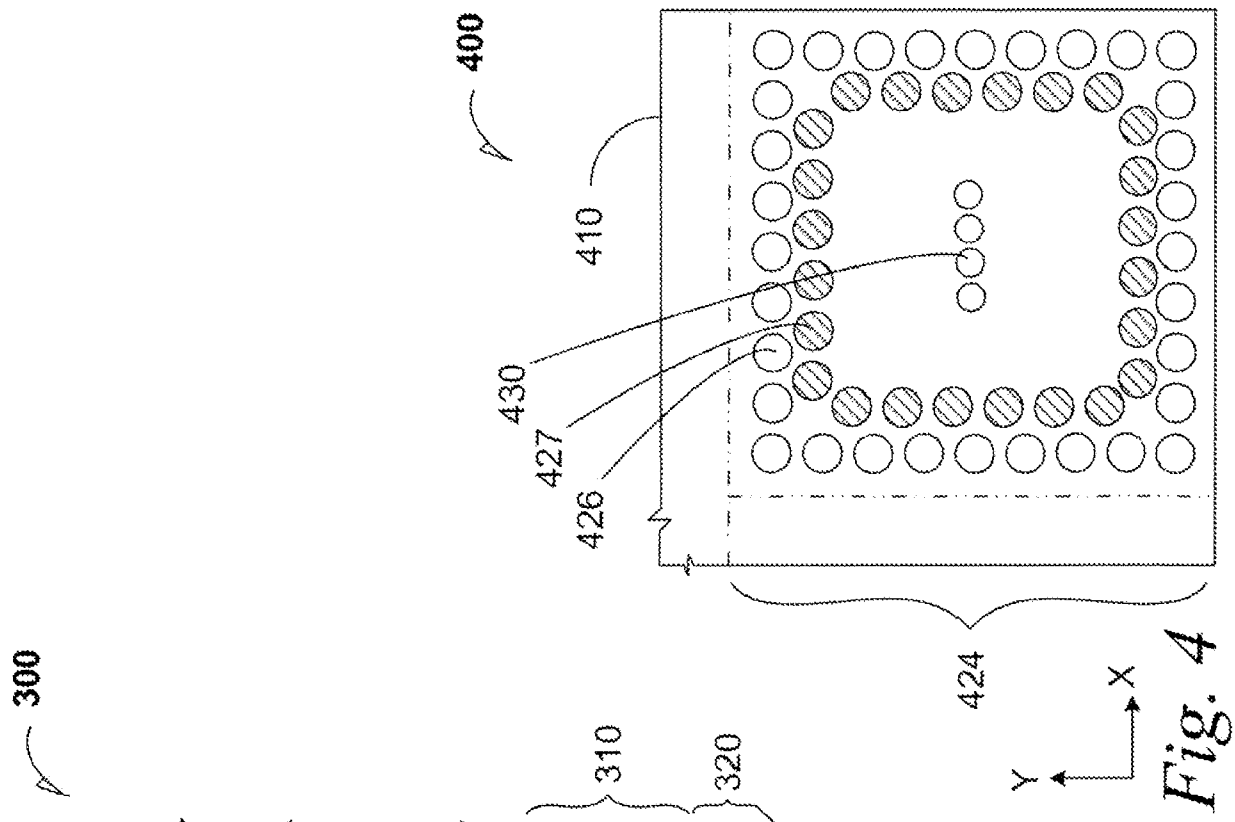

400
410
430
427
426
424
X
Y

Fig. 4

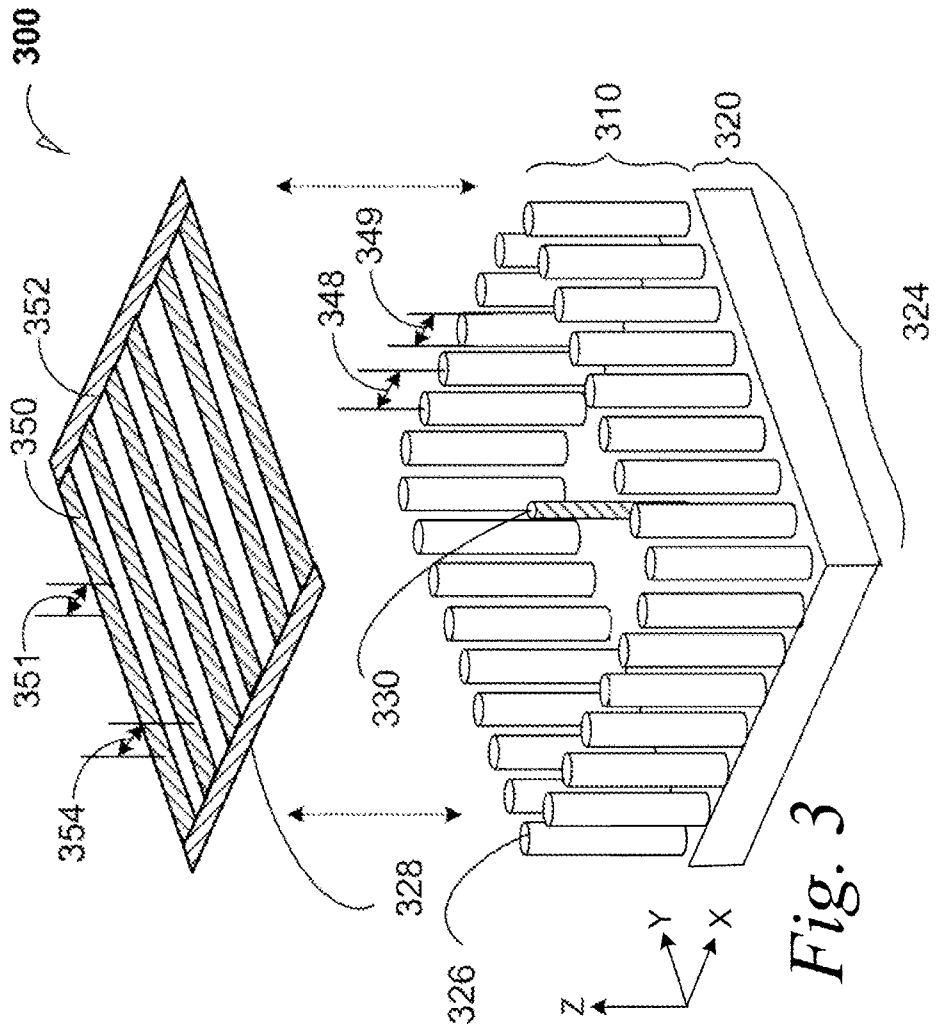

300
352
350
351
354
328
326
348
349
330
310
320
324
Y
X
Z

Fig. 3

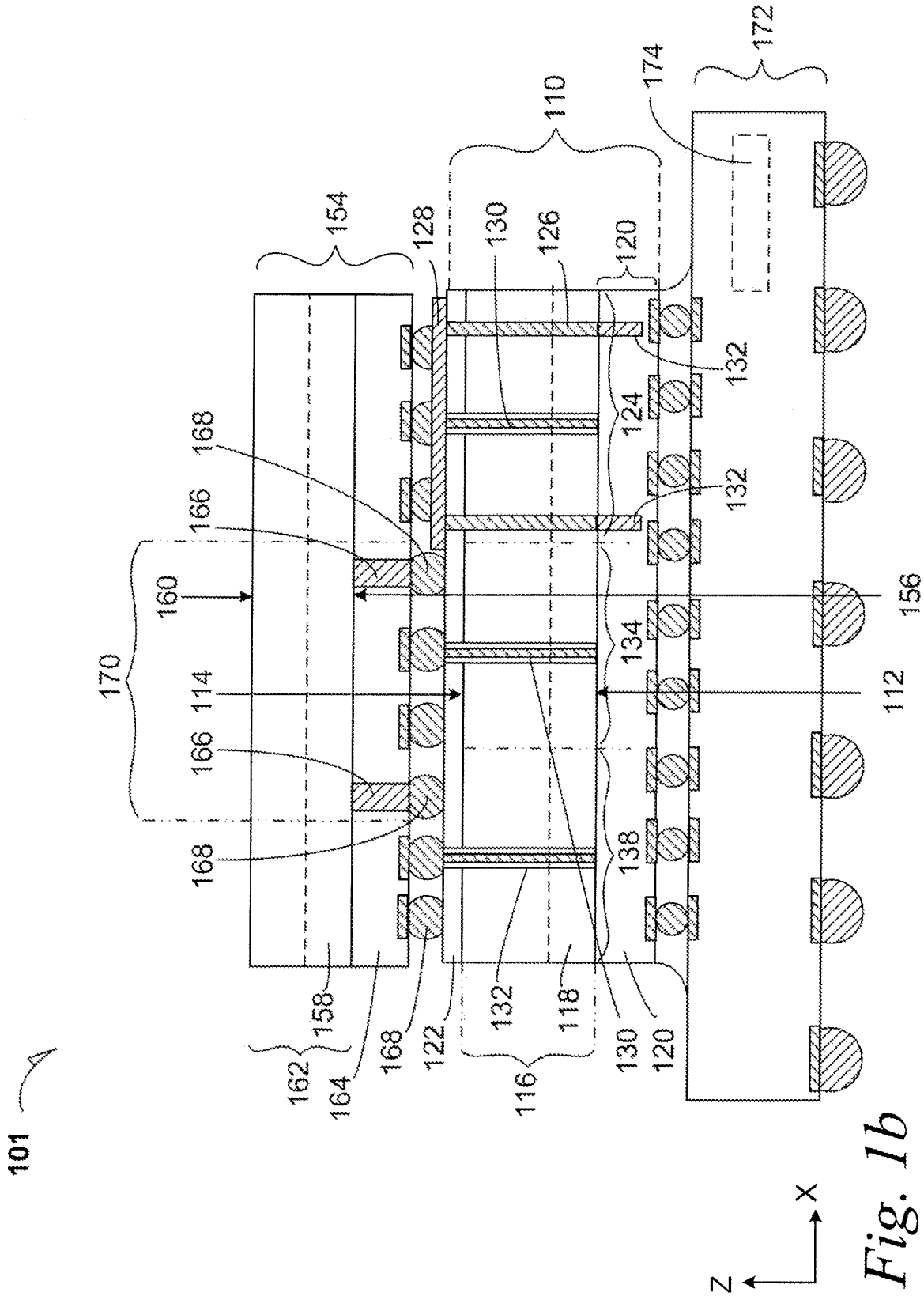

101
154
128
130
126
120
110
174
172
132
124
132
168
166
160
156
170
114
112
134
166
168
138
158
162
164
168
122
132
118
130
120
116
Z
X

Fig. 1b

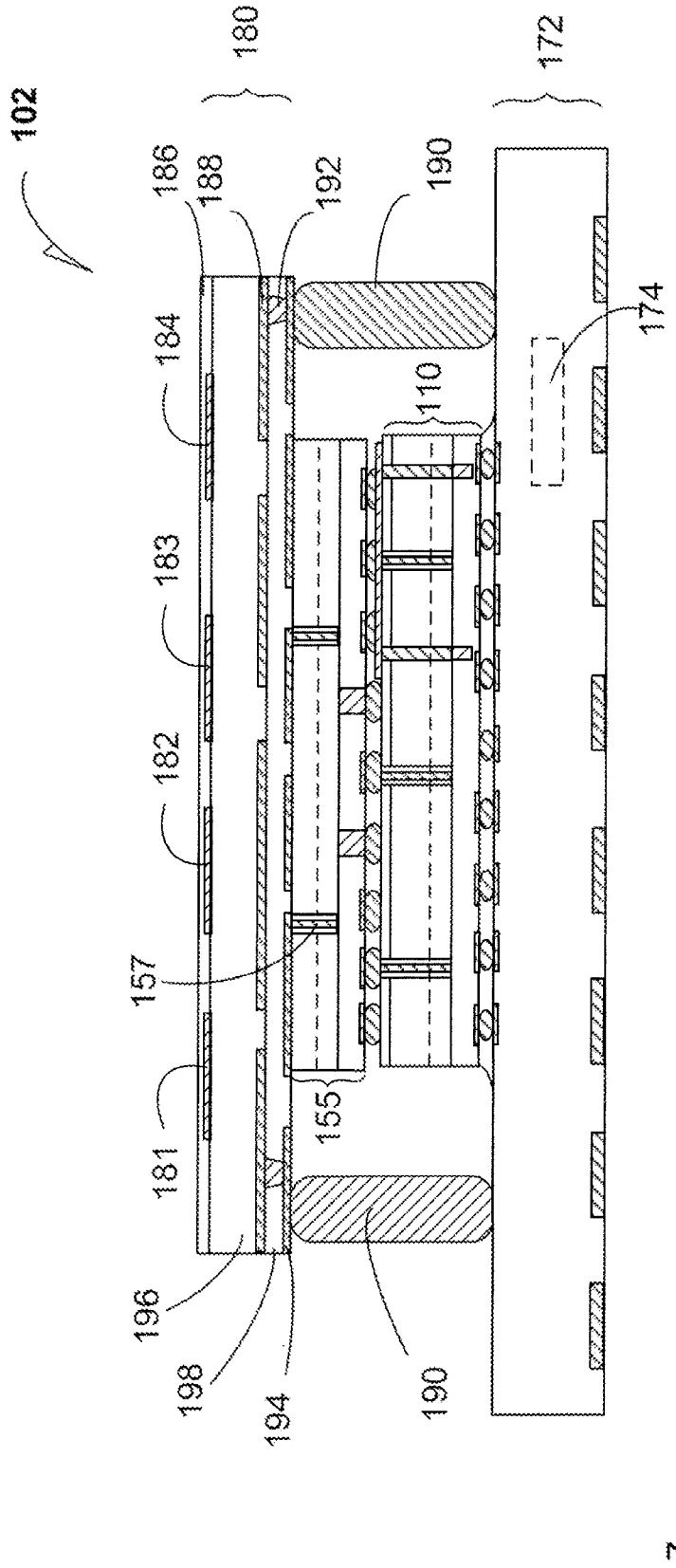

102
180
172
186
188
192
190
184
174
110
183
182
157
155
181
196
198
194
190
Z
X

Fig. 1c

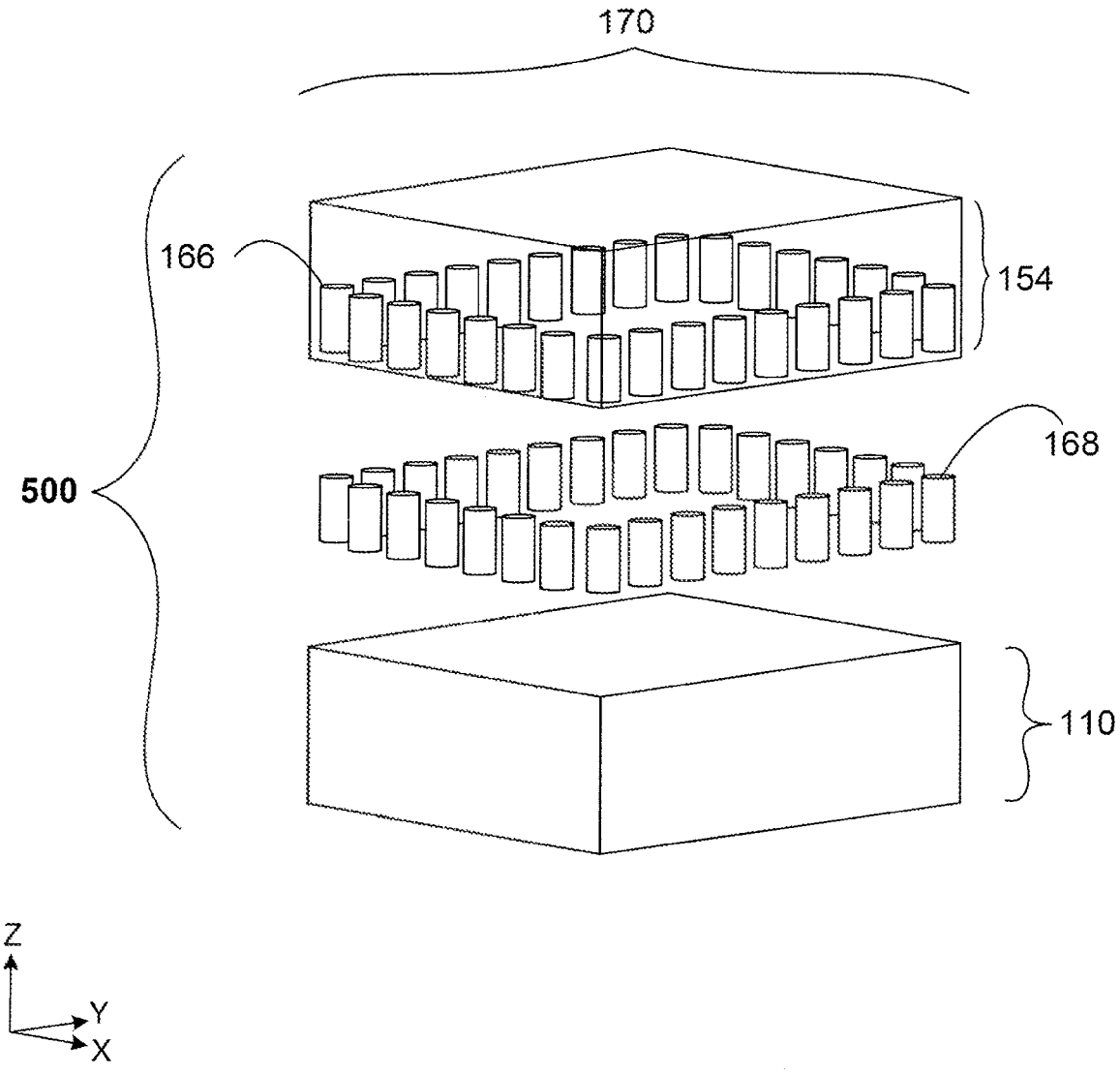


Fig. 5

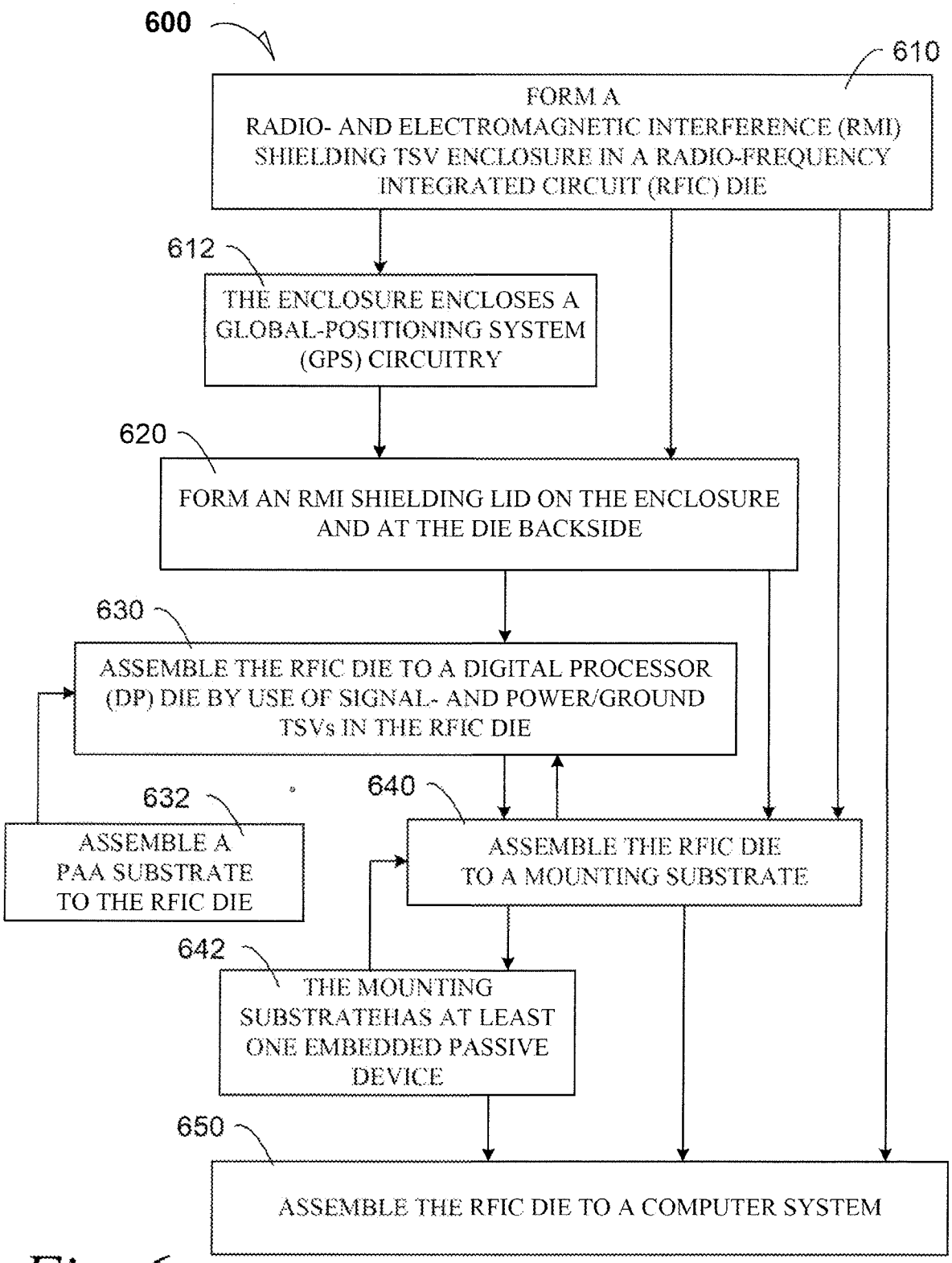

600
610
FORM A RADIO- AND ELECTROMAGNETIC INTERFERENCE (RMI) SHIELDING TSV ENCLOSURE IN A RADIO-FREQUENCY INTEGRATED CIRCUIT (RFIC) DIE
612
THE ENCLOSURE ENCLOSES A GLOBAL-POSITIONING SYSTEM (GPS) CIRCUITRY
620
FORM AN RMI SHIELDING LID ON THE ENCLOSURE AND AT THE DIE BACKSIDE
630
ASSEMBLE THE RFIC DIE TO A DIGITAL PROCESSOR (DP) DIE BY USE OF SIGNAL- AND POWER/GROUND TSVs IN THE RFIC DIE
632
ASSEMBLE A PAA SUBSTRATE TO THE RFIC DIE
640
ASSEMBLE THE RFIC DIE TO A MOUNTING SUBSTRATE
642
THE MOUNTING SUBSTRATEHAS AT LEAST ONE EMBEDDED PASSIVE DEVICE
650
ASSEMBLE THE RFIC DIE TO A COMPUTER SYSTEM

Fig. 6

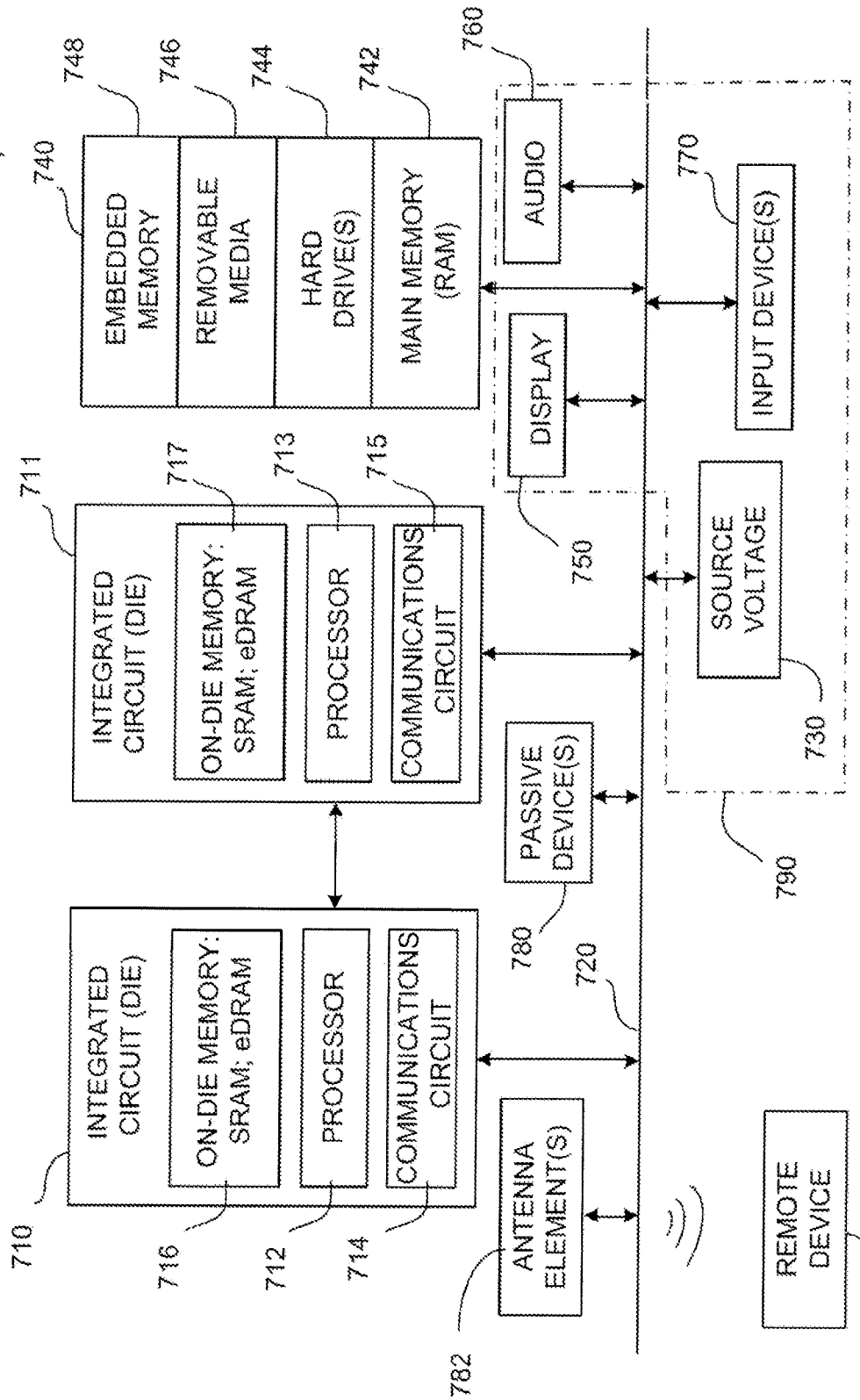

700
748
746
744
742
740
EMBEDDED MEMORY
REMOVABLE MEDIA
HARD DRIVE(S)
MAIN MEMORY (RAM)
760
AUDIO
770
INPUT DEVICE(S)
DISPLAY
750
711
717
713
715
INTEGRATED CIRCUIT (DIE)
ON-DIE MEMORY: SRAM; eDRAM
PROCESSOR
COMMUNICATIONS CIRCUIT
SOURCE VOLTAGE
730
PASSIVE DEVICE(S)
780
790
720
710
716
712
714
INTEGRATED CIRCUIT (DIE)
ON-DIE MEMORY: SRAM; eDRAM
PROCESSOR
COMMUNICATIONS CIRCUIT
ANTENNA ELEMENT(S)
782
REMOTE DEVICE
784

Fig. 7