

FIG. 1

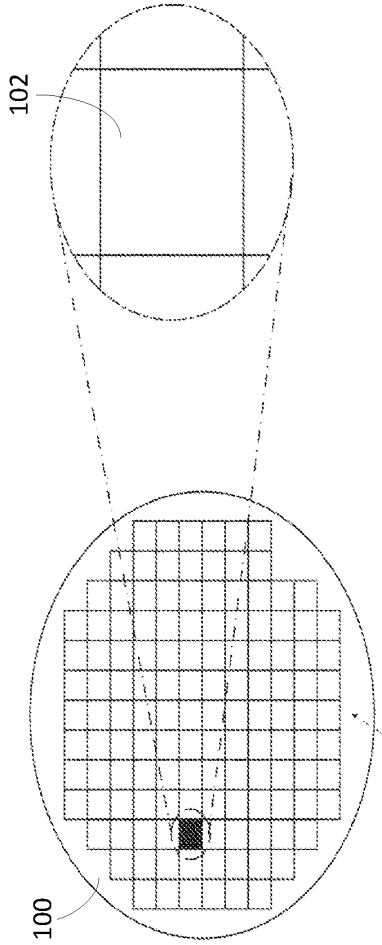


FIG. 2

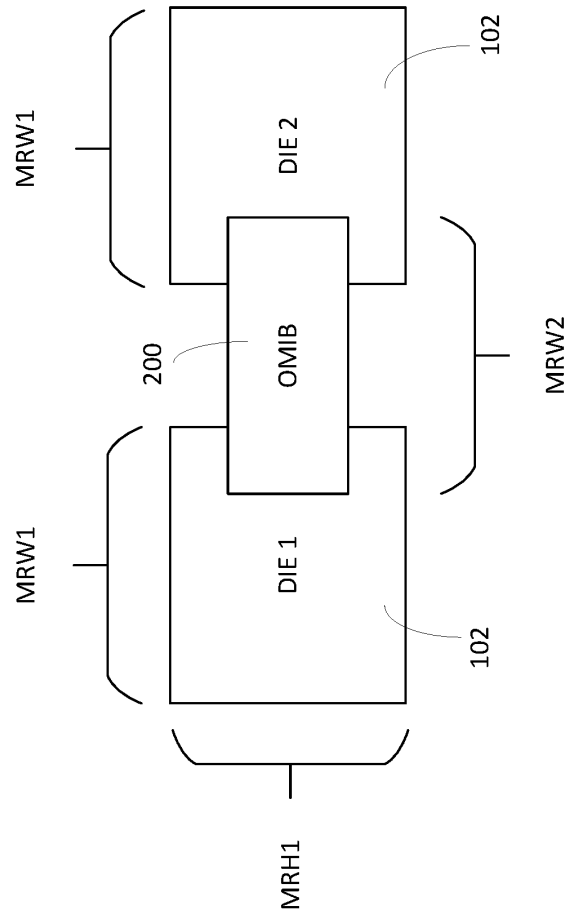


FIG. 3

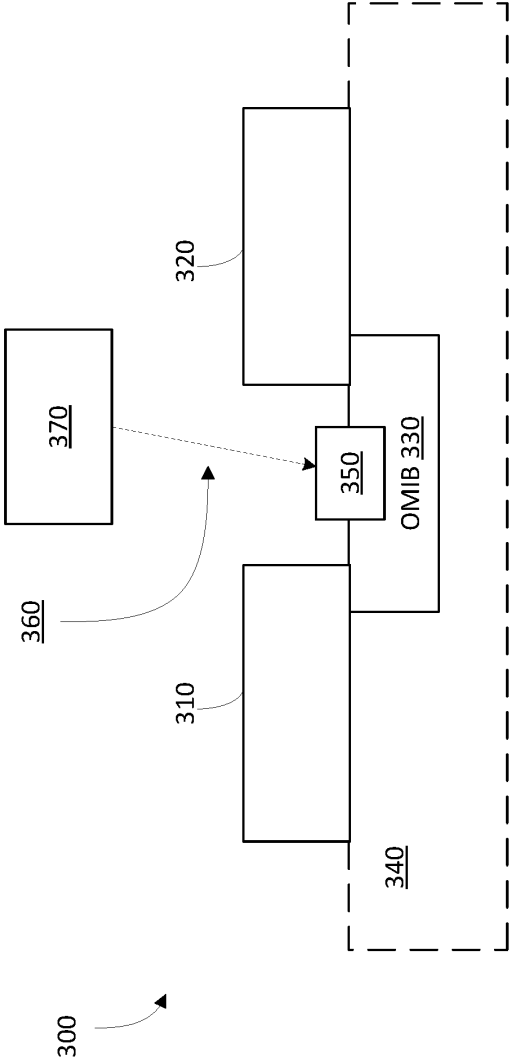


FIG. 4

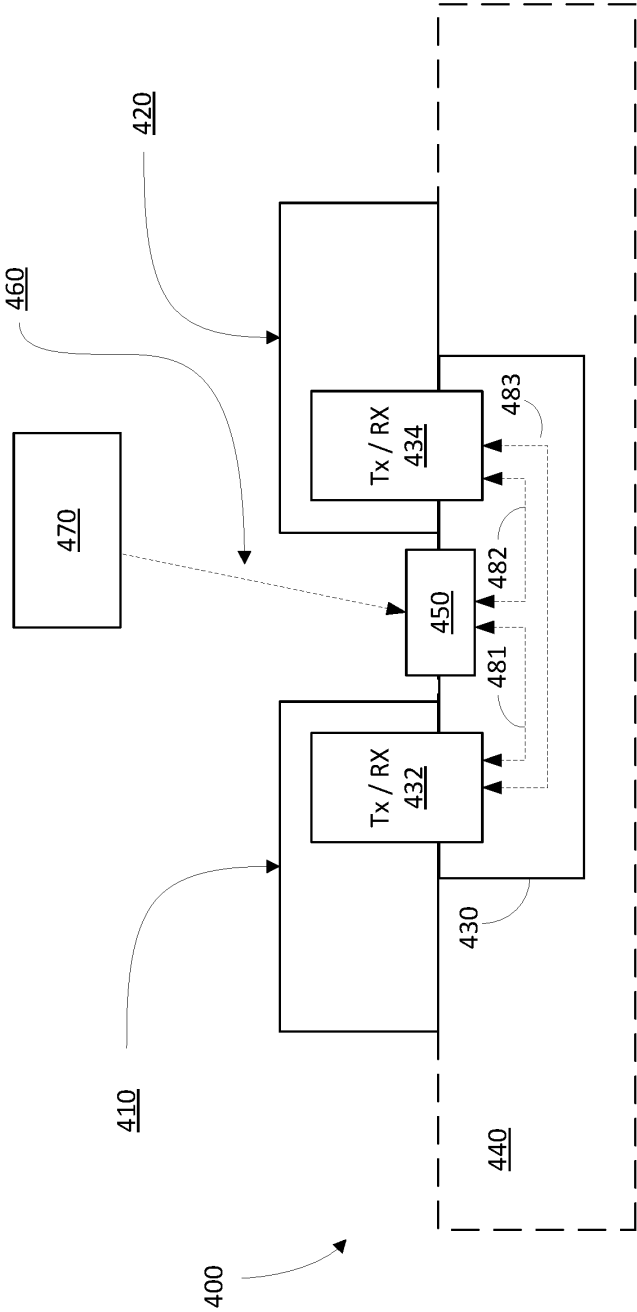


FIG. 5A
(INTRA-OMI

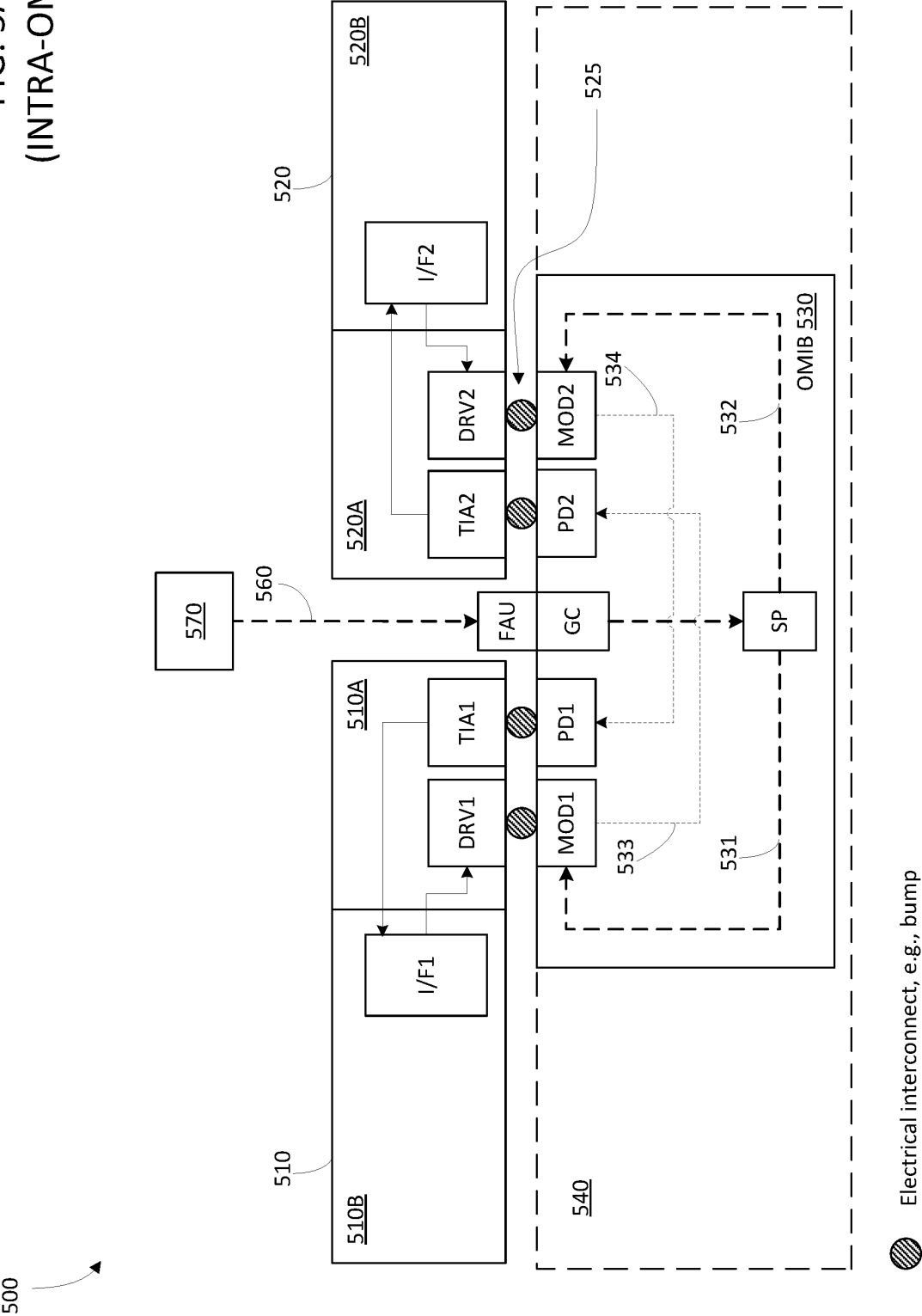


FIG. 5B
(INTRA-OMI

500

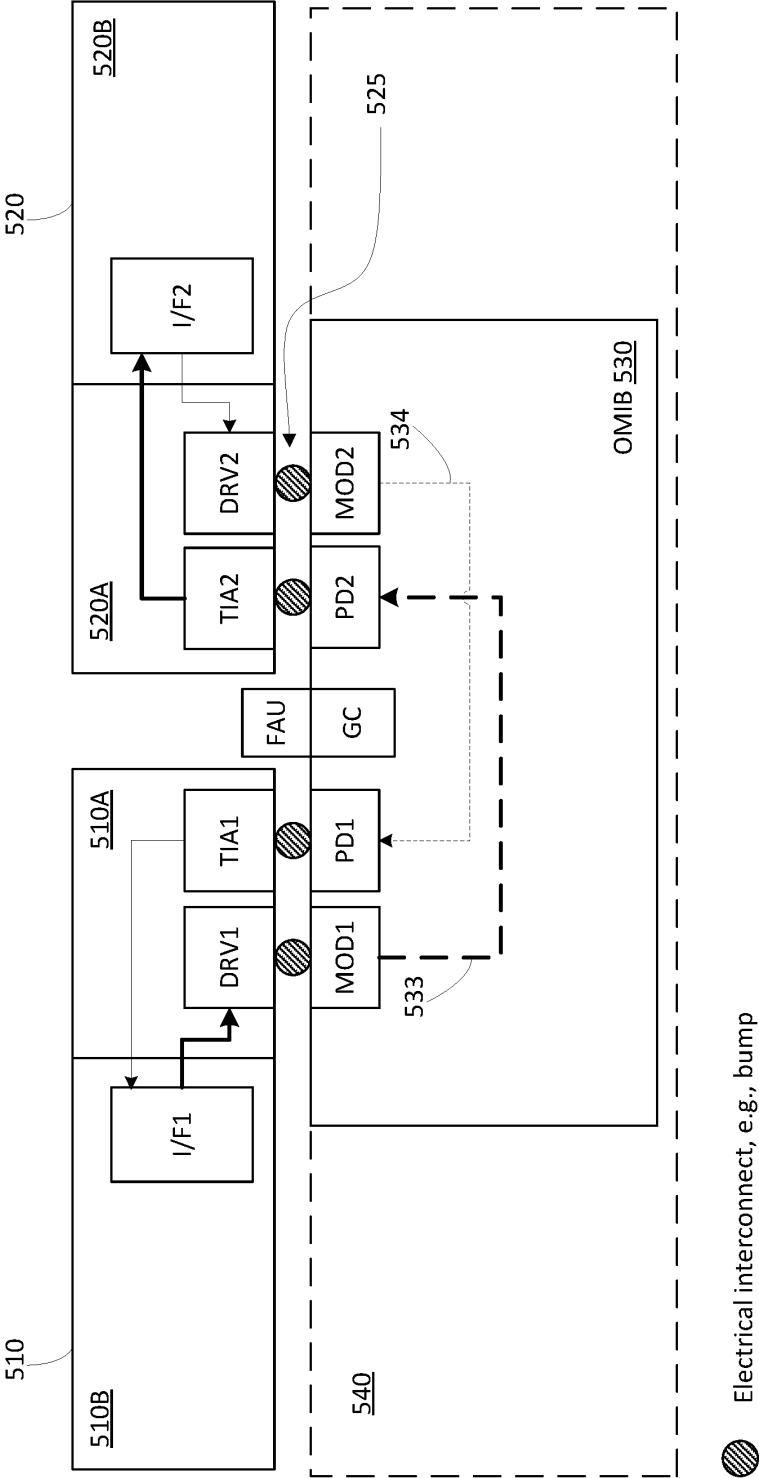


FIG. 5C
(INTER-OMI

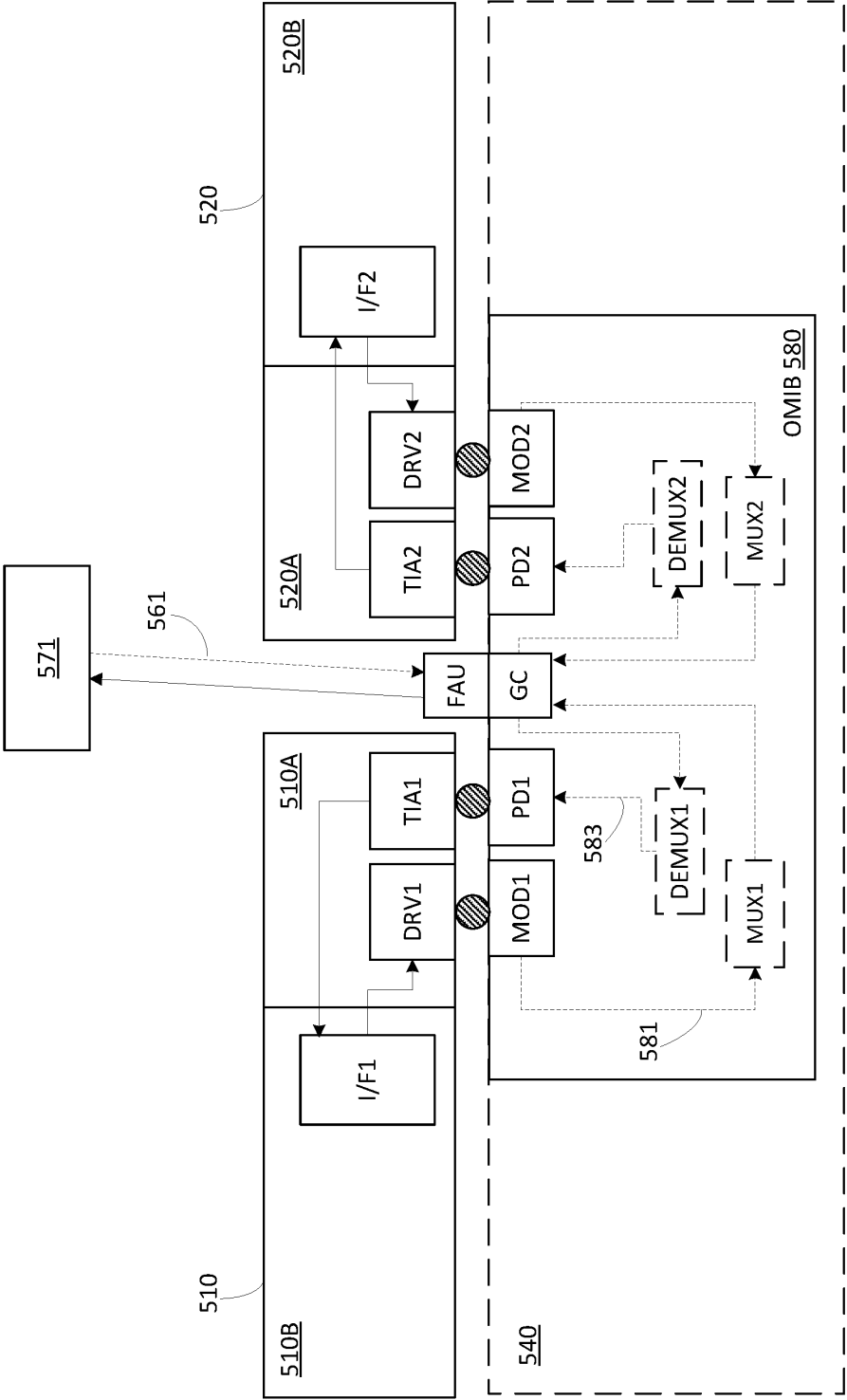


FIG. 5D

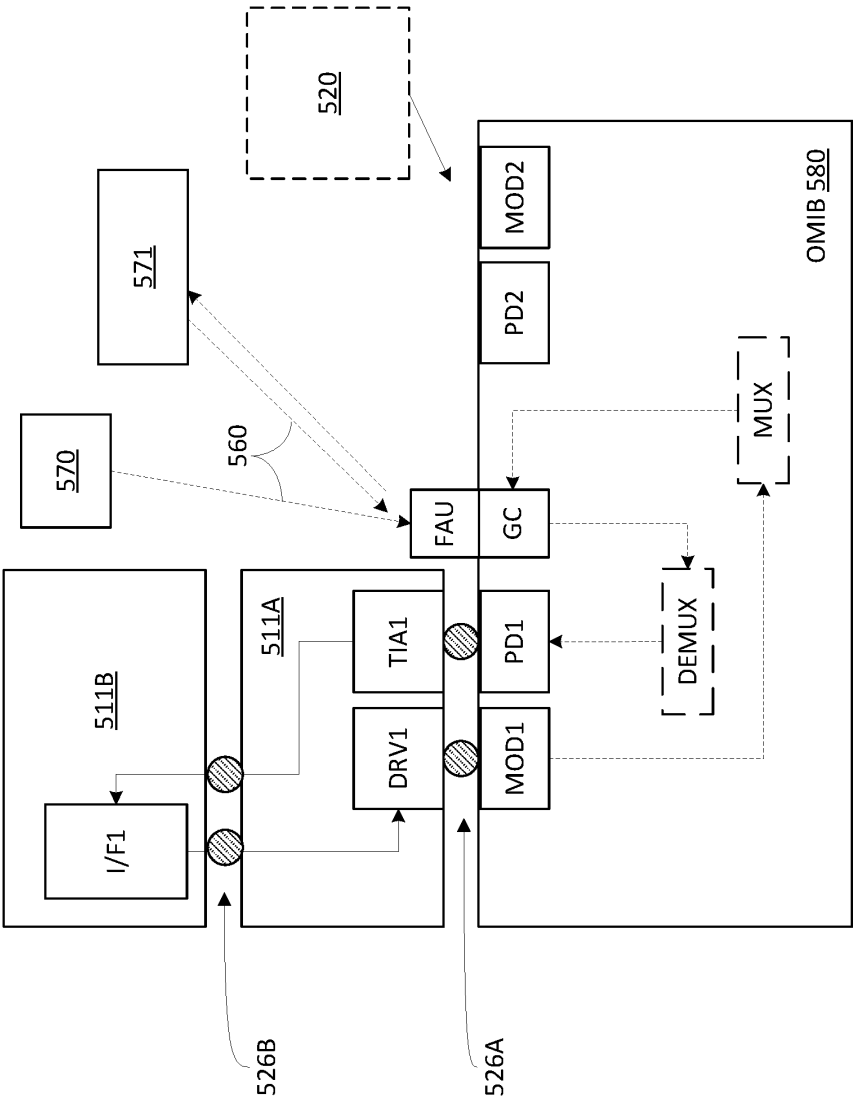


FIG. 5E

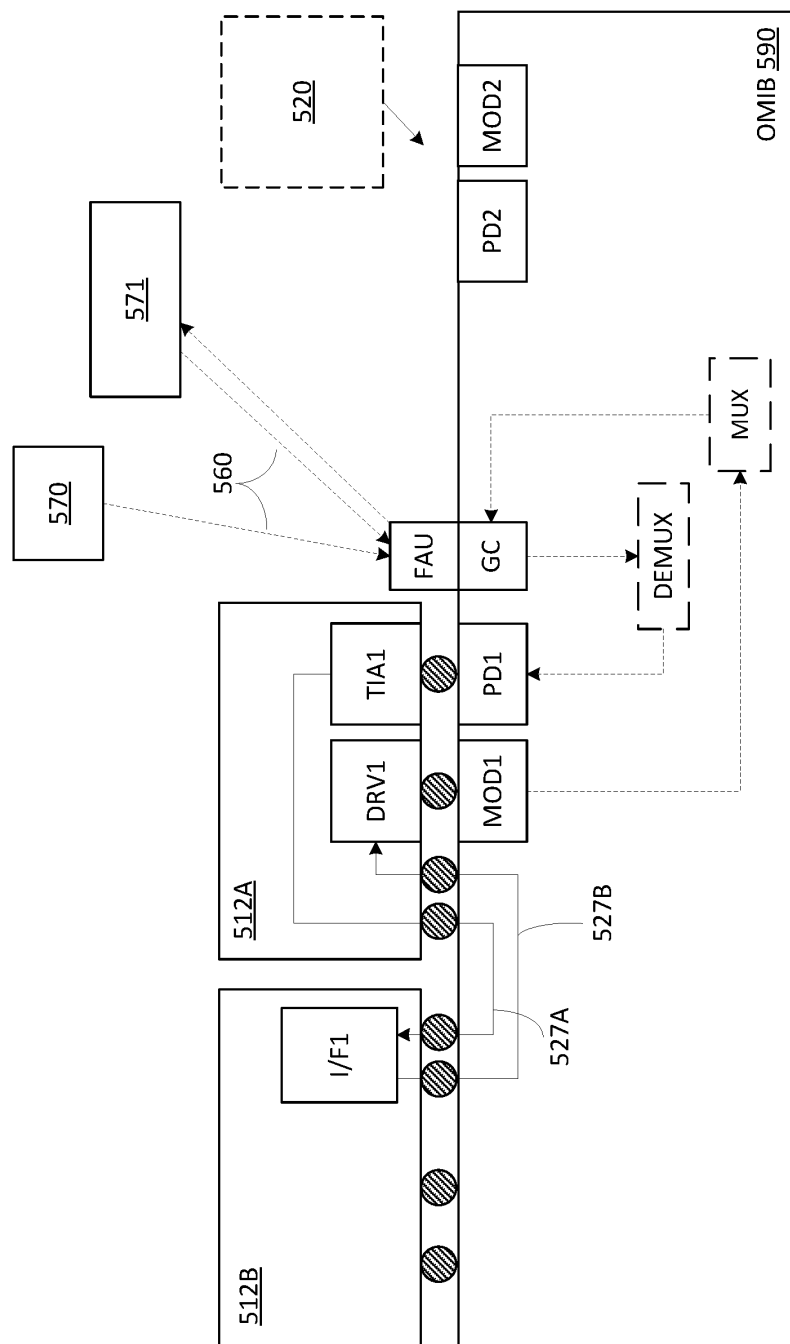


FIG. 6

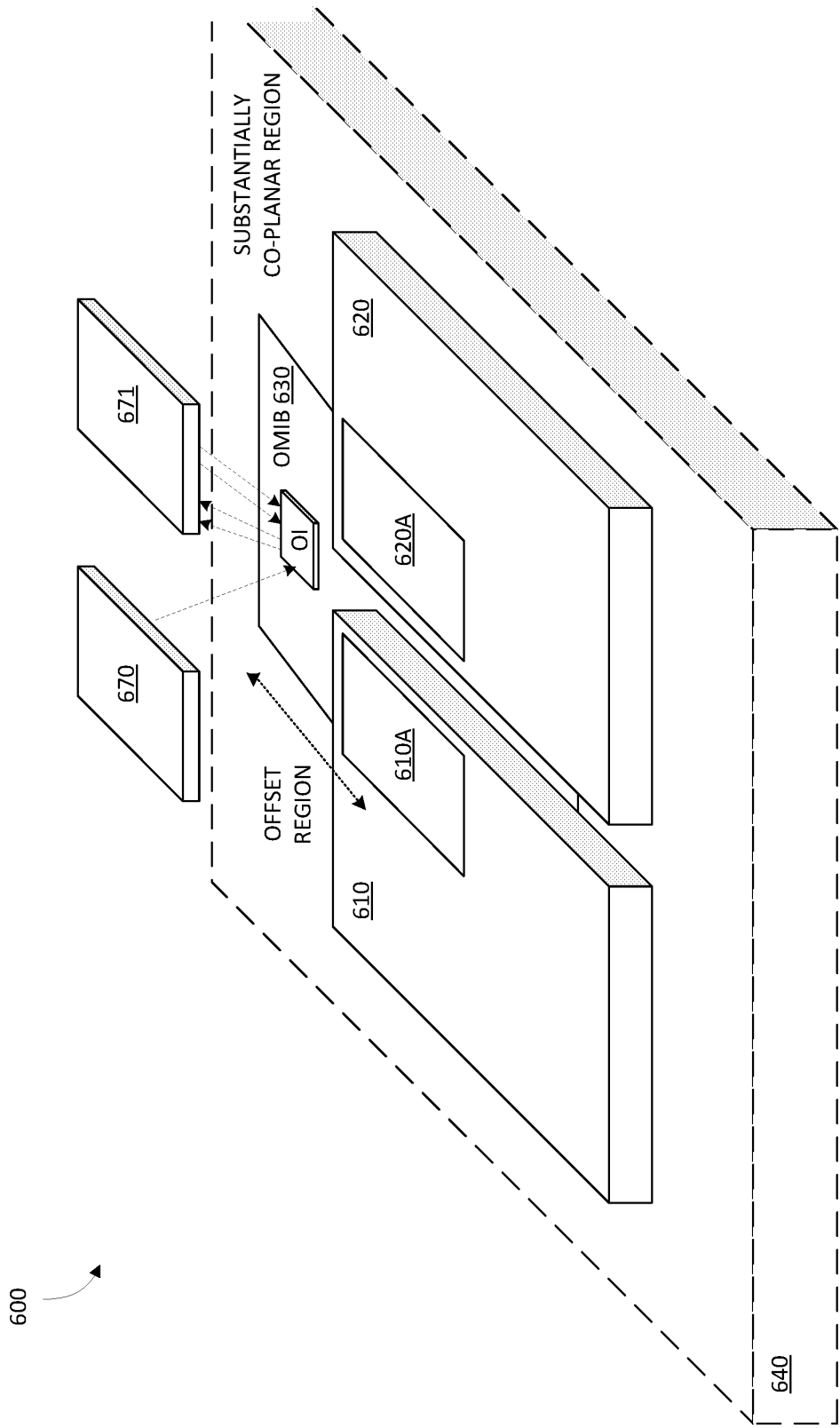


FIG. 7A

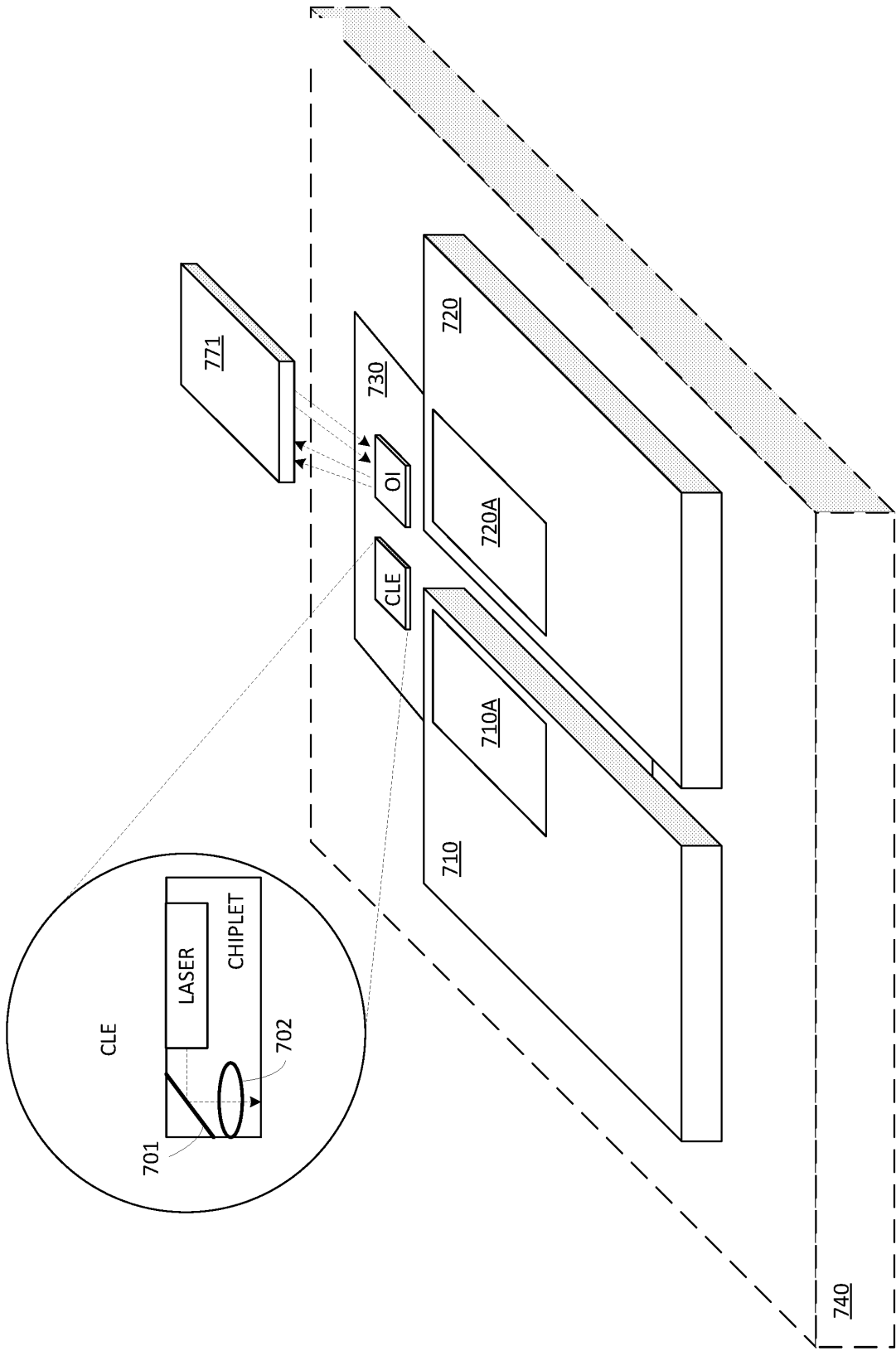


FIG. 7B

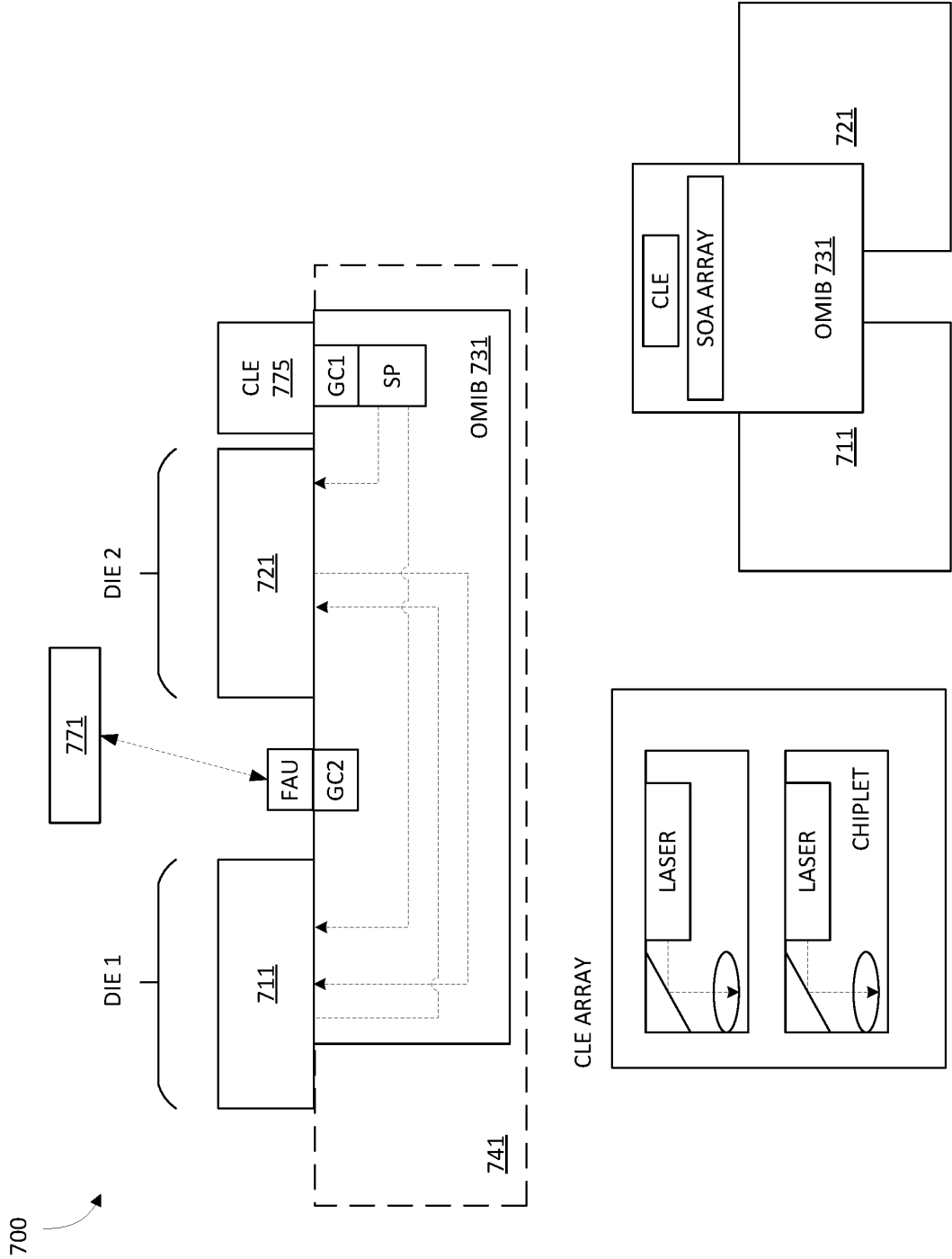


FIG. 8A

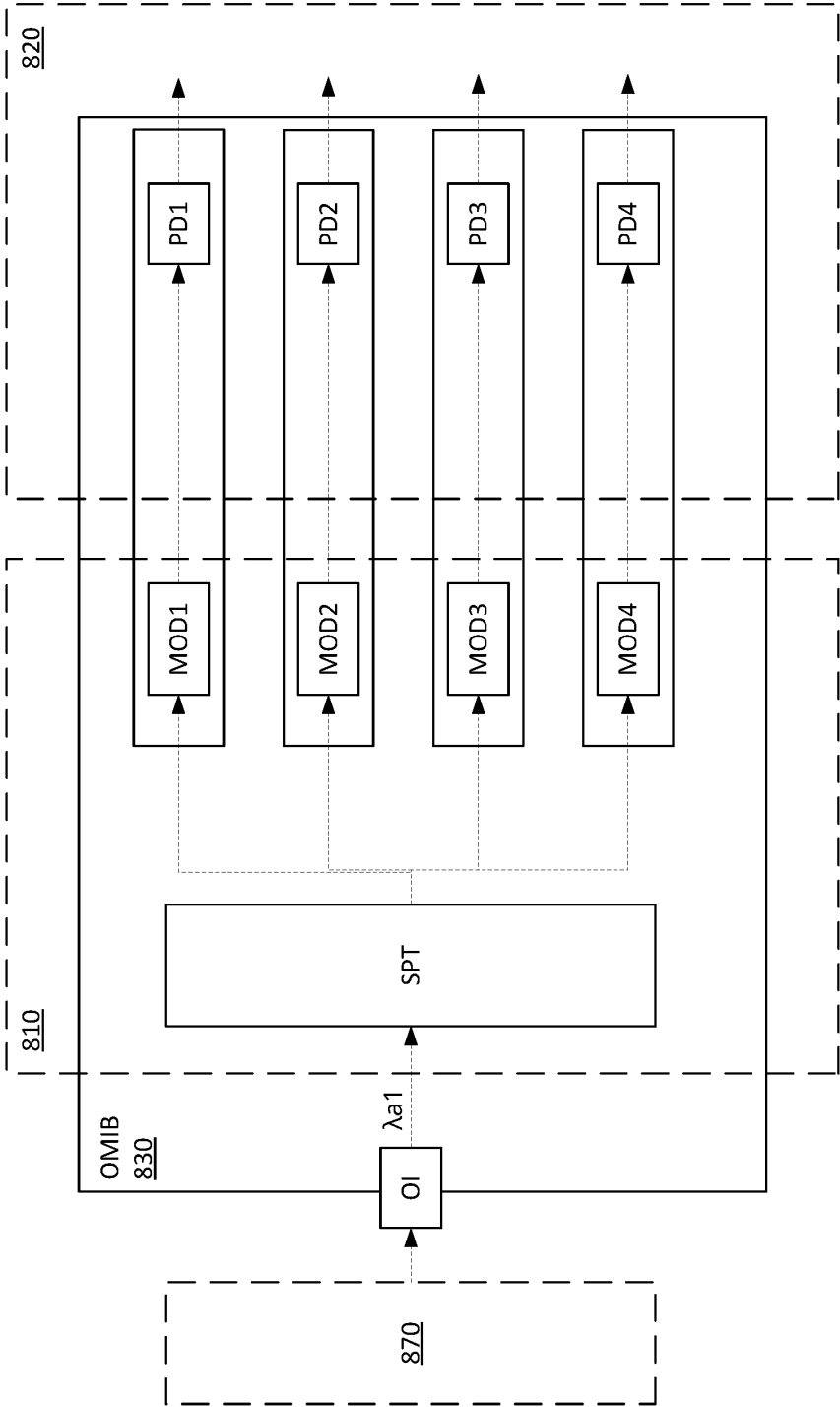


FIG. 8B

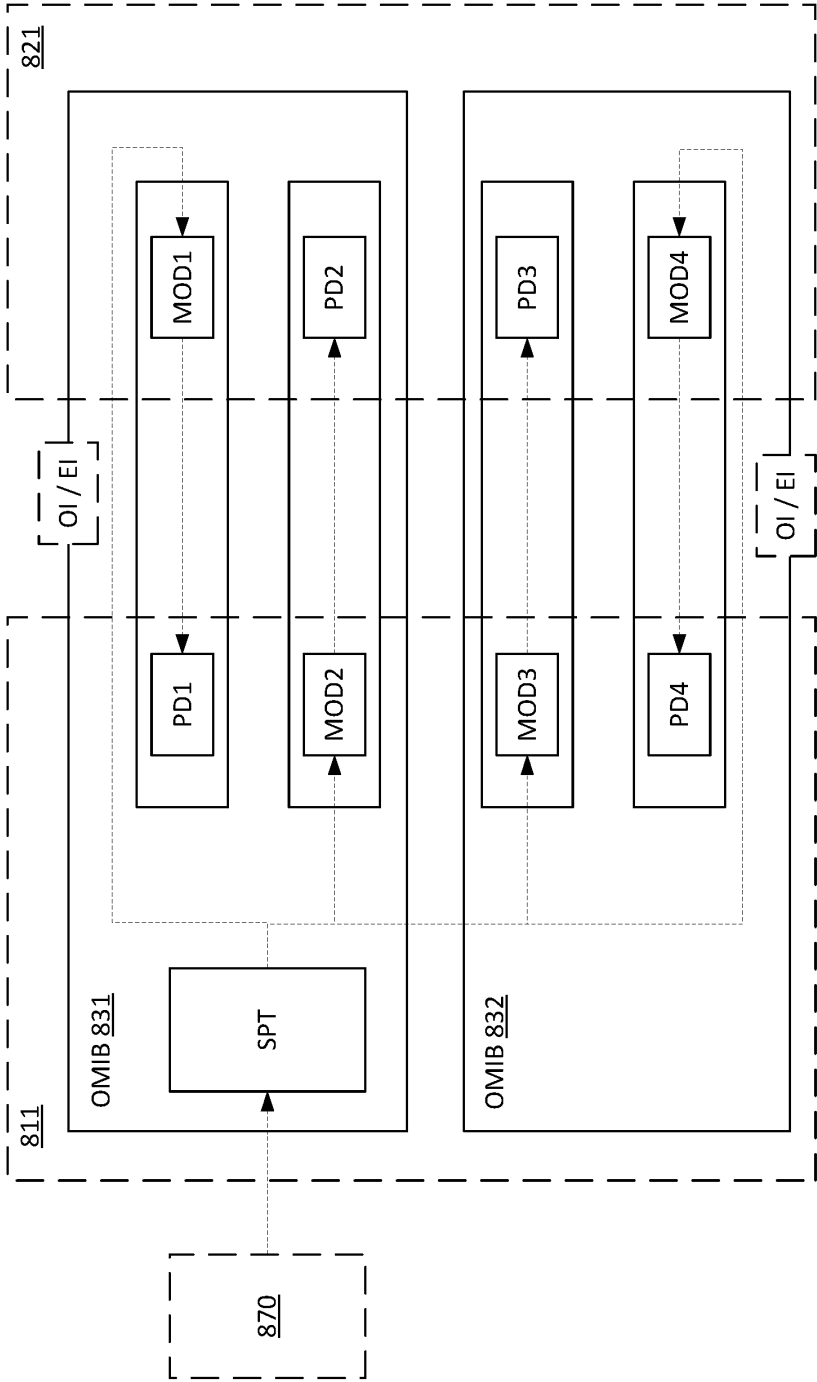


FIG. 9

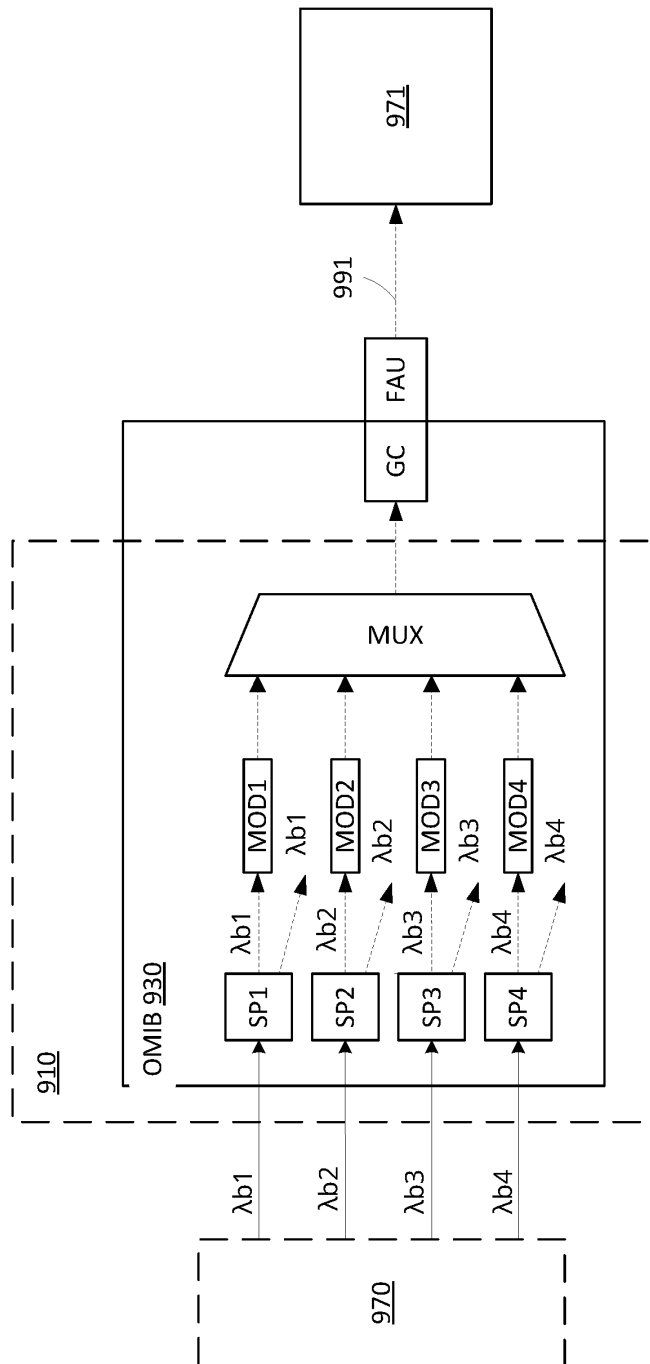


FIG. 10

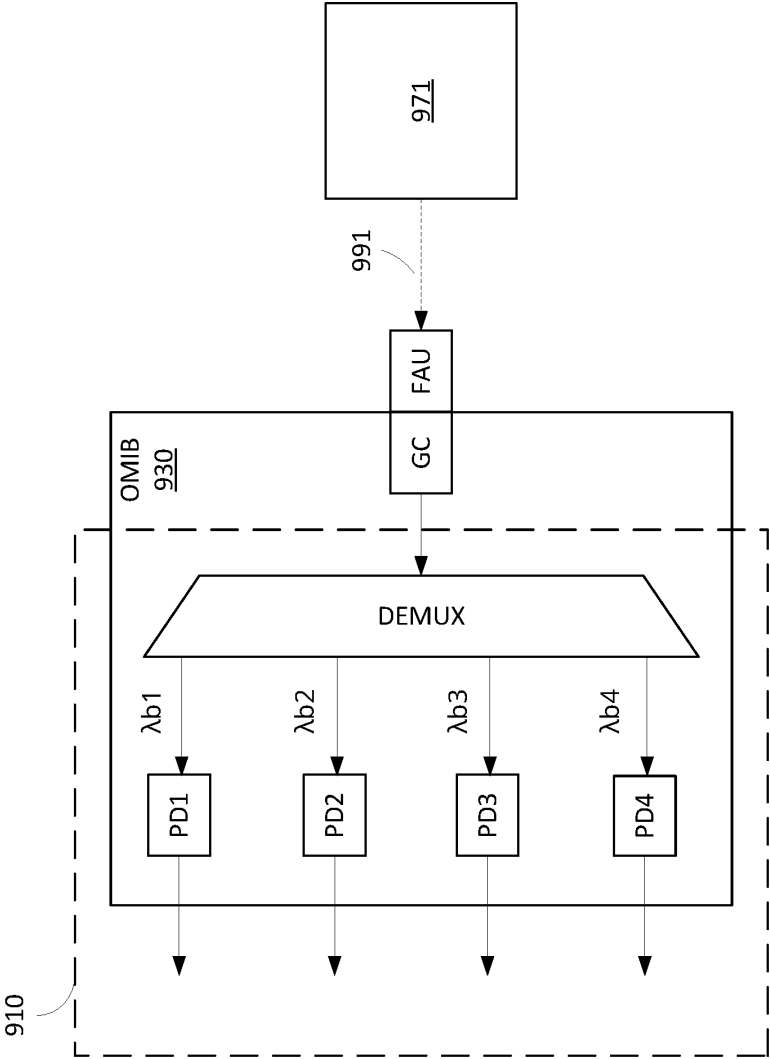


FIG. 11

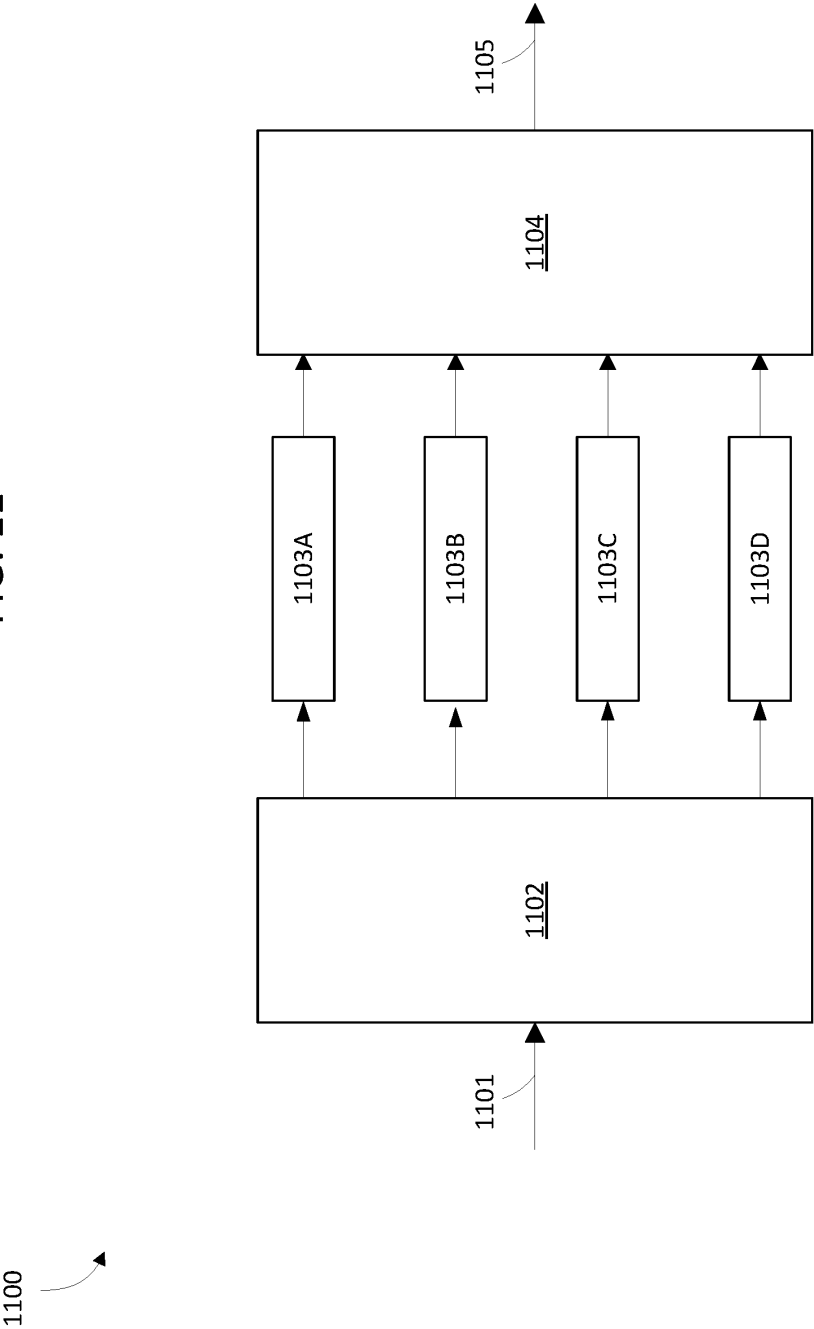


FIG. 12

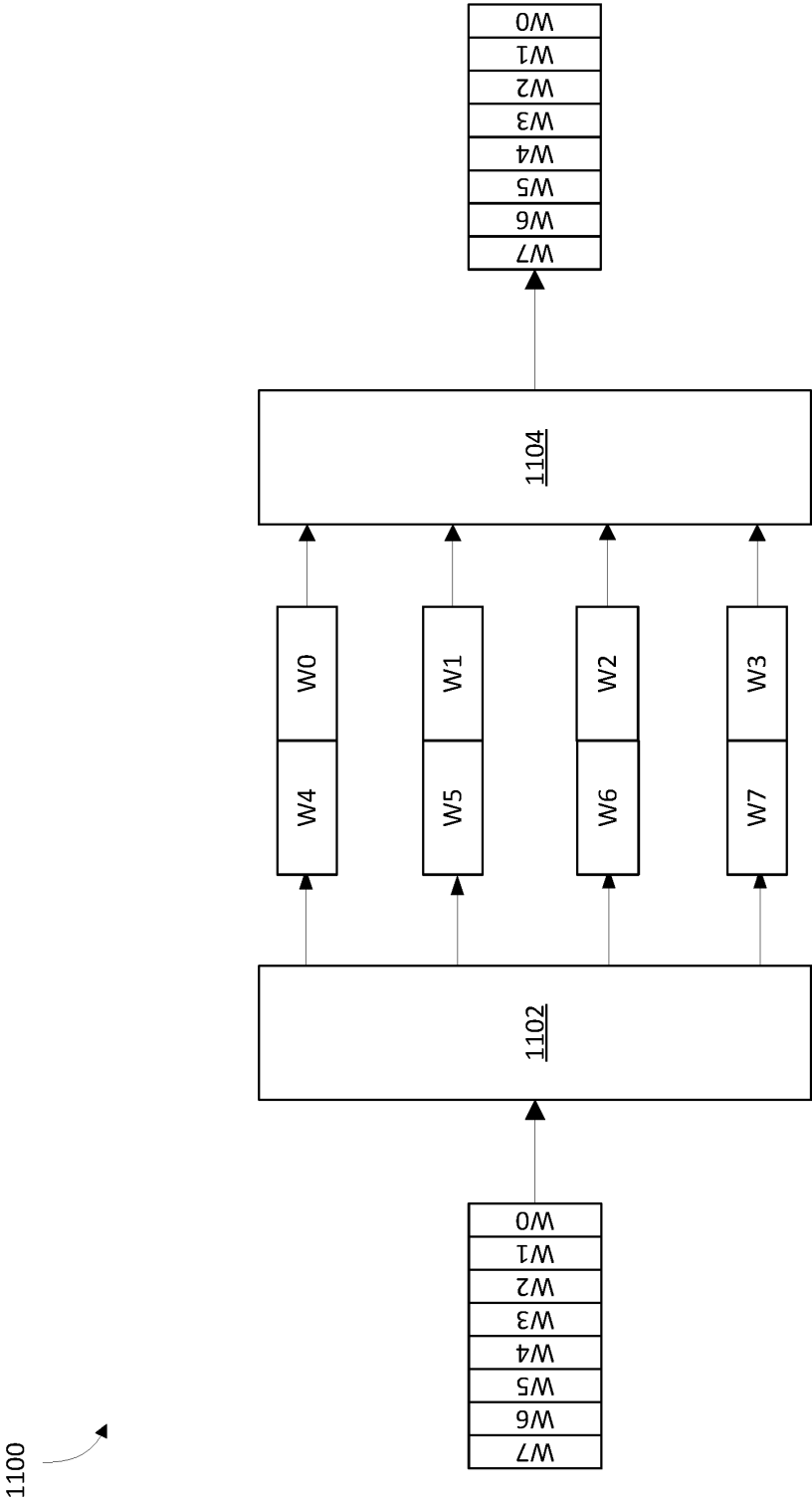


FIG. 13

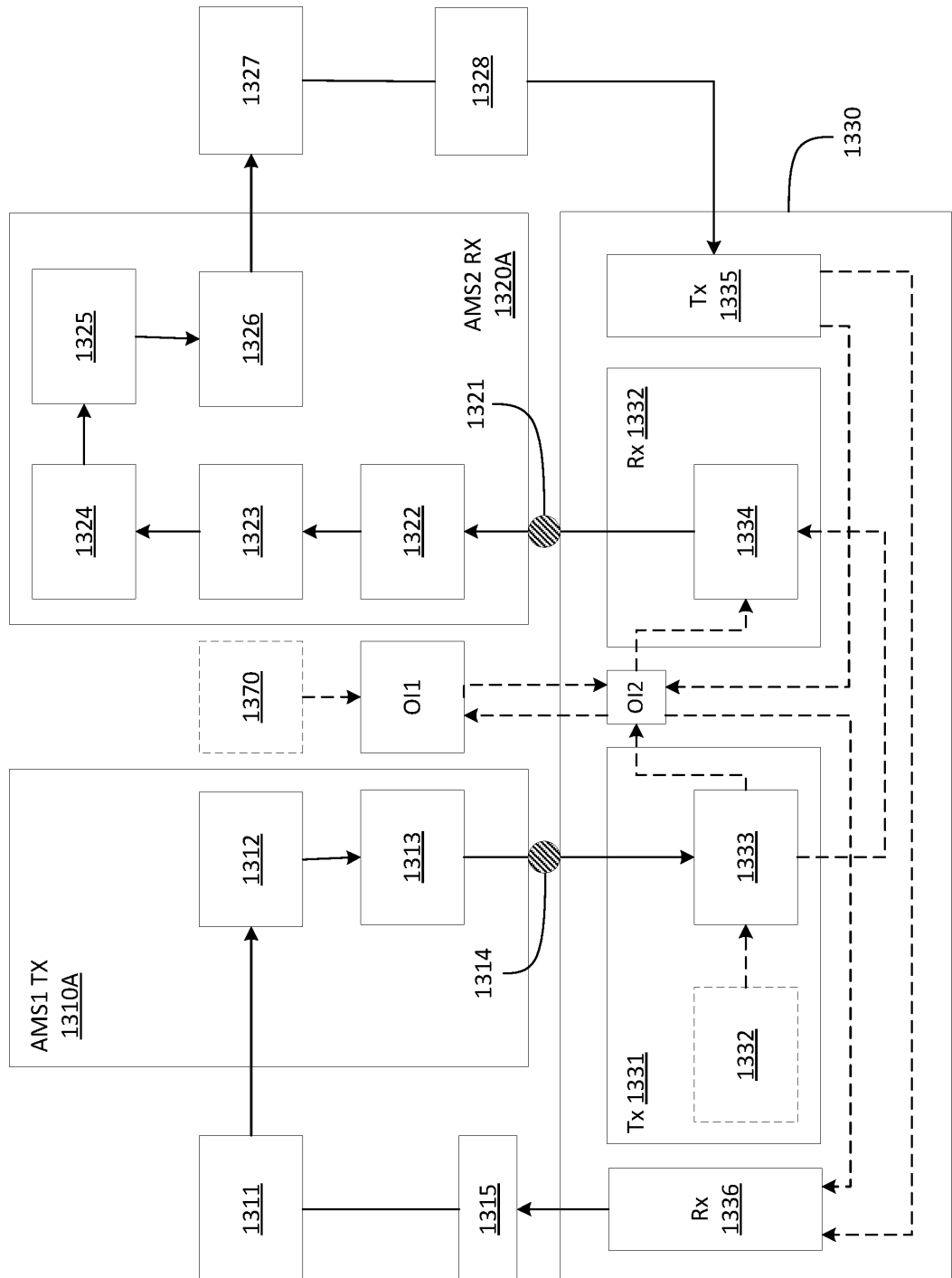


FIG. 14A

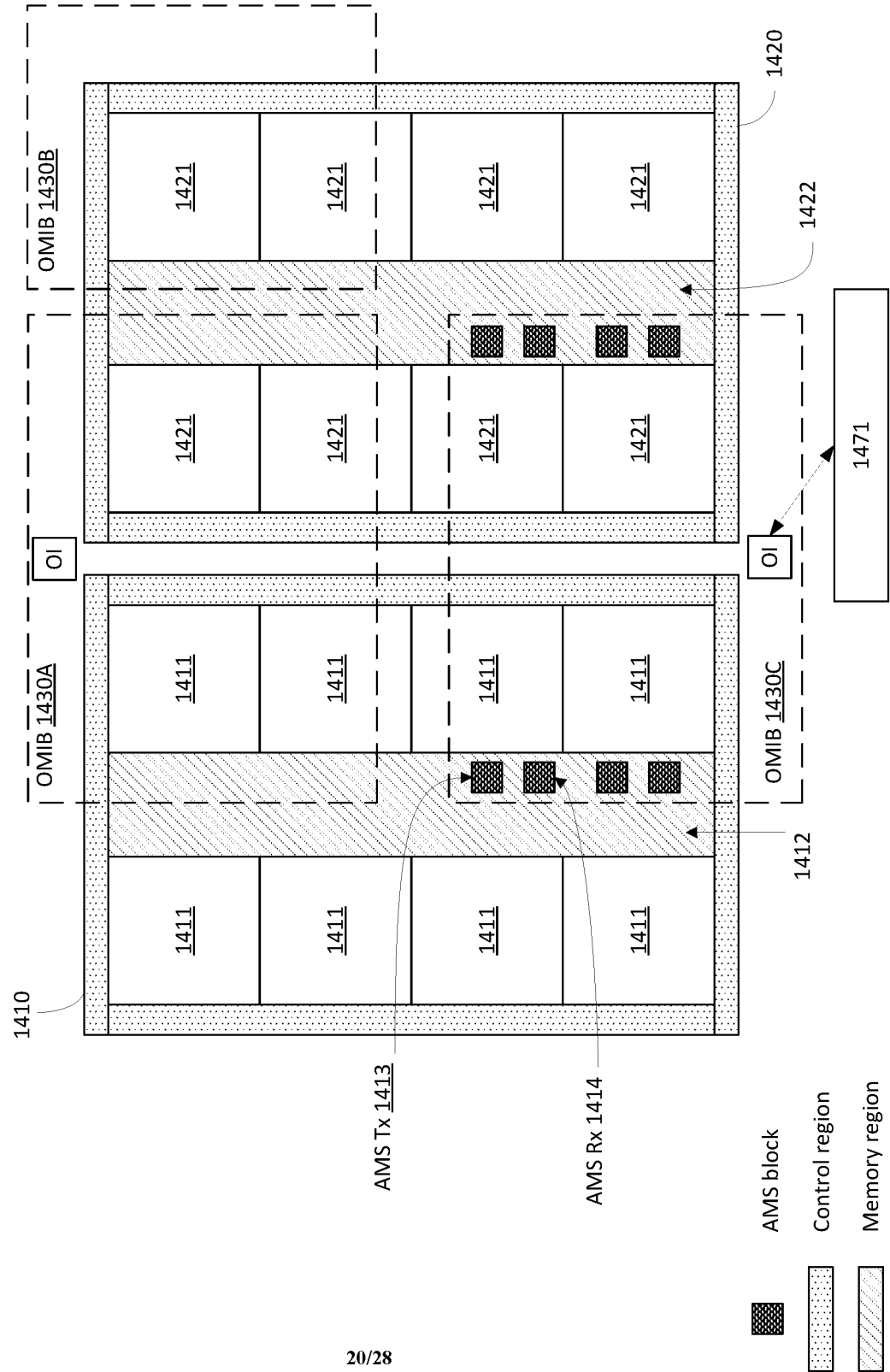


FIG. 14B

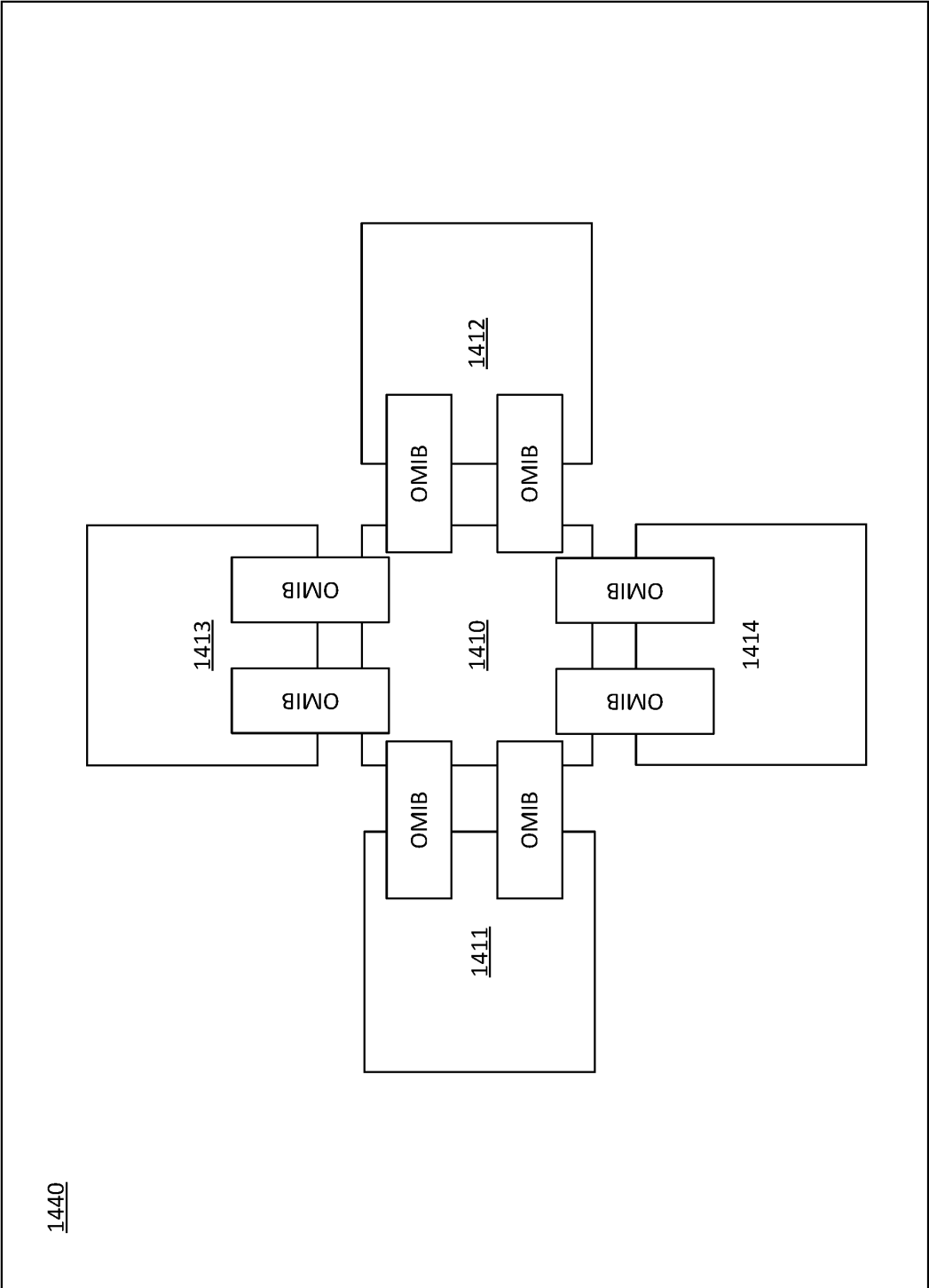
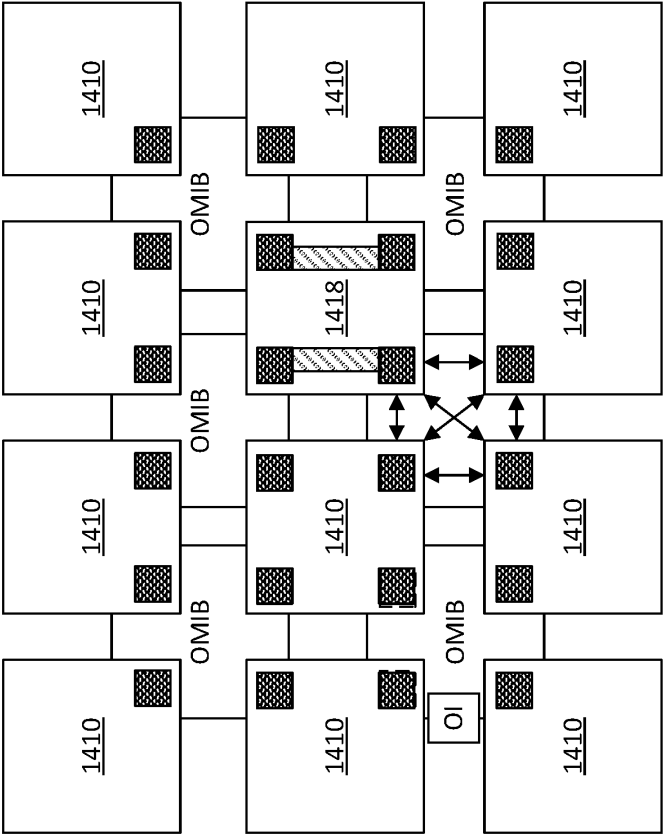


FIG. 14D



AMS block

Memory region

FIG. 15

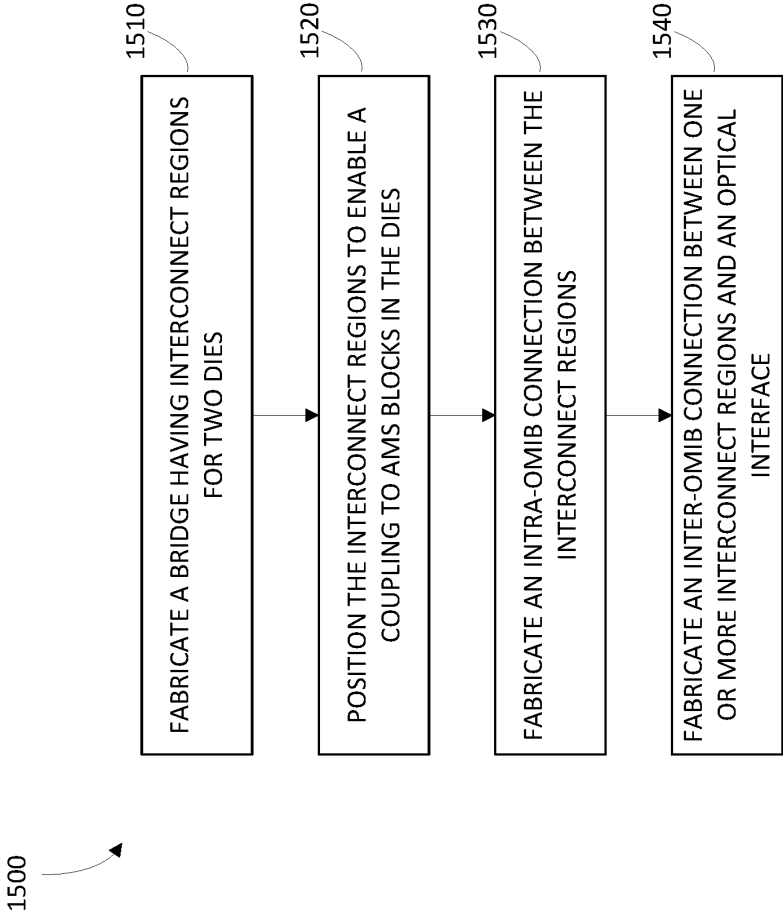
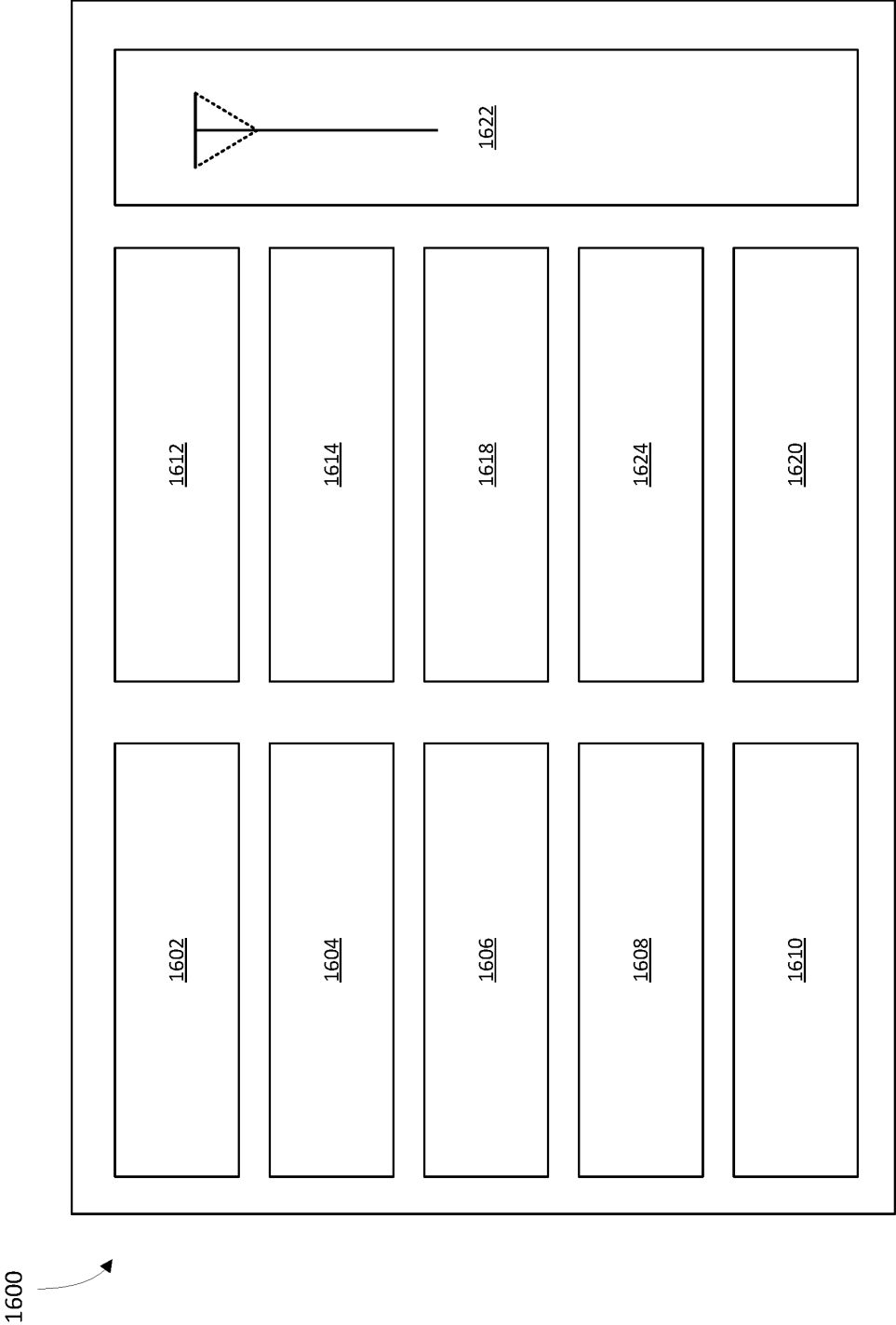


FIG. 16



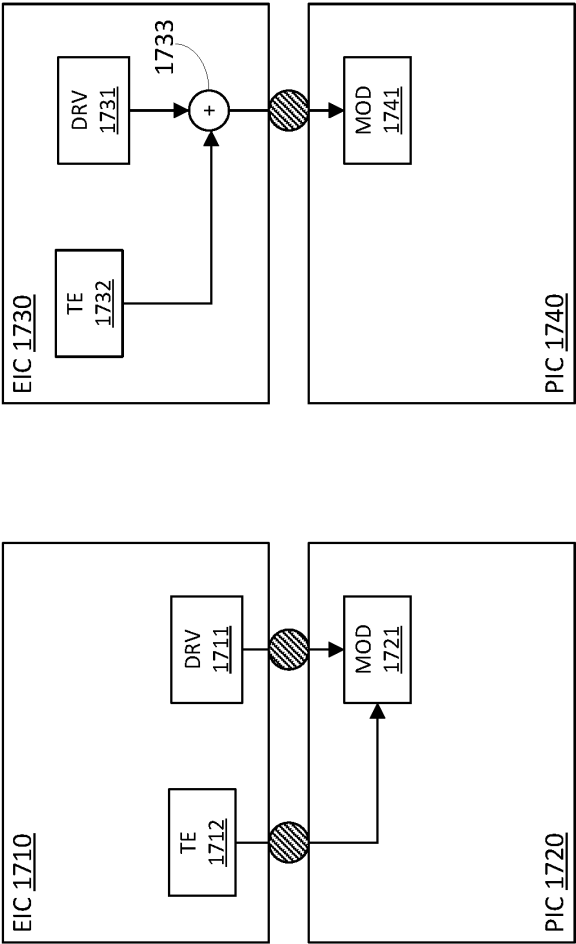


FIG. 17A

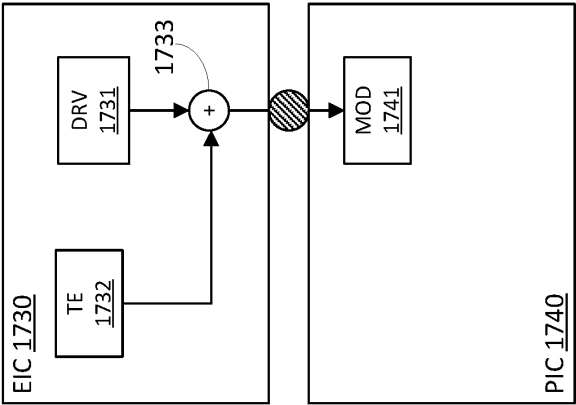


FIG. 17B

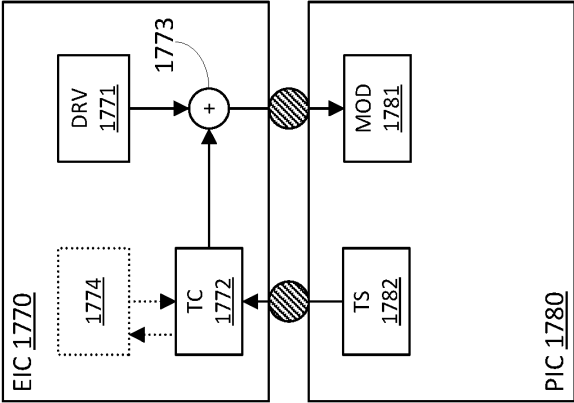


FIG. 17C

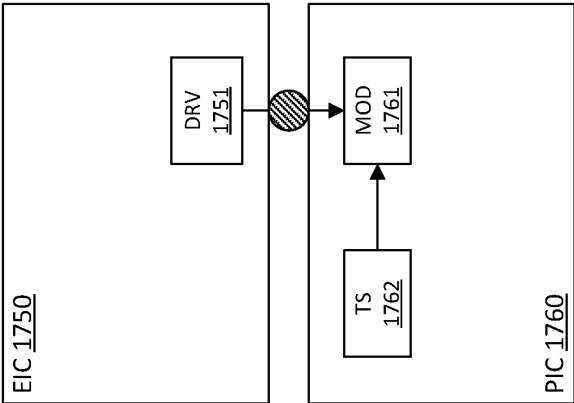


FIG. 17D

FIG. 18

1800

1810

FABRICATE A SYSTEM INCLUDING A FIRST DIE, A SECOND DIE, AN OMIB, A LIGHT SOURCE, AND A DATA CHANNEL

- BOND PAD PATTERNS ON OMIB MATCH BOND PAD PATTERNS OF FIRST DIE AND SECOND DIE
- FIRST DIE AND SECOND DIE COUPLE WITH THE OMIB VIA BOND PADS IN THE MATCHING BOND PAD PATTERNS
- THE LIGHT SOURCE COUPLES WITH THE OMIB VIA AN OI IN THE OFFSET REGION
- THE DATA CHANNEL INCLUDES SERIALIZER AND DRIVER IN FIRST DIE, MODULATOR, PATH AND PD IN OMIB, AND TIA AND DESERIALIZER IN SECOND DIE
- DISTANCE BETWEEN FIRST DIE AND OMIB IS LESS THAN 2MM
- DISTANCE BETWEEN SECOND DIE AND OMIB IS LESS THAN 2 MM