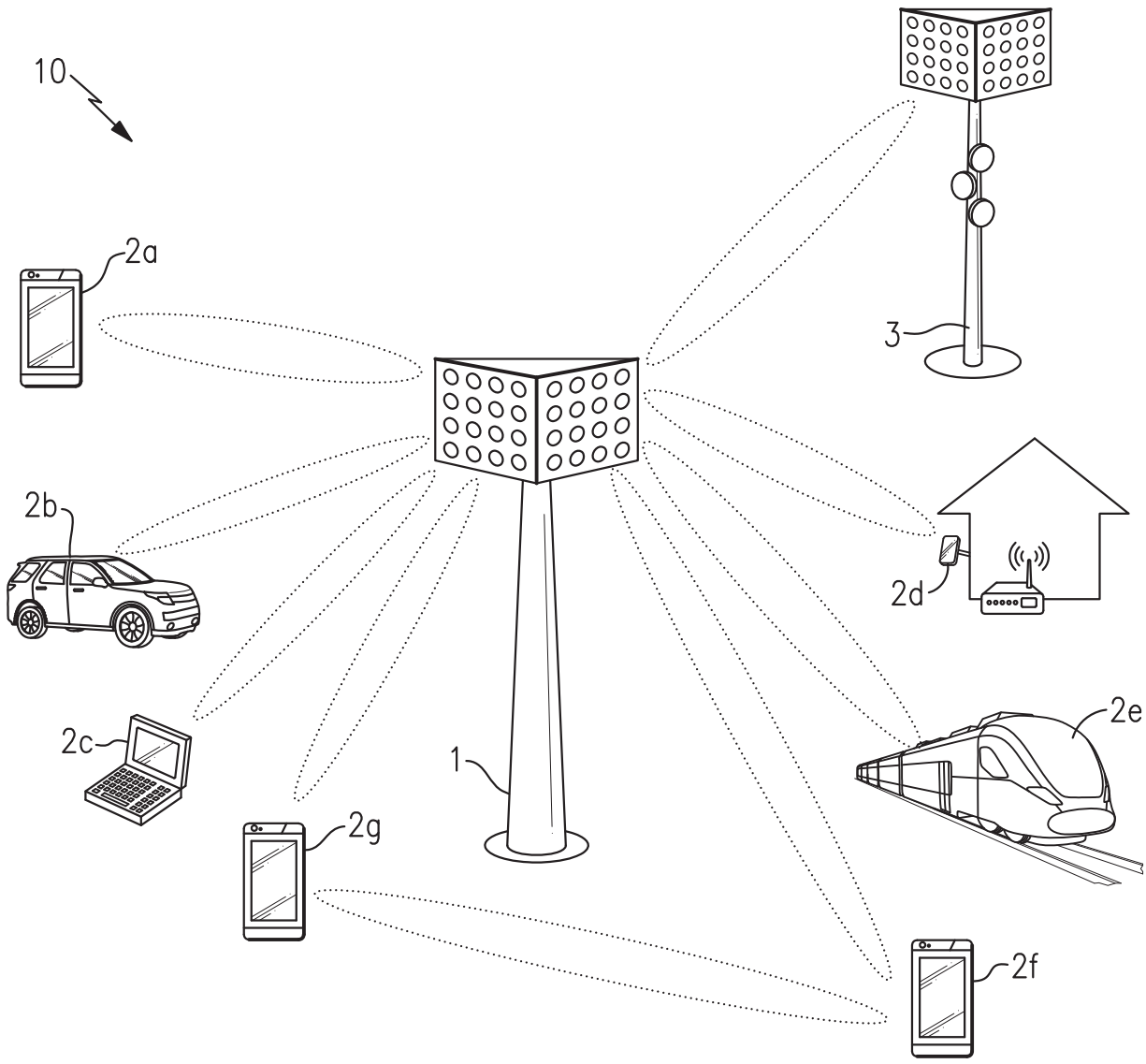


FIG.1

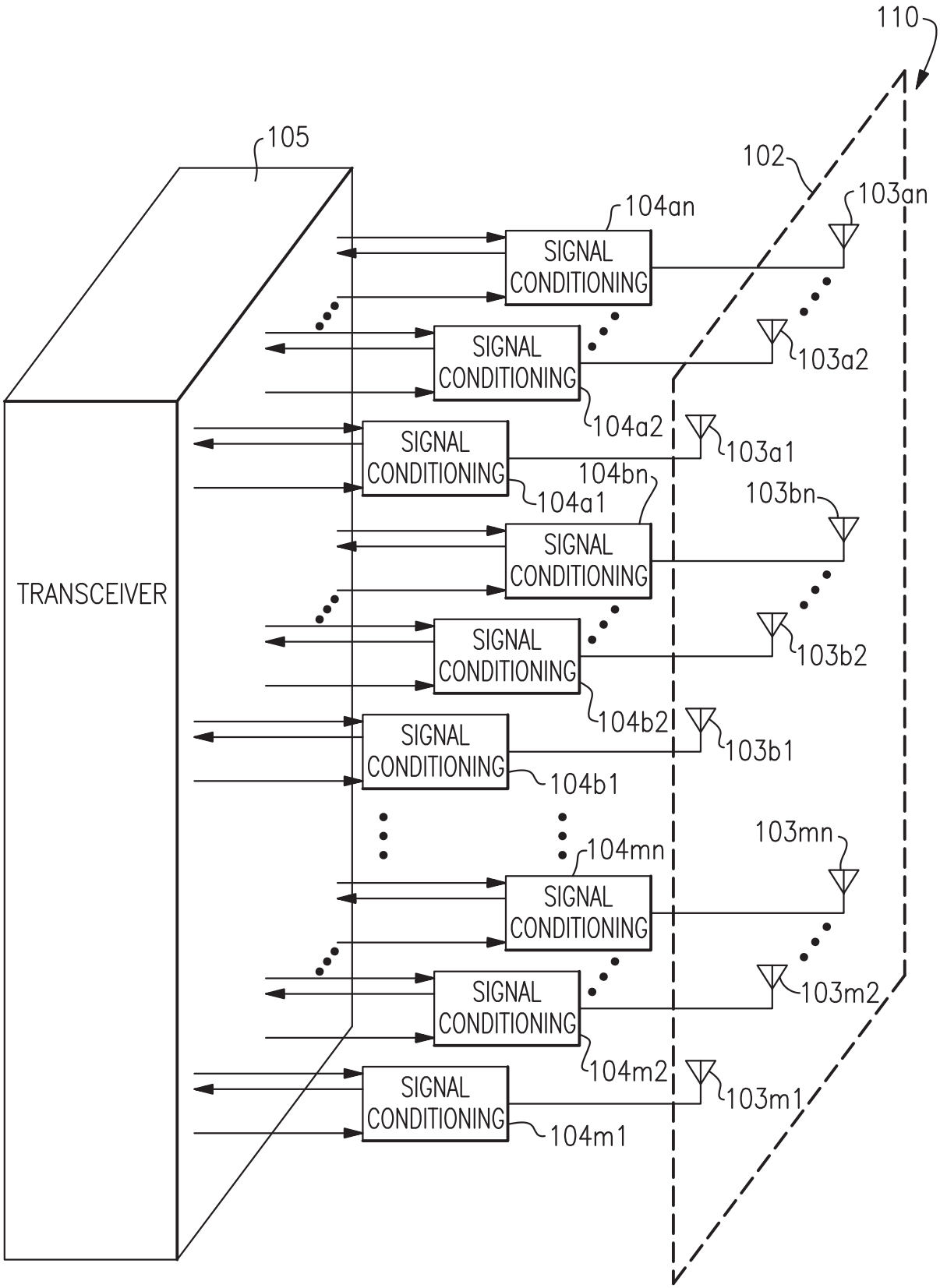

110
105
102
103an
104an
SIGNAL CONDITIONING
103a2
104a2
103a1
104bn
104a1
103bn
TRANSCEIVER
103b2
104b2
103b1
104b1
103mn
104mn
103m2
104m2
103m1
104m1

FIG.2A

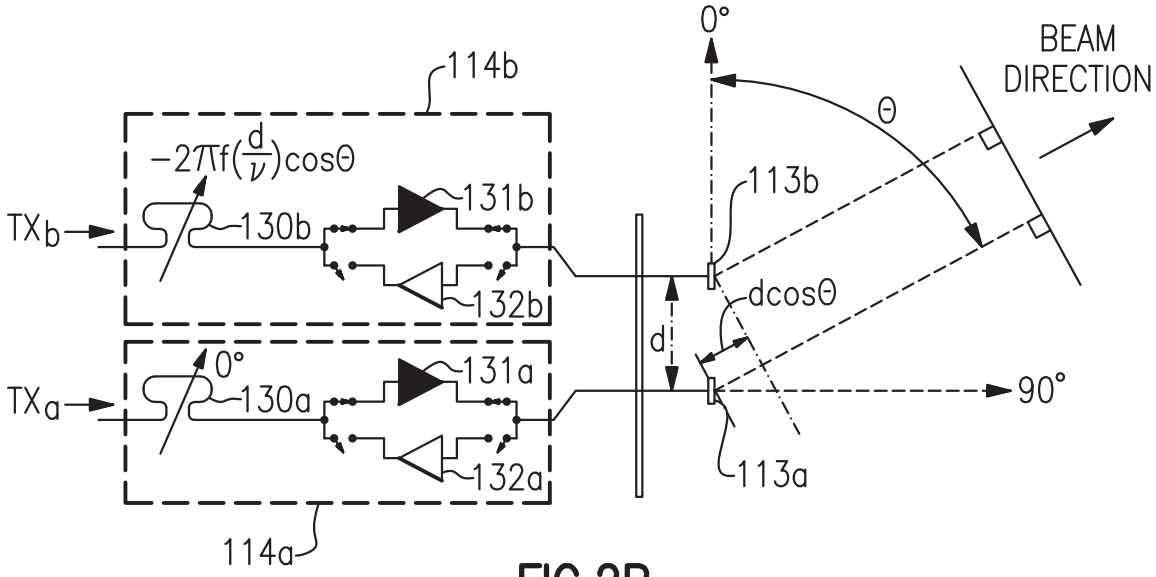

0°
BEAM
DIRECTION
114b
Θ
$-2\pi f(\frac{d}{v})\cos\Theta$
113b
131b
TXb
130b
132b
dcosΘ
d
0°
131a
TXa
130a
90°
132a
113a
114a

FIG.2B

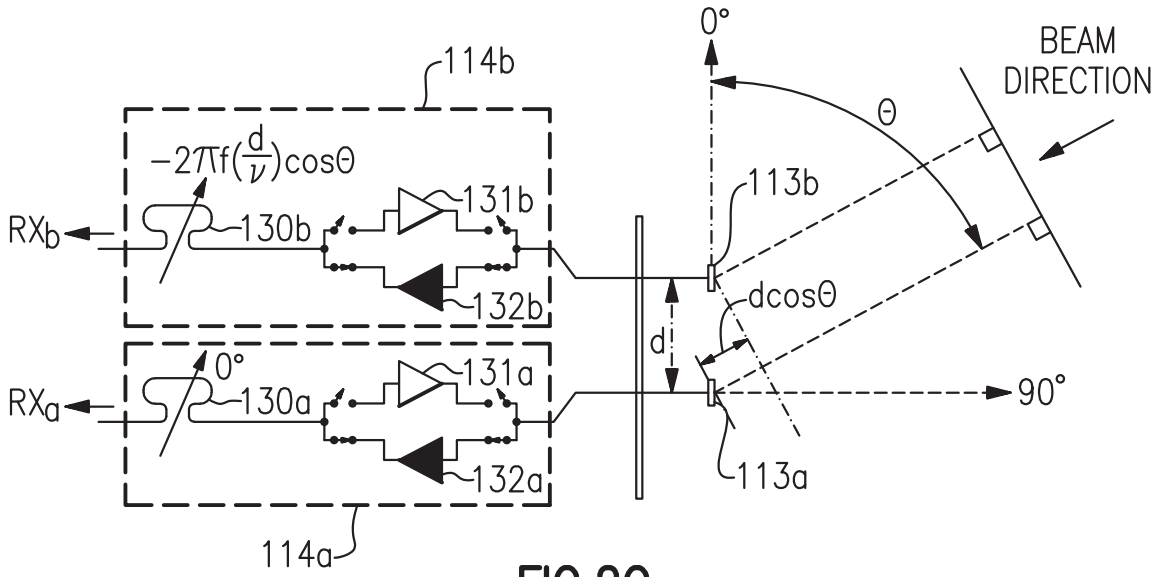

0°
BEAM
DIRECTION
114b
Θ
$-2\pi f(\frac{d}{v})\cos\Theta$
113b
131b
RXb
130b
132b
dcosΘ
d
0°
131a
RXa
130a
90°
132a
113a
114a

FIG.2C

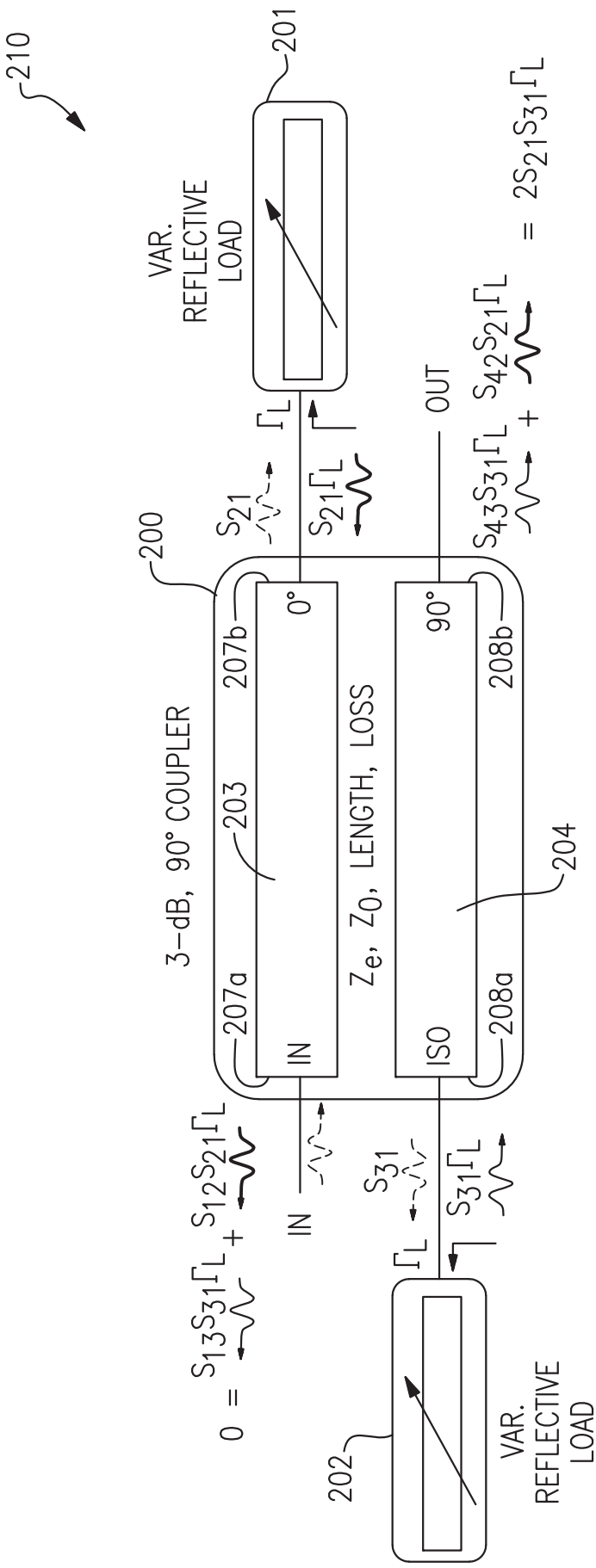

210
201
VAR.
REFLECTIVE
LOAD
Γ_L
S_{21}
$S_{21}\Gamma_L$
200
OUT
$S_{43}S_{31}\Gamma_L$ + $S_{42}S_{21}\Gamma_L$ = $2S_{21}S_{31}\Gamma_L$
3-dB, 90° COUPLER
207b
0°
203
Z_e, Z_O, LENGTH, LOSS
90°
208b
207a
IN
204
ISO
208a
$0 = S_{13}S_{31}\Gamma_L + S_{12}S_{21}\Gamma_L$
IN
S_{31}
Γ_L
$S_{31}\Gamma_L$
202
VAR.
REFLECTIVE
LOAD

FIG.3

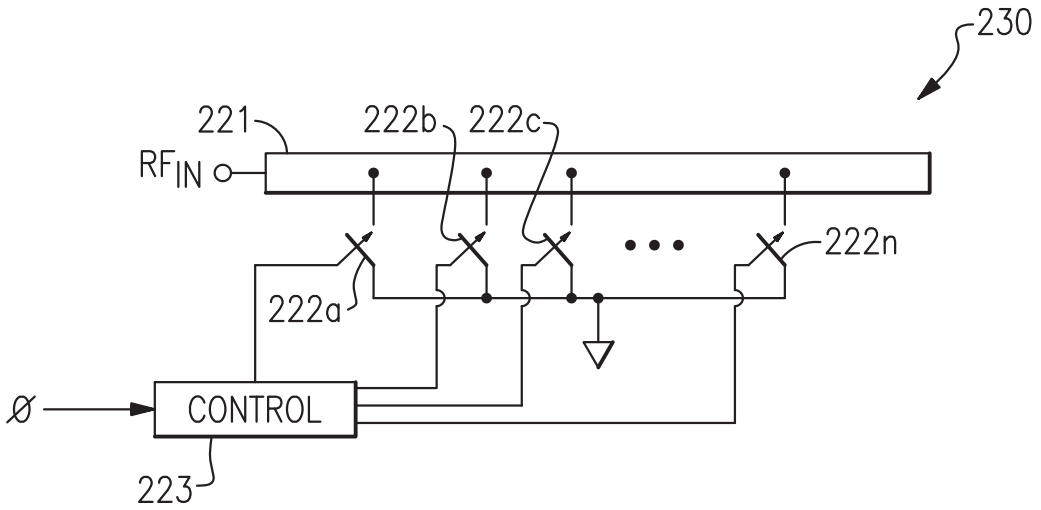

230
221
222b
222c
RF IN
222n
222a
CONTROL
223

FIG.4A

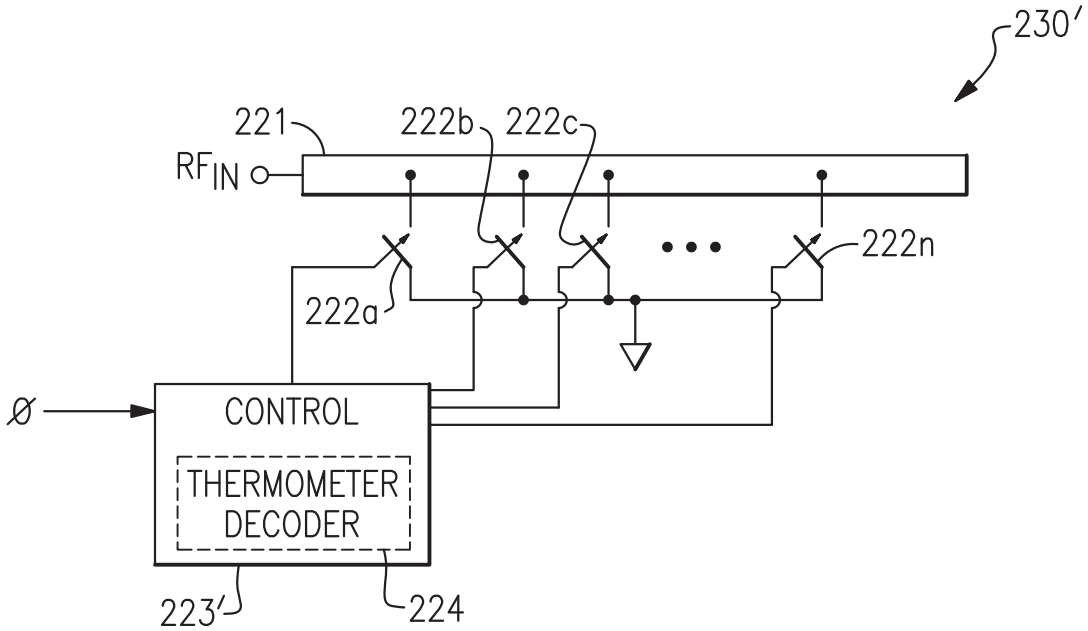

230′
221
222b
222c
RF IN
222n
222a
CONTROL
THERMOMETER DECODER
223′
224

FIG.4B

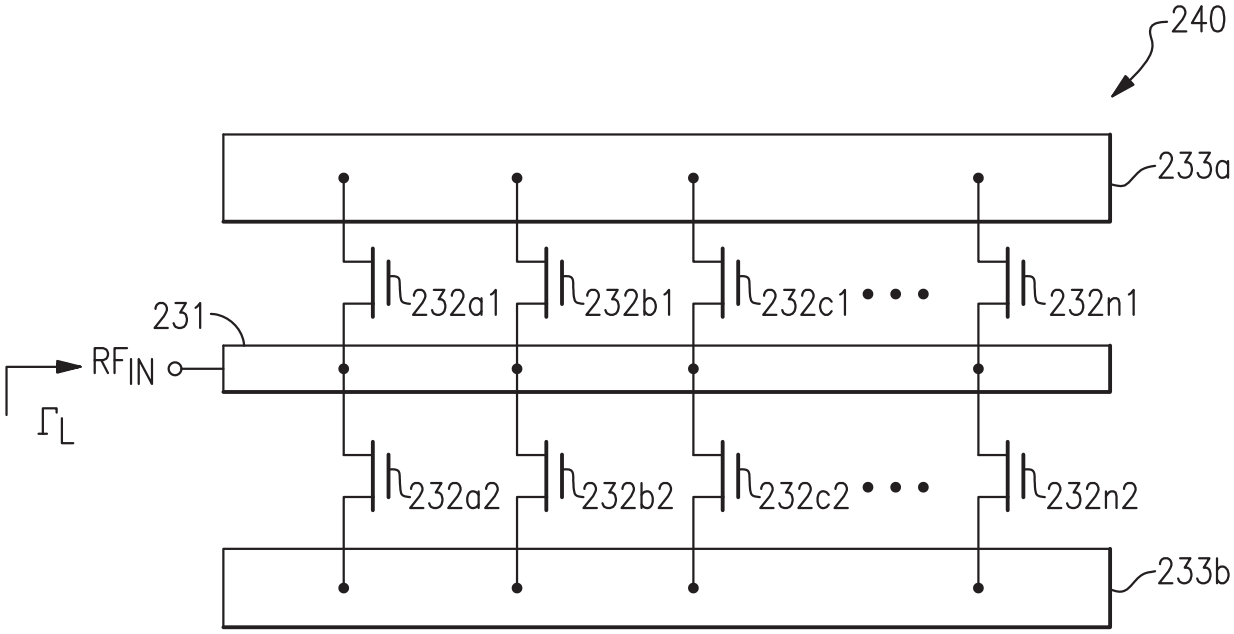

240
233a
231
RF_IN
Γ_L
232a1
232b1
232c1
232n1
232a2
232b2
232c2
232n2
233b

FIG.5A

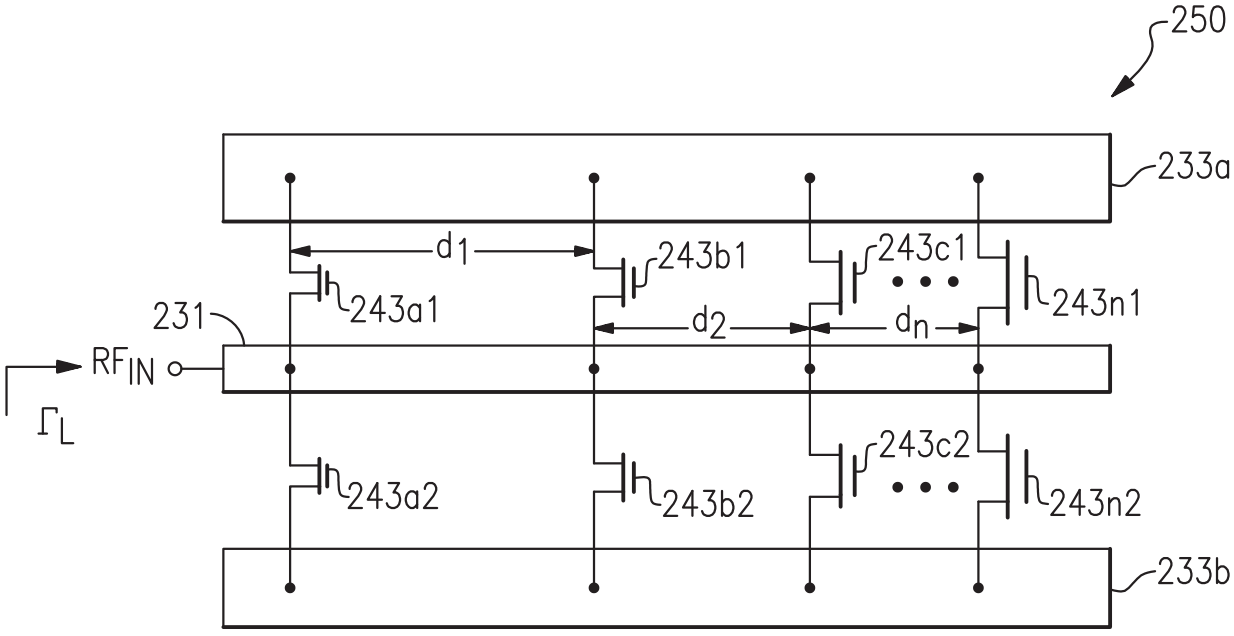

250
233a
231
RF_IN
Γ_L
d1
d2
dn
243a1
243b1
243c1
243n1
243a2
243b2
243c2
243n2
233b

FIG.5B

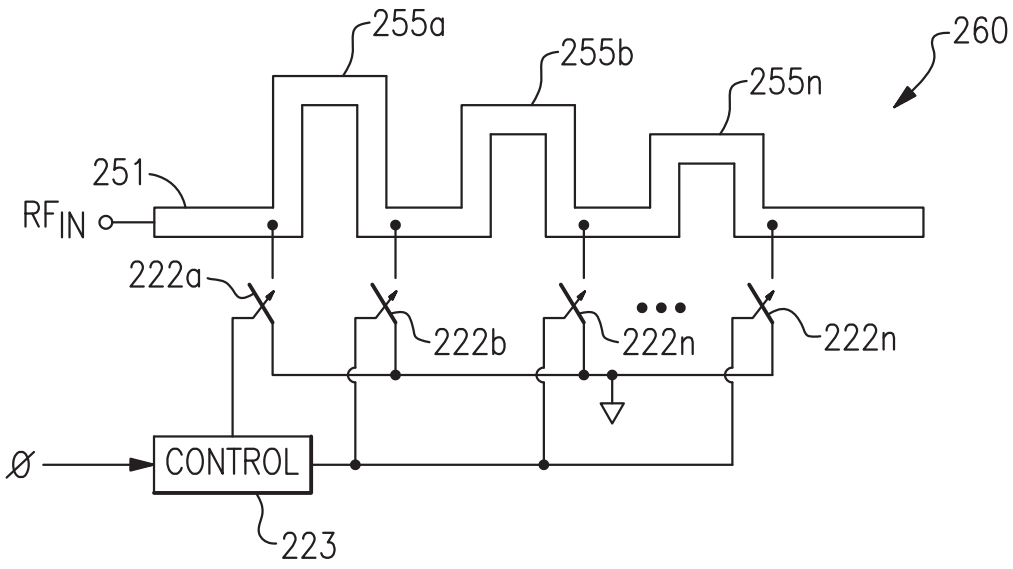


FIG.6

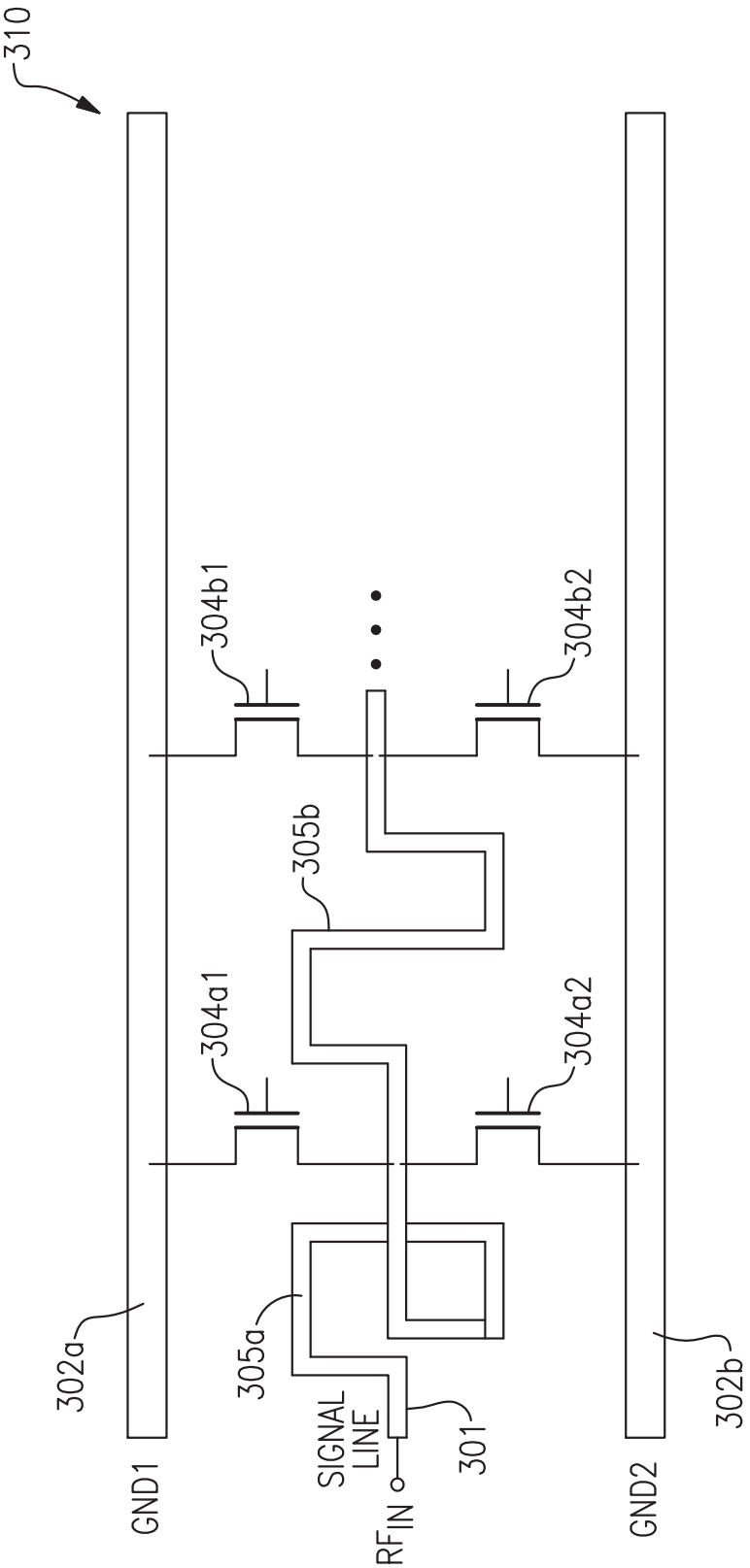

310
304b1
304b2
305b
304a1
304a2
302a
305a
SIGNAL LINE
301
GND1
RF IN
GND2
302b

FIG.7

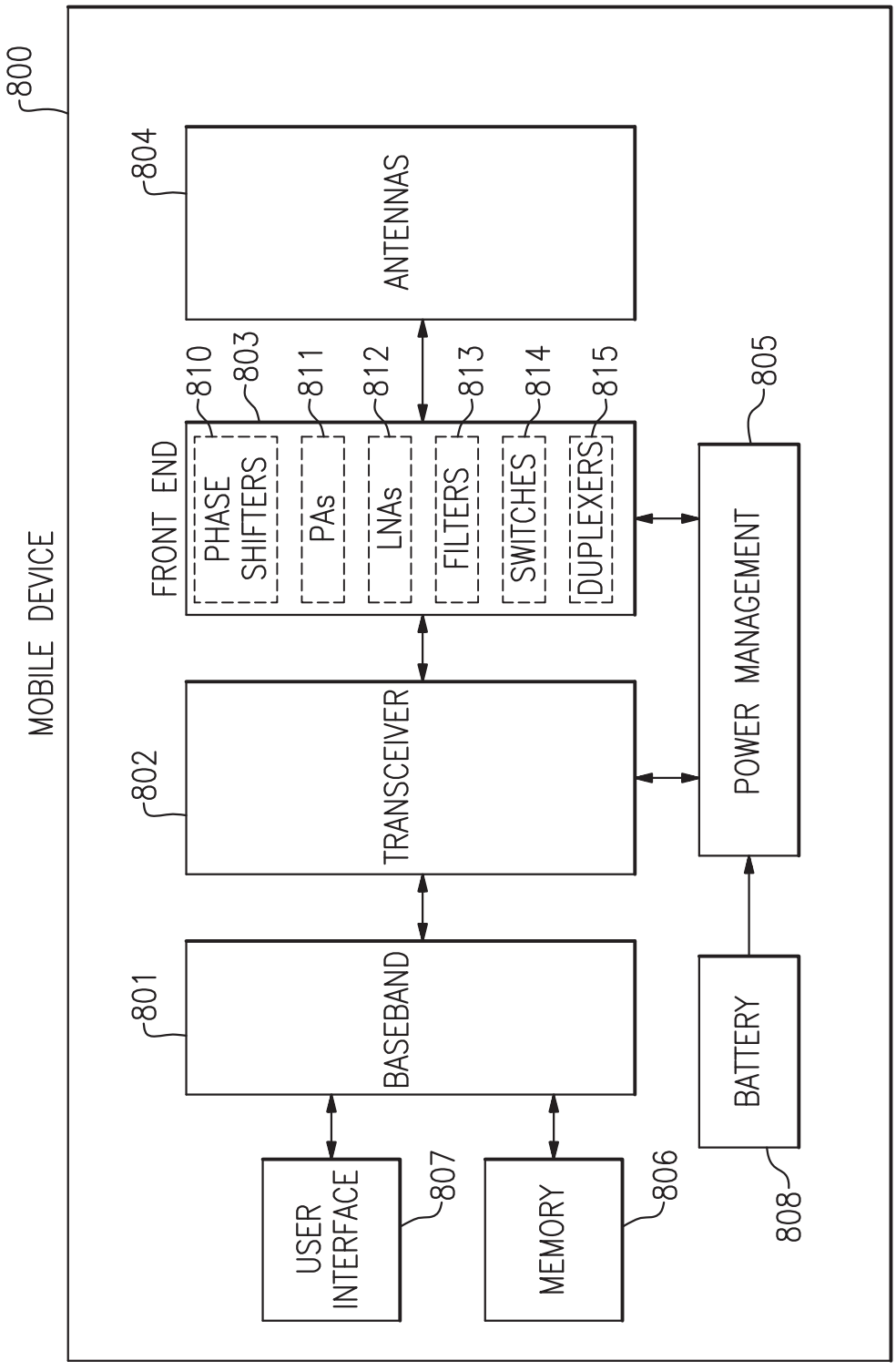

800
MOBILE DEVICE
804
ANTENNAS
810
803
811
812
813
814
815
805
FRONT END
PHASE SHIFTERS
PAs
LNAs
FILTERS
SWITCHES
DUPLEXERS
802
TRANSCEIVER
POWER MANAGEMENT
801
BASEBAND
BATTERY
USER INTERFACE
807
MEMORY
806
808

FIG.8

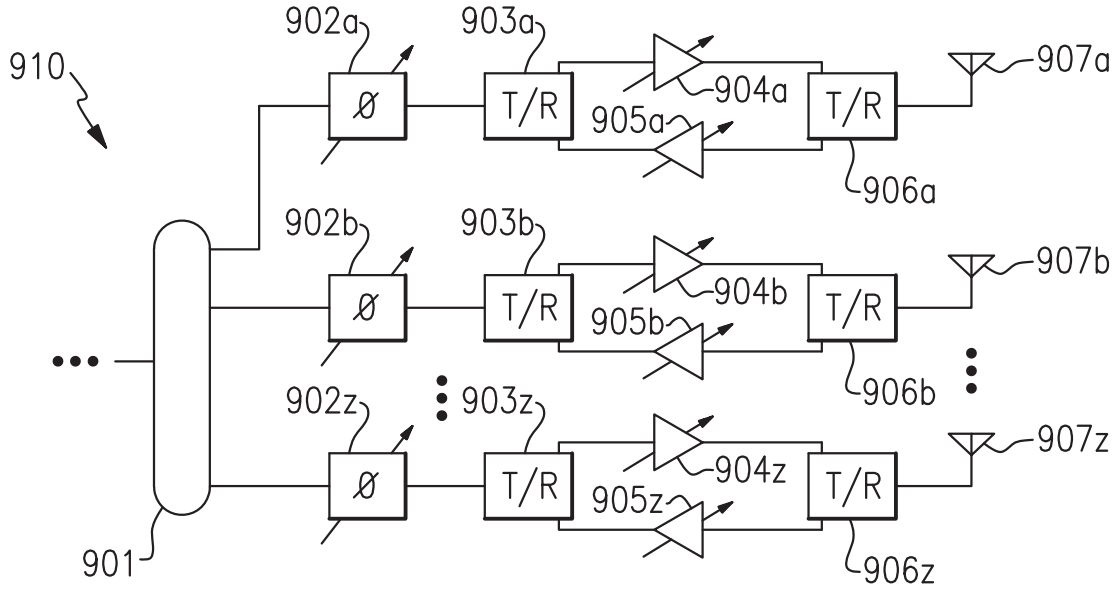

910
902a
903a
904a
905a
907a
902b
903b
904b
905b
907b
902z
903z
904z
905z
907z
T/R
901
906a
906b
906z

FIG.9A

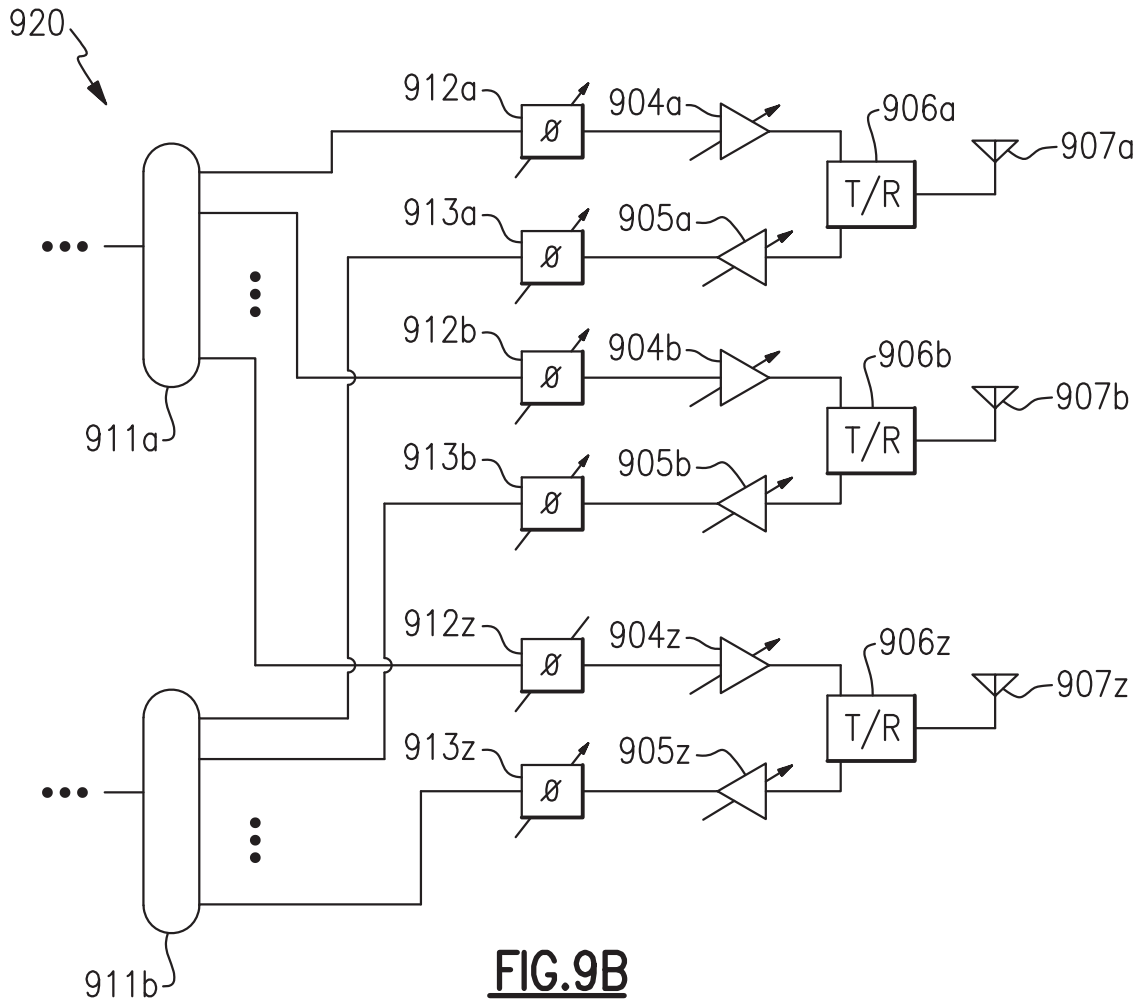

920
912a
904a
906a
907a
913a
905a
912b
904b
906b
907b
913b
905b
912z
904z
906z
907z
913z
905z
911a
911b
T/R

FIG.9B

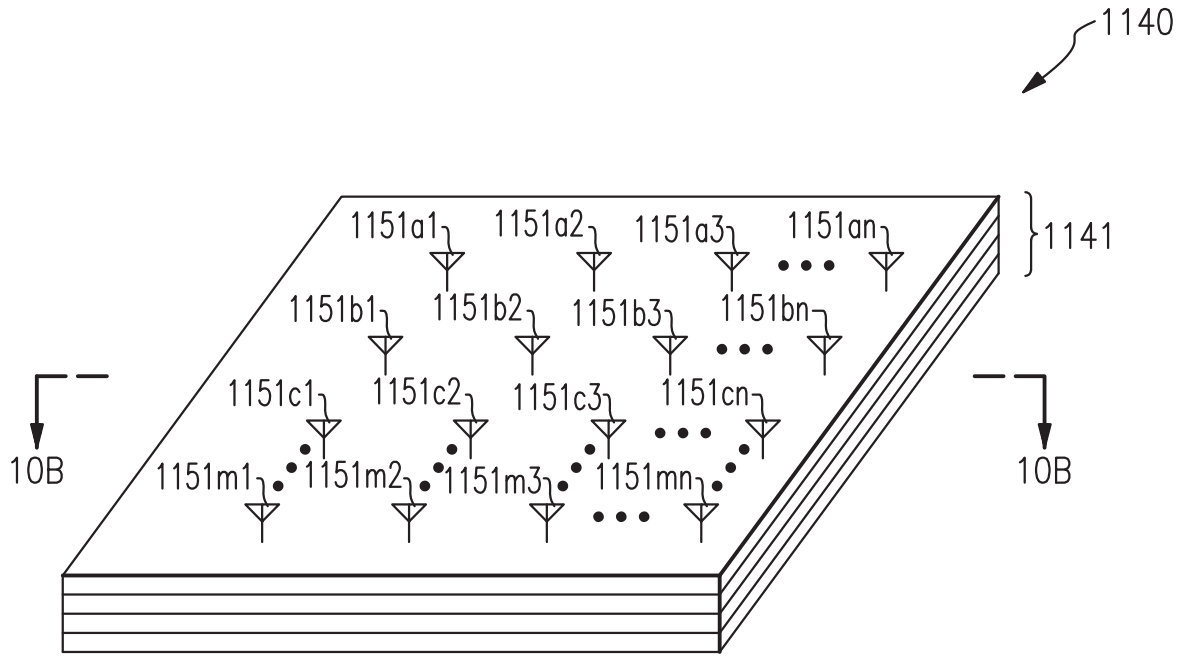


FIG.10A

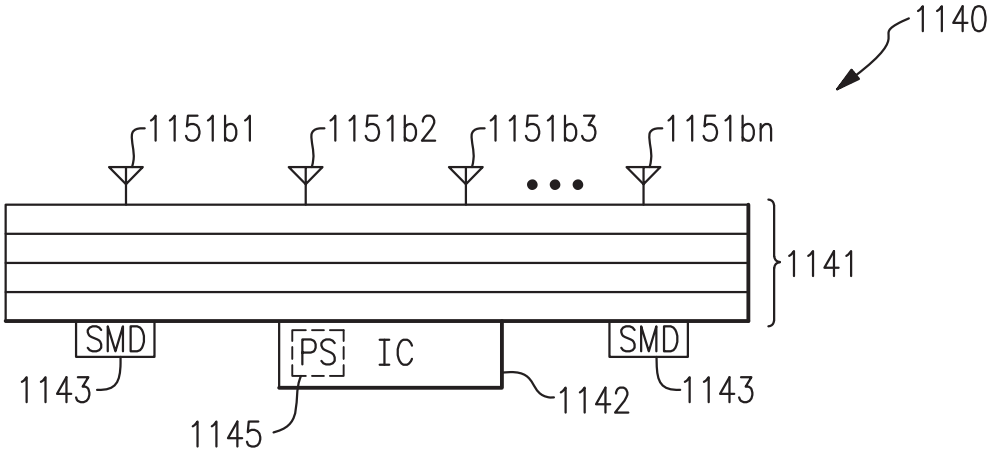


FIG.10B