

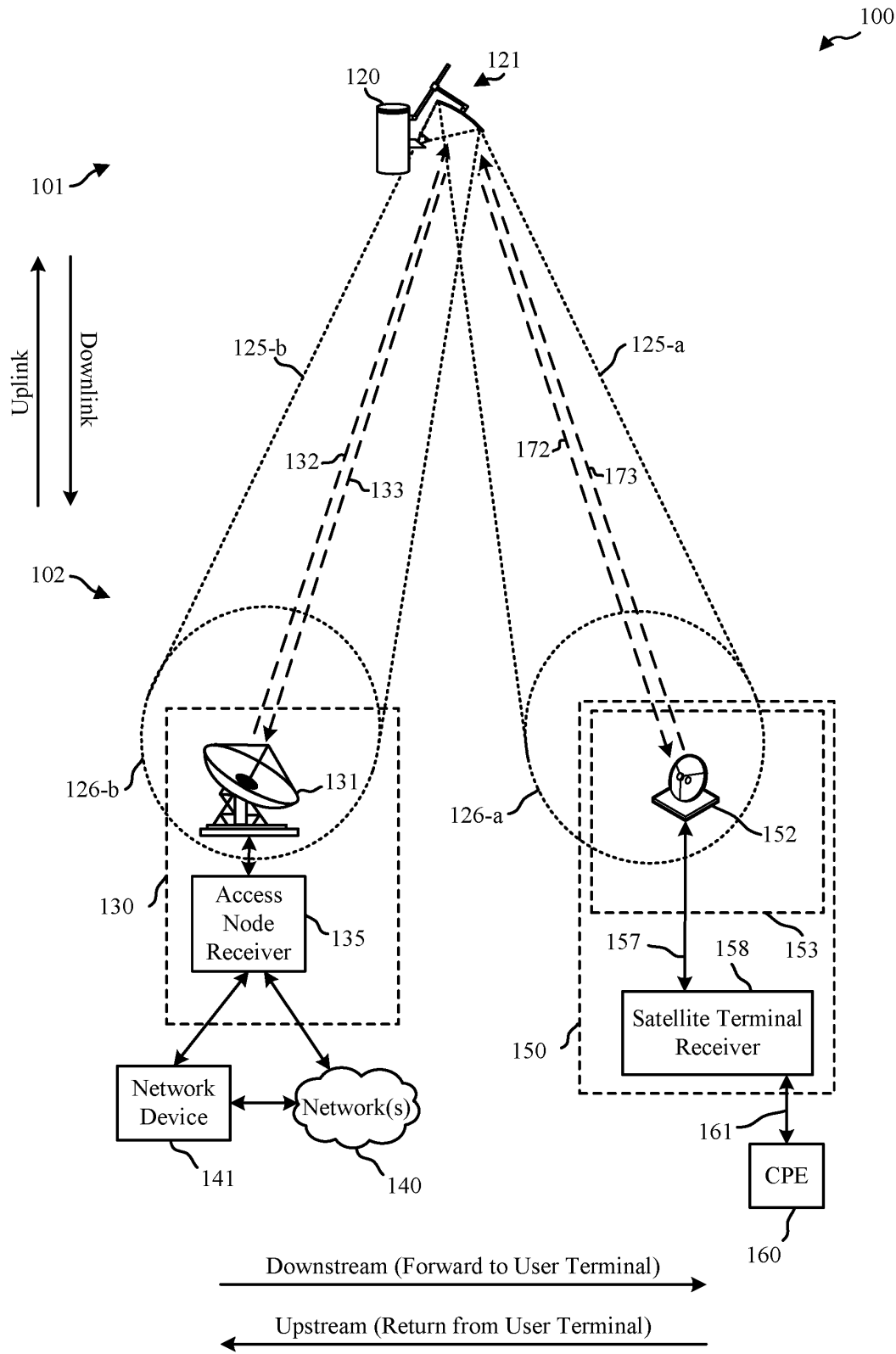


FIG. 1A

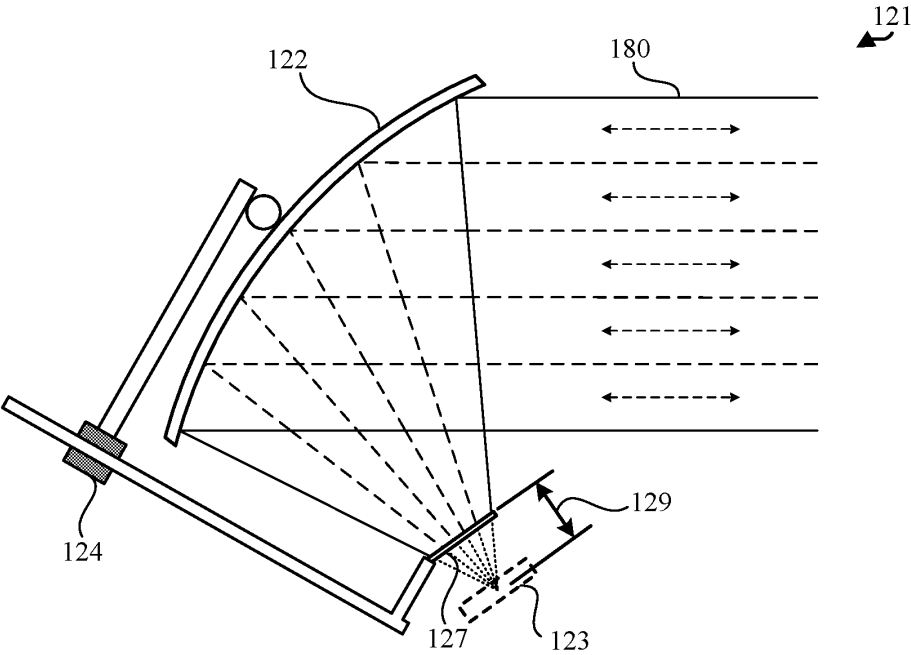


FIG. 1B

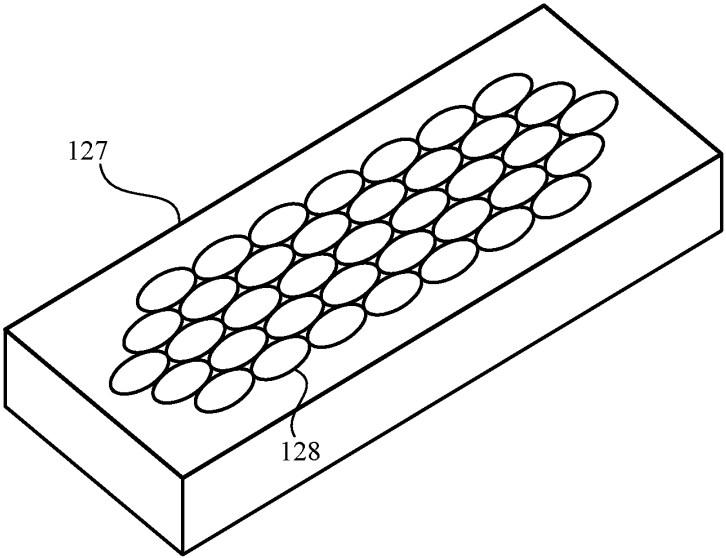


FIG. 1C

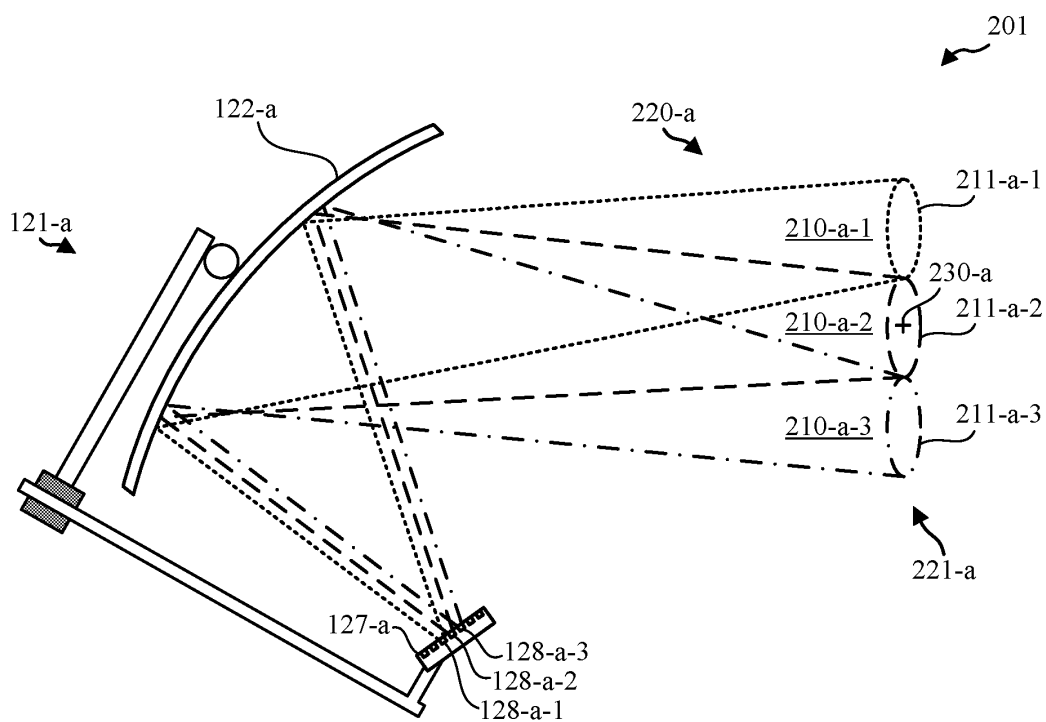


FIG. 2A

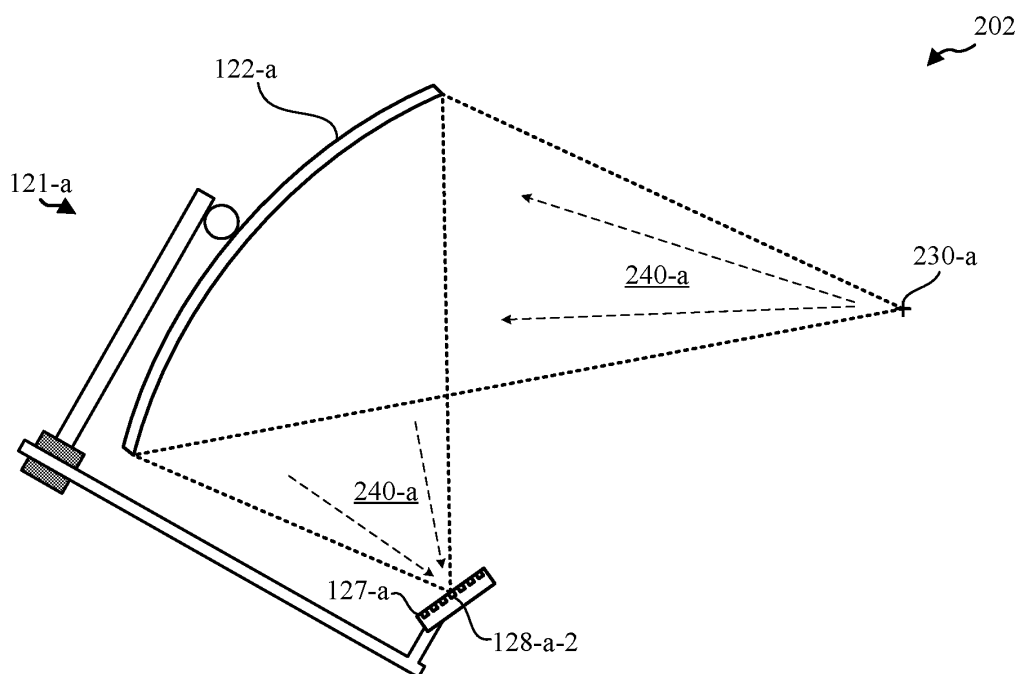


FIG. 2B

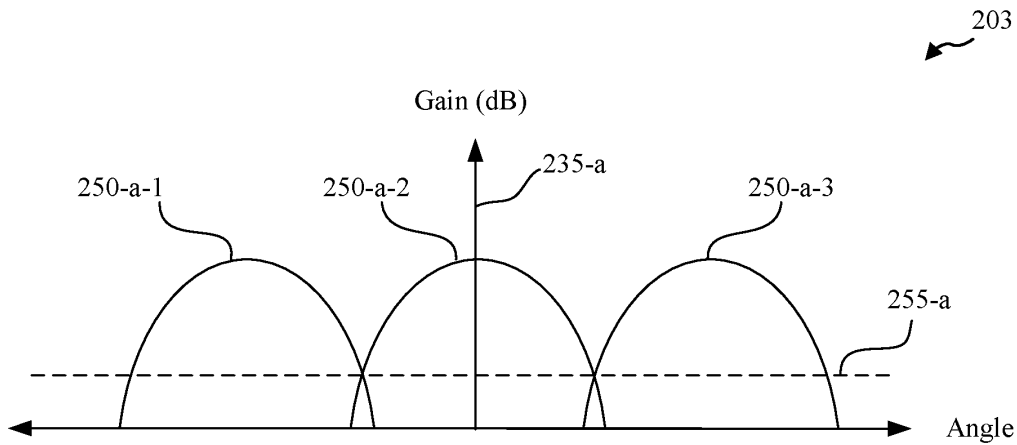


FIG. 2C

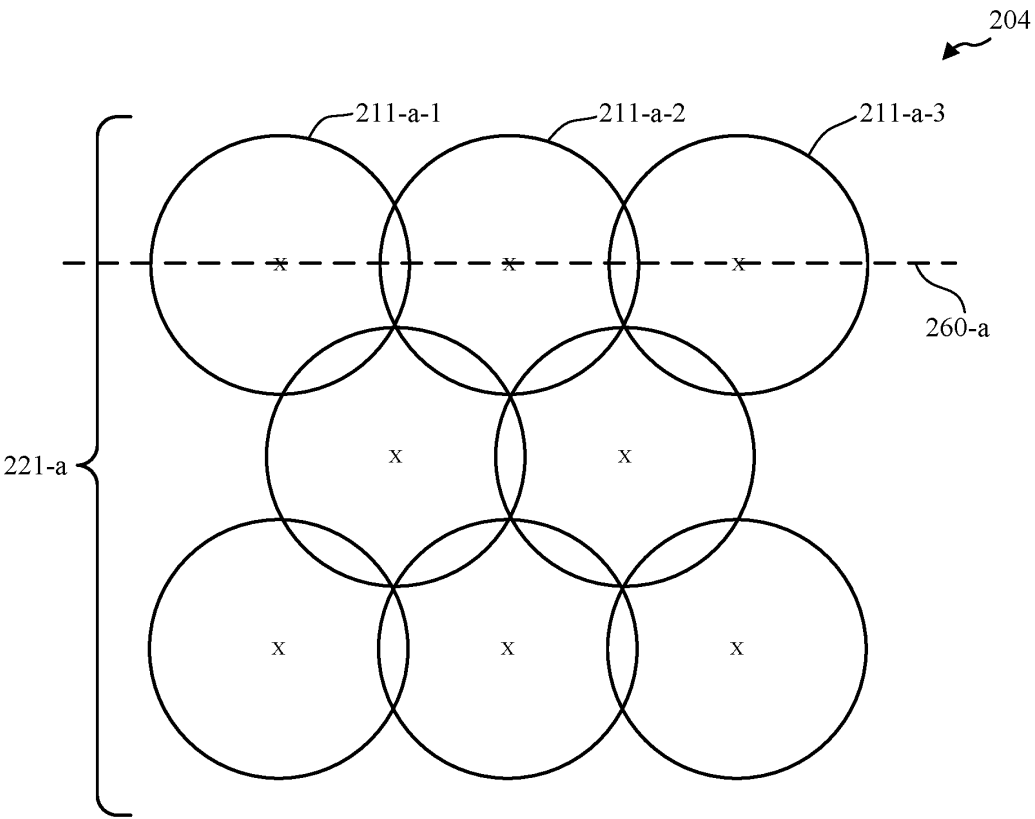


FIG. 2D

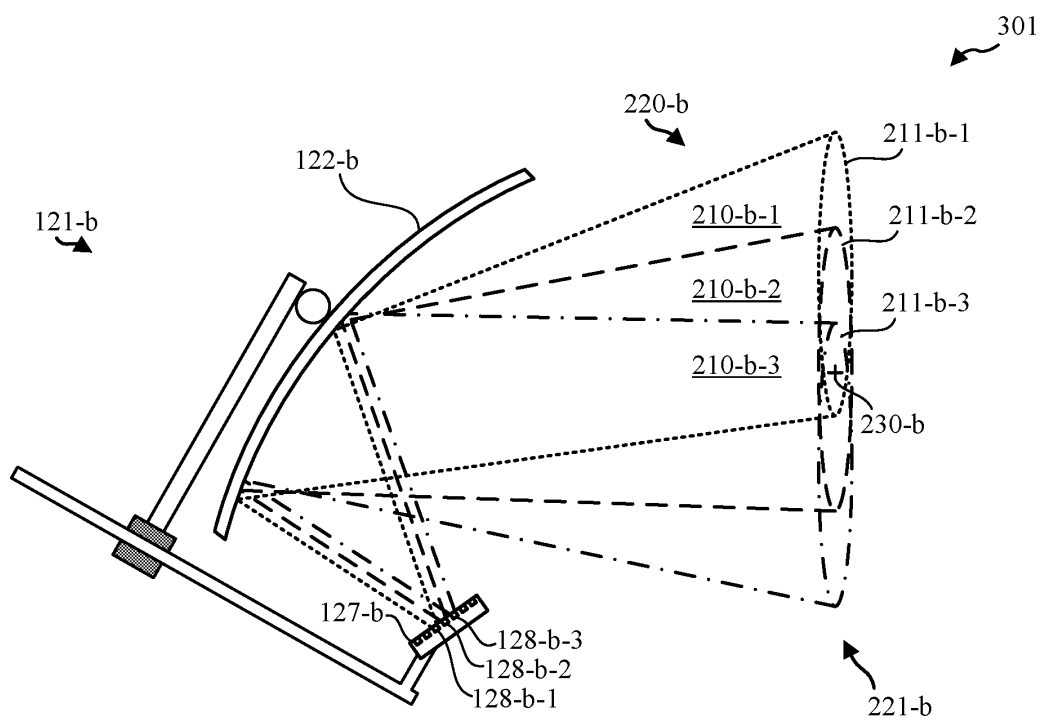


FIG. 3A

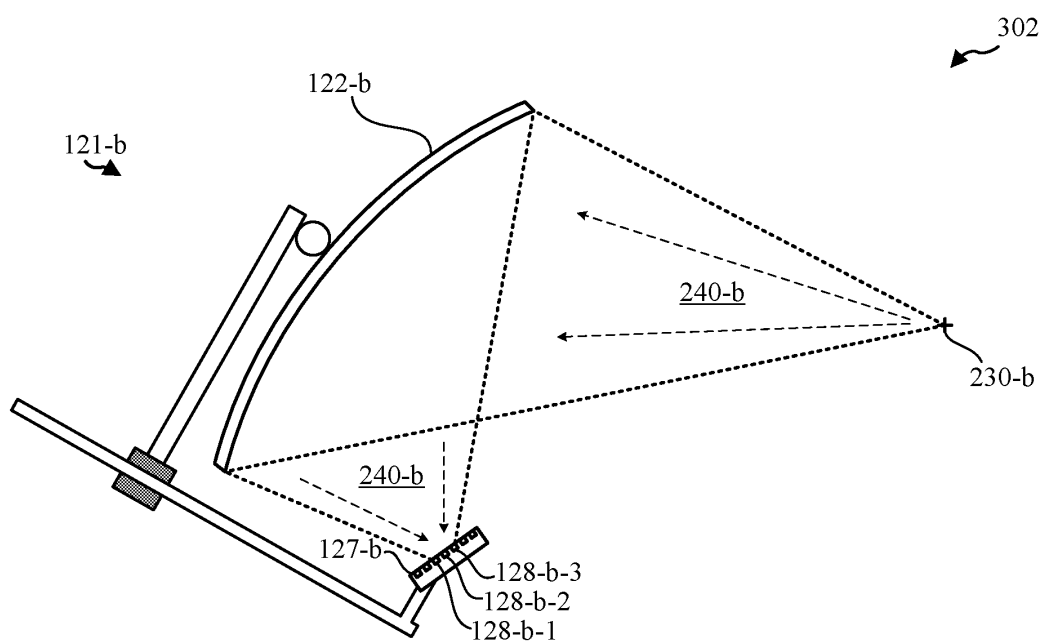


FIG. 3B

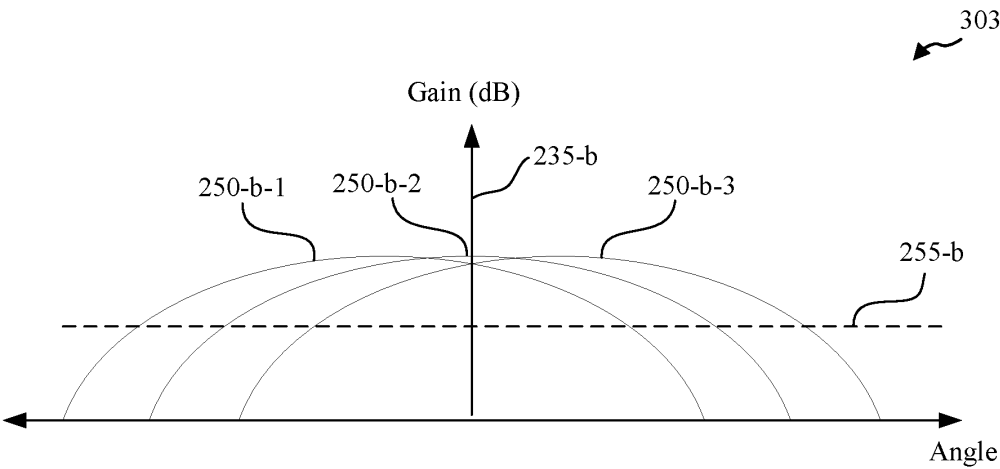


FIG. 3C

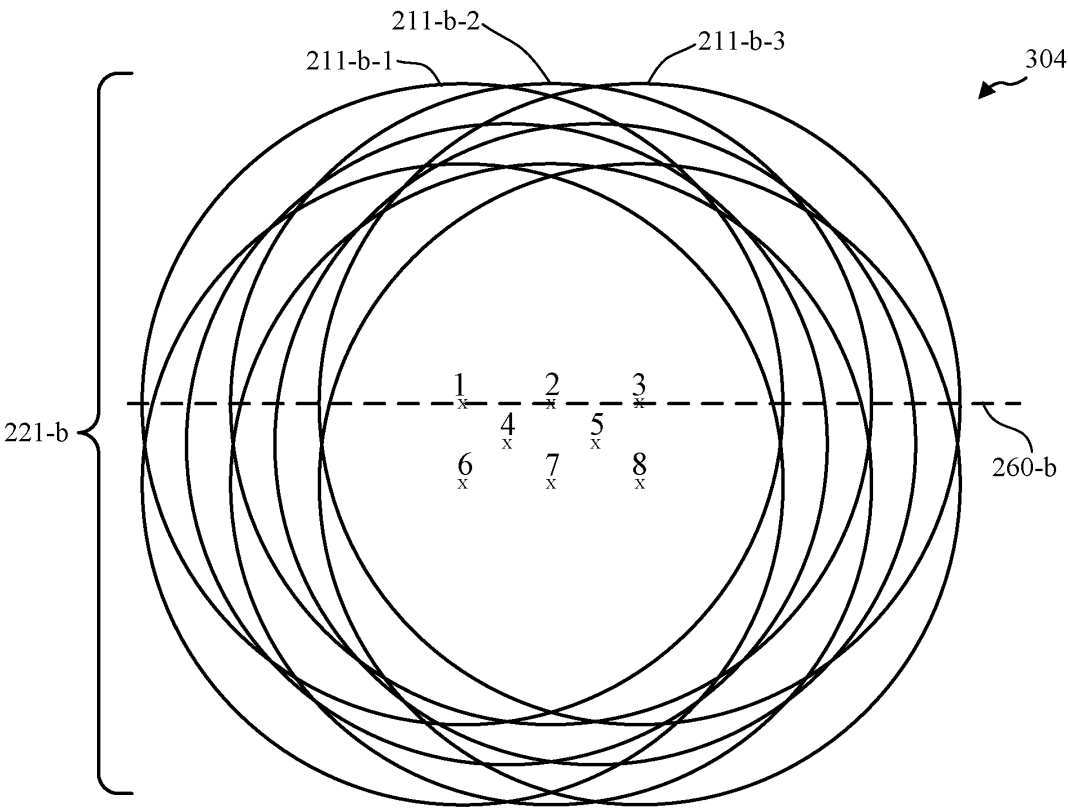


FIG. 3D

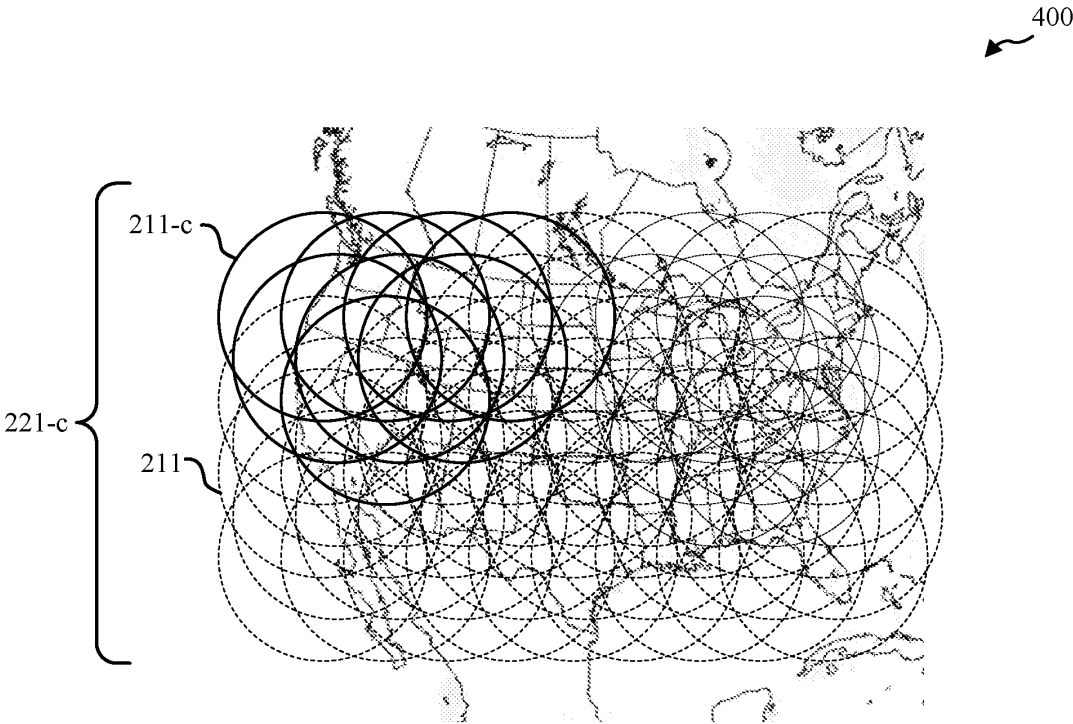


FIG. 4A



FIG. 4B

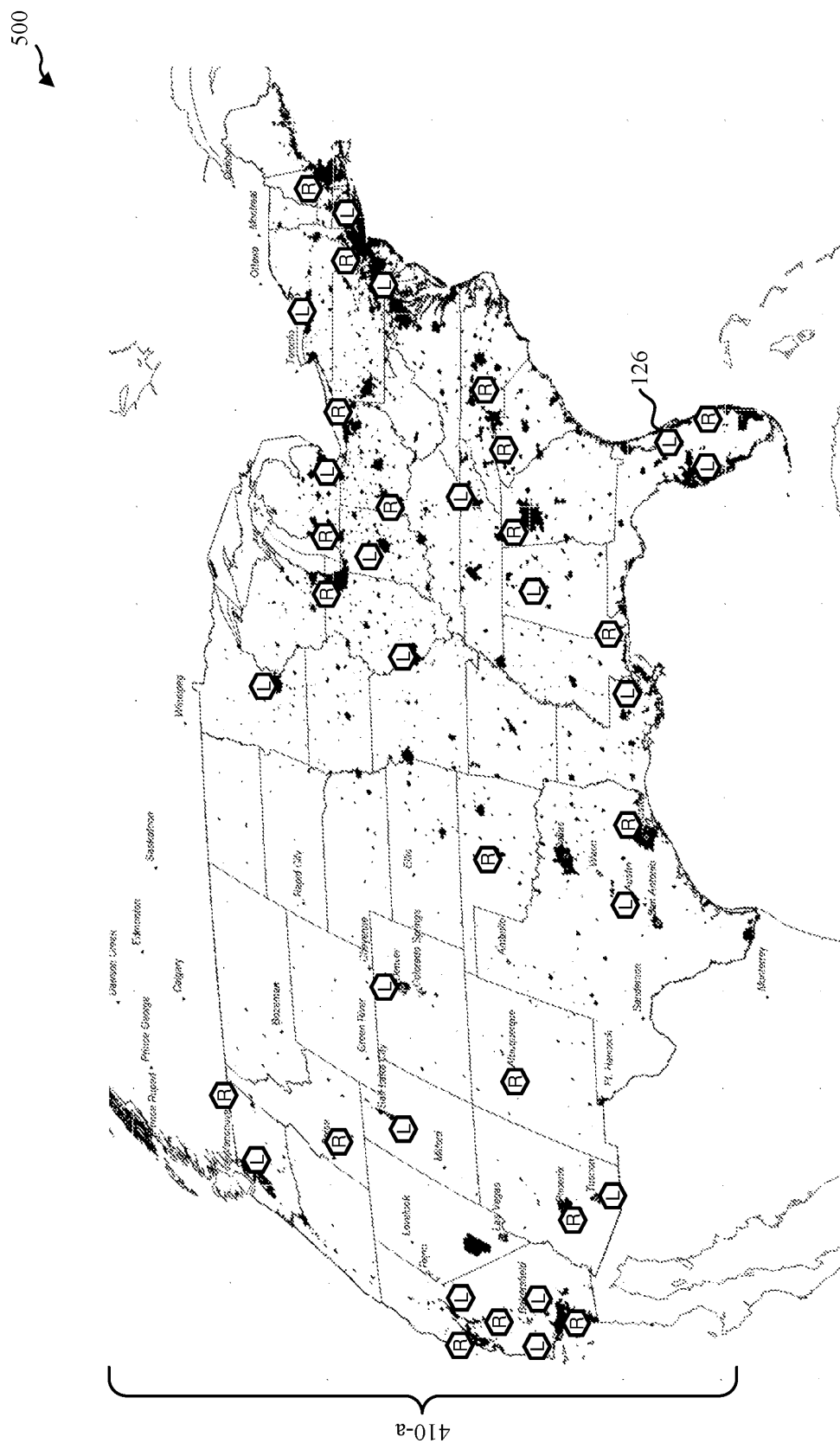


FIG. 5A

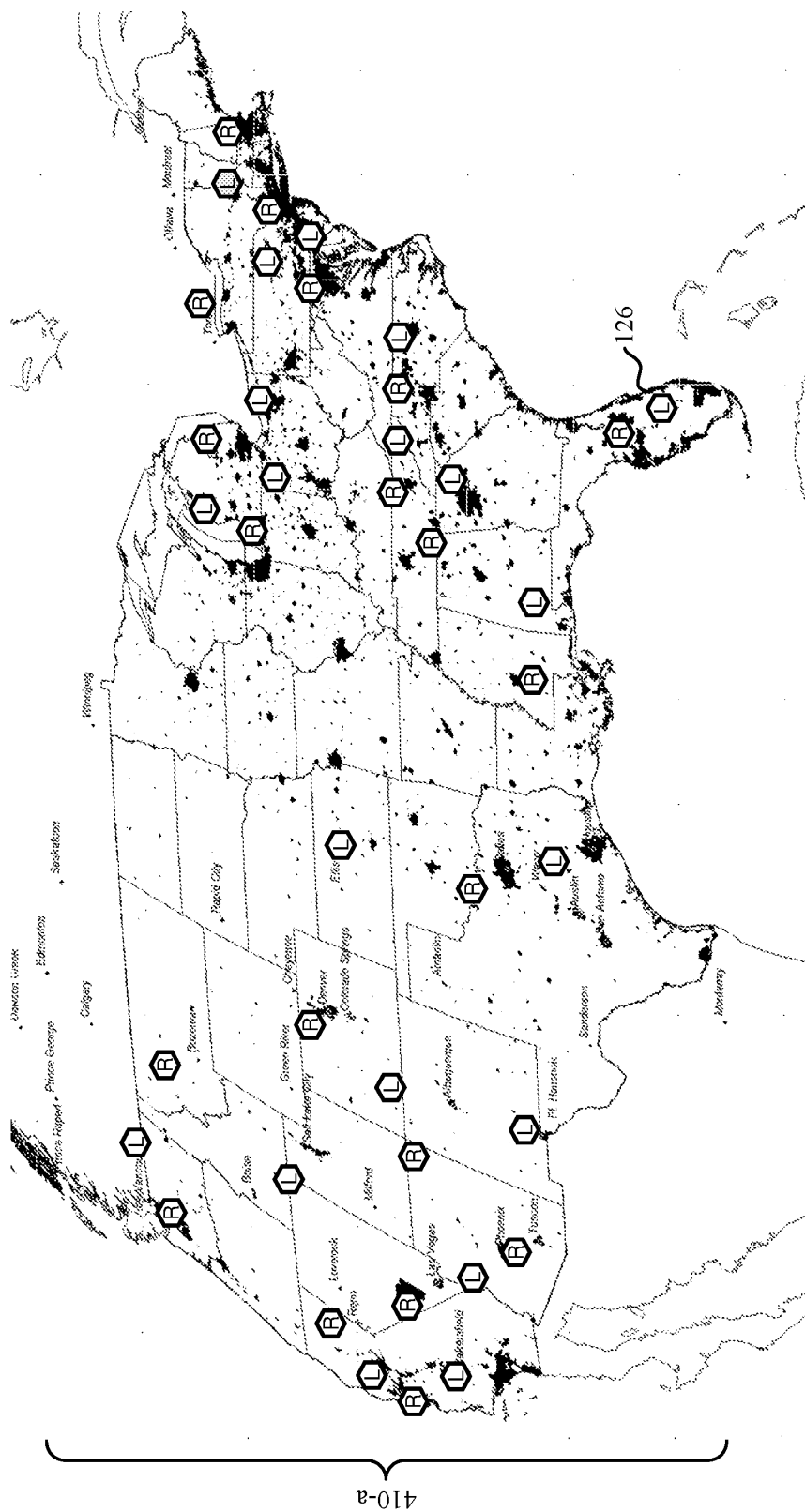
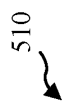


FIG. 5B

520

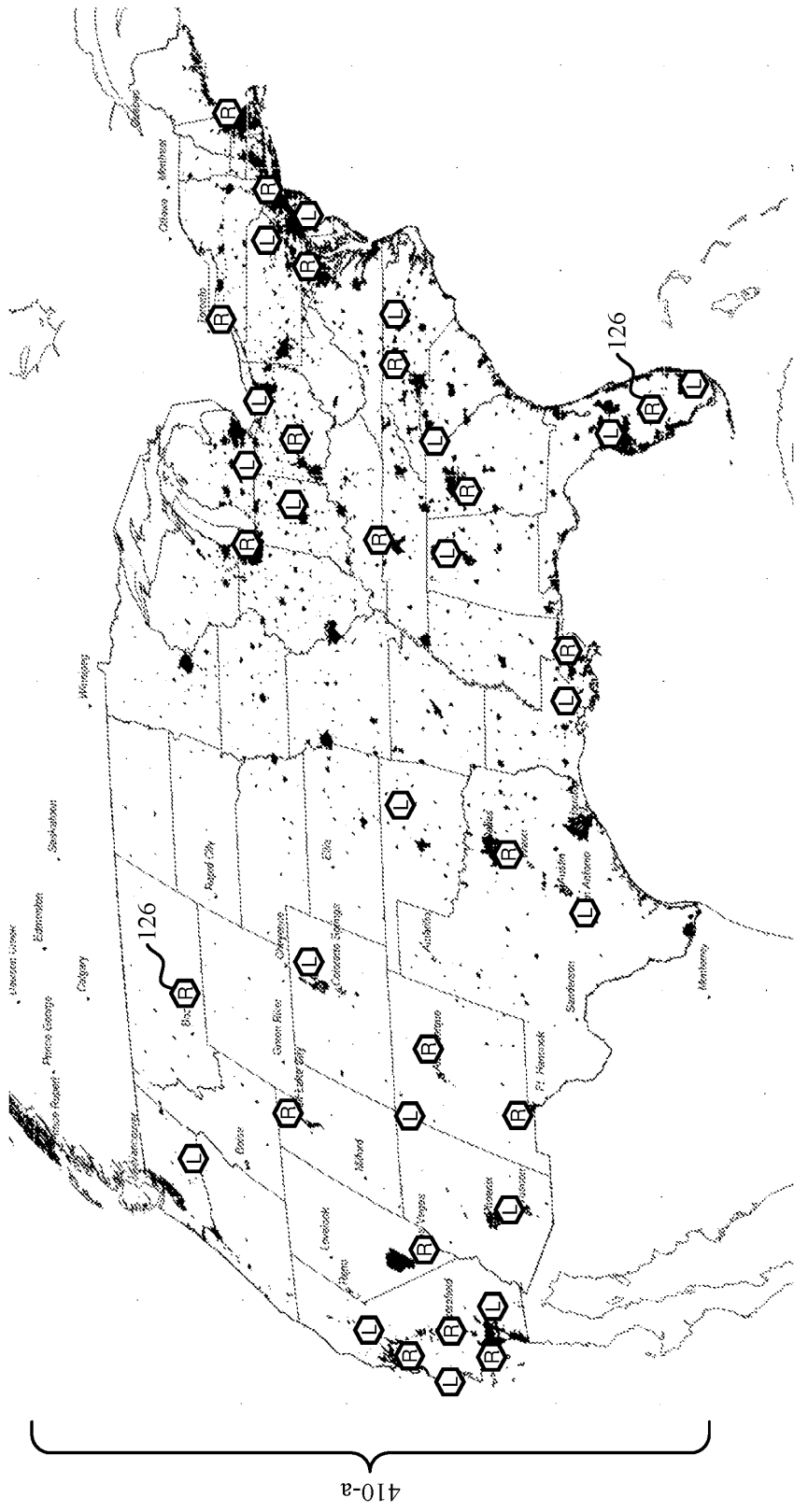


FIG. 5C

530

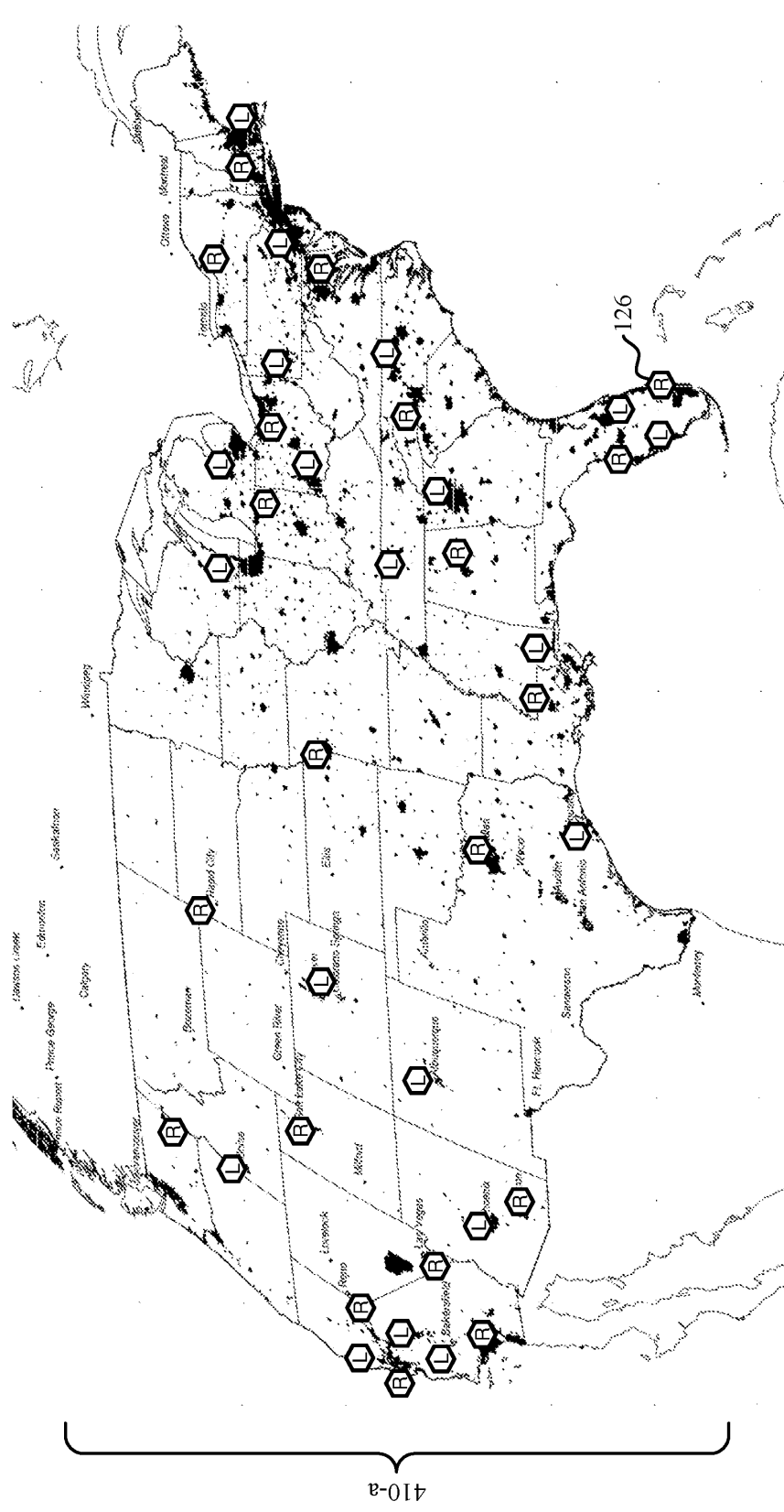


FIG. 5D

540

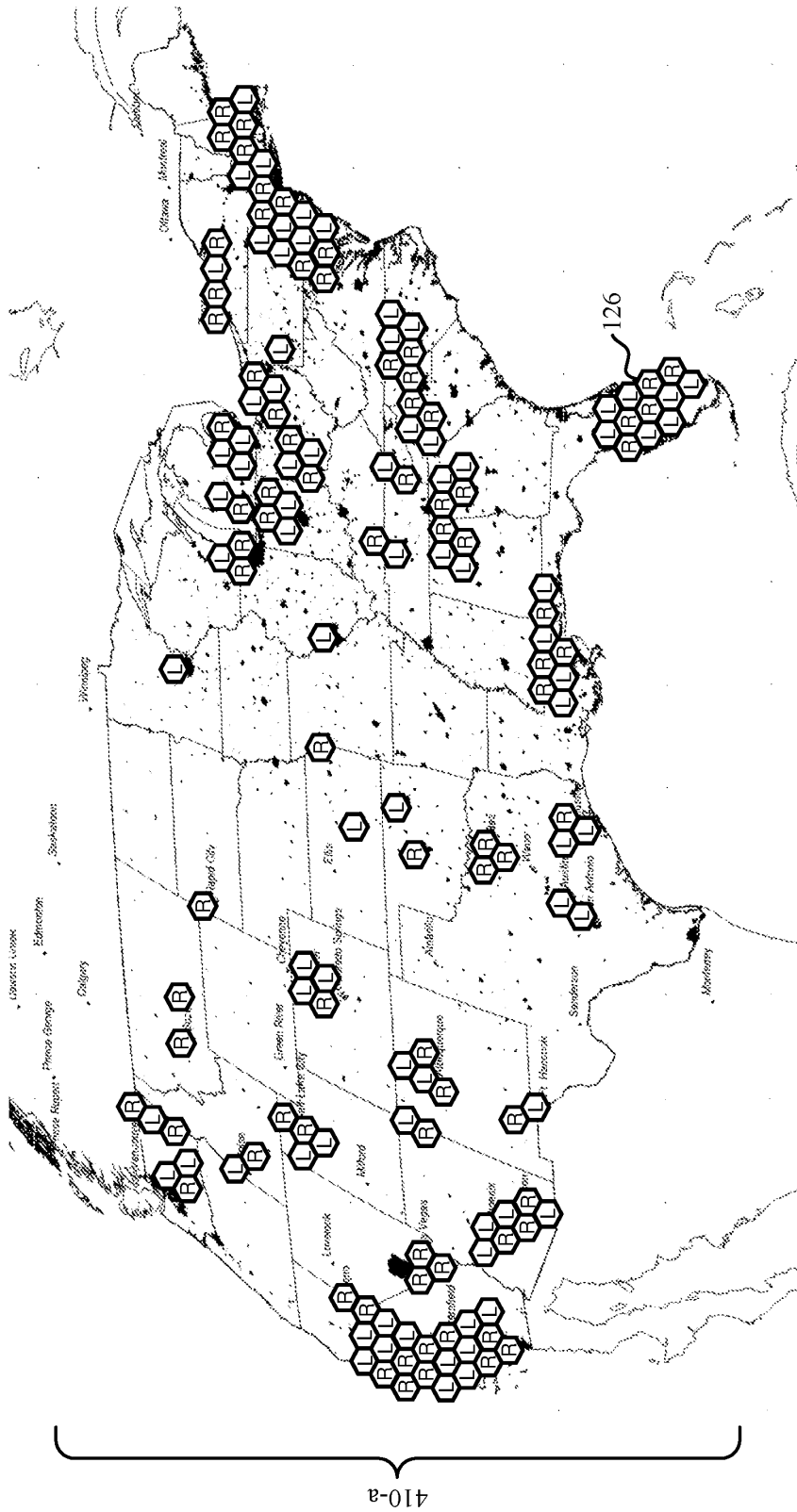


FIG. 5E

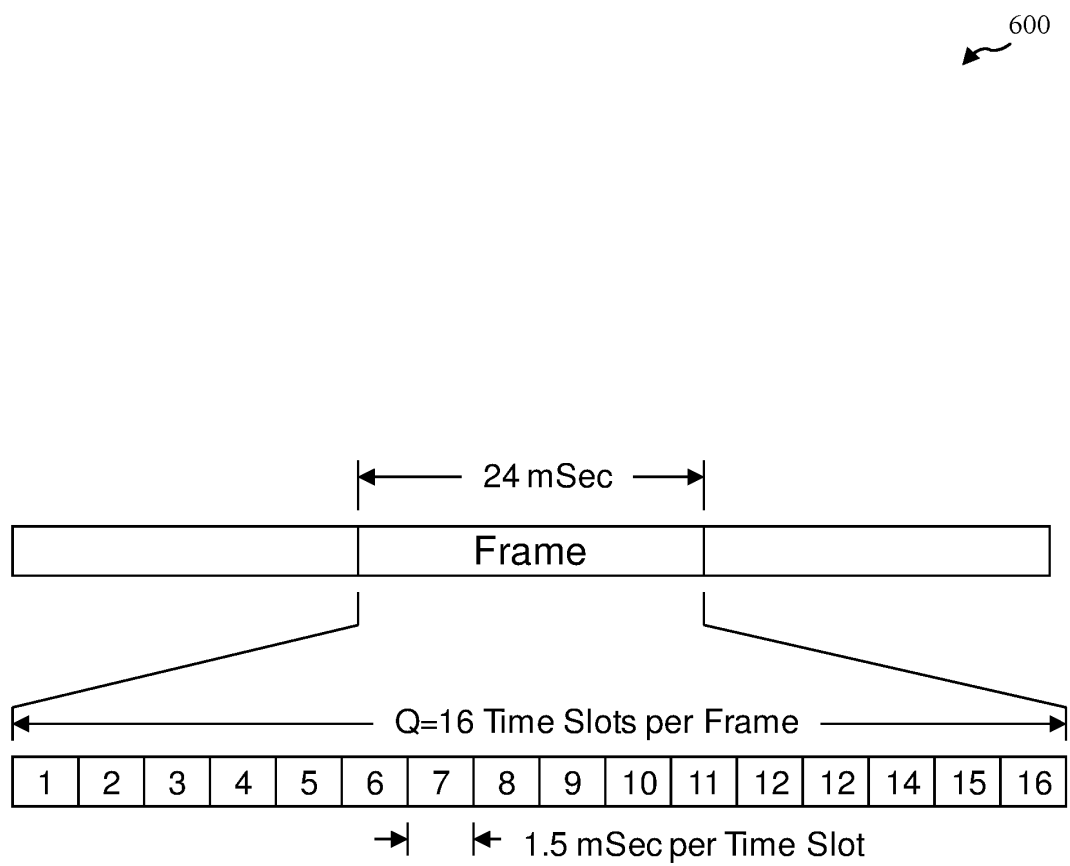


FIG. 6

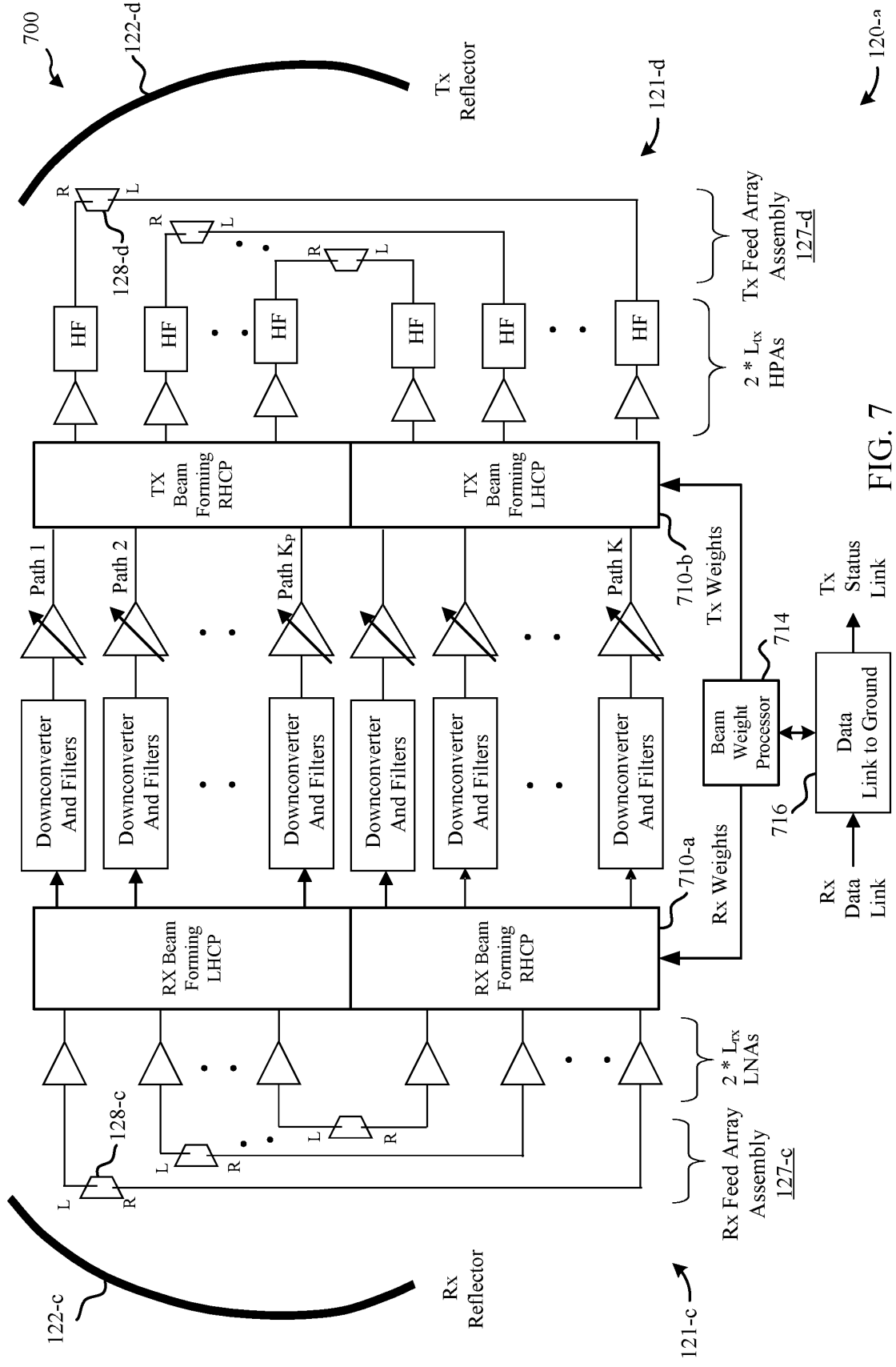


FIG. 7

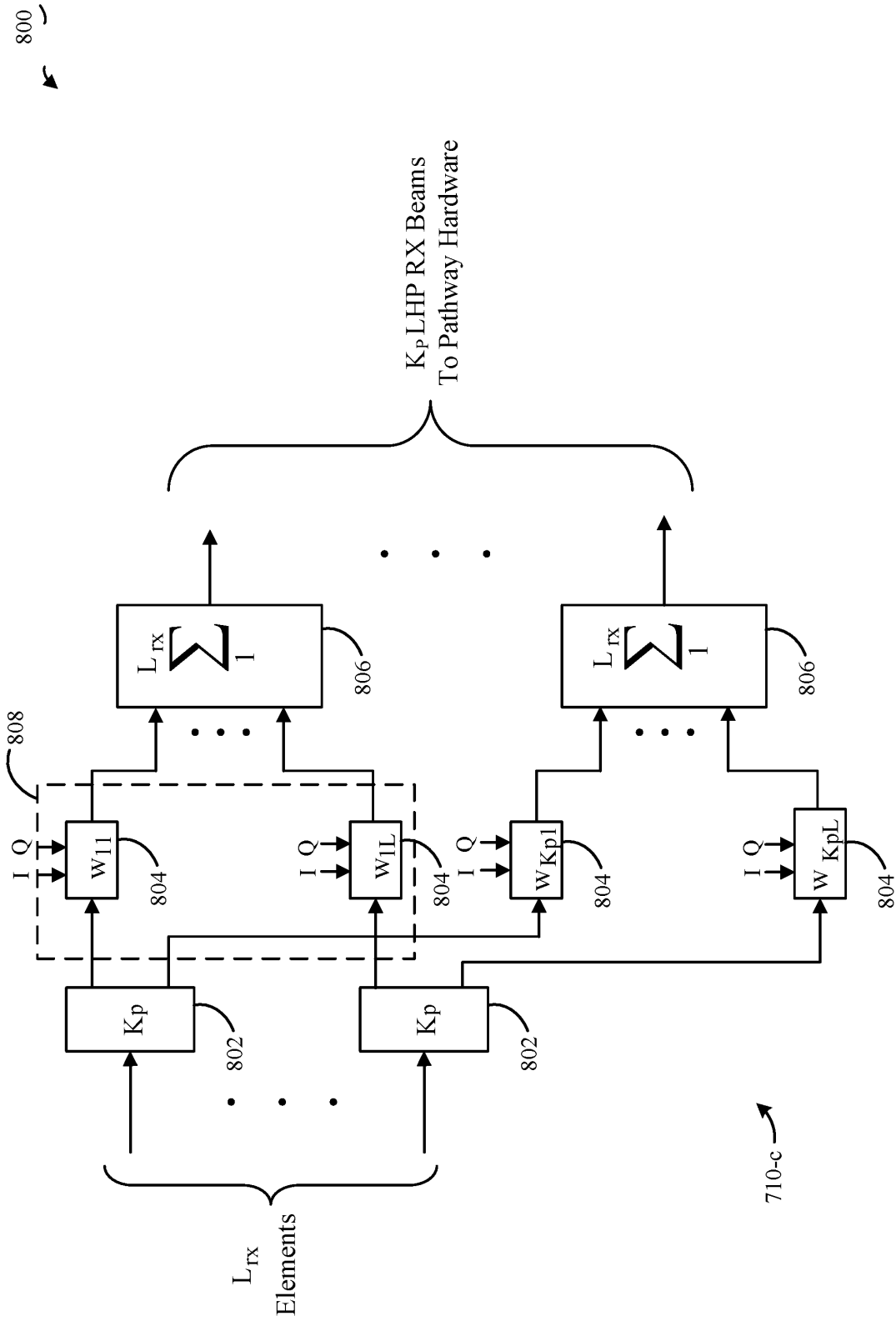


FIG. 8

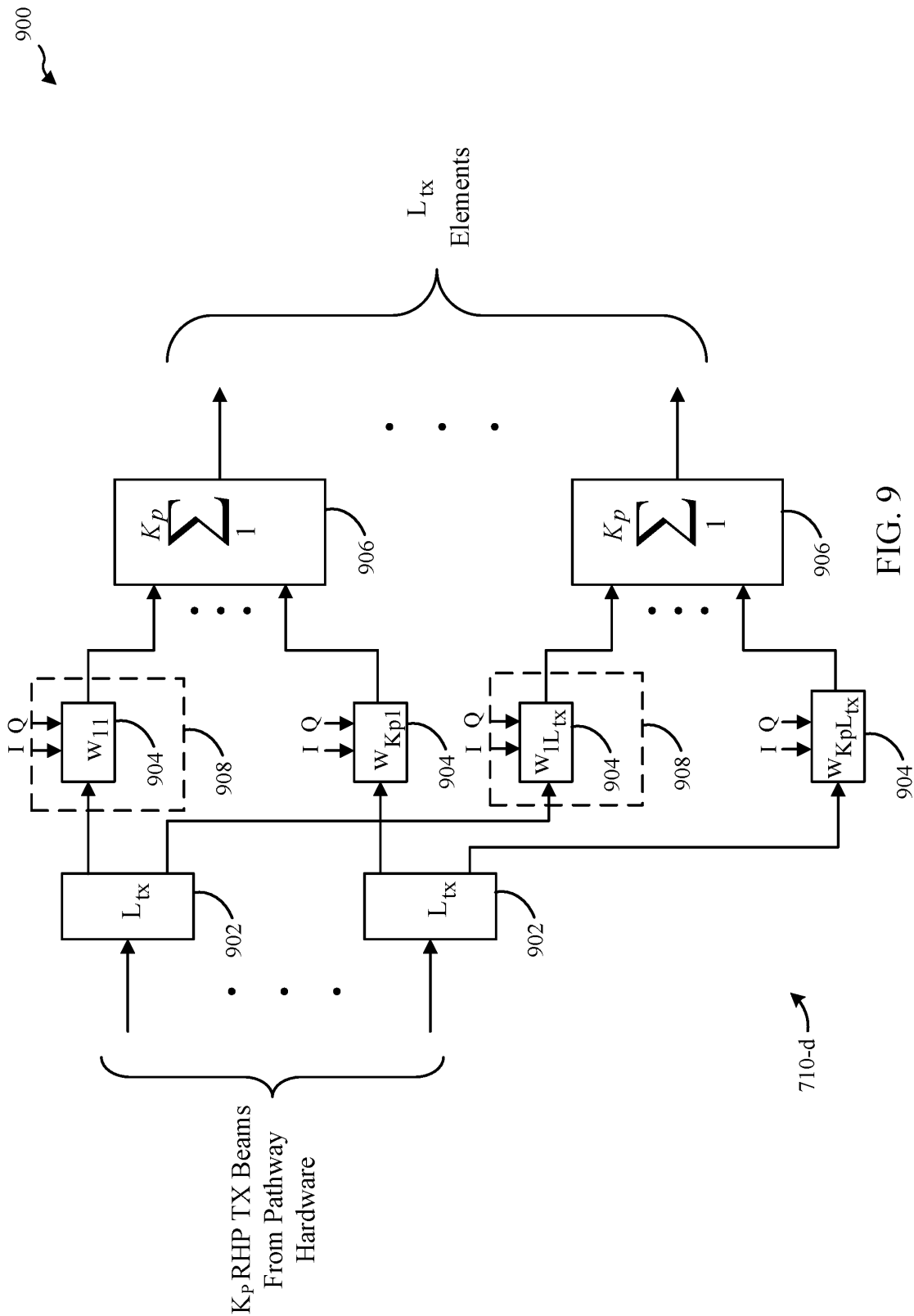


FIG. 9

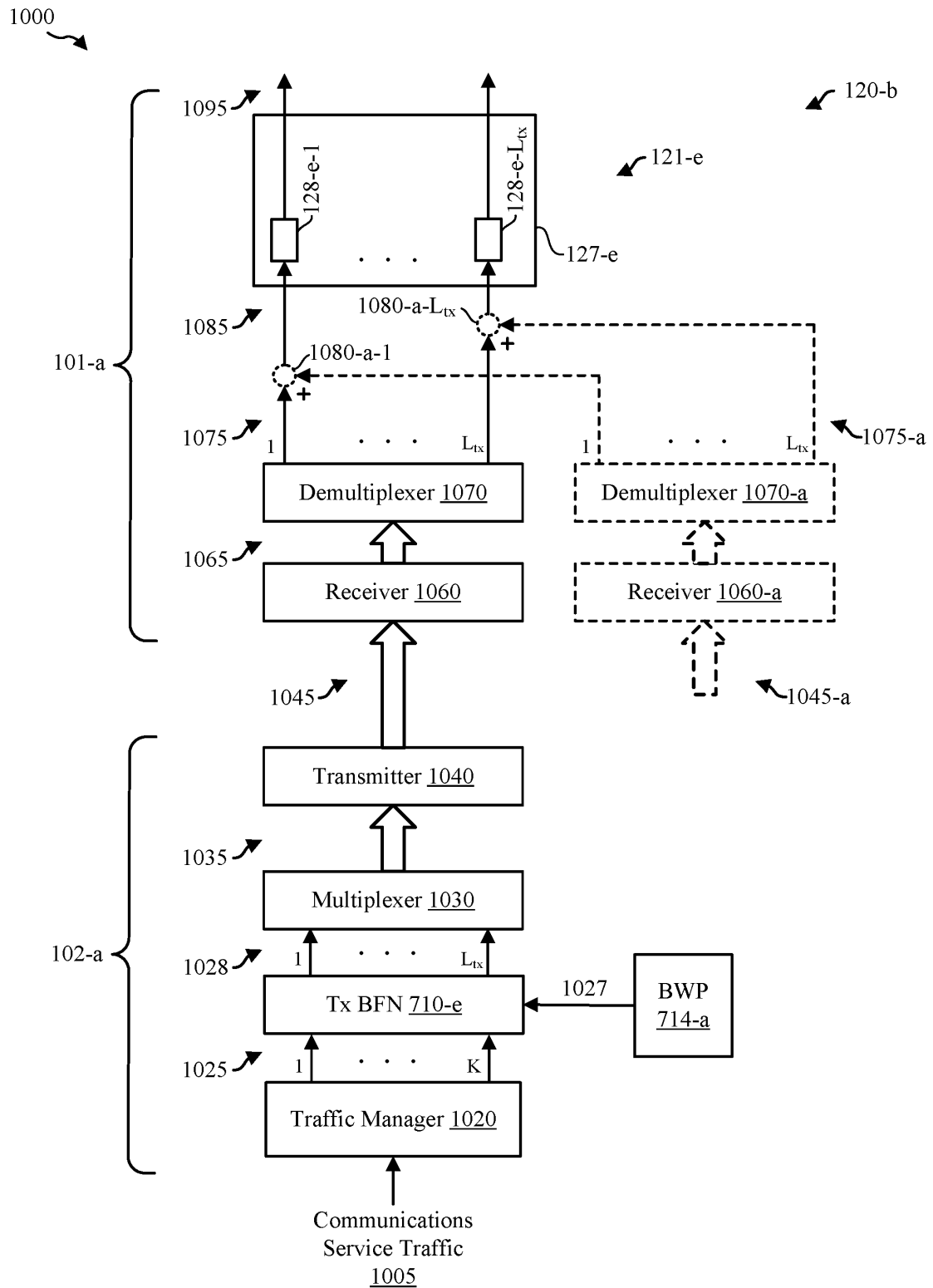


FIG. 10

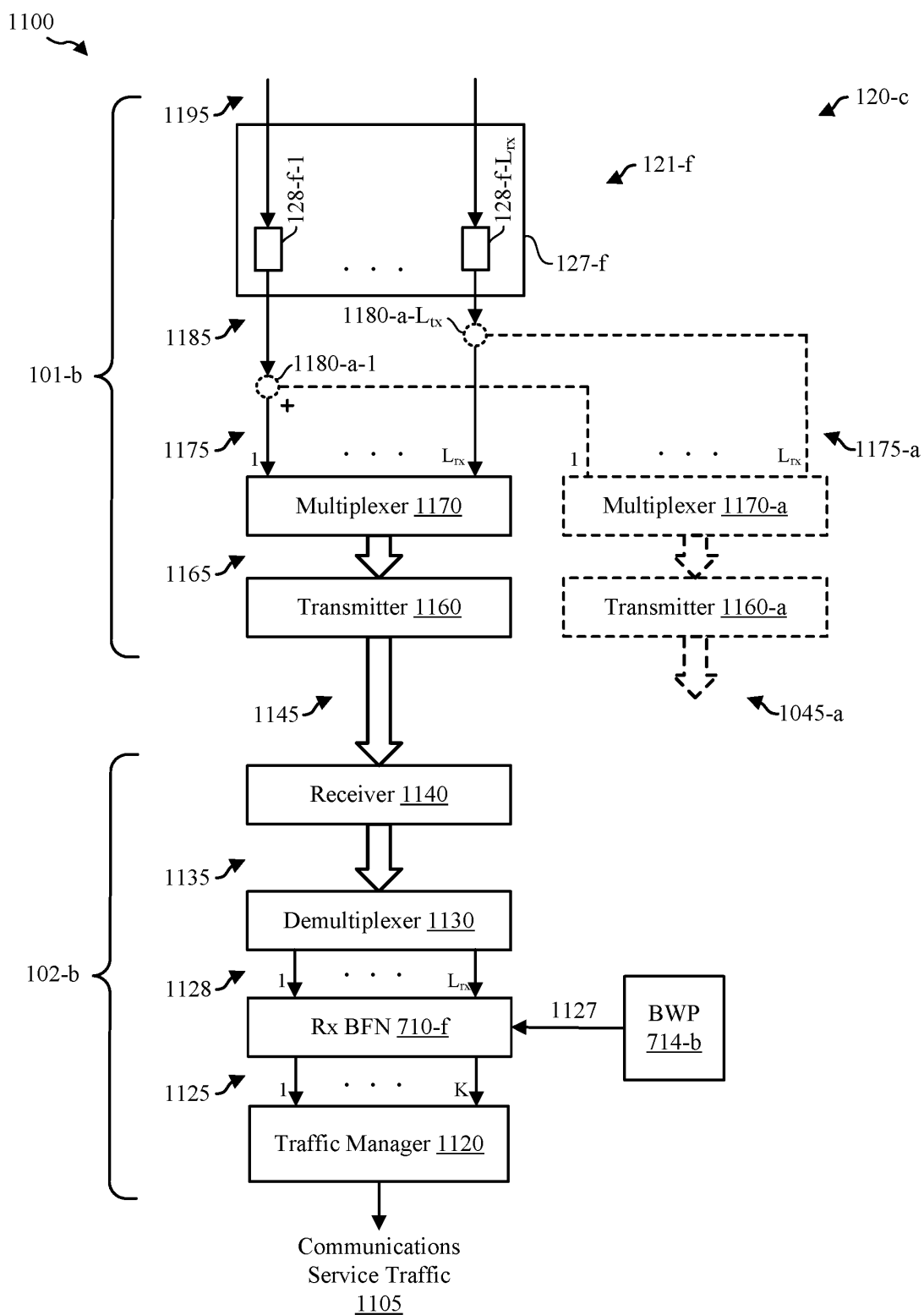


FIG. 11

1200

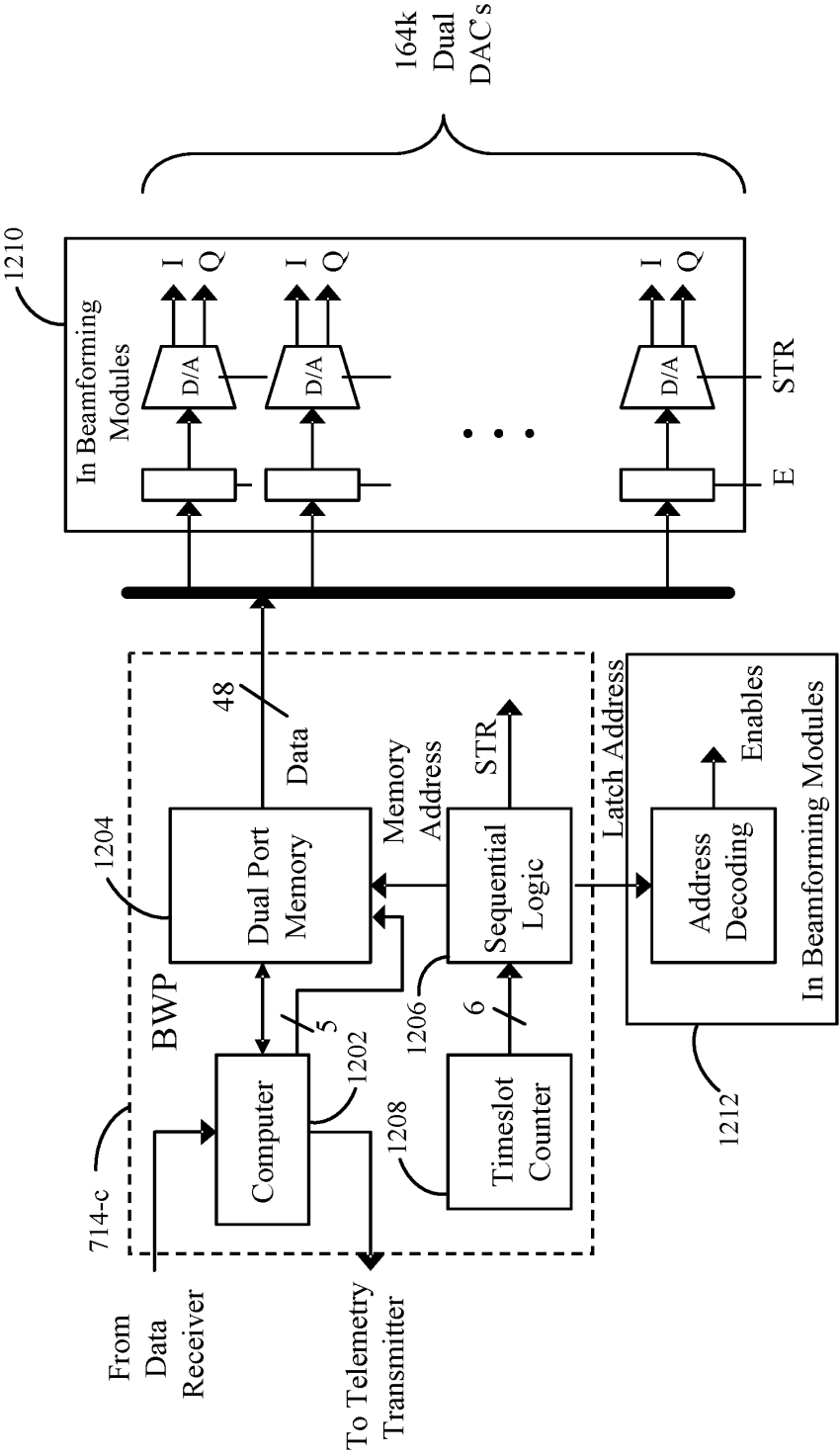


FIG. 12

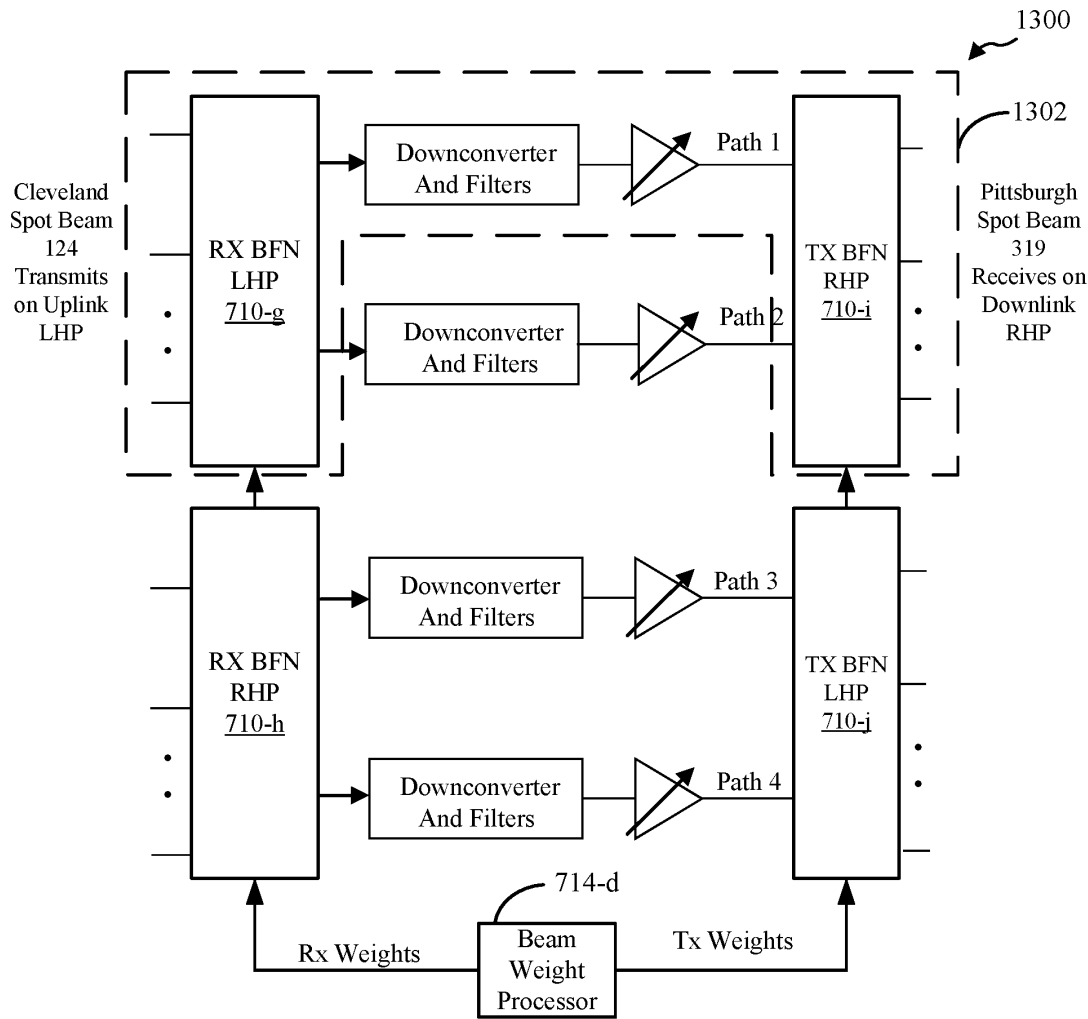


FIG. 13A

1310

1312

1316

Pathway	Slot1
1	Cleveland -> Pittsburgh
2	Indianapolis -> Atlanta
3	Washington -> Columbus
4	Raleigh -> Lexington

FIG. 13B

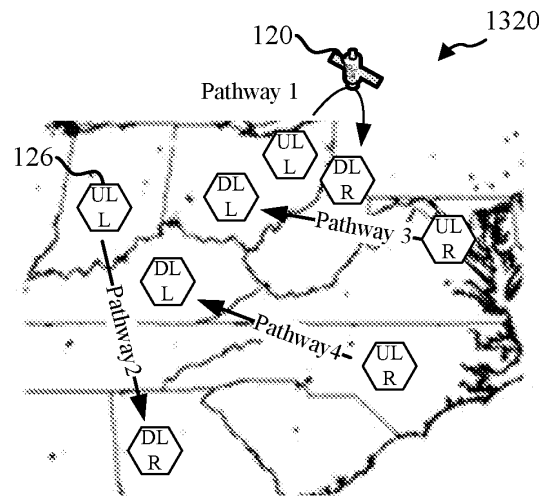


FIG. 13C

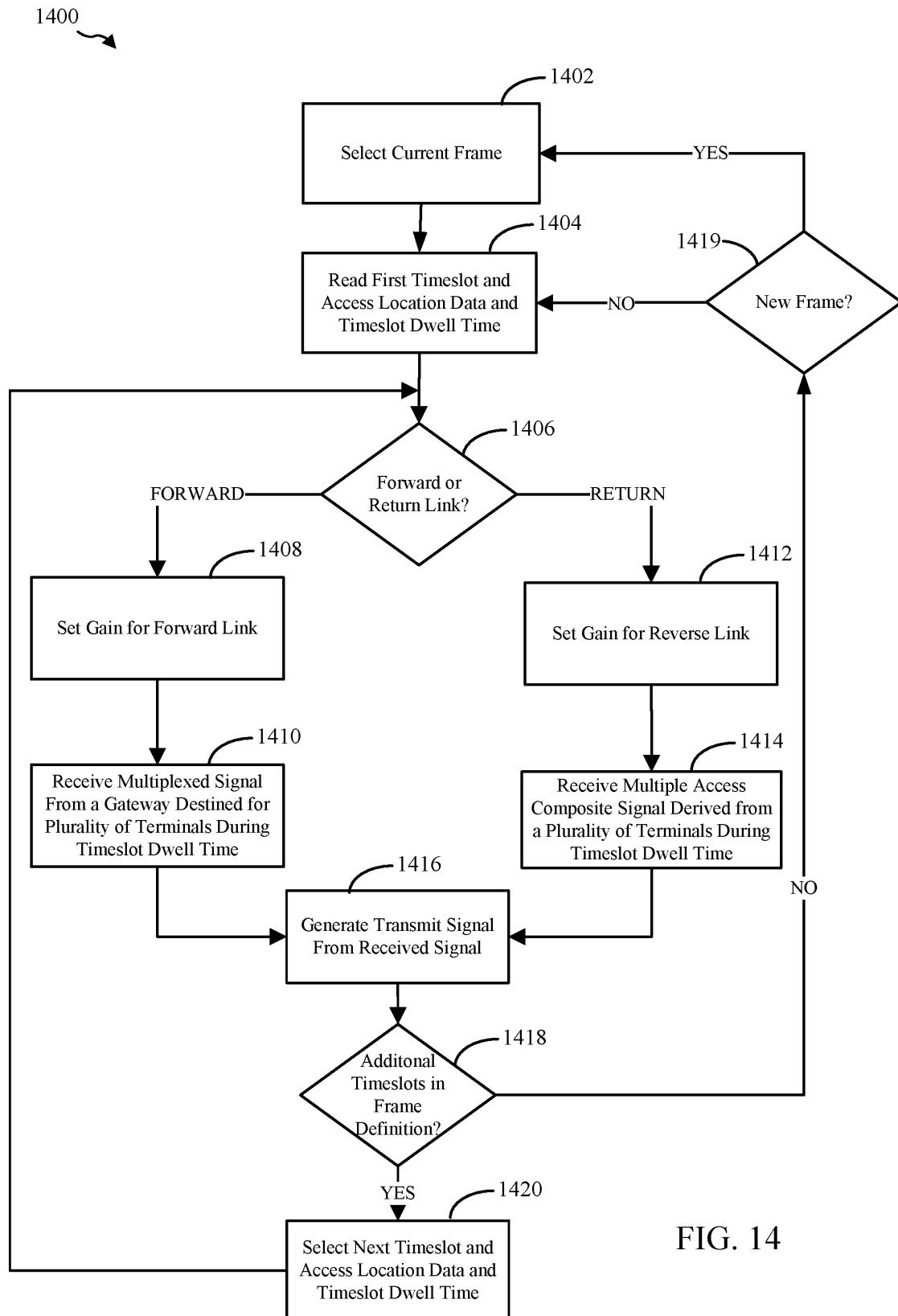


FIG. 14

1500

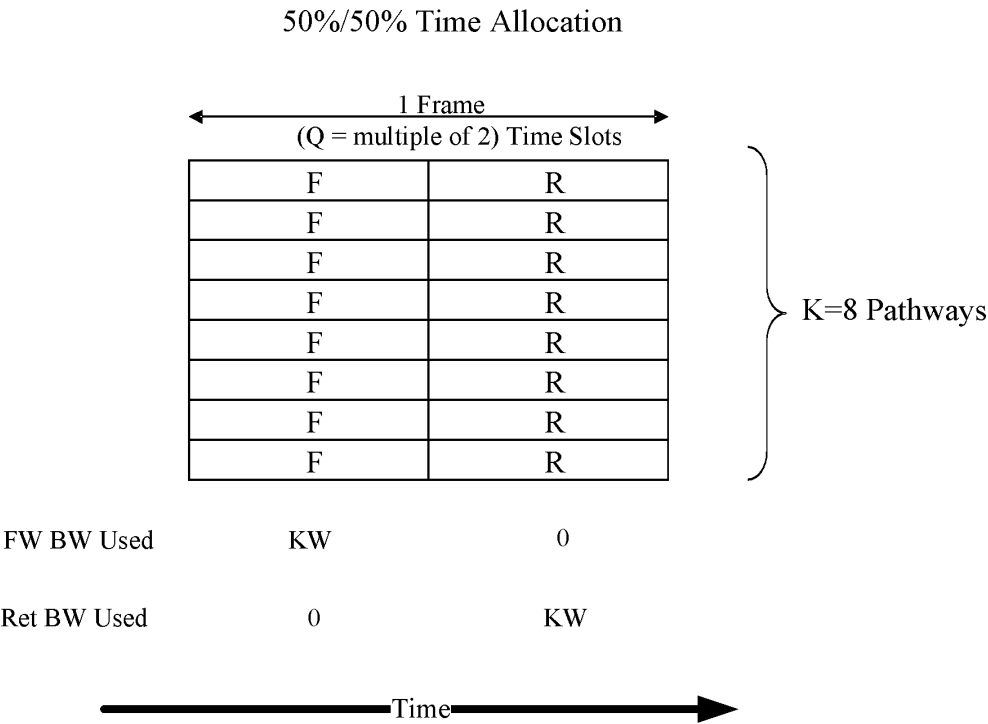


FIG. 15A

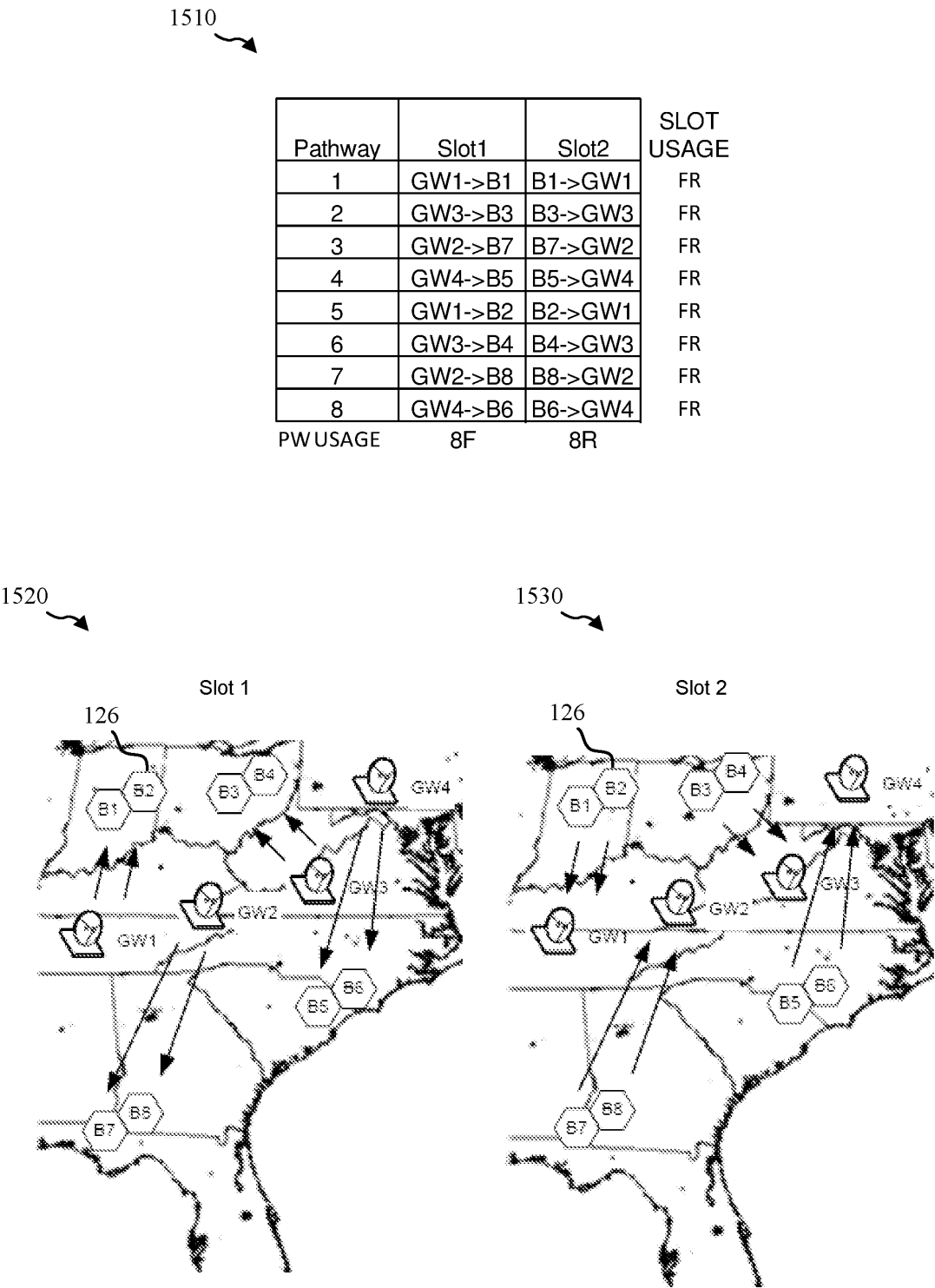


FIG. 15B

1600

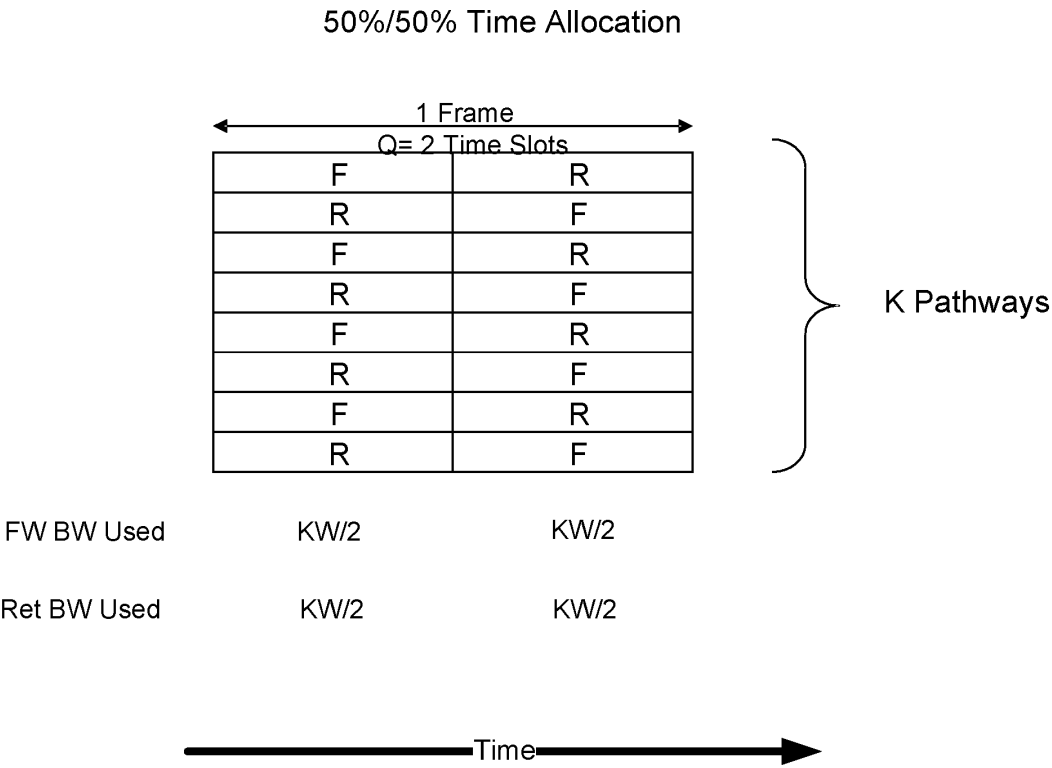


FIG. 16A

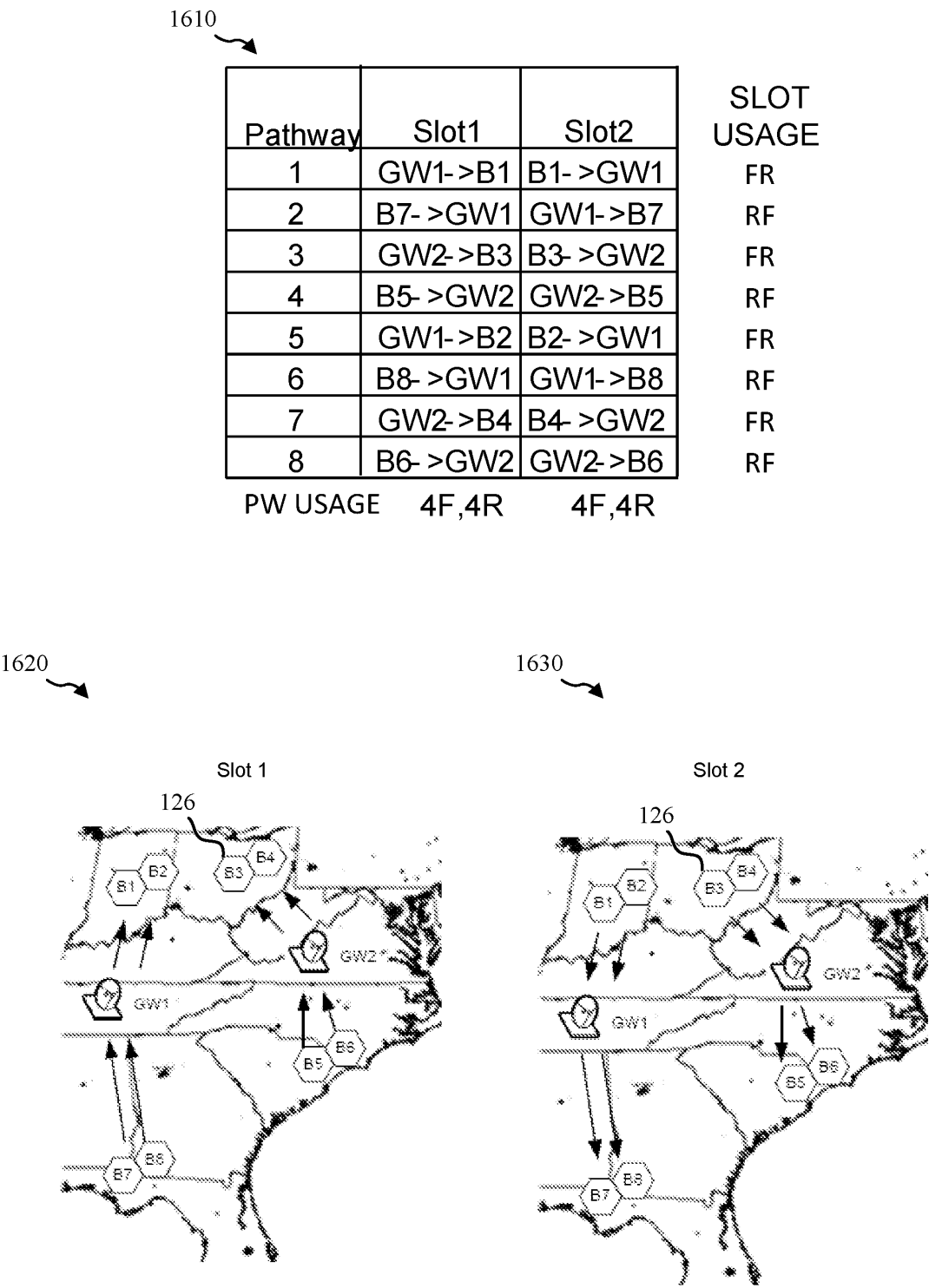


FIG. 16B

1700

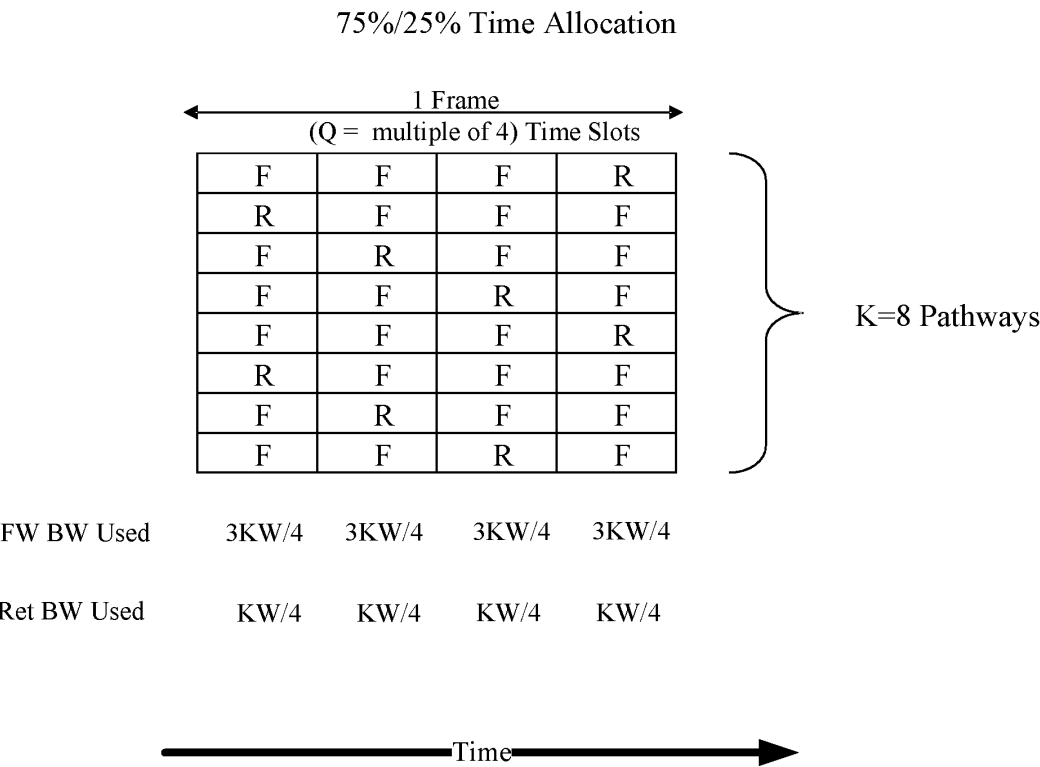


FIG. 17A

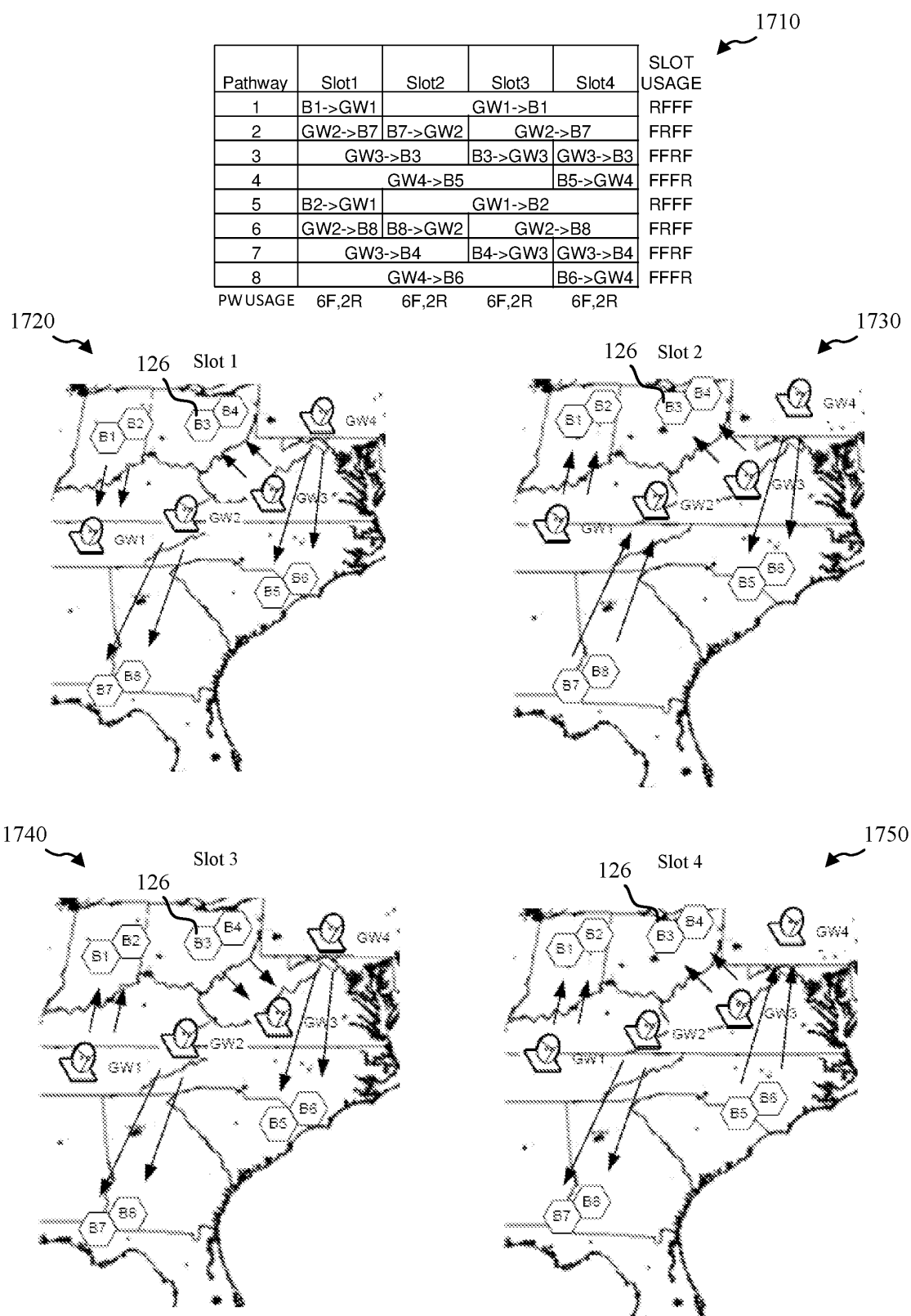


FIG. 17B

1800

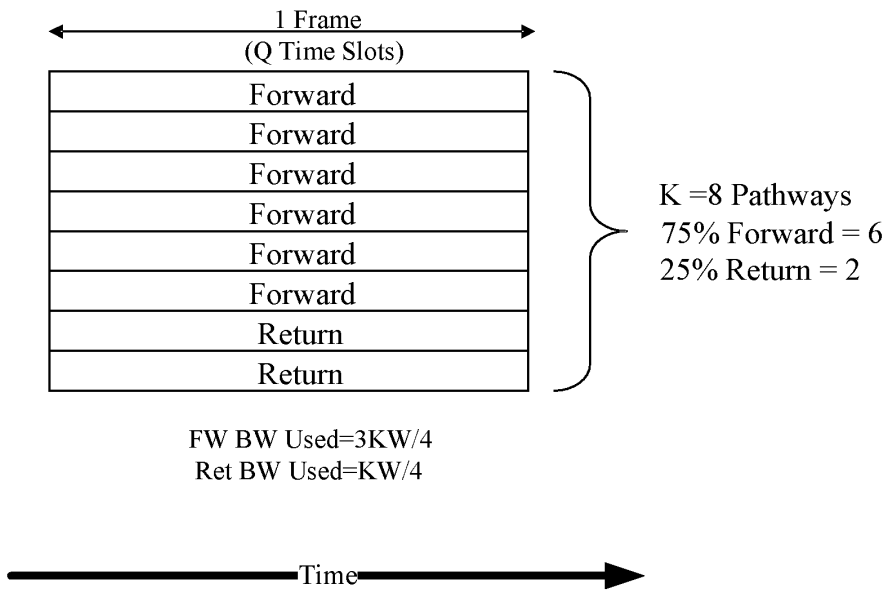


FIG. 18A

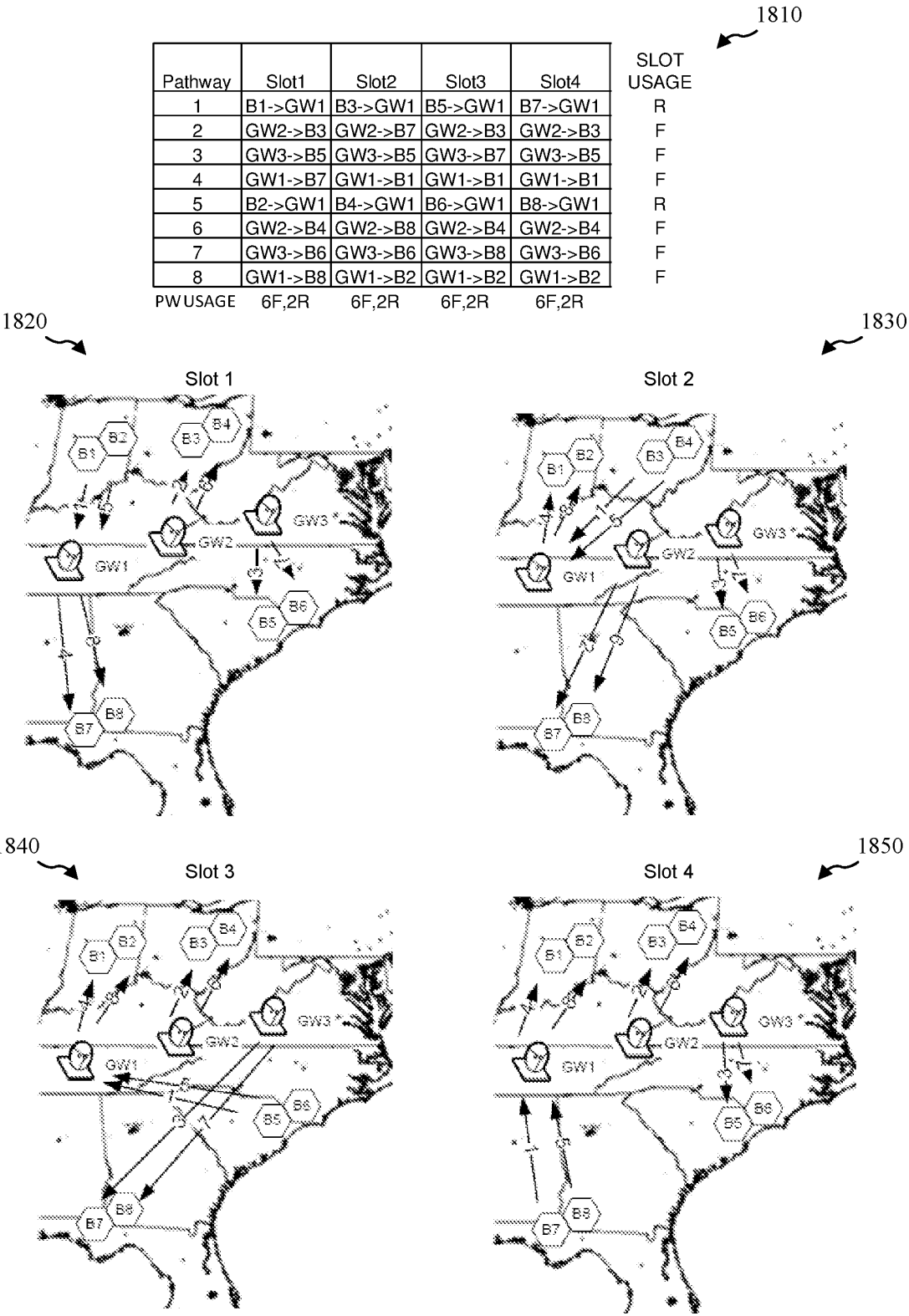


FIG. 18B

1860

1870

GW USAGE	Pathway	Slot1	Slot2	Slot3	SLOT USAGE	GW USAGE	Pathway	Slot1	Slot2	Slot3	SLOT USAGE
SHARED	1	B1->GW1	B3->GW2	B5->GW3	R	GW1	1	B1->GW1	B3->GW1	B5->GW1	R
GW2	2		GW2->B3		F	GW2	2		GW2->B3		F
GW3	3		GW3->B5		F	GW3	3		GW3->B5		F
GW1	4		GW1->B1		F	GW1	4		GW1->B1		F
SHARED	5	B2->GW1	B4->GW2	B6->GW3	R	GW1	5	B2->GW1	B4->GW1	B6->GW1	R
GW2	6		GW2->B4		F	GW2	6		GW2->B4		F
GW3	7		GW3->B6		F	GW3	7		GW3->B6		F
GW1	8		GW1->B2		F	GW1	8		GW1->B2		F
PW USAGE	6F,2R	6F,2R	6F,2R			PW USAGE	6F,2R	6F,2R	6F,2R		

FIG. 18C

FIG. 18D

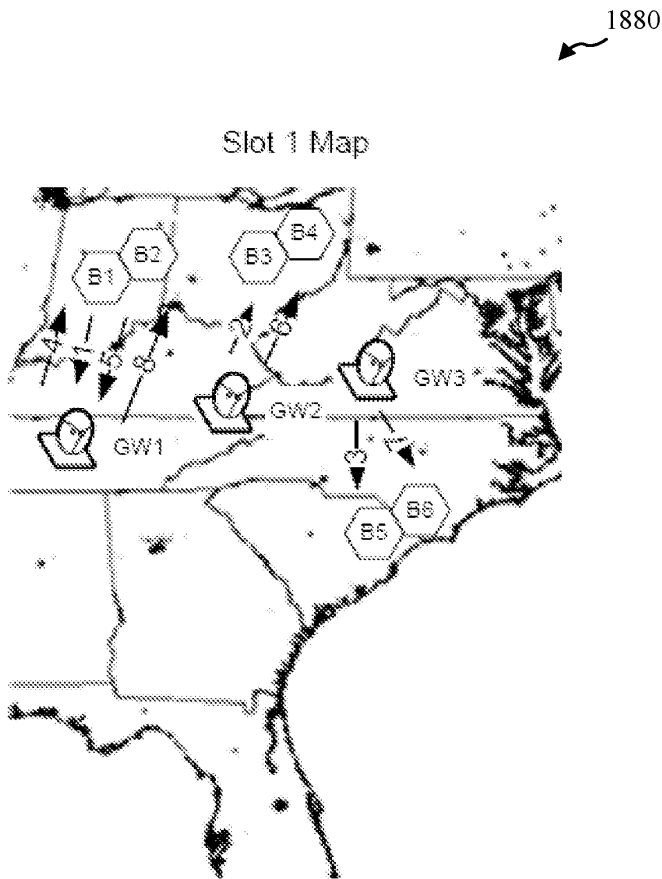


FIG. 18E

1900
↙

100 total pathways

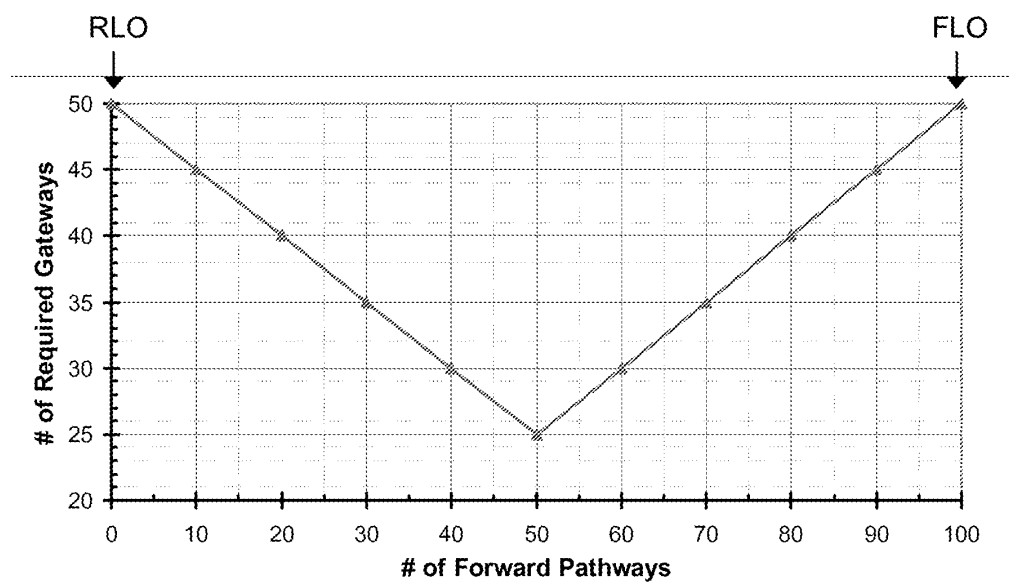


FIG. 19

2000

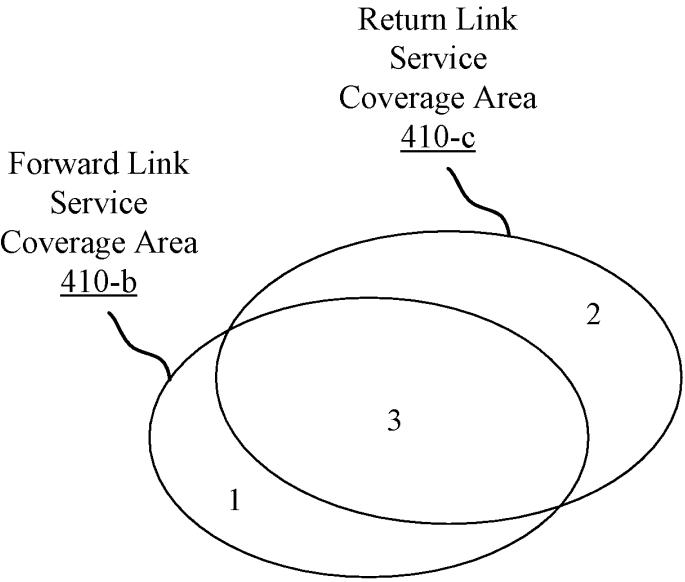


FIG. 20A

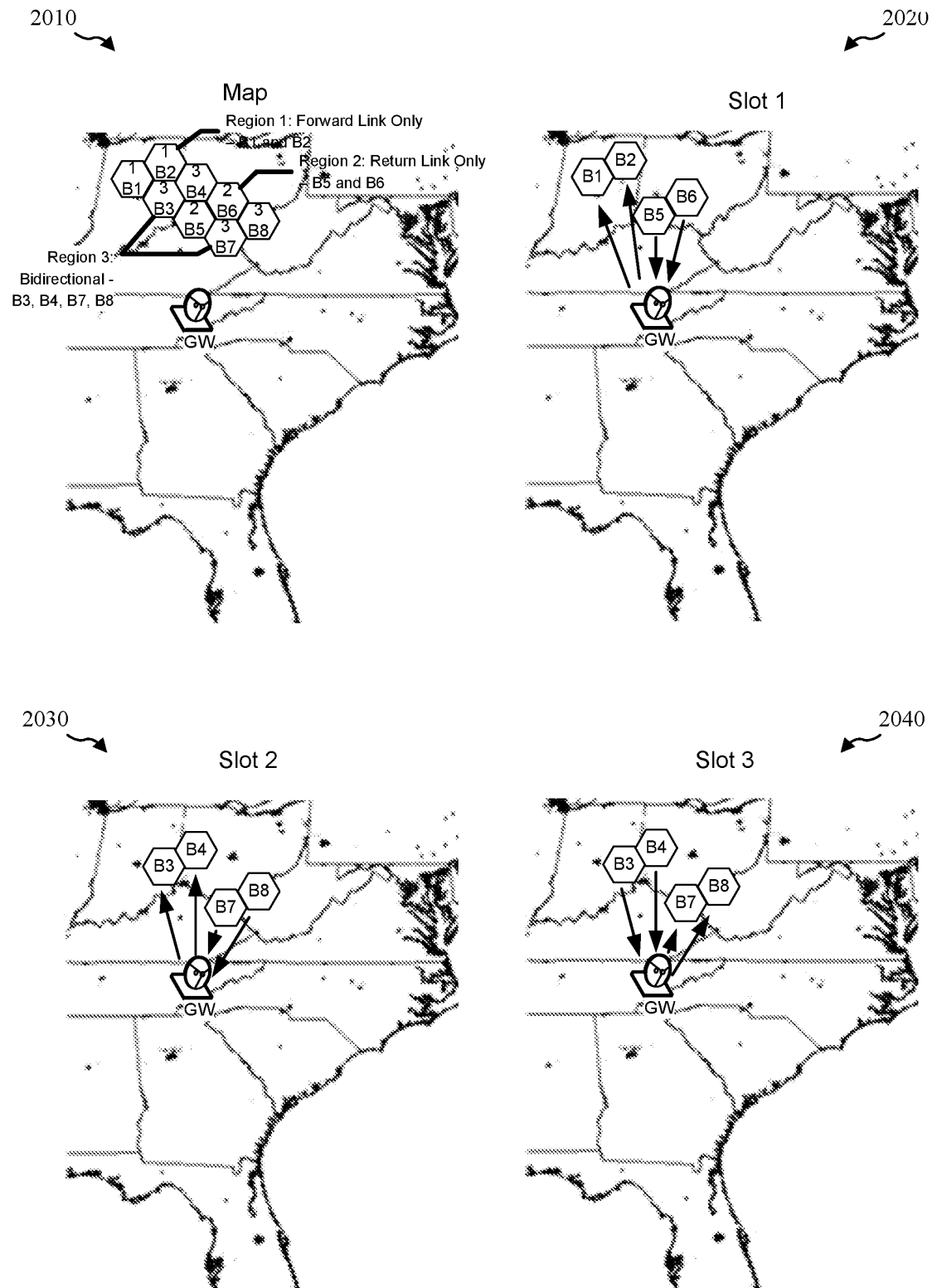


FIG. 20B

***Example with 8 dwell times,
Q=32 and C_b=4.5 Gbps***

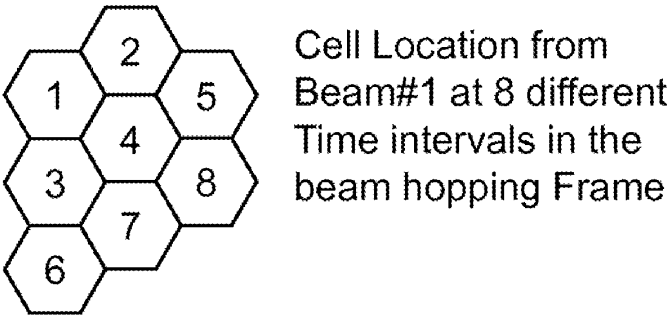


FIG. 21A

Dwell Time #	qj, # slots Assigned	Area Capacity, Mbps
1	16	2250
2	1	141
3	2	281
4	3	422
5	2	281
6	5	703
7	1	141
8	2	281
Total	32	4500

FIG. 21B

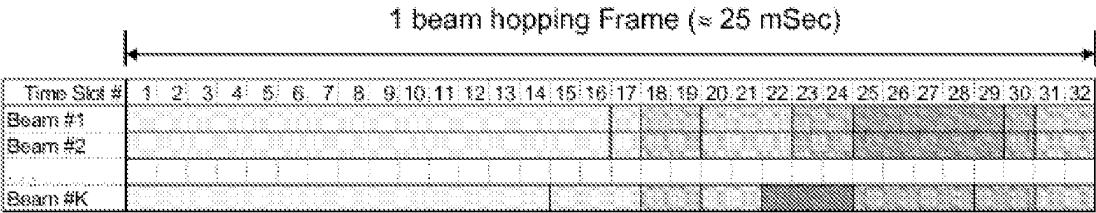


FIG. 21C

2200

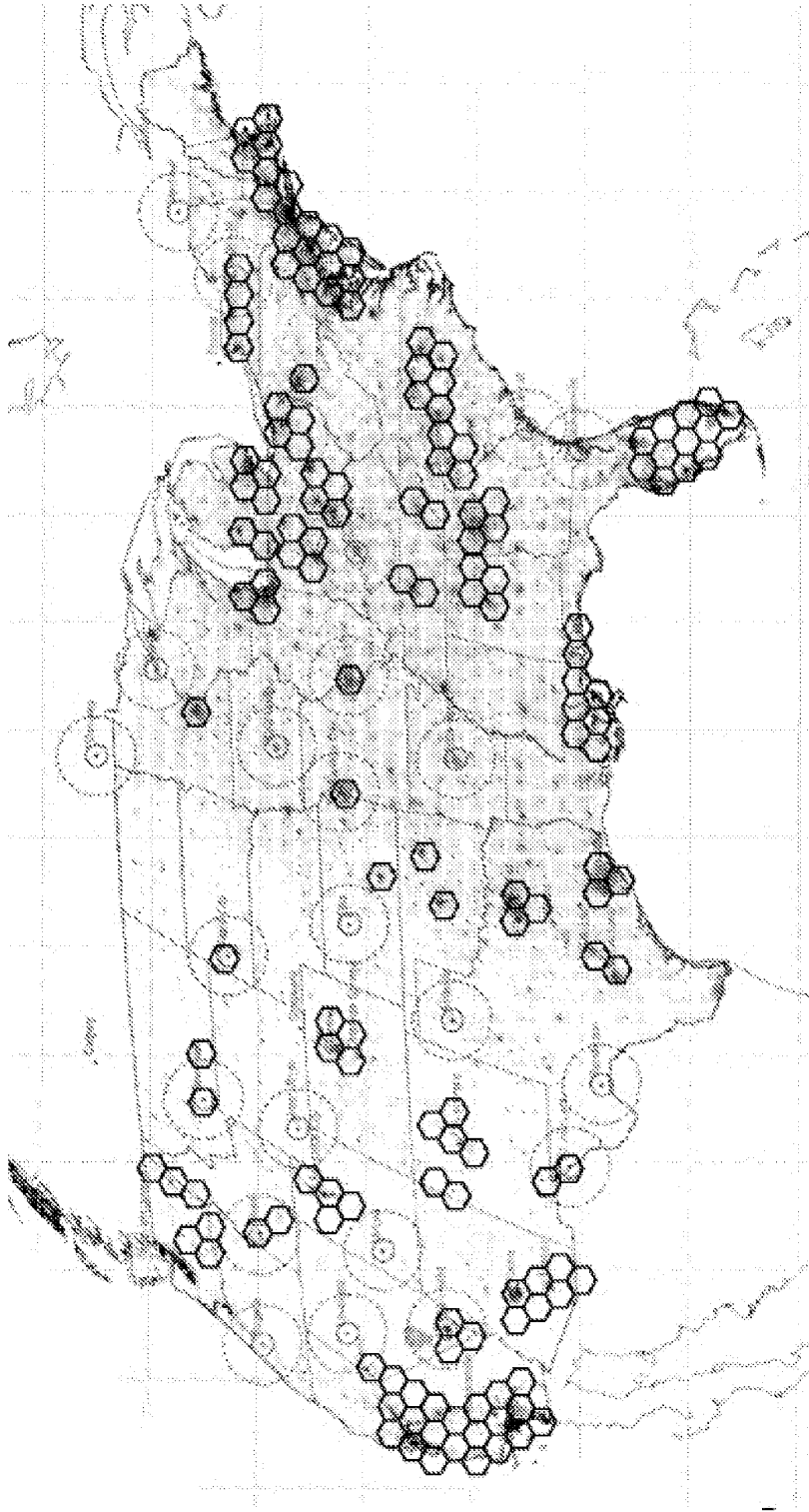


FIG. 22A

2210

GW#	Location	# Beam Issues	Ci
1	Sanderson, TX	0	8
2	Ft. Hancock, TX	2	6
3	Amarillo, TX	0	8
4	Milford, UT	0	8
5	Ellis, KN	0	8
6	Lovelock, NV	1	7
7	Green River, WY	0	8
8	Boise, ID	2	6
9	Rapid City, SD	1	7
10	Bozeman, MT	2	6
11	Winnipeg, Canada	0	8
12	Duluth, MI	0	8
13	Syracuse, NY	2	6
14	Little Rock, AK	0	8
15	St. Louis, MO	1	7
16	Louisville, KY	1	7
17	Kansas City, MO	1	7
18	Las Vegas, NV	3	5
19	Montreal	0	8
20	Eugene, OR	0	8
21	Jacksonville, FL	0	8
22	Savannah, GE	0	8
23	Des Moines, IO	0	8
Total			168

FIG. 22B

2220

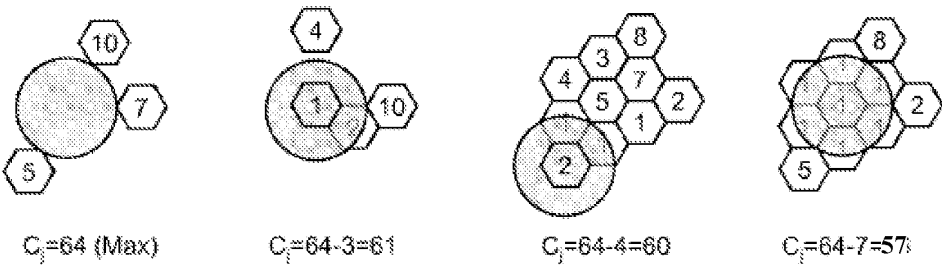


FIG. 22C

2300

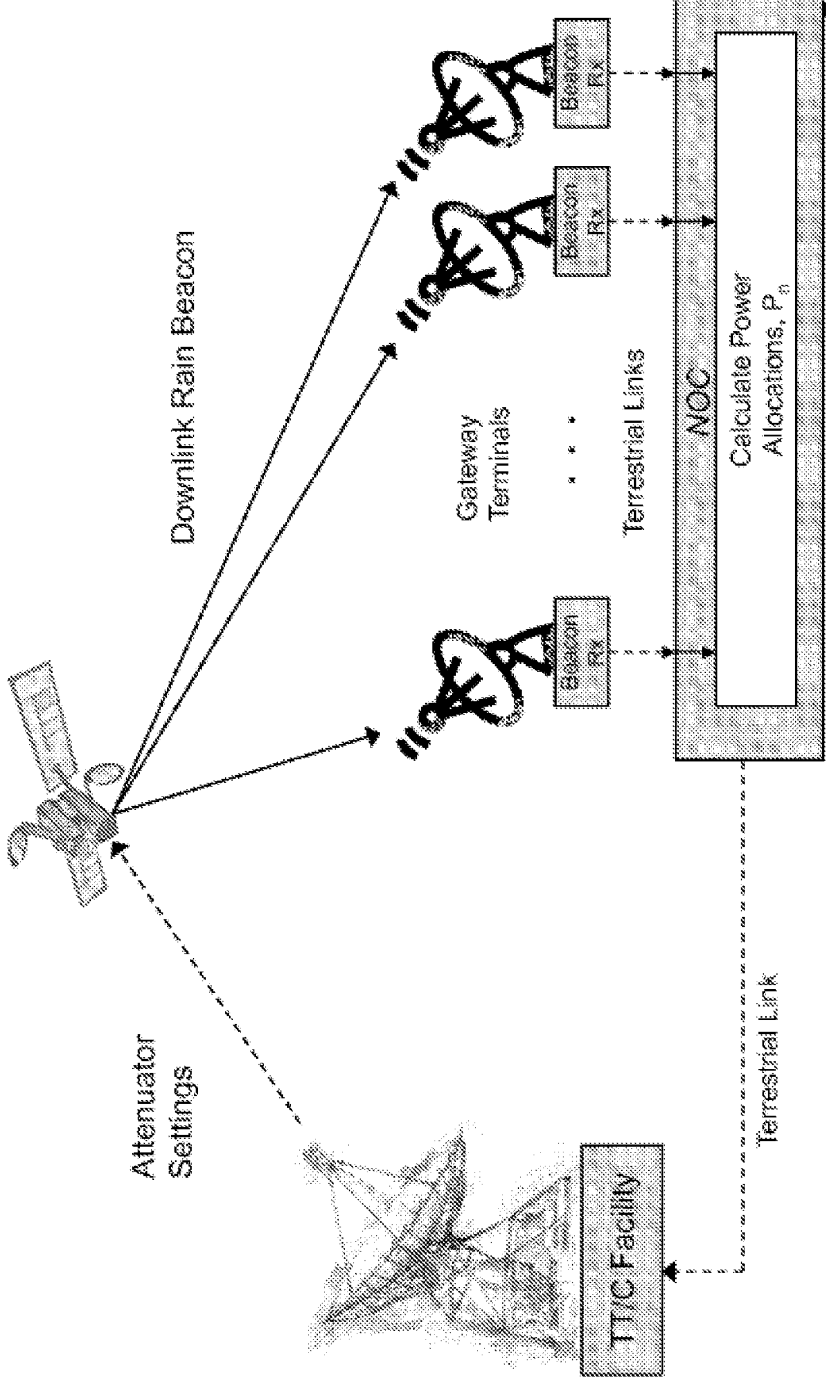


FIG. 23

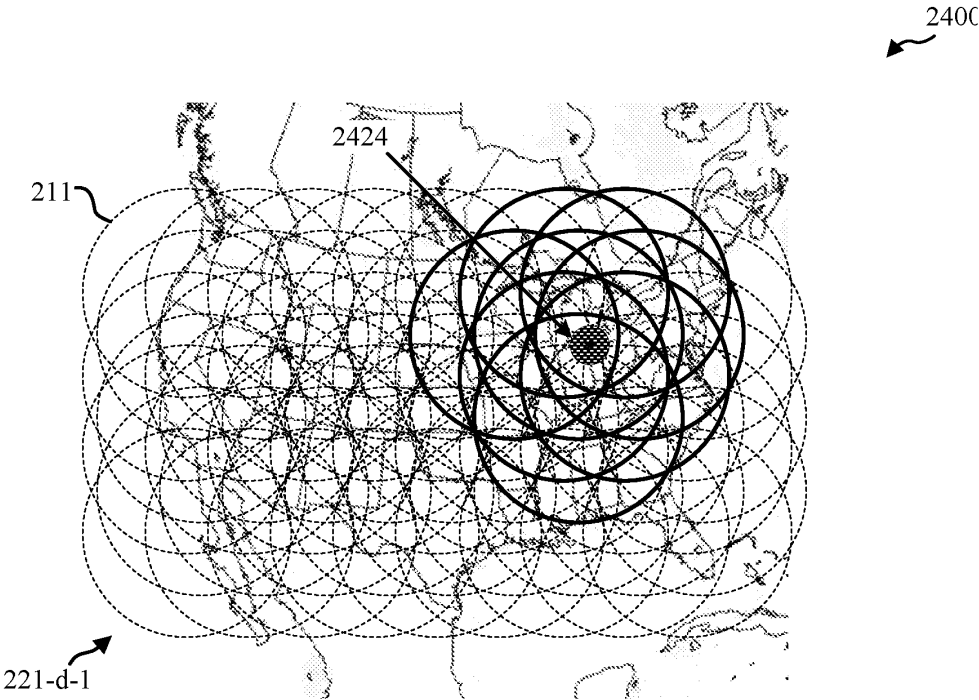


FIG. 24A

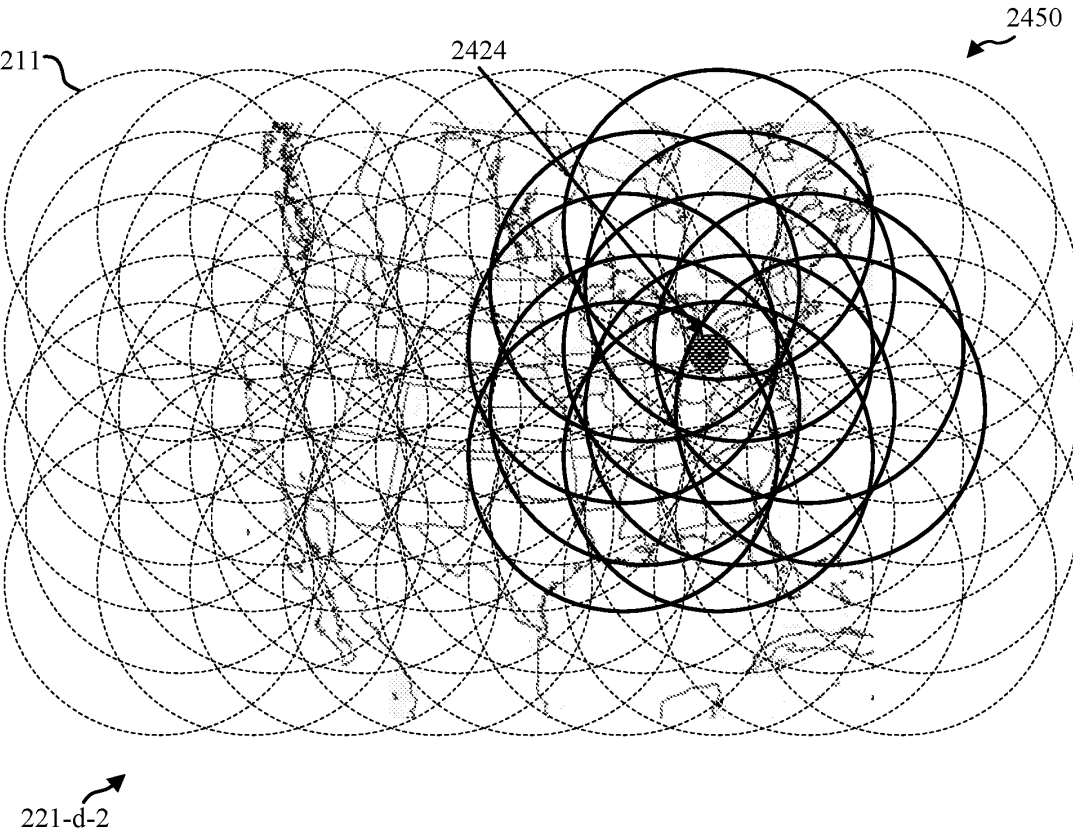


FIG. 24B

121-j

2470

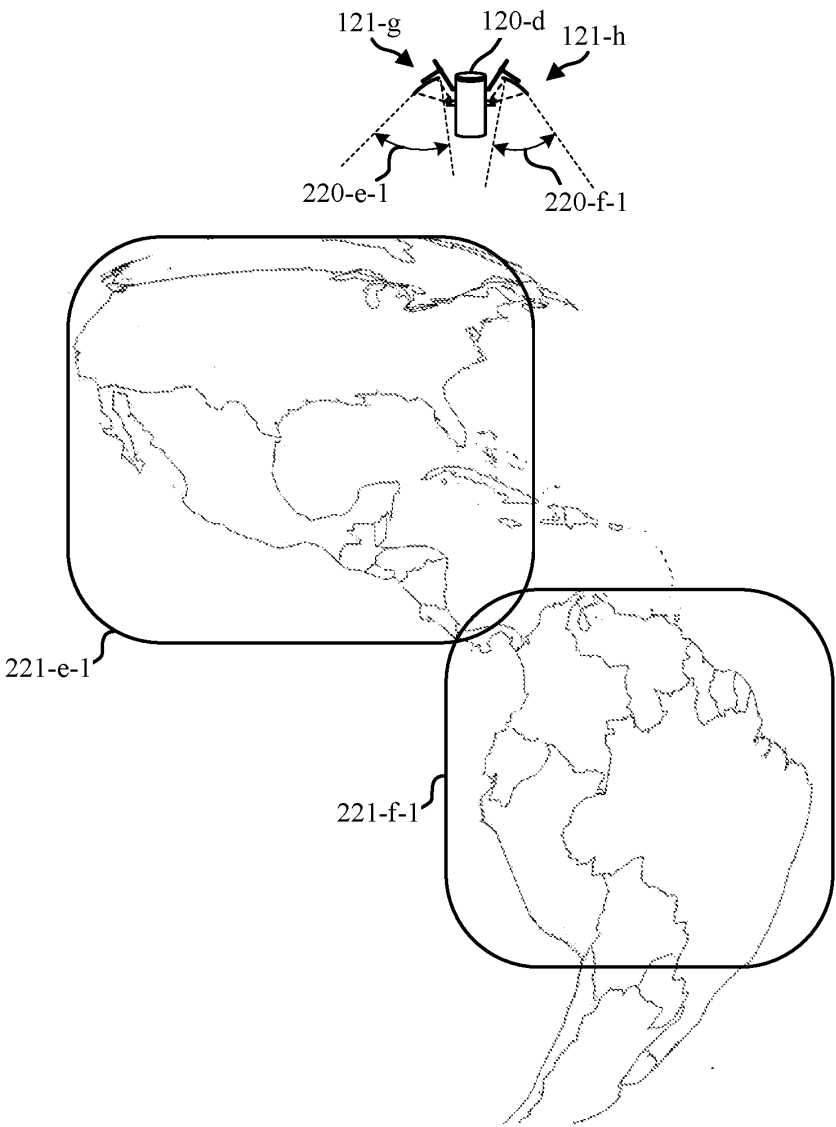


FIG. 24C

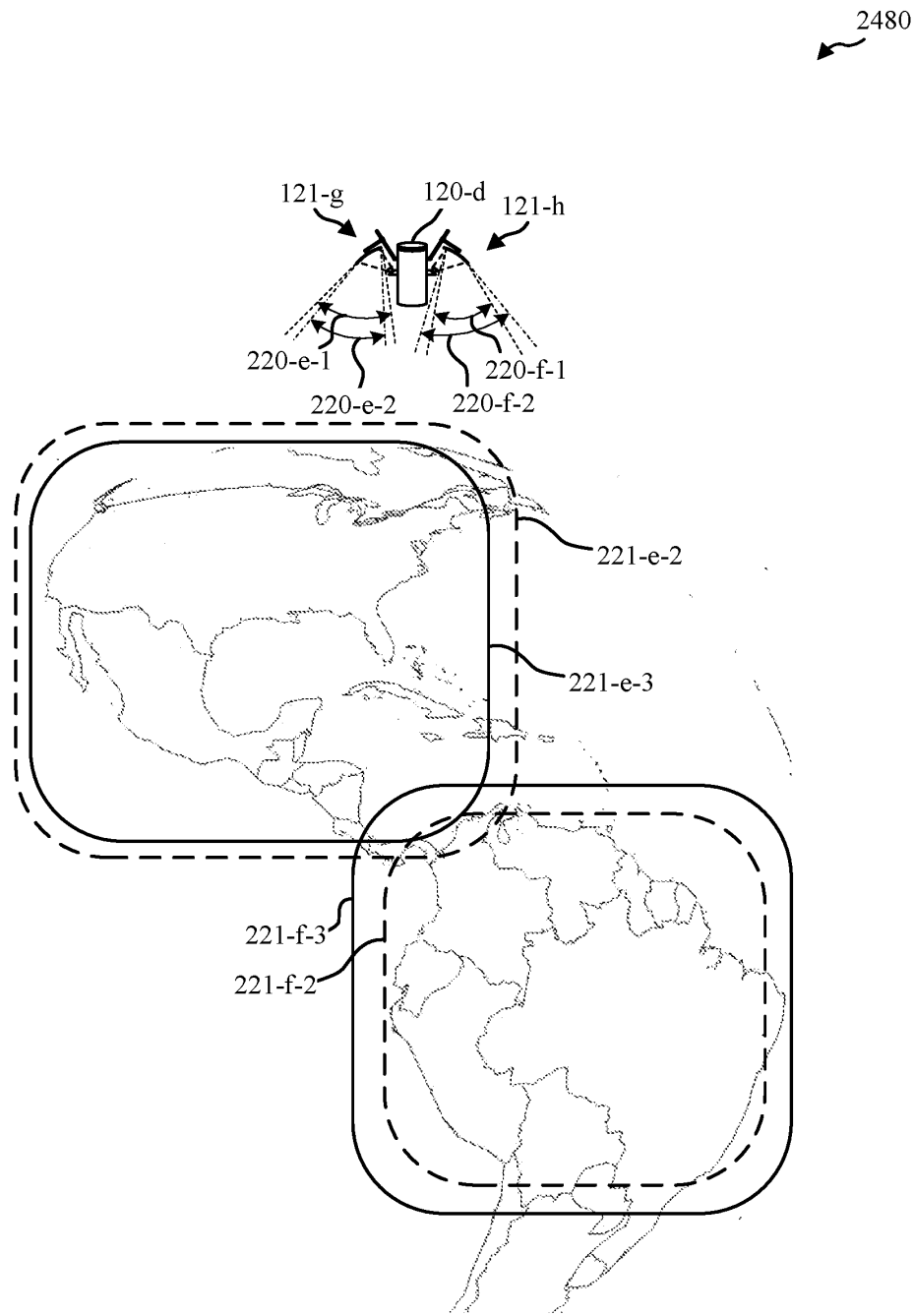


FIG. 24D

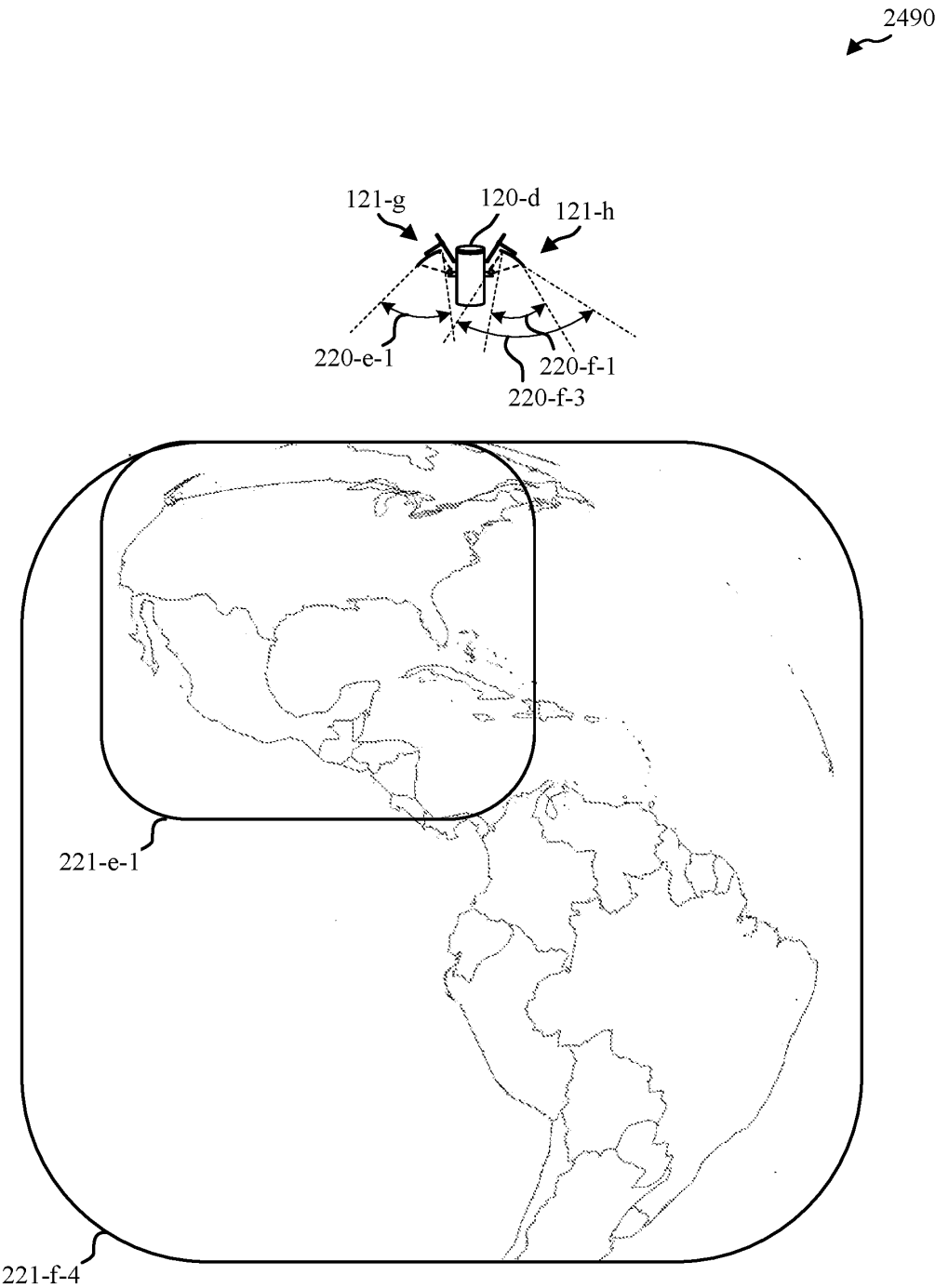


FIG. 24E

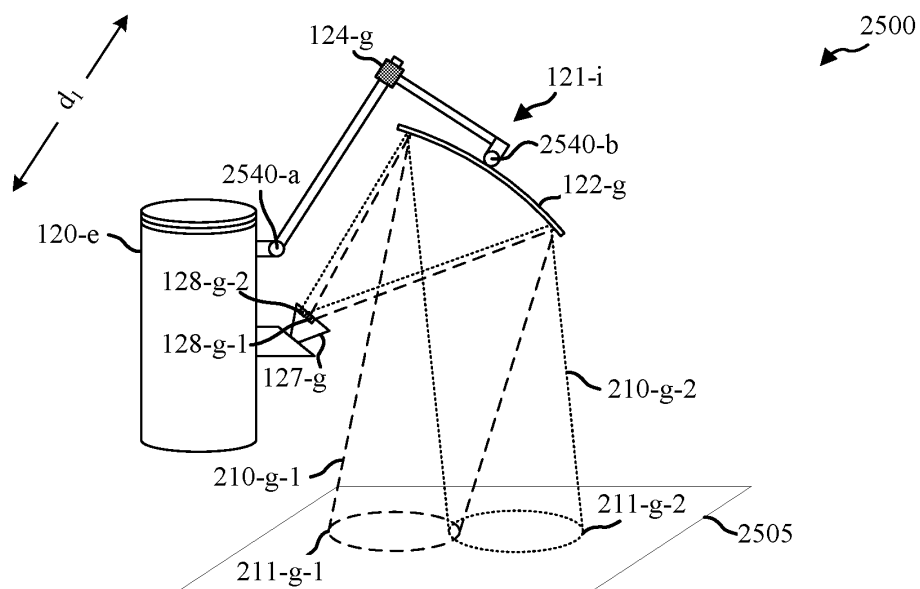


FIG. 25A

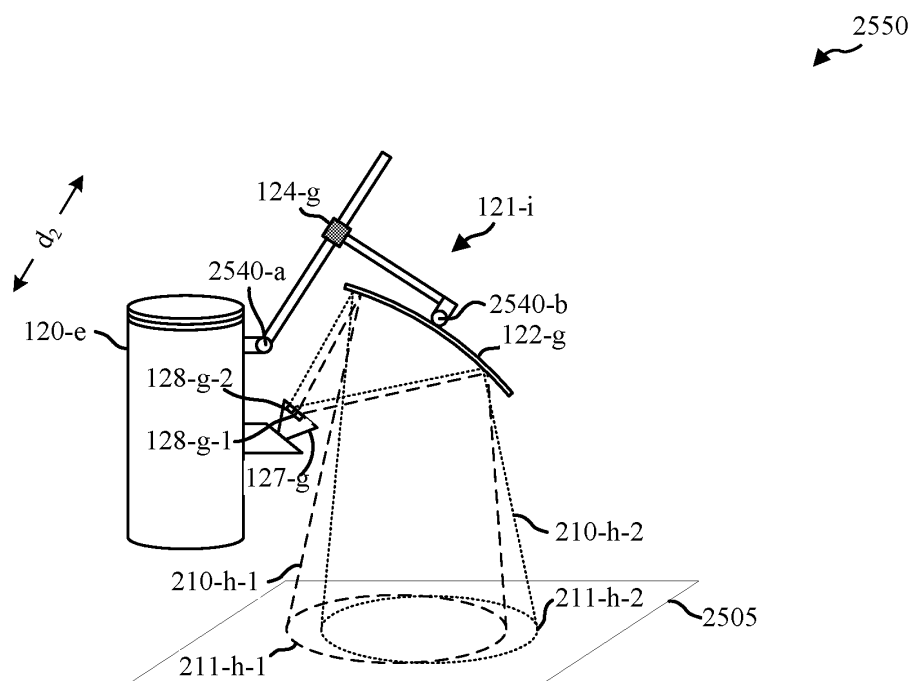


FIG. 25B

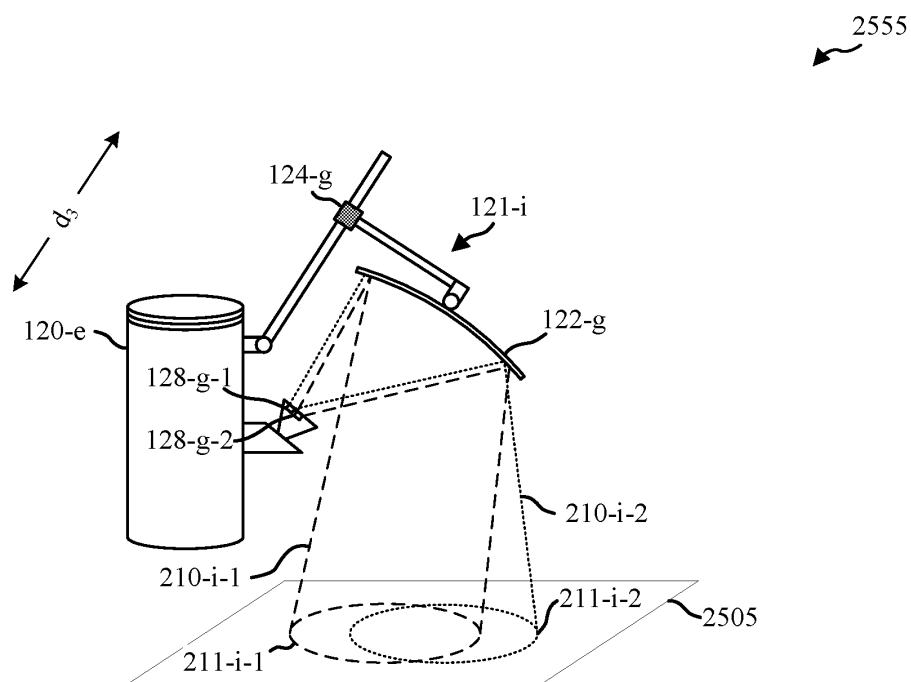


FIG. 25C

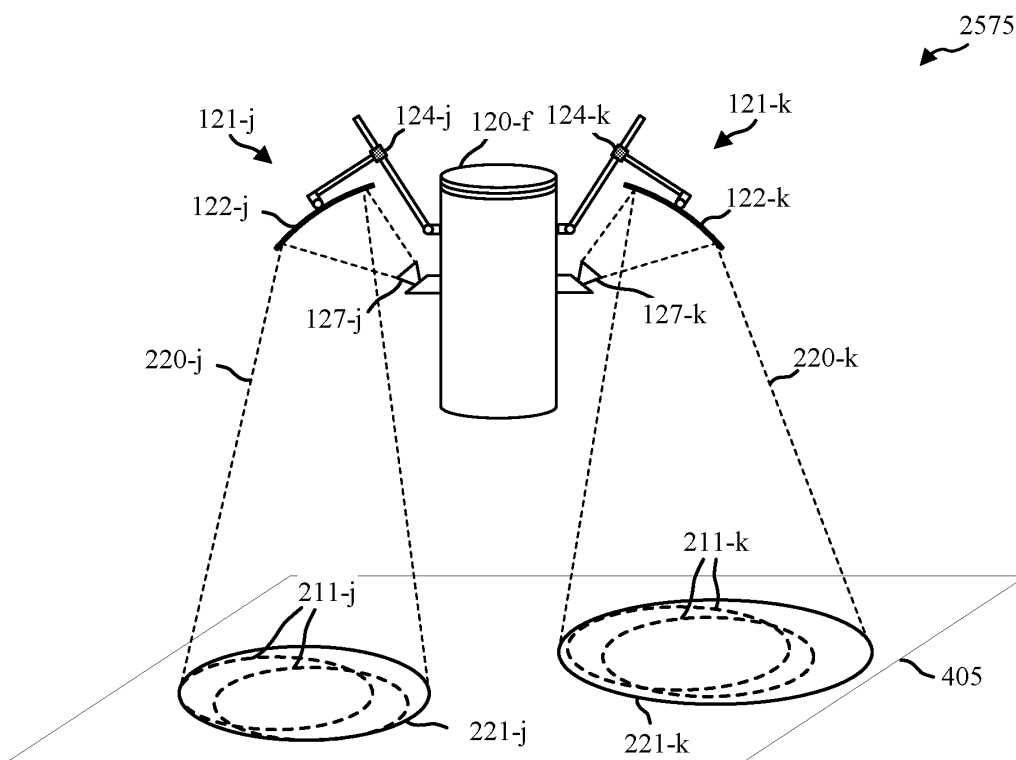


FIG. 25D

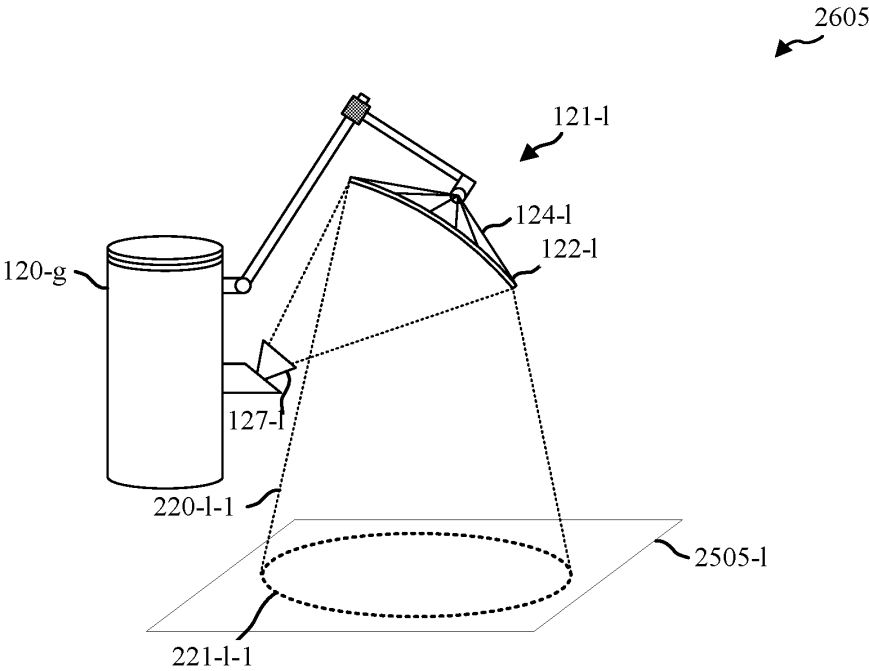


FIG. 26A

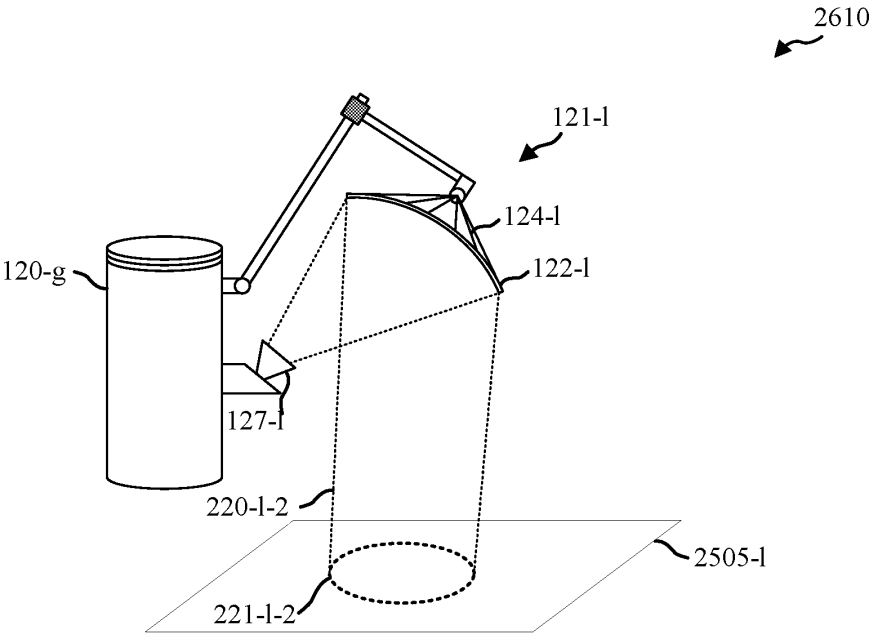


FIG. 26B

45/51

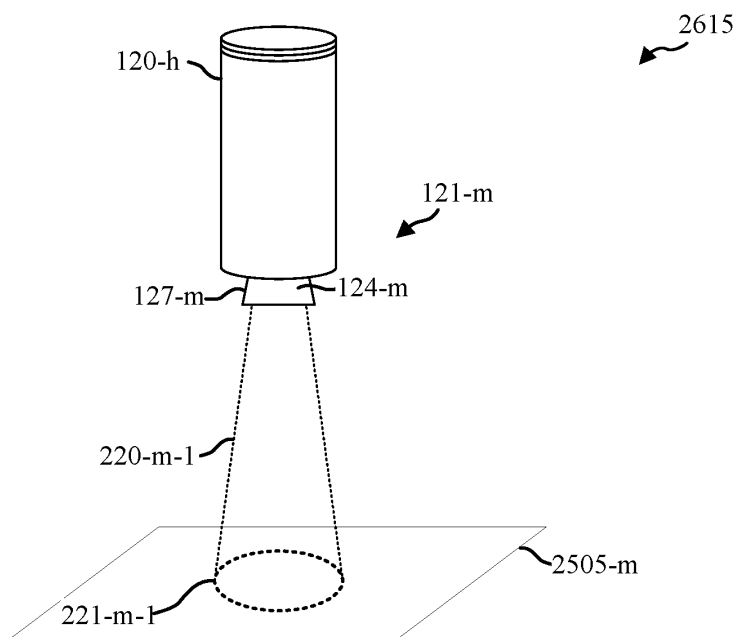


FIG. 26C

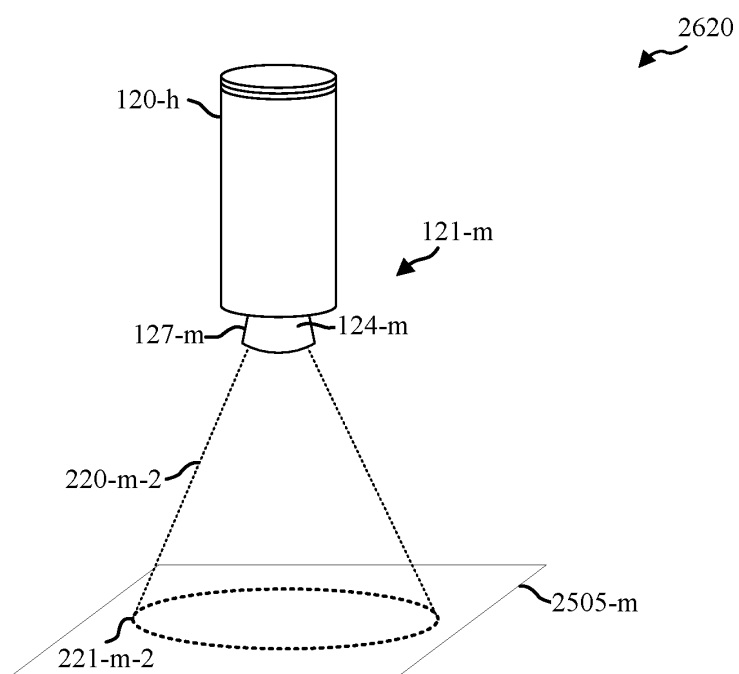


FIG. 26D

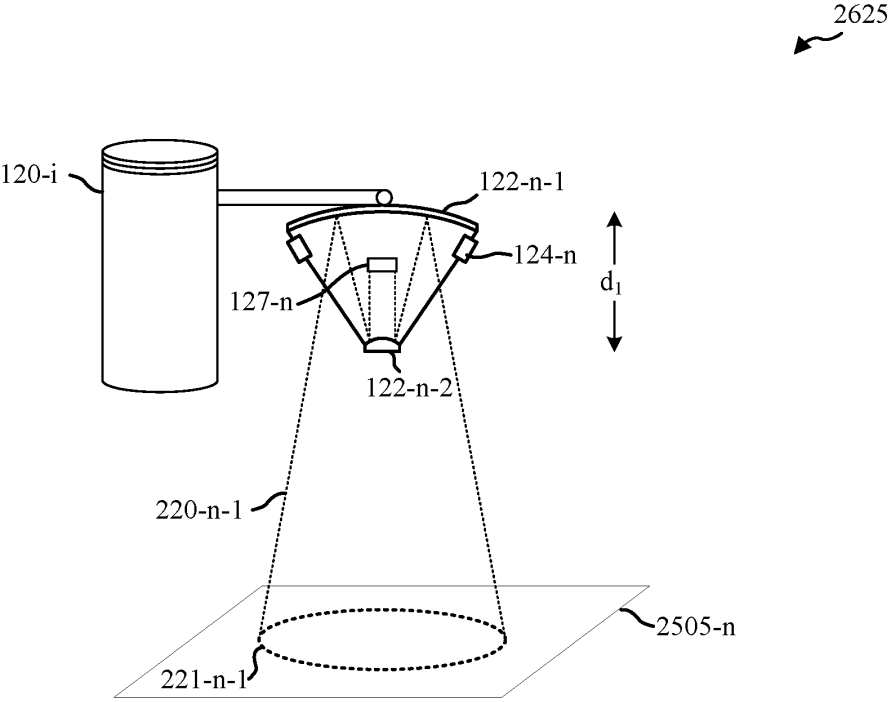


FIG. 26E

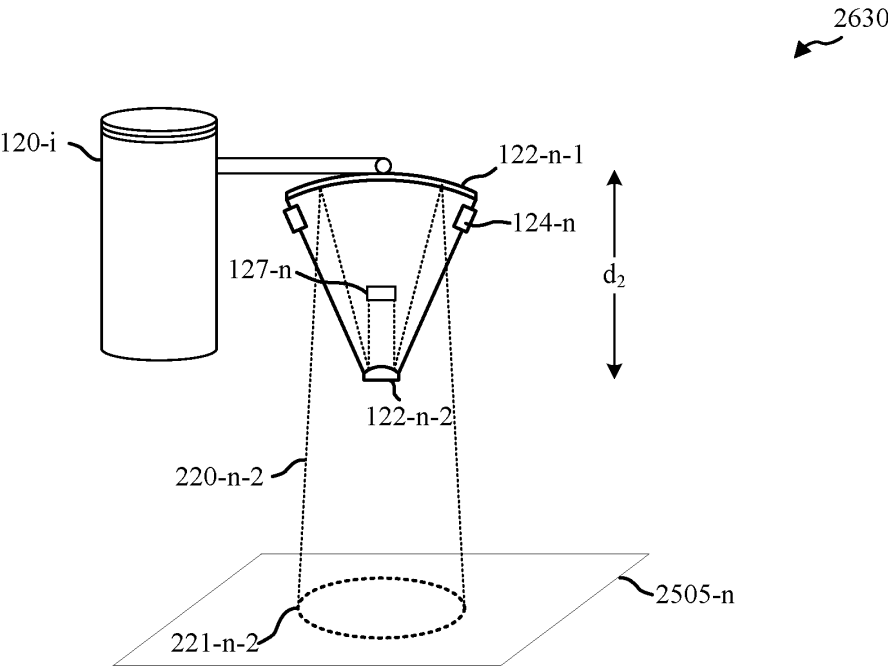


FIG. 26F

47/51

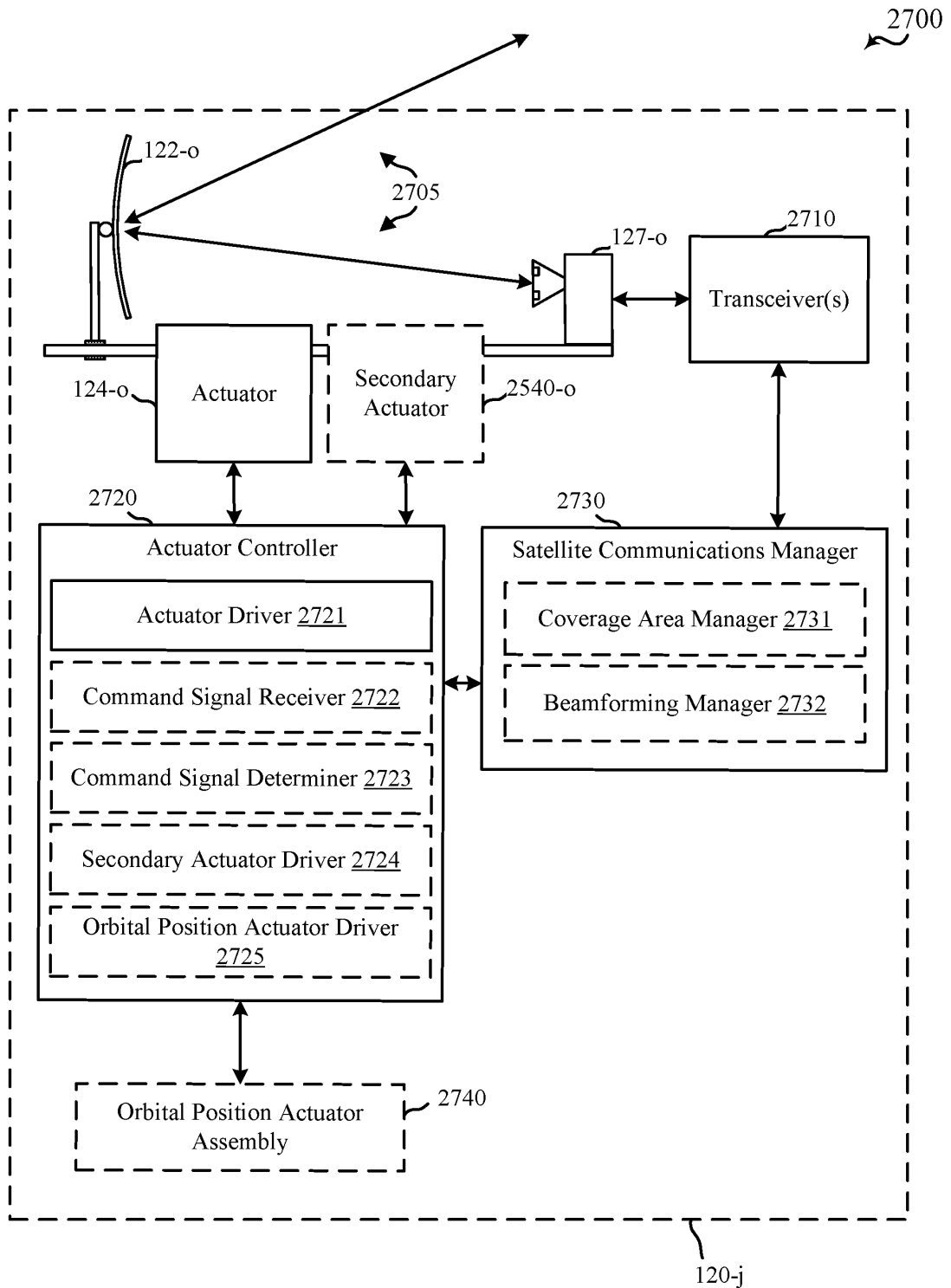


FIG. 27

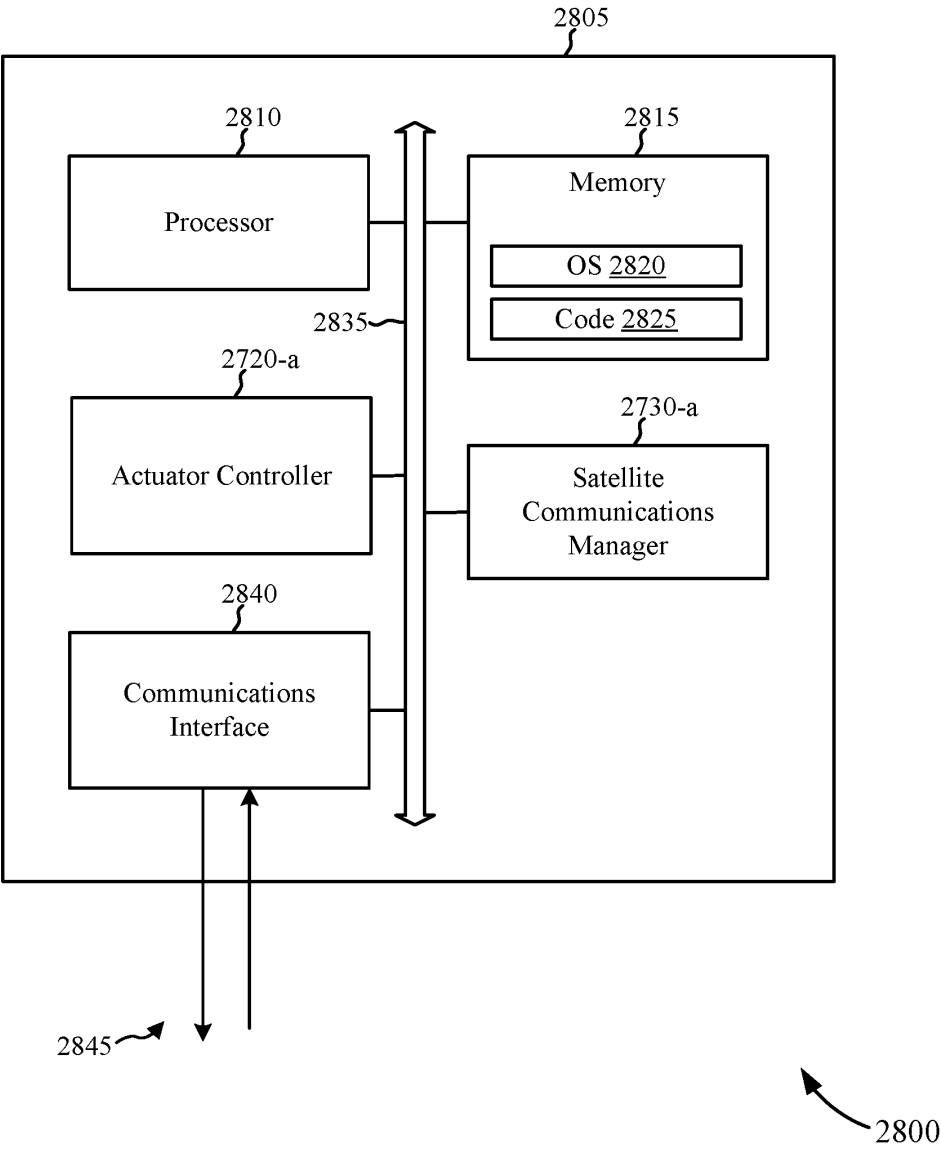


FIG. 28

2900
↖

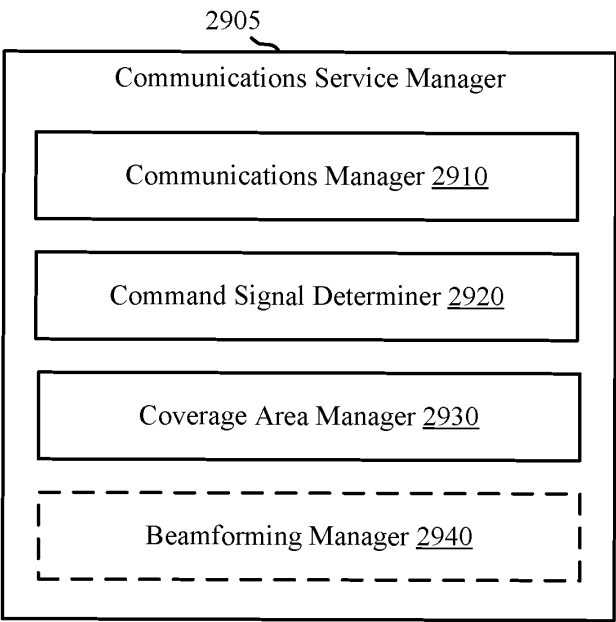


FIG. 29

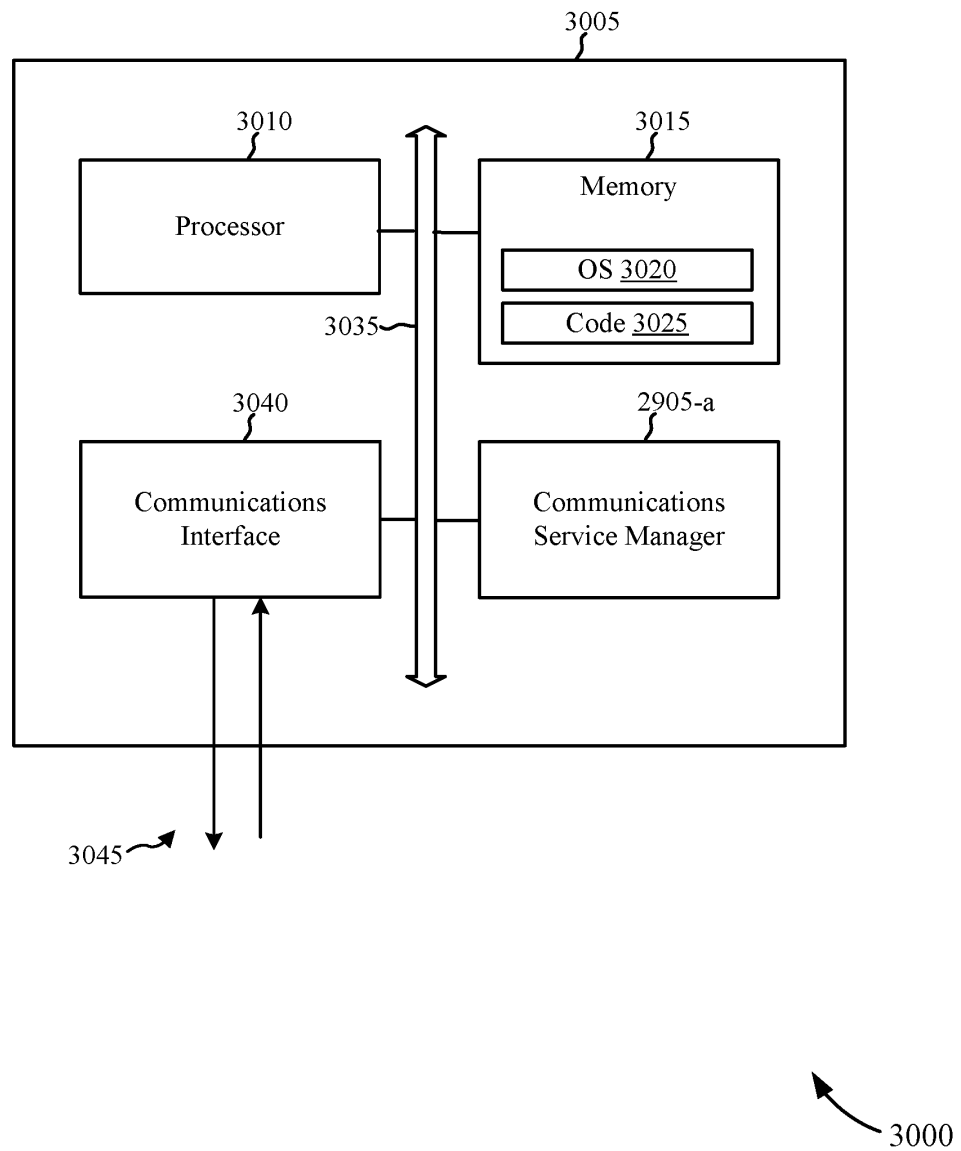


FIG. 30

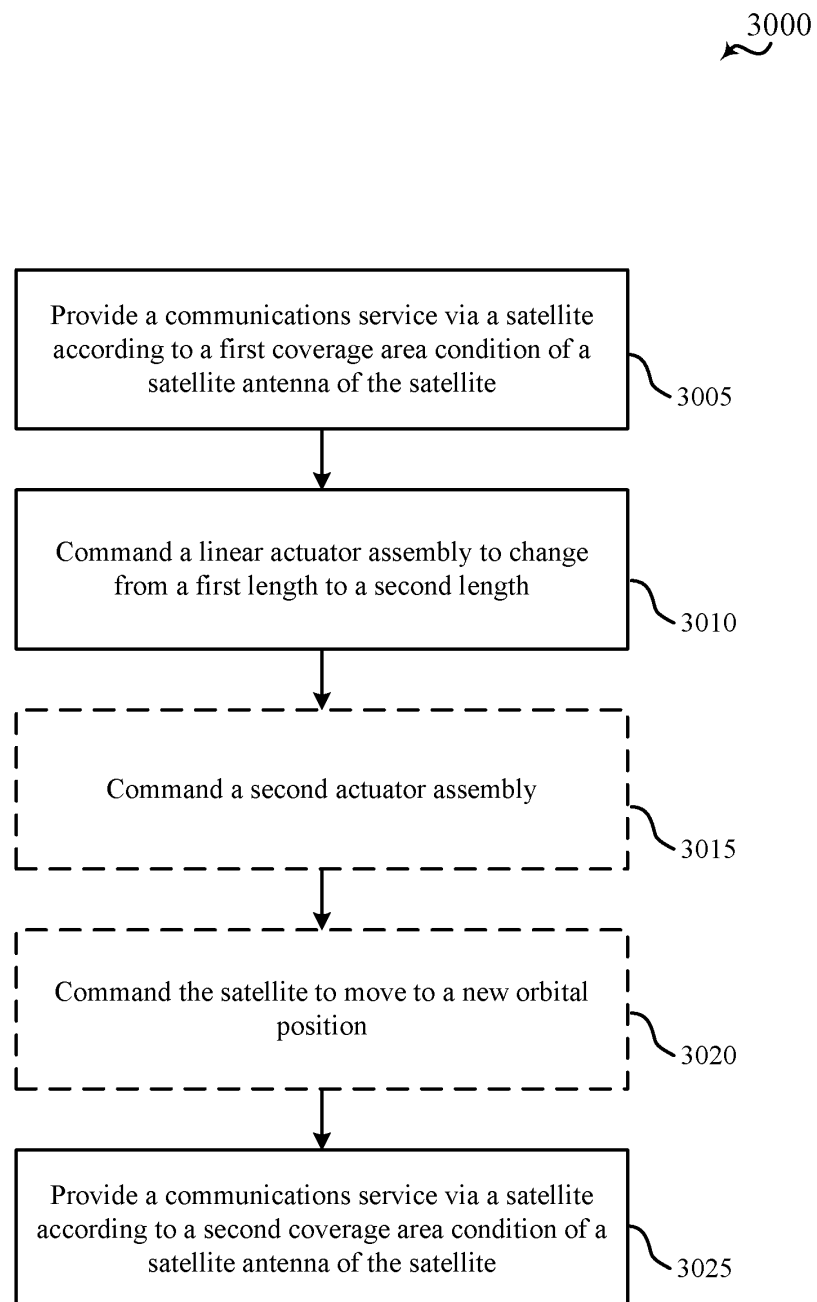


FIG. 31