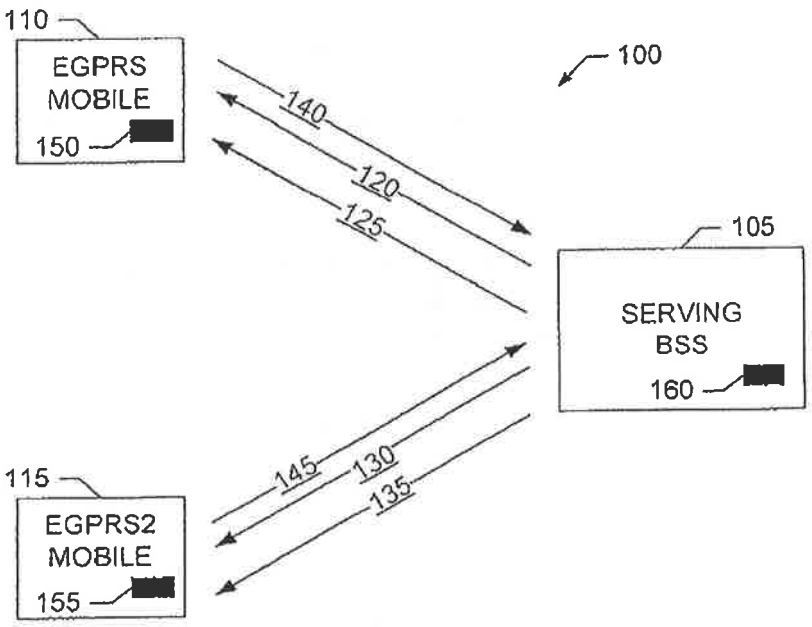
110
EGPRS
MOBILE
150
100
140
120
125
105
SERVING
BSS
160
115
EGPRS2
MOBILE
155
145
130
135

FIG. 1

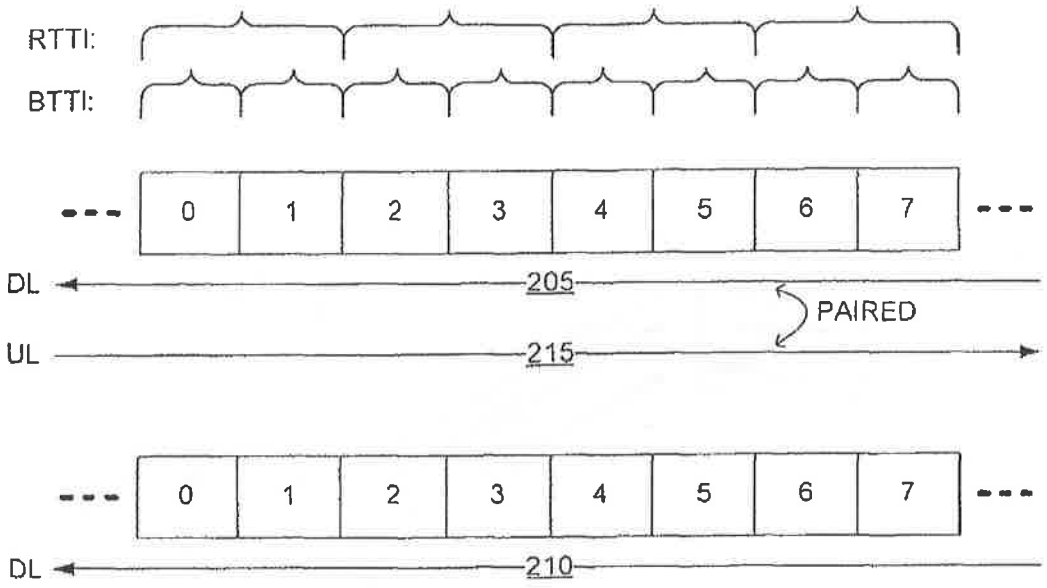

FIG. 2

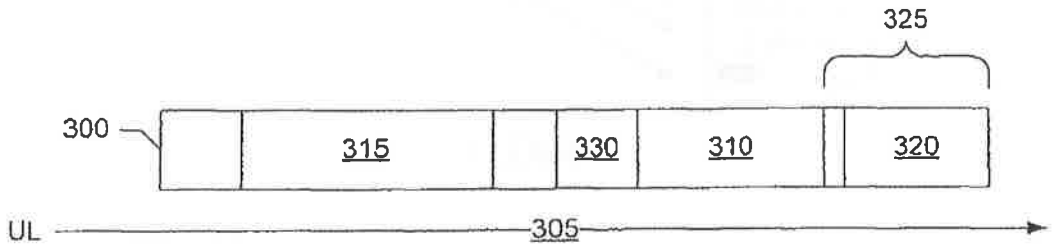

FIG. 3

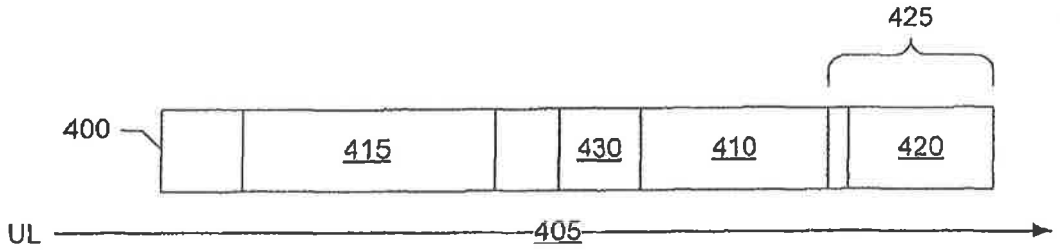

FIG. 4

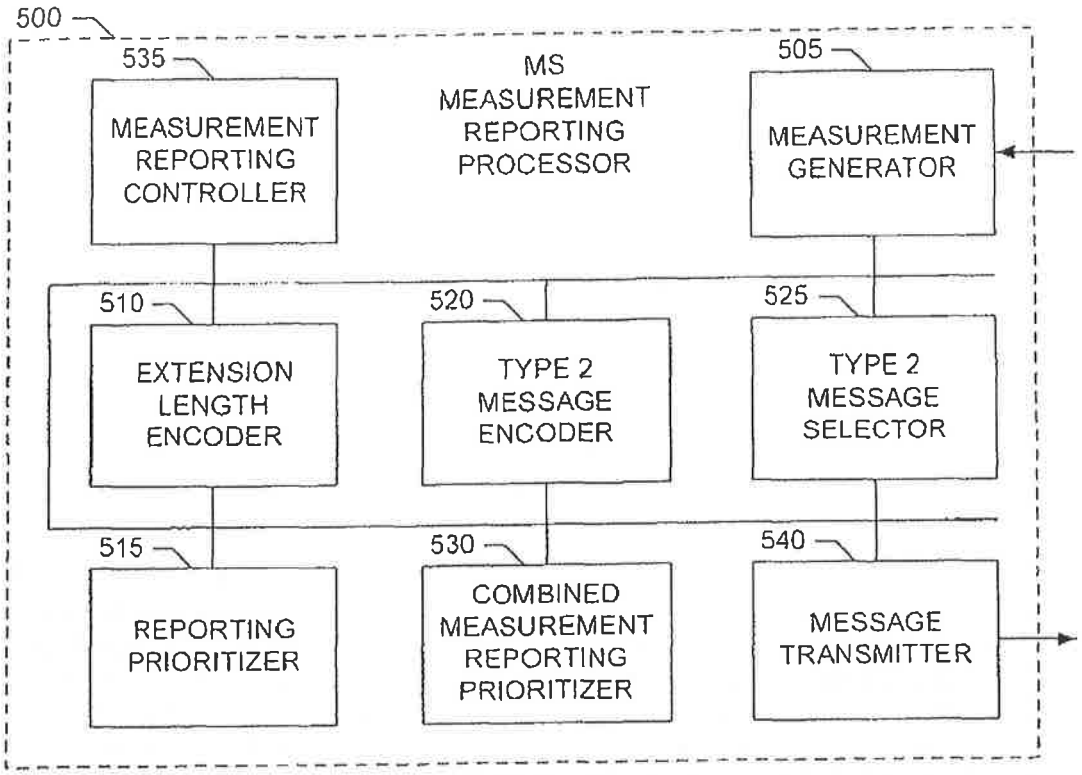
500
535
MEASUREMENT REPORTING CONTROLLER
MS MEASUREMENT REPORTING PROCESSOR
505
MEASUREMENT GENERATOR
510
EXTENSION LENGTH ENCODER
520
TYPE 2 MESSAGE ENCODER
525
TYPE 2 MESSAGE SELECTOR
515
REPORTING PRIORITIZER
530
COMBINED MEASUREMENT REPORTING PRIORITIZER
540
MESSAGE TRANSMITTER

FIG. 5

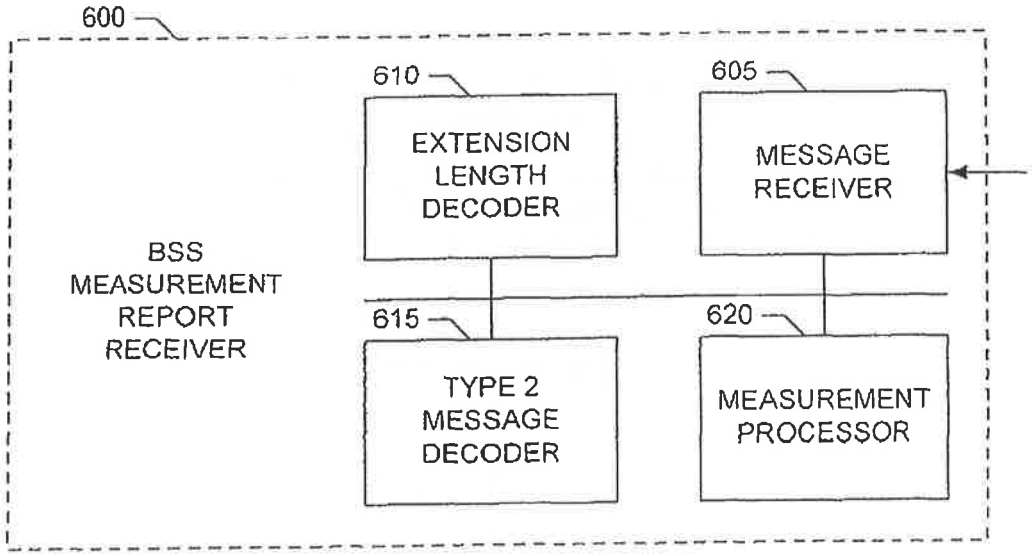
600
610
EXTENSION LENGTH DECODER
605
MESSAGE RECEIVER
BSS MEASUREMENT REPORT RECEIVER
615
TYPE 2 MESSAGE DECODER
620
MEASUREMENT PROCESSOR

FIG. 6

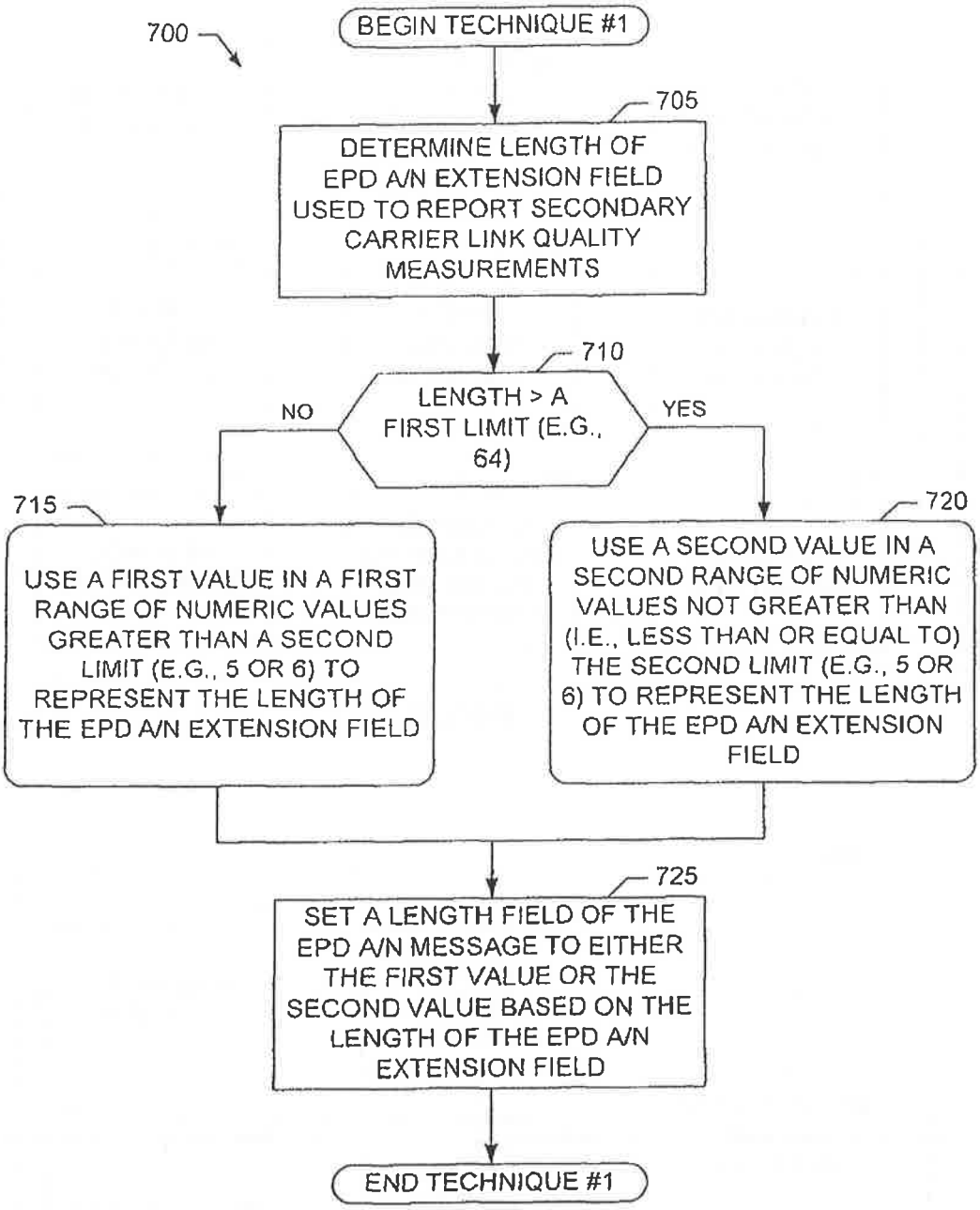
700
BEGIN TECHNIQUE #1
705
DETERMINE LENGTH OF EPD A/N EXTENSION FIELD USED TO REPORT SECONDARY CARRIER LINK QUALITY MEASUREMENTS
710
LENGTH > A FIRST LIMIT (E.G., 64)
NO
YES
715
USE A FIRST VALUE IN A FIRST RANGE OF NUMERIC VALUES GREATER THAN A SECOND LIMIT (E.G., 5 OR 6) TO REPRESENT THE LENGTH OF THE EPD A/N EXTENSION FIELD
720
USE A SECOND VALUE IN A SECOND RANGE OF NUMERIC VALUES NOT GREATER THAN (I.E., LESS THAN OR EQUAL TO) THE SECOND LIMIT (E.G., 5 OR 6) TO REPRESENT THE LENGTH OF THE EPD A/N EXTENSION FIELD
725
SET A LENGTH FIELD OF THE EPD A/N MESSAGE TO EITHER THE FIRST VALUE OR THE SECOND VALUE BASED ON THE LENGTH OF THE EPD A/N EXTENSION FIELD
END TECHNIQUE #1

FIG. 7

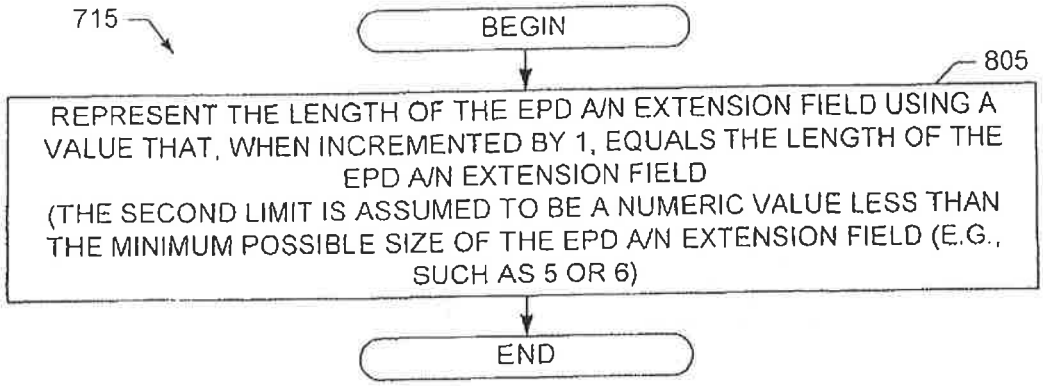

FIG. 8

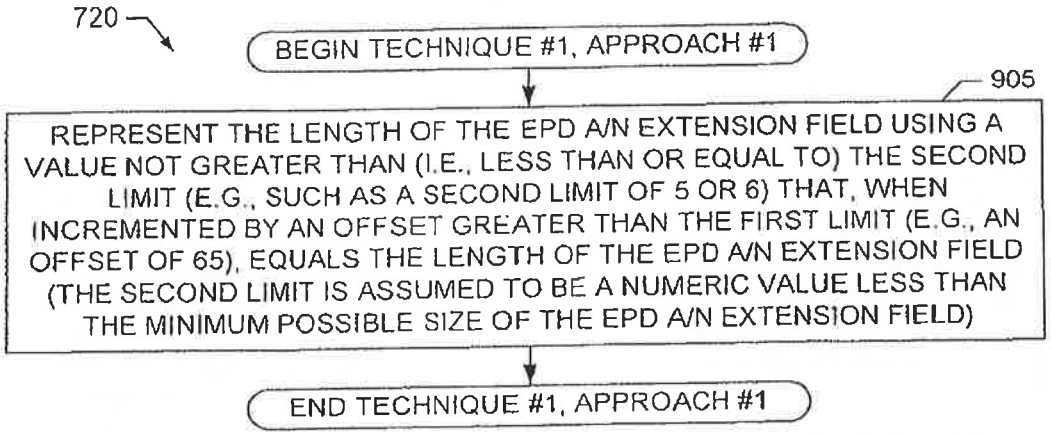

FIG. 9

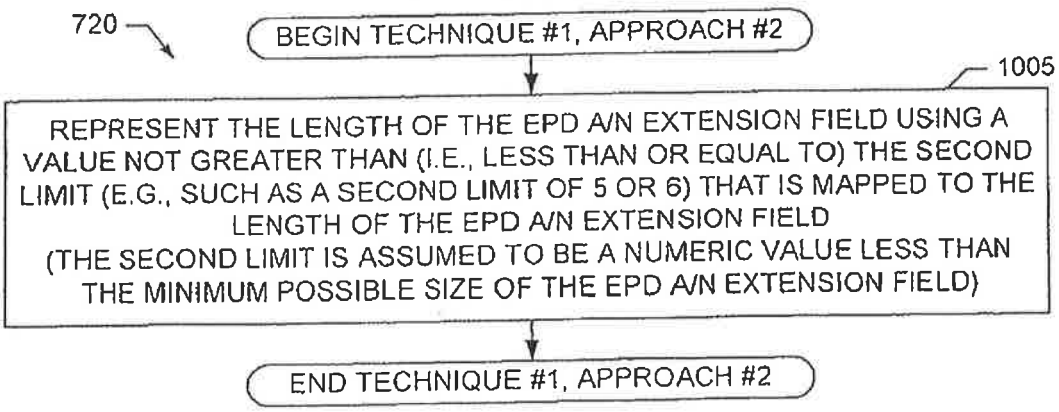

FIG. 10

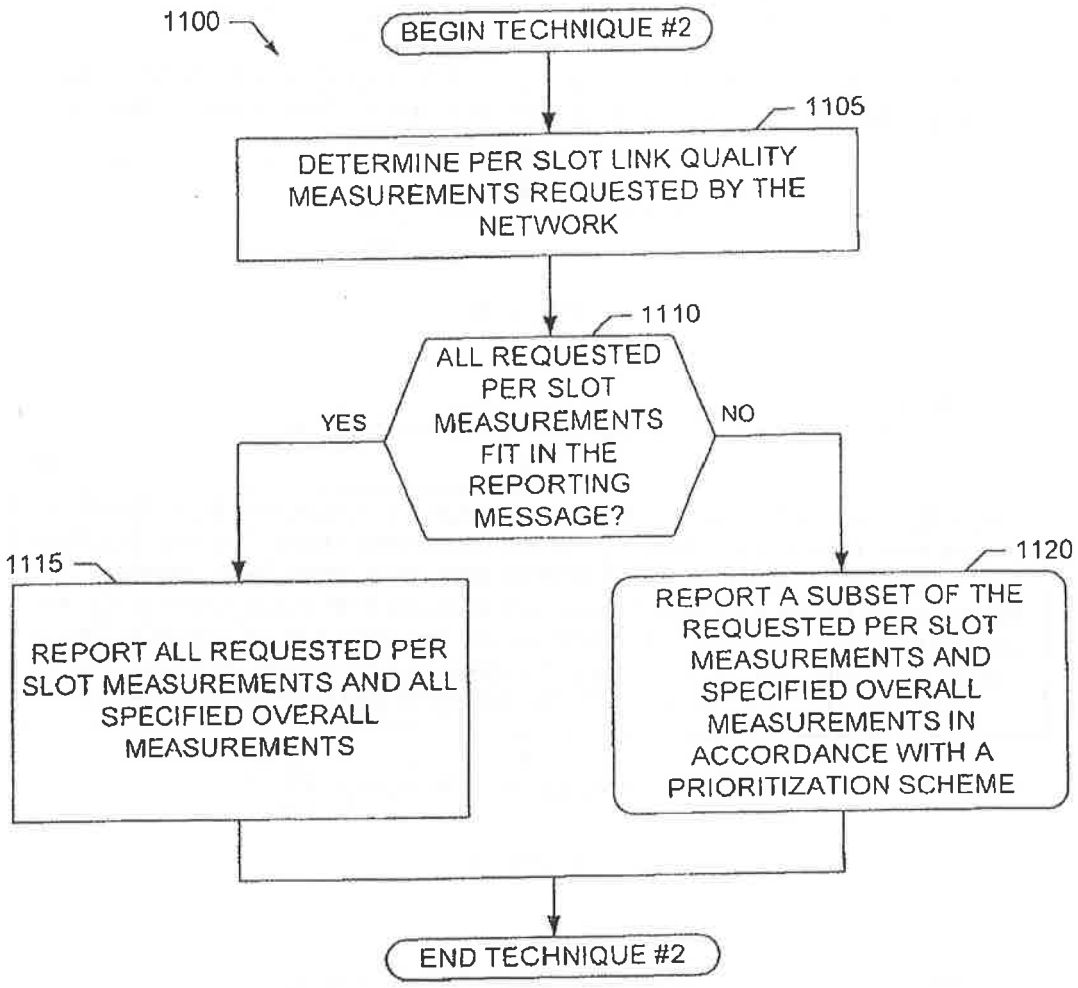
1100
BEGIN TECHNIQUE #2
1105
DETERMINE PER SLOT LINK QUALITY MEASUREMENTS REQUESTED BY THE NETWORK
1110
ALL REQUESTED PER SLOT MEASUREMENTS FIT IN THE REPORTING MESSAGE?
YES
NO
1115
REPORT ALL REQUESTED PER SLOT MEASUREMENTS AND ALL SPECIFIED OVERALL MEASUREMENTS
1120
REPORT A SUBSET OF THE REQUESTED PER SLOT MEASUREMENTS AND SPECIFIED OVERALL MEASUREMENTS IN ACCORDANCE WITH A PRIORITIZATION SCHEME
END TECHNIQUE #2

FIG. 11

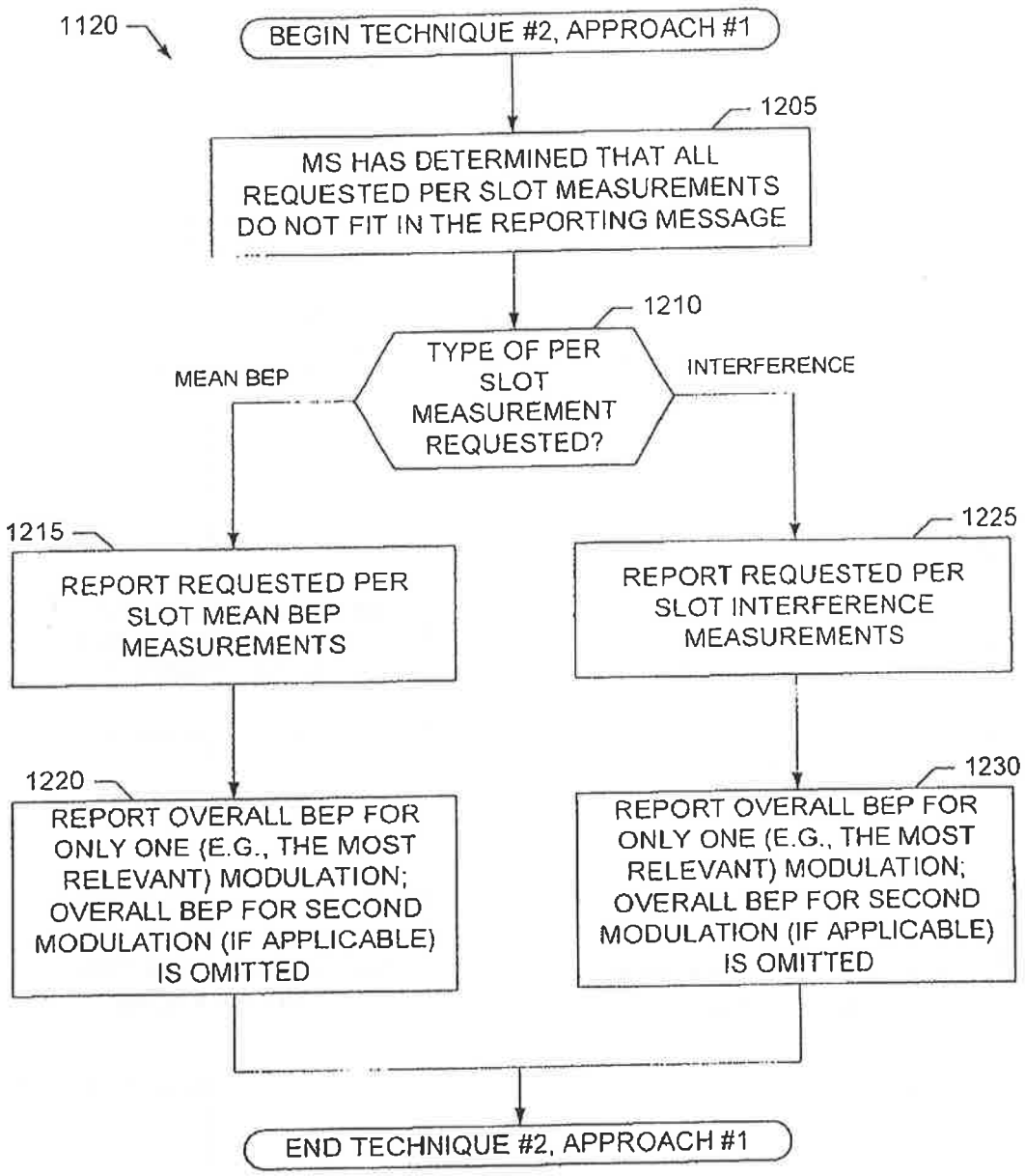
1120
BEGIN TECHNIQUE #2, APPROACH #1
1205
MS HAS DETERMINED THAT ALL REQUESTED PER SLOT MEASUREMENTS DO NOT FIT IN THE REPORTING MESSAGE
1210
TYPE OF PER SLOT MEASUREMENT REQUESTED?
MEAN BEP
INTERFERENCE
1215
REPORT REQUESTED PER SLOT MEAN BEP MEASUREMENTS
1225
REPORT REQUESTED PER SLOT INTERFERENCE MEASUREMENTS
1220
REPORT OVERALL BEP FOR ONLY ONE (E.G., THE MOST RELEVANT) MODULATION; OVERALL BEP FOR SECOND MODULATION (IF APPLICABLE) IS OMITTED
1230
REPORT OVERALL BEP FOR ONLY ONE (E.G., THE MOST RELEVANT) MODULATION; OVERALL BEP FOR SECOND MODULATION (IF APPLICABLE) IS OMITTED
END TECHNIQUE #2, APPROACH #1

FIG. 12

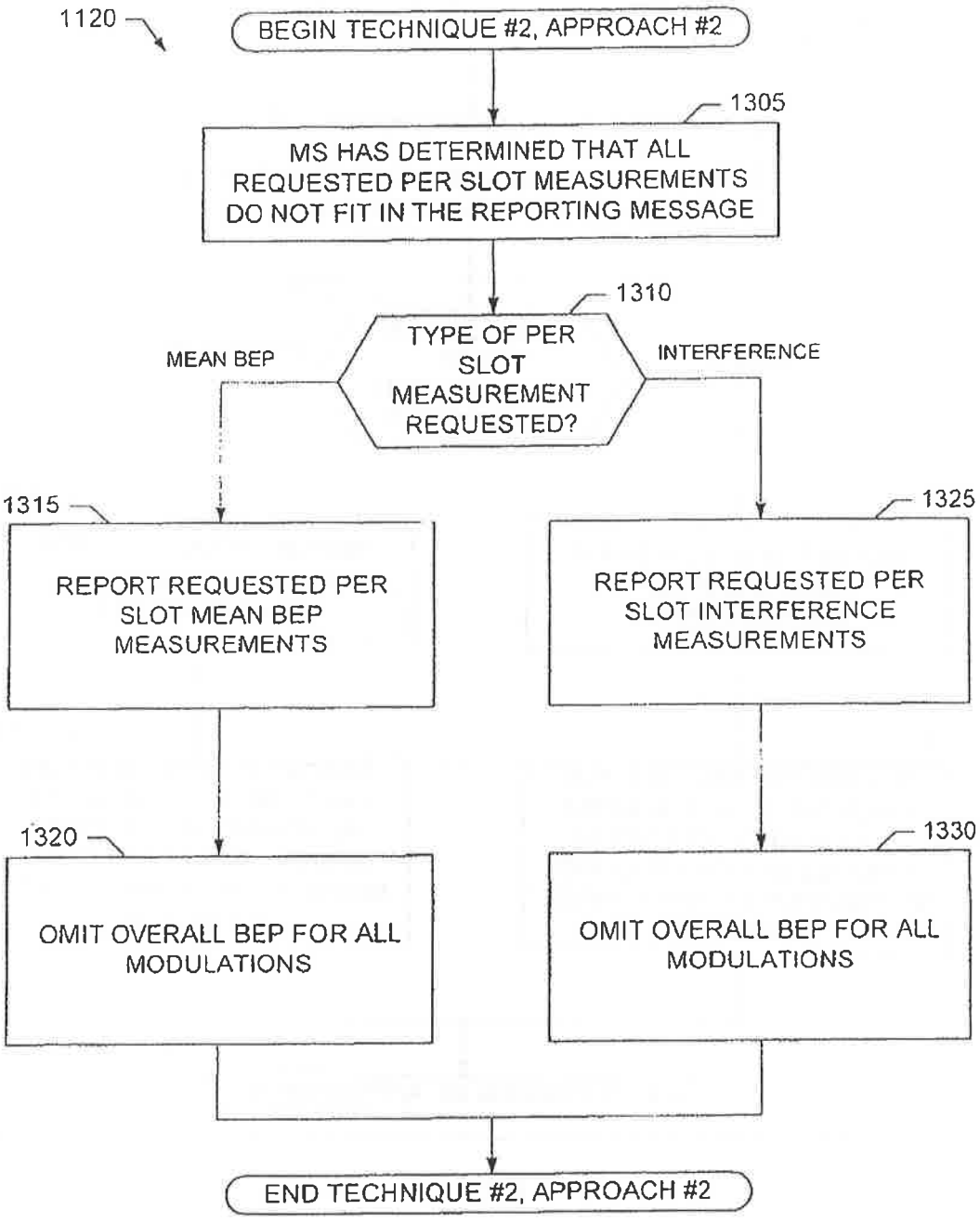
1120
BEGIN TECHNIQUE #2, APPROACH #2
1305
MS HAS DETERMINED THAT ALL REQUESTED PER SLOT MEASUREMENTS DO NOT FIT IN THE REPORTING MESSAGE
1310
TYPE OF PER SLOT MEASUREMENT REQUESTED?
MEAN BEP
INTERFERENCE
1315
REPORT REQUESTED PER SLOT MEAN BEP MEASUREMENTS
1325
REPORT REQUESTED PER SLOT INTERFERENCE MEASUREMENTS
1320
OMIT OVERALL BEP FOR ALL MODULATIONS
1330
OMIT OVERALL BEP FOR ALL MODULATIONS
END TECHNIQUE #2, APPROACH #2

FIG. 13

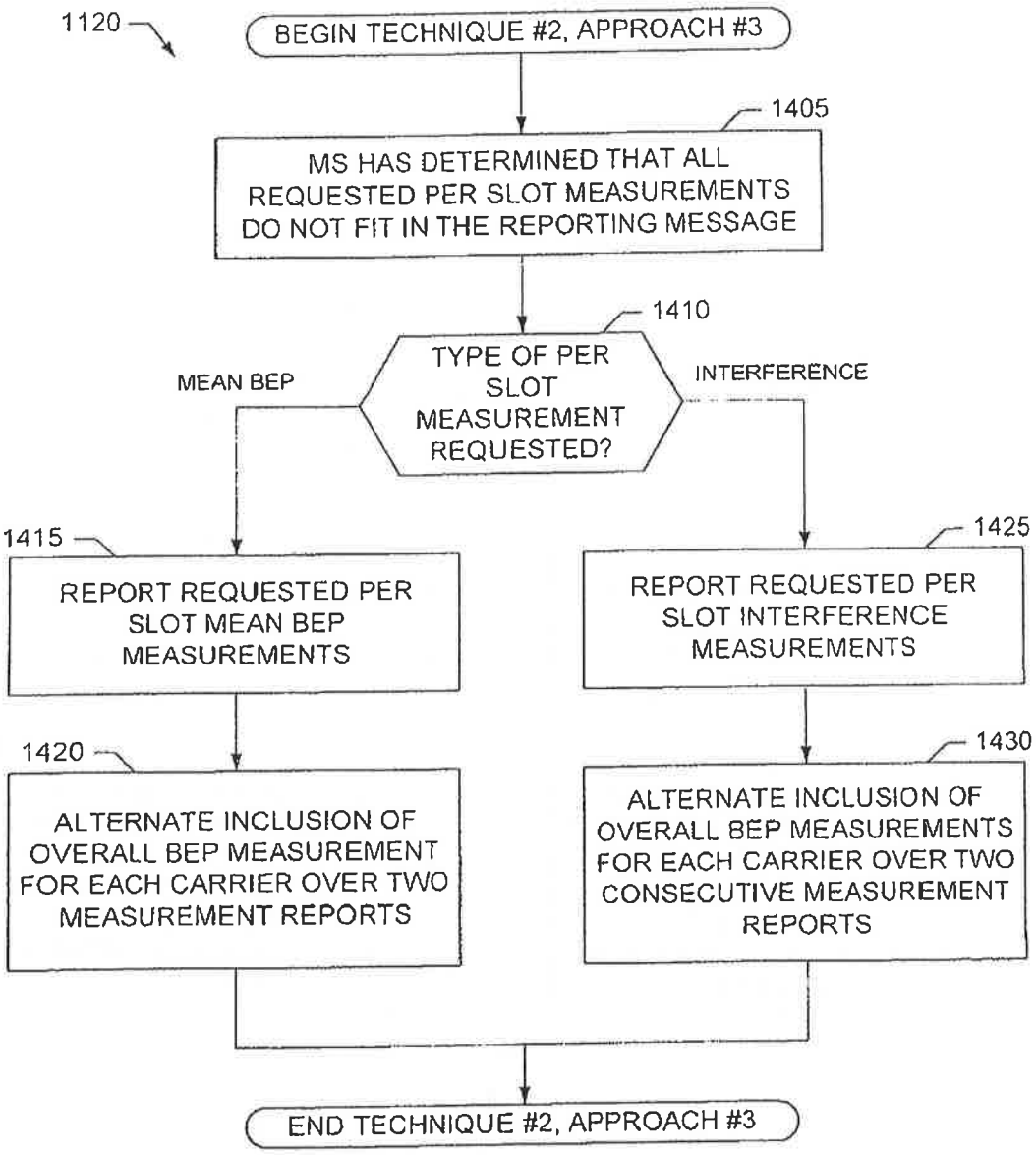
1120
BEGIN TECHNIQUE #2, APPROACH #3
1405
MS HAS DETERMINED THAT ALL REQUESTED PER SLOT MEASUREMENTS DO NOT FIT IN THE REPORTING MESSAGE
1410
TYPE OF PER SLOT MEASUREMENT REQUESTED?
MEAN BEP
INTERFERENCE
1415
REPORT REQUESTED PER SLOT MEAN BEP MEASUREMENTS
1425
REPORT REQUESTED PER SLOT INTERFERENCE MEASUREMENTS
1420
ALTERNATE INCLUSION OF OVERALL BEP MEASUREMENT FOR EACH CARRIER OVER TWO MEASUREMENT REPORTS
1430
ALTERNATE INCLUSION OF OVERALL BEP MEASUREMENTS FOR EACH CARRIER OVER TWO CONSECUTIVE MEASUREMENT REPORTS
END TECHNIQUE #2, APPROACH #3

FIG. 14

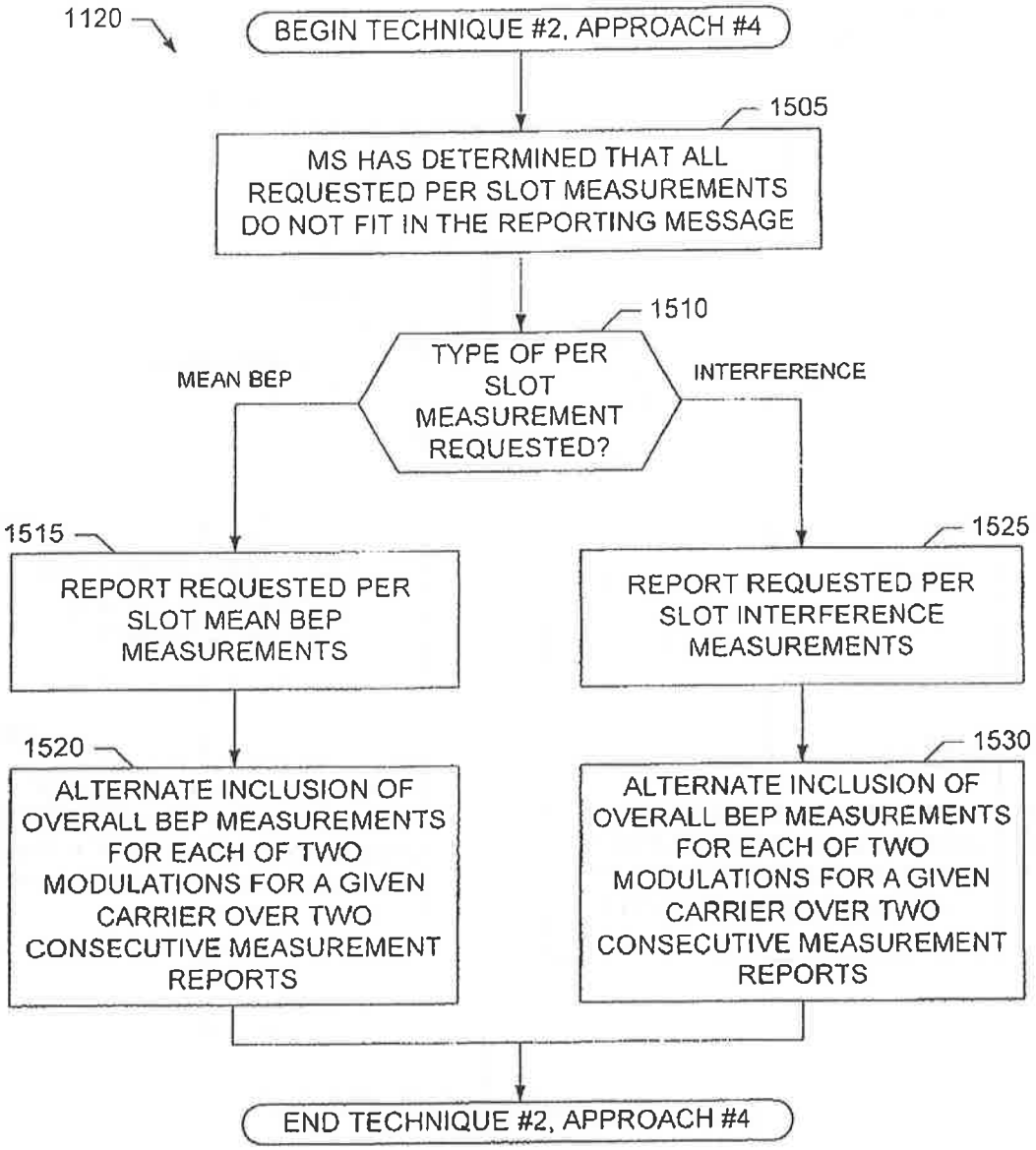
1120
BEGIN TECHNIQUE #2, APPROACH #4
1505
MS HAS DETERMINED THAT ALL REQUESTED PER SLOT MEASUREMENTS DO NOT FIT IN THE REPORTING MESSAGE
1510
TYPE OF PER SLOT MEASUREMENT REQUESTED?
MEAN BEP
INTERFERENCE
1515
REPORT REQUESTED PER SLOT MEAN BEP MEASUREMENTS
1525
REPORT REQUESTED PER SLOT INTERFERENCE MEASUREMENTS
1520
ALTERNATE INCLUSION OF OVERALL BEP MEASUREMENTS FOR EACH OF TWO MODULATIONS FOR A GIVEN CARRIER OVER TWO CONSECUTIVE MEASUREMENT REPORTS
1530
ALTERNATE INCLUSION OF OVERALL BEP MEASUREMENTS FOR EACH OF TWO MODULATIONS FOR A GIVEN CARRIER OVER TWO CONSECUTIVE MEASUREMENT REPORTS
END TECHNIQUE #2, APPROACH #4

FIG. 15

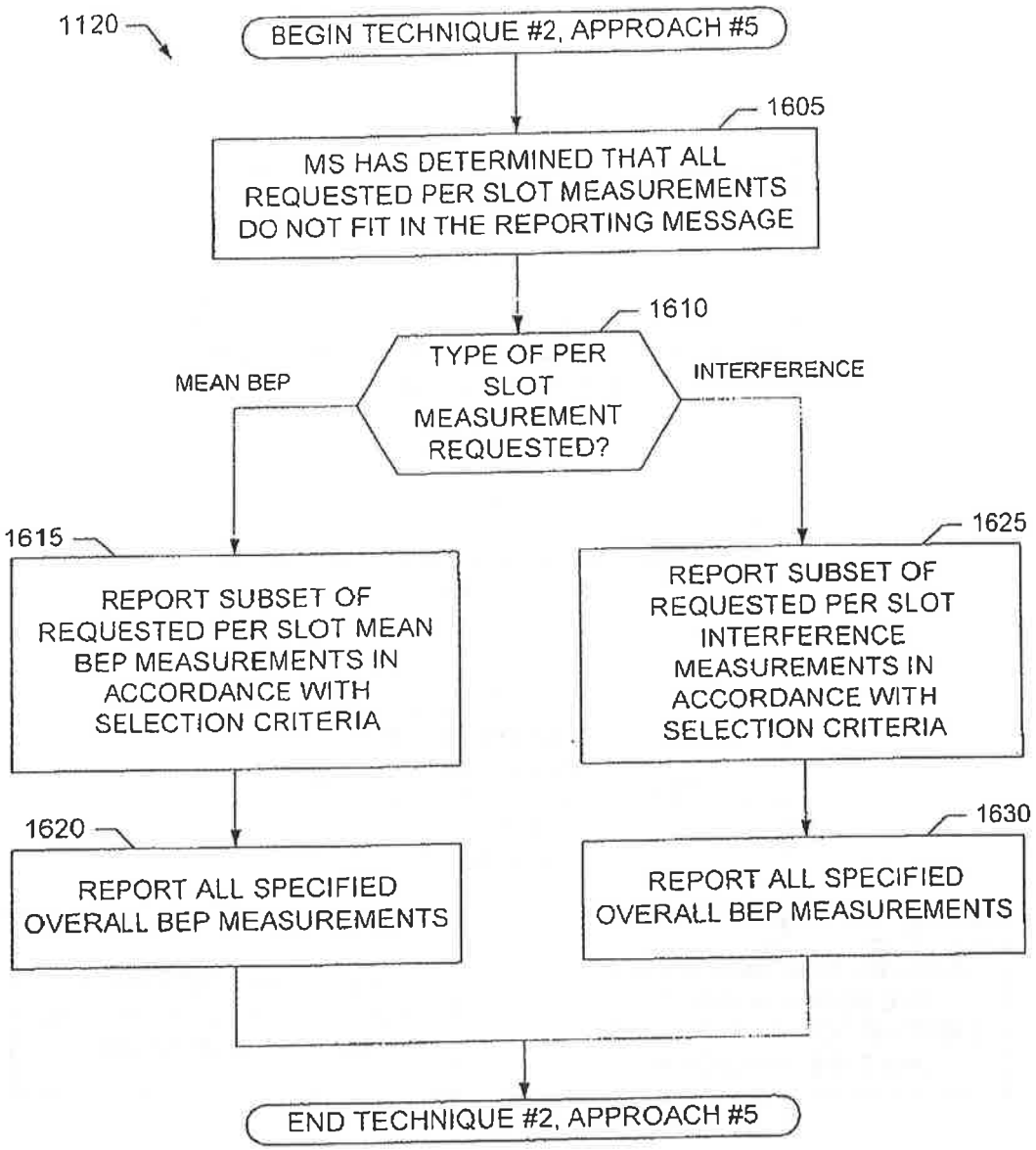
1120
BEGIN TECHNIQUE #2, APPROACH #5
1605
MS HAS DETERMINED THAT ALL REQUESTED PER SLOT MEASUREMENTS DO NOT FIT IN THE REPORTING MESSAGE
1610
TYPE OF PER SLOT MEASUREMENT REQUESTED?
MEAN BEP
INTERFERENCE
1615
REPORT SUBSET OF REQUESTED PER SLOT MEAN BEP MEASUREMENTS IN ACCORDANCE WITH SELECTION CRITERIA
1625
REPORT SUBSET OF REQUESTED PER SLOT INTERFERENCE MEASUREMENTS IN ACCORDANCE WITH SELECTION CRITERIA
1620
REPORT ALL SPECIFIED OVERALL BEP MEASUREMENTS
1630
REPORT ALL SPECIFIED OVERALL BEP MEASUREMENTS
END TECHNIQUE #2, APPROACH #5

FIG. 16

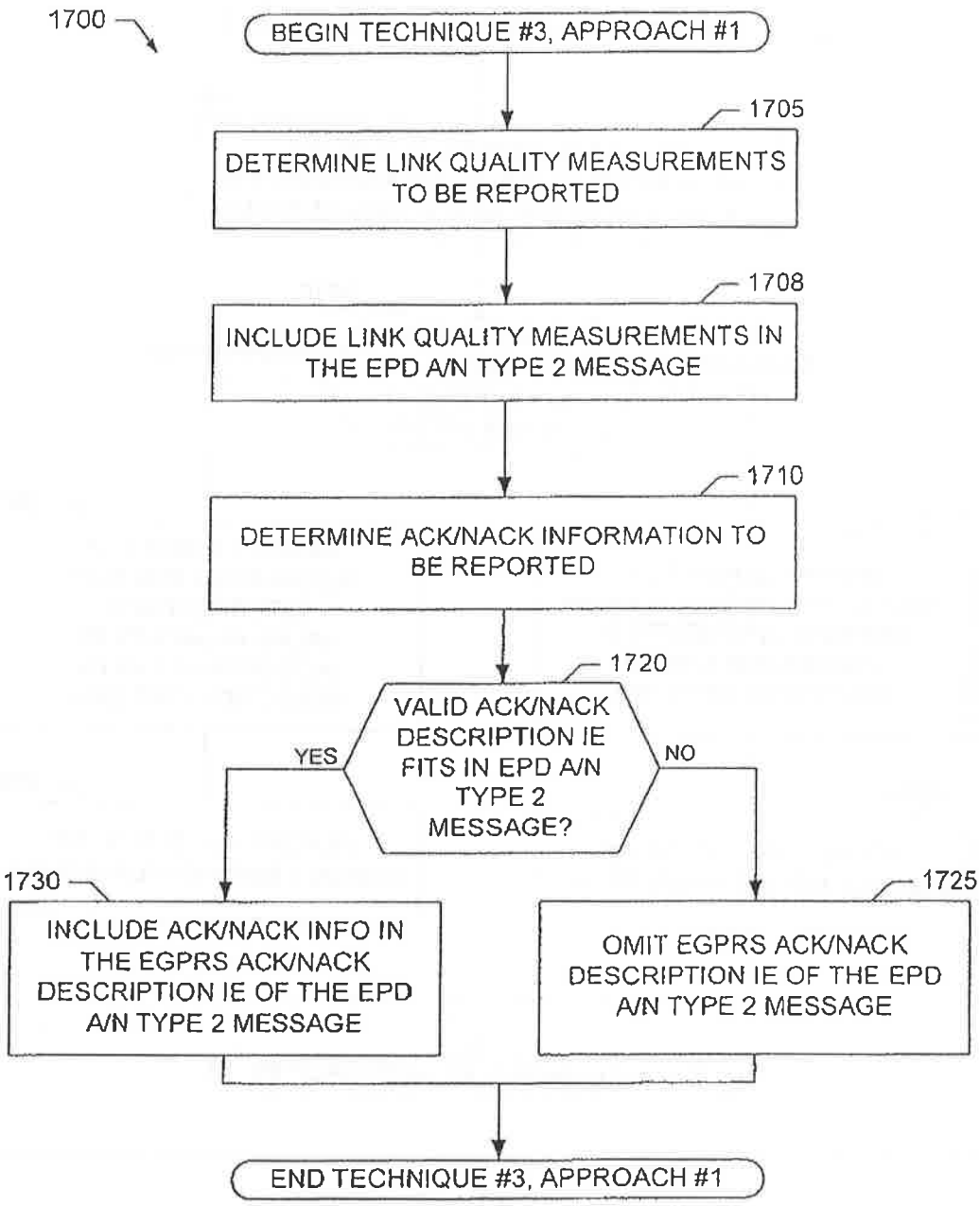
1700
BEGIN TECHNIQUE #3, APPROACH #1
1705
DETERMINE LINK QUALITY MEASUREMENTS TO BE REPORTED
1708
INCLUDE LINK QUALITY MEASUREMENTS IN THE EPD A/N TYPE 2 MESSAGE
1710
DETERMINE ACK/NACK INFORMATION TO BE REPORTED
1720
VALID ACK/NACK DESCRIPTION IE FITS IN EPD A/N TYPE 2 MESSAGE?
YES
NO
1730
INCLUDE ACK/NACK INFO IN THE EGPRS ACK/NACK DESCRIPTION IE OF THE EPD A/N TYPE 2 MESSAGE
1725
OMIT EGPRS ACK/NACK DESCRIPTION IE OF THE EPD A/N TYPE 2 MESSAGE
END TECHNIQUE #3, APPROACH #1

FIG. 17

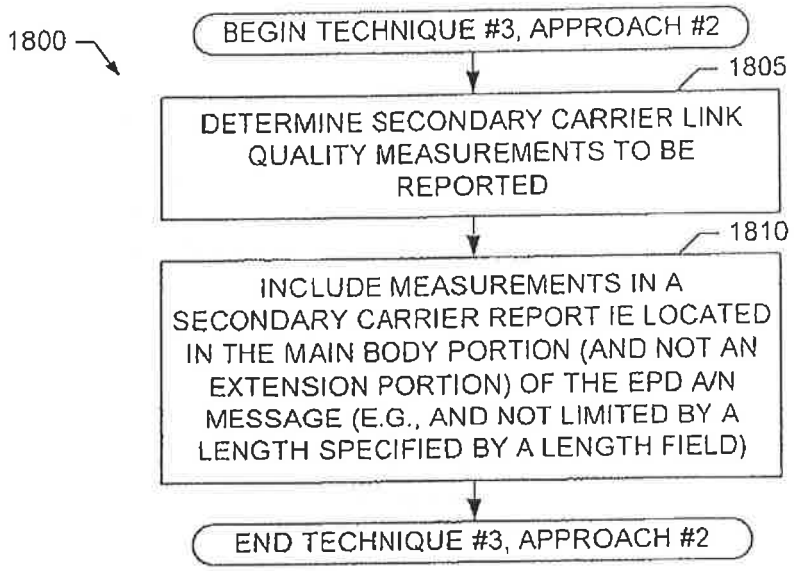
1800
BEGIN TECHNIQUE #3, APPROACH #2
1805
DETERMINE SECONDARY CARRIER LINK QUALITY MEASUREMENTS TO BE REPORTED
1810
INCLUDE MEASUREMENTS IN A SECONDARY CARRIER REPORT IE LOCATED IN THE MAIN BODY PORTION (AND NOT AN EXTENSION PORTION) OF THE EPD A/N MESSAGE (E.G., AND NOT LIMITED BY A LENGTH SPECIFIED BY A LENGTH FIELD)
END TECHNIQUE #3, APPROACH #2

FIG. 18

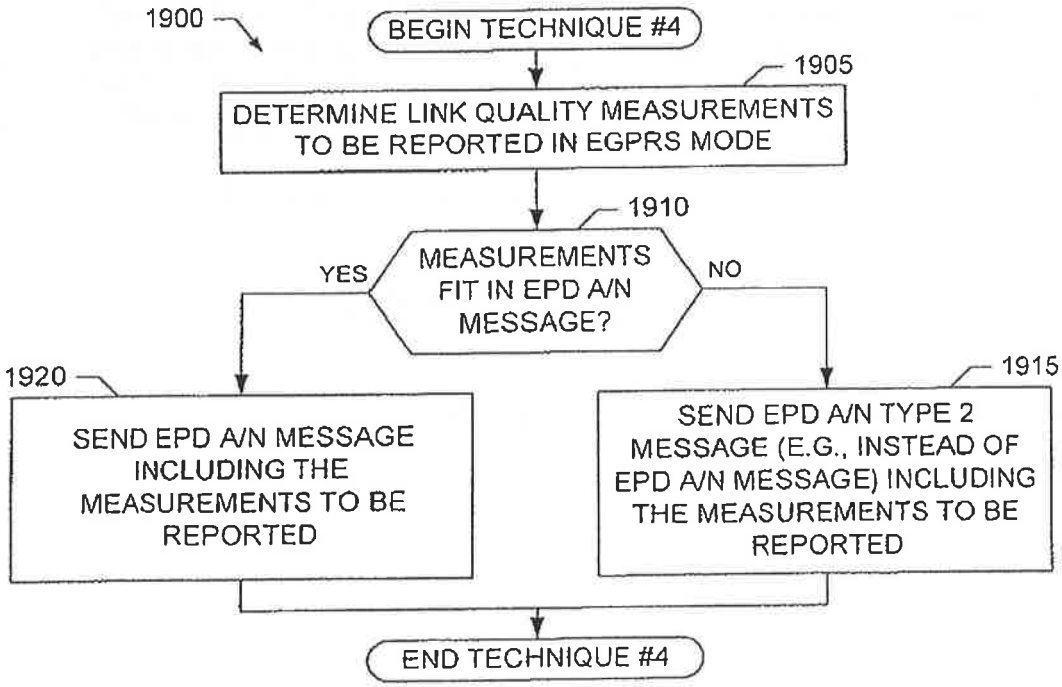
1900
BEGIN TECHNIQUE #4
1905
DETERMINE LINK QUALITY MEASUREMENTS TO BE REPORTED IN EGPRS MODE
1910
MEASUREMENTS FIT IN EPD A/N MESSAGE?
YES
NO
1920
SEND EPD A/N MESSAGE INCLUDING THE MEASUREMENTS TO BE REPORTED
1915
SEND EPD A/N TYPE 2 MESSAGE (E.G., INSTEAD OF EPD A/N MESSAGE) INCLUDING THE MEASUREMENTS TO BE REPORTED
END TECHNIQUE #4

FIG. 19

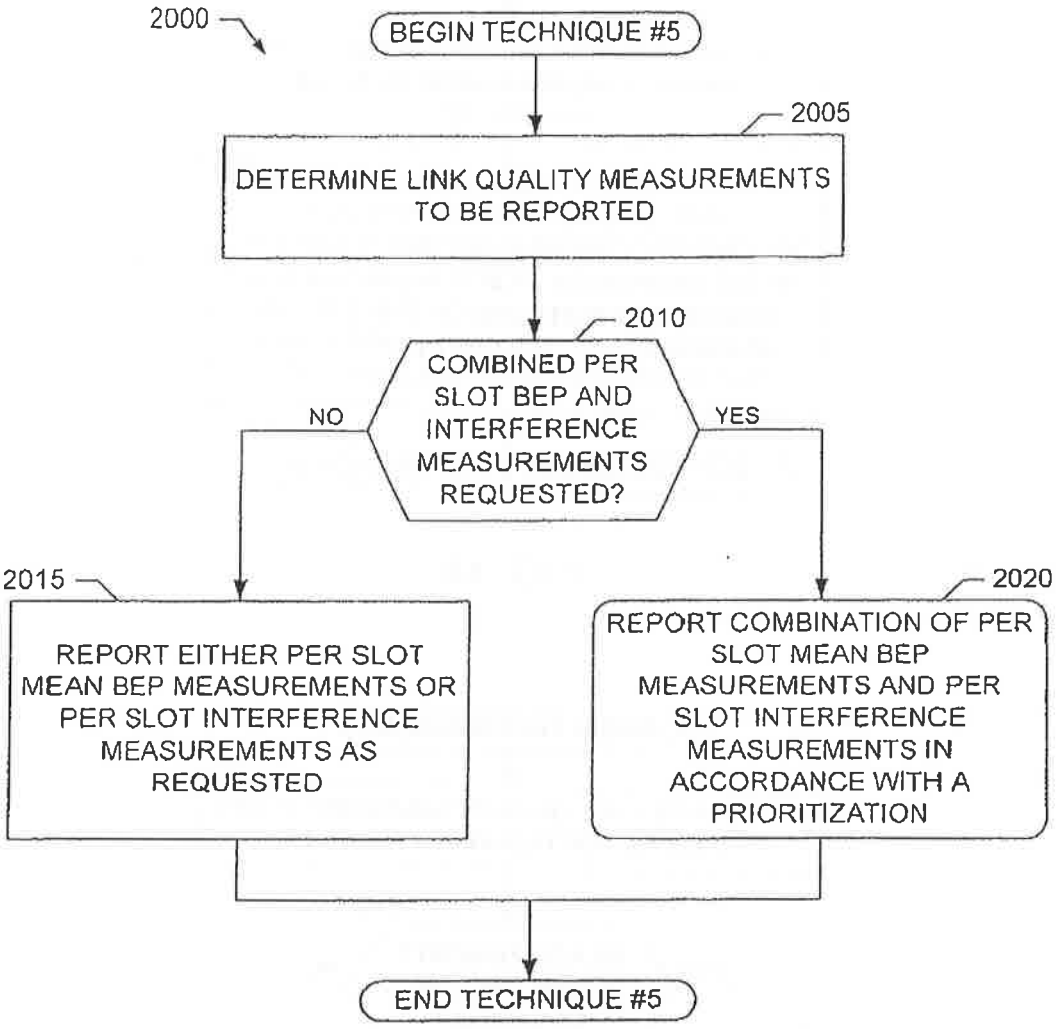
2000
BEGIN TECHNIQUE #5
2005
DETERMINE LINK QUALITY MEASUREMENTS TO BE REPORTED
2010
COMBINED PER SLOT BEP AND INTERFERENCE MEASUREMENTS REQUESTED?
NO
YES
2015
REPORT EITHER PER SLOT MEAN BEP MEASUREMENTS OR PER SLOT INTERFERENCE MEASUREMENTS AS REQUESTED
2020
REPORT COMBINATION OF PER SLOT MEAN BEP MEASUREMENTS AND PER SLOT INTERFERENCE MEASUREMENTS IN ACCORDANCE WITH A PRIORITIZATION
END TECHNIQUE #5

FIG. 20

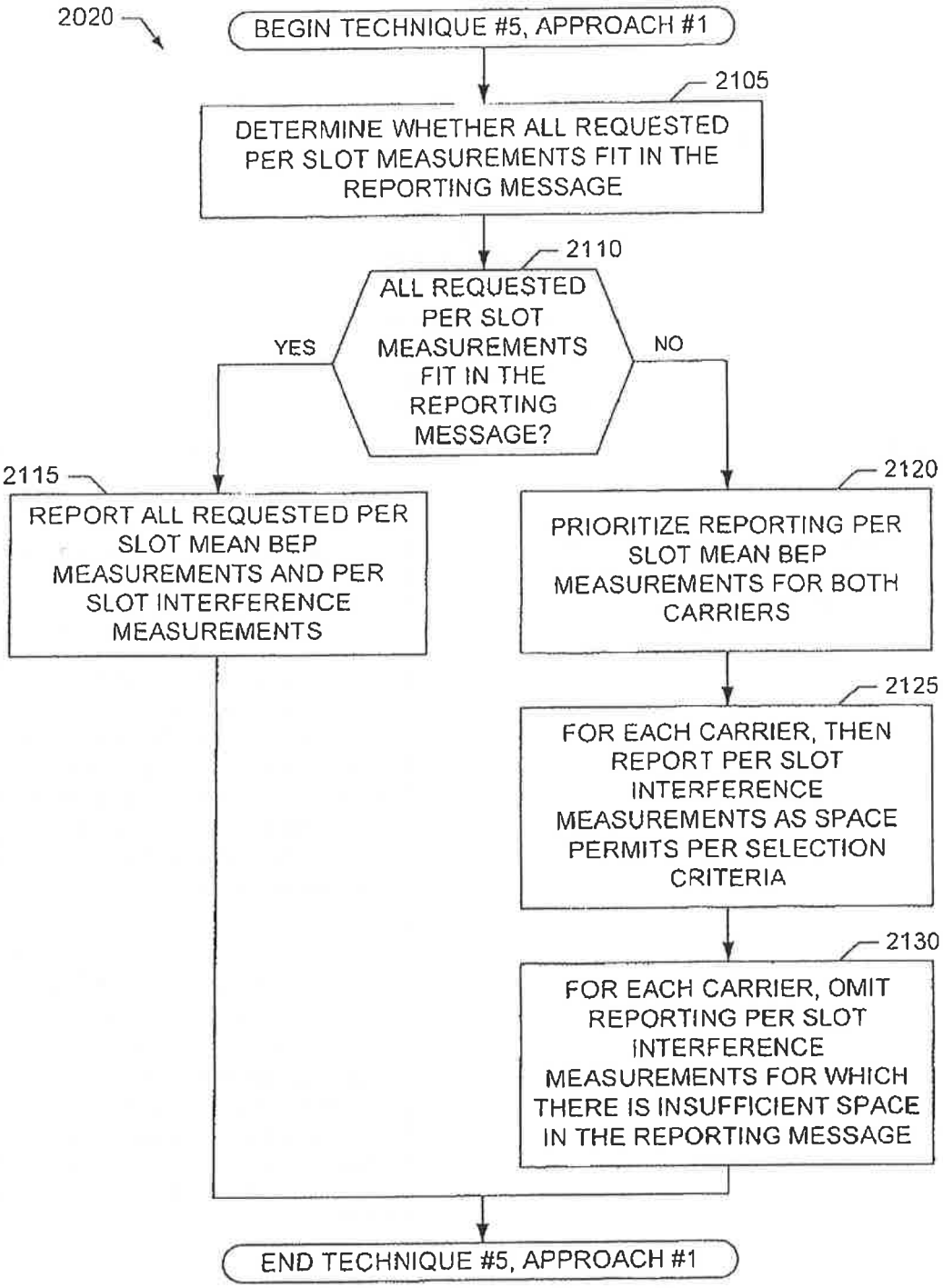
2020
BEGIN TECHNIQUE #5, APPROACH #1
2105
DETERMINE WHETHER ALL REQUESTED PER SLOT MEASUREMENTS FIT IN THE REPORTING MESSAGE
2110
ALL REQUESTED PER SLOT MEASUREMENTS FIT IN THE REPORTING MESSAGE?
YES
NO
2115
REPORT ALL REQUESTED PER SLOT MEAN BEP MEASUREMENTS AND PER SLOT INTERFERENCE MEASUREMENTS
2120
PRIORITIZE REPORTING PER SLOT MEAN BEP MEASUREMENTS FOR BOTH CARRIERS
2125
FOR EACH CARRIER, THEN REPORT PER SLOT INTERFERENCE MEASUREMENTS AS SPACE PERMITS PER SELECTION CRITERIA
2130
FOR EACH CARRIER, OMIT REPORTING PER SLOT INTERFERENCE MEASUREMENTS FOR WHICH THERE IS INSUFFICIENT SPACE IN THE REPORTING MESSAGE
END TECHNIQUE #5, APPROACH #1

FIG. 21

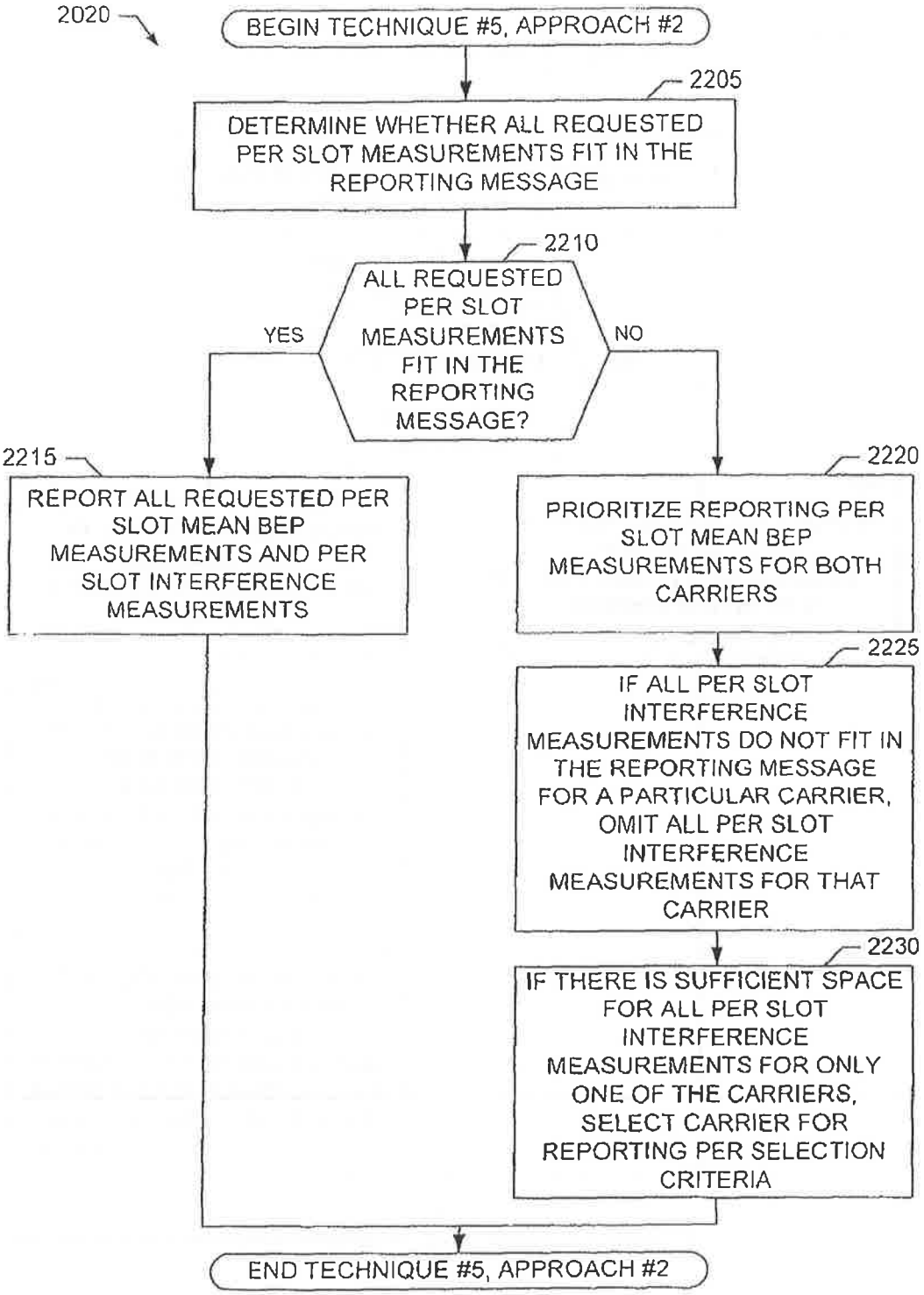
2020
BEGIN TECHNIQUE #5, APPROACH #2
2205
DETERMINE WHETHER ALL REQUESTED PER SLOT MEASUREMENTS FIT IN THE REPORTING MESSAGE
2210
ALL REQUESTED PER SLOT MEASUREMENTS FIT IN THE REPORTING MESSAGE?
YES
NO
2215
REPORT ALL REQUESTED PER SLOT MEAN BEP MEASUREMENTS AND PER SLOT INTERFERENCE MEASUREMENTS
2220
PRIORITIZE REPORTING PER SLOT MEAN BEP MEASUREMENTS FOR BOTH CARRIERS
2225
IF ALL PER SLOT INTERFERENCE MEASUREMENTS DO NOT FIT IN THE REPORTING MESSAGE FOR A PARTICULAR CARRIER, OMIT ALL PER SLOT INTERFERENCE MEASUREMENTS FOR THAT CARRIER
2230
IF THERE IS SUFFICIENT SPACE FOR ALL PER SLOT INTERFERENCE MEASUREMENTS FOR ONLY ONE OF THE CARRIERS, SELECT CARRIER FOR REPORTING PER SELECTION CRITERIA
END TECHNIQUE #5, APPROACH #2

FIG. 22

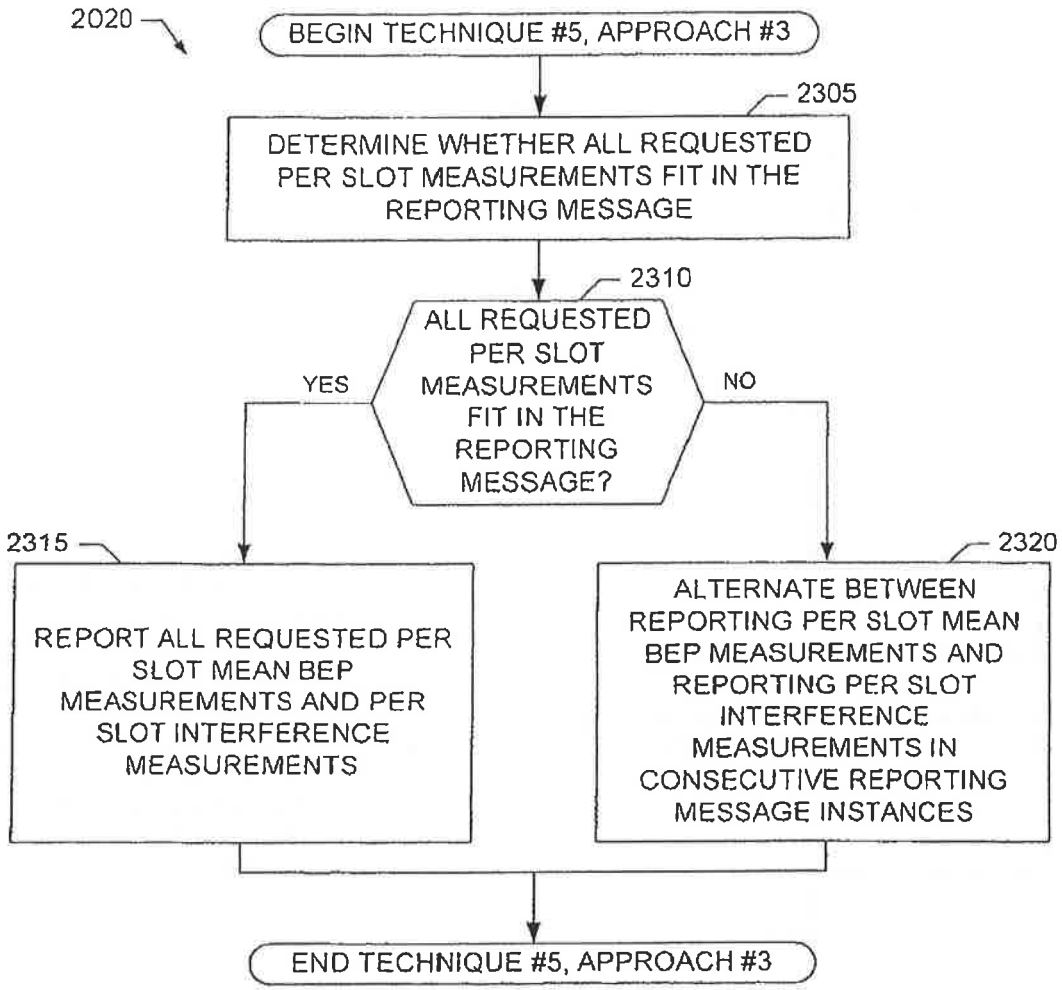
2020
BEGIN TECHNIQUE #5, APPROACH #3
2305
DETERMINE WHETHER ALL REQUESTED PER SLOT MEASUREMENTS FIT IN THE REPORTING MESSAGE
2310
ALL REQUESTED PER SLOT MEASUREMENTS FIT IN THE REPORTING MESSAGE?
YES
NO
2315
REPORT ALL REQUESTED PER SLOT MEAN BEP MEASUREMENTS AND PER SLOT INTERFERENCE MEASUREMENTS
2320
ALTERNATE BETWEEN REPORTING PER SLOT MEAN BEP MEASUREMENTS AND REPORTING PER SLOT INTERFERENCE MEASUREMENTS IN CONSECUTIVE REPORTING MESSAGE INSTANCES
END TECHNIQUE #5, APPROACH #3

FIG. 23

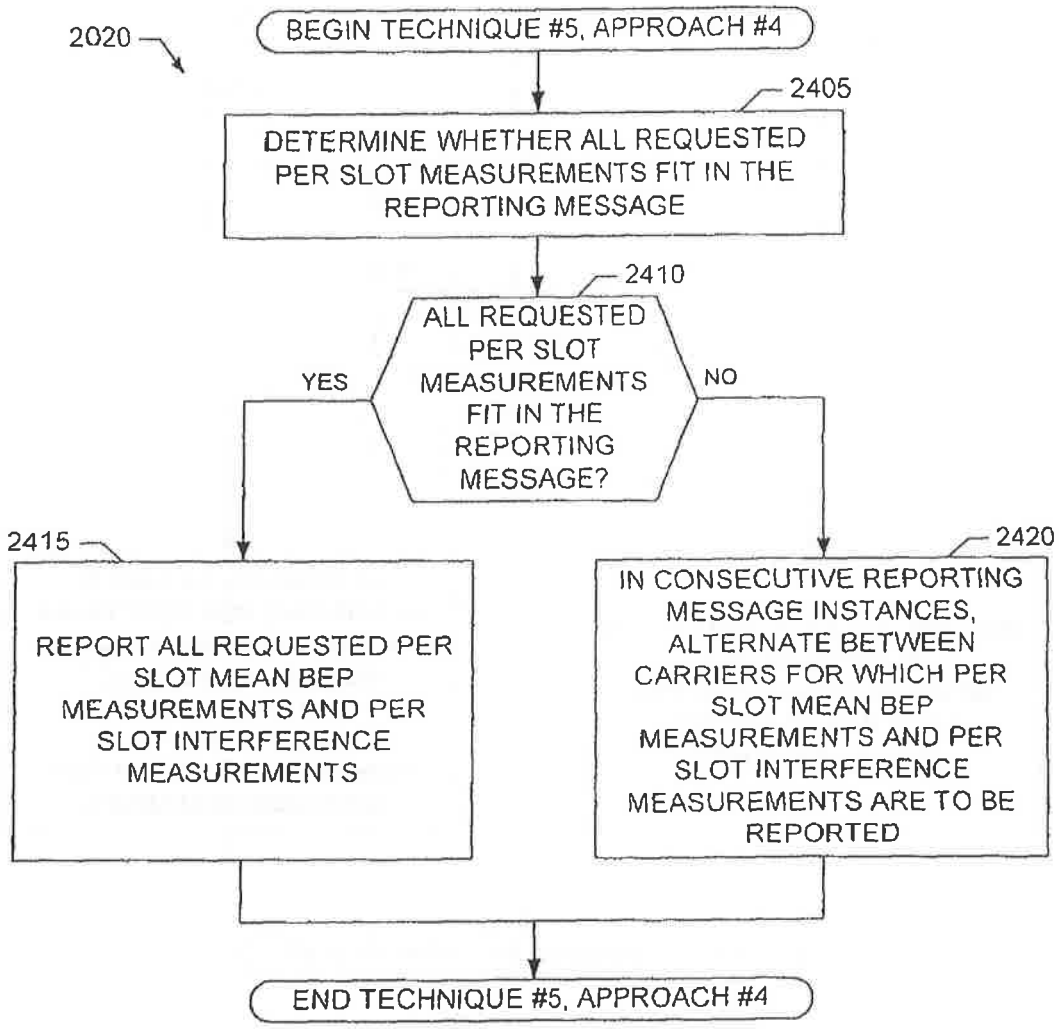
2020
BEGIN TECHNIQUE #5, APPROACH #4
2405
DETERMINE WHETHER ALL REQUESTED PER SLOT MEASUREMENTS FIT IN THE REPORTING MESSAGE
2410
ALL REQUESTED PER SLOT MEASUREMENTS FIT IN THE REPORTING MESSAGE?
YES
NO
2415
REPORT ALL REQUESTED PER SLOT MEAN BEP MEASUREMENTS AND PER SLOT INTERFERENCE MEASUREMENTS
2420
IN CONSECUTIVE REPORTING MESSAGE INSTANCES, ALTERNATE BETWEEN CARRIERS FOR WHICH PER SLOT MEAN BEP MEASUREMENTS AND PER SLOT INTERFERENCE MEASUREMENTS ARE TO BE REPORTED
END TECHNIQUE #5, APPROACH #4

FIG. 24

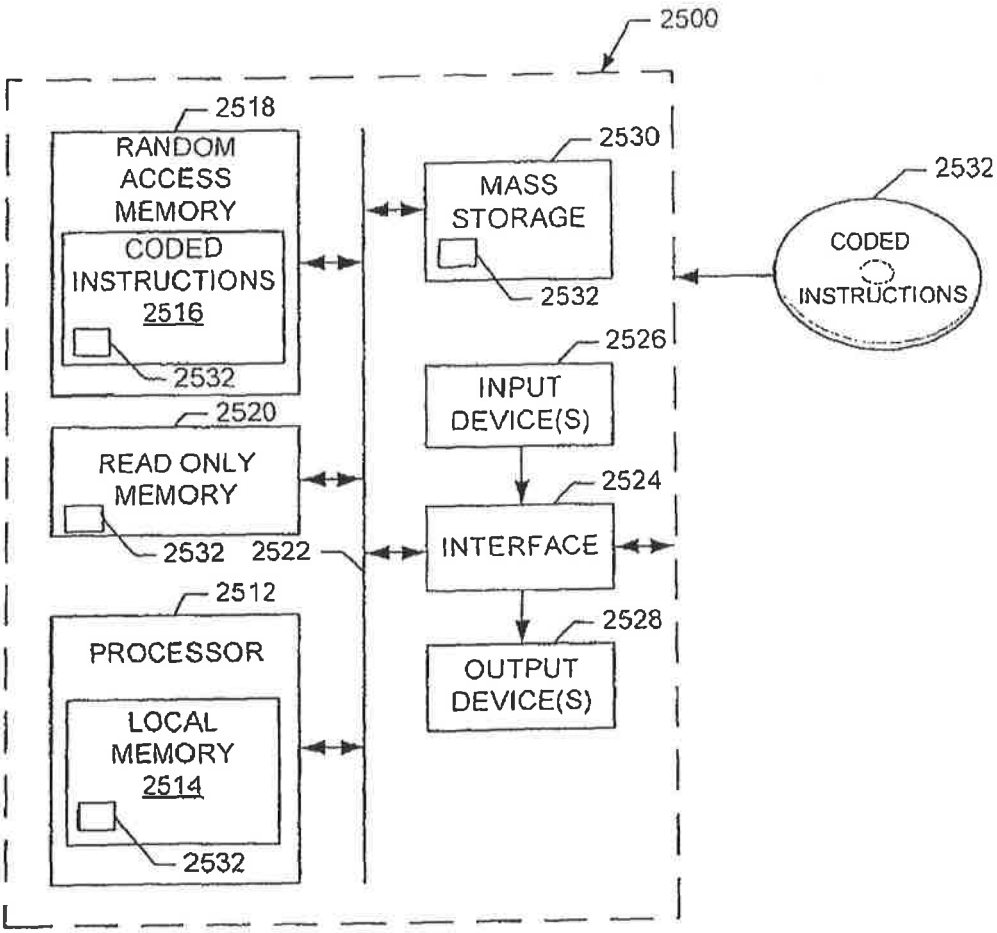
2500
2518
RANDOM ACCESS MEMORY
CODED INSTRUCTIONS 2516
2532
2520
READ ONLY MEMORY
2532
2522
2512
PROCESSOR
LOCAL MEMORY 2514
2532
2530
MASS STORAGE
2532
2532
CODED INSTRUCTIONS
2526
INPUT DEVICE(S)
2524
INTERFACE
2528
OUTPUT DEVICE(S)

FIG. 25