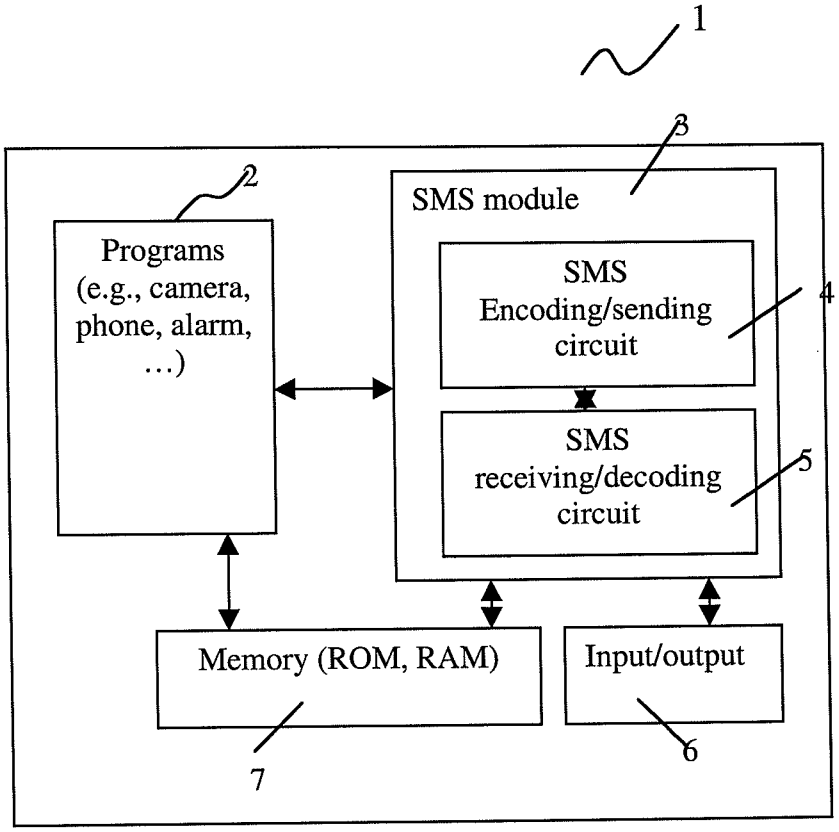

1
2
3
SMS module
Programs
(e.g., camera,
phone, alarm,
…)
SMS
Encoding/sending
circuit
4
SMS
receiving/decoding
circuit
5
Memory (ROM, RAM)
Input/output
6
7

FIG 1

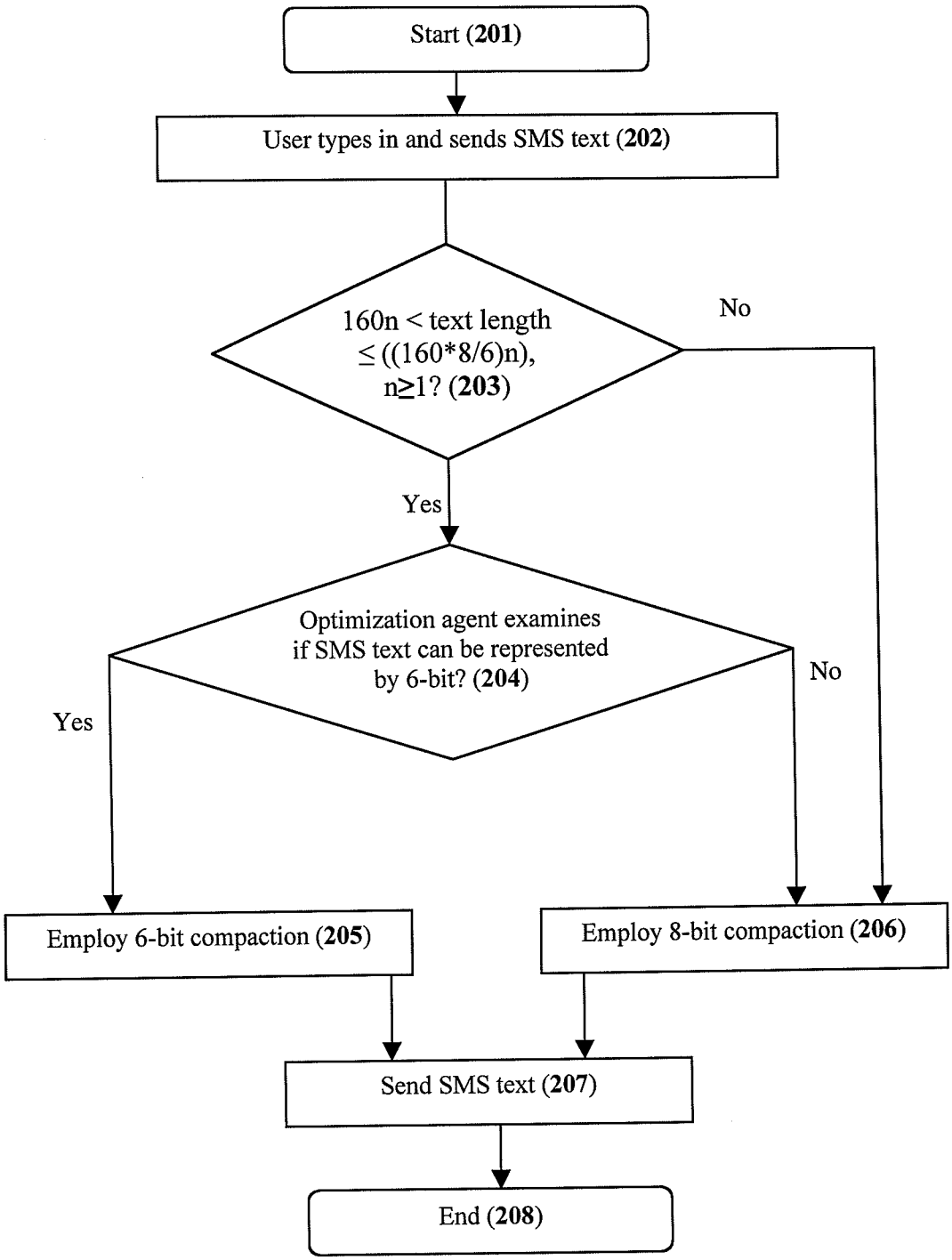

Start (201)
User types in and sends SMS text (202)
160n < text length ≤ ((160*8/6)n), n≥1? (203)
No
Yes
Optimization agent examines if SMS text can be represented by 6-bit? (204)
No
Yes
Employ 6-bit compaction (205)
Employ 8-bit compaction (206)
Send SMS text (207)
End (208)

FIG 2

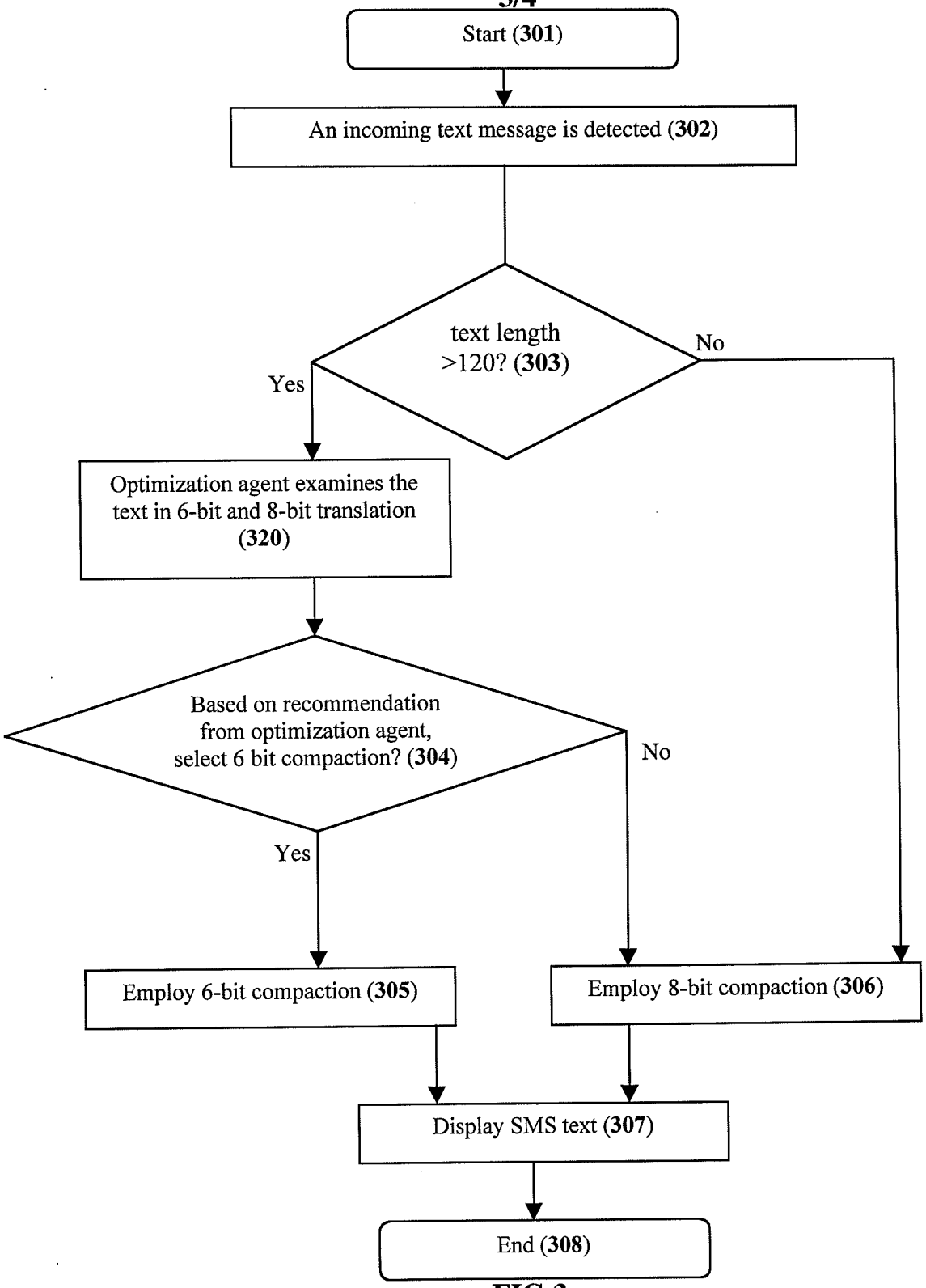

Start (301)
An incoming text message is detected (302)
text length >120? (303)
No
Yes
Optimization agent examines the text in 6-bit and 8-bit translation (320)
Based on recommendation from optimization agent, select 6 bit compaction? (304)
No
Yes
Employ 6-bit compaction (305)
Employ 8-bit compaction (306)
Display SMS text (307)
End (308)

FIG 3

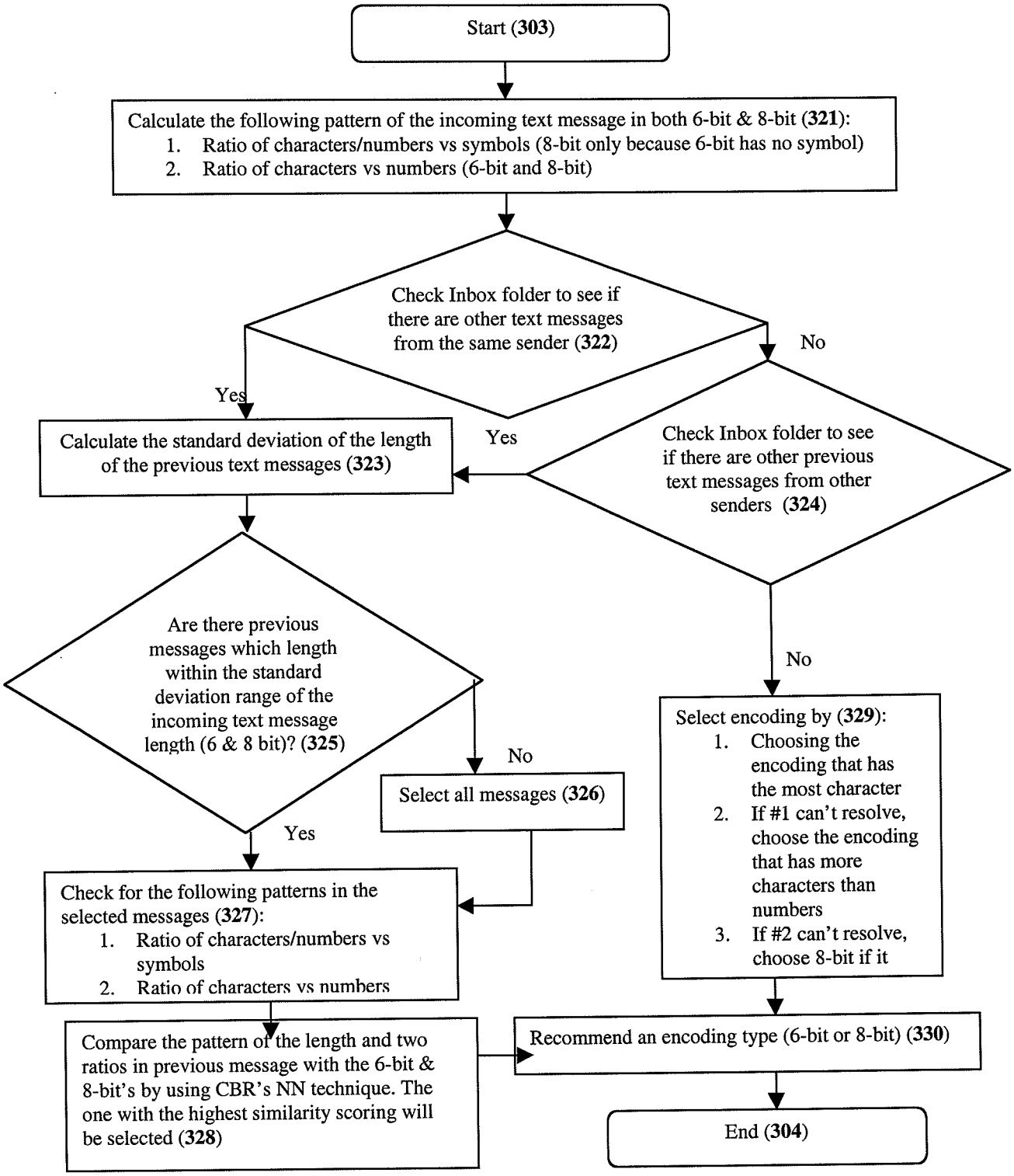

Start (303)
Calculate the following pattern of the incoming text message in both 6-bit & 8-bit (321):
1. Ratio of characters/numbers vs symbols (8-bit only because 6-bit has no symbol)
2. Ratio of characters vs numbers (6-bit and 8-bit)
Check Inbox folder to see if there are other text messages from the same sender (322)
Yes
No
Calculate the standard deviation of the length of the previous text messages (323)
Yes
Check Inbox folder to see if there are other previous text messages from other senders (324)
Are there previous messages which length within the standard deviation range of the incoming text message length (6 & 8 bit)? (325)
No
Select all messages (326)
Yes
No
Select encoding by (329):
1. Choosing the encoding that has the most character
2. If #1 can't resolve, choose the encoding that has more characters than numbers
3. If #2 can't resolve, choose 8-bit if it
Check for the following patterns in the selected messages (327):
1. Ratio of characters/numbers vs symbols
2. Ratio of characters vs numbers
Compare the pattern of the length and two ratios in previous message with the 6-bit & 8-bit's by using CBR's NN technique. The one with the highest similarity scoring will be selected (328)
Recommend an encoding type (6-bit or 8-bit) (330)
End (304)

FIG 4