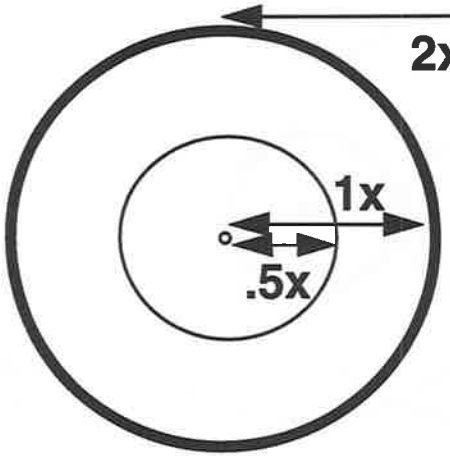
FIG 1 - CCA IN IDEAL SINGLE NETWORK SCENARIOS

A.



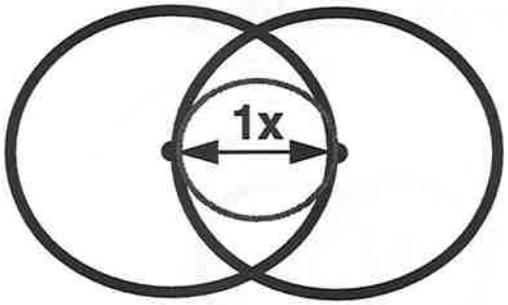
230m @ 10E-1

115m @ 100mw

60m @ 10mw

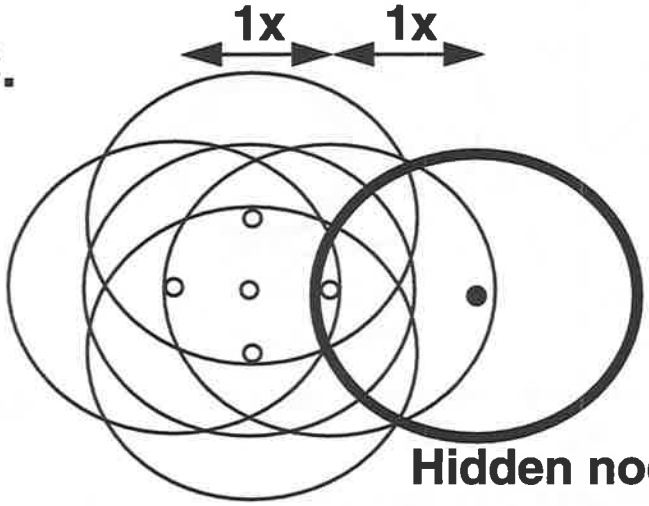
Range (radius) of Rx node [1]
(-80dBm Sens @10E-5, no fade)

B.



Range (diameter) of network =
range (radius) of Rx node

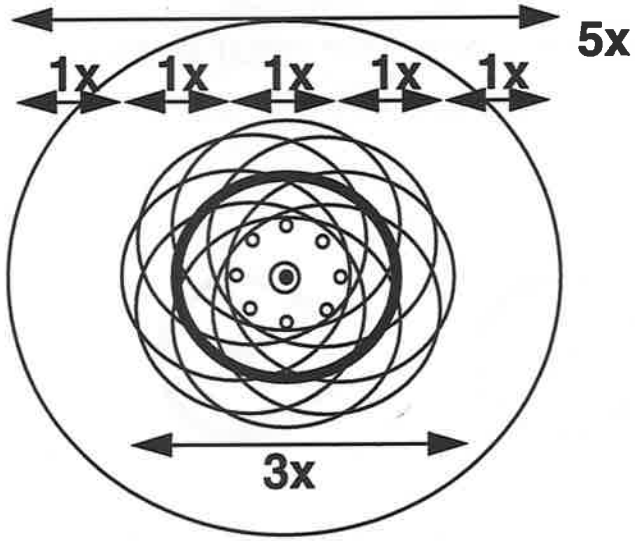
C.



Hidden node @ 10E-5

Any node to node separation > 1x

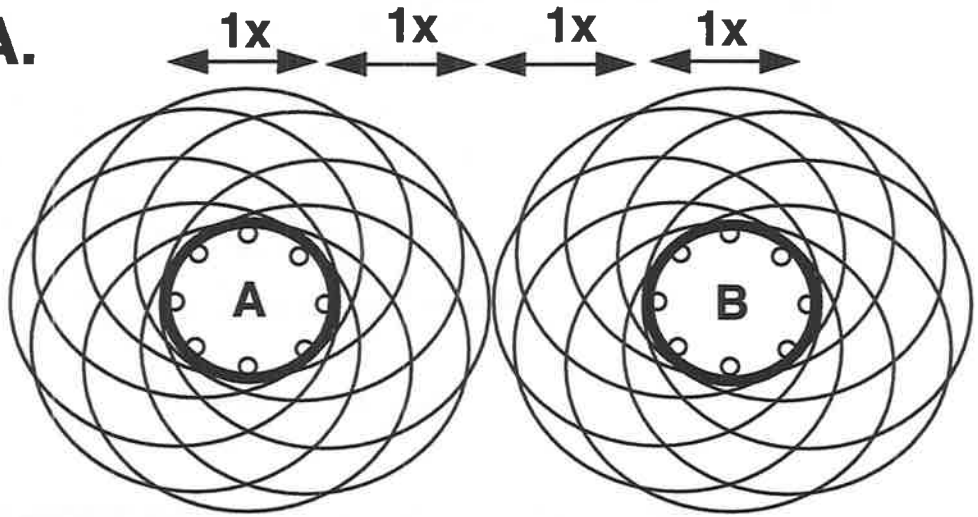
D.



Network's RF Shadow -
10E-5: 3 x range, 9 x area
10E-1: 5 x range, 25 x area

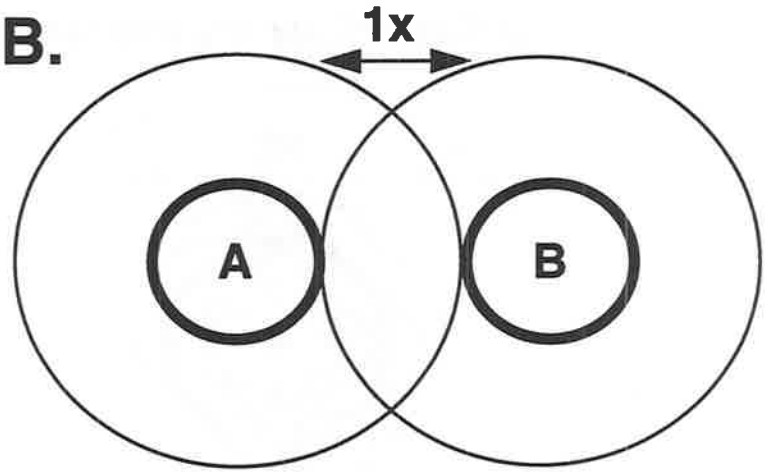
FIG 2 - CCA IN IDEAL MULTIPLE NETWORK SCENARIOS

A.



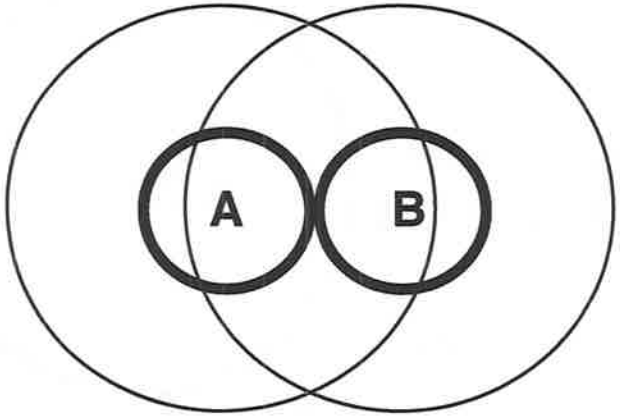
If Separation of all A nodes to all B nodes > 2x
No Interference

B.



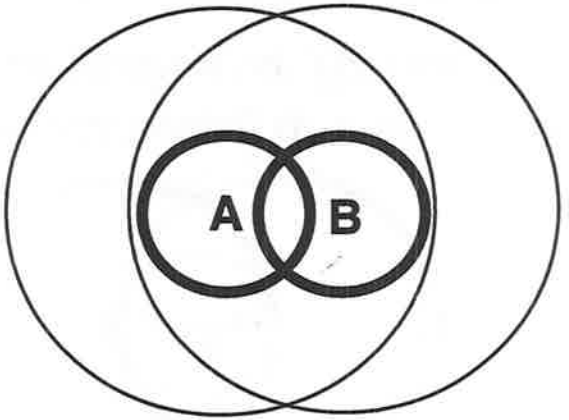
1x < Separation < 2x
Some Interference on Channel

C.



0 < Separation < 1x
Significant Interference on & adj channels

D.



Overlapping Networks
Destructive Intrfr. on & adj channels

Note: shadows based on 10E-5, no fading

FIG 3 - CCA METHODS VS RF POWER & BER [2]

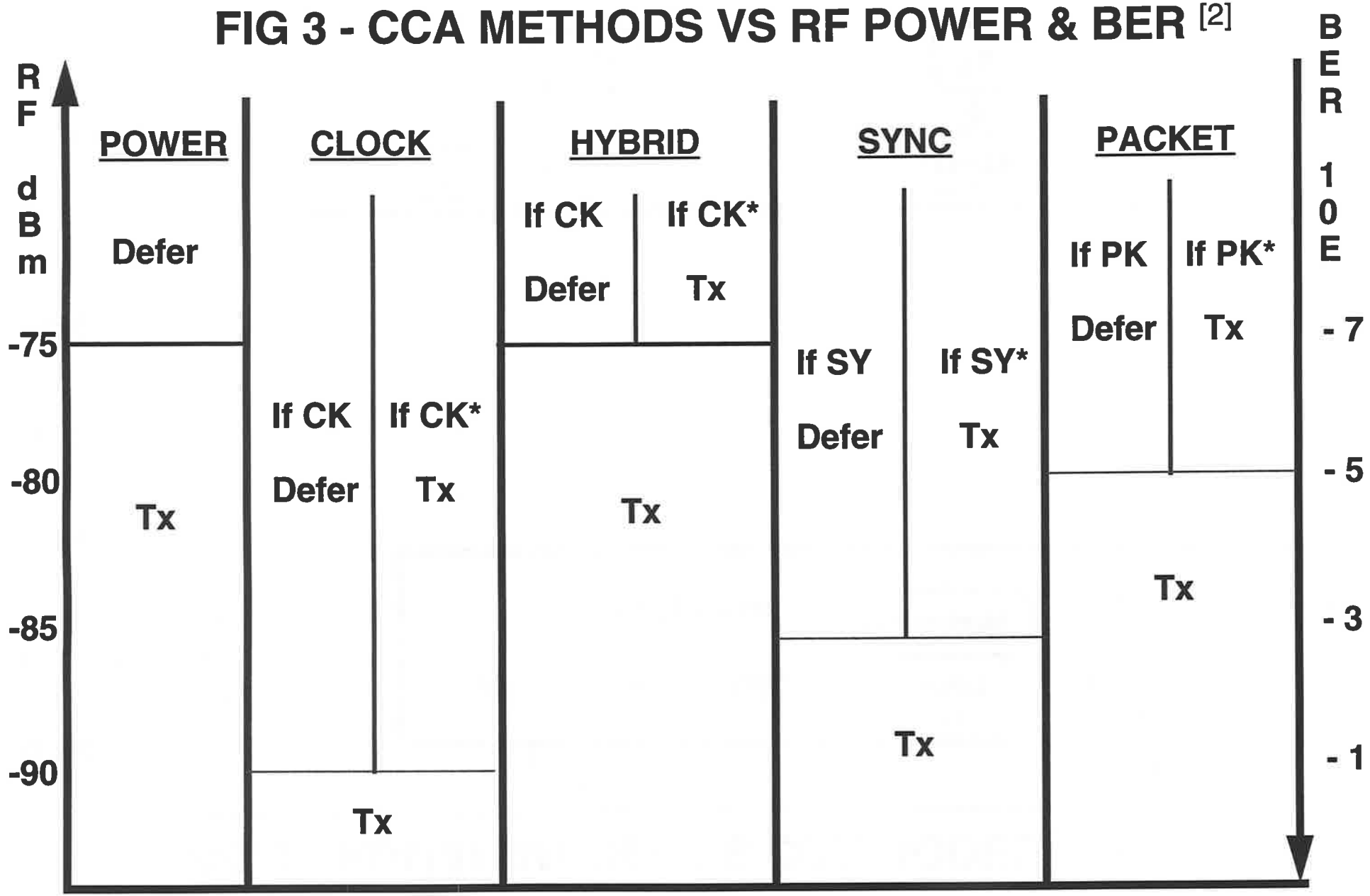


FIG 4 - HUMAN MODEL VS CCA MODEL: CASE #1

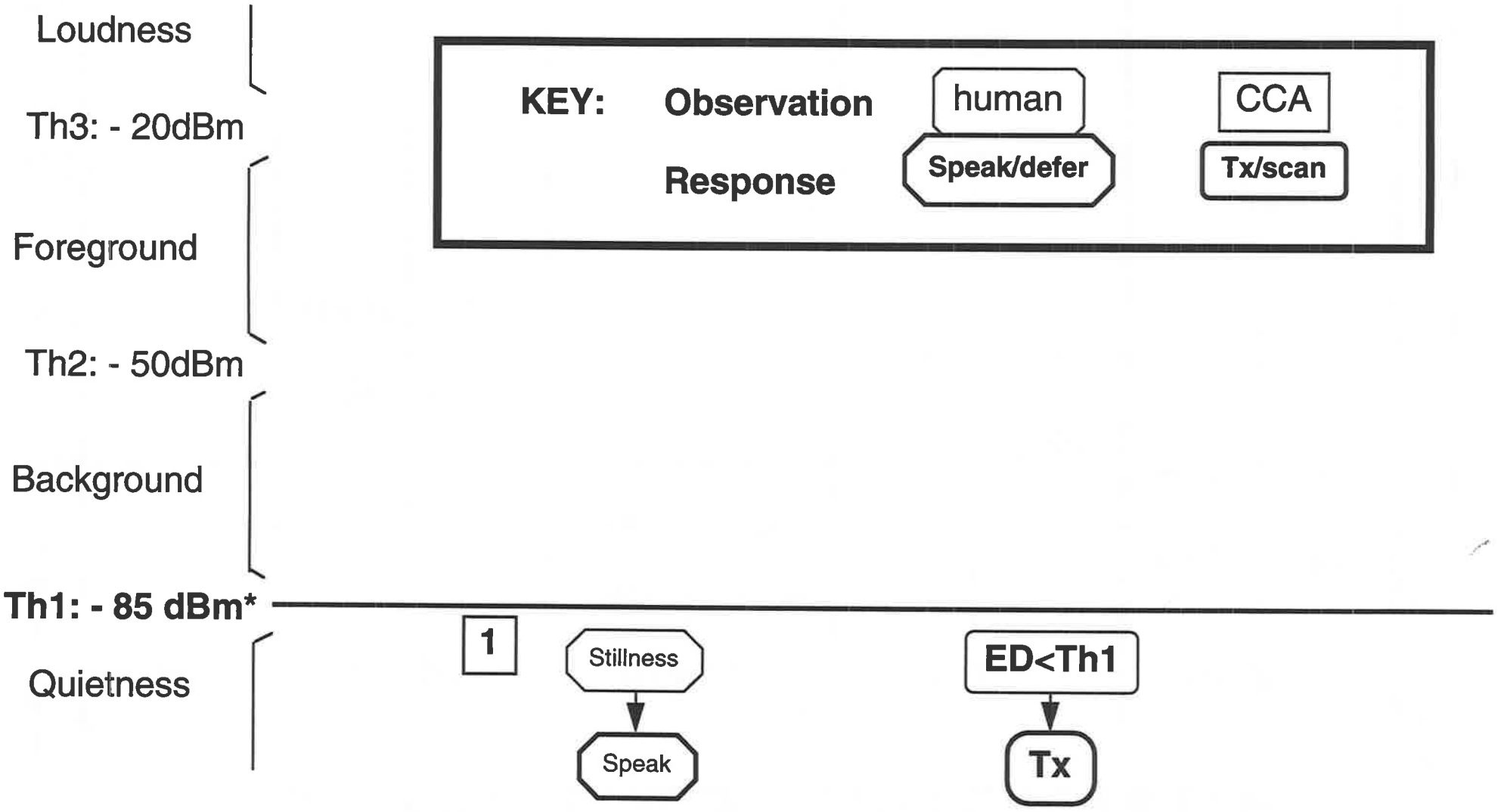


FIG 5 - HUMAN MODEL VS CCA MODEL: CASE #2

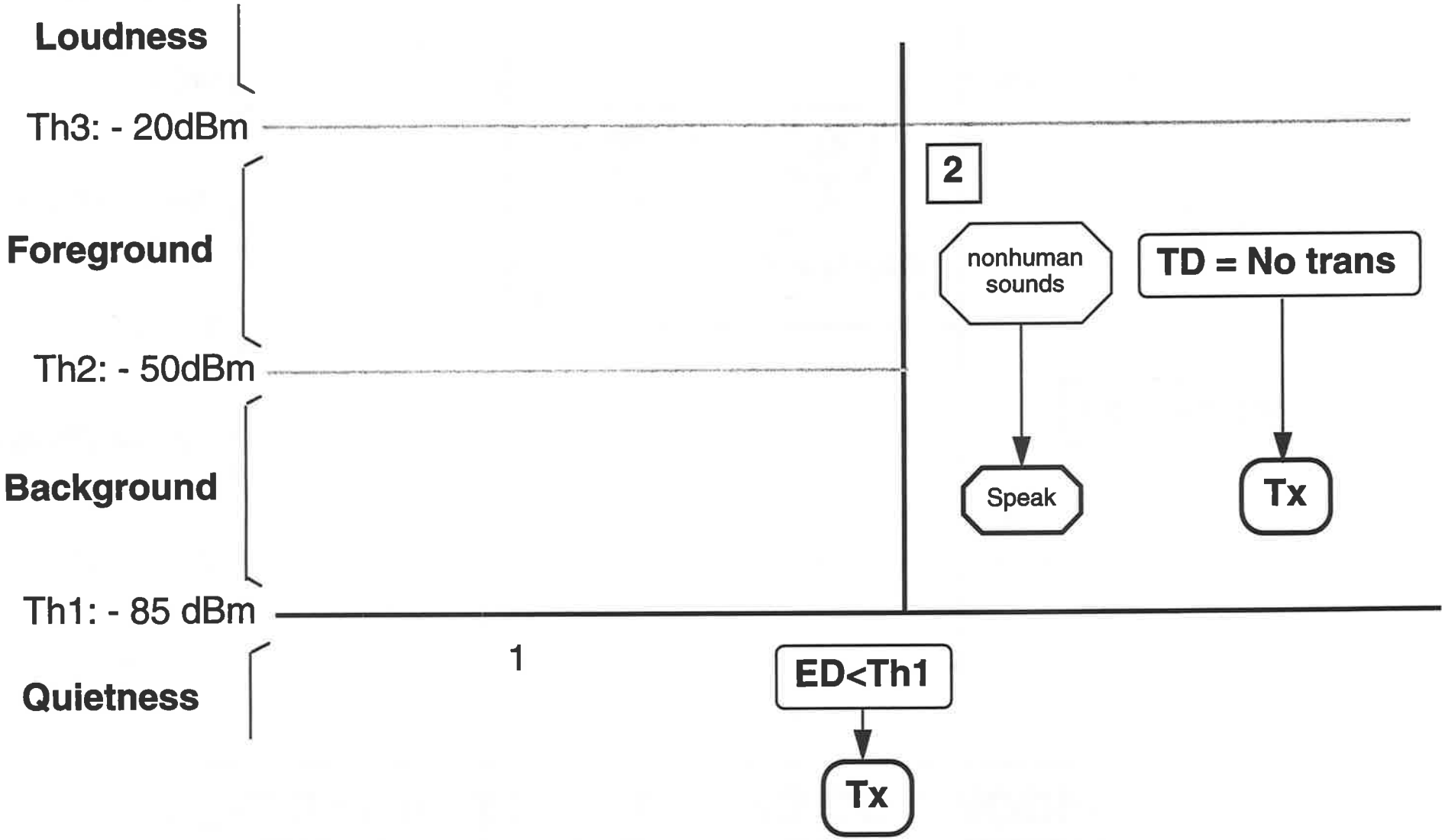


FIG 6 - HUMAN MODEL VS CCA MODEL: CASE #3

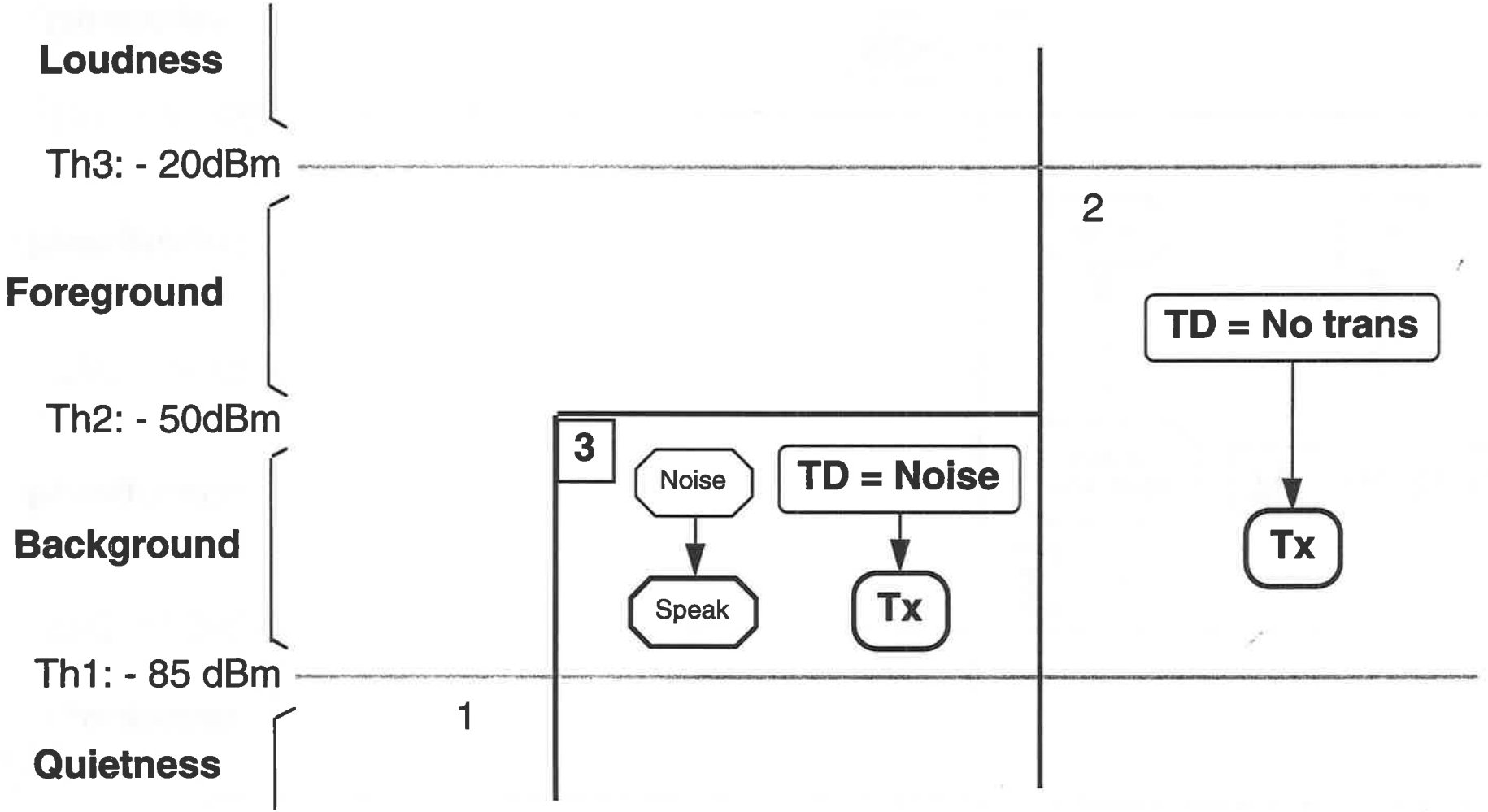


FIG 7 - HUMAN MODEL VS CCA MODEL: CASE #4

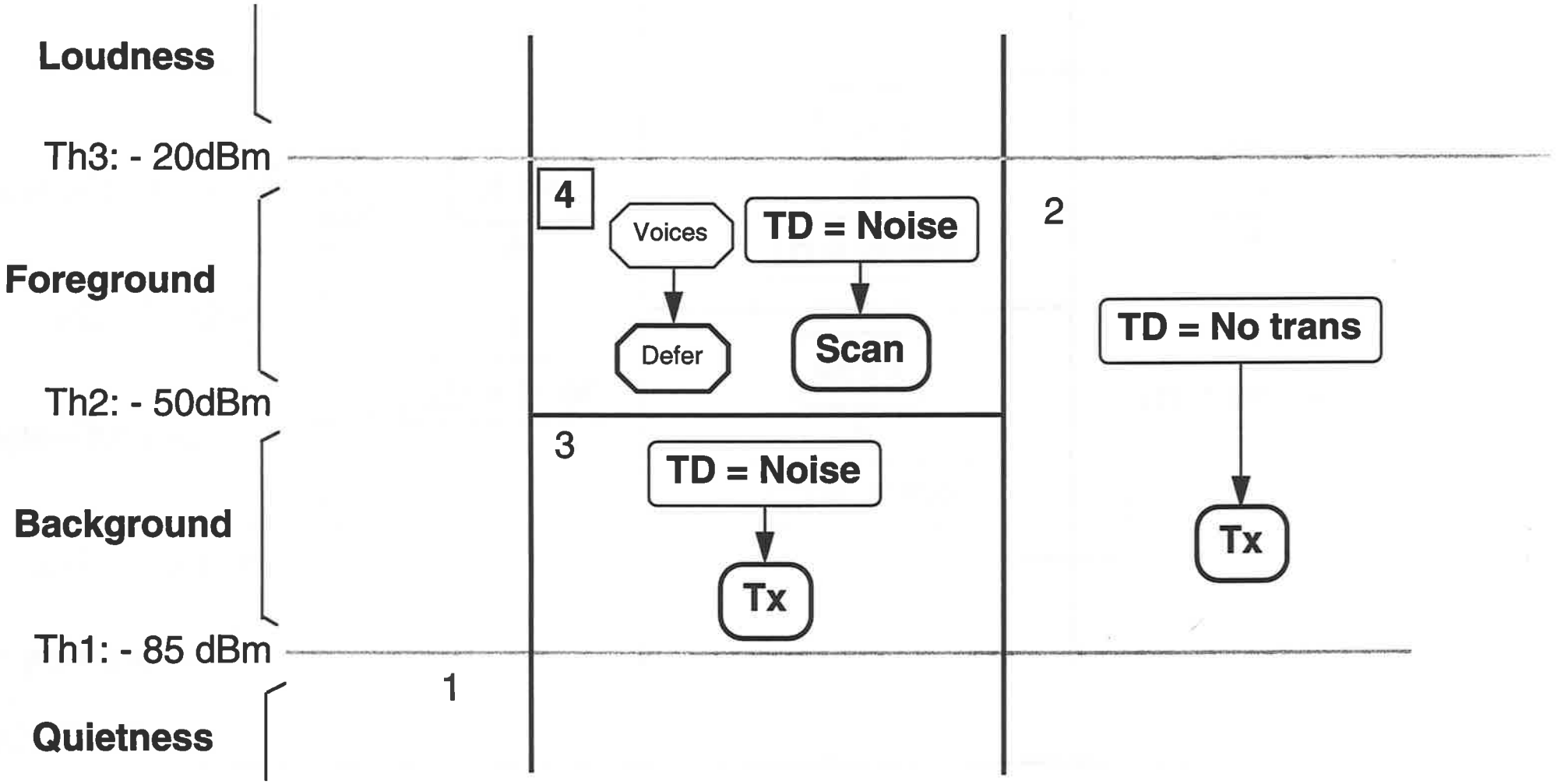


FIG 8 - HUMAN MODEL VS CCA MODEL: CASE #5

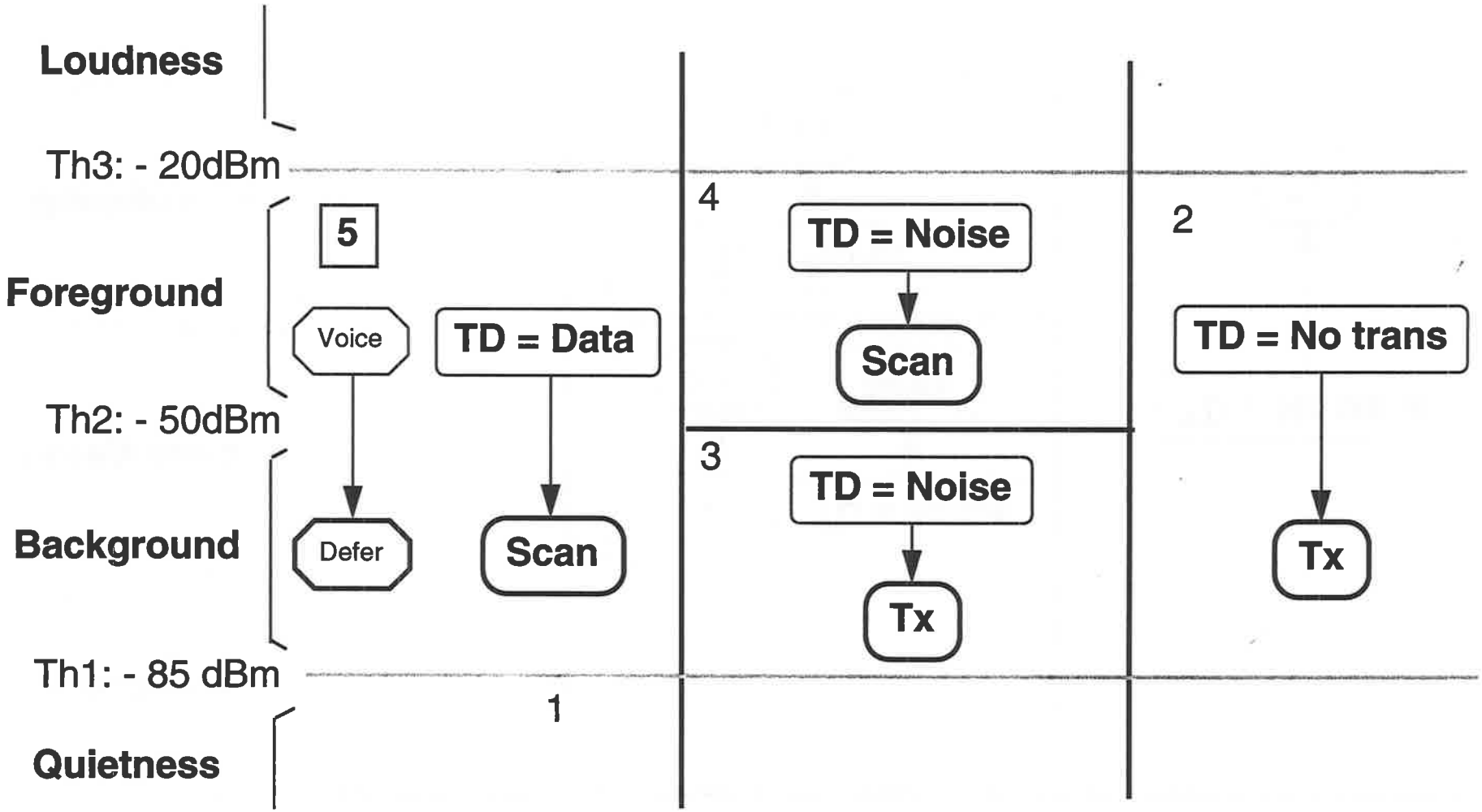
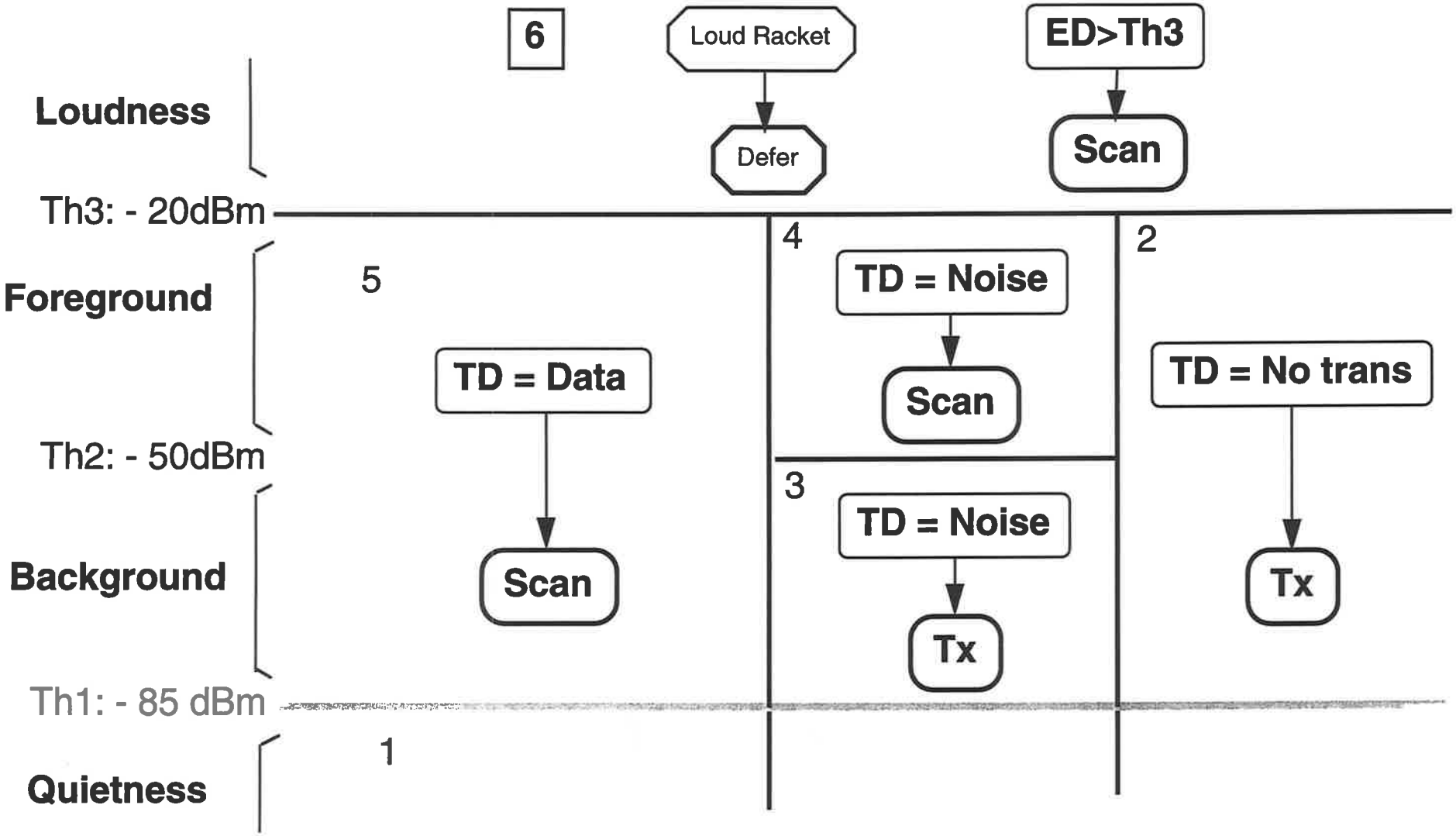



FIG 9 - HUMAN MODEL VS CCA MODEL: CASE #6