WASHINGTON (Reuters) - The winner of valuable wireless airwaves the U.S. government plans to sell by early next year would have to permit consumers to connect using any device or software, U.S. regulators decided on Tuesday.

The Federal Communications Commission voted to shake up the wireless market by approving a set of ground-rules for the upcoming auction that would require the winner to make them accessible to any phone, other device or application.

The requirement will apply to the 22 megahertz to be sold to a commercial provider, however Republican FCC commissioners noted it would not apply to existing airwaves held by carriers like AT&T Inc. and Verizon Wireless.

The agency suggested a $4.6 billion minimum price for the new block of commercial airwaves and said if that price was not reached, then the airwaves would be auctioned again without the access requirement.

The airwaves to be sold in the 700-megahertz band can travel long distances and penetrate thick walls. The auction, which will be done with anonymous bidding, is seen as a last chance for a major new player to enter the wireless market.

The sale could raise $10 billion or more, the government has said. The airwaves are being returned by broadcasters as they move from analog to digital signals in 2009 and would not likely be available for use until then.

Commercial providers will be able to bid on large regional licenses and smaller individual market licenses. An additional 10 Mhz of spectrum will be sold to a nonprofit entity for public safety officials to use but it could be shared with commercial operators.
Verizon Wireless is owned by Verizon Communications Inc and Vodafone Group Plc.  
(Additional reporting by Peter Kaplan in Washington)