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(57) Abstract :

The present invention relates to a device for dynamic channel switching in satellite communication systems, comprising a channel monitoring module (101), a channel switching controller (102), an AI-based decision engine (103), and an integration interface (104). The device ensures seamless transition between frequency channels, minimizes latency, and improves bandwidth utilization by dynamically reallocating channels based on real-time conditions. Experimental validation confirms reduced packet loss, enhanced reliability, and improved scalability for modern satellite constellations.

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