Regarding the concern that wifi routers and devices not have uploadable firmware that would tamper with EIRP or other wireless characteristics of the device, I would suggest a flaw in trying to ban firmware modification of the devices.

First, technically speaking, many devices that are not wifi routers have been 'hacked' and custom firmware made available for it; From refridgerators and microwaves to gaming consoles, to vehicles -- there is plenty of evidence to suggest that whether the manufacturer provides an easy way to do it or not, it offers very little actual deterrent to anyone with a technical background. Even in the high stakes world of intellectual property and digital restrictions management of gaming consoles -- consumer hardware is, invariably, and unfailingly, reverse engineered and opened to firmware/software modification by 3rd parties.

Instead, I would suggest requiring a design change similar to that of cellular phones -- already regulated by the FCC and with much better success. In these systems, there are essentially two systems in one -- a wireless module, known as the 'baseband' controller, and the microcontroller(s) and GPUs used for the operating system of the phone. The operating system is easily replaced or modified, however the baseband controller, responsible for making/receiving phone calls, data transfer, and signalling, is firewalled and not updateable.

Adopting this separation for wifi devices would make much more sense; Manufacturers can simply 'burn' a wifi region code at the factory or before point of sale, thus making it compatible with that country's restrictions, without requiring separate manufacturing processes for each region. If, however, the FCC wants stronger assurances, require a gps receiver be included that must check where the device is and change the region code accordingly -- and after some set time delay (say, 10 days), it reverts to a minimum-power/maximum-restriction default until its location is confirmed again.

There are solutions to the problem that protect the integrity of the frequency allocation, without diminishing access to its non-licensed users. Please explore these options more carefully -- a ban only succeeds in making a manufacturer's product less valuable (an economic loss) compared to others who are non-compliant, and does not in any appreciable way contribute to keeping the spectrum clean. This is an engineering problem, not a legal one. Historically, attempts to legislate technological solutions has proven, at best... a lackluster response. The FCC needs to provide not just legal guidance here, but engineering guidance. In the estimation of this author, it has failed on the second count -- it has made a law, without consideration to existing engineering practice and without regard to economic realities. As such, it has only weakened its position as a regulatory body -- whose strength lies not in legal action, but in public confidence and trust in it to competently occupy its position.

Thank you,

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