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To whom it may concern,

I am concerned about the new regulations under consideration around radio configuration security, and by extension, firmware security on 5GHz devices.

As someone who lives and works outside of the USA, whilst I'm technically not affected by the proposed changes, given the size of the US market, and the tendency of international regulatory bodies to defer to authorisations granted by the FCC, I believe the changes will have a chilling global impact on end user choice.

Whilst it is understandable that the FCC wishes to ensure that all devices operate within their authorised parameters, the way in which modern networking devices are being developed is such that the radio control systems are fully integrated with other components into a single "system on a chip" (SoC).

This means that the ability to control radio parameters in a modern system is tied to other functionality

On the surface, only allowing a vendor to update firmware on a given device would appear to have security benefits. That may be the case, for as long as the vendor decides to support the device or if the vendor's use cases are in line with those of the end user.

Often, in the case of wireless routers, smartphones etc., manufacturers will often only consider certain uses for certain market segments, or orphan older equipment when newer devices become available.

Rather than resulting in additional e-waste, or requiring additional purchases, the ability to alter and extend the firmware within devices allows capable parties to continue to secure and extend the functionality of existing devices - taking into account vulnerabilities and use cases not covered by the original vendor. Indeed, having the ability to extend a device's functionality can be a good tool for innovation. One should encourage development, allowing the people starting out today to build upon what we have today, to become the engineers of tomorrow without a high barrier to entry.

Third party firmware, such as DD-WRT, may indeed allow adjustment of radio parameters outside of their licensed range, but that's only one element of the functionality that it and other alternative firmwares can give to device owners.

Please consider alternatives before killing off a vibrant development community.

Regards,
Anthony Hogan
DD-WRT and derivative user