Cory Doctorow
Electronic Frontier Foundation
454 Shotwell Street
San Francisco, CA, 94110

April 16, 2003

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

RE: Comments on Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band

Docket Number 02-328

Dear Ms. Dortch,

Attached and following, please find Comments of the Electronic Frontier Foundation.

Please do not hesitate to contact me should you have any questions or concerns regarding the filing, at the below stated number.

Thank you for your courtesy and assistance.

Very truly yours,

Cory Doctorow
Outreach Coordinator
Electronic Frontier Foundation
415.436.9333 x106

Enclosure

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

COMMENTS OF:	:	
The Electronic Frontier Foundation	:	
	:	
In the Matter of: Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band	:	Docket No.: 02-328
	:	
April 16, 2003	:	
	:	
TO: Federal Communications Commission	:	
	:	

1.0 Abstract

EFF applauds the proposal to permit unlicensed operation of devices in TV frequencies that have been heretofore reserved from any allocation because of potential harmful interference with nearby stations on the same frequency. As commissioners Abernathy and Copps have noted, the FCC's current policies regarding unlicensed bands have been of tremendous—and unforeseen—benefit to the public interest and to the economy. The Commissioners' comments in the initial NOI and several of the initial comments in this docket have enumerated many of the reasons to support this proposal. EFF would like to direct the Commission's attention to yet another rationale for adopting this proposal, namely, the degree to which allocating additional spectrum for 2.4GHz-like usage serves the First Amendment.

2.0 About the Electronic Frontier Foundation

The Electronic Frontier Foundation is a member-supported nonprofit that works to uphold civil liberties interests in technology law, policy and standards. Since 1990, EFF has tirelessly identified issues that represent the next nexus of civil liberties and technology, and has worked to see to it that Constitutional rights and freedoms were upheld at every turn.

EFF has been increasingly involved with FCC dockets in this past year. EFF has been a commenter in the Broadcast Flag NPRM[1] and the Spectrum Policy Task Force NOI[2]. EFF is pleased to comment in this docket, and looks forward to ongoing opportunities to assist the Commission in seeking out technology policy that upholds Constitutional values.

3.0 The 2.4GHz lesson: unlicensed spectrum use permits more speech

When the Commission allocated 83.5Mhz at 2.4GHz for unlicensed use by Industrial, Scientific and Medical applications, many old hands were skeptical that a such minimally regulated band in which all devices must accept interference (within the scope of Part 15 rules) would produce any value to the public or the economy[3]. The past few years have been an object lesson in the power of this allocation model to produce dramatic amounts of economic activity[4], innovation[5] and immediate public benefit[6].

Many of the initial commenters in this docket have called the Commission's attention to the probable upsides of allocating additional spectrum from within the unused portions of the TV bands for use in an 2.4GHz-like context[7], and have described various proposals

---

[1] Docket 02-135, see http://www.eff.org/IP/Video/HDTV/EFF_02-135.pdf

[2] Docket 02-230, see http://bpdg.blogs.eff.org/archives/eff-comments.pdf

[3] "You can't predict beforehand how much commons spectrum will be worth—before WiFi came along, 2.4GHz was called the 'junk-band,' yet, in a dismal tech economy, it's exploded, become more valuable that it would have been for exclusive use." Remarks of Kevin Werbach, Former Counsel for New Technology Policy at the FCC, at the Stanford University "Spectrum Policy: Property or Commons" conference, March 1, 2003. As reported at http://boingboing.net/2003_03_01_archive.html#90394010

[4] "[2002 was the] best year yet for wireless LANs with over 15.8 million Wi-Fi devices shipped worth more than $1.8 billion." ON World, "Enterprise WiFi 2003: The Opportunities and Challenges." See http://www.onworld.com/html/enterprisewifi.htm

[5] Initial comments of Alvarion, Inc., p.2.

[6] "NYCwireless [a 'community wireless' group] made wireless [Internet access] available to parks, offices, and rooftops, and provided internet connectivity to replace lost communications due to the destruction caused by the WTC attacks." http://conferences.oreillynet.com/cs/et2002/view/e_sess/2363

[7] Initial comments of Redline Communications, p.2.; initial comments of AMA TechTel Communications, p2.

for the technical and regulatory contours of such a regime[8]. EFF is glad to see the benefits of 2.4GHz-like allocations being touted and hopes that the Commission will heed these commenters.

In addition to the economic and technical reasons for adopting this proposal, EFF would like the Commission to consider an additional dimension: the First Amendment interest in allowing the largest number of speakers to make use of the spectrum.

4.0 First Amendment considerations in spectrum allocation

The First Amendment calls on government to eschew regulation of who may speak and how they may speak. Historically, the FCC and FRC's regulatory efforts have balanced the restriction of access to spectrum—which is a proxy for speech, since it is an effective medium of expressive communication—with the need to preserve orderliness in the airwaves so that harmful interference is minimized. The paradigm for this governance held that if anyone were allowed to speak in any way, the resulting chaos of harmful interference would result in a world where no one was heard.

The 2.4GHz experiment, which applied an entirely different paradigm—lightly regulating device characteristics, requiring devices to accept all interference, and allowing anyone to operate a compliant device—challenged technologists to create devices that could function in this very different spectrum environment, coping with contention and interference with technology rather than regulation.

The results have been stellar. The 2.4GHz band has spawned unprecedented innovation in devices and protocols, packing 802.11b, 802.11g, Bluetooth, baby-monitors, X10 cameras, and a host of other communications technologies into a narrow slice of spectrum that was once dismissed as a "junk band."

While this spectrum paradigm is unquestionably disorderly and untidy, it is clear at this point that technologists are more than up to the challenge of overcoming this disorderliness and building devices that thrive in chaos.

What's more, these devices are permitting more communication—more *speech*—from a greater variety of speakers, than the traditional command-and-control exclusive-use allocations have ever fostered.

The Commission has regulated speech because spectrum is considered to be a scarce resource, but the hothouse flowering of the 2.4GHz band had demonstrated that some of that scarcity was an artifact of *regulation*, not physics.

---

[8] Initial comments of REC Networks, p.6; initial comments of Lakeland Communications, pp.2-7.

5.0 Conclusion

The Commission must be sensitive to its overweening obligation to regulate speech and speakers as lightly as possible, and 2.4GHz-style allocations are the best mechanism to date for allowing the most speech from the most speakers.

The proposal in this NOI furthers the good work done in the 2.4GHz allocation, and is consistent with the best recommendations of the Spectrum Policy Task Force, to reduce command-and-control allocations in favor of less-regulated, more innovation-friendly open allocations.

Moreover, this proposal is consistent with the public interest and with the Constitutional objective of free speech as outlined in the First Amendment.

EFF urges the Commission to adopt the proposal outlined in this NOI, and to bring forward more proposals like this one, which will further reduce the scarcity of spectrum and the need to regulate speech.

Respectfully submitted,

Electronic Frontier Foundation

By: /s/ Cory Doctorow

Cory Doctorow
Outreach Coordinator

By: /s/ Eric Nguyen

Eric Nguyen
Staff Intern

454 Shotwell St,
San Francisco, CA 94110

April 16, 2003