Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band	))	ET Docket No. 02-380

SPRINT REPLY COMMENTS

Sprint Corporation, on behalf of its wireless division ("Sprint") submits these reply comments in response to the *Notice of Inquiry* that the Commission commenced to identify possible additional bands for use by unlicensed devices.[1]

Sprint supports Commission initiatives to locate additional appropriate spectrum for unlicensed devices. In particular, Sprint encourages the Commission to complete promptly the new rulemaking proceeding it commenced recently proposing to allocate to unlicensed devices an additional 255 MHz in the 5 GHz band, a proposal that would more than double the amount of spectrum that has been allocated exclusively to unlicensed devices that can be used for wideband applications such as Wi-Fi and other local area networks.[2] Prompt action on this proposal would do much to accommodate near- and long-term market demand for unlicensed services.

The Commission should not, however, authorize underlays or opportunistic easements in licensed bands – and especially in bands licensed for mobile users – without first conducting

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[1] *See Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band,* ET Docket No. 02-380, *Notice of Inquiry,* FCC 02-328, 17 FCC Rcd 25632 (Dec. 20, 2002). *See also Order Granting Extension of Time,* DA 03-1022 (March 31, 2003).

[2] *See Revisions to Parts 2 and 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices,* ET Docket No. 03-122, *Notice of Proposal Rulemaking,* FCC 03-110 (May 15, 2003). Currently, unlicensed devices have access to a total of 234.5 MHz of spectrum where wideband applications can be used: 26 MHz in the 900 MHz ISM band; 83.5 MHz in the 2.4 GHz ISM band; and , and 125 MHz in the 5.8 GHz ISM band.

thorough testing. Identification of interfering unlicensed devices is virtually impossible for mobile network licensees after the fact, and once interfering unlicensed devices are in the market, it will also potentially be virtually impossible for the Commission to recall these devices. A Commission mistake in this area in this area could have profound long-lasting negative consequences.

In addition, the Commission needs to examine several important policy and legal issues before it authorizes any new underlays or opportunistic easements in licensed bands. As the Spectrum Policy Task Force ("SPTF") has recognized, the Commission must first understand "the potential impact of allowing easement-based access by opportunistic devices on the expectations, business plans, and investment made by licensed spectrum users."[3] Further, even if the Commission was confident from testing that new unlicensed use of licensed bands would not cause harmful interference to the licensee's existing services, the new interference generated by unlicensed devices may preclude the licensee from deploying newer, even more efficient technologies. This would disserve the public interest and disrupt service and licensee innovation. Clearly, this situation would present major policy issues and, for licensees that acquired their spectrum at auction, significant legal issues as well.[4] In this regard, the SPTF has noted that spectrum easements must be applied "cautiously" because they "inherently limit[] the flexibility afforded to the licensee."[5]

Sprint encourages the Commission to conduct studies of the noise floor, as the Technological Advisory Committee ("TAC") recommended 18 months ago, and as the SPTF recom-

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[3] SPTF Report, ET Docket No. 02-135, at 58 (Nov. 2002).

[4] *See, e.g.,* Cingular Comments at 6-10; Rural 700 MHz Band Licensee Comments at 2-4; Sprint Comments, ET Docket No. 02-135, at 13-16 (Jan. 27, 2003).

[5] SPTF Report at 58.

mended last fall.[6] Importantly, the Commission should also, as the SPTF has recommended, commence a proceeding to "adopt a standard methodology for measuring the noise floor."[7] The Commission would appear not to have the resources to conduct by itself the "systematic study of the RF noise floor" that the SPTF has stated is needed,[8] and studies by licensees and others will likely be required to provide noise floor data in numerous different bands. In addition, licensees, particularly in weak economic times, are understandably reluctant to invest resources in the conduct of noise floor studies unless they have some assurance that the results will be recognized and used. The adoption of a standard measurement methodology would go a long way to facilitating the conduct of independent noise floor studies.

Sprint also encourages the Commission to authorize tests of new unlicensed device technologies, such as "listen-before-talk" and GPS location capabilities, perhaps using the TV broadcast and the 3650 MHz bands for such tests.[9] Such capabilities may work where the licensee uses a fixed technology, such as TV broadcasting, but even proponents of these capabilities acknowledge they require further investigation and study.[10] But as commenters point out, these same technologies may not likely work to prevent harmful interference to mobile services and public safety licensees.[11] To confirm, such tests should be conducted, with the test results made publicly available, before the Commission commences a rulemaking proposal.

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[6] *See* FCC TAC II, Second Meeting Report, at 8-9 (Nov. 23, 2001); SPTF Report at 33-34.

[7] *See* SPTF Report at 28.

[8] *See id.* at 33.

[9] It is essential that any such authorization be conditioned on the experimental licensee being required to submit in the public record the results of its interference tests. The Commission should thereafter publish notice that test results have been filed so interested parties are aware of new test data and can build on any new data submitted.

[10] *See* Wi-Fi Alliance Comments at 3.

[11] *See, e.g.,* APCO Comments at 2-3; Motorola Comments at 2-5 ("[U]nlicensed use of licensed mobile spectrum present unique difficulties that prevent adequate safeguards to protect licensed operations from

In summary, the Commission should encourage thorough testing of new capabilities so that the potential for interference is more fully understood, and so that rational decisions can be made. In the meantime, the Commission should promptly complete its new unlicensed rulemaking proceeding. Lastly, the Commission should continue efforts to facilitate the completion of the digital TV transition, so the cleared spectrum can be used for its designated purposes – namely public safety and new mobile radio services.

Respectfully submitted,

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May 22, 2003

interference."). *Compare* Wi-Fi Alliance Comments at 4 ("Such techniques may be particularly appropriate for sharing with fixed systems that operate in a relatively static environment, such as broadcast television."); Intel Comments at 7 ("[T]he static, fixed nature of TV broadcasting makes sharing much easier than would be the case for services operating on an intermittent or mobile basis.").