

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

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FEDERAL COMMUNICATIONS COMMISSION
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In the Matter of

Amendment of Parts 25, 74, 78, 90,)
and 101 of the Commission's Rules)
to Facilitate Fixed Point-to-Point Terrestrial)
Microwave Radio Service Licensee Use of)
the 23 GHz and 10 GHz Bands and to)
Eliminate Certain Inconsistencies in)
Such Rules.)

RM No. 9418

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To: The Commission

COMMENTS

The 21.2-23.6 GHz band ("23 GHz Band") is an untapped resource for the fixed point-to-point terrestrial microwave radio services ("FS"). It is allocated for FS use, is shared between non-government and government users, and is especially suitable for medium or high-capacity, short-range systems.

Increasing FS user access to the 23 GHz Band is critical. These users provide essential public health and safety services and support emerging wireless technologies. Available spectrum for these services, however, is decreasing. To accommodate these needs, in the captioned Petition for Rulemaking ("Petition"),¹ the Fixed Point-to-Point Communications Section, Wireless Communications Division, Telecommunications Industry Association (the "TIA Fixed Section") took the initiative

¹The Petition appeared on the Commission's February 5, 1999, Public Notice, Rep. No. 2309.

and proposed several needed changes to the 23 GHz Band. These proposed changes include:

- increasing the scope of permissible conditional licensing in the 23 GHz Band;
- rechannelizing the 23 GHz Band and modifying spectrum efficiency/frequency tolerance criteria to make the band more accessible to FS providers;
- modifying antenna standards to encourage use of the 23 GHz Band by FS users, such as PCS operators; and
- updating and cleaning up specific sections of the Commission's rules for consistency purposes.

Pursuant to Section 1.405 of the Commission's Rules,² Alcatel USA, Inc. ("Alcatel"),³ by its attorneys, hereby supports prompt grant of the Petition and inclusion of the proposals therein in a formal rulemaking proceeding.⁴ Adoption of the

²47 C.F.R. § 1.405 (1999).

³Alcatel is a wholly-owned subsidiary of Alcatel Alsthom, one of the world's largest corporations and the world's largest manufacturer and supplier of telecommunications equipment. In particular, Alcatel Alsthom is the world's largest independent manufacturer and supplier of microwave radios. Formerly Collins Radio and Rockwell International, Alcatel is a world leader in manufacturing microwave and light wave transmission systems. Alcatel's equipment is used for a wide range of services, including short, medium and long-haul voice, video and data transmission. Its microwave customers include all the Bell Operating Companies, most major independent telephone companies, cellular operators, power and other utility companies, oil companies, railroads, industrial companies, and state and local government agencies.

⁴It is Alcatel's understanding that the Commission is considering adopting a Notice of Proposed Rulemaking under its Biennial Review authority to reevaluate the rules for Part 101 services. This anticipated proceeding would be an appropriate forum to propose adoption of the 23 GHz Band changes advanced in the Petition.

TIA Fixed Section's proposed rules would ensure that FS providers could use the 23 GHz Band to replace spectrum being lost to various other services.

INCREASING FS ACCESS TO THE 23 GHZ BAND IS IN THE PUBLIC INTEREST

It is well-established that FS networks are essential to support the national telecommunications infrastructure.⁵ The ability of FS users to continue providing such support is being threatened. Decreased availability of spectrum for FS in other bands makes the 23 GHz Band very attractive for expansion.

Dilution of available FS spectrum is occurring on a widespread basis:

- In the 2165-2200 MHz band, FS users most likely will have to relocate due to sharing problems with Mobile-Satellite Service.⁶
- In the 2110-2150 MHz band, the spectrum will be auctioned and, once again, current FS providers will be forced to relocate.⁷

⁵FS support emerging wireless technologies and essential public services. Health and safety providers, local exchange carriers, Competitive Access Providers, cellular telephone companies, utilities, railroads, petroleum companies, financial institutions, and federal, state and local governments all rely upon FS networks to support their operations. These users have made FS the medium of choice because it is the most reliable, cost-effective, flexible, and terrain-insensitive technology available.

⁶See Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service, First Report and Order and Further Notice of Proposed Rulemaking, 12 FCC Rcd 7388 (1997).

⁷See Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service, Memorandum Opinion and Order and Third Notice of Proposed Rulemaking and Order, FCC 98-309 (rel. Nov. 25, 1998); see also Balanced Budget Act of 1997, Pub. L. No. 105-33, 111 Stat. 251 § 3002(c) (1997).

- In the 18 GHz band, FS will be required to share the band with satellite-based systems. Although the Commission proposes to designate a specific portion of the band to FS, less spectrum would be available.⁸
- In the 38.6-40.0 GHz band, FS will lose current spectrum that has been designated for auction.⁹

⁸Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast-Satellite Service Use, Notice of Proposed Rulemaking, FCC 98-235 (rel. Sept. 18, 1998). Specifically, FS will lose the following parts of the 18 GHz band under the FCC's proposal:

Band	Bandwidth	Allocated to
17.7-17.8 GHz	100 MHz	Broadcast Satellite Service after April 1, 2007
18.8-18.82 GHz	20 MHz	Non-geostationary Fixed Satellite Service ("NGSO")
18.92-19.16 GHz	240 MHz	NGSO
19.26-19.3 GHz	40 MHz	NGSO
Total	400 MHz	

Most FS systems require a transmit and a receive frequency. The Commission's plan eliminates one of the paired frequencies for the bands from 18.58-18.8 GHz (220 MHz) and 19.3-19.36 GHz (60 MHz). Therefore, FS effectively will lose another 280 MHz of bandwidth, resulting in a total loss of 680 MHz.

The FS currently has access to the 17.7-18.14 GHz, 18.58-18.82 GHz, 18.92-19.16 GHz, and 19.26-19.7 GHz sub-bands within the 18 GHz band. The total bandwidth is 1360 MHz. Therefore, FS will lose almost 50% of its currently allocated bandwidth under the Commission's proposal.

⁹Amendment of the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Bands, Report and Order and Second Notice of Proposed Rule Making, 12 FCC Rcd 18600 (1997).

These are only examples of recent spectrum losses. The FS also has lost the 2 GHz band to PCS. When the Commission relocated 2 GHz band FS users to clear spectrum for emerging technologies, it promised that the 6 GHz and 11 GHz bands would be replacement spectrum.¹⁰ Unfortunately, these "replacement" bands have been available only on a limited basis due to acute congestion.

If adopted, the proposals made in the Petition will minimize the impact of this spectrum loss. Thus, as detailed below, the Petition must be granted so that the 23 GHz Band would become more readily available to FS users.

**THE SCOPE OF 23 GHz BAND
CONDITIONAL LICENSING MUST BE EXPANDED**

Conditional licensing is necessary for increased access to, and quick deployment in, the 23 GHz Band. It would provide much needed and immediate relief for FS. As the Commission noted in its Order permitting conditional licensing in the 10 GHz Band (i.e., 10.55-10.68 GHz), "the public interest will be served by permitting microwave licensees . . . to avail themselves of conditional authorization authority at the earliest opportunity . . . [because it] will allow for more rapid delivery of . . . microwave services to the marketplace."¹¹

¹⁰Amendment of the Commission's Rules to Establish New Personal Communications Services, Memorandum Opinion and Order, 9 FCC Rcd 5947 (1994).

¹¹Reorganization and Revision of Part 1, 2, 21, and 94 of the Rules to Establish a New Part 101 Governing Terrestrial Microwave Fixed Radio Services, Order, DA 98-349 (rel. Feb. 24, 1998).

In the Petition, the TIA Fixed Section proposes that the Commission amend its rules to allow additional conditional licensing in the 23 GHz Band. The increased opportunities for prompt access to the 23 GHz Band that would result from these proposals clearly is in the public interest and must be adopted.

**THE PETITION SHOULD BE GRANTED SO THAT THE 23 GHz BAND
MAY BE MORE ACCESSIBLE TO FS USERS**

The TIA Fixed Section proposes that the Commission make the 23 GHz Band more accessible to FS users by adopting changes to how licensees operate. Specifically, it proposes a flexible channel plan, modifying frequency tolerance and spectrum efficiency requirements, and revising Section 101.147(s) of the Commission's Rules to update the requirements for low power, limited coverage systems.¹²

Alcatel strongly supports these proposals. First, the proposed channel plan in the 23 GHz Band increases efficiency. Moreover, the TIA Fixed Section's proposed channel plan provides flexibility by use of narrow and wideband channels. This flexibility in service would entice more FS providers to use this portion of the spectrum.

Second, by tightening the frequency tolerance specification from 0.03% to 0.001%, short-haul users could access the 23 GHz Band with the digital radios being

¹²Petition at 15-22. The TIA Fixed Section proposes that the Commission revise or eliminate certain unnecessary or inconsistent rules in Parts 25, 74, 78, and 90. Petition at 25. Alcatel supports this proposal. Such consistency in Commission rules would optimize proper and efficient use of the spectrum allocated to FS.

used in the 18 GHz band. Currently, digital FS radios could not efficiently operate in the 23 GHz Band because the frequency tolerance specification likely would cause drift into adjacent channels.

Third, the 23 GHz Band needs spectrum efficiency requirements for FS providers to utilize the band efficiently. The Commission requires a 1 bps/Hz spectrum efficiency for all frequency bands below 19.7 GHz. The same standard should be required for the 23 GHz Band because it would ensure that all proposed bandwidths are fully utilized.

Finally, Section 101.147(s) of the Commission's rules should be revised so that the requirements for low power, limited coverage systems in the 23 GHz Band are consistent with their operations. For example, maximum power definitions, frequency tolerance standards, special showings and interference criteria for these low power, limited coverage systems are inconsistent with other FS operations in the 23 GHz Band. Uniform standards in this band for all systems would ensure the most efficient use of this band.

**THE PETITION SHOULD BE GRANTED SO THAT ANTENNA STANDARDS
IN 23 GHz BAND AND THE 10 GHz BAND CAN BE MODIFIED**

The TIA Fixed Section proposes that the Commission amend its rules to allow smaller antennas in the 23 GHz Band and in the 10 GHz Band. It made this proposal because the current antenna standards deter FS use of these bands.

Alcatel supports the proposed modification of antenna standards in these bands. Many FS users, such as PCS operators, face strong resistance by homeowner

associations and local zoning boards to place FS antennas on rooftops in residential communities. It is understandable that 2-foot diameter antennas, the smallest permissible size antenna in the 23 GHz Band, would diminish aesthetic value in a residential neighborhood. Thus, the local backlash against these large antennas in many communities greatly has deterred FS use in the 23 GHz Band.

The solution is simple. Many other countries already have adopted regulations allowing 18-inch antennas for use in the 23 GHz Band. If the Commission amended its rules to allow 18-inch antennas in this band, it would permit antenna manufacturers to design common products in domestic and foreign markets. Use of the 23 GHz Band by such users as PCS providers would be encouraged.

Alcatel also supports the modification of antenna standards in the 10 GHz Band. If 2-foot antennas are permitted in this band, rather than 4-foot antennas now permitted, studies have shown that the band will attract FS providers needing paths longer than 2.3 miles. The TIA Fixed Section's proposal to modify antenna standards in the 23 GHz and 10 GHz bands is one more solution to encouraging efficient utilization of available spectrum without causing any detriment to other users.

**THE PETITION SHOULD BE GRANTED SO THAT
TELEVISION BROADCAST AUXILIARY SERVICE RULES MAY BE REVISED TO
ENCOURAGE FULL UTILIZATION OF NEW TECHNOLOGIES**

The TIA Fixed Section proposes that the Commission make specific changes in the Television Broadcast Auxiliary Service to ensure that digital transmission technologies can be utilized fully. Alcatel supports this proposal.

It is critical that technical standards be prescribed to ensure the reliability of all digital paths. Specific technical rules in this service, such as digital modulation, maximum EIRP for short paths, and ATPC, will support and promote high-definition television over microwave paths.

Specifically, under current Part 74 rules, television broadcasters cannot install studio-to-transmitter links ("STL") in the 6.875-7.125 GHz and 12.7-13.25 GHz bands using digital modulation. The rules only permit analog modulation. Therefore, broadcasters cannot install new digital radios to carry High Definition Television ("HDTV"). If broadcasters cannot get digital television signals from the studio to the transmitter, they cannot provide digital television service. Thus, the Petition should be granted so that Part 74 may be revised to permit digital modulation thereby facilitating the provision of HDTV.

CONCLUSION

Alcatel agrees with the TIA Fixed Section that there is a compelling need for increased spectrum to support FS. With the ever-growing loss of FS spectrum to emerging technologies, it is critical that use of other available bands be encouraged.

Utilization of the 23 GHz Band is a viable solution for FS users if conditional licensing is more readily available, if the 23 GHz Band is made more accessible to FS users, and if consistent rules for FS users are adopted. Thus, the Petition must be granted and a formal rulemaking including the proposals therein must be established.

Respectfully submitted,

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March 4, 1999

CERTIFICATE OF SERVICE

I, Deborah Mashburn, hereby certify that a true and correct copy of the foregoing Comments was sent this 4th day of March, 1999, via first class mail, postage prepaid, to the following:

Ron Coles, Chairman
Eric Schimmel, Vice President
Fixed Point-to-Point Communications Section
Wireless Communications Division
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A handwritten signature in cursive script that reads "Deborah Mashburn". The signature is written in black ink and is positioned above a horizontal line.

Deborah Mashburn