

**Before the
Federal Communications Commission
Washington, DC 20554**

In the Matter of:)	
)	
Unlicensed Use of the 6 GHz Band)	ET Docket No. 18-295
)	
Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz)	GN Docket No. 17-183
)	
)	

**REPLYCOMMENTS OF
CALIFORNIA PUBLIC-SAFETY RADIO ASSOCIATION**

The California Public-Safety Radio Association (CPRA) is the Southern California Chapter of the Association of Public-Safety Communications Officials (APCO). CPRA is made up of over 500 local public safety professionals from Police, Fire, EMS, 9-1-1, Local Government, Tribal, Forestry, Highway and Conservation services who volunteer their time and expertise for the betterment of public safety communications. It represents more than 250 public safety agencies and 9-1-1 Public Safety Answering Points (PSAPs) who serve over 22 million people throughout Southern California.¹

Introduction and Summary

The 6 GHz microwave band is heavily used by the member agencies of CPRA to support 9-1-1 PSAP dispatch. These fixed links link the PSAP's to the Radio system remote transmit

¹ CPRA membership covers the counties including any local government agencies of San Louis Obispo, Kern, Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside, Orange, San Diego and Imperial.

locations. They also link the PSAP's to data centers for CAD support and other data needs.

The comments by the City of Los Angeles² and the Joint comments by Government Wireless Technologies & Communications Association, Los Angeles County, California, City and County of Denver, Colorado, San Bernardino County, California, Ozaukee County, Wisconsin, The Regional Wireless Cooperative, City of Kansas City Missouri³ clearly show the importance of the 6 GHz band microwave links and perhaps even understate how interference and disruption to these links impact critical public-safety services.

Any overlay of unlicensed devices in the 6 GHz band must be deployed using very robust measures to prevent interference to licensed users. As stated by the National Public Safety Telecommunications Council⁴ there is not a long history of successful sharing as proposed in this docket. Because of the risk to public safety operations involved with interference to fixed microwave links, the proposed frequency coordination system must be thoroughly tested and proved by field tests before unlicensed devices are deployed.

Unlicensed Impact on Fixed Path Reliability

NPSTC comments⁵ point out the reliability levels that public safety microwave links are designed to. CPRA supports those comments. The paths must be designed to the highest levels

² Comments-City of Los Angeles filed 2/15/2019 Page 4

³ Joint 6 GHz Comments Final – 2-15-2019.pdf filed 2/15/2019 pages 2-5

⁴ NPSTC_Comments_6 GHz Feb2019 final.pdf filed 2/15/2019 pages 3-4 (NPSTC)

⁵ NPSTC page 9

of reliability to support PSAP operations and ensure the safety of first responders and the public that depends on those services. It does the public users of the unlicensed devices no good if deploying unlicensed devices also degrade the first responder response to emergencies.

To maintain the reliability of the fixed microwave paths the designed in fade margins must not be degraded by unlicensed devices. As NPSTC points out degradation of the fade margin directly impacts path reliability. CPRA also supports using a -12 dB I/N ratio for determining the protection zone around fixed microwave paths as suggested by Motorola Solutions, Inc Comments⁶. While a -6 I/N ratio would protect the fade margin for one interfering signal, the most likely case is for multiple unlicensed devices interfering with microwave receivers. To protect for this aggregate interference case the -12 dB I/N protection is needed. The protection zone around fixed paths must insure the designed fade margins are not degraded.

Automated Frequency Coordination

Several of the commenters⁷ supported using a centralized automated coordination system (AFC). CPRA also supports use of a centralized system. The advantage is the unlicensed devices need only coordinate with one central data repository that could in real time define excluded frequency bands for the unlicensed devices. The centralized AFC can also update data for new or modified paths on a frequent basis. CPRA supports the comments for daily updates to the unlicensed devices and automatic shutdown of the unlicensed device if it cannot get an update from the AFC system. The unlicensed devices, as suggested in comments, use data paths

⁶ MSI 6 GHz NPRM Comment.Final.pdf filed 2/15/2019 page 4 (Motorola)

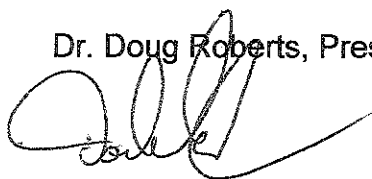
⁷ See NPSTC or Motorola among others

to the AFC that are separate from the 6 GHz system. Licensed users need a simple method to contact the AFC in case of interference to locate all unlicensed devices that could be the source of the interference.

Conclusion

The sharing of the 6 GHz band between licensed users and unlicensed users presents a real risk to public safety operations if interference is not carefully mitigated. The most important factor to protecting licensed microwave paths is protection of designed fade margins for those paths. The use of -12 dB I/N protection factor and daily updates by the unlicensed devices to a centralized AFC system are key to successful protection.

Dr. Doug Roberts, President

A handwritten signature in black ink, appearing to read 'Doug Roberts', with a long, sweeping horizontal line extending to the right.

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