

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D.C. 20554**

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

**COMMENTS OF THE CITY OF NEW YORK**

**I. INTRODUCTION**

The City of New York (“NYC” or “the City”), on behalf of the Mayor’s Office of the Chief Technology Officer (“NYC CTO”) and New York City’s public safety agencies, including the New York City Police Department (“NYPD”), New York City Fire Department (“FDNY”), New York City Department of Information Technology and Telecommunications (“DoITT”) and New York City Office of Emergency Management (“OEM”), respectfully submits these comments in response to the Notice of Proposed Rulemaking (“NPRM”) in the above captioned proceeding. The City appreciates the Commission affording it this opportunity to express its views regarding this critical issue.

**II. BACKGROUND**

New York City consists of five Boroughs and approximately 306 square miles, including some of the most densely populated geography in the nation, and receives approximately ten million E-911 requests for service annually. The City, through the NYPD and DoITT, currently holds 35 licenses for point to point microwave radio links in the 6GHz band. These links are utilized in the City’s

public safety mission critical land mobile radio systems backhaul networks, including the NYPD radio system, and the FDNY radio system, and the FDNY Emergency Medical Service (“EMS”) radio system. Twelve of the City’s public safety microwave radio links in the 6GHz band are utilized at Public Safety Answering Centers (“PSACs”). These PSACs are responsible for dispatching emergencies to the NYPD radio system, and the FDNY Fire and EMS dispatch radio systems. In addition, DoITT’s multiple Enforcement, Police, Security and Administrative teams within Mayoral City of New York agencies also rely on the 6GHz Public Safety links mentioned above. Loss of, disruption of, or interference to these vital communications links would significantly impact the performance of the City’s public safety mission critical land mobile radio systems with the potential of placing public safety officers at risk, should unforeseen outages occur. The City is concerned that the adoption of the NPRM, as written, significantly increases the likelihood of such outages.

The City expends considerable financial and human resources to ensure that its public safety mission critical radio communications systems are reliable under all circumstances. The proposals set forth in the NPRM, if enacted as written, will force the City to re-design many of its microwave backhaul links in order to ensure that the City’s mission critical land mobile radio systems continue to perform to public safety reliability standards under all conditions. Such a re-design would represent a significant and unanticipated new cost to the City and its public safety agencies and would require sufficient time to implement.

### **III. COMMENTS**

While the City recognizes that the NPRM seeks comment on many mid-band spectrum segments, in these comments, we focus on the 5.925 – 6.425 GHz and 6.425 – 7.125 GHz bands, subsequently

referred to collectively as the 6GHz band. This band is utilized by many public safety and critical infrastructure entities to provide microwave Fixed Service (“FS”) point to point connectivity in support of their mission critical land mobile radio systems not only in New York City but systems nationwide.

The City is concerned that, in cases where FS microwave receivers are located in or on high buildings within dense urban areas, a transmitting unlicensed device may interfere with the weak signal present at FS microwave receivers supporting public safety or critical infrastructure land mobile radio operations.

The City is also concerned that permitting additional licensed or unlicensed access to the 6GHz band may inhibit the expansion of existing public safety and critical infrastructure land mobile radio systems by restricting access to new FS microwave links or by inhibiting the ability of incumbent licensees to increase the bandwidth of existing licensed FS microwave links due to congestion caused by expanded access to the 6GHz band.

Additionally, the City is concerned that if unlicensed operations are permitted in the 6GHz band, the noise floor will rise to unacceptable levels when a large number of unlicensed devices are deployed in dense urban areas causing a degradation to incumbent licensee 6GHz links, and that interference resolution would be difficult, expensive, and time consuming.

The City supports the establishment of a centralized Automatic Frequency Coordination (“AFC”) spectrum access system to include a database containing operating frequency, horizontal and vertical location and relevant technical data for all licensed transmitting devices in bands 5925-6425 MHz and 6525-6875 MHz regardless of power level or location. The City urges the Commission to ensure that this AFC database is accurate upon deployment prior to permitting

unlicensed 6GHz devices to be installed and activated. To ensure continued accuracy, the City urges the Commission to mandate that the AFC database be updated daily.

The City further urges the FCC to mandate that unlicensed devices operating in the 6GHz band be delivered with their transmit function inhibited, and that the transmit function only be enabled upon installation and registration of the device, and upon the device querying the AFC database and receiving confirmation from the AFC database that the device is installed in a location that will not cause interference to incumbent 6GHz licensees and is operating in compliance with all applicable Commission regulations including power levels.

In order to preserve the integrity and reliability of FS radio links, any proposed Radio Local Area Network (“RLAN”) AFC system should also consider the effects of adjacent channel and second adjacent channel interference. Microwave frequency coordinators today routinely consider the interference potential of adjacent and second adjacent channel operations in reviewing newly proposed systems. Accordingly, the City urges the Commission to incorporate adjacent channel and second adjacent channel interference protection analysis into any AFC system it proposes.

Finally, the City urges the Commission to require that both outdoor and indoor access points operating in the 6GHz band be required to register with and query the AFC to obtain authorization to operate on a particular frequency and location. This is particularly critical in cases where indoor access points and FS receivers are both installed in high floors within tall buildings in dense urban areas, as transmitting access point may interfere with the weak signal present at the FS microwave receiver supporting public safety or critical infrastructure land mobile radio network backhaul links.

#### **IV. SUMMARY**

New York City is a leader among cities in the deployment of innovative wireless technologies and has long demonstrated its support for the availability of reliable and competitive wireless communications services. The City also recognizes the intense demand for spectrum and the importance of wireless broadband technology in meeting a growing public demand. The City urges the Commission to proceed with extreme caution prior to issuing its final order regarding additional access to the 6GHz band, as providing such access without ensuring proper protection for incumbent licensees, many of which support public safety and critical infrastructure operations, may result in unintended negative consequences including the disruption of public safety and critical infrastructure radio systems.

#### **V. RECOMMENDATIONS**

The City urges the Commission to take all necessary steps to protect incumbent 6GHz licensees, including the establishment of an accurate AFC database, updated daily and queried prior to device activation. The City urges the Commission to incorporate adjacent channel and second adjacent channel interference protection analysis into any AFC system it proposes.

The City urges the Commission to require newly authorized unlicensed 6GHz access points to be location aware devices required to register with, and receive authorization from, the AFC prior to being placed into operation. The City urges the Commission to take swift enforcement action when appropriate, to ensure that interference to incumbent licensees does not occur.

The City urges the Commission to mandate that technology be employed to protect Part 101 incumbents, and that any AFC technology be thoroughly tested prior to rule adoption for all use

cases that present a potential interference threat to public safety or critical infrastructure incumbent licensees on the 6GHz band.

Respectfully Submitted,

THE CITY OF NEW YORK