



October 15, 2015

VIA ELECTRONIC FILING

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

Re: Ex Parte – *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*
GN Docket No. 14-177

Dear Ms. Dortch:

FiberTower Spectrum Holdings, LLC (“FiberTower”) hereby submits this *ex parte* letter in the above-captioned proceeding to provide the Federal Communications Commission (“Commission”) with additional information on the capabilities of incumbent millimeter wave (“mmWave”) licensees, the degree to which these incumbents are positioned to meet demand for mobile services in the mmWave bands, and urges the Commission to consider these factors in adopting new service rules.

As detailed more fully below and in the attached presentation, base stations and corresponding remote fixed and portable terminals (and future handsets) in wide-area licensed mmWave bands exhibit certain essentially identical behaviors. Future mmWave base stations will provide both mobile and fixed/portable services, and incumbent licensees are often already equipped with the technical ability to provide backhaul, transport or access for fixed, portable or mobile services in the 24 GHz, LMDS and 39 GHz bands. Thus, should the Commission elect to revise the mmWave band service rules, these licensees should be permitted to offer mobile services throughout the geographic area of the incumbent’s license as customer demand and equipment development dictates. Placing a new mobile licensee on top of the incumbent’s existing geographic area and channel would result in dual base stations saturating the same sector and cause harmful interference.

In addition, 24 GHz, LMDS, and 39 GHz point-to-multipoint (“PMP”) base stations already act to cover entire sectors. For example, a properly placed 24 GHz PMP base station with a 90-degree sector antenna will blanket that sector with a serviceable signal for any remote terminal—whether fixed, portable or mobile—that is within line-of-sight and within a serviceable distance. In fact, a remote terminal can, in many situations, also receive a non-line-of-sight signal.

As incumbent licensees well know, point-to-point (“PTP”) and multiple-point-to-point (“MPTP”) base stations must be carefully deployed and managed by the licensee with other PTP, MPTP and PMP operations that the licensee seeks to operate within the license area. The operational rules for 24 GHz, LMDS and 39 GHz already provide incumbent licensees with the ability to actively deploy, manage and move base stations and remote terminals in accordance with customer needs, including the swift installation, de-installation, relocation and active movement of systems for event services, emergency management, video backhaul, data and voice backhaul, small cell and large cell services. In other words, these systems already deploy in an essentially “mobile-like” manner, and the incumbent licensees have consequently developed expertise in meeting the requirements of “mobile-like” deployments. Current mmWave base stations can service a customer locations that moves over time, and incumbent mmWave licensees are thus well-positioned to meet demand for mobile services in the band should the Commission alter the mmWave service rules to allow for provision of these services.

Additionally, the existing border interference standards, border coordination requirements, and power flux density limits have effectively ensured that these “mobile-like” fixed and portable services do not interfere with neighboring licensees. Critically, however, creating a separate mobile licensee for operations within an incumbent 24 GHz or 39 GHz licensee’s geographic service area would cause harmful interference and unnecessary complications for both licensees. It is both more spectrally efficient and simpler to provide the incumbent licensee with the ability to provide the mobile services as the market demands, given their expertise and capabilities, as detailed herein and in the attached. These incumbent licensees are leading the way on developing mobile mmWave systems in cooperation with manufacturers and customers, and are thus in the best position to quickly and effectively meet demand for mobile services in the mmWave bands if and when the Commission elects to change the service rules for these bands.

Finally, 1Gbps deployments at 24 GHz have been demonstrated to need less than 150 MHz of spectrum. At last month’s CTIA Super Mobility 2015 conference, exhibitors displayed 4096 QAM systems which could further compress spectrum channel width needs for 1 Gbps throughput. Thus, a 200 MHz wide block is indeed more than sufficient for some existing and future 1 Gbps technologies.

Respectfully submitted,

_____/s/
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Attachment

Macro Cell and Small Cell Diagrams

October 15, 2015



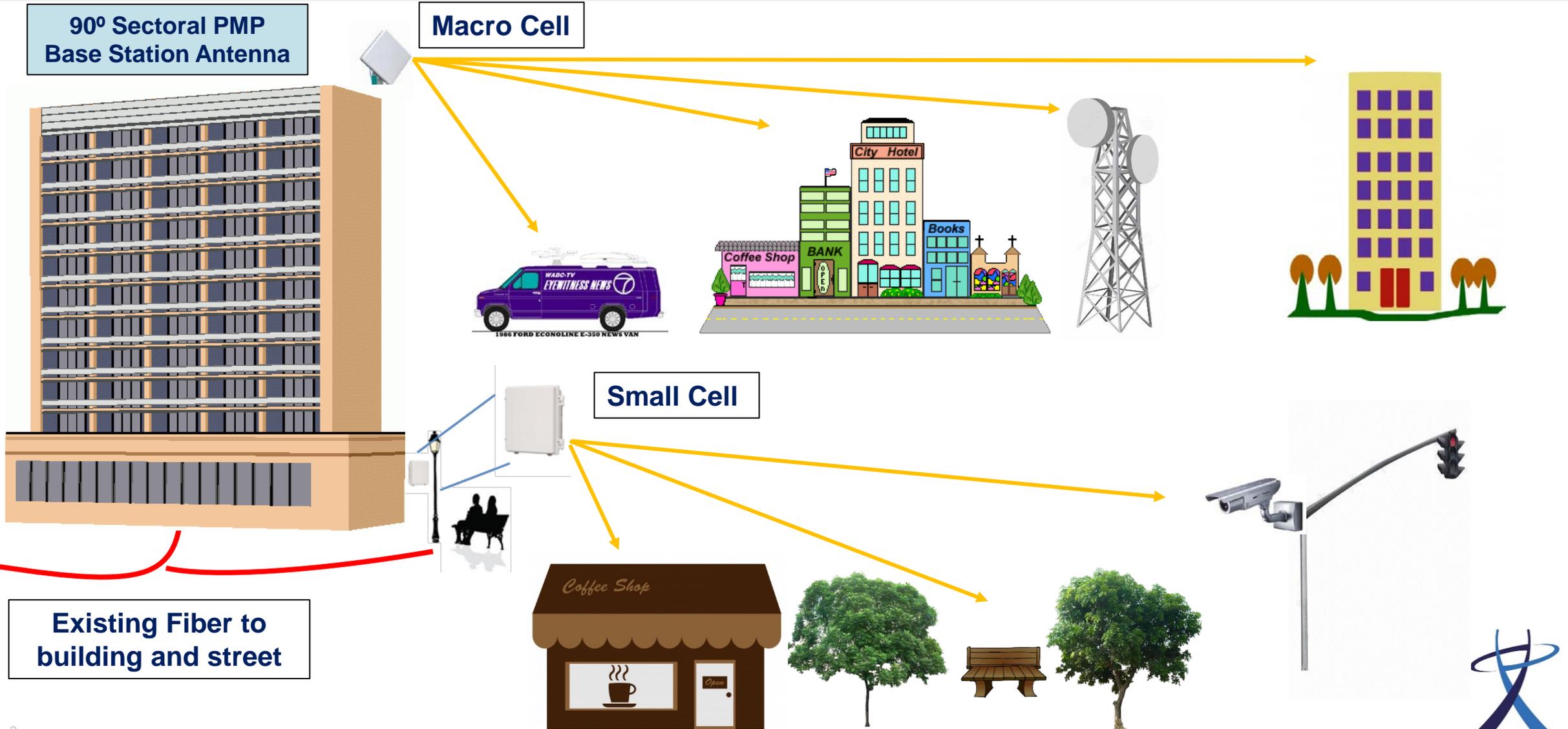
mmWave Characteristics: Base Stations

FIXED/PORTABLE PMP Base Stations operate *very similarly* to MOBILE ACCESS Base Stations

- 1. Latency**
- 2. Signal availability**
- 3. Throughput.** NOTE: 1Gbps systems operate at 24GHz using less than 150MHz.
- 4. Sector antennas.** NOTE: Fixed service PMP antennas in tests supported mobile.
- 5. Coordination.** NOTE: Both deploy with a plan to support a defined maximum of subscribers over a prescribed geographic area with pre-engineered power level and throughput ranges. PFD limits and coordination values at sector borders also similar.
- 6. Density (ex:, links per sector)**
- 7. Distance.** NOTE: The subscriber side though may have significant return signal differences as fixed/portable subscriber antennas can be much larger and have dedicated power source advantages over mobile handsets

Fixed/Portable Macro Cell and Small Cell (24GHz or 39GHz): 90° PMP Antenna

Current PMP Uses



Mobile Macro Cell and Small Cell Access (24GHz or 39GHz): 90° Base Antenna

Mobile access mmWave systems *build onto* portable/fixed services and infrastructure.

