September 4th, 2019

San Diego

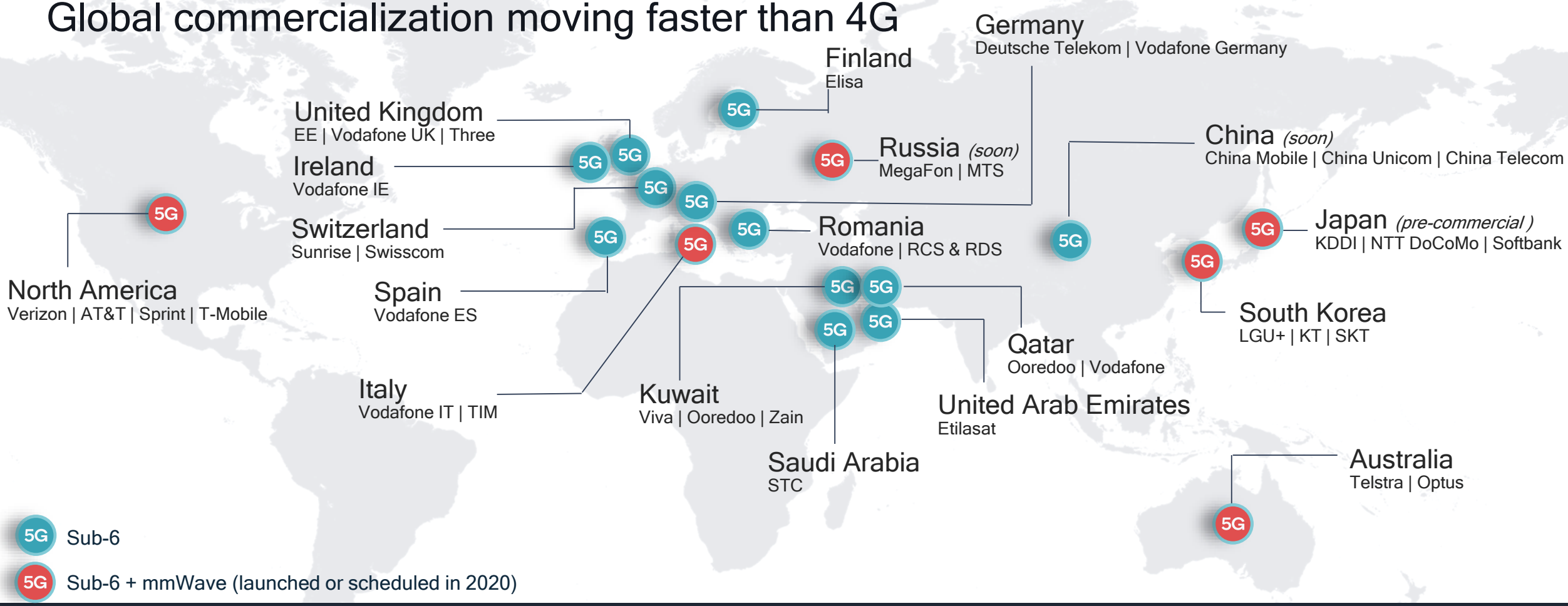
Qualcomm

# Qualcomm QTM527 mmWave Antenna Module

## Briefing slides

# 2019 is the year of 5G

## Global commercialization moving faster than 4G




## Comparison of Year 1 announcements

**4G**
- 4 Operators launched
- 3 OEMs launched

**5G**
- 20+ Operators launched
- 20+ OEMs launching


**Lenovo**
Z6 Pro 5G


**LG**
V50 ThinQ 5G


**Motorola**
moto z⁴/z³ +
5G moto mod


**Nubia**
Mini 5G


**OnePlus**
7 Pro 5G

**OPPO**
Reno 5G

**Samsung**
Galaxy S10 5G

**Samsung**
Galaxy Fold

**Samsung**
Galaxy Note10+ 5G


**Vivo**
iQOO 5G
Edition


**Xiaomi**
Mi MIX 5G


**ZTE**
Axon 10 Pro 5G

## Hotspots and CPEs

**Askey**

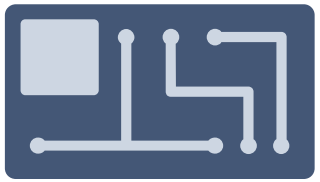
**Inseego**

**HTC**

**Netgear**

**WNC**

## 5G Modules



**Compal**

**Fibocom**

**Longsung**

**Quectel**

**Sierra Wireless**

**SIMcom**

**Telit**

# The device ecosystem is delivering 5G

## 150+ 5G devices launched or in development

# 5G is a connectivity fabric for virtually everything

Networking

Mobile compute

XR

IoT

Automotive

Fixed wireless

Announcing next generation…

# QTM527 mmWave antenna module


The world’s First Fully Integrated extended-range mmWave Solution for 5G Fixed Wireless Access consumer premises equipment (CPE)

# QTM527 mmWave antenna modules


The QTM527 mmWave antenna module expands the capabilities of the Snapdragon X55 5G Modem-RF System to deliver a comprehensive modem-to-antenna platform for flexible, cost-effective, high performance 5G mmWave customer-premises equipment (CPE) designs

### Extended Range

Expand high-speed internet access to rural, suburban and dense urban environments

### Fully-integrated mmWave RF

Including transceiver, PMIC, RF front-end components, and a phased antenna array

### Global Band Support

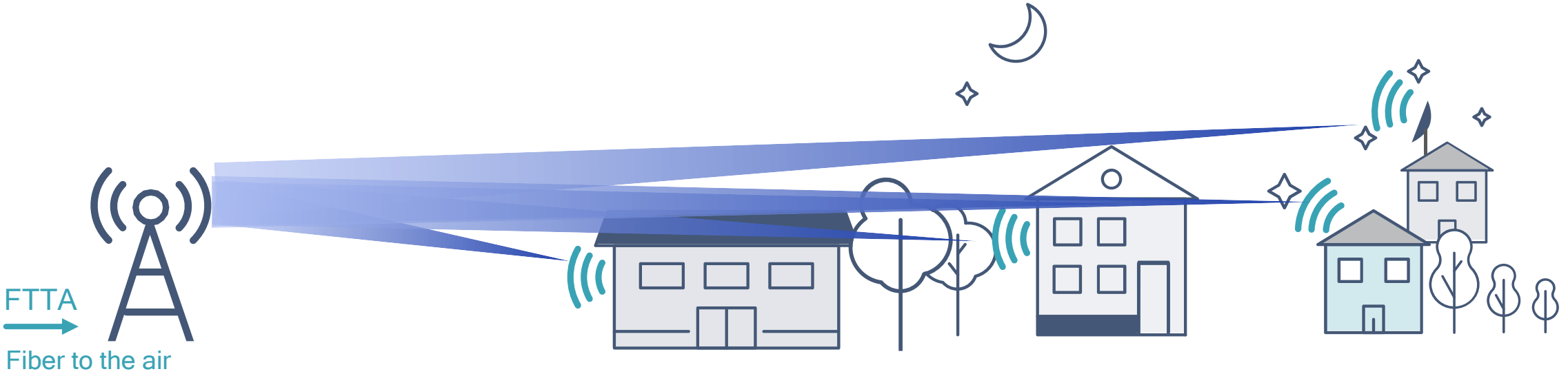
Support for up to 800 MHz of bandwidth in n257, n258, n260, and n261 5G NR mmWave bands[1]

### Improved consumer experience

Deliver 5G's multi-gigabit speeds and ultra-low latency to a wider customer base within a large coverage footprint

1 3GPP band definition are n257 (26.5-29.5 GHz), n258 (24.25-27.5 GHz), n260 (37-40 GHz), n261 (27.5-28.35 GHz)

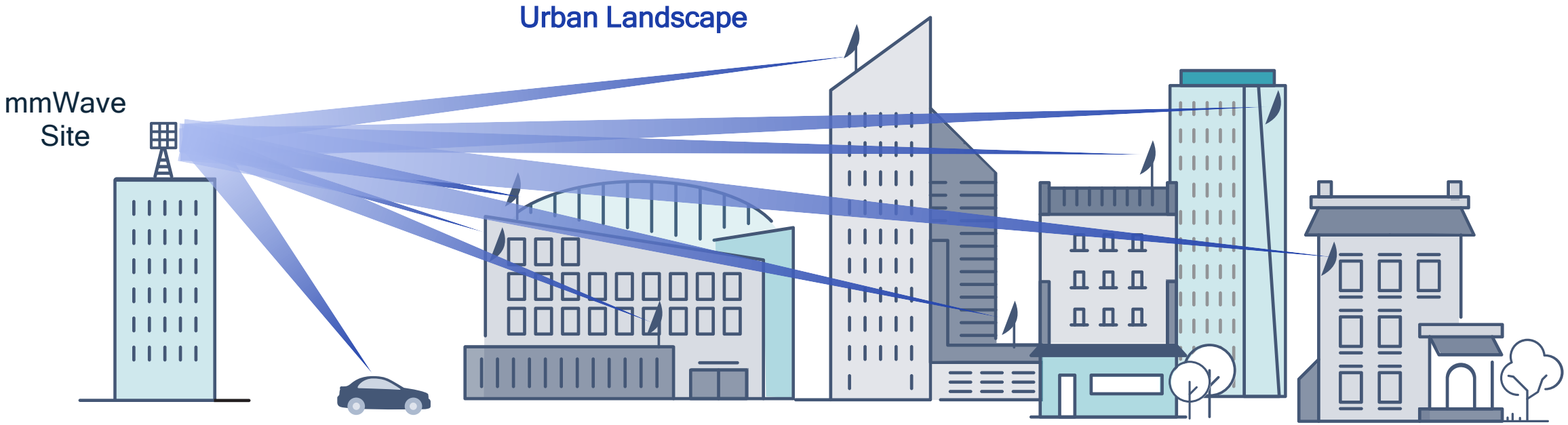
# 5G mmWave FWA: Rural\Suburban deployment




Based on CPE height at 6m above ground, BW:400MHz, 7:1 TDD Config, light Foliage, and on 28Ghz

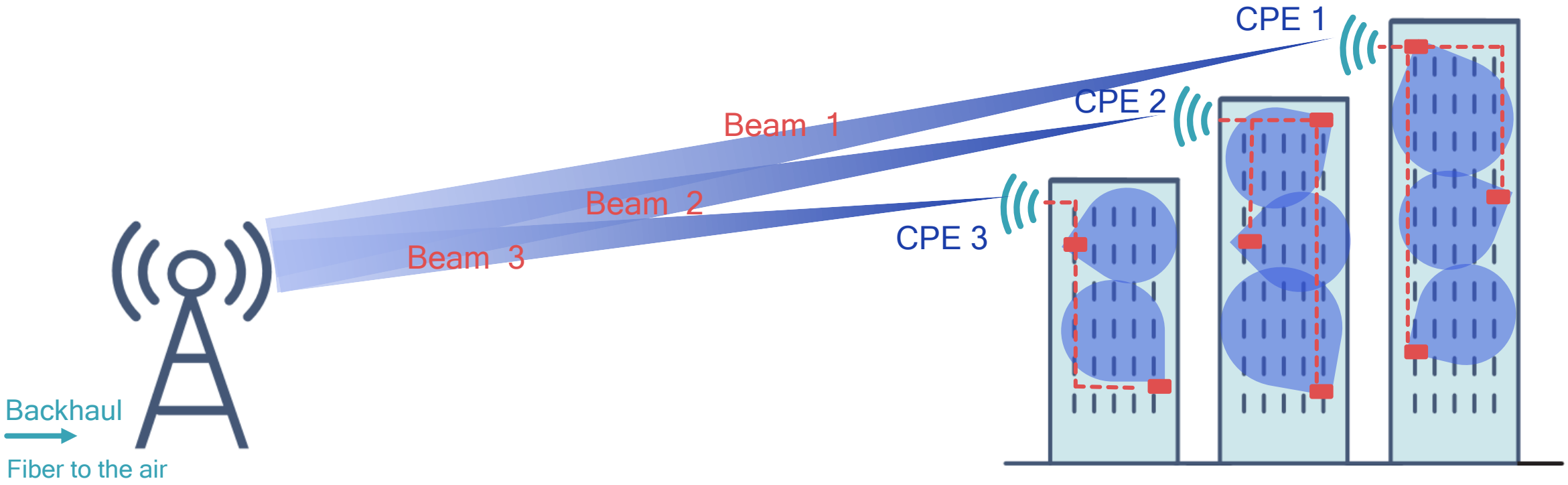
Coverage of up to **1.7 Km** distance from base station in rural area

# 5G mmWave FWA: Urban & Dense Urban deployment




Coverage of up to **1.1 Km** distance from base station in Urban area

# 5G mmWave FWA: Wireless Backhaul for Highrise Buildings deployment




A feasible use case for mmWave that provides expedited & low-cost deployment to replace fiber

# Benefits

## OEMs

- Enable OEMs to provide cost-effective 5G FWA CPE
- Accelerate time to launch and lower development effort for building 5G FWA CPEs at scale
- Increase OEM’s target customer base who can enjoy mmWave benefits within large-area coverage

## Operators

- Accelerate rollout and deployment of 5G in urban, rural and suburban areas as it eliminates the need to lay cables and fibers.
- Help extend their mmWave coverage to indoor environment with existing infrastructure.
- Provides a means to deliver gigabit speeds to their users using the same mobile wireless network they’re deploying for phones and without the need to lay out fiber to every house.
- Provide deployment flexibility, cost-effectiveness, and Internet access performance comparable to fiber.

## Consumers

- Leap into 5G, the new era of mobile devices and user experiences
- Access to faster and more reliable broadband services
- More choice as mobile operations even with a fixed infrastructure can participate in offering services.
- Quicker deployment and faster turn-on time – no need to lay out fibers and cable lines.
- A new cost-effective and flexible alternative for fixed Internet Access with the performance expected from current solutions.

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# Thank you

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