U.S. mmWave Deployment Cost Estimate: *The Long and Short of It*

Market Study
1Q 2017

U.S. mmWave Deployment Cost Estimate: *The Long and Short of It*

Market Study

Published 1Q 2017
Version 1.0
Report Number: 01Q2017-11

*iG*R
12400 W. Hwy 71
Suite 350 PMB 341
Austin TX 78738

Table of Contents

Abstract

Multiple millimeter wave (mmWave) bands have been in commercial use for decades, but this spectrum has been a relatively niche player compared to lower bands, such as those used by cellular.

Millimeter wave is increasingly attractive to many companies and governments because it provides wider channels than lower frequencies do, so it can support heavy traffic loads and bandwidth-intensive applications such as live 4K video. This means mmWave can compete with fiber for customers with multi-Gbps applications. Its shorter wavelengths are also a good fit for massive multiple input, multiple output (MIMO) antenna systems, which enable high speeds and high reliability.

The cost model presented in this report essentially builds on several assumptions regarding feasibility and costs to estimate how much it might cost to deploy mmWave-based services, using a Massive MIMO antenna system, to households and/or businesses.

Key questions addressed:

- What is millimeter wave?
- Why is millimeter wave important? How is it being used? How can it be used?
- How are Massive MIMO and mmWave related?
- What are the pros and cons to deploying mmWave? What are the challenges?
- How much might it cost to deploy mmWave-based services?

Who should read this report?

- Mobile operators
- Mobile device OEMs
- Mobile content providers and distributors
- Financial analysts and investors.