

COMMUNICATION INFRASTRUCTURE 5G TEACH-IN

Paul Hart

Executive Vice President and General Manager
Radio Power, NXP Semiconductors

DECEMBER 2020



SECURE CONNECTIONS
FOR A SMARTER WORLD

PUBLIC

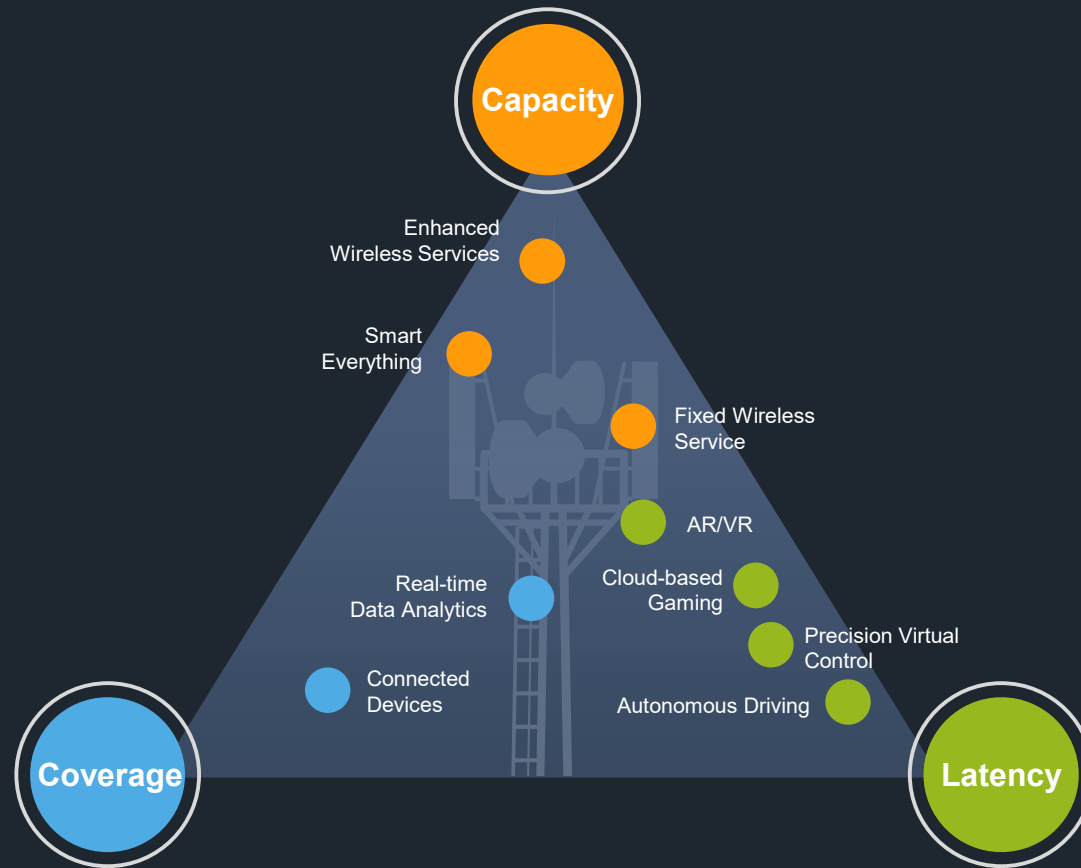
NXP, THE NXP LOGO AND NXP SECURE CONNECTIONS FOR A SMARTER WORLD ARE TRADEMARKS OF NXP B.V.
ALL OTHER PRODUCT OR SERVICE NAMES ARE THE PROPERTY OF THEIR RESPECTIVE OWNERS. © 2020 NXP B.V.



FORWARD LOOKING STATEMENTS

This document includes forward-looking statements which include statements regarding NXP's business strategy, financial condition, results of operations, and market data, as well as any other statements which are not historical facts. By their nature, forward-looking statements are subject to numerous factors, risks and uncertainties that could cause actual outcomes and results to be materially different from those projected. These factors, risks and uncertainties include the following: the duration and spread of the COVID-19 outbreak, its severity, the actions to contain the virus or treat its impact, and how quickly and to what extent normal economic and operating conditions can resume; market demand and semiconductor industry conditions; the ability to successfully introduce new technologies and products; the demand for the goods into which NXP's products are incorporated; trade disputes between the U.S. and China, potential increase of barriers to international trade and resulting disruptions to NXP's established supply chains; the ability to generate sufficient cash, raise sufficient capital or refinance corporate debt at or before maturity to meet both NXP's debt service and research and development and capital investment requirements; the ability to accurately estimate demand and match manufacturing production capacity accordingly or obtain supplies from third-party producers; the potential impact of the outbreak of COVID-19 on NXP's business, operations, results of operations, financial condition, workforce or the operations or decisions of customers, suppliers or business customers; the access to production capacity from third-party outsourcing partners and any events that might affect their business or NXP's relationship with them; including the outbreak of COVID-19 or the requirements to suspend activities with customers or suppliers because of changing import and export regulations; the ability to secure adequate and timely supply of equipment and materials from suppliers; the ability to avoid operational problems and product defects and, if such issues were to arise, to correct them quickly; the ability to form strategic partnerships and joint ventures and to successfully cooperate with alliance partners; the ability to win competitive bid selection processes; the ability to develop products for use in customers' equipment and products; the ability to successfully hire and retain key management and senior product engineers; and, the ability to maintain good relationships with NXP's suppliers. In addition, this document contains information concerning the semiconductor industry and NXP's market and business segments generally, which is forward-looking in nature and is based on a variety of assumptions regarding the ways in which the semiconductor industry and NXP's market and business segments may develop. NXP has based these assumptions on information currently available, if any one or more of these assumptions turn out to be incorrect, actual results may differ from those predicted. While NXP does not know what impact any such differences may have on its business, if there are such differences, its future results of operations and its financial condition could be materially adversely affected. There can be no assurances that a pandemic, epidemic or outbreak of a contagious diseases, such as COVID-19, will not have a material and adverse impact on our business, operating results and financial condition in the future. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak to results only as of the date the statements were made. Except for any ongoing obligation to disclose material information as required by the United States federal securities laws, NXP does not have any intention or obligation to publicly update or revise any forward-looking statements after the date of this event, whether to reflect any future events or circumstances or otherwise. For a discussion of potential risks and uncertainties, please refer to the risk factors listed in our SEC filings. Copies of our SEC filings are available on our Investor Relations website, www.nxp.com/investor or from the SEC website, www.sec.gov.

VERY EARLY STAGE OF 5G SUPER-CYCLE



5G DEPLOYMENT DRIVERS

Mobile broadband

New business cases with 5G Stand-Alone

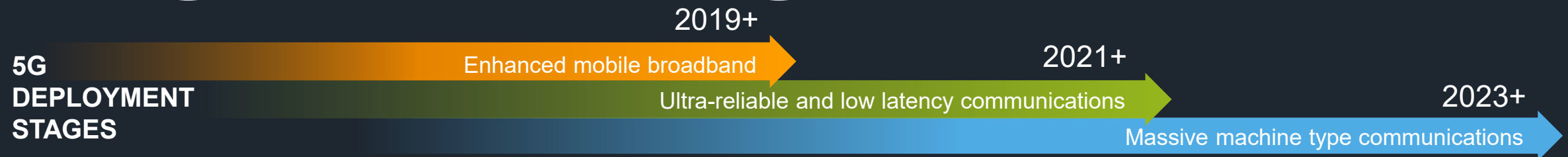
Extended deployment cycle

Cost / power consumption / miniaturization

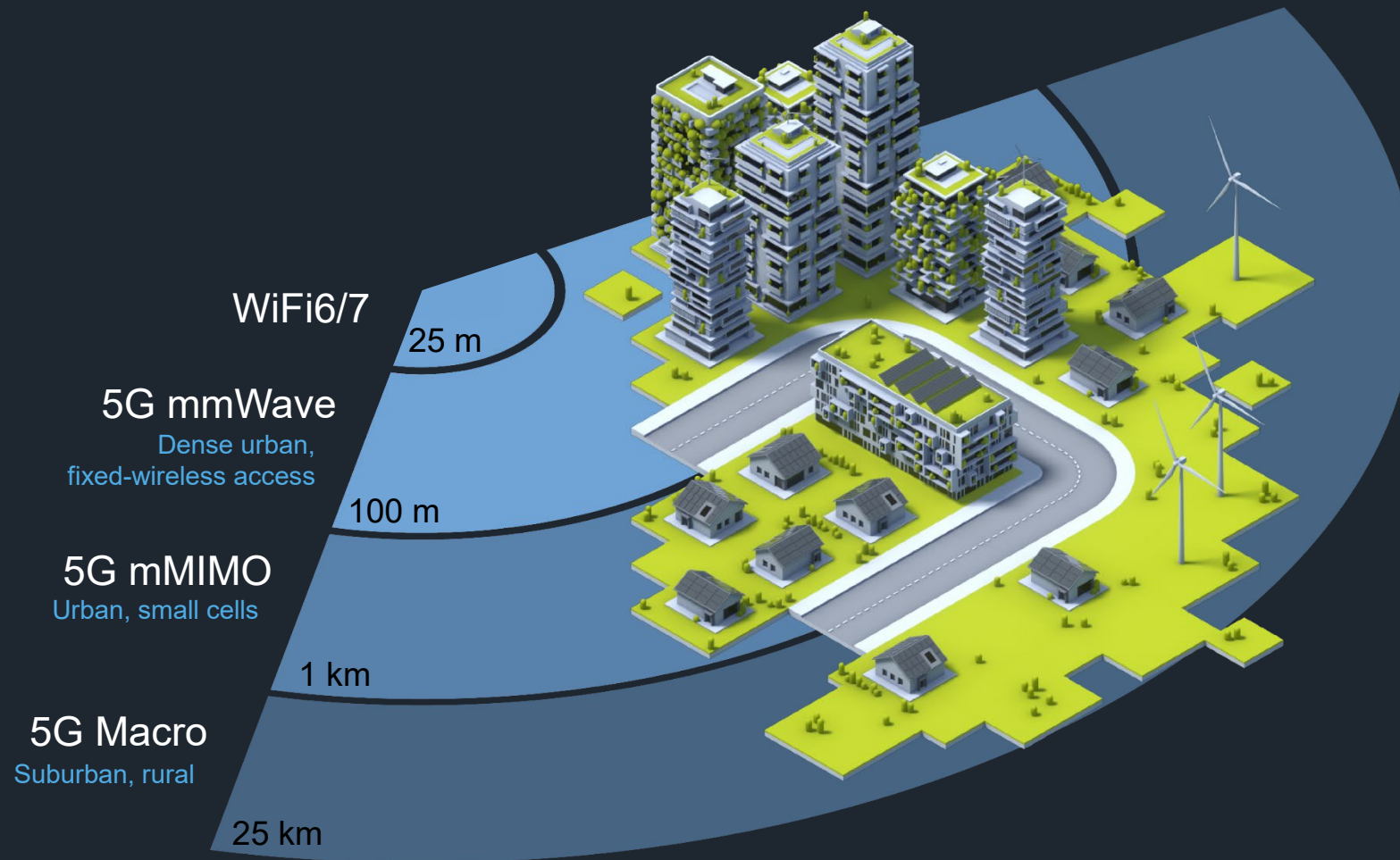
NXP'S 5G INFRASTRUCTURE FOCUS

#1 Provider of RF Power devices

5G Access Edge programmable modems



5G IS A DIVERSE AND COMPLEMENTARY NETWORK ECOSYSTEM



MULTIPLE NETWORK ARCHITECTURES

RAPIDLY EVOLVING DEPLOYMENT

FLEXIBILITY TO RF MARKET DEMANDS

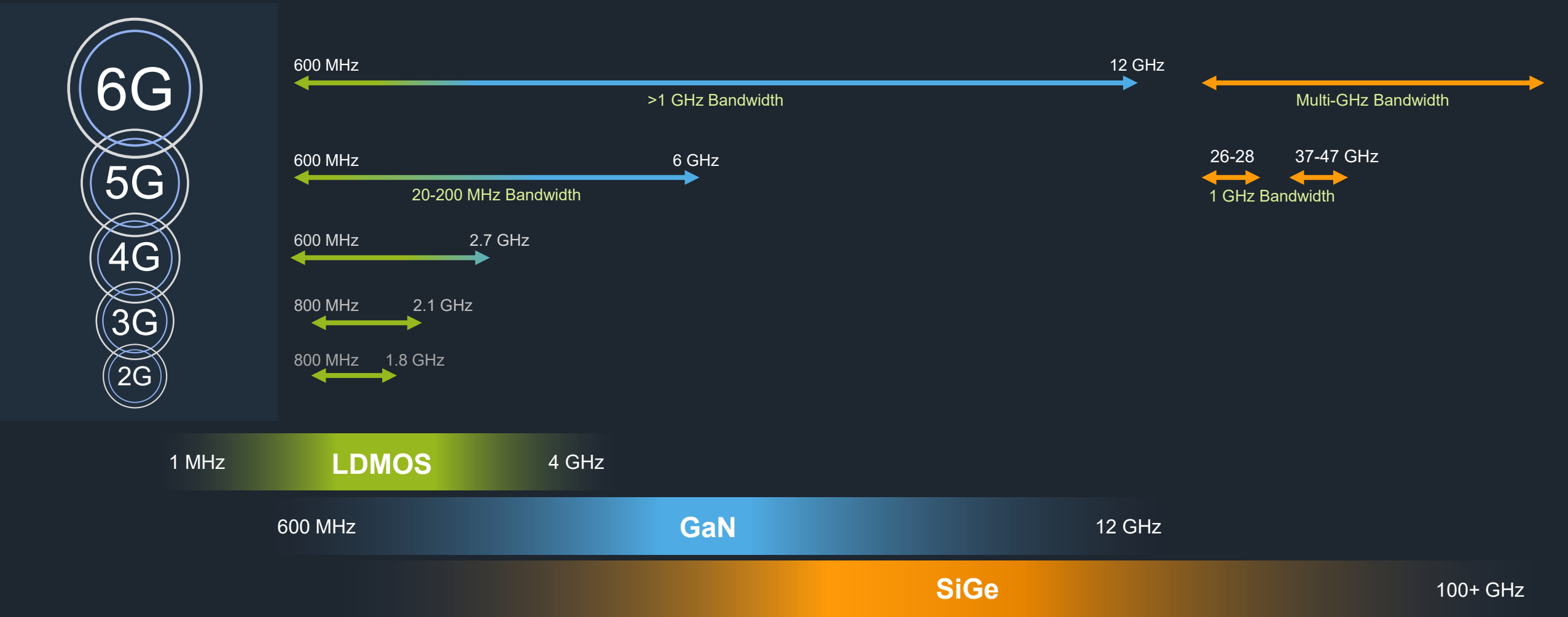
NXP SERVES ALL 5G CONFIGURATIONS

Frequencies

Power levels

Architectures

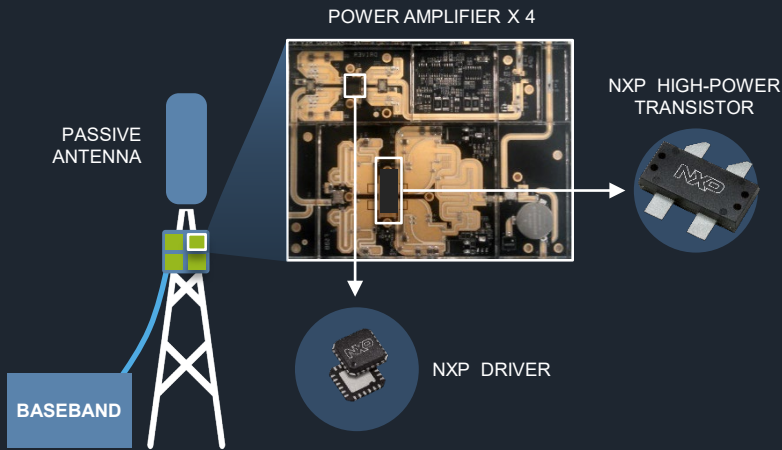
RISING RF COMPLEXITY WITH 5G FREQUENCY AND POWER EVOLUTION



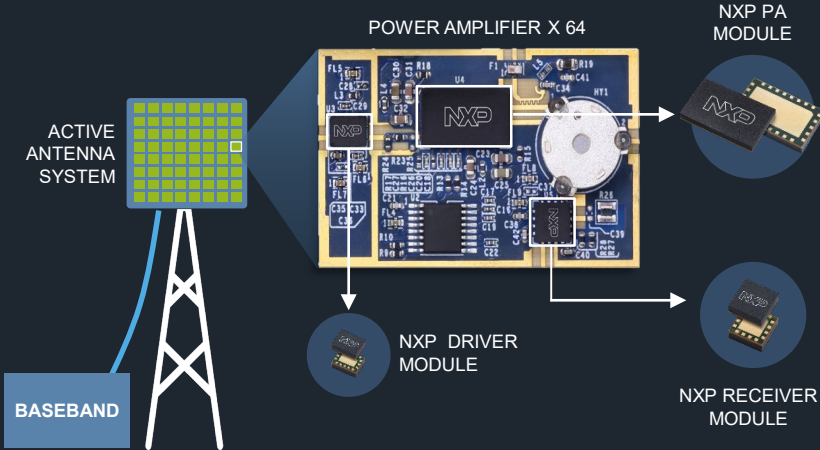
NXP ADDRESSING ALL SYSTEMS

NXP RF

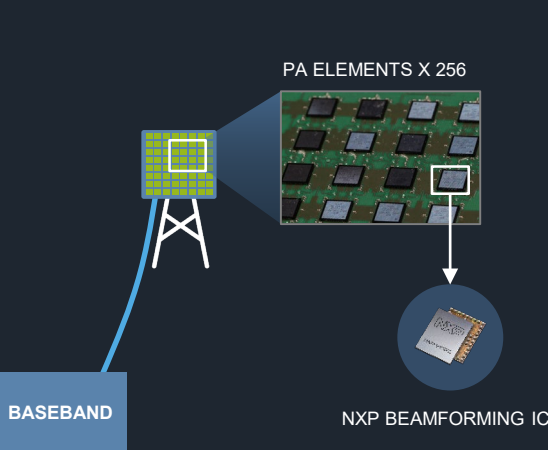
5G Macro



5G mMIMO



5G mmWave



4T

4 X 40 W

1X Content

8T

8 X 40 W

2X Content

32T

32 X 10 W

3X Content

64T

64 X 5 W

4X Content

mmWave

256 X 200 mW

4X Content

Coverage

Capacity

NXP TECHNOLOGY LEADERSHIP

GaN

Unique feature-set for 5G infrastructure
Ramping world-class fab in 2020
Performance, quality and scale
for 5G leadership

SiGe

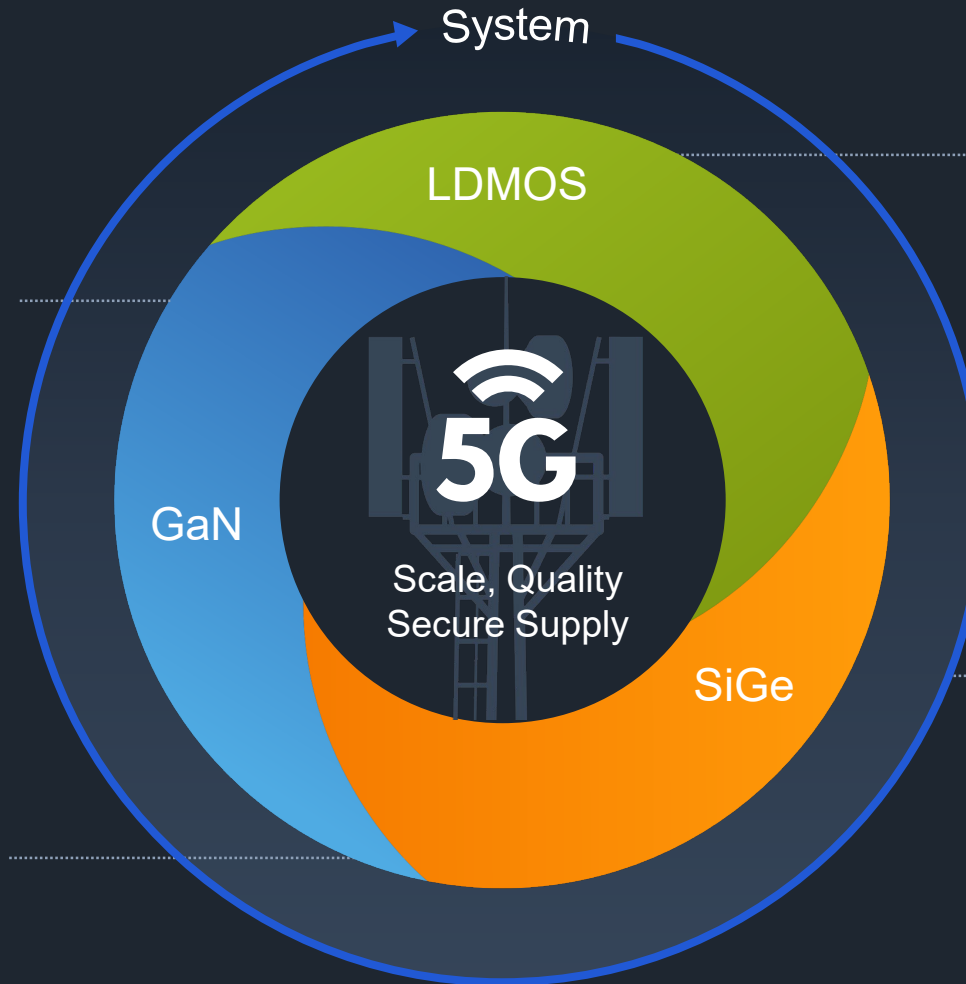
Sub 6 GHz controllers and receivers
Highly integrated mmWave ICs
Leading RF performance with
cost structure of silicon

LDMOS

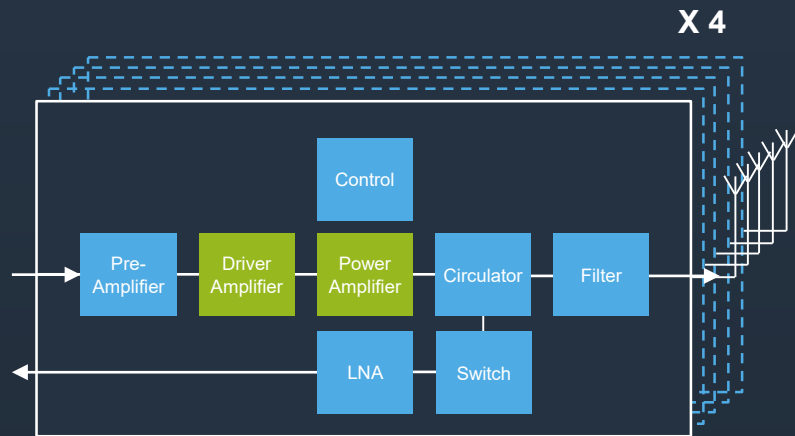
Decades of industry leadership
Extending performance to > 4 GHz
Most cost-effective power technology

System

Comprehensive RF to Access Edge solutions
Advanced IP for system optimization
Hybrid technology integration
Scalability to 6G



DRIVING DOWN SYSTEMS COSTS THROUGH INTEGRATION

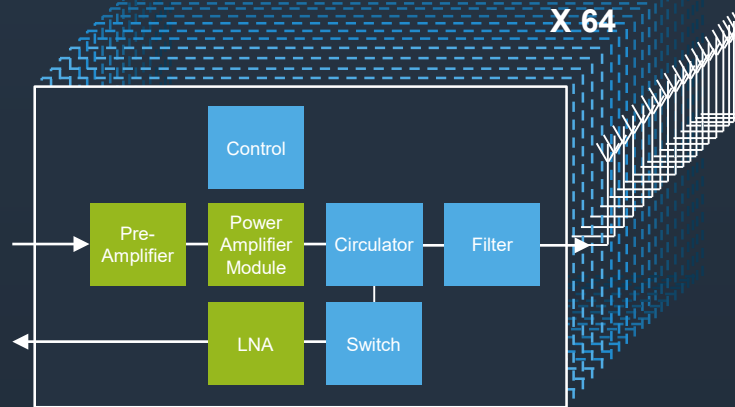


Radio Board

2018

ICs and Discrete Transistors

 NXP Focus Expansion

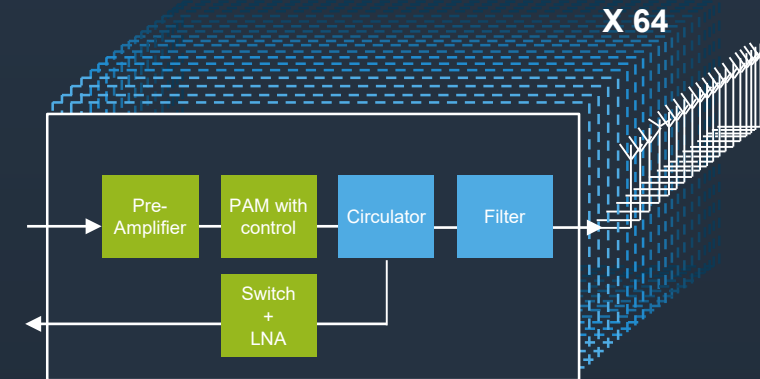


2020

Integrated Amplifier Modules

25%

Smaller
Radio Board



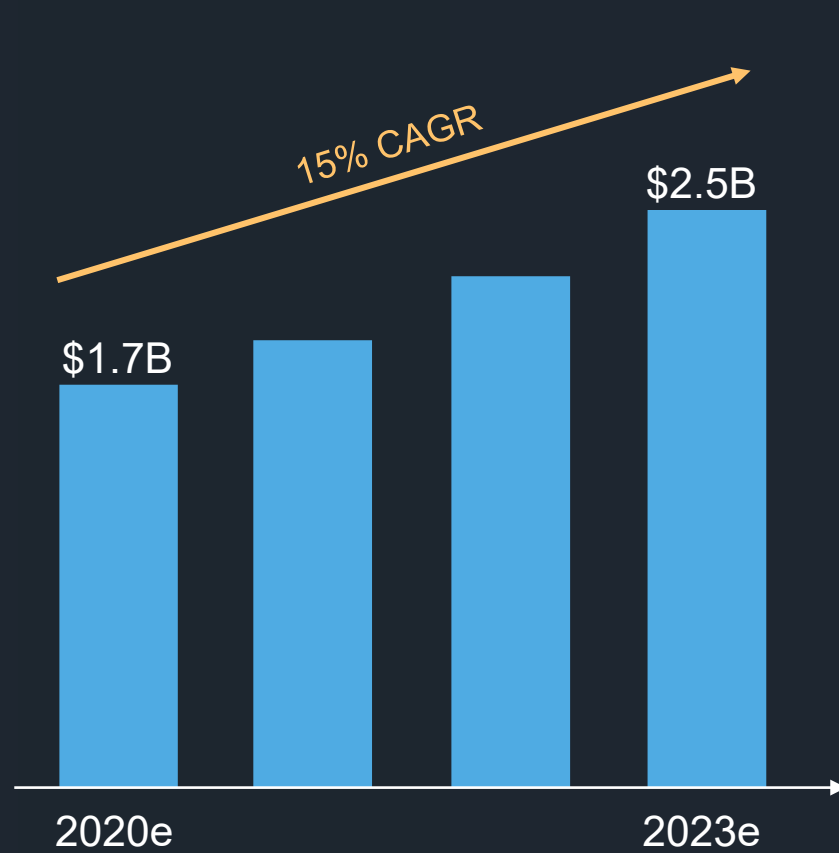
2021

Highly Integrated Radio Board

50%

Smaller
Radio Board

RADIO CONTENT GROWTH DRIVES STRONG SAM EXPANSION



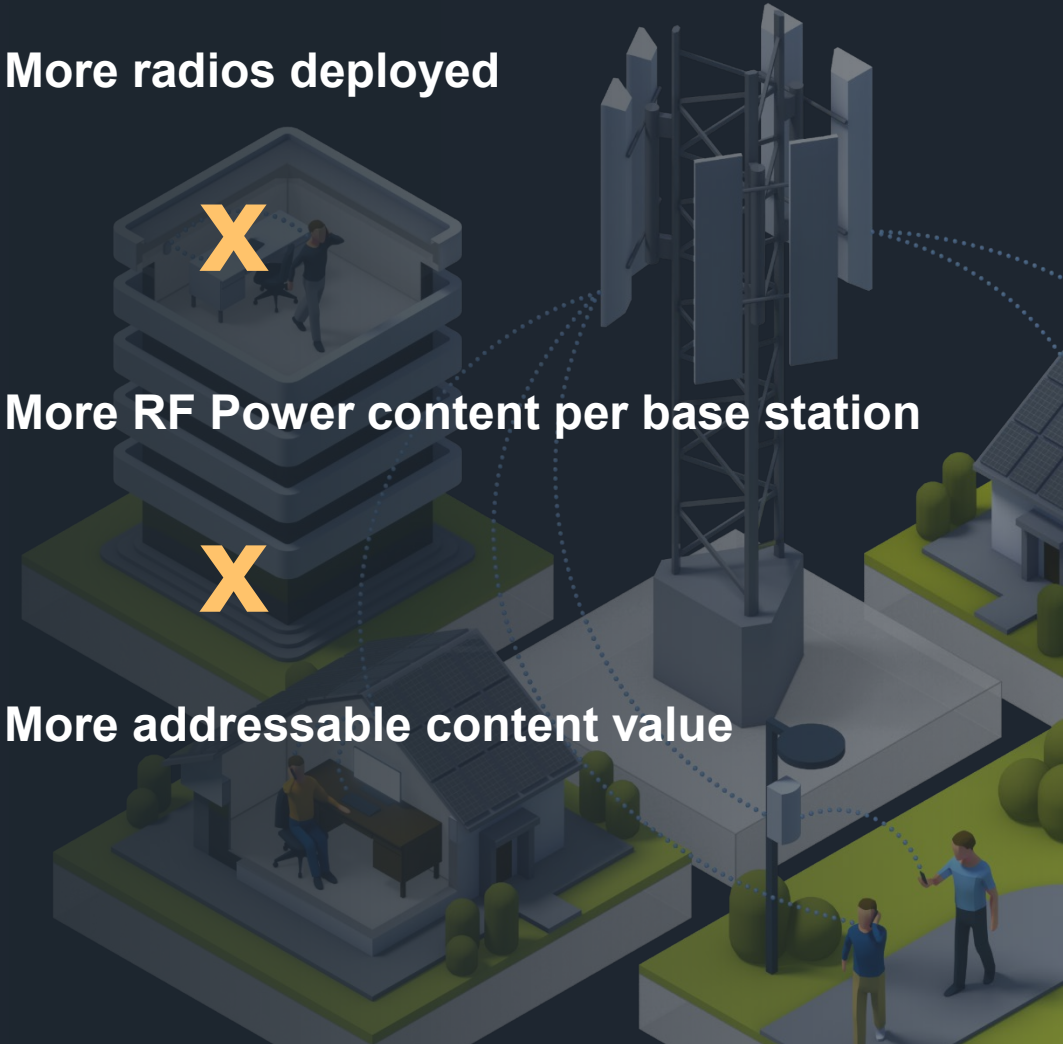
More radios deployed



More RF Power content per base station



More addressable content value

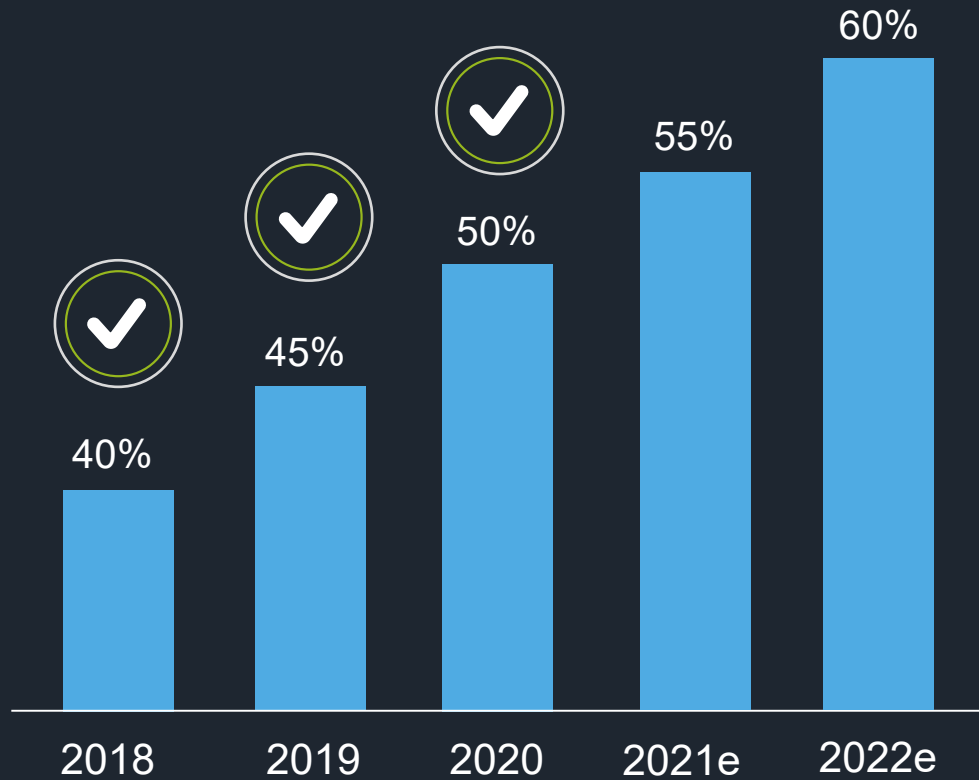


COMPREHENSIVE INFRASTRUCTURE FOCUSED PORTFOLIO



EFFICIENCY CRITICAL FOR TOTAL COST OF OWNERSHIP

mMIMO Module Power Efficiency



Significant carrier benefits from 5% efficiency increase

\$1 Billion
electricity savings per year



Radio **size**
reduction

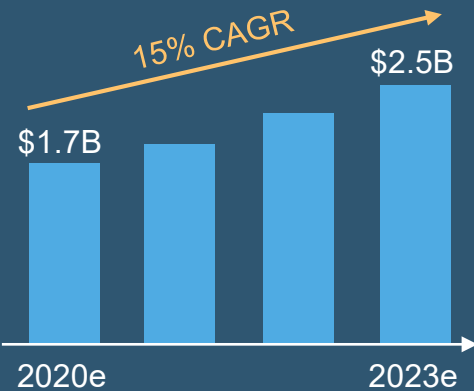


Radio **weight**
reduction

NXP POSITIONED FOR LEADERSHIP IN 5G

STRONG MARKET GROWTH

Entering 5G super-cycle



Technology Leadership

Integration Focus

System Expertise

Cost Focus

Scale

Roadmap to 6G



TRUE LEADERSHIP

Differentiated RF solutions

40%

Market Share⁽¹⁾

Growth in line with market



SECURE CONNECTIONS
FOR A SMARTER WORLD