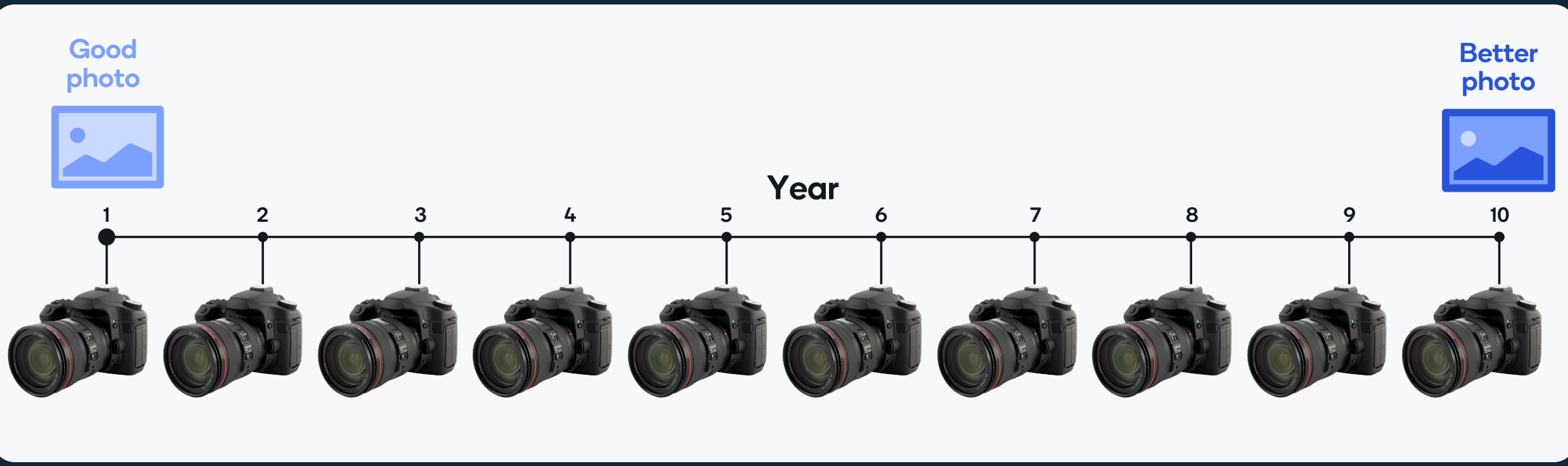
PJ Jacobowitz

Staff Manager, Product Marketing, Camera

Qualcomm Technologies, Inc.


Good photo
Better photo
Year
1
2
3
4
5
6
7
8
9
10

Low light

Bright light

HDR

4K HDR video capture

Portrait mode

Depth sensing

Multi-zoom lenses

Face unlock

Style transfer

Super zoom

AI Neural Nets

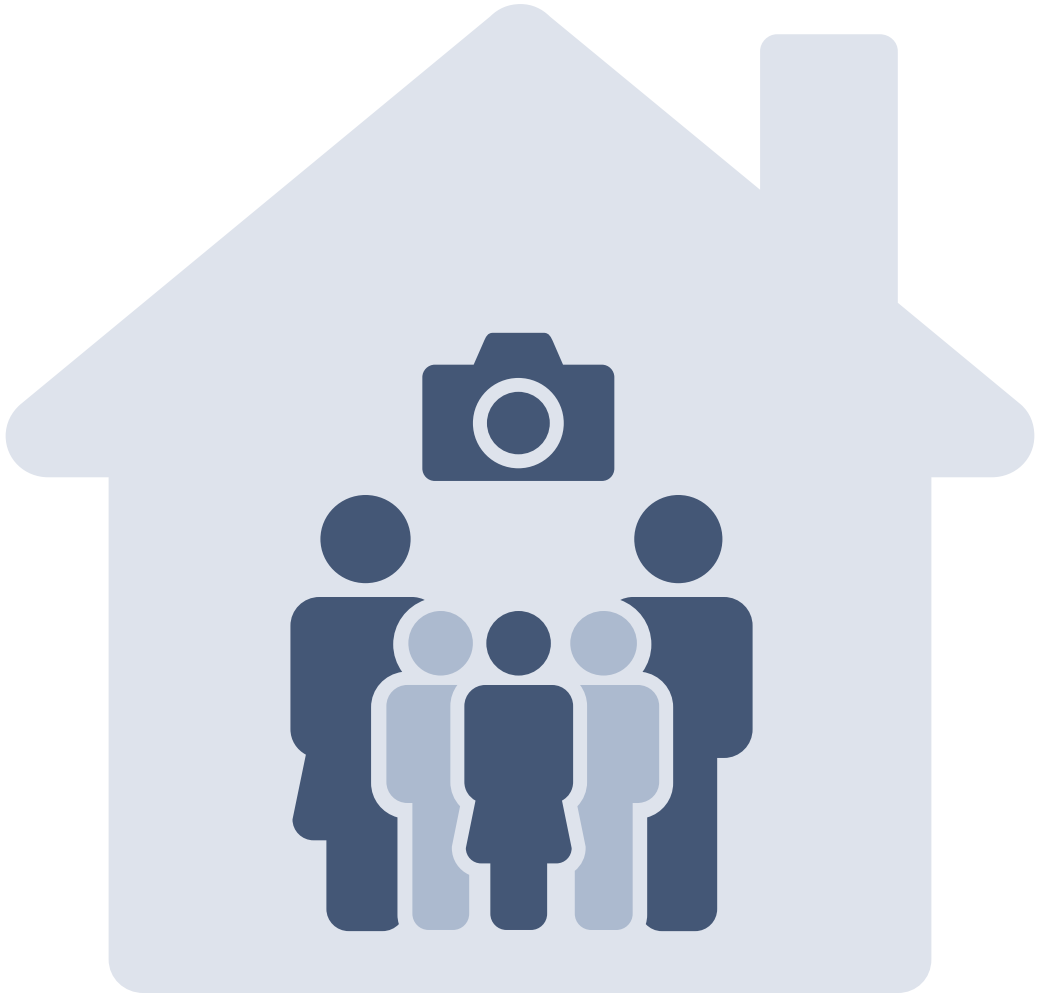
Computer vision

Object tracking

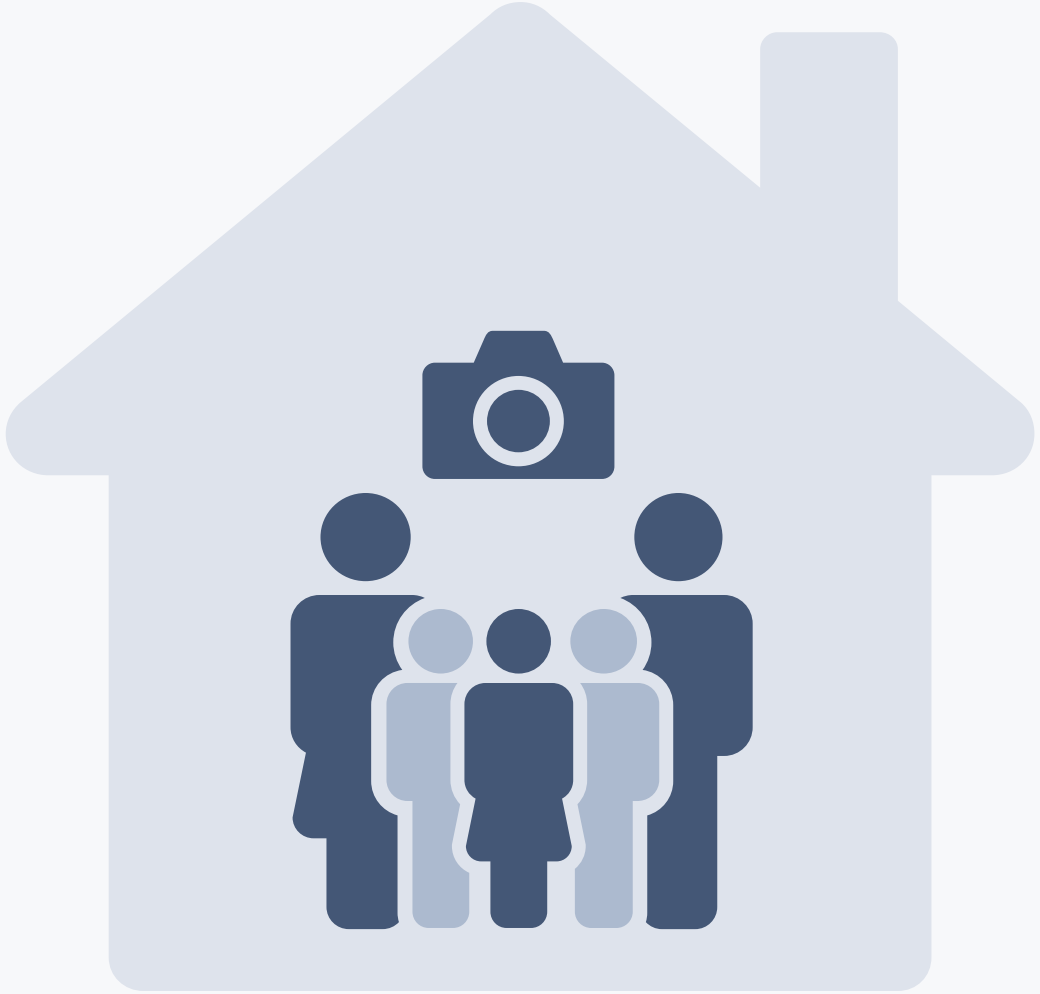
Augmented reality

Roomscale

Body tracking



1 camera per household



1 camera per household

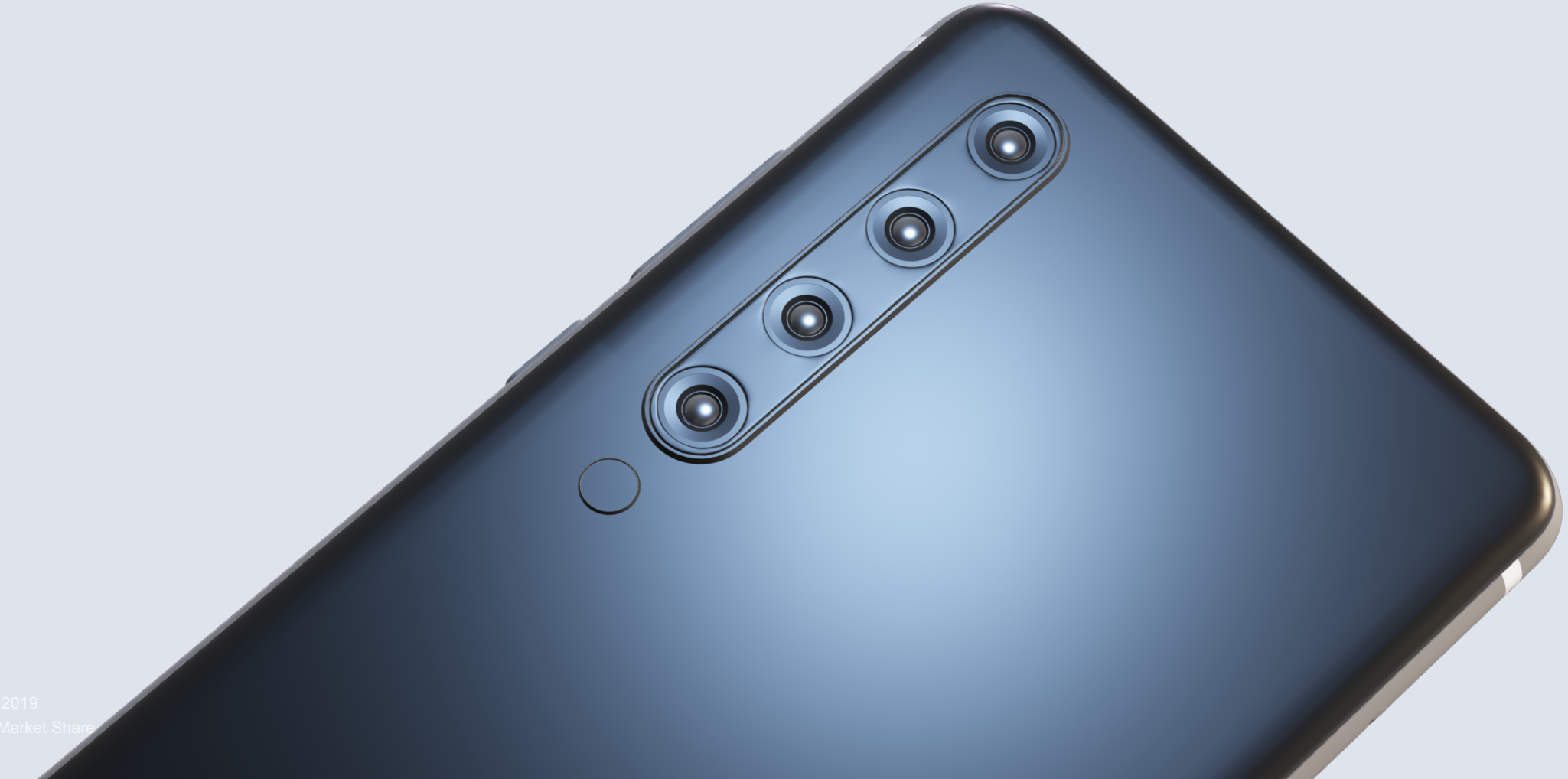
5 cameras per person

Qualcomm Snapdragon is a product of Qualcomm Technologies, Inc. and/or its subsidiaries.

Shot on Snapdragon

Qualcomm

Powering the most smartphone cameras on the planet

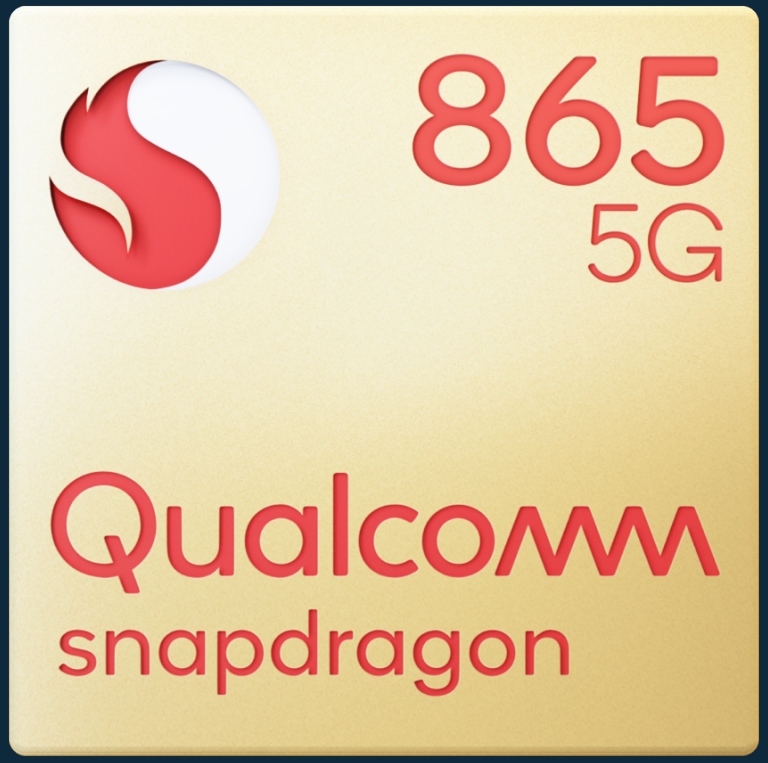


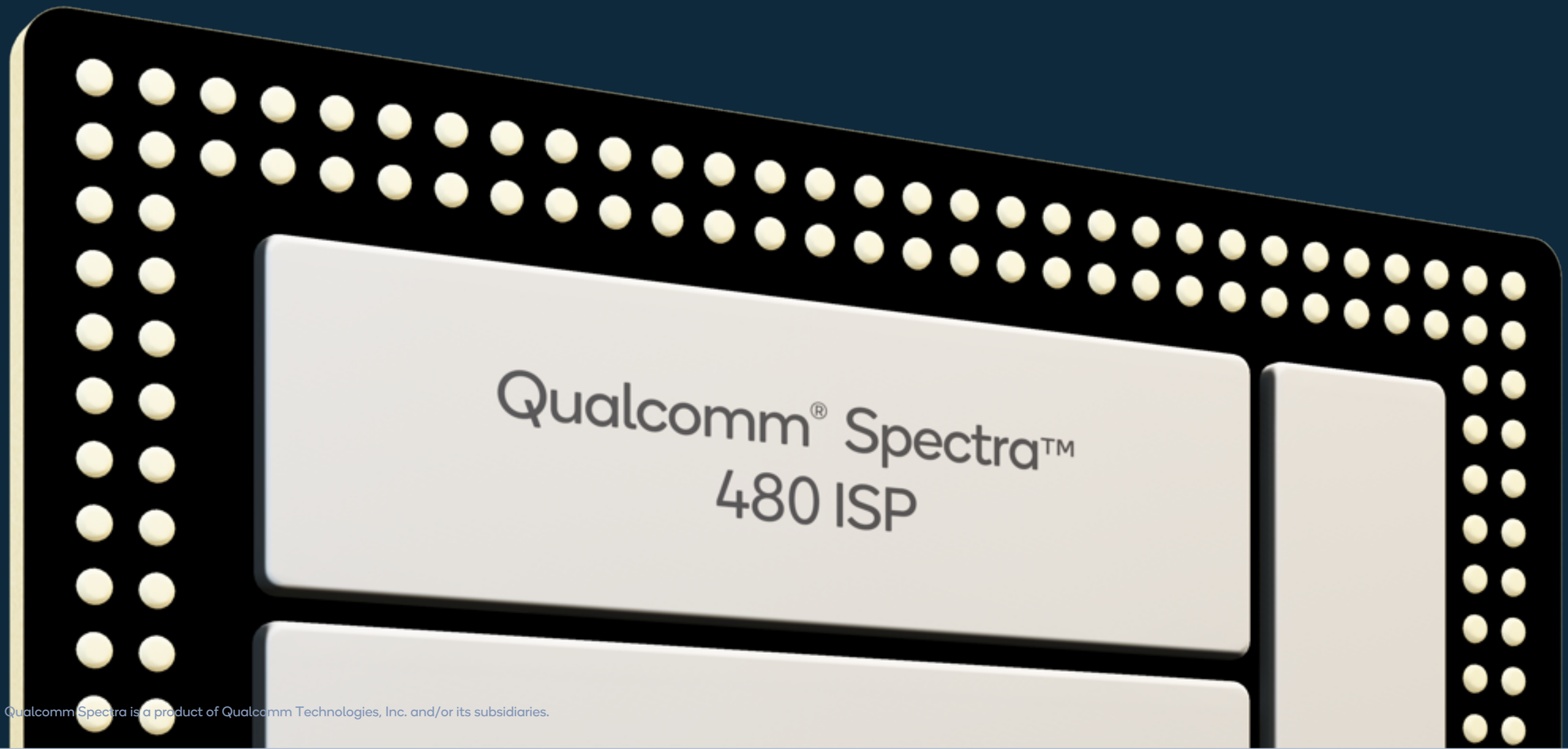
Source: Strategy Analytics Q2 2019
Smartphone Apps Processor Market Share

Judd Heape

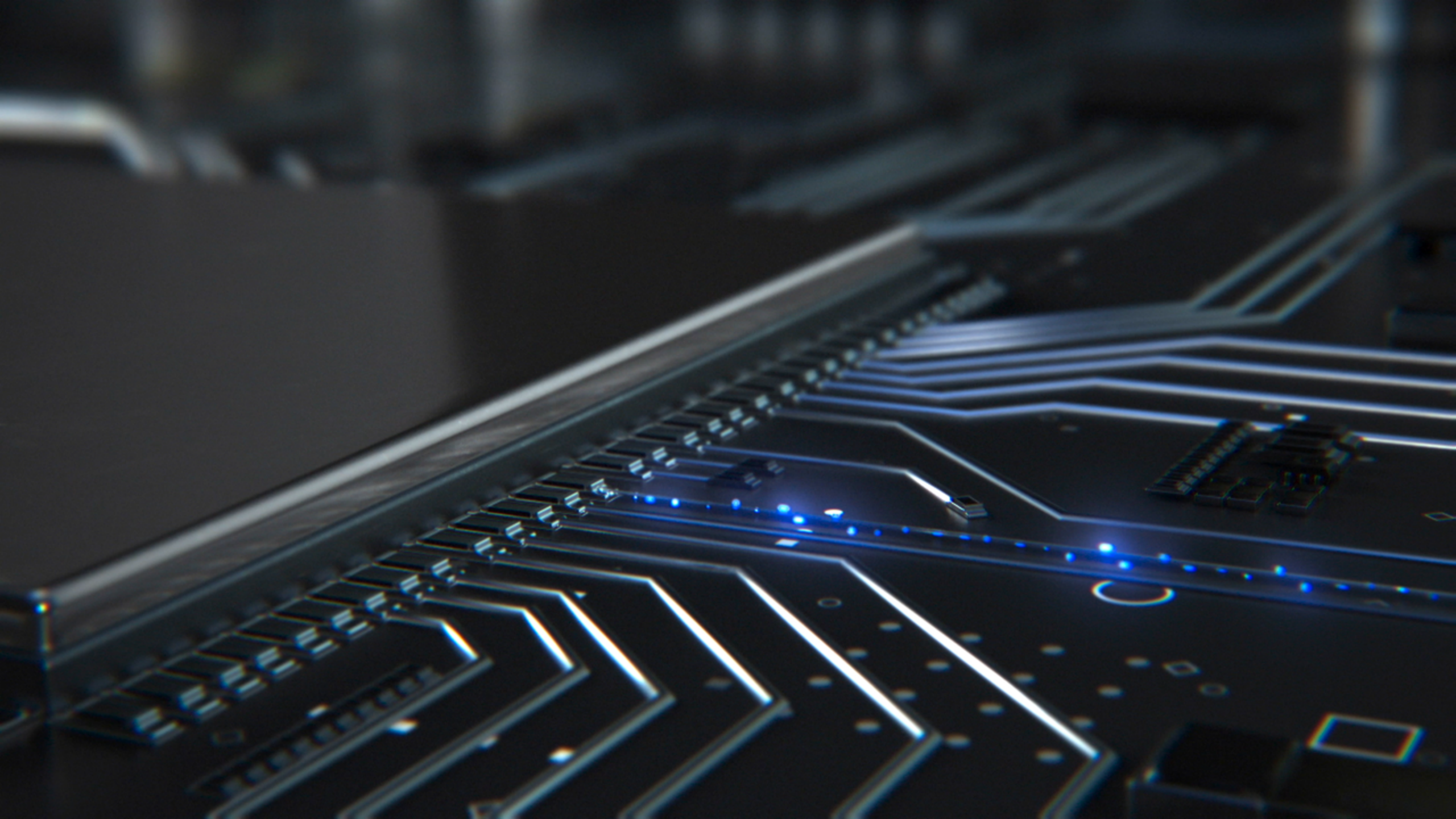
Senior Director, Product Management, Camera

Qualcomm Technologies, Inc.


865
5G
Qualcomm
snapdragon

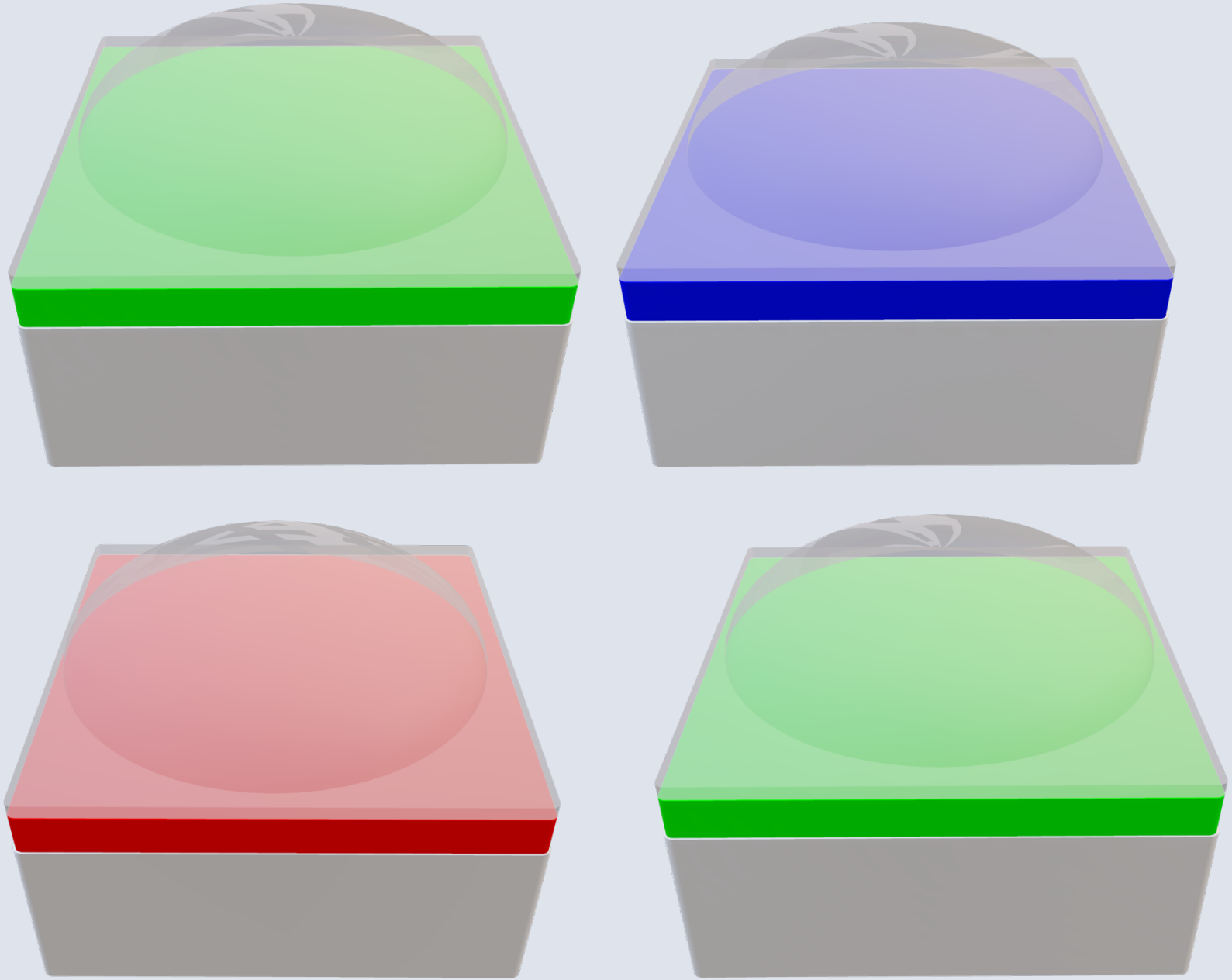


Qualcomm Spectra is a product of Qualcomm Technologies, Inc. and/or its subsidiaries.

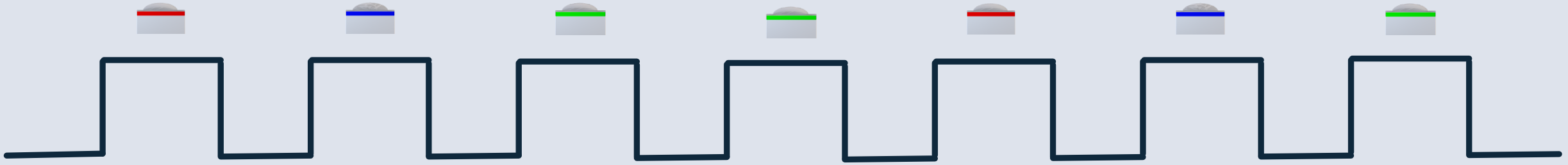


Gigapixel speed. Professional quality.

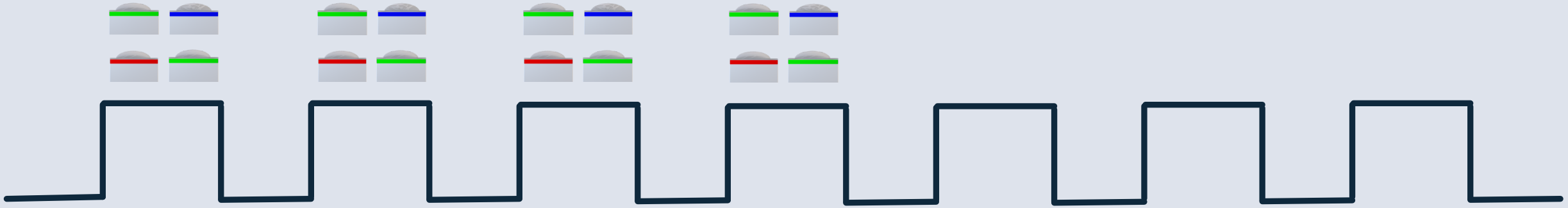
2 Gigapixels per second



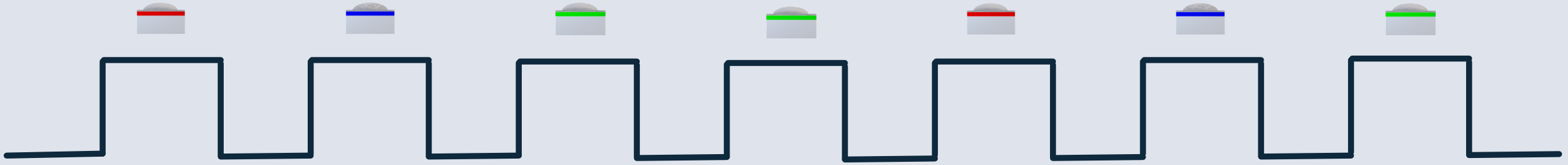
1 Pixel per Clock Cycle



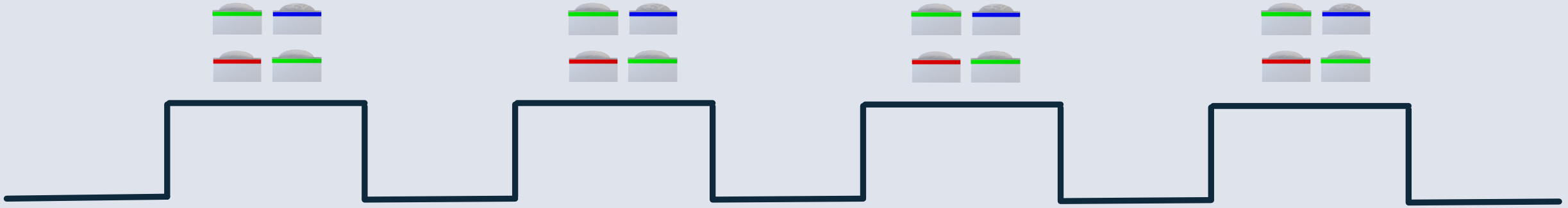
4 Pixels per Clock Cycle



1 Pixel per Clock Cycle



4 Pixels per Clock Cycle



Power savings

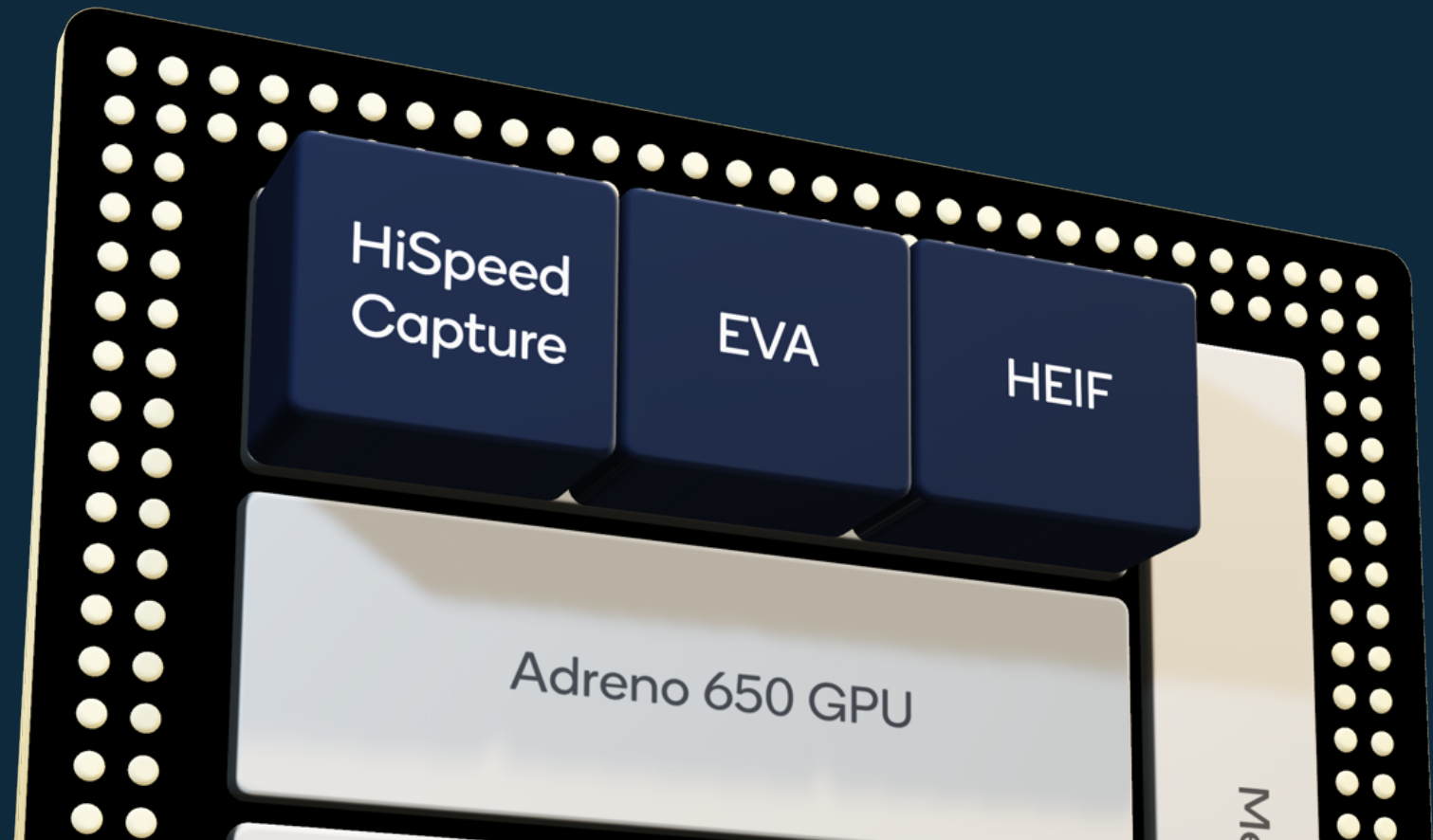
Runs cooler

Faster

2 Gigapixels per second

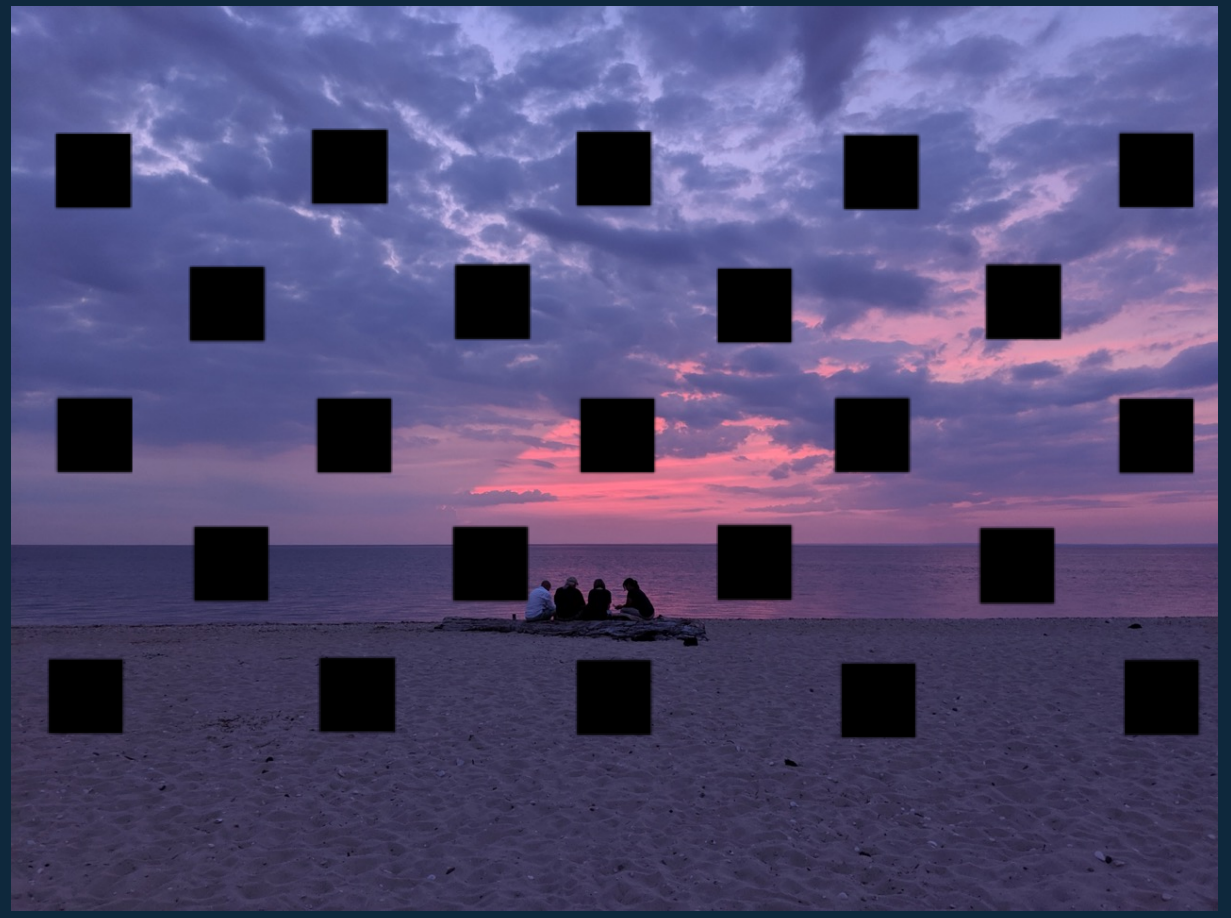
Exciting new features

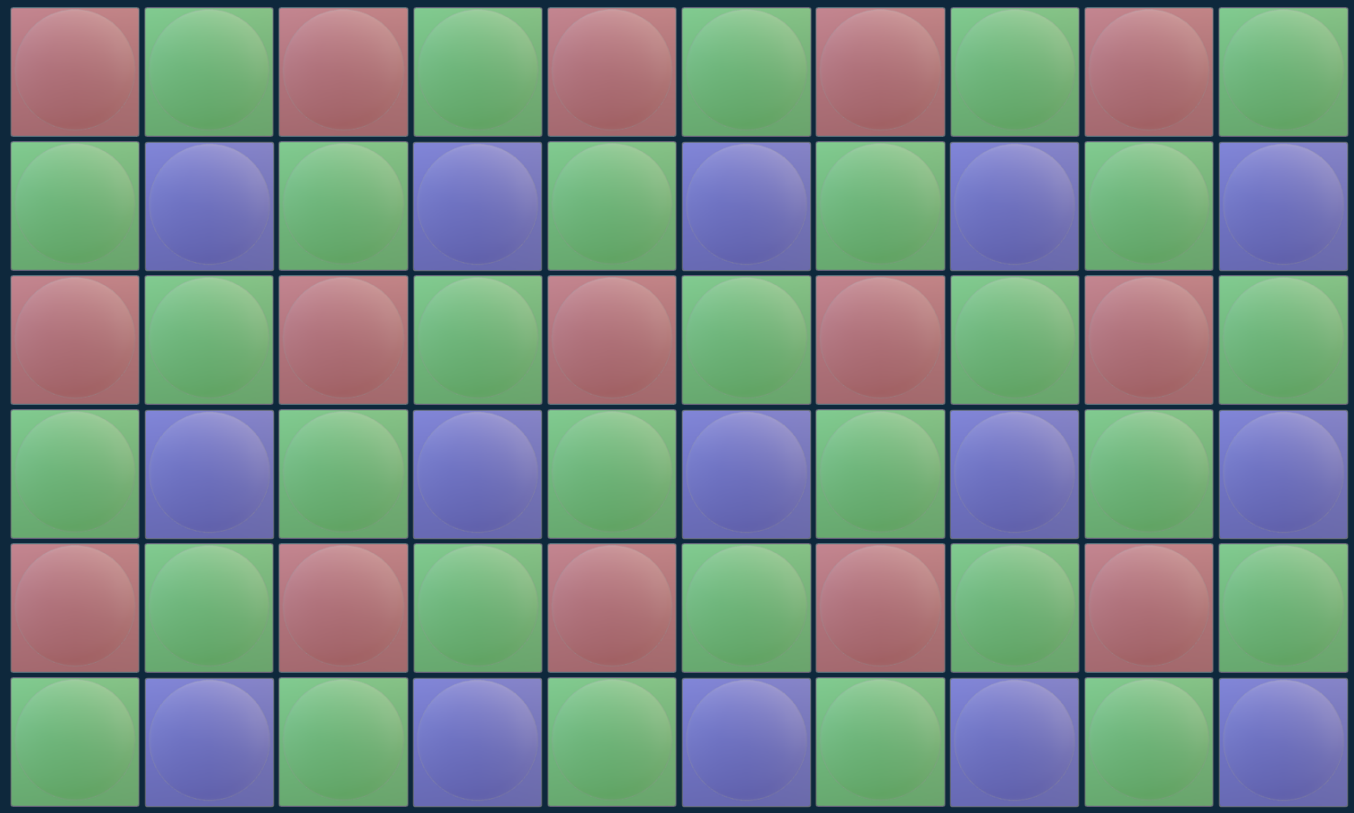
Gigapixel speed for multi-pixel processing



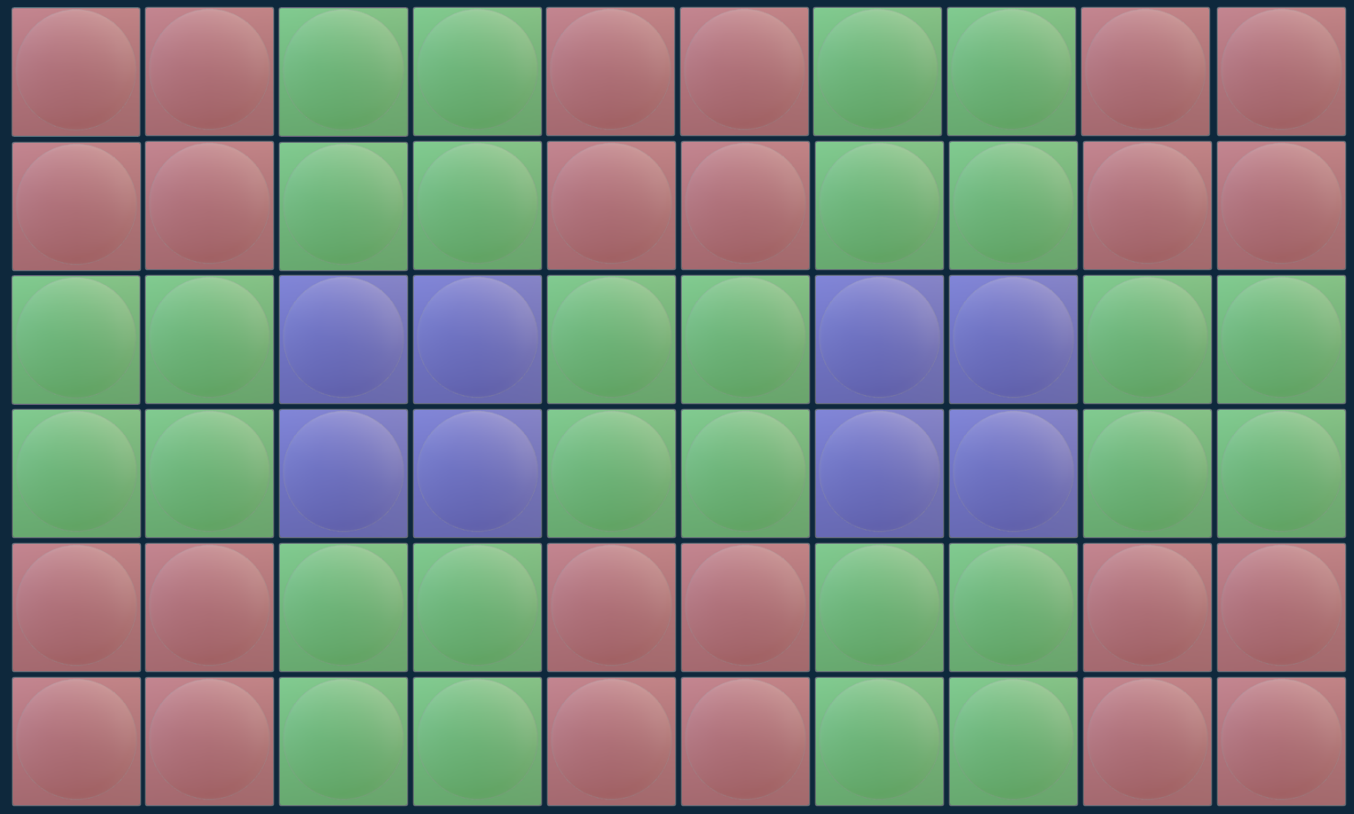
9x more autofocus points

Faster and more accurate autofocus





Quad CFA Hardware Acceleration



Noise reduction

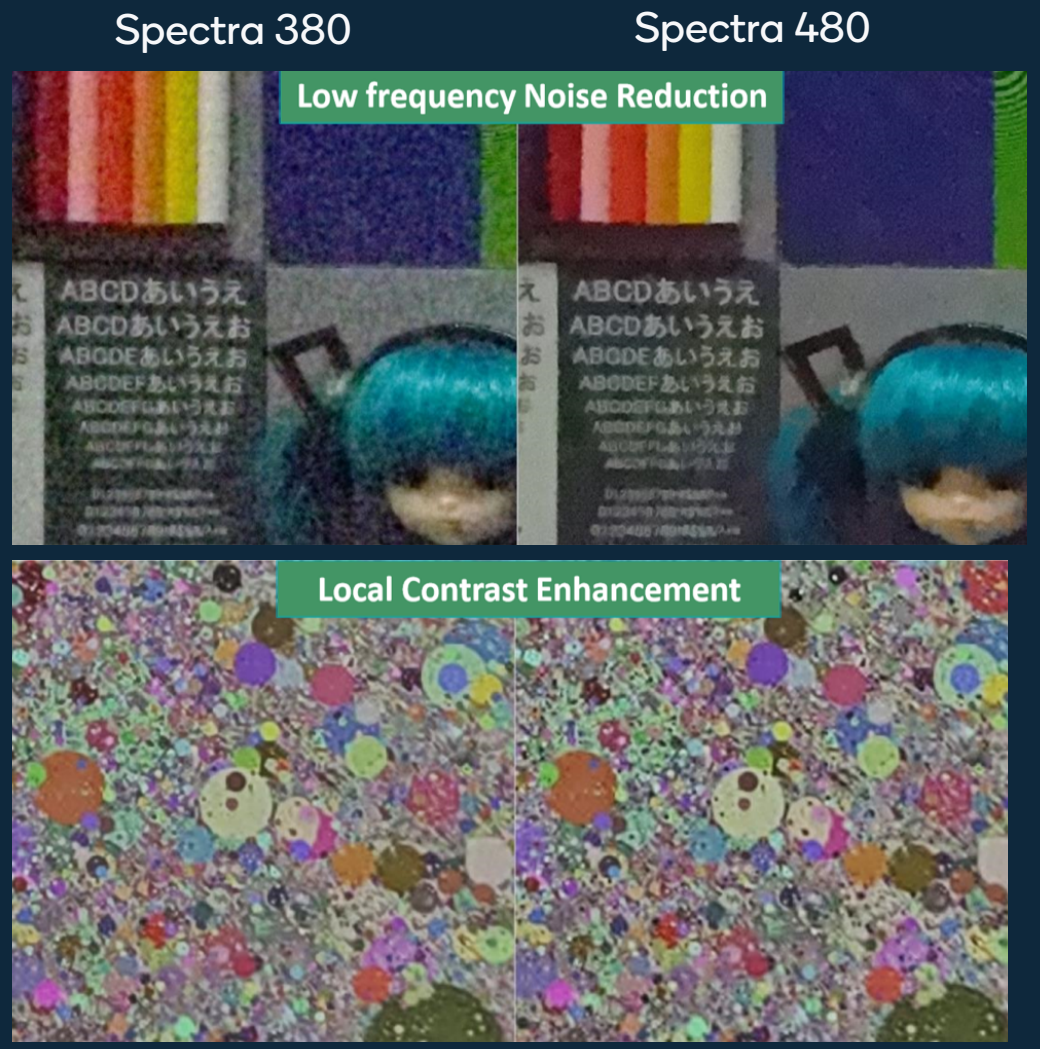
Dedicated cores

Works for photos, videos
and real-time preview

Improves capture in low light

Enhances contrast

40% increase in pixel processing
for noise reduction during video capture



Biggest simultaneous captures ever

4K HDR
Video capture

64 Megapixel
Photo capture

Biggest simultaneous captures ever
BETA MAXX
64 Megapixel
Photo capture

200 Megapixels

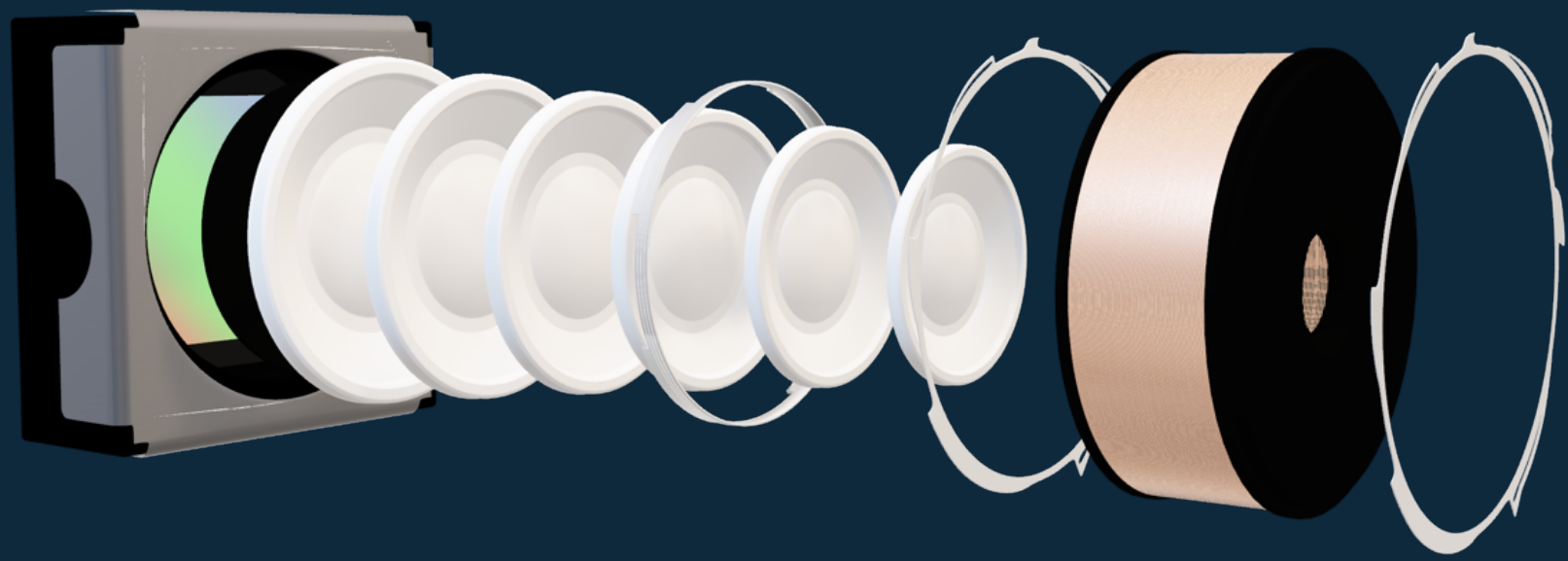
Largest photo ever captured on mobile

200 Megapixels

Largest photo ever captured on mobile

200 Megapixels

Largest photo ever captured on mobile



Power savings

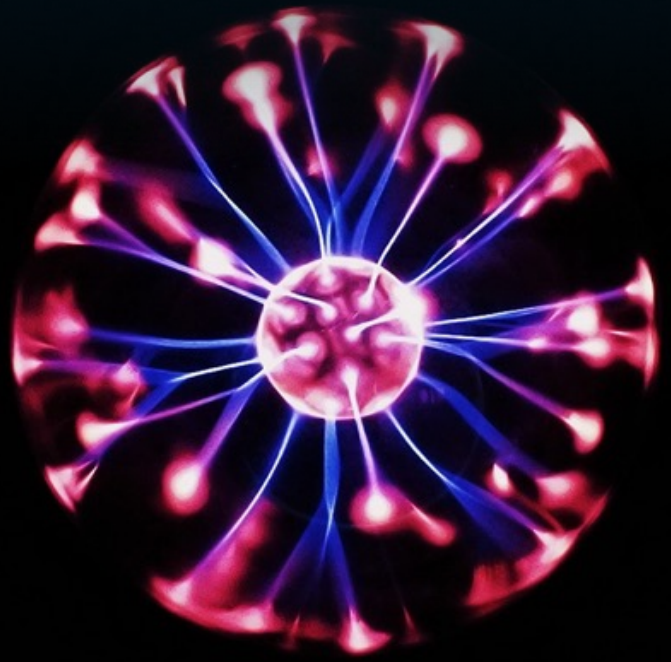
16% lower power video capture

Texture

18% more texture

Low light

40% increase in pixel processing for noise reduction



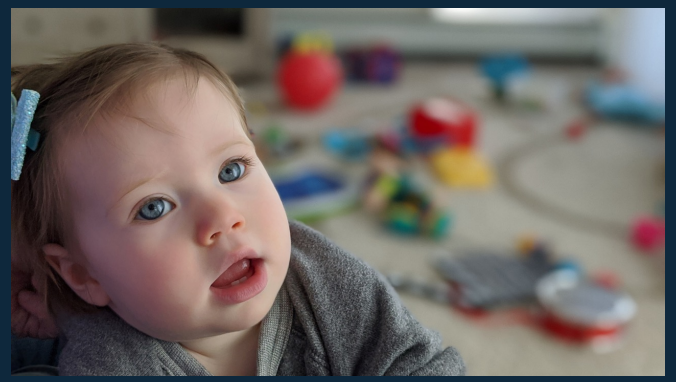
Up to 50% smaller file
HDR
Computer vision
Color
RAW
Raw data
Date and time
HEIF
Depth map
Location
Alpha mask
Exposure
(Shutter speed, aperture, ISO, etc)
HEVC video
Animated photo
Burst photos

Google

HEIF

Depth map

.HEIC



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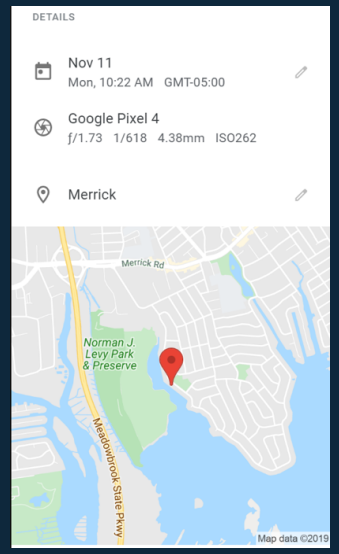
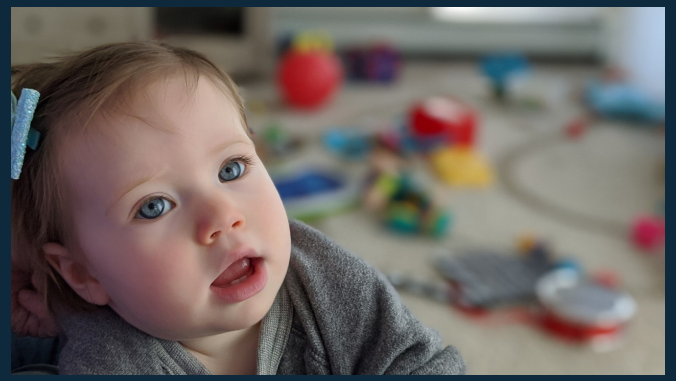
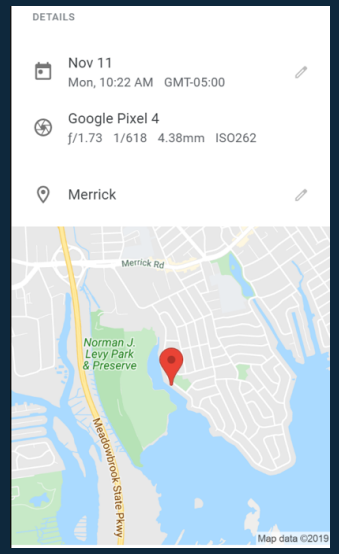
HEIF





EXIF .HEIC .HEIC

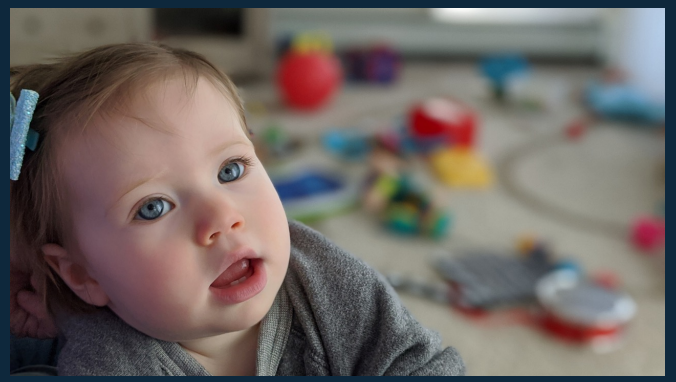
HEIF



EXIF

.HEIC

Dynamic Depth Format
Google



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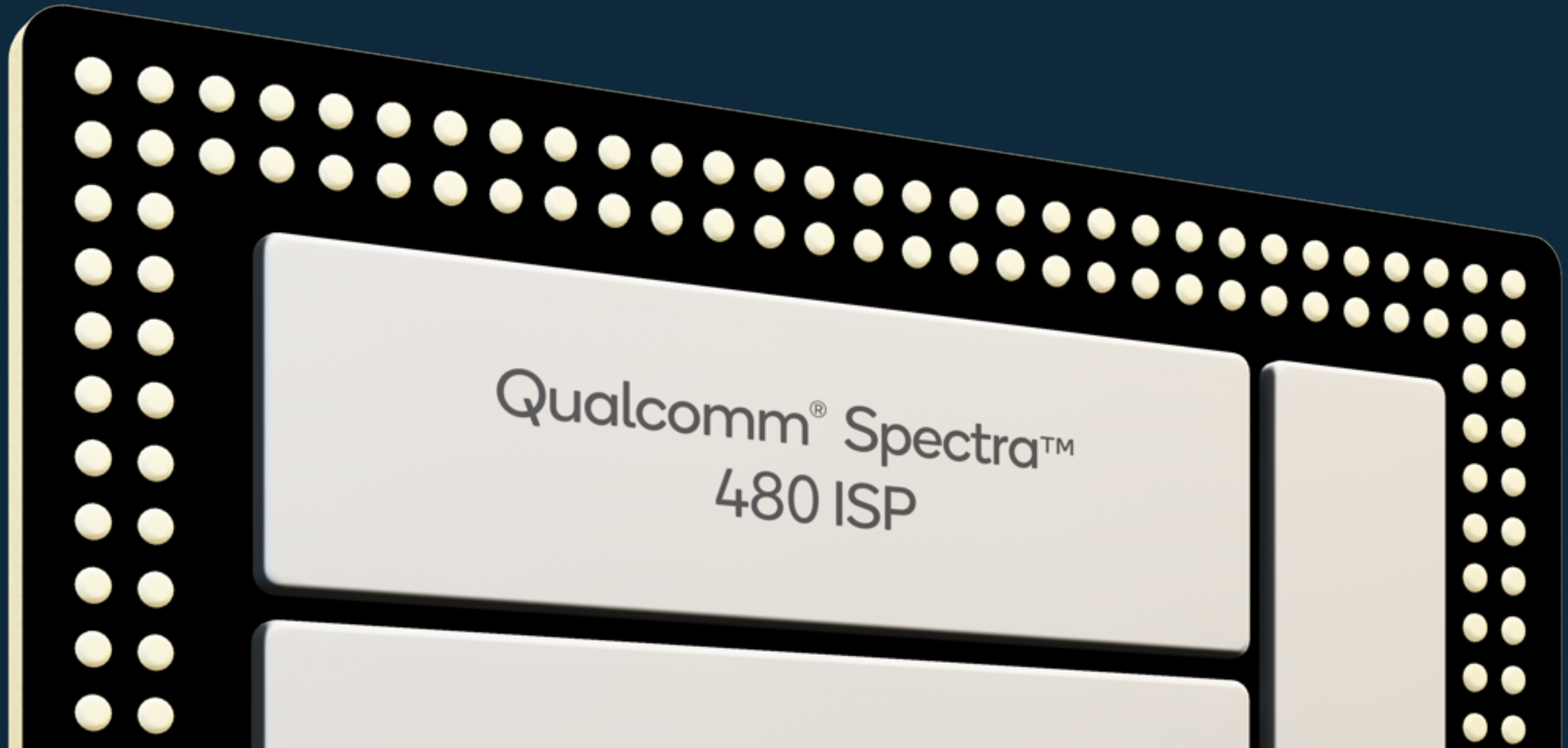
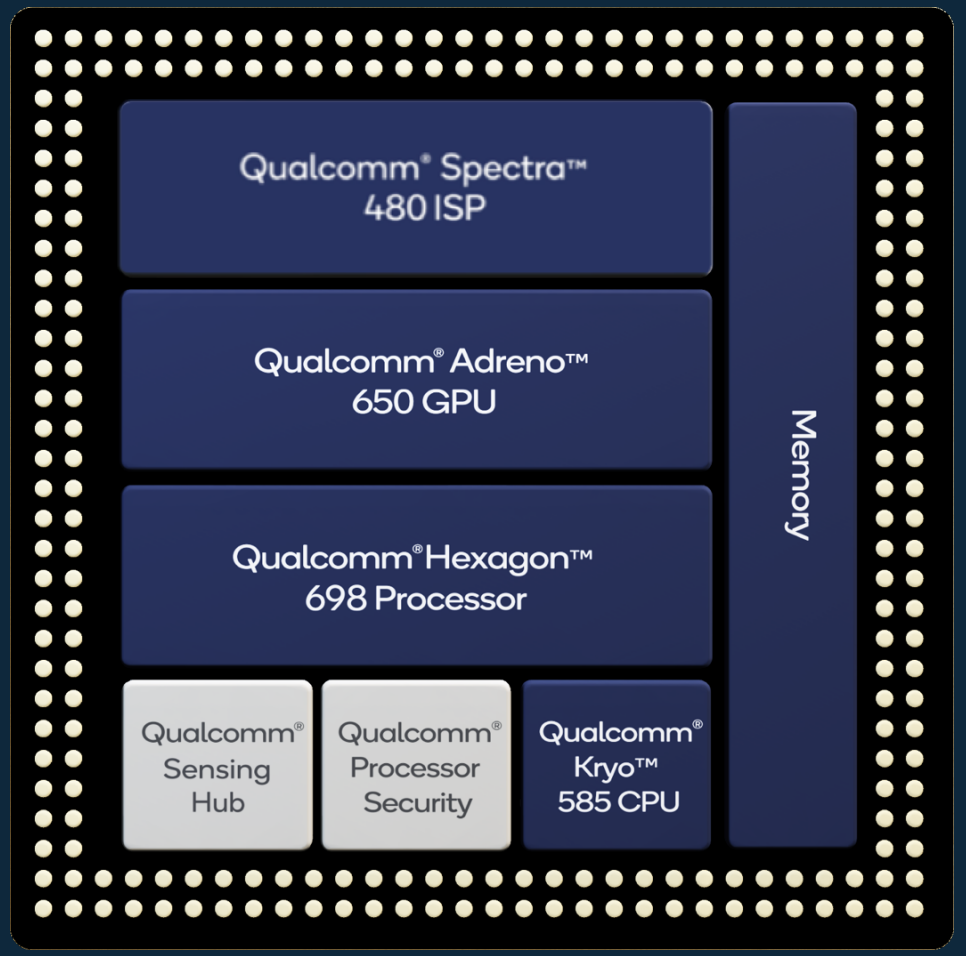
HEIF


Qualcomm® Spectra™
480 ISP

Spectra + 5th Gen AI Engine



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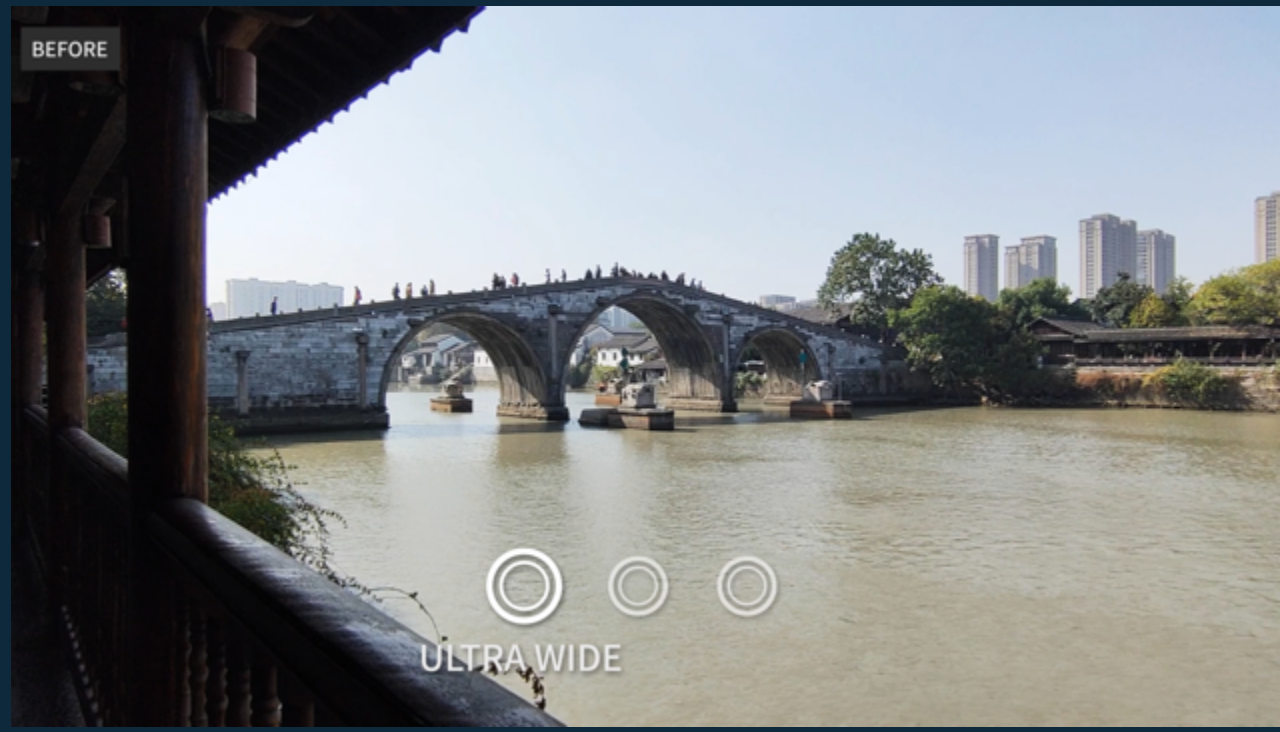
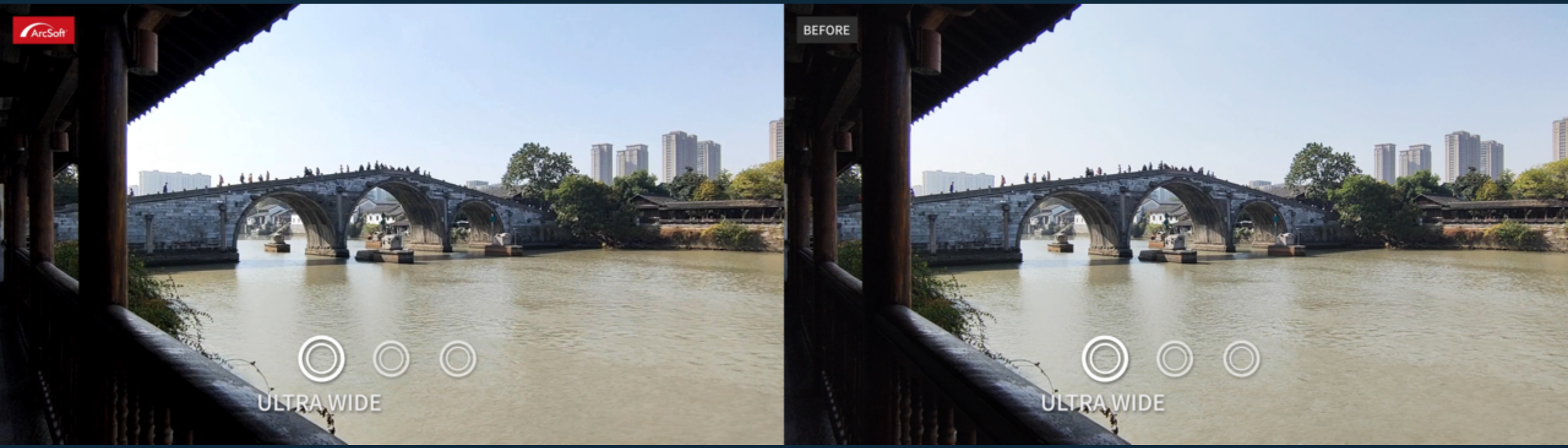
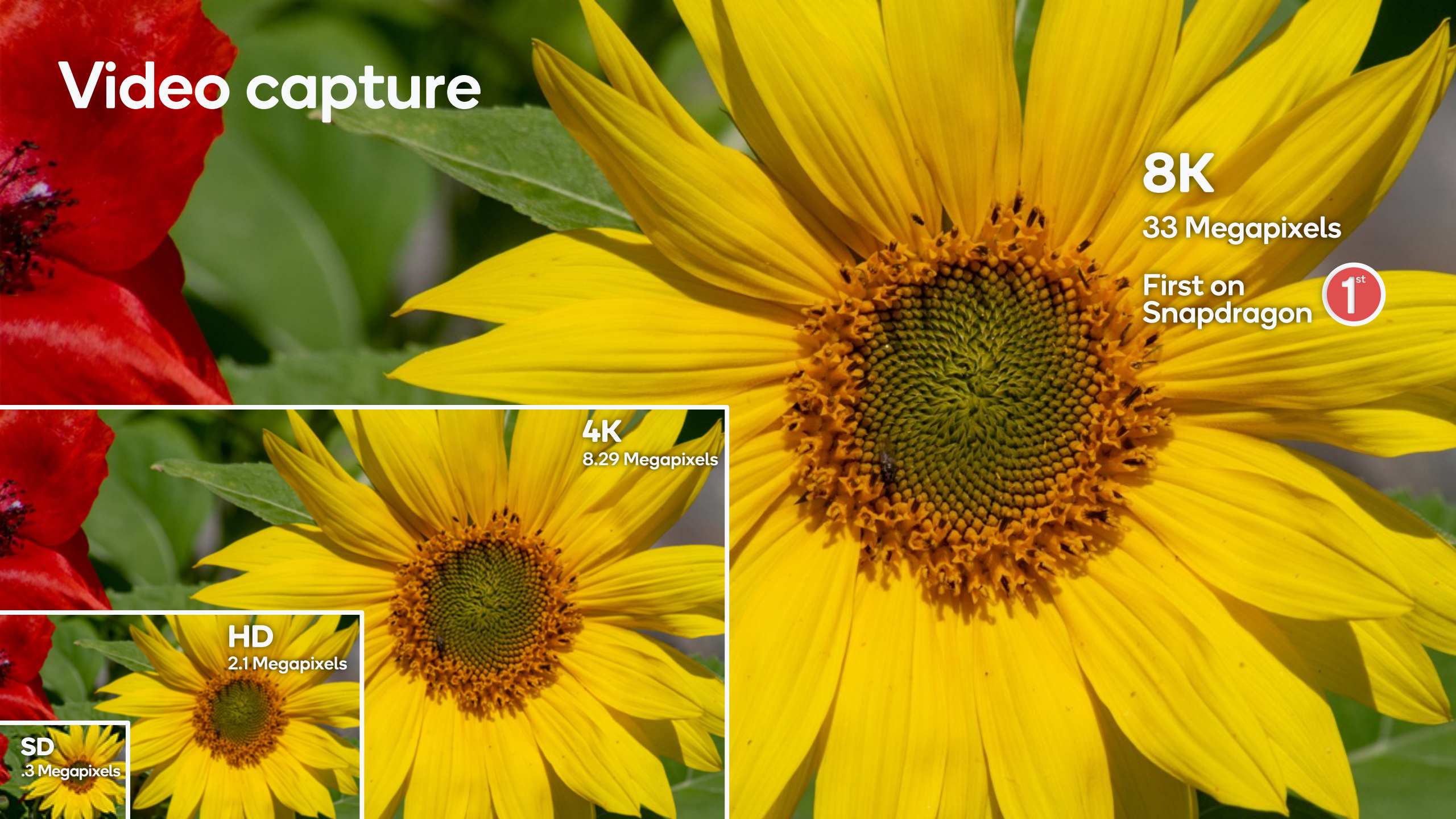

BEFORE
ULTRA WIDE

AI Based
Smooth Optical Zoom

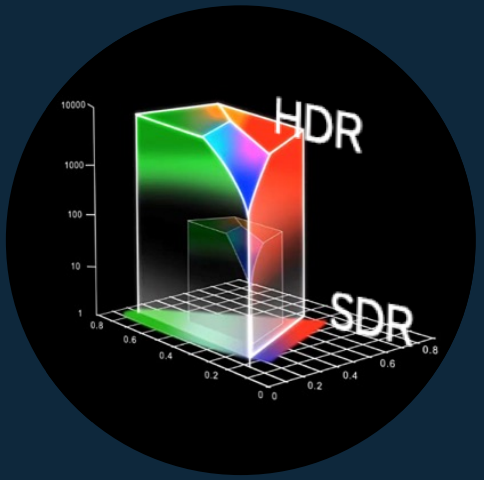


Video capture
4K
8.29 Megapixels
HD
2.1 Megapixels
SD
.3 Megapixels

Video capture



Capture over 1 billion shades of color

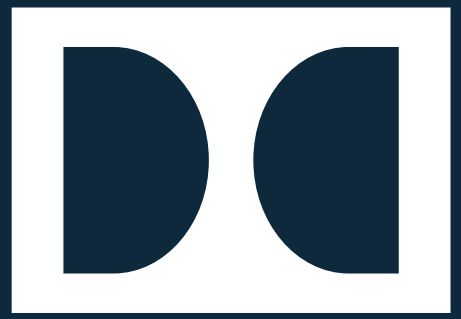


4K HDR
Video capture

1st HLG
Snapdragon 845

1st HDR10
Snapdragon 845

1st HDR10+
Snapdragon 855



DOLBY VISION

For Video Capture

4K video capture @ 120 FPS

Smooth motion on 120 Hz displays

Capture Slo-mo in 4K

Slo-mo with NO LIMITS

960 FPS unlimited recording

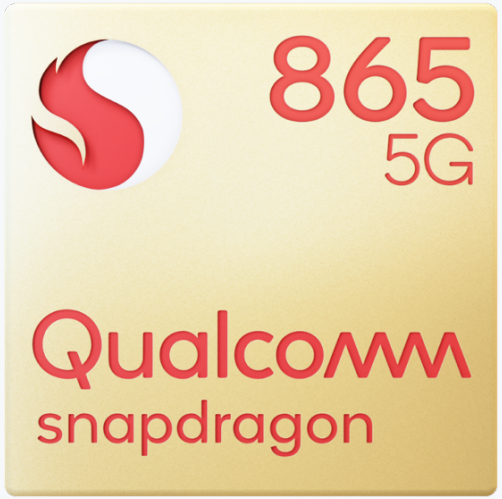
1st on mobile

Slo-mo with NO LIMITS

960 FPS unlimited recording

1st on mobile

Camera highlights



Gigapixel ISP

Unlimited slo-mo

960 FPS with no recording limit

4K @ 120 FPS video capture

Dolby Vision for video capture

HEIF enhancements

Google Dynamic Depth Format

16% Lower power capture
18% More texture
40% Increase in pixel processing for noise reduction

Qualcomm Spectra ISP

Gigapixel speed

Professional image quality

Gigapixel speed

2 Gigapixels per second

Biggest simultaneous capture ever

4K HDR video + 64 MP photo

200 MP photo capture

8K video capture

Semantic segmentation

Qualcomm

Thank you

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