



# Royalty Structure & Status

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# Overview

- Intro
- VVC pools
  - Objectives & pool coverage to date
  - Who pays pool royalties & how much?
- Recent developments





Intro



VVC pools



Recent developments



# Introduction

- Companies deciding whether to implement a given codec often cite the cost of patent royalties as a leading concern.
- Prospective implementers of MPEG codecs also often express concern about the number of patent pools.
- These both, in many cases, reflect a misunderstanding of the royalty burden for codecs like VVC and who actually bears it.



# Introduction

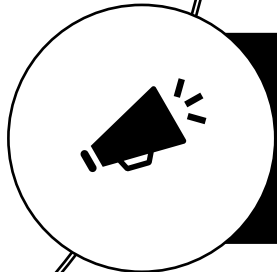
- VVC presently has two patent pools supporting it.
- Together, those pools, today, account for around 50% of the VVC SEPs companies may need assistance licensing.
- For most device implementers, the royalty cost of the VVC pools will be only an incremental increase above what they already pay for HEVC.
- Most content providers will probably not pay anything to pools or pool licensors.



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# VVC pools

## Objectives and pool coverage to date

- The best measures of the utility of a patent pool are:
  - How much risk is cleared?
  - For what price?
  - Does the pool materially simplify the process of SEP licensing?





# VVC pools

## Objectives and pool coverage to date

- We published a study of accepted contributions to VVC
  - “Who is Leading the VVC Technology Race?” Intellectual Asset Management Magazine, March 3, 2021 (with Pohlman)
- I determined the portion of accepted contributions to VVC accounted for by pool licensors.
  - This is not the only way to measure pool coverage.
- I assumed that 30% of HEVC patents are also essential to VVC.
- I omitted Qualcomm from the list of contributors.
  - Implementers won't need the assistance of a pool to license Qualcomm.





# VVC pools

## Objectives and pool coverage to date

By this measure, the two VVC pools clear about 47% of the VVC patent risk.

VVC Pool Coverage, by Licensor (Includes VVC & HEVC Accepted Contributions, no Qualcomm)	
Pool licensor	Weighted combined normalized share - incorporated
<b>Non-pool assignees</b>	<b>53.10%</b>
MediaTek	6.10%
Hoso Kyokai	5.97%
Hanwha Techwin	3.87%
IP Bridge	2.79%
Panasonic	2.79%
Alibaba	2.78%
Kuaishou	2.29%
ETRI	0.98%
IDEAHUB	0.98%
Dolby	0.90%
KDDI	0.86%
British Broadcasting Corporation	0.51%
DJI	0.45%
Toshiba	0.45%
Mitsubishi	0.45%



# VVC pools

## Pool royalties



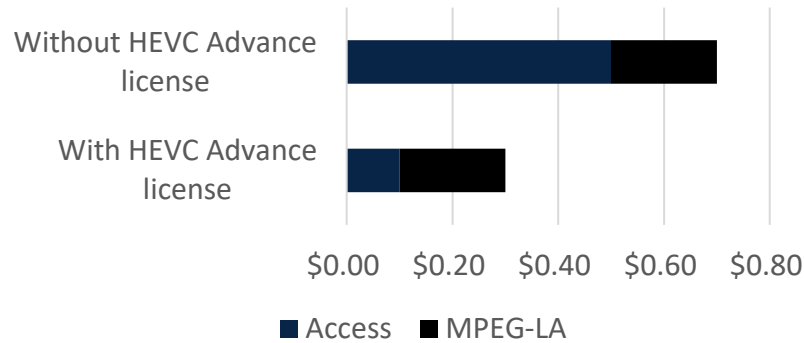
Royalties paid by device OEM (minor caveats)	Royalties paid by device OEM (minor caveats)
Free covenant not to sue available to content providers (talk to Advance)	MPEG-LA traditionally did not pursue content providers
Per-unit royalties owed vary based on (i) device category; (ii) device sales price; (iii) country of unit sale; (iv) compliance with AA marking	Per-unit royalties owed fall into 2 categories: (i) devices and paid software that implements VVC; and (ii) free software that implements VVC
For HEVC pool licensees, the incremental cost of the VVC pool is 25% more for devices that implement both codecs	VVC royalty discounts available for AVC and HEVC pool licensees.



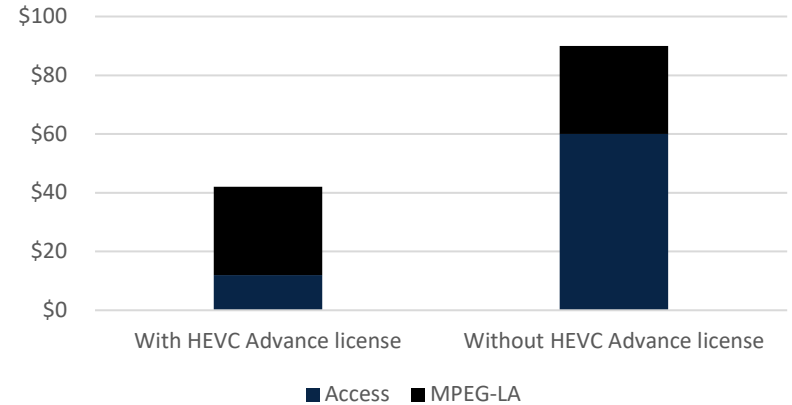
# VVC pools

## Pool royalties

### VVC Royalties Per US Handset

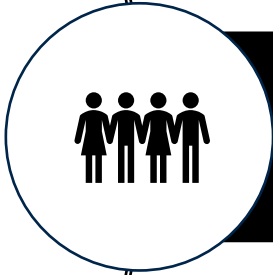


### VVC Pool Royalty Caps (in \$Ms)





Intro



VVC pools



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# Recent developments

- First major, public VVC licenses struck
- Significant number of sales involving VVC SEPs
- MPEG-LA and Via merger



# Thanks!

- Let me know if I can help!
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