

HDMI data rates for 4K HDR formats



Resolution	Frame rate	Chroma Subsampling Source	Bit Depth per channel	HDR formats	HDMI Data Rate	Required link speed	HDBaseT compatible
3840x2160p UHD	23.98 , 24, 25, 29.97, 30	4:2:0^	8	none	8.91Gbps	9.0Gbps	Yes
			10	HDR-10 & HLG			
			12	Dolby Vision			
		4:2:2	8	none	8.91Gbps	9.0Gbps	Yes
			10	HDR-10 & HLG			
			12	Dolby Vision			
		4:4:4	8	none	8.91Gbps	9.0Gbps	Yes
			10	HDR-10 & HLG	11.14Gbps	18Gbps	with compression*
			12	Dolby Vision	13.37Gbps	18Gbps	No
3840x2160p UHD	48, 50, 59.94, 60	4:2:0	8	none	8.91Gbps	9.0Gbps	Yes
			10	HDR-10 & HLG	11.14Gbps	18Gbps	with compression*
			12	Dolby Vision	13.37Gbps	18Gbps	No
		4:2:2	8	none	17.82Gbps	18Gbps	with compression*
			10	HDR-10 & HLG			with compression*
			12	Dolby Vision			No
		4:4:4	8	none	17.82Gbps	18Gbps	with compression*
			10	HDR-10 & HLG	20.05Gbps#	24-48Gbps HDMI 2.1	No
			12	Dolby Vision	24.06Gbps#	24-48Gbps HDMI 2.1	No

^ 23.98-30fps 4:2:0 content (e.g.; from Blu-ray, broadcast and OTT) is upconverted to another format such as (most commonly) 10/12-bit 4:2:2 23.98-30fps or possibly 10-bit 4:2:0 48-60fps for transmission in HDMI

* HDBaseT with VESA DSC compression is fundamentally compatible with HDR-10, but not Dolby Vision. Furthermore, DSC version 1.1 does not support 4:2:0 chroma subsampling, but DSC 1.2 or later does. It is also necessary to check with your vendor for compatibility where other forms of compression or compression-alternative solutions including so-called "color space conversion" (CSC) &/or chroma subsampling are employed.

Anticipated data rates using upcoming HDMI 2.1 methodology.

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