

TABLE 1 COMPARISON OF MAIN FEATURES OF DISPLAY STANDARDS

	DISPLAYPORT 1.1A	HDMI 1.3	DVI	VGA	LVDS
Digital or analog	Digital	Digital	Digital	Analog	Digital
Data pairs or lanes	One, two, or four	Three (must use all three)	Three (must use all three)	Three (RGB)	Eight (for dual channel)
Clock pins	None	Two (one pair)	Two (one pair)	Two: horizontal synchronous and vertical synchronous	Four (two pairs for dual channel)
Clock architecture	Embedded clock	Separate clock	Separate clock	Separate clock	Separate clock
Clock speed	162 or 270 MHz	340 MHz maximum	165 MHz maximum	DAC-dependent	25 to 135 MHz
Bandwidth/pair or lane	1.6 or 2.7 Gbps	3.4 Gbps maximum	1.65 Gbps maximum	DAC-dependent	175 to 945 Mbps
Total bandwidth	1.6 to 10.8 Gbps, depending on number of lanes/data pairs	10 Gbps	4.95 Gbps	DAC-dependent	1.74 to 7.56 Gbps
Carries audio	Yes	Yes	No	No	No
Bidirectional auxiliary channel	Yes, 1 Mbps	Yes, DDC	Yes, DDC	No	No
Protocol	Packet-based (8B10B)	Serial-data stream (TMDS)	Serial-data stream (TMDS)	Analog	Sequential-data stream
DRM support	DPCP, based on HDCP 1.3	HDCP 1.3	No	No	No
External-bus standard	Yes	Yes	Yes	Yes	No
Internal-bus standard	Yes	No	No	No	Yes

Sources: HDMI Licensing, Integrated Device Technology, Video Electronics Standards Association.

Notes: DDC=display-data channel. DPCP=DisplayPort content protection. DRM=digital-rights management. DVI=digital-visual interface. HDCP=high-bandwidth-digital-content protection. HDMI=high-definition-multimedia interface. LVDS=low-voltage-differential signaling. TMDS=transition-minimized-differential signaling. VGA=video-graphics array.