

DESCRIPTION

With the Real4K™ Optical Adapters, you’re instantly able to stream 4K content over **a single** fiber optic cable to TVs up to **1000m** away. The dongle includes all hardware and firmware needed to support full-rate 18 Gbps HDMI signals, as well as HDCP content protection. It’s a truly turnkey solution—all you need to do is add your private-label branding, a standard USB power cable and plug it in.



FEATURES AND PERFORMANCE

- Supports full-rate 18 Gbps HDMI 2.0b signals
 - HDMI 1.x and HDMI 2.0 support
 - Supports HDR10+, Dolby Vision, HLG, etc.
- HDCP 1.4 and HDCP 2.2 content protection
- All communication, including Video Transport, HDCP, CEC, EDID and maintenance operation over **a single** optical fiber
- Up to 1000m links supported
- Available in both white and black housings
- Integrated safety feature shuts off lasers when an open fiber is detected
- FDA CDRH Class 1 laser product and FCC Class B compliant
- Uses a single, industry-standard SC-terminated OM2, OM3 or OM4 fiber

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
TX6F-SH51-03A-BK	HDMI 2.0 Optical Adapter Transmitter Dongle, Black Housing
TX6F-SH51-03A-WH	HDMI 2.0 Optical Adapter Transmitter Dongle, White Housing
RX6F-SH51-03A-BK	HDMI 2.0 Optical Adapter Receiver Dongle, Black Housing
RX6F-SH51-03A-WH	HDMI 2.0 Optical Adapter Receiver Dongle, White Housing

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	MIN	MAX	UNITS
Storage Temperature	Ts	-40	85	°C
Electrostatic Discharge Contact (IEC)	ESD		8	KV
ESD Air Discharge (IEC)			15	KV

All other maximum ratings and requirements may be found in the relevant HDMI and USB Specifications

ELECTRICAL SPECIFICATIONS

All other electrical operating conditions and requirements may be found in the relevant HDMI and USB Specifications

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS
USB Supply Voltage ¹	V _{dd}	4.75		5.25	V
Transmitter Supply Current	I _{TX}		365	400	mA
Receiver Supply Current	I _{RX}		195	250	mA
Operating Temperature Range	T _C	0		50	°C

Notes:

1. Supply voltage is via 5V USB supply and must conform to the requirements of USB

OPTICAL SPECIFICATIONS

PARAMETER	SYMBOL	MIN	MAX	UNITS
Data Rate Lanes 0 – 3	DR1		6.0	Gb/s
Date Rate Lanes 4 & 5	DR2		2.0	Mb/s

STATUS LED INDICATIONS

COLOR	LINK STATUS
Off	Module end has no power
Red – Steady/Flashing	Module detects open fiber connection and has disabled the lasers
Purple/Pink – Steady/Flashing	Module has detected and open fiber connection, lasers are disabled, and the unit is connected and ready for a bootloader update
Yellow	Fiber detected but link initialization failed
Green – Flashing	Link functional with no HDCP video
Green – Steady	Link functional with HDCP 1.x video
Blue	Link functional with HDCP 2.x video

COMPLIANCE

- FCC Part 15 Class B for Susceptibility, Radiated and Conducted
- CE for Susceptibility, Radiated and Conducted
- Optical Fiber Communication System Class 1 Eye Safety per IEC 60825-1
- IEC 60825-1:2014-05 Ed. 3.0
- FDA CDRH