



ACON Group

9/2020





- **HDMI2.1: 4 channels, total bandwidth throughput 4x12G = 48G**
- **Connector**
- **Cable**



- 4K@120Hz, 8K@60Hz and 10K@30Hz refresh rate
- Supporting the 48Gbps bandwidth
- Ultra high-speed HDMI cable
 - Faster speed, Lower EMI
- Dynamic HDR
- VRR(Variable Refresh Rate)
- QMS(Quick Media Switching)
- eARC
- Backward compatible with HDMI 2.0 and below



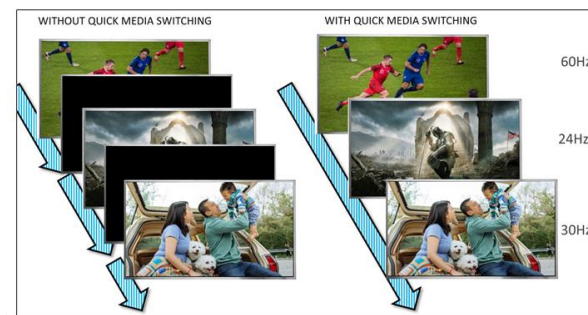
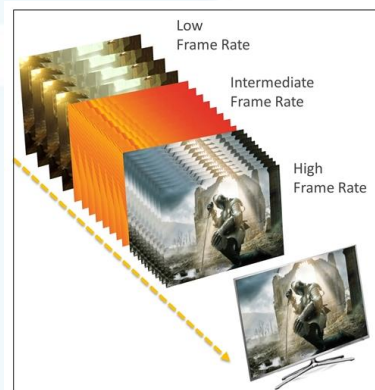
SDR



Static HDR



Dynamic HDR



HDMI 1.4 Type (for reference)

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Plug

Type A



Type C



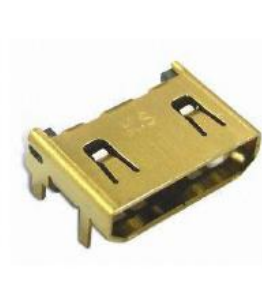
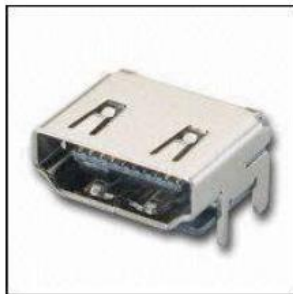
Type D



Type E



Receptacle



HDMI 1.4 Certification (for reference)

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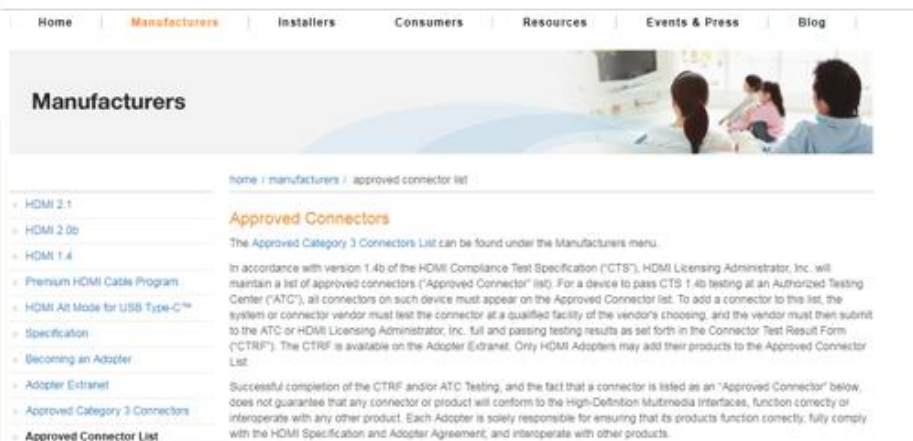
HDMI Adopters
And Affiliates*

ADVANCED-CONNECTEK INC. 2.0

www.acon.com.tw

Manufacturer

Adopter Since July 2003



ADVANCED-CONNECTEK INC.

Revisions	Time	Description	Category
1	2002.12	HDMI 1.0 Released. Connector: Type-A, Type-B	1
1.2	2005.08	Added the option of One Bit Audio; used on Super Audio CDs at up to 8 channels	1
1.3	2006.06	Increased the maximum TMDS clock to 340 MHz (w/ data rate 10.2Gbps). Connector: Type-C	2
1.4	2009.06	Added an HDMI Ethernet Channel (HEC) to accommodate a 100 Mbit/s Ethernet connection between the two HDMI connected devices so they could share an Internet connection; added support for 4096 × 2160 at 24 Hz. Connector: Type-D, Type-E	2
2	2013.09	Increased the maximum bandwidth to 18.0 Gbit/s; enabled to carry 4K video at 60 Hz and enhanced audio output performance	2
2.1	2017.04	Increased data transfer rate to 48Gbps; dynamic HDR, eARC, game mode VRR features etc.	3

HMR20-AK5300
HMR22-AK1210
HMR23-A41210
HMR23-AK1210
HMR23-AK1210
HMR23-AK5210
HMR24-AK5F10
HMR24-AK5F16
HMR24-AK5F16
HMR29-AK5210
HMR29-AK5F10

ACON has currently over 100 HDMI connectors already certified

HDMI2.1 Conn. (Category 3) Certification

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HDMI Adopters
And Affiliates*

ADVANCED-CONNECTEK INC. ^{2.0}

www.acon.com.tw

Manufacturer

Adopter Since July 2003

Category	Bandwidth	Marketing Name
Cat 1	2.2275Gbps (Up to 74.25 MHz)	Standard
Cat 2	10.2Gbps (Up to 340 MHz)	High Speed
	18Gbps	Premium
Cat 3	48Gbps	Ultra High Speed

ADVANCED-CONNECTEK INC.

HER40-AK5200
HEW10-AK5400
HEW11-AK5200

Category 3 - Type A Connectors

Last Updated on 5/14/2019

Company

ADVANCED-CONNECTEK INC.

Product

HER40-AK5200
HEW10-AK5400
HEW11-AK5200

*Require certifying HDMI1.4b first before HDMI2.1 certification

<https://www.hdmi.org>

The screenshot shows the HDMI.org website. The navigation bar at the top includes links for Home, Manufacturers (highlighted), Installers, Consumers, Resources, Events & Press, and Blog. The main heading is 'Manufacturers'. On the left sidebar, a list of links includes 'HDMI 2.1', 'HDMI 1.4', 'Premium HDMI Cable Program', 'HDMI Alt Mode for USB Type-C™', 'Specification', 'Becoming an Adopter', 'Adopter Extranet', 'Approved Category 3 Connectors' (highlighted), 'Approved Connector List' (highlighted), and 'Testing Policies'. The main content area features a paragraph about HDMI and a section titled 'Welcome New HDMI Adopters' which lists 'AVALEX TECHNOLOGIES' and 'SHENZHEN EGREAT TECHNOLOGY CO., LTD.' with their respective dates and websites.

HDMI2.1 Conn. (Category 3) Certification

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Receptacle

•R/A T/H SMT Type



HER40-AK5200



HER43-AK5M00

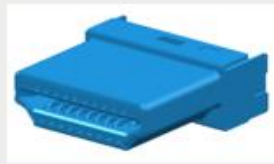
Plug

Straddle Mount (PCB thk1.6)



HEW10-AK5200

Wire Solder

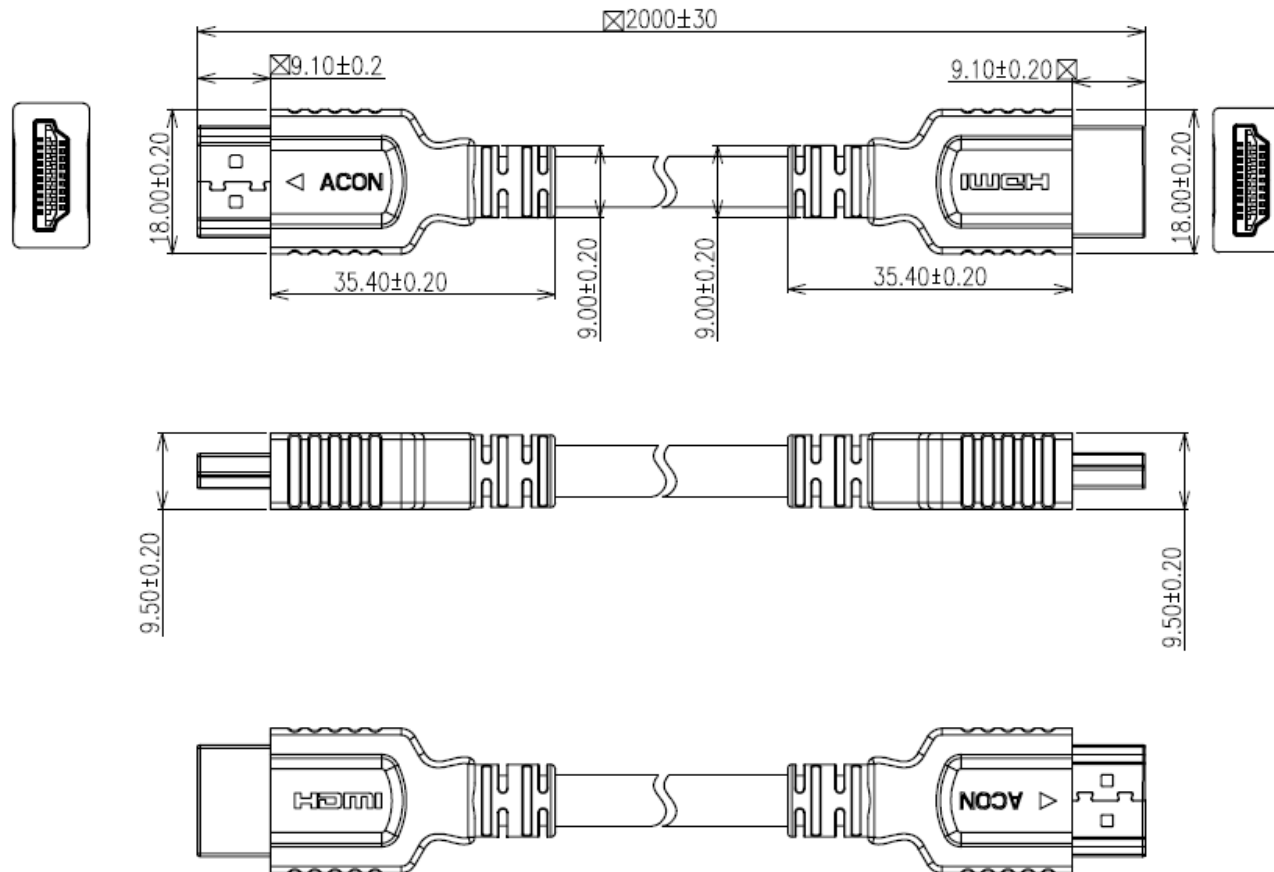


HEW11-AK5200

HDMI2.1 Cable Development, Copper

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- Cable Length, 2M
- Samples Available (Certification ~10/2020)



HDMI2.1 Cable Development, Copper

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- Cable Length, 1M~2M
- Samples Available (Certification ~10/2020)

.Device Under Test(DUT) Information

Part Number of DUT:S001									
Length(m)	1.8			Tested Pairs	5			Pairs	
Temperature	20		℃	Humidity	40			%	
Batch Number				Bundle Number					
Testing following	HDMI2.1 12Gpbs								
Comments									
Technician	System Manager			Test Result	Pass				

.Tested Parameters List

-.HDMI2.1 Insertion Loss	Pass
-.HDMI2.1 Far End Crosstalk	Pass
-.HDMI2.1 Insertion Loss HEACT	Pass
-.HDMI2.1 Mode Conversion (NEAR)	Pass
-.HDMI2.1 Mode Conversion (FAR)	Pass
-.HDMI2.1 PSACR	Pass
-.HDMI2.1 Cable Impedance	Pass
-.HDMI2.1 Transition Area Impedance (NEAR)	Pass
-.HDMI2.1 Transition Area Impedance (FAR)	Pass
-.HDMI Cat3 Differential Delay	Pass
-.HDMI2.1 Inter Pair Skew	Pass
-.HDMI2.1 Intra Pair Skew	Pass
-.HDMI2.1 Cable Impedance HEACT	Pass
-.HDMI2.1 Utility Line Impedance	Pass
-.HDMI2.1 Common Mode Impedance HEACT	Pass
-.HDMI2.1 Mated Impedance HEACT	Pass
-.HDMI Cat3 HEAC Delay	Pass
-.HDMI2.1 Intra Pair Skew HEACT	Pass
-.HDMI2.1 Eye Diagram with 25ps skew	Pass
-.HDMI2.1 Eye Diagram with -25ps skew	Pass

HDMI2.1 Cable Development, AOC

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- **P/N: CBHS-AOCHM21-100 (10M)**
- **HDMI 2.1 Type-A 8K Active Optical Fiber Cable**
- **Length Available to 40M**



Connector	HDMI Type A
Maximum bandwidth	48G
Image solution	1080P, 4K@120Hz 8K@60Hz
HDCP version	HDCP1.4/2.2
Photoelectric Transducer	4 CH 850nm VCSEL/PIN
Power	HDMI +5V(no external power supply needed)
Working current	≤150mA
Power consumption	≤750mw
Length	0-40m

Test Item List

Item	Description	Result
1	Visual inspection	Pass
2	TX power	Pass
3	Vmon	Pass
4	Eye pattern	Pass
5	Ber test	Pass
6	Compatibility	Pass