



MD52x

4K60 MEDICAL WIRELESS VIDEO LINK SYSTEM

MD52x Wireless Video transmitter and receiver devices enable the seamless connection of live video to secondary monitors, eliminating cable clutter while expanding mobility and flexibility during surgical procedures. **The MD52x delivers high-fidelity 4K 60Hz video over a secure, robust link, achieving zero latency for real-time surgical precision.** Fully compatible with the **Rocoto Central Management Unit (CMU)**, the system supports remote device pairing and configuration. This enables clinical teams to manage connections from remote, without needing physical access to devices mounted behind displays or inside protective housings. This solution is ideal for Endoscopy Systems, Clinical Microscopes, and Robotic Surgery, where maximizing OR availability and maintaining a sterile environment are paramount

Part Number

MD52x Transmitter: MDWL2_B1P1TX

MD52x Receiver: MDWL2_B3P1RX

	TRANSMITTER	RECEIVER
VIDEO		
Video Inputs	1x HDMI 2.0 Type-A	N/A
Video Outputs	1x HDMI 2.0 Type-A	1x HDMI 2.0 Type-A
Color Sampling	RGB/YCbCr; 4:4:4/4:2:2/4:2:0	RGB/YCbCr; 4:4:4/4:2:2/4:2:0 Same as the Input Signal
Delay (TX to RX)	~1msec	~1mesc
Supported Resolutions	2D: 4Kp23.98/24/25/29.97/30/50/59.94/60 1080p23.98/24/25/29.97/30/50/59.94/60 1080i50/59.94/60 720p50/59.94/60 3D (Side by Side/Top bottom): 4Kp23.98/24/25/29.97/30/50/59.94/60 1080p23.98/24/25/29.97/30/50/59.94/60	2D: 4Kp23.98/24/25/29.97/30/50/59.94/60 1080p23.98/24/25/29.97/30/50/59.94/60 1080i50/59.94/60 720p50/59.94/60 3D (Side by Side/Top bottom): 4Kp23.98/24/25/29.97/30/50/59.94/60 1080p23.98/24/25/29.97/30/50/59.94/60

TRANSMITTER		RECEIVER
AUDIO		
Audio Compression	48KHz 24-bit PCM	48KHz 24-bit PCM
Audio Input	Embedded HDMI Audio Input (2 channel)	N/A
Audio Output	Embedded HDMI Audio output (2 channel)	Embedded HDMI Audio Output (2 channel)
PHYSICAL ATTRIBUTES		
Dimensions	7.9"L x 5.9"W x 1.6"H (200x 150.1x 40mm)	
WEIGHT		
Device Composite	Milled aluminum (chassis) and regulation-compliant PCB	Milled aluminum (chassis) and regulation-compliant PCB
Mountability	Compatible with the VESA mounting kits AMN_VESA_KIT01 and AMN_VESA_KIT02	Compatible with the VESA mounting kits AMN_VESA_KIT01 and AMN_VESA_KIT02
INTERFACES		
Configuration Interface	OLED Screen with Menu Navigation & Pairing Buttons	OLED Screen with Menu Navigation & Pairing Buttons
Switches	On/Off Switch	On/Off Switch
USB	API & Update via USB-C	API & Update via USB-C
Recording	2x 3mm plugs for Recording signals (future use)	2x 3mm plugs for Recording signals (future use)
UART Control	DB9 connector for API using UART (future use)	DB9 connector for API using UART (future use)
WIRELESS VIDEO NETWORK		
Rocoto 2.0 Network	Supports Rocoto Central Management Unit (CMU) Support for network management from a single device (Transmitter of Receiver)	Supports Rocoto Central Management Unit (CMU) Support for network management from a single device (Transmitter of Receiver)
Compatibility	MD52x Receiver	MD52x Transmitter, HM11x
Wireless Video Bands	DFS Frequencies: 5.250 ~ 5.350 GHz and 5.470 ~ 5.725 GHz Non-DFS Frequencies: 5.150 ~ 5.250 GHz and 5.725 ~ 5.850 GHz UNII5 frequencies: 5.925 GHz to 6.425 GHz NOTE: Frequencies and channels are dependent on regional approvals.	DFS Frequencies: 5.250 ~ 5.350 GHz and 5.470 ~ 5.725 GHz Non-DFS Frequencies: 5.150 ~ 5.250 GHz and 5.725 ~ 5.850 GHz UNII5 frequencies: 5.925 GHz to 6.425 GHz NOTE: Frequencies and channels are dependent on regional approvals.
Bandwidth	40MHz	40MHz

	TRANSMITTER	RECEIVER
Modulations	OFDM	OFDM
RF Power	18dBm EIRP	14dBm EIRP
Antennas	4x Internal 2dBi antennas	5x Internal 2dBi antennas
Encryption	AES-256, ECC key exchange	AES-256, ECC key exchange
Range	Up to 100 ft (30m)	Up to 100 ft (30m)
Multicast	Transmitter can stream simultaneously to up to 4 receivers	Receiver can switch between 4 transmitters
Noise Rejection	Can coexist with WiFi and other devices working on the 5GHz band. Up to 6 sets in the same location	Can coexist with WiFi and other devices working on the 5GHz band. Up to 6 sets in the same location

BLUETOOTH AND NFC

BT Band	2402 - 2480MHz	2402 - 2480MHz
Bandwidth	1MHz	1MHz
BT RF Power	7dBm EIRP	7dBm EIRP
NFC	13.56MHz	13.56MHz
NFC Antenna Inductance	2.1uH	2.1uH

POWER

Power Input	2.1mm barrel connector 12V DC	2.1mm barrel connector 12V DC
Nominal Power consumption	10.3W	8.6W
Operating Temperature	0 - 40°C	0 - 40°C

CERTIFICATION AND APPROVALS

General	ISO 13485:2016 MDR 2017/745 Class I FDA Manufacturer Registration 3014730563 FDA Listing Class I, 510K exempt. CFR 21 Parts 801, 807, 820, 880 UK MDR 2002
Medical Electrical Equipment	IEC 60601-1:2005 + A1:2012 + A2:2020, EN 60601-1:2006 + A1:2013 + A2:2021, ANSI/AAMI ES60601-1:2005+ A1:2012 + A2:2021, CAN/CSA-C22.2 No. 60601-1:14 + A2:2022 IEC 60601-1-6:2010+A2:2021, EN 60601-1:2010 + A1:2015 + A2:2021 IEC 60601-1-2:2014 + A1:2020, EN 60601-1-2:2015 + A1(21) Edition 4.1, CISPR 11:2015 + A1(16) + A2(19) group 1 class B limits
Materials	Regulation (EC) No 1907/2006, Directive 2011/65/EU & 2015/863/EU
Radio	FCC CFR 47 Part 15, Radio FCC CFR 47 Part 2 RE-Directive 2014/53/EU: EN 301 893 V2.1.1, EN 300 328 V2.2.2, EN 50665:2018 Electromagnetic Compatibility - EN 301 489-1 V2.2.3, EN 301 489-17 V3.2.4, Class B