

Key	General	Response	Comments	Validation Results (Linaro)	Linaro comments	Final Results (Linaro)	Validation Test Description
	Name of the board	Mediatek X20					
	Email address (primary)						
	Email addresses (secondary)						
	Target Specification	CE v1.0					
	Form Factor	CE v1.0 (standard) - 85 x .	+/- 0.25mm error margin allowed	Pass	Need to check the shroud around LS connector and position of mounting holes (don't seem to be in the same place as in HiKey)		Using 3D templates for the appropriate form-factor
Key	Documentation	Response	Comments	Validation Results (Linaro)	Linaro comments	Final Results (Linaro)	Validation Test Description
	Board Schematic published	Yes		Pass	https://github.com/sdrobertw/HelioX20		
	Board Reference Manual published	Yes		Pass	https://github.com/sdrobertw/HelioX20		
	SoC technical reference published	Yes	Not published yet, but available and looks good	Pass			
Key	Memory and Storage	Response	Comments	Validation Results (Linaro)	Linaro comments	Final Results (Linaro)	Validation Test Description
	Onboard DRAM (GB)	2	CE: >= 0.5GB; EE: >= 1GB or DIMM	Pass			
	Additional memory sockets			Ignored			
	SD Card	microSDHC	CE: Mandatory	Pass			
	Boot from SD Card?	No		Pass	No option to boot from SD card is assumed basing on lack of information in the 'Getting started'		
	Boot ROM	No	CE: optional, only if SD card is not bootable	Fail	Boot ROM mentioned in the 'Software User Manual' but no specs about it. Marking as Failed as there is no option to boot from SD card		
	Boot ROM size (MB)		CE: 8MB (optional)	Ignored			
	Onboard Flash storage	Yes	Optional	Pass			
	Onboard Flash storage size (GB)	8	Optional	Pass			
	SATA interface	None	Optional	Ignored			
Key	Networking	Response	Comments	Validation Results (Linaro)	Linaro comments	Final Results (Linaro)	Validation Test Description
	Wifi protocol	802.11 g/n/ac		Pass			
	Bluetooth 4.0 LE	Yes		Pass			
Key	Debugging	Response	Comments	Validation Results (Linaro)	Linaro comments	Final Results (Linaro)	Validation Test Description
	UART 1 (LS expansion interface)	Yes	default mandatory UART	Pass	UART runs at 921600		
	UART 2 (LS expansion interface)	Yes	CE: optional	Pass			
	4 User LEDs	Yes		Fail	4 user LEDs available on the board, but in wrong place		
	WiFi LED	Yes		Fail	WiFi LED available but in wrong		
	BT LED	Yes		Fail	BT LED available but in wrong p		
	JTAG	Yes	Optional	Pass	No headers		
Key	USB	Response	Comments	Validation Results (Linaro)	Linaro comments	Final Results (Linaro)	Validation Test Description
	Port 1 - Host (Protocol)	USB 2.x		Pass			
	Port 1 - Host (Connector)	Type A		Pass			
	Port 2 - Host (Protocol)	USB 2.x		Pass			
	Port 2 - Host (Connector)	Type A		Pass			
	Port 3 - Slave (Protocol)	USB 2.x		Pass			
	Port 3 - Slave (Connector)	micro-B (for slave-only)		Pass			
	Port 4 - Host (Protocol)	USB 2.x			not tested		

Key	Display	Response	Comments	Validation Results (Linaro)	Linaro comments	Final Results (Linaro)	Validation Test Description
	Port 4 - Host (Connector)	Other			not tested		
	Display Type	HDMI	CE: Audio support for at least 1 channel is manda	Pass			
	Display Connector	Type A (full-size)		Pass			
	MIPI DSI port on HS expansion bus	Yes		Pass	not tested		
	MIPI DSI lanes	4		Pass	not tested		
Key	Camera	Response	Comments	Validation Results (Linaro)	Linaro comments	Final Results (Linaro)	Validation Test Description
	MIPI CSI-2 ports	1	(Review) CE: Port 1 should be on CSI0 port (1-4 la				
Key	Audio	Response	Comments	Validation Results (Linaro)	Linaro comments	Final Results (Linaro)	Validation Test Description
	Audio channels (BT)	2	CE: I2S/PCM channel should be provided on LS ex	Pass			
	Audio channels (Display)	2		Pass			
Key	DC Power	Response	Comments	Validation Results (Linaro)	Linaro comments	Final Results (Linaro)	Validation Test Description
	Power source	DC Power Jack (8-18V)		Pass			
Key	Buttons / Switches / Jumpers	Response	Comments	Validation Results (Linaro)	Linaro comments	Final Results (Linaro)	Validation Test Description
	Power on/off	Yes	Mandatory	Pass			
	Hard reset	Yes	Mandatory	Pass			
	Auto power up	Through Switch	Mandatory	Pass			
	USB mode change	Through Switch	Optional, to change mode of the OTG port	Pass	No possibility of changing USB mode from software		
Key	Expansion header	Response	Comments	Validation Results (Linaro)	Linaro comments	Final Results (Linaro)	Validation Test Description
	Low-speed expansion header	Yes	Signals to be exposed as per spec	Pass			
	High-speed expansion header	Yes	CE: mandatory	Pass			
Key	Miscellaneous	Response	Comments	Validation Results (Linaro)	Linaro comments	Final Results (Linaro)	Validation Test Description
	External Fan	+5V		Pass	both 5V and 12V fans are supported		
Key	Software	Response	Comments	Validation Results (Linaro)	Linaro comments	Final Results (Linaro)	Validation Test Description
	Kernel git tree URL	https://github.com/helio-x20/linux/tree/helio-x20		Pass			
	Kernel version	v3.18		Fail	Kernel is not any of the list: - kernel.org latest "mainline" or "stable" kernel - The latest Google-supported Android kernel version - One of the last two kernel.org LTS kernels (for example Linaro LSK)		
	Kernel compliance Level	Other	Level definitions as per spec	Fail			
	All bootloader bits are open source	No	According to the spec, it is recommended for everything after SoC reset to be available as open source				
	Last-stage bootloader git tree URL	http://builds.96boards.o	e.g. UEFI/EDK2 or u-boot	Pass	No git tree, but sources available		
	Fastboot protocol support	Yes		Pass			
	User can update bootloader	Yes		Pass			

	Possibility to unbrick the board w/o special hardware	Yes		Fail	xlFash still doesn't work on Linux. Device doesn't appear as serial port. Possible to reboot to bootloader using adb		
	GPU acceleration	Needs userspace binary		Pass	libmali?		
	Camera ISP	NA					
	DSP	NA					
	Multimedia	NA					
Key	Software Functionality	Response	Comments	Validation Results (Linaro)	Linaro comments	Final Results (Linaro)	Validation Test Description
	Boot to Graphical UI	Yes		Pass	only 1 core online		
	Graphics acceleration using SoC GPU	Yes		Pass			
	Standard set of Distribution end user applications	Yes		Pass	browser works :)		
	Video playback support for media files	Yes		Pass	managed to get video playback		
	Media files via A2DP Bluetooth and display audio	Yes		Pass	managed to get HDMI audio work		
	Networking using all onboard interfaces and USB ethernet interfaces	Partial		Fail	ETH-USB dongle doesn't work		
	Software power shutdown and reboot options	Yes		Fail	Power off works as reboot when dip switch is turned to 'auto on' position		
	Appropriate activity LEDs (e.g. Bluetooth, WiFi)	Yes		Pass			
	Additional storage is usable: eMMC (if fitted), SD, SATA, USB	Yes		Pass			