

TECHNOLOGY TEARDOWN

VIRTUAL REALITY



Component	Technology	Suppliers	Suggested Products	Development Kits
AUDIO PROCESSING				
USB Audio	UAC1.0/2.0	Silicon Labs, Cmedia	CP2615 (USB to I2S/UART Bridge), CM118B (UAC1.0 codec), CM6632A (UAC2.0 codec)	CP2615-EK, CP2614-EK, CM118B-EVAL, CM6632A-EVB
Audio DSP	Voice Recognition/ Trigger & 3D audio	Realtek, Cmedia	ALC5679 (DSP codec: voice recognition & 3D audio), ALC5514 (DSP codec: voice-trigger), CM7104 (DSP codec: ENC/AEC/3D audio)	ALC5679-EVK, ALC5514-EVK, CM7104-EVB
Mics Aggr. Bridge	Microphone Array Beamforming	Lattice	iCE40 Ultra Plus	iCE40UP5K-MDP-EVN
VIDEO CONNECTIVITY				
pASSP	MIPI/LVDS/Hi-SPI/Parallel Bridging	Lattice	LIF-MD6000 (image sensor aggregation/splitting; Micro-display bridging)	LIF-MD6000-ML-EVN
Video mux	HDMI2.0	Lattice	Sil9777 (4K 4-to-3 HDMI Port processor: merging/splitting/switching)	CP9777
Video Transceiver	HDMI1.4/2.0	Lattice	Sil9396 (HDMI2.0 Rx), Sil1136 (4K HDMI Tx))	CP9396, CP1136
Video processor	Video scaling/overlay	Lattice	Sil9616 (Lattice, 4K video processor/scaler/overlay)	CP9616
WirelessHD module	WirelessHD (uncompressed HDMI video over 60GHz wireless)	Lattice	MOD6320-T (WirelessHD Tx), MOD6321-R (WirelessHD Rx)	SK63223A (1080P EVB kit)/SK63224 (4K@30 EVB kit)
SENSING/TRACKING				
FPGA	Iris tracking & spatial tracking	Lattice	ECP5UM (Depth capture/video extraction/spatial computation)	ECP5-5G Versa Development Kit
FPGA	Sensor Array Processing	Lattice	iCE40 UltraPlus (concurrent Data Capture & Data buffer)	iCE40UP5K-MDP-EVN
Laser Switch	laser tracking (object recognition)	iC-Haus	IC-HG (3A Laser Switch)	IC-HGEVALHGID
Hall sensor	position detection/sensing	TDK/Micronas	HAL15xy (Hall switches)	
GNSS	location sensing	Telit/MediaTek	MT3333, SE868V3	MT3333-VBGA-EVK, SE868-V3-EVK
Optical Sensor	Proximity sensing	Silicon Labs	Si1120 (Proximity + Ambient Light Sensor), Si1102 (Proximity sensor)	Si1120EK, Si1102EK
Touch sensor	Capcitive touch sensing	Silicon Labs	CPT007B	SLEXP8007A
DATA INTERFACE				
USB Type-C	USB Type-C V.1.1	Lattice	LIF-UC110 (CC/PD Full stack controller), Sil7014 (CC/PD PHY+ DP Auxiliary Channel)	iCE40LP8K-USBC-EVN, CP7104
WIRELESS COMMUNICATION				
BLE	BLE5.0	SiLabs/Nordic	EFR32BG: (SoC), BGM11S (Fully certified BT SiP), nRF52840	SLWSTK6020B, SLWSTK6101C, nRF52840-PDK
Indoor Positioning	802.15.4-2011	DecaWave	DW1000 (Chipset), DWM1000 (Module)	EVK1000, TREK1000
ADDITIONAL COMPONENTS				
MCU	8-bit/32-bit MCU	Silicon Labs	Sleepy Bee (8-bit), Universal Bee (8-bit), Gecko (32-bit)	SLSTK2011A (8-bit), SLSTK3401A
Power Management	DC/DC Step up/down, LDO, Load Switch, LCD display Bias supply	MPS	MP2141N (Step-down), MP3415 (step-up), MP2015A (LDO), MP5610 (Dual channel LCD bias supply)	