



Project Simple PCIe Carrier Board
 Title **Simple PCIe Carrier Board**
 EDA Number **EDA-02189-V4-0**
 Designer GK, MC, TW, EB, PAS
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Rev.
 Drawn by Norbert Lopez
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Ref	Qty	Scem	Description	Val&Device	Manufacturer P/N	Case
R3 R8 R35 R107, R108 R253	6		1A (0.05R Max DC Resistance) Zero Ohm Jumper	0	GENERIC R0603_0R_JUMPER	0603
R4 R9 R24 > R27 R84 R86 R89 R91 R99 R104, R105 R110 R141, R142 R144, R145 R148 R164, R165	21		±1% 0.1W ±100ppm/°C General Purpose Thick Film Chip Resistor	100	GENERIC R0603_100R_1%_0.1W_100PPM	0603
R6 R12 R15 R21 R38 R60 R82, R83 R92 R98 R100 R113 R137, R138 R151 R168 R190 R195, R196 R205, R206 R208 R226 > R230 R232, R233 R236 R243 R290 R400 > R404 R425, R426	39		±1% 0.1W ±100ppm/°C General Purpose Thick Film Chip Resistor	10k	GENERIC R0603_10K_1%_0.1W_100PPM	0603
R10 R39 > R59 R61 > R81 R85 R116 > R136 R153, R154 R156 > R162 R169 > R185 R188 R220 > R225	98		±1% 0.0625W ±100ppm/°C General Purpose Thick Film Chip Resistor	51	GENERIC R0402_51R_1%_0.0625W_100PPM	0402
R14 R22, R23 R28 R87, R88 R90 R102	17		±1% 0.1W ±100ppm/°C General Purpose Thick Film Chip Resistor	5k1	GENERIC R0603_5K1_1%_0.1W_100PPM	0603

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R106 R149 R152 R187 R191 R242 R244 R246, R247						
R18, R19 R36 R101 R140 R147 R163 R193 R241	9		±1% 0.1W ±100ppm/°C General Purpose Thick Film Chip Resistor	240	GENERIC R0603_240R_1%_0.1W_100PPM	0603
R30 R37 R115 R146 R150 R166, R167 R192 R197 > R200 R212	13		±1% 0.1W ±100ppm/°C General Purpose Thick Film Chip Resistor	1k	GENERIC R0603_1K_1%_0.1W_100PPM	0603
R93 R95 > R97 R103 R114 R143 R189 R194	9		±1% 0.1W ±100ppm/°C General Purpose Thick Film Chip Resistor	3k3	GENERIC R0603_3K3_1%_0.1W_100PPM	0603
R111 R186 R248	3		±1% 0.1W ±100ppm/°C General Purpose Thick Film Chip Resistor	27k	GENERIC R0603_27K_1%_0.1W_100PPM	0603
C1 C5 C16 C24 C26 C35 C50, C51 C65 C84 C88 C110, C111 C120 C122 C129 C140 > C144 C149 C151 C177, C178 C191, C192 C194 C200 C218 C291 > C303 C306 > C308 C316 C322 C329 > C331 C338 > C341 C348 C357 > C361 C373 C375	73		±10% 16V X7R SMD Multilayer Chip Ceramic Capacitor	1uF	GENERIC CC0603_1uF_16V_10%_X7R	0603

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C386 C424 C431 C453, C454 C468 C472 C476 C589 C591						
C2 C4 C7 C9, C10 C15 C17 C21 C29 C32 > C34 C37, C38 C47, C48 C69, C70 C158 C161 C166 > C168 C172 C174 C195 C201, C202 C204, C205 C216 C219 > C221 C256 C263 C280 C392 C451, C452 C581 C584 C588 C592 > C594	46		±10% 50V X7R SMD Multilayer Chip Ceramic Capacitor	100nF	GENERIC CC0603_100NF_50V_10%_X7R	0603
C3 C13, C14 C18 C121 C130 C150 C159 C169, C170 C255	11		±10% 50V X7R SMD Multilayer Chip Ceramic Capacitor	10nF	GENERIC CC0603_10NF_50V_10%_X7R	0603
C6 C11, C12 C19 C23 C27 C39 > C45 C49 C66 C72 > C83 C85 > C87 C89 > C92 C119 C128 C135 > C139 C148 C173 C176 C179 > C182	54		±10% 10V X7R SMD Multilayer Chip Ceramic Capacitor	22uF	GENERIC CC1206_22UF_10V_10%_X7R	1206

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C207 > C210 C213, C214						
C8 C20 C22 C25 C28 C30, C31 C46 C52 > C64 C93 > C109 C112 > C118 C123 > C127 C131 > C134 C145 > C147 C152 > C157 C160 C162 > C165 C183 > C190 C196 > C198 C203 C211, C212 C222 C224 C230 > C239 C281 > C290 C309, C310 C317 C324, C325 C332 > C335 C342 > C345 C349 C352 > C354 C362 > C365 C368 > C370 C374 C379	130		±10% 16V X7R SMD Multilayer Chip Ceramic Capacitor	100nF	GENERIC CC0402_100NF_16V_10%_X7R	0402
C67 C71 C175 C206 C217	5		±10% 25V X7R SMD Multilayer Chip Ceramic Capacitor	10uF	GENERIC CC1210_10UF_25V_10%_X7R	1210
C68 C171 C199 C215	4		±20% 6.3V Aluminium Solid Capacitor With Conductive Polymer (SEQP Serie)	150uF	SANYO OS-CON 6SEQP150M	LS3.5 D8 x H7
C193	1		±20% 16V Aluminium Solid Capacitor With Conductive Polymer (SEQP Serie)	150uF	SANYO OS-CON 16SEQP150M	LS5 D10 x H8
L1 > L4 L6 L10, L11 L14 L17 L21, L22	11		±25% 2A SMD EMIFIL Suppression Chip Bead Ferrite	220R @100MHz	MURATA BLM21PG221SN1D	0805
L12, L13 L15	3		±30% 8.8A Shielded SMD Power Inductors	1.5uH	BOURNS SRR1260-1R5Y	
L16	1		±30% 8.2A Shielded SMD Power Inductors	2.2uH	BOURNS SRR1260-2R2Y	
D1, D2	2		40V 3A Surface Mount Schottky Barrier Rectifier	SS34	FAIRCHILD SEMICONDUCTOR SS34	DO-214AC
IC1	1		3V, 150mA Micropower Low-Dropout CMOS Voltage Regulator	LP5951MF-3.0/NOPB	NATIONAL SEMICONDUCTOR LP5951MF-3.0/NOPB	SOT23-5
IC2	1		Spartan-6 LXT 1.2V FPGA, 296 User I/Os, 484-Ball Fine-Pitch BGA (1.0mm Pitch), Speed Grade 3, Commercial Grade, Pb-Free	XC6SLX45T-3FGG484C	XILINX XC6SLX45T-3FGG484C	BGA484
IC3 IC7	2		2.7V to 5.5V, 250uA, Rail-to-Rail Output 16-Bit nanoDAC	AD5662BRMZ-1	ANALOG DEVICES AD5662BRMZ-1	MSOP8
IC4	1		16 Meg x 16 x 8 Banks DDR3 SDRAM, +1.5V Supply	MT41J128M16HA-15E	MICRON TECHNOLOGY MT41J128M16HA-15E	BGA96
IC5 IC17	2		3.3V Sink/Source DDR Termination Regulator	TPS51200DRCT	TEXAS INSTRUMENTS TPS51200DRCT	SON10
IC6	1		Four Output, Integrated VCO, Low-Jitter Clock Generator	CDCM61004RHBT	TEXAS INSTRUMENTS CDCM61004RHBT	QFN32
IC8	1		32 Mbit, Low-Voltage, Serial Flash Memory With 75MHz SPI Bus Interface	M25P32-VMF6P	MICRON M25P32-VMF6P	SOIC16
IC9	2		Dual Synchronous Step-Down Controller For Low Voltage Power Rails	TPS53126RGET	TEXAS INSTRUMENTS TPS53126RGET	QFN24

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IC11						
IC10	1		2.5V Voltage Reference Diode	LM336M-2.5/NOPB	NATIONAL SEMICONDUCTOR LM336M-2.5/NOPB	SOIC8
IC12 > IC14 IC18	4		Configurable Multiple-Function Gate	SN74LVC1G97DBVR	TEXAS INSTRUMENTS SN74LVC1G97DBVR	SOT23-6
IC15	1		x4 Lane PCI Express to Local Bridge	GN4124	GENNUM GN4124	BGA256
IC16	1		2.5V-5.5V, 2K (256 x 8-bit) I2C Serial EEPROM With Half-Array Write Protect	24LC024H-I/SN	MICROCHIP TECHNOLOGY 24LC024H-I/SN	SOIC8
IC19	1		Programmable Resolution 1-Wire Digital Thermometer (-55°C to +125°C)	DS18B20U+	DALLAS MAXIM DS18B20U+	uSOP8
IC21	1		Single-Chip USB to UART Bridge	CP2102-GM	SILICON LABS CP2102-GM	QFN28
IC22	1		5.5V Ultra Low Capacitance (1pF) Double Rail-to-Rail ESD Protection Diode (8kV)	PRTR5V0U2X	PHILIPS NXP PRTR5V0U2X	SOT143B
IC40	1		Single Output LDO, 3.0A, Adj.(0.8 to 3.3V), Fast Transient Response, Programmable SoftStart	TPS74401RGWT	TEXAS INSTRUMENTS TPS74401RGWT	QFN20
LD1	1		Dual 2mm LEDs, Red Top, Green Bot, CBI@ Circuit Board Indicator (Without positioning pins)		DIALIGHT 571-0112F	
LD2 > LD6	5		Low current chip LED SML-311 Serie		ROHM SML-311UTT86K	
OSC2	1		3.3V ±100ppm 15pF HCMOS Tri-State Surface Mount Voltage Controlled Oscillator VCXO (CFPV-45 Serie)	20MHz	IQD FREQUENCY PRODUCTS LF VCXO026156	
OSC3	1		3V3 ±100ppm 50pF Tri-State Surface Mount MOS Clock Oscillator (OT7 Serie)	25MHz	MULTICOMP MCOT7250003V3000000RA	
OSC4	1		10-280MHz 3.3V ±20ppm LVDS Any-Rate I2C Programmable XO Oscillator Si570 Serie	10-280MHz	SILICON LABS 570BBC000121DG	
OSC5	1		3V ±2.5ppm Voltage Controlled Temperature Compensated Crystal Oscillator VM53S3 Serie	25MHz	MERCURY ELECTRONICS VM53S3-25.000-2.5/-30+75	
T1, T2 T7 T9	4		50V 200mA N-Channel Enhancement Mode Field-Effect Transistor	BSH103	NXP SEMICONDUCTORS BSH103	SOT23-3
T3 > T6	4		20V 10A(Q1) 20V 12A (Q2) Dual SO-8 MOSFET For POL Converter	IRF9910Pbf	INTERNATIONAL RECTIFIER IRF9910Pbf	DO8
T8	1		-12V -3A P-Channel STripFET® II Power MOSFET	Si2315BDS-T1-E3	VISHAY SILICONIX Si2315BDS-T1-E3	SOT23-3
CageBot1	1		Cage bottom For Single Port SFP (Small Form-factor Pluggable)		TYCO ELECTRONICS TYCO_6367034-1	
CageTop1	1		Cage Top For Single Port SFP (Small Form-factor Pluggable)		TYCO ELECTRONICS TYCO_6367035-1	
J1 J5	2		Signal Plug, Surface mount, Right Angle, Serial Advanced Technology Attachment (SATA) Connector, 5607 Series		3M 5607-4200-SH	
J3	1		2.00mm (.079") Pitch Milli-Grid™ Header, Right Angle, Shrouded, Center Polarization Slot, Locking Window, 14 Circuits		MOLEX 87833-1420	
J4	1		160 contacts (4 rows cdgh) Surface Mount Female Connector, VITA 57		SAMTEC ASP-134603-01	
J6	1		24V/3. 5A, 2.1mm Diameter Pin, SMD DC Power Supply Connector With Break Contact		LUMBERG 161314	
J7	1		20 Position, Pitch 0.8mm SFP Receptacle (Small Form-factor Pluggable)		TYCO ELECTRONICS 1367073-1	
J8	1		5 Position, Right Angle, SMD Mini USB Type B Receptacle		TYCO ELECTRONICS 1734035-1	
SW1	1	09.55.10.960.9	Closed Insulated Black Jumper Pitch 2.54mm		KONTEK COMATEL 313.1730.0.00.40.0	
W1	1		2 Contacts SIL Vertical Pin Header, Pitch 2.54mm, Mating Height 6.1mm, Insulator 2.54mm		HARWIN M20-9990246	
F2, F3	2		SMF OMNI-BLOCK® Very Fast-Acting Fuse and Holder	3A-125V	LITTELFUSE 0154003.DR	
PB1, PB2	2		12VDC 50mA SPST Tactile Push-Button Switch		TYCO ALCOSWITCH FSM2JSMA or 2-1437565-7	

Not Mounted

R1, R2 R5 R13 R17 R31, R32 R34 R94 R139 R155 R245 R249 > R252 R254	17		1A (0.05R Max DC Resistance) Zero Ohm Jumper	0	GENERIC R0603_0R_JUMPER	0603
R7 R16 R109 R112	4		±1% 0.1W ±100ppm/°C General Purpose Thick Film Chip Resistor	100	GENERIC R0603_100R_1%_0.1W_100PPM	0603
R11 R20 R29 R33	4		±1% 0.1W ±100ppm/°C General Purpose Thick Film Chip Resistor	10k	GENERIC R0603_10K_1%_0.1W_100PPM	0603
C36 IC20	1		±10% 50V X7R SMD Multilayer Chip Ceramic Capacitor	100nF	GENERIC CC0603_100NF_50V_10%_X7R	0603
OSC1	1		High-Speed Differential Line Receiver	SN65LVDS2DBVR	TEXAS INSTRUMENTS SN65LVDS2DBVR	SOT23-5
B2, B3 B5 B7 B17 > B19 B22	8		11pF 3.3V ±1ppm Surface Mount TCXO Voltage Controlled Oscillator (IT3200C Serie)	25MHz	RAKON IVT3205CR 25.0 MHz	
			Black Bead PCB Terminal Test Pin (1.32 mm hole)		VERO TECHNOLOGIES 20-2136	

Ref	Qty	Scem	Description	Val&Device	Manufacturer P/N	Case
	Dimension : 174.1x111.1 mm		Through pins: SMD pins on TOP: SMD pins on BOTTOM: Total nb of pins:	78 1850 772 2700		