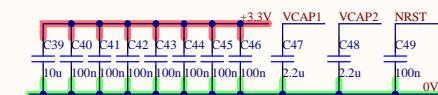
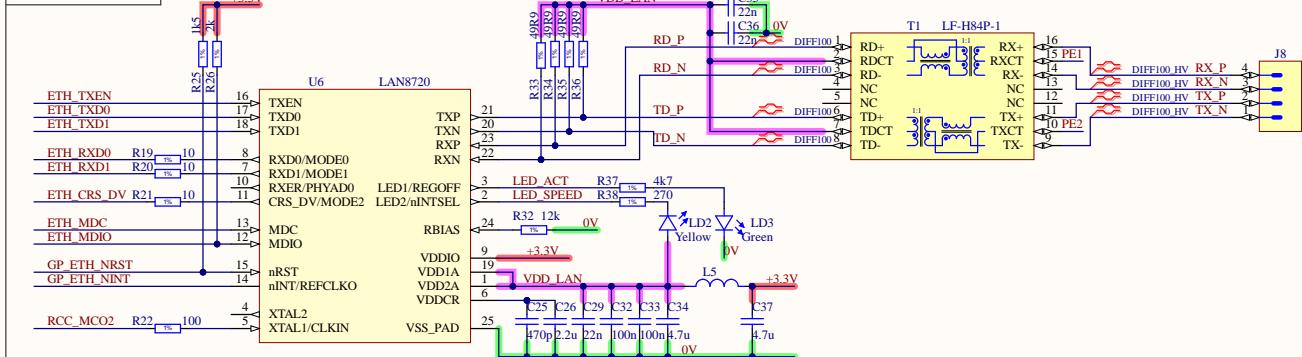


This diagram shows the pinout for the NANO 3.3 V version, mapping breadboard pins to microcontroller pins. The connections are as follows:

- Power:**
 - C27 → B.ONOFF
 - 0V → PE2 (VDD), PE3 (99), PE4 (98), PE5 (97), PE6 (96), PE13 (95), PB6 (95), PB9 (94), PB13 (93), PB7 (92), PB5 (91), PB8 (90), PB12 (90), PB10 (89), PB11 (88), PB14 (87), PB15 (86), PD5 (85), PD6 (84), PD2 (83), PD1 (82), PC10 (81), PC11 (80), PC12 (79), PC13 (78), PA0 (PA0/WKUP)
 - C28 → B.NEXT
 - 0V → B.VIEW
 - C29 → B.MODE
 - C30 → VBAT
 - 0V → OSC32_IN
 - C31 → OSC32_OUT
 - 0V → OSC32_IN
 - 0V → OSC32_OUT
 - +3.3V → OSC32_IN
 - +3.3V → OSC32_OUT
 - 0V → OSC_IN
 - +3.3V → OSC_IN
 - 0V → OSC_OUT
 - +3.3V → OSC_OUT
 - NRST → NRST
 - 0V → ETH_MDC
 - +3.3V → GP_ETH_NRST
 - 0V → GP_ETH_NINT
 - +3.3V → PC0
 - 0V → PC1
 - 0V → PC2
 - 0V → PC3
 - +3.3V → VDD
 - 0V → VSSA
 - +3.3V → VREF+
 - 0V → VDDA
 - +3.3V → ADC12_IN4
 - 0V → DOUT0
 - +3.3V → TIM3_CH1
 - 100n → TIM3_CH2
 - 0V → ETH_CRS_DV
 - 0V → ETH_RXD0
 - 0V → ETH_RXD1
 - 0V → PB0
 - 0V → PB1
 - 0V → PB2/BOOT1
 - 0V → PE4
 - 0V → PE5
 - 0V → PE6
 - 0V → PE7
 - 0V → PE8
 - 0V → PE9
 - 0V → PE10
 - 0V → PE11
 - 0V → PE12
 - 0V → PE13
 - 0V → PE14
 - 0V → PE15
 - 0V → PB10
 - 0V → PB11
 - 0V → VCAP1
 - +3.3V → VCAP1_
 - 0V → VDD
- Serial Communication:**
 - B.TXEN → PE1 (I2C1_SDA), PE0 (I2C1_SCL), PB9 (UART1_RX), PB8 (UART1_TX), PB12 (UART1_RX), PB11 (UART1_TX), PB10 (SP1_MOSI), PB9 (SP1_MISO), PB8 (SP1_CLK), PB7 (LCD_DC), PB6 (LCD_CS), PB5 (LCD_RST), PB4 (CAN1_TX), PB3 (CAN1_RX), PC12 (UART4_RX), PC11 (UART4_TX), PC10 (UART4_TX), PA15 (SWCLK), PA14 (VDD), PA13 (SDIO), PA12 (USB_OTG_FS_DP), PA11 (USB_OTG_FS_DM), PA10 (USB_OTG_FS_ID), PA9 (VDD), PA8 (VDD), PA7 (RCC_MCO1), PA6 (RCC_MCO2), PA5 (VDD), PA4 (TIM8_CH2), PA3 (B_ZERO), PA2 (B_UP), PA1 (B_DOWN), PC9 (TIM8_CH2), PC8 (GP_GPI), PC7 (GP_GPO), PC6 (B_UP), PC5 (B_DOWN), PC4 (B_UP), PC3 (B_DOWN), PC2 (B_UP), PC1 (B_DOWN), PC0 (B_UP), PC12 (GP_GPI), PC11 (GP_GPO), PC10 (UART3_RX), PC9 (UART3_TX), PC8 (TIM12_CH1), PC7 (TIM12_CH2), PC6 (UART1_RX), PC5 (UART1_TX), PC4 (TIM12_CH1), PC3 (TIM12_CH2), PC2 (ETH_TXD1), PC1 (ETH_TXD0), PB12 (ETH_RXD1), PB11 (ETH_RXD0)
- Other:**
 - TP3 → RCC_MCO1
 - TP4 → RCC_MCO2
 - TP5 → USB_OTG_FS_DP
 - TP6 → USB_OTG_FS_DM
 - TP7 → USB_OTG_FS_ID
 - TP8 → CAN1_TX
 - TP9 → CAN1_RX



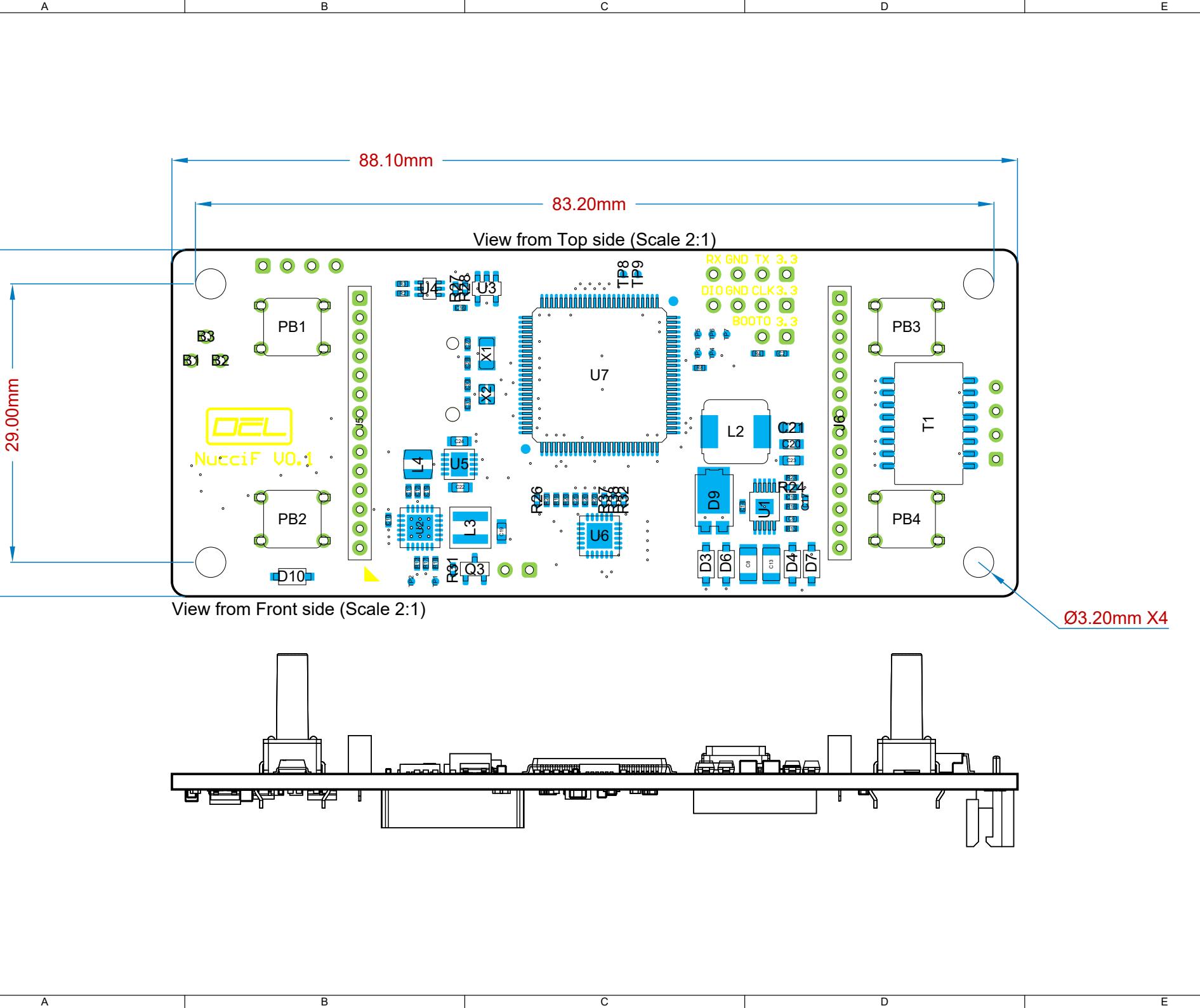
Ethernet PHY



Title *PS3604L*

Size: A3 Revision: 0.1
 Date: 9/16/2025 Time: 13:56:57 Sheet 1 of 1
 File: NucciF.SchDoc

Designator	Comment	Footprint	Part Number	Part Description	Quantity
B1, B2, B3	V, P, G	c150h100	PLATED_HOLE10_PAD1.5	Plated Through Hole: Hole Dia.=1.0mm Pad Dia.=1.5mm	3
C1, C2, C4, C16, C32, C33, C38, C40, C41, C42, C43, C44, C45, C46, C49		100n	CAPC1005X55N	SMD Multilayer Chip Ceramic Capacitor	15
C3, C19, C20, C21, C22, C23, C24, C39	10u	CAPC1608X87N	CC0603_10UF_10V_20%_X5R	SMD Multilayer Chip Ceramic Capacitor	8
C5, C6, C7	22n	CAPC2012X135N	CC0805_22NF_500V_10%_X7R	SMD Multilayer Chip Ceramic Capacitor	3
C8, C13	2.2u	CAPC3216X140N	CC1206_2.2UF_100V_10%_X7R	SMD Multilayer Chip Ceramic Capacitor	2
C9	10n	CAPC1005X55N	CC0402_10NF_16V_10%_X7R	SMD Multilayer Chip Ceramic Capacitor	1
C10, C11, C12	4.7u	CAPC1005X55N	CC0402_4.7UF_10V_20%_X5R	SMD Multilayer Chip Ceramic Capacitor	3
C14, C15	100n	CAPC1005X55N	CC0402_100NF_16V_10%_X7R	SMD Multilayer Chip Ceramic Capacitor	2
C17	4.7n	CAPC1005X55N	CC0402_4.7NF_16V_10%_X7R	SMD Multilayer Chip Ceramic Capacitor	1
C18	33p	CAPC1005X55N	CC0402_33PF_50V_5%_NPO	SMD Multilayer Chip Ceramic Capacitor	1
C25	470p	CAPC1005X55N	CC0402_470PF_50V_10%_X7R	SMD Multilayer Chip Ceramic Capacitor	1
C26, C47, C48	2.2u	CAPC1005X55N	CC0402_2.2UF_6.3V_20%_X5R	SMD Multilayer Chip Ceramic Capacitor	3
C27, C28	15p	CAPC1005X55N	CC0402_15PF_50V_5%_NPO	SMD Multilayer Chip Ceramic Capacitor	2
C29, C35, C36	22n	CAPC1005X55N	CC0402_22NF_16V_10%_X7R	SMD Multilayer Chip Ceramic Capacitor	3
C30, C31	6.8p	CAPC1005X55N	CC0402_6.8PF_50V_0.5PF_NPO	SMD Multilayer Chip Ceramic Capacitor	2
C34, C37	4.7u	CAPC1608X87N	CC0603_4.7UF_10V_10%_X5R	SMD Multilayer Chip Ceramic Capacitor	2
D1, D2, D5, D8	ISS3370	SOT65P210X100-3N	ISS3370	High Voltage, High Speed Switching Applications	4
D3, D4, D6, D7	MBR0540T1G	SOD3716X135N	MBR0540T1G	Schottky Power Rectifier	4
D9	SBRT15U100SP5	SBRT15U100SP5	SBRT15U100SP5	Schottky Rectifier	1
D10	1N4148W	SOD3715X145N	1N4148W	Small Signal Diode	1
J1, J2, J3	Header 4	3M_2304-6111-TG	3M_2304-6111-TG	4 Contacts - Vertical Contacts Straight Strip Header Pitch 2.54	3
J4, J7	Header 2	3M_2302-6111-TG	3M_2302-6111-TG	2 Contacts - Horizontal Contacts Straight Strip Header Pitch 2.54	2
J5, J6	Socket 14	3M_955114-6102-AR	3M_955114-6102-AR	14 Contacts - 2mm x 2 mm Straight, Boardmount Socket, 950 Serie	2
J8	SPOX	MOLEX_22-03-5045	MOLEX_22-03-5045	2.50mm Pitch SPOX Wire-to-Board Header, Vertical, Shrouded, 4 Circuits, Tin (Sn) Plating	1
L1	ATB322515	XFMR_ATB322515-0110-T000	XFMR_TDK_ATB322515-0110-T000	1:10 Step-up Transformers	1
L2	15uH	IND_VISHAY_IHLP-2525CZ	IND_15uH_20%_HP0630	SMT Inductors SIMID Series	1
L3	1uH	IND_COILCRAFT_XAL4020	IND_1uH_20%_COILCRAFT_XAL4020-102ME	Shielded SMD Power Inductors	1
L4	2.2uH	VLS3010CX-1	IND1008_2.2uH_20%_TDK_VLS3010CX-2R2M-1	SMT Power Inductors	1
L5	2.2uH	INDC2520X100N	IND1008_2.2uH_20%_TDK_MLP2520S_2R2MT0S1	SMT Inductors	1
LD1	Blue	LEDC1608X80N_BLUE	LED_OF-SMD1608B	Surface Mount Red LED (0603 Case)	1
LD2	Yellow	LEDC1608X80N_YELLOW	LED_OF-SMD1608Y	Surface Mount Red LED (0603 Case)	1
LD3	Green	LEDC1608X80N_GREEN	LED_OF-SMD1608G	Surface Mount Green LED (0603 Case)	1
LS1	Pezzo	HPS13C	HPS13C	Pezzo sound generator	1
PB1, PB2, PB3, PB4	Push Button	PB_E-SWITCH_TL1105HF1000	PB_E-SWITCH_TL1105HF1000	12VDC 50mA SPST Tactile Push-Button Switch	4
Q1	IRLML0100TRPBF	SOT95P237X112-3N	IRLML0100TRPBF	100V 1.6A N-Channel HEXFET® Power MOSFET	1
Q2	BC857B	SOT95P230X110-3N	BC857B	45V, 100mA PNP general-purpose transistors	1
Q3	IRLML6401PBF	SOT95P237X112-3N	IRLML6401PBF	-12V -4.3A P-Channel HEXFET® Power MOSFET	1
R1, R7, R17, R18, R31	100k	RESC1005X40N	RO402_100K_1%_0.0625W_100PPM	General Purpose Thick Film Chip Resistor	5
R2, R3, R8, R22	100	RESC1005X40N	RO402_100R_1%_0.0625W_100PPM	General Purpose Thick Film Chip Resistor	4
R4, R15	1k	RESC1005X40N	RO402_1K_1%_0.0625W_100PPM	General Purpose Thick Film Chip Resistor	2
R5	0	RESC2012X60N	RO805_0_JUMPER	2A (0.05R Max DC Resistance) Zero Ohm Jumper	1
R6	100k	RESC2012X60N	RO805_100K_1%_0.125W_100PPM	General Purpose Thick Film Chip Resistor	1
R9	7k5	RESC1005X40N	RO402_7K5_1%_0.0625W_100PPM	General Purpose Thick Film Chip Resistor	1
R10	1M	RESC1005X40N	RO402_1M_1%_0.0625W_100PPM	General Purpose Thick Film Chip Resistor	1
R11, R32	12k	RESC1005X40N	RO402_12K_1%_0.0625W_100PPM	General Purpose Thick Film Chip Resistor	2
R12	680	RESC1005X40N	RO402_680R_1%_0.0625W_100PPM	General Purpose Thick Film Chip Resistor	1
R13	270k	RESC1005X40N	RO402_270K_1%_0.0625W_100PPM	General Purpose Thick Film Chip Resistor	1
R14, R38	270	RESC1005X40N	RO402_270R_1%_0.0625W_100PPM	General Purpose Thick Film Chip Resistor	2
R16	20k	RESC1005X40N	RO402_20K_1%_0.0625W_100PPM	General Purpose Thick Film Chip Resistor	1
R19, R20, R21	10	RESC1005X40N	RO402_10R_1%_0.0625W_200PPM	General Purpose Thick Film Chip Resistor	3
R23	43k	RESC1005X40N	RO402_43K_1%_0.0625W_100PPM	General Purpose Thick Film Chip Resistor	1
R24	10k	RESC1005X40N	RO402_10K_1%_0.0625W_100PPM	General Purpose Thick Film Chip Resistor	1
R25	1k5	RESC1005X40N	RO402_1K5_1%_0.0625W_100PPM	General Purpose Thick Film Chip Resistor	1
R26, R27, R28	2k	RESC1005X40N	RO402_2K_1%_0.0625W_100PPM	General Purpose Thick Film Chip Resistor	3
R29, R30	0	RESC1005X40N	RO402_0R_JUMPER	1A (0.05R Max DC Resistance) Zero Ohm Jumper	2
R33, R34, R35, R36	49R9	RESC1005X40N	RO402_49R9_1%_0.0625W_100PPM	General Purpose Thick Film Chip Resistor	4
R37	4k7	RESC1005X40N	RO402_4K7_1%_0.0625W_100PPM	General Purpose Thick Film Chip Resistor	1
SK1	BH500	EEMB_BH500	EEMB_BH500	Battery holder for CR and LiR series 1216 to 1220, 1225	1
T1	LF-H84P-1	XFMR_LF-H84P	PE-68678	10/100BASE-Tx PC Card LAN Magentic Module	1
TP1, TP2, TP3, TP4, TP5, TP6, TP7, TP8, TP9	Test Point, GND	TP_SMD_800	TP_SMD_0.8MM	0.8mm round SMD Pad	9
U1	TPS54260	SOP50P490X110-11N-R157X188	TPS54260DGO	3.5-V to 60-V Input, 2.5-A Step-Down Converter	1
U2	RT9466	QFN50P400X400X100-25N-S2270	RT9466	Linear Li-Ion Charger with LDO	1
U3	24AA08	SOT95P280X145-5N	24AA08T-I/OT	8K Serial EEPROM	1
U4	NUP4202	SOT65P220X110-6N	NUP4202W1	ESD Protection Diode, Low Clamping Voltage	1
U5	TPS63001	SON50P300X300X100-11N-R175X250	TPS63001	Single Inductor Buck-Boost Converter With 1.8-A Switches	1
U6	LAN8720	QFN50P400X400X100-25N-S2265	LAN8720A-CP-TR	Small Footprint RMII 10/100 Ethernet Transceiver with HP Auto-MDIx Support	1
U7	STM32F407VGt6	QFP50P1600X1600X160-100N	STM32F407VGT6	ARM Cortex-M4 32b MCU+FPU, 210DMIPS, up to 1MB Flash/192+4KB RAM, USB OTG HS/FS, Ethernet, 17 TIMs, 3 ADCs, 15 comm. interfaces & camera	1
X1	32.768KHZ	OSCC150X320X80-2N	32.768KHz_KX-327NHT	Quartz Crystal ±20ppm	1
X2	24MHz	OSCC160X200X65-4N	24MHz_XRCGB24M000F3M00R0	± 30ppm at (25±3°C), -30°C to +85°C, 6pF, Ceramic SMD Crystal, Type HCR2016	1



A

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E

View from Bottom side (Scale 2:1)

