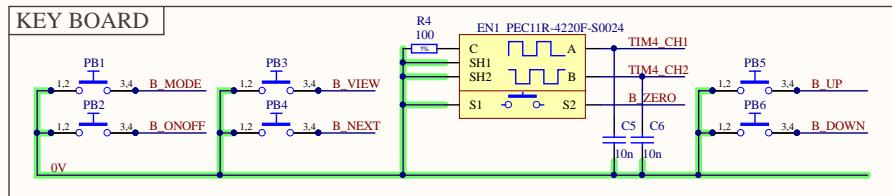
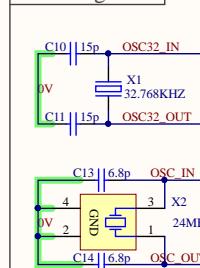


KEY BOARD**MCU Signals**

U5 STM32F407VET6	100 +3.3V
PE2	VDD
PE3	99 0V
PE4	98
PE5	97
PE6	96
PE10	95
PE11	94
PE12	93
PE13	92
PE14	91
PE15	90
PE16	89
PE17	88
PE18	87
PE19	86
PE20	85
PE21	84
PE22	83
PE23	82
PE24	81
PE25	80
PE26	79
PE27	78
PE28	77
PE29	76
PE30	75
PE31	74
PE32	73
PE33	72
PE34	71
PE35	70
PE36	69
PE37	68
PE38	67
PE39	66
PE40	65
PE41	64
PE42	63
PE43	62
PE44	61
PE45	60
PE46	59
PE47	58
PE48	57
PE49	56
PE50	55
PE51	54
PE52	53
PE53	52
PE54	51
PE55	50
PE56	49
PE57	48
PE58	47
PE59	46
PE60	45
PE61	44
PE62	43
PE63	42
PE64	41
PE65	40
PE66	39
PE67	38
PE68	37
PE69	36
PE70	35
PE71	34
PE72	33
PE73	32
PE74	31
PE75	30
PE76	29
PE77	28
PE78	27
PE79	26
PE80	25
PE81	24
PE82	23
PE83	22
PE84	21
PE85	20
PE86	19
PE87	18
PE88	17
PE89	16
PE90	15
PE91	14
PE92	13
PE93	12
PE94	11
PE95	10
PE96	9
PE97	8
PE98	7
PE99	6
PE100	5

TP10 RCC_MCO1
TP20 RCC_MCO2
TP30 USB_OTG_FS_DP
TP40 USB_OTG_FS_DM
TP50 USB_OTG_FS_ID
TP55 CAN1_TX
TP60 CAN1_RX

TP70 UART4_RX
TP80 UART4_TX

TP90 SWCLK
TPA0/VKUP

TPB0/VSS
TPC0/VCC2

TPD0/SWUDIO
TPE0/ZERO

TPF0/B_UP
TPG0/B_DOWN

TPH0/TIM4_CH2
TPI0/TIM4_CH1

TPJ0/GP1
TPK0/GP0

TPL0/UART3_RX
TPM0/UART3_TX

TPN0/TIM12_CH2
TPO0/TIM12_CH1

TPQ0/ETH_TXEN
TPR0/VCAP1

TPS0/VCAP2
TPT0/NRST

TPU0/C21
TPV0/C22
TPW0/C23
TPX0/C24
TPY0/C25
TPZ0/C26
TPA1/C27
TPB1/C28
TPC1/C29
TPD1/C30
TPE1/C31

TPF1/4.7u
TPG1/100n
TPH1/100n
TPI1/100n
TPJ1/100n
TPK1/100n
TPL1/2.2u
TPM1/2.2u
TPN1/2.2u
TPO1/2.2u
TPQ1/2.2u
TPR1/2.2u
TPS1/2.2u
TPT1/0V

TPU1/4.7u
TPV1/100n
TPW1/100n
TPX1/100n
TPY1/100n
TPZ1/100n
TPA2/4.7u
TPB2/100n
TPC2/100n
TPD2/100n
TPE2/100n
TPF2/100n
TPG2/100n
TPH2/100n
TPI2/100n
TPJ2/100n
TPK2/100n
TPL2/100n
TPM2/100n
TPN2/100n
TPO2/100n
TPQ2/100n
TPR2/100n
TPS2/100n
TPT2/0V

TPU2/4.7u
TPV2/100n
TPW2/100n
TPX2/100n
TPY2/100n
TPZ2/100n
TPA3/4.7u
TPB3/100n
TPC3/100n
TPD3/100n
TPE3/100n
TPF3/100n
TPG3/100n
TPH3/100n
TPI3/100n
TPJ3/100n
TPK3/100n
TPL3/100n
TPM3/100n
TPN3/100n
TPO3/100n
TPQ3/100n
TPR3/100n
TPS3/100n
TPT3/0V

TPU3/4.7u
TPV3/100n
TPW3/100n
TPX3/100n
TPY3/100n
TPZ3/100n
TPA4/4.7u
TPB4/100n
TPC4/100n
TPD4/100n
TPE4/100n
TPF4/100n
TPG4/100n
TPH4/100n
TPI4/100n
TPJ4/100n
TPK4/100n
TPL4/100n
TPM4/100n
TPN4/100n
TPO4/100n
TPQ4/100n
TPR4/100n
TPS4/100n
TPT4/0V

TPU4/4.7u
TPV4/100n
TPW4/100n
TPX4/100n
TPY4/100n
TPZ4/100n
TPA5/4.7u
TPB5/100n
TPC5/100n
TPD5/100n
TPE5/100n
TPF5/100n
TPG5/100n
TPH5/100n
TPI5/100n
TPJ5/100n
TPK5/100n
TPL5/100n
TPM5/100n
TPN5/100n
TPO5/100n
TPQ5/100n
TPR5/100n
TPS5/100n
TPT5/0V

TPU5/4.7u
TPV5/100n
TPW5/100n
TPX5/100n
TPY5/100n
TPZ5/100n
TPA6/4.7u
TPB6/100n
TPC6/100n
TPD6/100n
TPE6/100n
TPF6/100n
TPG6/100n
TPH6/100n
TPI6/100n
TPJ6/100n
TPK6/100n
TPL6/100n
TPM6/100n
TPN6/100n
TPO6/100n
TPQ6/100n
TPR6/100n
TPS6/100n
TPT6/0V

TPU6/4.7u
TPV6/100n
TPW6/100n
TPX6/100n
TPY6/100n
TPZ6/100n
TPA7/4.7u
TPB7/100n
TPC7/100n
TPD7/100n
TPE7/100n
TPF7/100n
TPG7/100n
TPH7/100n
TPI7/100n
TPJ7/100n
TPK7/100n
TPL7/100n
TPM7/100n
TPN7/100n
TPO7/100n
TPQ7/100n
TPR7/100n
TPS7/100n
TPT7/0V

TPU7/4.7u
TPV7/100n
TPW7/100n
TPX7/100n
TPY7/100n
TPZ7/100n
TPA8/4.7u
TPB8/100n
TPC8/100n
TPD8/100n
TPE8/100n
TPF8/100n
TPG8/100n
TPH8/100n
TPI8/100n
TPJ8/100n
TPK8/100n
TPL8/100n
TPM8/100n
TPN8/100n
TPO8/100n
TPQ8/100n
TPR8/100n
TPS8/100n
TPT8/0V

TPU8/4.7u
TPV8/100n
TPW8/100n
TPX8/100n
TPY8/100n
TPZ8/100n
TPA9/4.7u
TPB9/100n
TPC9/100n
TPD9/100n
TPE9/100n
TPF9/100n
TPG9/100n
TPH9/100n
TPI9/100n
TPJ9/100n
TPK9/100n
TPL9/100n
TPM9/100n
TPN9/100n
TPO9/100n
TPQ9/100n
TPR9/100n
TPS9/100n
TPT9/0V

TPU9/4.7u
TPV9/100n
TPW9/100n
TPX9/100n
TPY9/100n
TPZ9/100n
TPA10/4.7u
TPB10/100n
TPC10/100n
TPD10/100n
TPE10/100n
TPF10/100n
TPG10/100n
TPH10/100n
TPI10/100n
TPJ10/100n
TPK10/100n
TPL10/100n
TPM10/100n
TPN10/100n
TPO10/100n
TPQ10/100n
TPR10/100n
TPS10/100n
TPT10/0V

TPU11/4.7u
TPV11/100n
TPW11/100n
TPX11/100n
TPY11/100n
TPZ11/100n
TPA12/4.7u
TPB12/100n
TPC12/100n
TPD12/100n
TPE12/100n
TPF12/100n
TPG12/100n
TPH12/100n
TPI12/100n
TPJ12/100n
TPK12/100n
TPL12/100n
TPM12/100n
TPN12/100n
TPO12/100n
TPQ12/100n
TPR12/100n
TPS12/100n
TPT12/0V

TPU13/4.7u
TPV13/100n
TPW13/100n
TPX13/100n
TPY13/100n
TPZ13/100n
TPA14/4.7u
TPB14/100n
TPC14/100n
TPD14/100n
TPE14/100n
TPF14/100n
TPG14/100n
TPH14/100n
TPI14/100n
TPJ14/100n
TPK14/100n
TPL14/100n
TPM14/100n
TPN14/100n
TPO14/100n
TPQ14/100n
TPR14/100n
TPS14/100n
TPT14/0V

TPU15/4.7u
TPV15/100n
TPW15/100n
TPX15/100n
TPY15/100n
TPZ15/100n
TPA16/4.7u
TPB16/100n
TPC16/100n
TPD16/100n
TPE16/100n
TPF16/100n
TPG16/100n
TPH16/100n
TPI16/100n
TPJ16/100n
TPK16/100n
TPL16/100n
TPM16/100n
TPN16/100n
TPO16/100n
TPQ16/100n
TPR16/100n
TPS16/100n
TPT16/0V

TPU17/4.7u
TPV17/100n
TPW17/100n
TPX17/100n
TPY17/100n
TPZ17/100n
TPA18/4.7u
TPB18/100n
TPC18/100n
TPD18/100n
TPE18/100n
TPF18/100n
TPG18/100n
TPH18/100n
TPI18/100n
TPJ18/100n
TPK18/100n
TPL18/100n
TPM18/100n
TPN18/100n
TPO18/100n
TPQ18/100n
TPR18/100n
TPS18/100n
TPT18/0V

TPU19/4.7u
TPV19/100n
TPW19/100n
TPX19/100n
TPY19/100n
TPZ19/100n
TPA20/4.7u
TPB20/100n
TPC20/100n
TPD20/100n
TPE20/100n
TPF20/100n
TPG20/100n
TPH20/100n
TPI20/100n
TPJ20/100n
TPK20/100n
TPL20/100n
TPM20/100n
TPN20/100n
TPO20/100n
TPQ20/100n
TPR20/100n
TPS20/100n
TPT20/0V

TPU21/4.7u
TPV21/100n
TPW21/100n
TPX21/100n
TPY21/100n
TPZ21/100n
TPA22/4.7u
TPB22/100n
TPC22/100n
TPD22/100n
TPE22/100n
TPF22/100n
TPG22/100n
TPH22/100n
TPI22/100n
TPJ22/100n
TPK22/100n
TPL22/100n
TPM22/100n
TPN22/100n
TPO22/100n
TPQ22/100n
TPR22/100n
TPS22/100n
TPT22/0V

TPU23/4.7u
TPV23/100n
TPW23/100n
TPX23/100n
TPY23/100n
TPZ23/100n
TPA24/4.7u
TPB24/100n
TPC24/100n
TPD24/100n
TPE24/100n
TPF24/100n
TPG24/100n
TPH24/100n
TPI24/100n
TPJ24/100n
TPK24/100n
TPL24/100n
TPM24/100n
TPN24/100n
TPO24/100n
TPQ24/100n
TPR24/100n
TPS24/100n
TPT24/0V

TPU25/4.7u
TPV25/100n
TPW25/100n
TPX25/100n
TPY25/100n
TPZ25/100n
TPA26/4.7u
TPB26/100n
TPC26/100n
TPD26/100n
TPE26/100n
TPF26/100n
TPG26/100n
TPH26/100n
TPI26/100n
TPJ26/100n
TPK26/100n
TPL26/100n
TPM26/100n
TPN26/100n
TPO26/100n
TPQ26/100n
TPR26/100n
TPS26/100n
TPT26/0V

TPU27/4.7u
TPV27/100n
TPW27/100n
TPX27/100n
TPY27/100n
TPZ27/100n
TPA28/4.7u
TPB28/100n
TPC28/100n
TPD28/100n
TPE28/100n
TPF28/100n
TPG28/100n
TPH28/100n
TPI28/100n
TPJ28/100n
TPK28/100n
TPL28/100n
TPM28/100n
TPN28/100n
TPO28/100n
TPQ28/100n
TPR28/100n
TPS28/100n
TPT28/0V

TPU29/4.7u
TPV29/100n
TPW29/100n
TPX29/100n
TPY29/100n
TPZ29/100n
TPA30/4.7u
TPB30/100n
TPC30/100n
TPD30/100n
TPE30/100n
TPF30/100n
TPG30/100n
TPH30/100n
TPI30/100n
TPJ30/100n
TPK30/100n
TPL30/100n
TPM30/100n
TPN30/100n
TPO30/100n
TPQ30/100n
TPR30/100n
TPS30/100n
TPT30/0V

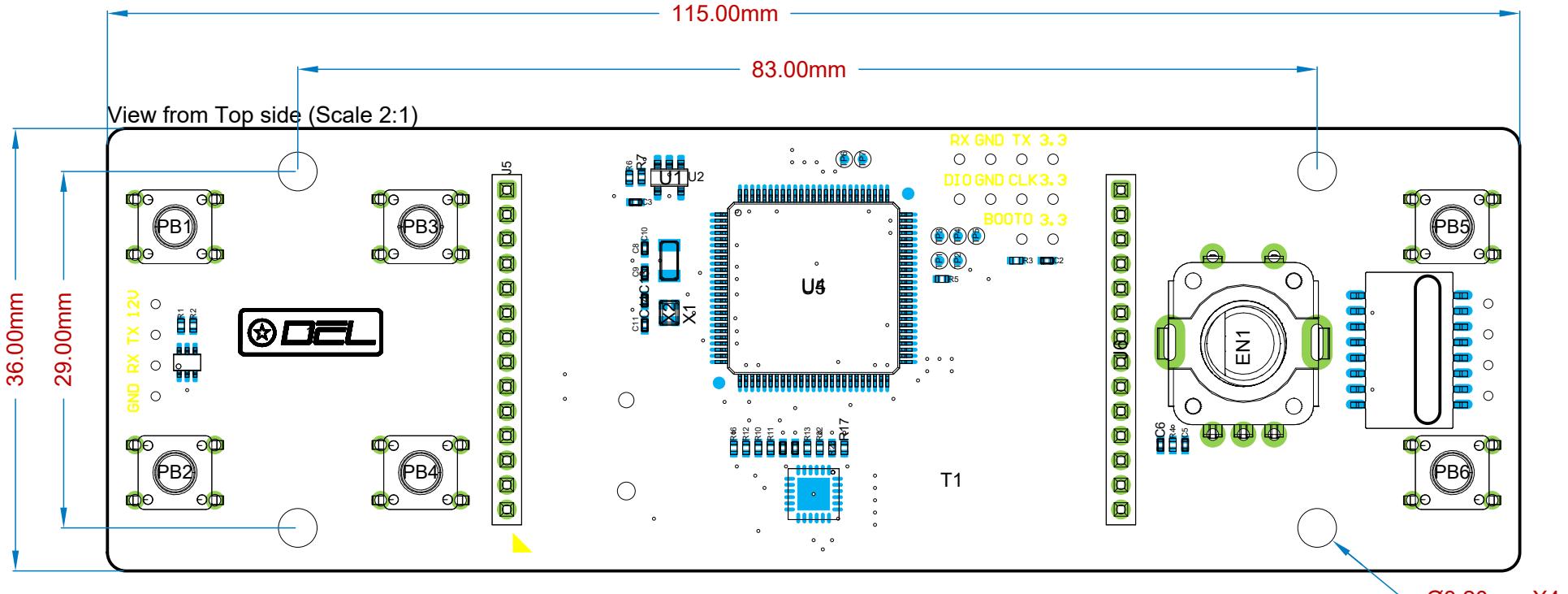
TPU31/4.7u
TPV31/100n
TPW31/100n
TPX31/100n
TPY31/100n
TPZ31/100n
TPA32/4.7u
TPB32/100n
TPC32/100n
TPD32/100n
TPE32/100n
TPF32/100n
TPG32/100n
TPH32/100n
TPI32/100n
TPJ32/100n
TPK32/100n
TPL32/100n
TPM32/100n
TPN32/100n
TPO32/100n
TPQ32/100n
TPR32/100n
TPS32/100n
TPT32/0V

TPU33/4.7u
TPV33/100n
TPW33/100n
TPX33/100n
TPY33/100n
TPZ33/100n
TPA34/4.7u
TPB34/100n
TPC34/100n
TPD34/100n
TPE34/100n
TPF34/100n
TPG34/100n
TPH34/100n
TPI34/100n
TPJ34/100n
TPK34/100n
TPL34/100n
TPM34/100n
TPN34/100n
TPO34/100n
TPQ34/100n
TPR34/100n
TPS34/100n
TPT34/0V

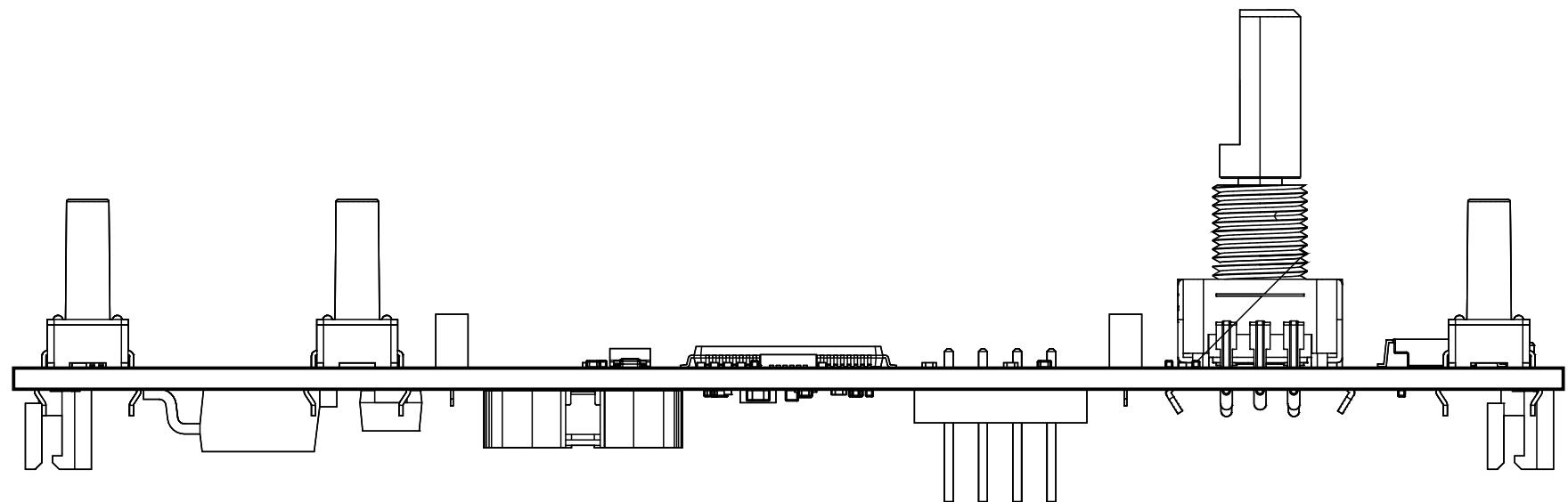
TPU35/4.7u
TPV35/100n
TPW35/100n
TPX35/100n
TPY35/100n
TPZ35/100n
TPA36/4.7u
TPB36/100n
TPC36/100n
TPD36/100n
TPE36/100n
TPF36/100n
TPG36/100n
TPH36/100n
TPI36/100n
TPJ36/100n
TPK36/100n
TPL36/100n
TPM36/100n
TPN36/100n
TPO36/100n
TPQ36/100n
TPR36/100n
TPS36/100n
TPT36/0V

TPU37/4.7u
TPV37/100n
TPW37/100n
TPX37/100n
TPY37/100n
TPZ37/100n
TPA38/4.7u
TPB38/100n
TPC38/100n
TPD38/100n
TPE38/100n
TPF38/100n
TPG38/100n
TPH38/100n
TPI38/100n
TPJ38/100n
TPK38/100n
TPL38/100n
TPM38/100n
TPN38/100n
TPO38/100n
TPQ38/100n
TPR38/100n
TPS38/100n
TPT38/0

Designator	Part Description	Footprint	Part Number	Quantity
U4	Small Footprint RMII 10/100 Ethernet Transceiver with HP	QFN50P400X400X100-25N-S265	LAN8720A-CP-TR	1
U3	3.3V 1.5A Low Dropout Positive Regulators	TO254P1435X464-4N-R1041X635	LM1086IS-3.3	1
U5	ARM Cortex-M4 32b MCU+FPU, 210DMIPS, up to 1MB Flas	QFP50P1600X1600X160-100N	STM32F407VET6	1
SK1	Battery holder for CR and LIR series1216 to 1220,1225	EEMB_BH500	EEMB_BH500	1
J4	2 Contacts - Horizontal Contacts Straight Strip Header Pitch	3M_2302-6111-TG	3M_2302-6111-TG	1
J1, J7	2.50mm Pitch SPOX Wire-to-Board Header, Vertical, Shroud	MOLEX_22-03-5045	MOLEX_22-03-5045	2
J2, J3	4 Contacts - Vrtical Contacts Straight Strip Header Pitch 2.	3M_2304-6111-TG	3M_2304-6111-TG	2
J5, J6	14 Contacts - 2mm x 2 mm Straight, Boardmount Socket, 90°	3M_955114-6102-AR	3M_955114-6102-AR	2
X2	± 30ppm at (25±3°C), -30°C to +85°C, 6pF, Ceramic SMD Cr	OSCCC160X200X65-4N	24MHZ_XRCGB24M00	1
EN1	12 mm Incremental Encoder, 24 pulses, Push Momentary S	EN_BOURNS_PEC11R-4x20F-Sxxxx	EN_BOUNCE_PEC11R-	1
U1	ESD Protection Diode, Low Clamping Voltage	SOT65P220X110-6N	NUP4202W1	1
U2	8K Serial EEPROM	SOT95P280X145-5N	24AA08T-I/OT	1
L1	SMT Inductors	INDC2520X100N	IND1008_2.2UH_20%	1
LD1	Surface Mount Red LED (0603 Case)	LEDC1608X80N_RED	LED_OF-SMD1608R	1
LD2	Surface Mount Red LED (0603 Case)	LEDC1608X80N_BLUE	LED_OF-SMD1608B	1
LD3	Surface Mount Red LED (0603 Case)	LEDC1608X80N_YELLOW	LED_OF-SMD1608Y	1
LD4	Surface Mount Green LED (0603 Case)	LEDC1608X80N_GREEN	LED_OF-SMD1608G	1
C1, C2, C3, C15, C16, C	SMD Multilayer Chip Ceramic Capacitor	CAPC1005X55N	CC0402_100NF_50V_	13
C4	SMD Multilayer Chip Ceramic Capacitor	CAPC3216X100N	CC1206_22UF_16V_2	1
C5, C6	SMD Multilayer Chip Ceramic Capacitor	CAPC1005X55N	CC0402_10NF_50V_1	2
C8	SMD Multilayer Chip Ceramic Capacitor	CAPC1005X55N	CC0402_470PF_50V_1	1
C9, C29, C30	SMD Multilayer Chip Ceramic Capacitor	CAPC1005X55N	CC0402_2.2UF_6.3V_1	3
C10, C11	SMD Multilayer Chip Ceramic Capacitor	CAPC1005X55N	CC0402_15PF_50V_5	2
C12, C18, C19	SMD Multilayer Chip Ceramic Capacitor	CAPC1005X55N	CC0402_22NF_16V_1	3
C13, C14	SMD Multilayer Chip Ceramic Capacitor	CAPC1005X55N	CC0402_6.8PF_50V_0	2
C17, C20, C21	SMD Multilayer Chip Ceramic Capacitor	CAPC1608X87N	CC0603_4.7UF_10V_1	3
LS1	Piezo sound generator	HPS13C	HPS13C	1
C7	Low ESR OR025 Tantalum Chip Capacitor	CAPMP7343X310N	CTE7343-31_330UF_6	1
PB1, PB2, PB3, PB4, PE	12VDC 50mA SPST Tactile Push-Button Switch	PB_E-SWITCH_TL1105HF100Q	PB_E-SWITCH_TL1105	6
X1	Quartz Crystal ±20ppm	OSCCC150X320X80-2N	32.768KHz_KX-327NH	1
R1, R2, R4, R5, R13	General Purpose Thick Film Chip Resistor	RESC1005X40N	R0402_100R_1%_0.06	5
R3, R9, R14	General Purpose Thick Film Chip Resistor	RESC1005X40N	R0402_1K_1%_0.0625	3
R6, R7, R16	General Purpose Thick Film Chip Resistor	RESC1005X40N	R0402_2K_1%_0.0625	3
R8, R23	General Purpose Thick Film Chip Resistor	RESC1005X40N	R0402_270R_1%_0.06	2
R10, R11, R12	General Purpose Thick Film Chip Resistor	RESC1005X40N	R0402_10R_1%_0.062	3
R15	General Purpose Thick Film Chip Resistor	RESC1005X40N	R0402_1K5_1%_0.062	1
R17	General Purpose Thick Film Chip Resistor	RESC1005X40N	R0402_12K_1%_0.062	1
R18, R19, R20, R21	General Purpose Thick Film Chip Resistor	RESC1005X40N	R0402_49R9_1%_0.06	4
R22	General Purpose Thick Film Chip Resistor	RESC1005X40N	R0402_4K7_1%_0.062	1
D1	Schottky Power Rectifier	SOD-123FL	MBR140SFT1G	1
T1	10/100BASE-Tx PC Card LAN Magnetics Module	XFMR_LF-H84P	PE-68678	1
TP1, TP2, TP3, TP4, TP	0.8mm round SMD Pad	TP_SMD_800	TP_SMD_0.8MM	7



View from Front side (Scale 2:1)



A

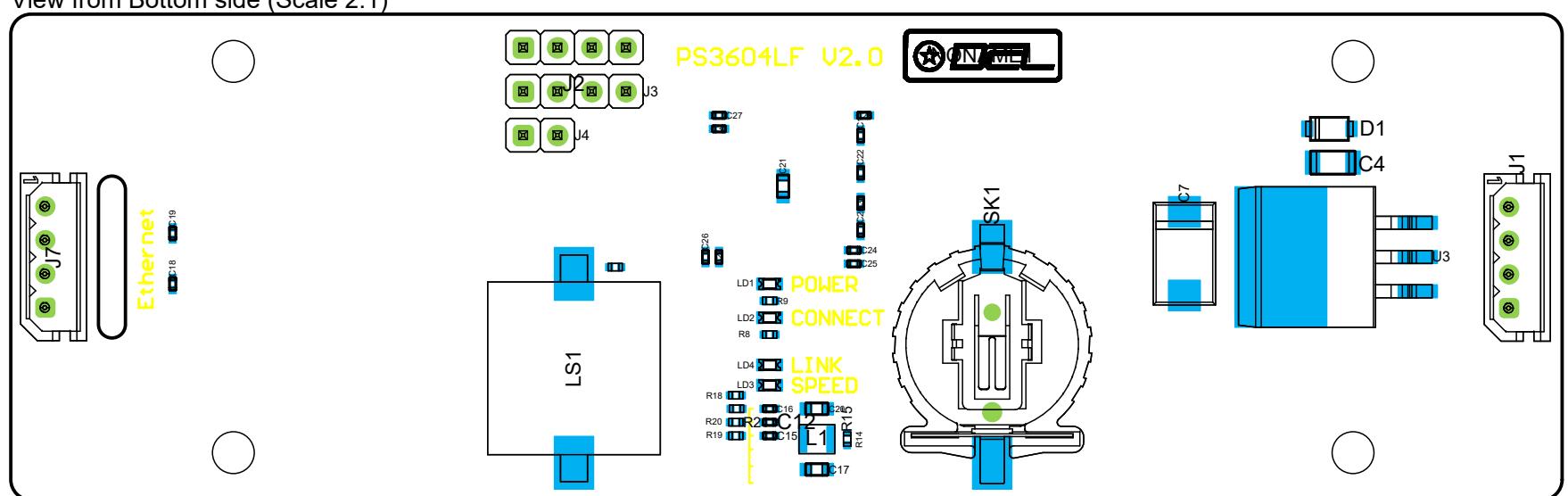
B

C

D

E

View from Bottom side (Scale 2:1)



A

B

C

D

E

