

BOM for SHIELD NCS318 v1.2 17.12.2020

	#	Designator	Qty	Value	PackageReference	Comment
1 - Resistors	1	R63	1	18.2 k	0805	Resistor
	2	R62	1	95.3 k	0805	Resistor
	3	R61	1	0.1 Ohm	2512	Resistor
	4	R58	1	10 k	3296W/ or 3266	Variable Resistor
	5	R35, R41, R42, R56, R67	5	4.7 k	0805	Resistor
	6	R51	1	1 Ohm	1206	Resistor
	7	R50	1	1.5 MOhm	0805	Resistor
	8	R11, R12, R37, R38, R48, R54	6	1 k	0805	Resistor
	9	R65	1	150 Ohm	0805	Resistor
	10	R7, R8, R9, R10, R36	5	150 k	0805	Resistor
	11	R1, R2, R3, R4, R5, R6	6	1 k	1206	Resistor
		12	R5222	1	0 Ohm	0805
2 - Capacitors	13	C14	1	10nF 50V	0805	Ceramic capacitor
	14	C6, C12, C13, C19, C20	5	10uF 16V	0805	Ceramic capacitor
	15	C1, C2, C3, C4, C5, C8, C9, C10, C17, C21, C22, C23, C24, C25, C26, C27, C28, C29	18	100nF 50V	0805	Ceramic capacitor
	16	C7	1	10uF 10V/ or 10uF 16V	Size-A (SMD3216) Size-B (SMD3528)	Tantal capacitor
	17	C18	1	100nF 250V	1206	Ceramic capacitor
	18	C11, C16	2	220uF 16V	TH & 'SMD 6.3x7.7mm	Aluminum capacitor 'NACE221M16V6.3X8TR13F
	19	C15	1	10uF 250V	TH & SMD 10x10mm	Aluminum capacitor NACV100M250V10X10.8TR13F
3 - Diodes	20	D15	1	SS16/ SS26	SMA/ SMB	Schottky diode
	21	D14	1	SMBJ220CA	SMB	TVS
	22	D12	1	LED RED	1206	Power indicator
	23	D9	1	ES2J/ or ES2F	SMA/ SMB	Fast diode
4 - IC's & Transistors	24	U1, U2	2	HV5122PJ or HV5222PJ	PLCC-44	HV Driver. Install R5222 resistor when use HV5222PJ
	25	U3	1	CD4504BM	SOIC-16	Level converter
	26	U5	1	DS3231SN/ or DS3231MZ	SOIC-16W/ SOIC-8	RTC
	27	U6	1	LM3478MM/ or LM3488MM/ or LM3478MAX	VSSOP-8/ VSSOP-8/ SOIC-8	DC-DC HV.
	28	U7	1	RT8258GE	SOT23-6	DC-DC 5V.
	29	<i>for connect TEM1 via Wire PH2.0-3p</i>	1	DS18B20	TO-92	Temperature sensor
	30	IR1	1	TSOP4836	DIP-3	IR Receiver
	31	T1	1	FDD6N25	DPAK	Transistor MOSFET N-Chanal
	32	T2	1	BC817/ or PMBTA42	SOT-23	Transistor NPN
5 - Coils	33	L2	1	22uH 2A/ or 15uH	CDRH104R SMD 10.8x10.8x4mm	Shielded inductance
	34	L1	1	220uH 1.5A	CDRH127 SMD 12x12x7mm	Shielded inductance
6 - Misc	35	GPS1, TEM1	2	Jack 3.5mm	ST-11M-030-00-0	For external GPS and DS18B20
	36	DOWN, MODE, UP	3	SWT-3/13 Button	h=13, L=9	Control buttons
	37	BT1	1	Battery Holder CR1220	SMD CR1220	Backup for RTC
	38	<i>insert into the battery holder BT1</i>	1	Battery CR1220		Battery 3V Lithium
	39	B1	1	HCS0903G/ or STD0833C	SMD 8.5x8.5mm	Buzzer HCS0903G Replace STD0833C
	40	SPI1	1	PLD-4	Pich 2.54mm	Connect to Arduino
	41	DG3	1	PLS-4	Pich 2.54mm	Connect to Arduino
	42	AN1, PWR1	2	PLS-6	Pich 2.54mm	Connect to Arduino
	43	DG2	1	PLS-8	Pich 2.54mm	Connect to Arduino
	44	DG1	1	PLS-10	Pich 2.54mm	Connect to Arduino
	45	ExDOWN, ExMODE, ExUP, LS1	4	PH2.0-2p	Pich 2.0mm	For external buttons
	46	GPS1	1	PH2.0-4p	Pich 2.0mm	For external GPS
	47	TEM1	1	PH2.0-3p Right PH2.0-3p/ or	Pich 2.0mm	For external TEMP DS18B20

	48	<i>for connect DS18B20 to TEM1</i>	1	Wire PH2.0-3p	L = 10-30cm	Wire for DS18B20
	49	EDIT	1	PBD-8R	PBD-8R	Not Install, Options
7- RGB LED	50	D1, D2, D3, D4, D5, D6, D7, D8	8	SK6812-Mini	SMD 3535	LED RGB Addressable
8 - Nixie Tubes	51	<i>sockets for NX1, NX2, NX3, NX4, NX5, NX6</i>	84	Socket pin		Sockets for IN18
	52	NX1, NX2, NX3, NX4, NX5, NX6	6	IN-18	Option	Nixie Tube
9 - Neon lamps	53	DS1, DS2, DS3, DS4	4	NE-2H(C2A)		Neon Lamp Replace NE-2H
10 - Mechanical	54	Hex Spacer M3 5mm	4		IN-OUT	
	55	Hex Spacer M3 12mm	4		IN-IN	
	56	Hex Spacer M3 18mm	4		IN-IN	
	57	Screw M3 L=6 mm	8			
	58	<i>for DS18B20 and Neon Lamp</i>	1	Heat Shrink 1/0.5mm	30cm	For insulation DS18B20 (3xL=10mm) and Neon Lamp DS1-DS4 (4xL=20mm; 4xL=38mm)
	59	PCB NCS318 v1.2	1			Size 53.26x264mm