

## SHIELD NCS314 V2.3 17.12.2020 (GRA)

	#	Designator	Quantity	Value	PackageReference	Comment
1 - Resistors	1	R63	1	18.2k	0805	Resistor
	2	R62	1	95.3k	0805	Resistor
	3	R61	1	0.1 Ohm	2512	Resistor
	4	R58	1	10k	3296W/ or 3266	Variable Resistor
	5	R56, R35, R41, R42, R67	5	4.7k	0805	Resistor
	6	R55	4	10K-Opt	0805	Resistor See details in the scheme.
	7	R51	1	1 Ohm	1206	Resistor
	8	R50	1	1.5 MOhm	0805	Resistor
	9	R37, R38, R48, R54	4	1k	0805	Resistor
	10	R19, R20, R21, R22, R23, R24, R25, R26, R11, R12, R13, R14, R15, R16, R17, R18, R27, R28, R29, R30, R31, R32, R33, R34, R65	25	150 Ohm	0805	Resistor
	11	R7, R8, R9, R10, R36	5	150k	0805	Resistor
	12	R1, R2, R3, R4, R5, R6	6	24k	0805	Resistor
	13	R5222	1	0 Ohm	0805	Resistor, Install R5222 resistor when use HV5222P
2 - Capacitors	14	C14	1	10nF 50V	0805	Ceramic capacitor
	15	C6, C12, C13, C19, C20	5	10uF 16V	0805	Ceramic capacitor
	16	C1, C2, C3, C4, C8, C9, C10, C17, C21, C22, C23	11	100nF 50V	0805	Ceramic capacitor
	17	C7	1	10uF 10V/ or 10uF 16V	Size-A (SMD3216) Size-B (SMD3528)	Tantal capacitor
	18	C18	1	100nF 250V	1206	Ceramic capacitor
	19	C11, C16	2	220uF 16V	TH & 'SMD 6.3x7.7mm	Aluminum capacitor 'NACE221M16V6.3X8TR13F
	20	C15	1	10uF 250V	TH & SMD 10x10mm	Aluminum capacitor NACV100M250V10X10.8TR13F
3 - Diodes	21	D15	1	SS16/ SS26	SMA/ SMB	Schottky diode
	22	D14	1	SMBJ220CA	SMB	TVS
	23	D12	1	LED RED	1206	Power indicator
	25	D10	4	1N4148 Opt	SOD-80C	DL4148 See details in the scheme.
	26	D9	1	ES2J/ or ES2F	SMA/ SMB	Fast diode
	4 - IC's & Transistors	27	U1, U2	2	HV5122PJ or HV5222PJ	PLCC-44
28		U3	1	CD4504BM	SOIC-16	Level converter 5->12V
29		U4	1	ULN2003D	SOIC-16	RGB Driver
30		U5	1	DS3231SN/ or DS3231MZ	SOIC-16W/ SOIC-8	RTC
31		U6	1	LM3478MM/ or LM3488MM/ or LM3478MAX	VSSOP-8/ VSSOP-8/ SOIC-8	DC-DC HV.
32		U7	1	RT8258GE	SOT23-6	DC-DC 5V. Replace: LMR12010/07, MCP16301). See details in the scheme.
33		for connect TEM1 via Wire PH2.0-3p	1	DS18B20	TO-92	Temperature sensor
34		IR1	1	TSOP4836	DIP-3	IR Receiver
35		Q1	1	FDD6N25	DPAK	Transistor MOSFET N-Chanal
5 - Coils		36	L2	1	22uH 2A/ or 15uH	CDRH104R SMD 10.8x10.8x4mm
	37	L1	1	220uH 1.5A	CDRH127 SMD 12x12x7mm	Shielded inductance
6 - Misc	38	GPS1, TEM1	2	Jack 3.5mm	ST-11M-030-00-0	For external GPS and DS18B20
	39	DOWN, MODE, UP	3	SWT-3/13 Button	h=13, L=9	Control buttons
	40	BT1	1	Battery Holder CR1220	SMD CR1220	Backup for RTC
	41	insert into the battery holder BT1	1	Battery CR1220		Battery 3V Lithium
	42	B1	1	HCS0903G/ or STD0833C	SMD 8.5x8.5mm	Buzzer HCS0903G Replace STD0833C
	43	SP11	1	PLD-4	Pich 2.54mm	Connect to Arduino
	44	DG3	1	PLS-4	Pich 2.54mm	Connect to Arduino
	45	ANI, PWR1	2	PLS-6	Pich 2.54mm	Connect to Arduino
	46	DG2	1	PLS-8	Pich 2.54mm	Connect to Arduino
	47	DG1	1	PLS-10	Pich 2.54mm	Connect to Arduino
	48	ExDOWN, ExMODE, ExUP, LS1	4	PH2.0-2p	Pich 2.0mm	For external buttons
	49	GPS1	1	PH2.0-4p	Pich 2.0mm	For external GPS
	50	TEM1	1	PH2.0-3p Right PH2.0-3p/ or	Pich 2.0mm	For external TEMP DS18B20
	51	for connect DS18B20 to TEM1	1	Wire PH2.0-3p	L = 10-30cm	Wire for DS18B20
	52	sockets for NX1, NX2, NX3, NX4, NX5, NX6	84	Socket pin	Option	Options: Sockets for IN14
7- RGB LED	53	D1, D2, D3, D4, D5, D6, D7, D8	8	KT-SMD3528-RGB	3528 (PLCC-4)	LED RGB 3528
8 - Nixie Tubes	54	NX1, NX2, NX3, NX4, NX5, NX6	6	IN-14	Option	Nixie Tube
9 - Neon lamps	55	DS1, DS2, DS3, DS4	2(4)	NE-2H (C2A)		Neon Lamp
10 - Mechanical	56	Hex Spacer M3 5mm	4		IN-OUT	
	57	Hex Spacer M3 12mm	4		IN-IN	
	58	Hex Spacer M3 18mm	2		IN-IN	
	59	Screw M3 L=6 mm	6			
	60	for DS18B20 and Neon Lamp	1	Heat Shrink 1/0.5mm	7cm	For insulation DS18B20 and Neon Lamp
	61	PCB NCS314 v2.3	1			Size 53.26x200mm