

## mCHF SDR Radio Project Order Checklist

This is a checklist for version 0.4 of the mCHF SDR Radio, and covers all of the components required for the RF Board (RF).

### PCB's

	Quantity	Value	Description	Supplier	Part Number
<input type="checkbox"/>	1	PCB1	RF Board	MONKA	mCHF RF PCB
<input type="checkbox"/>	1	PCB2	UI Board	MONKA	mCHF UI PCB

### SCREEN

	Quantity	Value	Description	Supplier	Part Number
<input type="checkbox"/>	1	HY28AB	2.8" Touch LCD Screen Display Unit	MONKA	HY28B LCD

### DIODES

	Quantity	Value	Description	Supplier	Part Number
<input type="checkbox"/>	1	BAT54A	Schottky Dual Diode	Farnell	108-1191
<input type="checkbox"/>	2	MA4P7102F-1072T	MELF & HIPAX PIN Diode	Digi-Key	1465-1236-1-ND
<input type="checkbox"/>	3	PMEG6010CEH	Schottky 1A 60V Diode	Farnell	151-0694

CAPACITORS

	Quantity	Value	Description	Supplier	Part Number
	11	1 $\mu$ F	Tantalum Capacitor 1 $\mu$ F 16V	Farnell	145-7406
	3	2.2 $\mu$ F	MLCC Capacitor 2.2 $\mu$ F 50V	Farnell	184-5751
	27	10 $\mu$ F	Tantalum Capacitor 10 $\mu$ F 16V	Farnell	233-3010
	1	22 $\mu$ F	Tantalum Capacitor 22 $\mu$ F 16V	Farnell	175-4186
	7	100 $\mu$ F	Alu. Electrolytic Capacitor 100 $\mu$ F 16V	Farnell	232-6111
	1	100 $\mu$ F	Alu. Electrolytic Capacitor 100 $\mu$ F 25V	Farnell	969-5770
	5	220 $\mu$ F	Alu. Electrolytic Capacitor 220 $\mu$ F 16V	Farnell	225-4321
	16	1nF	MLCC Capacitor 1nF 10V 0805	Farnell	185-6408
	1	1nF	MLCC Capacitor 1nF 50V 0805	Farnell	221-0932
	6	1nF	MLCC Capacitor 1nF 100V 0805	Farnell	183-3849
	2	1.2nF	MLCC Capacitor 1.2nF 100V 0805	Farnell	221-0933
	2	1.5nF	MLCC Capacitor 1.5nF 100V 0805	Farnell	221-0934
	6	22nF	MLCC Capacitor 22nF 100V 1210	Farnell	221-1120
	20	47nF	MLCC Capacitor 470nF 50V 0805	Farnell	152-0303
	59	100nF	MLCC Capacitor 100nF 50V 0805	Farnell	174-0673
	20	100nF	MLCC Capacitor 100nF 100V 0805	Farnell	190-7331

	6	470nF	MLCC Capacitor 470nF 50V 0805	Farnell	232-0847
	4	10pF	MLCC Capacitor 10pF 50V 0805	Farnell	233-2749
	1	82pF	MLCC Capacitor 82pF 50V 0805	Farnell	174-0656
	4	100pF	MLCC Capacitor 100pF 100V 0805	Farnell	233-2692
	5	180pF	MLCC Capacitor 180pF 50V 0805	Farnell	233-2756
	3	220pF	MLCC Capacitor 220pF 50V 0805	Farnell	233-2795
	2	220pF	MLCC Capacitor 220pF 100V 0805	Farnell	498-609
	2	270pF	MLCC Capacitor 270pF 100V 0805	Farnell	233-2698
	7	390pF	MLCC Capacitor 390pF 100V 0805	Farnell	233-2701
	7	470pF	MLCC Capacitor 470pF 100V 0805	Farnell	141-4693
	3	680pF	MLCC Capacitor 680pF 100V 0805	Farnell	228-0662
	2	820pF	MLCC Capacitor 820pF 50V 0805	Farnell	174-0649

## FUSES

	Quantity	Value	Description	Supplier	Part Number
	1	3A Fuse	SMD 1206 3A Fuse	Farnell	184-1065

## RESISTORS

	Quantity	Value	Description	Supplier	Part Number
	26	0Ω	Resistor Links 0Ω 0805	Farnell	933-3681
	2	2.2Ω	Resistor 2.2Ω 1% 250mW 0805	Farnell	171-7830RL
	8	4.7Ω	Resistor 4.7Ω 5% 125mW 0805	Farnell	205-7665
	3	10Ω	Resistor 10Ω 1% 100mW 0805	Farnell	933-2421
	4	27Ω	Resistor 27Ω 1% 250mW 1206	Farnell	205-7802
	9	47Ω	Resistor 47Ω 1% 330mW 0805	Farnell	173-8942
	2	56Ω	Resistor 56Ω 1% 250mW 0805	Farnell	157-6442
	27	100Ω	Resistor 100Ω 1% 100mW 0805	Farnell	933-2375
	5	220Ω	Resistor 220Ω 1% 100mW 0805	Farnell	933-2804
	4	470Ω	Resistor 470Ω 1% 100mW 0805	Farnell	200-8377
	8	1KΩ	Resistor 1KΩ 1% 125mW 0805	Farnell	157-6459
	1	1.5KΩ	Resistor 1.5KΩ 1% 125mW 0805	Farnell	188-7285
	15	2.2KΩ	Resistor 2.2KΩ 1% 125mW 0805	Farnell	188-7289
	2	3.9KΩ	Resistor 3.9KΩ 1% 125mW 0805	Farnell	188-7296
	13	4.7KΩ	Resistor 4.7KΩ 1% 125mW 0805	Farnell	200-8383
	1	5.6KΩ	Resistor 5.6KΩ 1% 125mW 0805	Farnell	188-7301

	8	10KΩ	Resistor 10KΩ 1% 125mW 0805	Farnell	146-9856
	6	15KΩ	Resistor 15KΩ 1% 125mW 0805	Farnell	165-2920
	1	47KΩ	Resistor 47KΩ 1% 125mW 0805	Farnell	146-9929
	6	100KΩ	Resistor 100KΩ 1% 125mW 0805	Farnell	146-9860

### TRANSISTORS

Quantity	Value	Description	Supplier	Part Number
1	BFR93A	RF NPN Transistor 12V 35mA	Farnell	108-1300
2	DXT3150-13	Bipolar NPN Transistor	Farnell	171-3880
2	NDS356AP	MOSFET P	Farnell	984-6409
2	RD16HHF1	Silicon RF Power MOS FET	eBay	400662455867

### RELAYS

Quantity	Value	Description	Supplier	Part Number
4	G6KU-2FY 3DC	Single Winding Latching Relay	Farnell	118-1070

## INDUCTORS

	Quantity	Value	Description	Supplier	Part Number
	2	0.26 $\mu$ H	Handwound Inductor using T37-2 Toroid	-	-
	1	0.32 $\mu$ H	Handwound Inductor using T37-2 Toroid	-	-
	2	0.33 $\mu$ H	Single Line Inductor 0805	Farnell	166-9911
	2	0.47 $\mu$ H	Single Line Inductor 0805	Farnell	166-9913
	2	0.58 $\mu$ H	Handwound Inductor using T37-2 Toroid	-	-
	1	0.68 $\mu$ H	Single Line Inductor 0805	Farnell	400-0559
	1	0.78 $\mu$ H	Handwound Inductor using T37-2 Toroid	-	-
	3	1 $\mu$ H	Single Line Inductor 0805	Farnell	166-9882
	2	1.4 $\mu$ H	Handwound Inductor using T37-2 Toroid	-	-
	1	1.7 $\mu$ H	Handwound Inductor using T37-2 Toroid	-	-
	3	2.2 $\mu$ H	Single Line Inductor 0805	Farnell	166-9889
	2	2.4 $\mu$ H	Handwound Inductor using T37-2 Toroid	-	-
	1	3 $\mu$ H	Handwound Inductor using T37-2 Toroid	-	-
	3	4.7 $\mu$ H	Single Line RF Inductor 0805	Farnell	206-6896
	4	4.7 $\mu$ H	Single Line Inductor 0805	Farnell	400-0640
	6	47 $\mu$ H	Single Line Inductor 1005	Farnell	166-9895

	3	1:4	Wideband RF Transformer	Digi-Key	553-1655-ND
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### SOCKETS

	Quantity	Value	Description	Supplier	Part Number
	1	28 AWG	DC Socket 2.1mm	Farnell	188-9309
	5	MX-387GL	3.5mm 3-Way Jack Socket	Farnell	126-7376
	1	BNC 13-60-2	BNC Right Angles PCB Mounted Socket	Farnell	171-2350
	1	KLBR 4	3.5mm 3-Way Jack Socket	Farnell	121-7016
	1	2410 02	USB Type A DFU Socket	Farnell	117-7883
	1	-	Mini USB 2.0 Type B Host Socket	Farnell	211-2367

### LAMPS

	Quantity	Value	Description	Supplier	Part Number
	DS1	16/30HB	Neon Lamp Wire Ended	Farnell	133-9250

SEMICONDUCTORS

Quantity	Value	Description	Supplier	Part Number
1	74HCT02	Quad 2 Input NOR Gate	Farnell	108-5298
1	74LCX74M	Low Voltage Dual D-Type Positive Edge Trigger	Farnell	101-3791
1	74LVC1G17SE-7	Schmitt Trigger Buffer	Farnell	189-3834
1	ISP817XSM	Optocoupler	Farnell	168-3292
1	LM2931CDG	LDO Voltage Regulator	Farnell	121-1100
1	LM2941CT	Adjustable Voltage Regulator	Farnell	948-9371
5	LM386M-1	0.25W Audio Power Amplifier	Farnell	948-8324
1	MC7805BTG	Voltage Regulator 40V	Farnell	121-1135
1	MCP9801-M/SN	12-bit Thermal Sensor	Farnell	143-9486
1	OPA2350UA	High Speed, Single Supply OpAmp	Farnell	110-1542
1	LF33ABDT-TR	3.3V Voltage Regulator	Farnell	108-7183RL
4	SN74CBT3253C	Dual 4:1 Demux/Analog Switch	Farnell	175-0447
1	SN74LS145D	BCD Decoder Driver	Farnell	959-2300
2	SN74LVC2G17	Dual Schmitt Trigger Buffer	Farnell	128-7569
1	TLV2464CD	Low Power, Rail-To-Rail OpAmp	Farnell	845-5171
1	LF33ABDT-TR	LDO Voltage Regular	Farnell	108-7183RL

	3	74HC4066D	Quad Bilateral Switch	Farnell	120-1330
	1	FOX924B-16.000	16 MHz 3.3V TCXO	Farnell	206-3959
	1	STM32F407VET6	MCU 32-bit 168 MHz Cortex-M4 Processor	Farnell	206-4367
	1	WM8731SEDS/RV	Audio Codec	Farnell	177-6264

### SWITCHES

	Quantity	Value	Description	Supplier	Part Number
	16	-	SMT Momentary Tactile Push Button Switch	eBay	290913735944

### ROTARY ENCODERS

	Quantity	Value	Description	Supplier	Part Number
	4	-	Alps Rotary Encoder	Farnell	152-0812

### LED's

	Quantity	Value	Description	Supplier	Part Number
	1	-	Green 3mm LED	Farnell	211-2096
	1	-	Red 3mm LED	Farnell	211-2100

SPEAKER

Quantity	Value	Description	Supplier	Part Number
1	8048	41mm X 71mm 4W 81dB Speaker	Farnell	168-3898

MISC.

Quantity	Value	Description	Supplier	Part Number
1 Reel	28 AWG	28 AWG Enameled Copper Winding Wire	eBay	141097852106
12	T37-2	Amidon Ferrite Toroid	eBay	400348182316
2	BN43-202	Amidon Farite Binocular Core	eBay	2843000202
2	BN43-2402	Amidon Farite Binocular Core	eBay	300988432524
2	FT50-43	Amidon Ferrite Toroid	eBay	300771069431
2	Header 30	30 Pin Header (1 to be cut up)	eBay	290947876334
1	SMA10SL	10ml SMD Adhesive	Farnell	106-610

If there are anything missing or wrong with this checklist, can you please e-mail me and let me know at: james@md0mdi.com