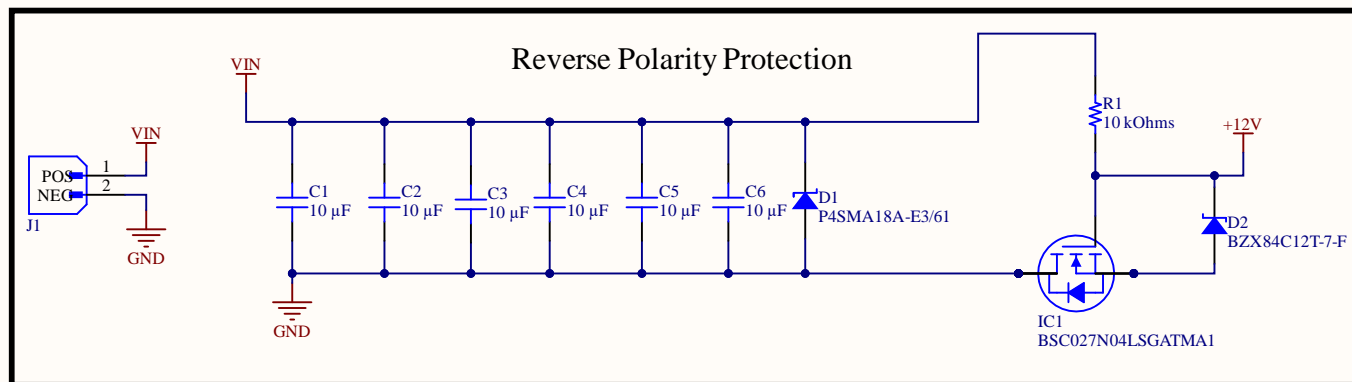
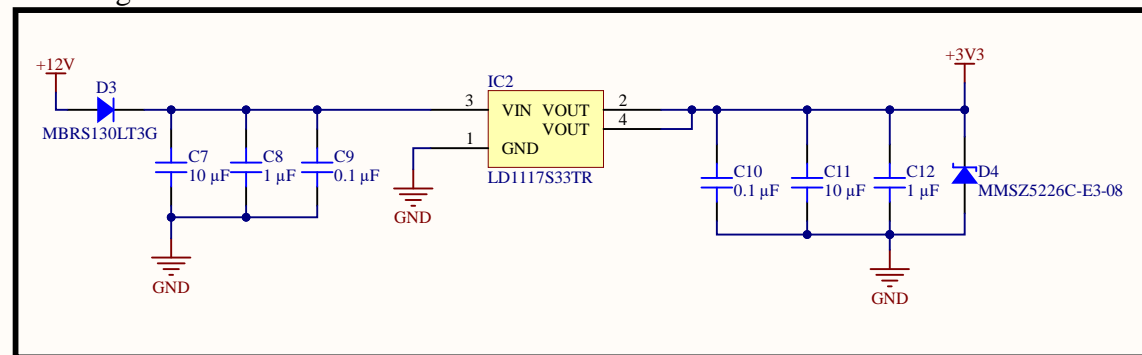


12V/10A Voltage Source



+3V3 Regulator



TITLE: Tracking Radar PCB.PrjPcb	
DOCUMENT NAME: Power Management.SchDoc	
PROJECT CODE: 02050838	Sheet: 3 of 9
TEMPLATE: A4	REVISION: V1.0
AUTHOR: İlker KESER	

K

A

B

C

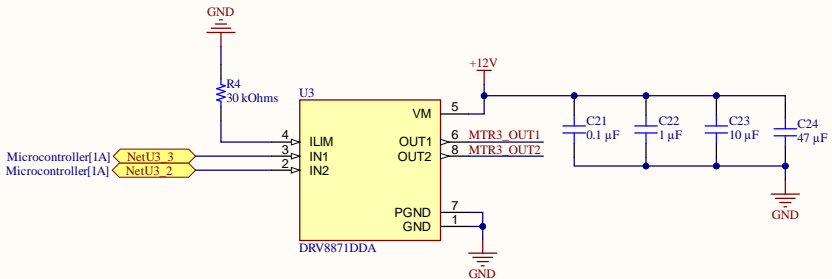
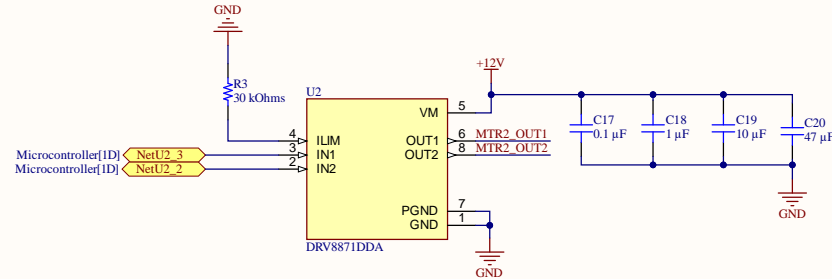
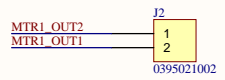
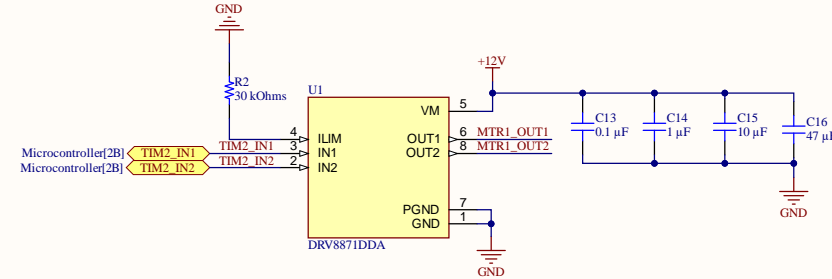
D

A

B

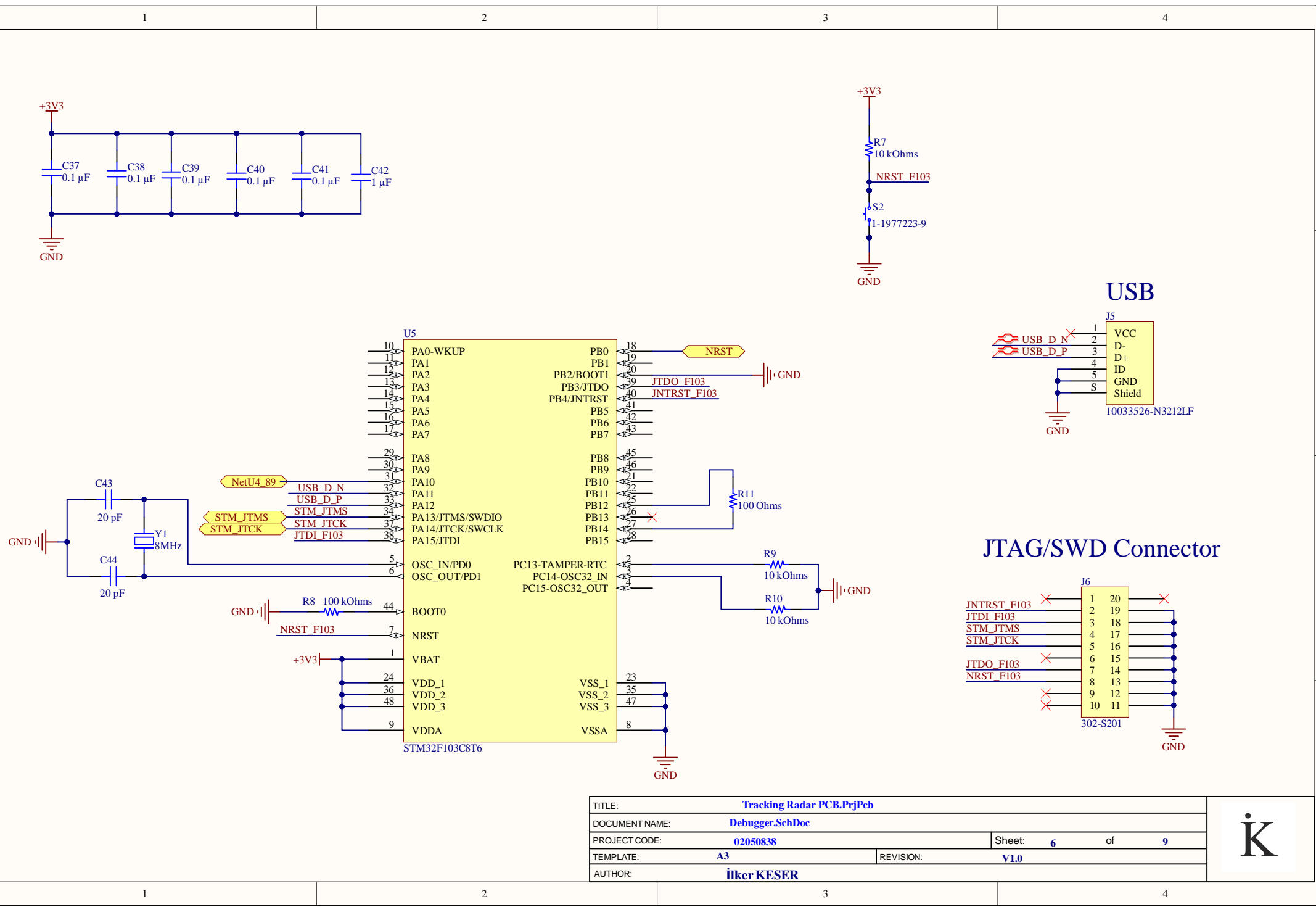
C

D

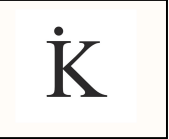


TITLE:		Tracking Radar PCB.PrjPcb	
DOCUMENT NAME:		Motor_Drivers.SchDoc	
PROJECT CODE:		02050838	Sheet: 4 of 9
TEMPLATE:		A3	REVISION: V1.0
AUTHOR:		İlker KESER	

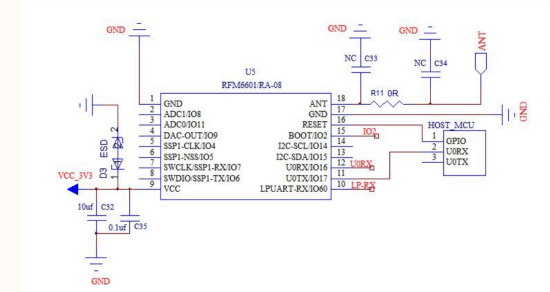
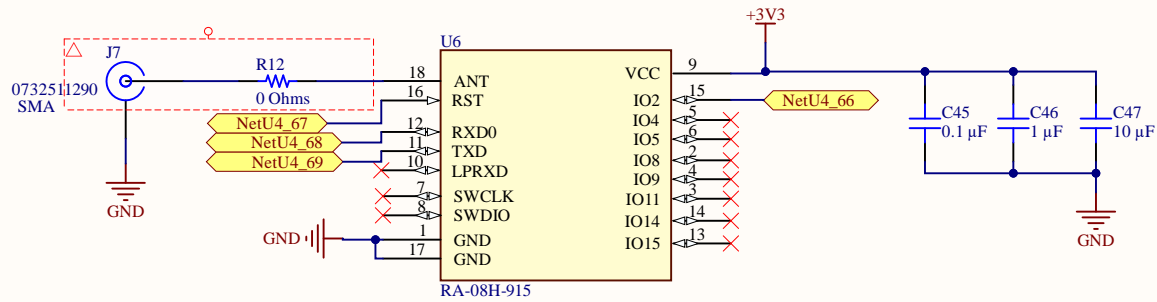




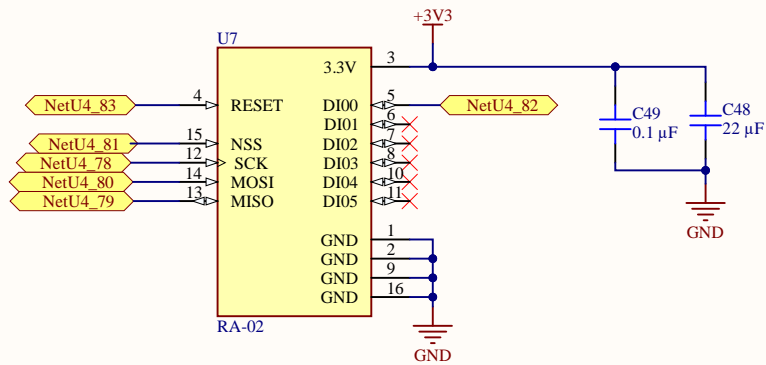
TITLE:		Tracking Radar PCB.PrjPcb	
DOCUMENT NAME:		Debugger.SchDoc	
PROJECT CODE:		02050838	Sheet: 6 of 9
TEMPLATE:		A3	REVISION: V1.0
AUTHOR:		İlker KESER	



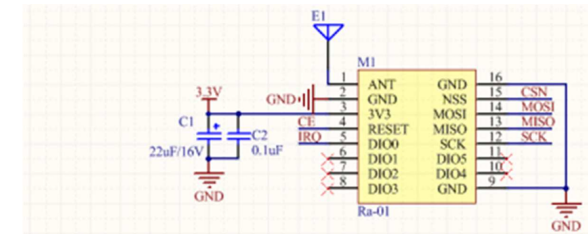
915MHz LoRa



433MHz LoRa



The connection diagram of Ra-01/Ra-02 module and MCU is shown in the figure below:



TITLE: Tracking Radar PCB.PrfPcb			
DOCUMENT NAME: LoRa_Com.SchDoc			
PROJECT CODE: 02050838	Sheet: 7 of 9		
TEMPLATE: A4	REVISION: V1.0		
AUTHOR: İlker KESER			

K

A

A

B

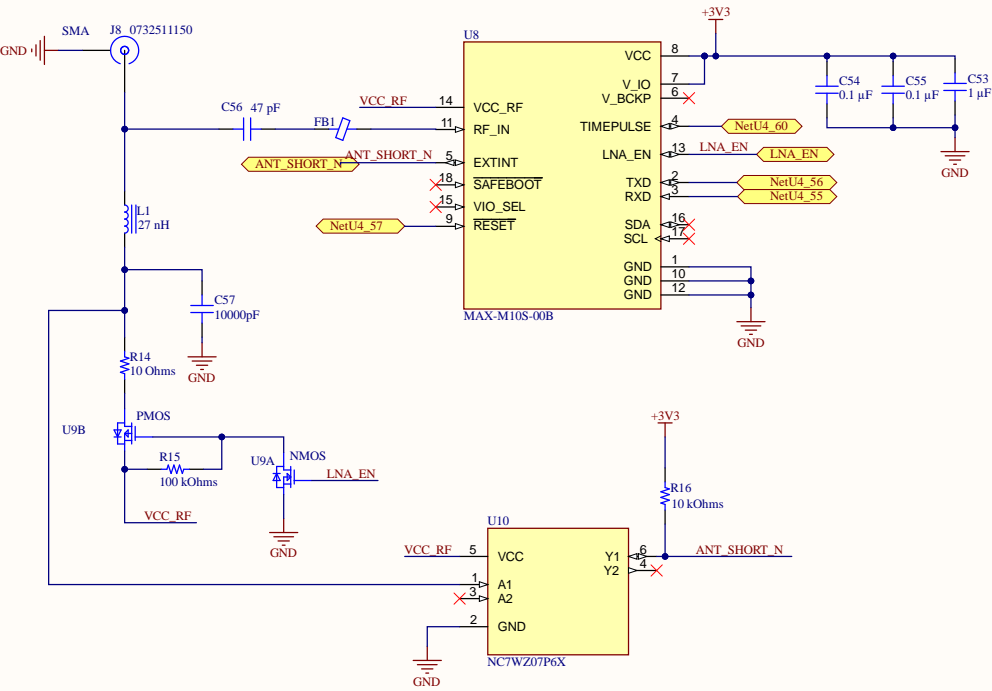
B

C

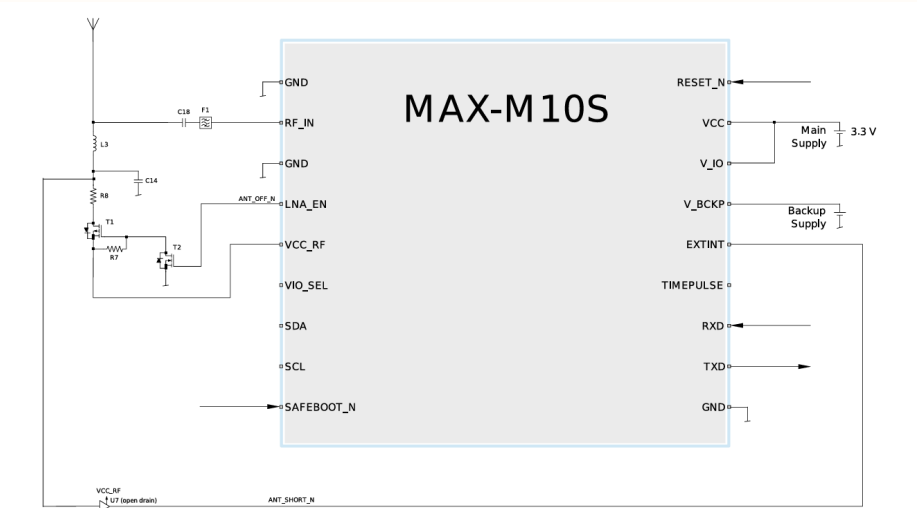
C

D

D

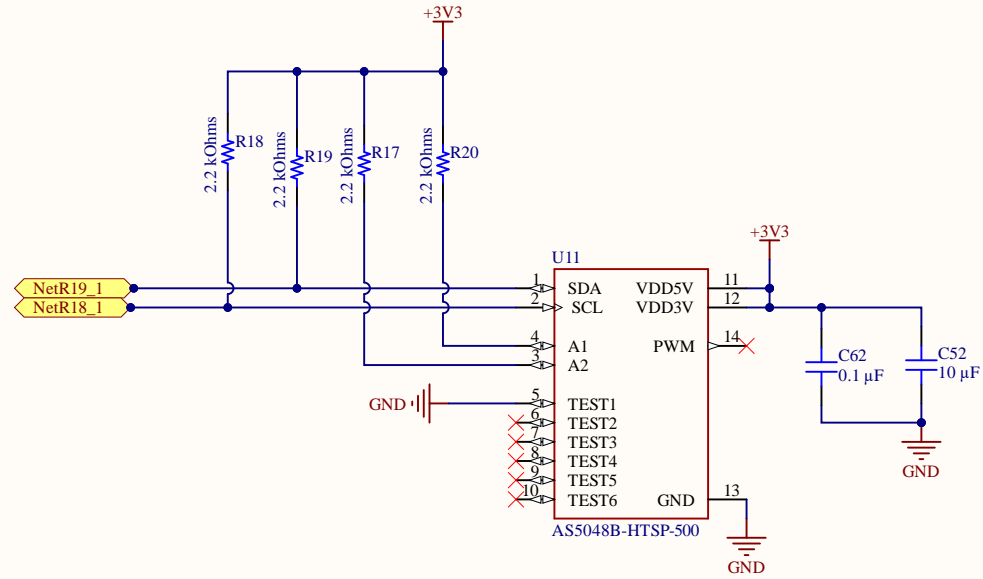


Reference Design



TITLE:		Tracking Radar PCB.PrjPcb	
DOCUMENT NAME:		GPS_GNSS.SchDoc	
PROJECT CODE:		02050838	Sheet: 8 of 9
TEMPLATE:		A3	REVISION: V1.0
AUTHOR:		İlker KESER	

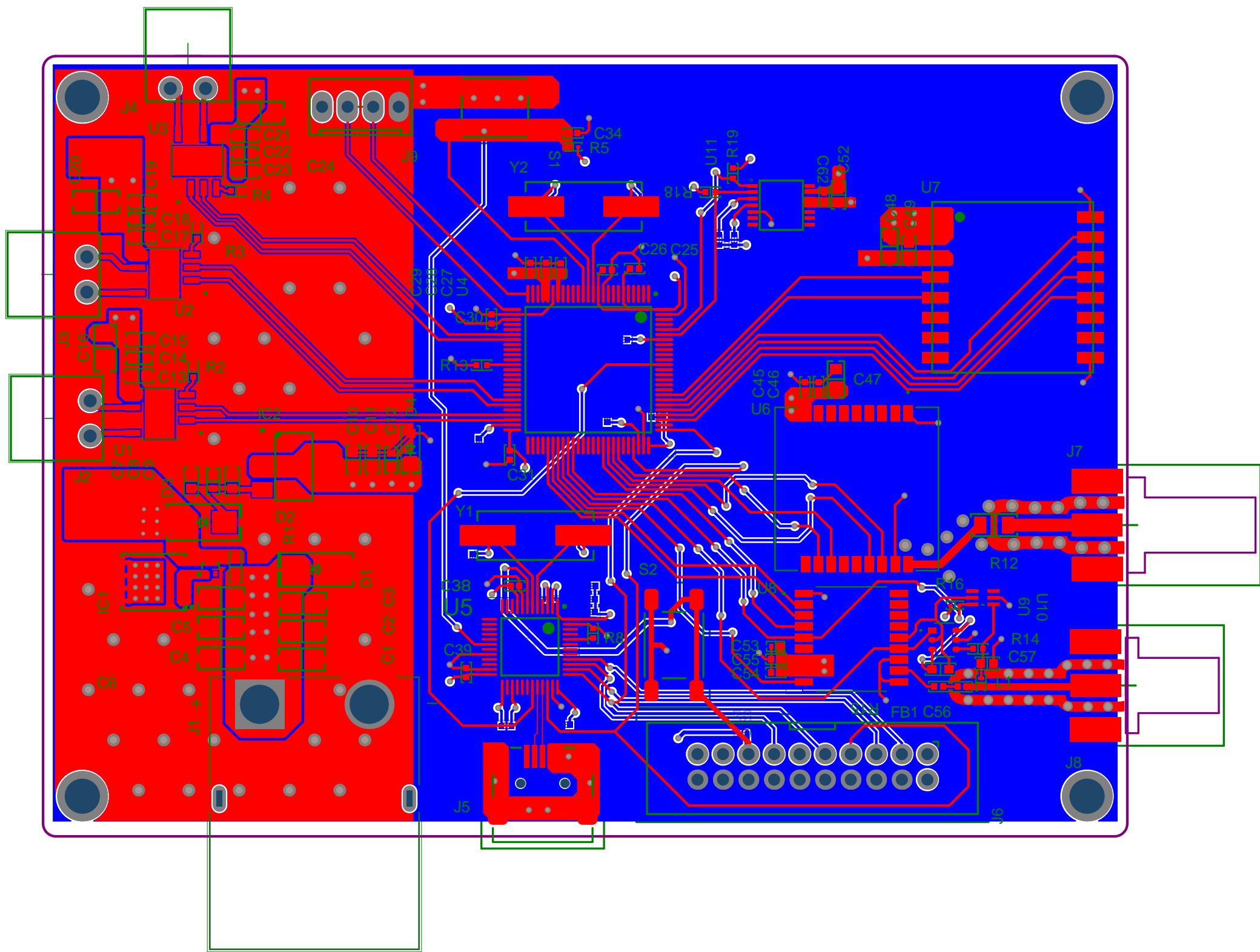




I2C Address: 10000(A1)(A2)->1000011=0x43

TITLE: Tracking Radar PCB.PrjPcb	
DOCUMENT NAME: Angular_Encoder.SchDoc	
PROJECT CODE: 02050838	Sheet: 9 of 9
TEMPLATE: A4	REVISION: V1.0
AUTHOR: İlker KESER	

İK



Part #	Comment	Description	Designator	Quantity	Manufacturer 1	Manufacturer Part Number 1	Manufacturer 2/Supp 1	Supplier 1	Supplier Part Number 1	Supplier Unit Price 1	Supplier Status 1
10µF		CAPCER10UF25V R6R1206	C1, C2, C3, C4, C5, C6	6				Digkey	460- 0464039610108M120C TND		
10µF		CAPCER10UF16V R6R0803	C7, C11, C16, C18, C24, C25	6				Digkey	311-1822-1-ND		
1µF		CAPCER1UF16V R6R0803	C8, C12, C14, C19, C22	6				Digkey	460-1262-1-ND		
0.1 µF		CAPCER0.1UF 50V209080	C9, C10, C13, C17, C21	6				Digkey	355-1348-1-ND		
47µF		CAPCER47UF25V R6R1206	C16, C20, C24	3				Digkey	460-1638-2-ND		
0.1 µF		CAPCER0.1UF 6.3V2504042	C26, C28, C29, C31, C32, C34, C37, C38, C39, C40, C41, C45, C52	18				Digkey	355- 0462031048MPC780TC TND		
1µF		CAPCER1UF6.3V R6R0402	C33, C42, C46	6				Digkey	460-1006-1-ND		
2.2µF		CAPCER2.2UF 10V6904042	C35, C36	2				Digkey	752-7490-1-ND		
20µF		CAPCER20UF10V NPO0402	C43, C44	2				Digkey	355-1425-1-ND		
10µF		CAPCER10UF10V R6R0803	C47	1				Digkey	460-12754-1-ND		
22µF		CAPCER22UF16V R6R0803	C48	1				Digkey	460- 0464039610108M120C TND		
0.1 µF		CAPCER0.1UF 63V209080	C49	1				Digkey	752-7985-1-ND		
20µF		CAPCER20UF10V R6R0803	C50, C51	2				Digkey	355- 0462031048MPC780TC TND		
1µF		CAPCER1UF10V X7R0402	C53	1				Digkey	460- 0464039610108M120C TND		
0.1 µF		CAPCER0.1UF 50V2090402	C54, C55	2				Digkey	752-7533-1-ND		
47µF		CAPCER47UF25V X7RNP0402	C56	1				Digkey	355- 0462031048MPC780TC TND		
1000µF		CAPCER1000UF 10V0803	C57	1				Digkey	357-1034-1-ND		
RESM18A-E3181		RESIDCE 18.3V 0.5W2020HAC	D1	1				Digkey	RESM18A-E3181GCT ND		
8204CCT7-F		DIODE ZENER 10V 500mW07053	D3	1				Digkey	8204CCT7-FDCTND		
M6R63AL-T50		DIODE SCHOTTKY 5V 2A 50mW	D3	1				Digkey	M6R63AL-T50DCTND		
IM6520C-E3-08		DIODE ZENER 3.3V 500mW07053	D4	1				Digkey	IM6520C-E3-08GCT ND		
1100ms 8-100 MHz		TRANSISTOR NPN CMOS042 12N	R61	3				Digkey	460-1037-1-ND		
RES20704L2047 MM1		RESISTOR 20K 0.4W 244 10A T50CN	C1	1				Digkey	RES20704L2047MM1CT ND		
LD1117332TR		IC REG LINEAR 3.3V 100mA SC70-3	C2	1				Digkey	467-1242-1-ND		
AT90CConnect		IC Pol/battery connector	J1	1							
038521002		BRIDGE DIODE SP040402 2, 2, 2, 2 0.04W	J2, J3, J4	3				Digkey	IM6775-ND		
USB3026- N0204F		CONNECTOR USB USB30PCB040 N0	J5	1				Digkey	654-4702-2-ND		
350-8201		CONNECTOR LEFT 2P05C 1.44mm	J6	1				Digkey	IE1924-ND		
073251280		CONNECTOR BR-SCHMEDIODE MMT	J7	1				Digkey	IM6461-ND		
073251150		CONN BR-SCHPT BR-SCHMEDIODE MMT	J8	1				Digkey	IM6534-ND		
002222041		CONNECTOR LEFT 4P05C 1.44mm	J9	1				Digkey	IM66113-ND		
27-01		RESIDCE ZN41 200mW-400mW 040	L1	1				Digkey	460-10019-027N62DCT ND		
1000ms		RESISTOR 100KHM 1% 1/10W0803	R1	1				Digkey	13-400039R07100LCT ND		
3000ms		RESIDCE 30K 1% 1/10W0402	R2, R3, R4	3				Digkey	13-400039R07100LCT ND		
1000ms		RES 100KHM 0.1% 1/10W0402	R6, R7, R8, R9, R10	5				Digkey	2015- 9634HCTP030DCTND		
1000ms		RES 100KHM 0.1% 1/10W0402	R6, R13	2				Digkey	13-400039R07100LCT ND		
1000ms		RES 100KHM 0.1% 1/10W0402	R6	1				Digkey	13- 9634HCTP030DCTND		
1000ms		RES 100KHM 0.1% 1/10W0402	R11	1				Digkey	13- 9634HCTP030DCTND		
000ms		RESIDCE 0HM LAMP0.144W 030	R12	1				Digkey	541-3025-1-ND		
1000ms		RESIDCE 100K 1% 10W0402	R14	1				Digkey	311-104CTND		
1000ms		RESIDCE 100K 0.4W 1% 1/10W 080	R15	1				Digkey	13-400039R07100LCT ND		
2.200ms		RESIDCE 2.2KHM 1% 1/10W0402	R17, R18, R19, R20	4				Digkey	311-2-230LCTND		
1-1977223-9		SWITCH TACTILE SPST-NO 0.05A 60V	S1, S2	2				Digkey	1-1977223-9-ND		
3R-88710DA		Power MOSFET Power MOSFET 3R- 880PowerPkg	U1, U2, U3	3							
STM32F407VGT R		MCU ARMv7-M 32-bit MCUPRL 210 MIPS 1024kB Flash 1024kB Internal SRAM 62 Kb, 100mA I/OPT: 40mA HVS Top and Real	U4	1				Digkey	3R82F407VGTBRND		
STM32F103C8T6		MCU ARMv7-M 32-bit MCUPRL 64 Kb, 100mA I/OPT: 40mA HVS Top and Real	U5	1							
RA-084-015		RF 800MHz 800MHz LCR0801N	U6	1							
RA-02		General BAC Schubert Transceiver Modul 470MHz SSM12 Antenna Not included LPT Surface Mount	U7	1							
MAX485-08		MAX485-08 Noninverting Gallium, 0.25W SPL 0.48 1.65VQML 1.65VQML 1.65VQML 10V Not included Modul	U8	1							
DMC7000M17		Module 7000M17 1.24A, 1.44A 1.2V Surface Mount 0.25W	U9	1							
NCTV0276X		Buffer, Non- inverting 2 Element 1.8V per Element Chen Chen Output 20-40dB (20-40)	U10	1							
ASD485H1TR- 00		High Effect Sensor High Effect Magnet, Not Included 0.25W	U11	1							
8842		8842 8.000MHz 220PF 040	Y1, Y2	2				Digkey	357-2475-1-ND		