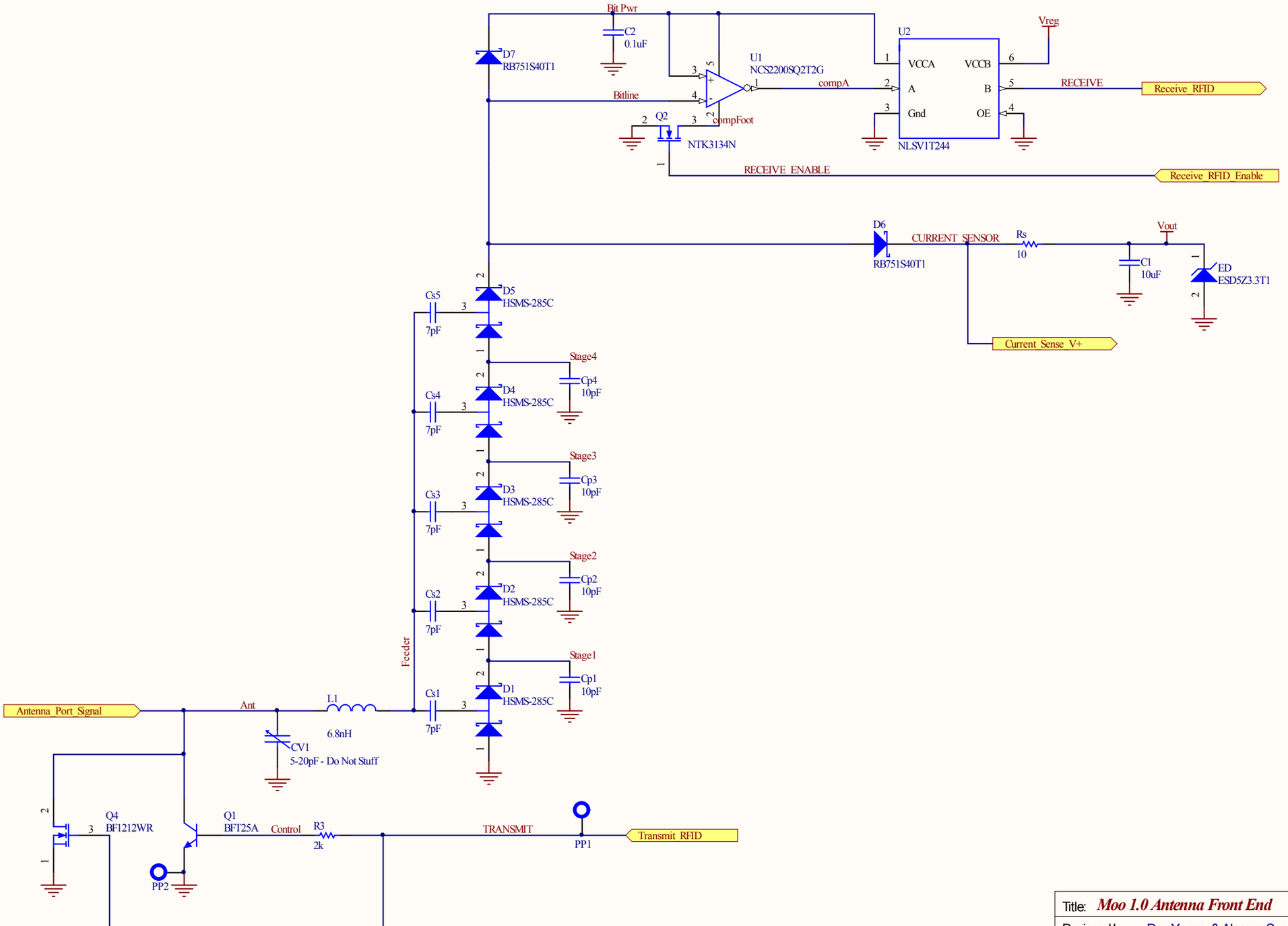
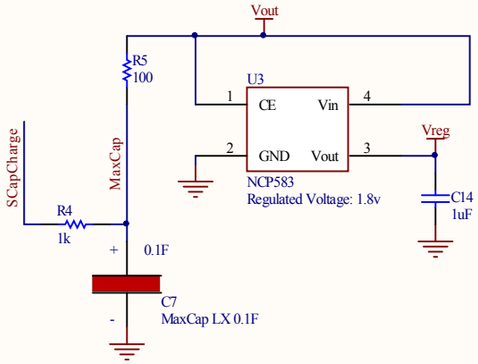
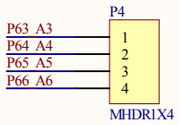
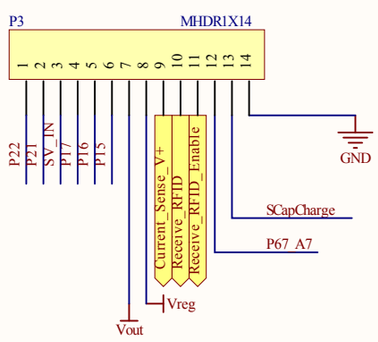
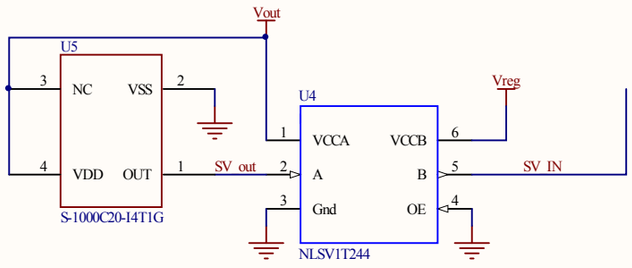


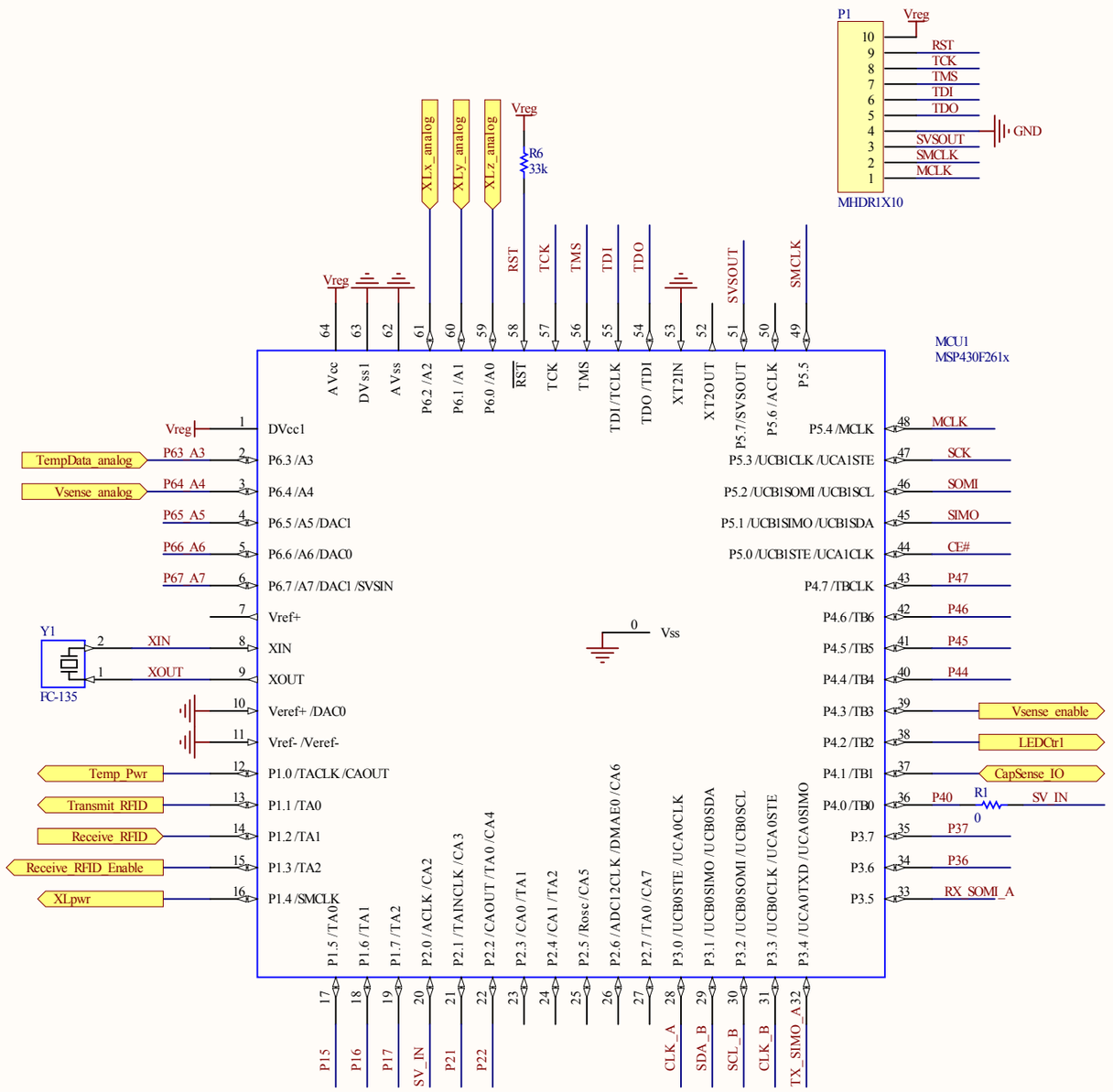
Title: *Moo 1.0 Antenna Front End*	
Designed by: Dan Yeager & Alanson Sample	Data: 7/01/09
Copyright 2009 Intel Corporation	Version: #1 'Release'
File: E:\zhangh\WISP\Moo1.0\PCB_Schematics\Moo1.0_AFE.SchDoc	

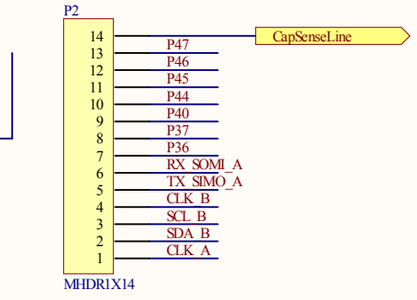


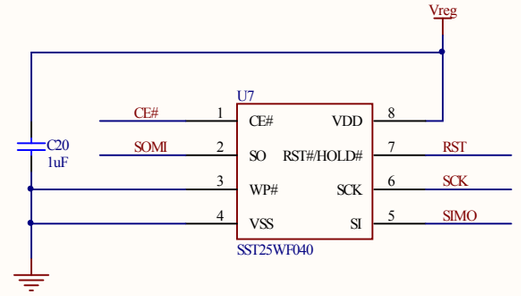


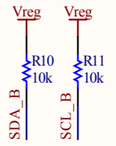












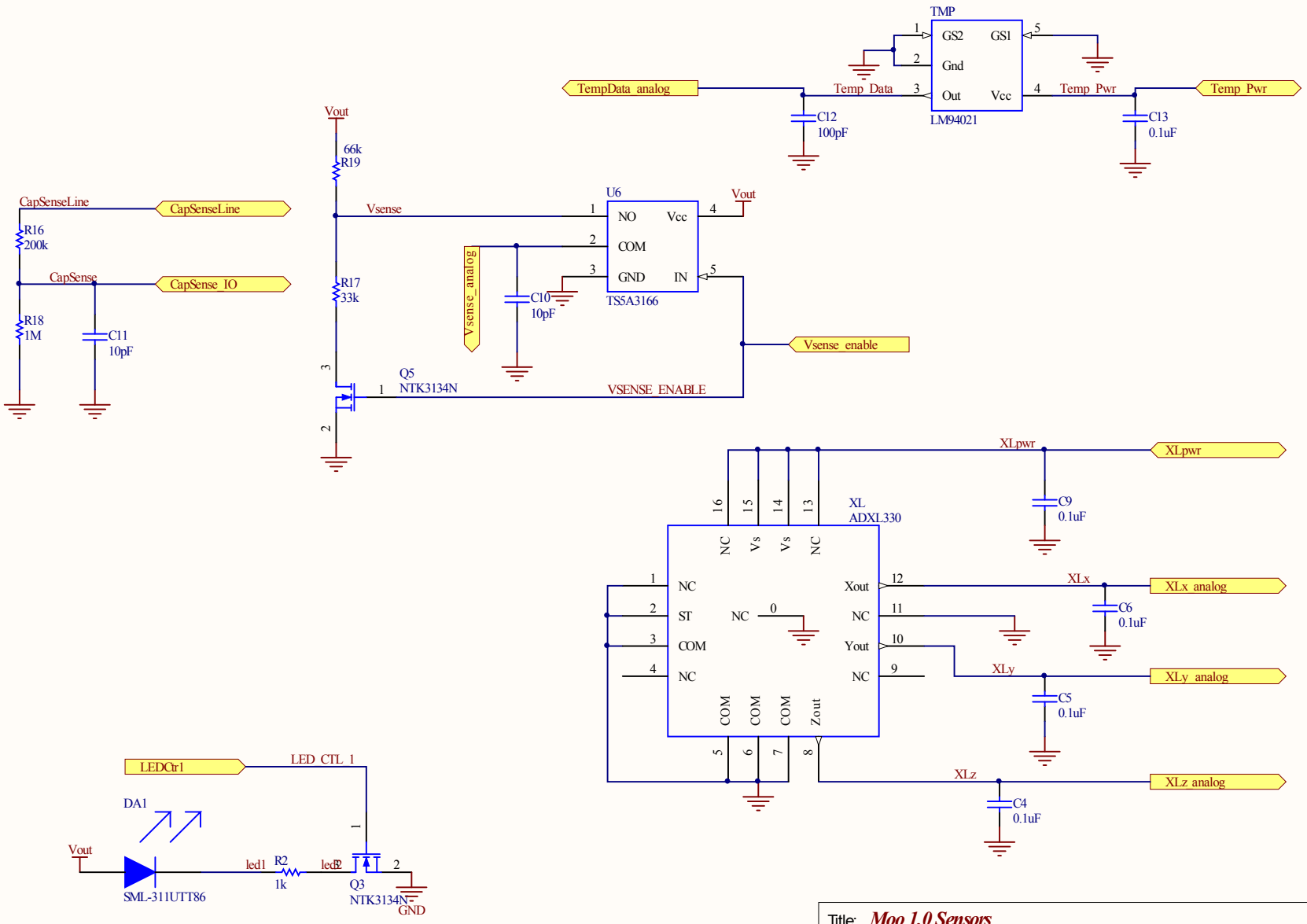
Transmit:
Must be connected to TAO (timer A output), usually P1.1

Receive:
Code must be checked before this port can be changed
Must be on a low value port number of port #1 (ie port 1.0, 1.2)
This has to do with the constant generator in the MSP430 and its ability to quickly reference this port.

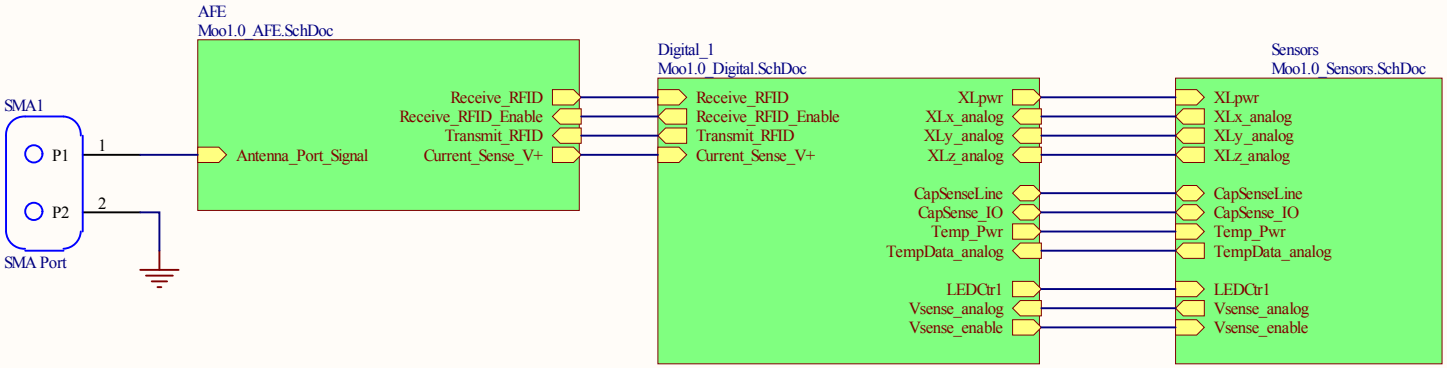
Supervisor Interrupt:
Must be placed on port 2, so it does not collide with the read interrupt

RTC Interrupt:
Must be on port 2 by the same logic

Title: ***Moo 1.0 Digital***	
Designed by: Hong Zhang & Jeremy Gummerson	Data: 08/06/10
	Version: #1 'Release'
File: E:\zhangh\WISP\Moo1.0\PCB_Schematics\Moo1.0_Digital.SchDoc	



Title: *Moo 1.0 Sensors*	
Designed by: Dan Yeager & Alanson Sample	Data: 7/01/09
Copyright 2009 Intel Corporation	Version: #7 'Release'
File: E:\zhangh\WISP\Moo1.0\PCB_Schematics\Moo1.0_Sensors.SchDoc	



PCB Layout Rules and Guidelines

5x5 Routing
5mil clearance
5mil trace width
8mil trace width preferred

Via 8x12
Hole size 8mil annular ring 12mil

Prototron rules hole size plus 2mils of annular on either size (hole+4mil).
More annular is needed for vias and probe points that will be man handled and repeatedly soldered and re-soldered

RF Signals
(Above routing rules only valid for low frequency signals or digital I/O)

RF need larger vias and careful routing

Trace Thickness

1/2 oz.	0.7 mils
1 oz.	1.4 mils
2 oz.	2.8 mils

Title: *Moo 1.0 Top*	
Designed by: Hong Zhang & Jeremy Gummeson	Data: 08/06/10
	Version: #1 'Release'
File: E:\zhangh\WISP\Moo1.0\PCB_Schematics\Moo1.0_Top.SchDoc	

Comment	Description	Designator	Footprint	LibRef	Quantity
Ceramic_Chip_Capacitor	Ceramic Capacitor - Standard	C1	0805	Ceramic_Chip_Capacitor	1
Ceramic_Chip_Capacitor	Ceramic Capacitor - Standard	C2, C4, C5, C6, C9, C10, C11, C12, C13, C14, C20, Cp1, Cp2, Cp3, Cp4, Cs1, Cs2, Cs3, Cs4, Cs5	0402	Ceramic_Chip_Capacitor	20
MaxCap LX 0.1F	MaxCap LX 0.1F, low leakage supper cap 5.5v	C7	Maxcap LX 0.1F	MaxCap LX 0.1F	1
Var Cap	Var-Cap 603 Compatible, DK: 490-2009 & SG2026CT	CV1	Var-Cap_603	Var-Cap/603	1
HSMS-285C	Agilent Schottky Diode, Bridge Quad, HSMS-285C	D1, D2, D3, D4, D5	SOT-323, HSMS-285C	HSMS-285C	5
RB751S40T1	Schottky Diode	D6, D7	SOD-523	RB751S40T1, Schottky Diode	2
SML-311UTT86	LED 630NM RED WTR CLR 0603 SMD	DA1	LED-0603	SML-311UTT86	1
ESD5Z3.3T1	5V Overvoltage Protection Zener	ED	SOD-523	ESD5Z3.3T1	1
Inductor	Inductor	L1	0603	Inductor	1
MSP430F261x	64PM MSP430F261x	MCU1	64-PM	MSP430F261x	1
MHDR1X10	Header, 10-Pin	P1	MHDR1X10	MHDR1X10	1
MHDR1X14	Header, 14-Pin	P2, P3	MHDR1X14	MHDR1X14	2
MHDR1X4	Header, 4-Pin	P4	MHDR1X4	MHDR1X4	1
Probe Point	Probe Point for debug	PP1, PP2	Probe Point	Probe Point	2
BFT25A	NPN 5 GHz Wideband Transistor	Q1	SOT-23	BFT25A	1
NTK3134N	Powe Mosfet 20V, 890mA, Single N-channel	Q2, Q3, Q5	SOT723	NTK3134N	3
BF1212WR		Q4	sot343r	BF1212	1
Thick Film Chip Resistor	Thick Film Chip Resistor	R1, R2, R3, R4, R5, R6, R10, R11, R16, R17, R18, R19, Rs	0402	Thick Film Chip Resistor	13
SMA Port	Two pin SMA connector wisp	SMA1	SMA Port	SMA Port	1
LM94021	Temperature Sensor	TMP	SC70	LM94021	1
NCS2200SQ2T2G	On Semi 10uA Comparator	U1	sc70-5	NCS2200SQ2T2G	1
NLSV1T244	Level Shifter: 1-Bit Dual-Supply Non-Inverting Level Translator	U2, U4	UDFN6	NLSV1T244	2
NCP583	Ultra-Low Iq 150mA CMOS LDO Regulator with Enable	U3	SC82-AB	NCP583	1
S-1000C20-I4T1G		U5	SNT-4A	S-1000C20-I4T	1
TS5A3166	TI Analog Switch 100nA 1ohm Normally Open	U6	sc70-5	TS5A3166	1
SST25WF040	Serial Flash Memory - 8 Lead SOIC Package	U7	SOIC8	SST25WF040	1
ADXL330	Analog Devices 3D Accelerometer	XL	16-QFN	ADXL330k	1
FC-135		Y1	FC-135	FC-135	1