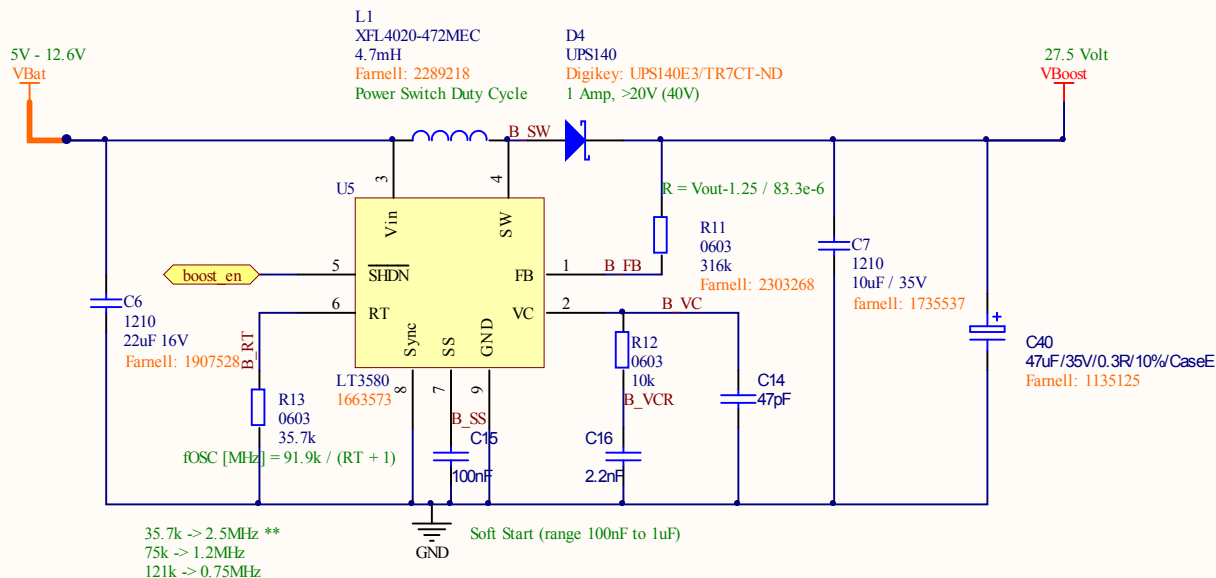


Total board estimate: 7 Watt transmit slot (8ms) - 0.6 Watt in between (81ms)

Power:

- The supply voltage droop over for a 8.3ms burst of 25 Watt
- Max connector current 1 Amp
- Min voltage after 8.3ms : 10.5

ofwel: 3.3uH, Farnell 2289217



Title

Iridium

Size
A4

Number

Revision



v1.0

Date: 2-10-2016

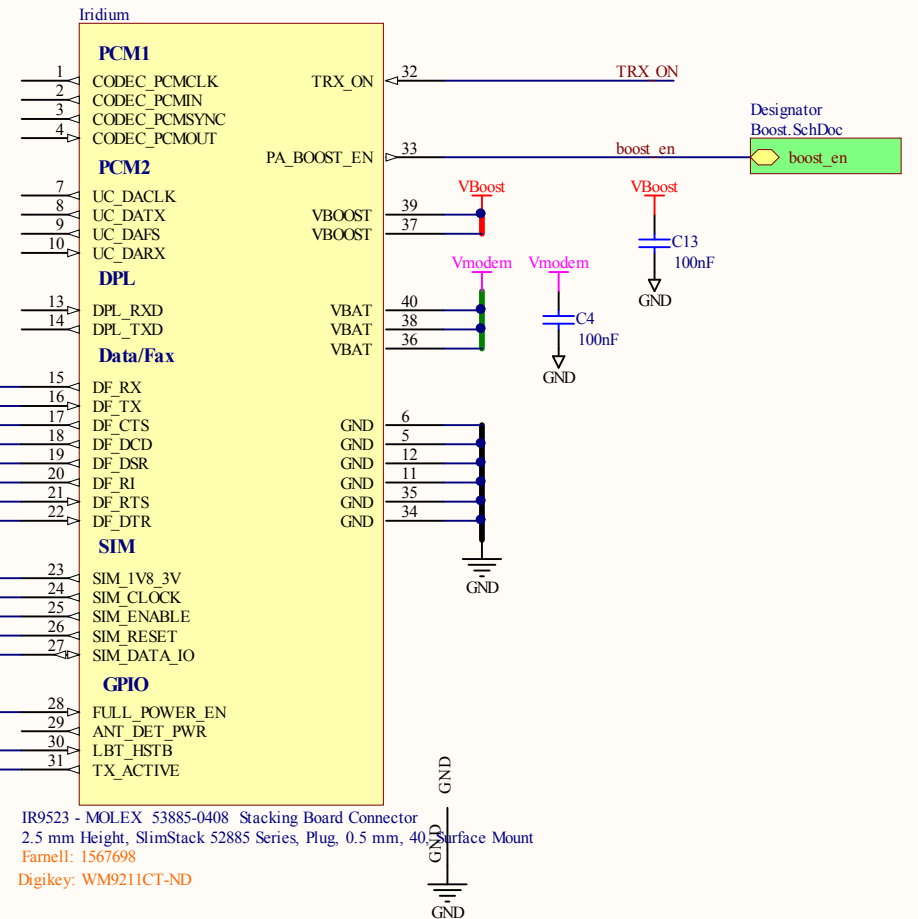
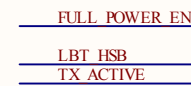
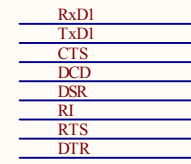
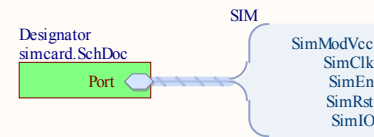
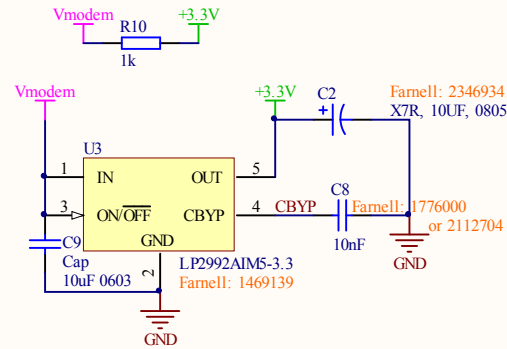
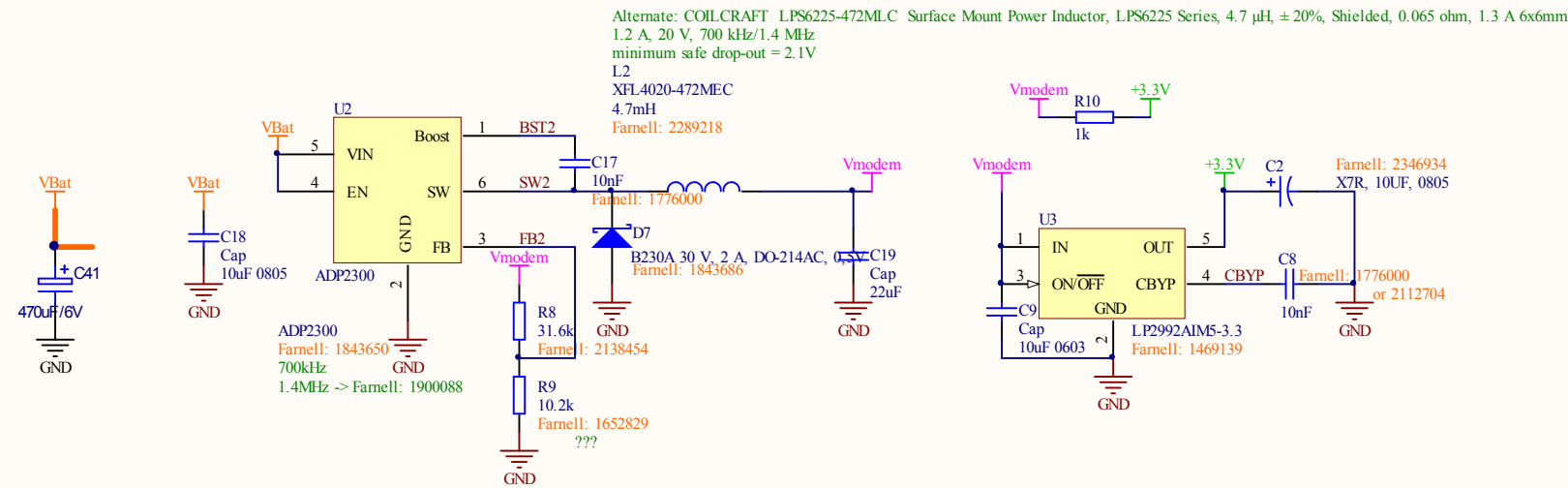
Sheet of

File: E:\SubVersion\...\Boost.SchDoc

Drawn By:

MavLab - TUDelft

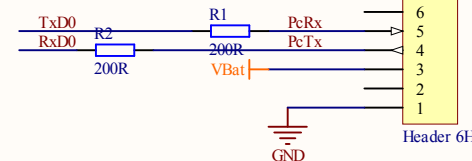
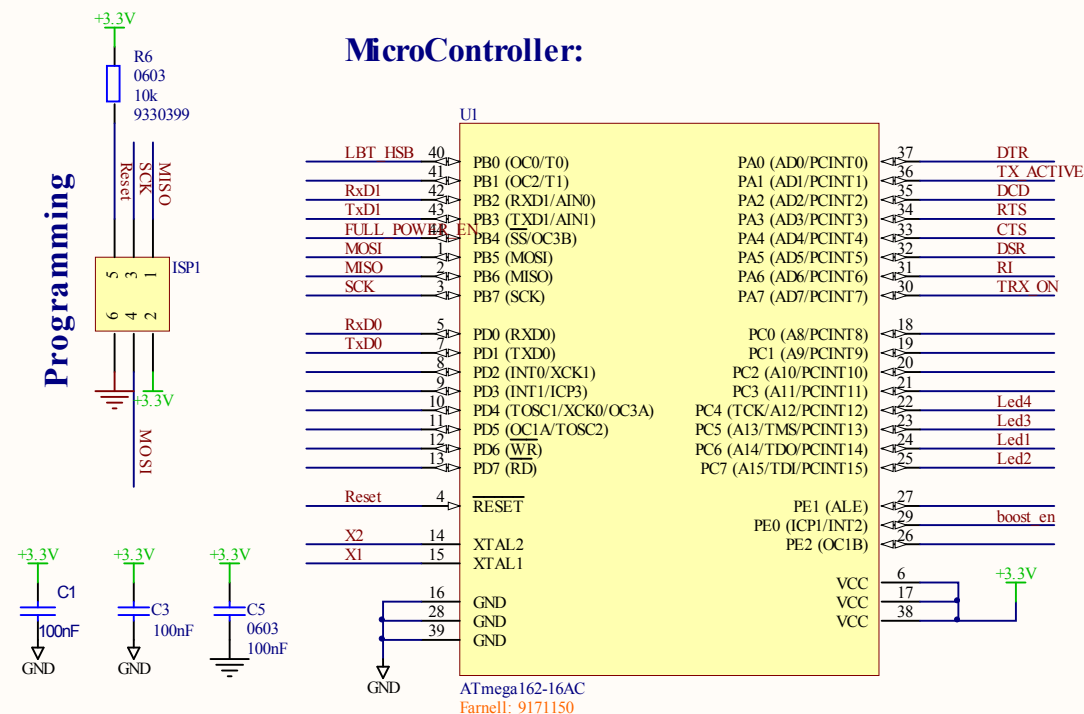
POWER



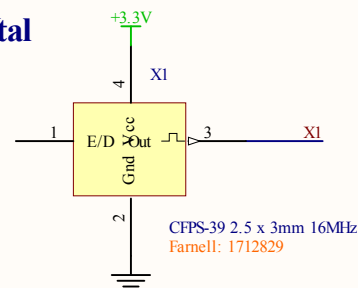
IR Module Power Requirements:


- 3.2 to 6 Volt input: 0.5 Amp capable
- 8.3 ms every 45ms: 300 mA followed by 60mA standby $(8.3 \times 300 + 36.7 \times 60) / 45 = 110\text{mA}$ average
- startup surge could be 2A!
- VBAT is the input from a Lithium-ion battery or other low-voltage source via the user connector. It must be in the range 3.2 to 6V and capable of supplying a maximum current of 500mA

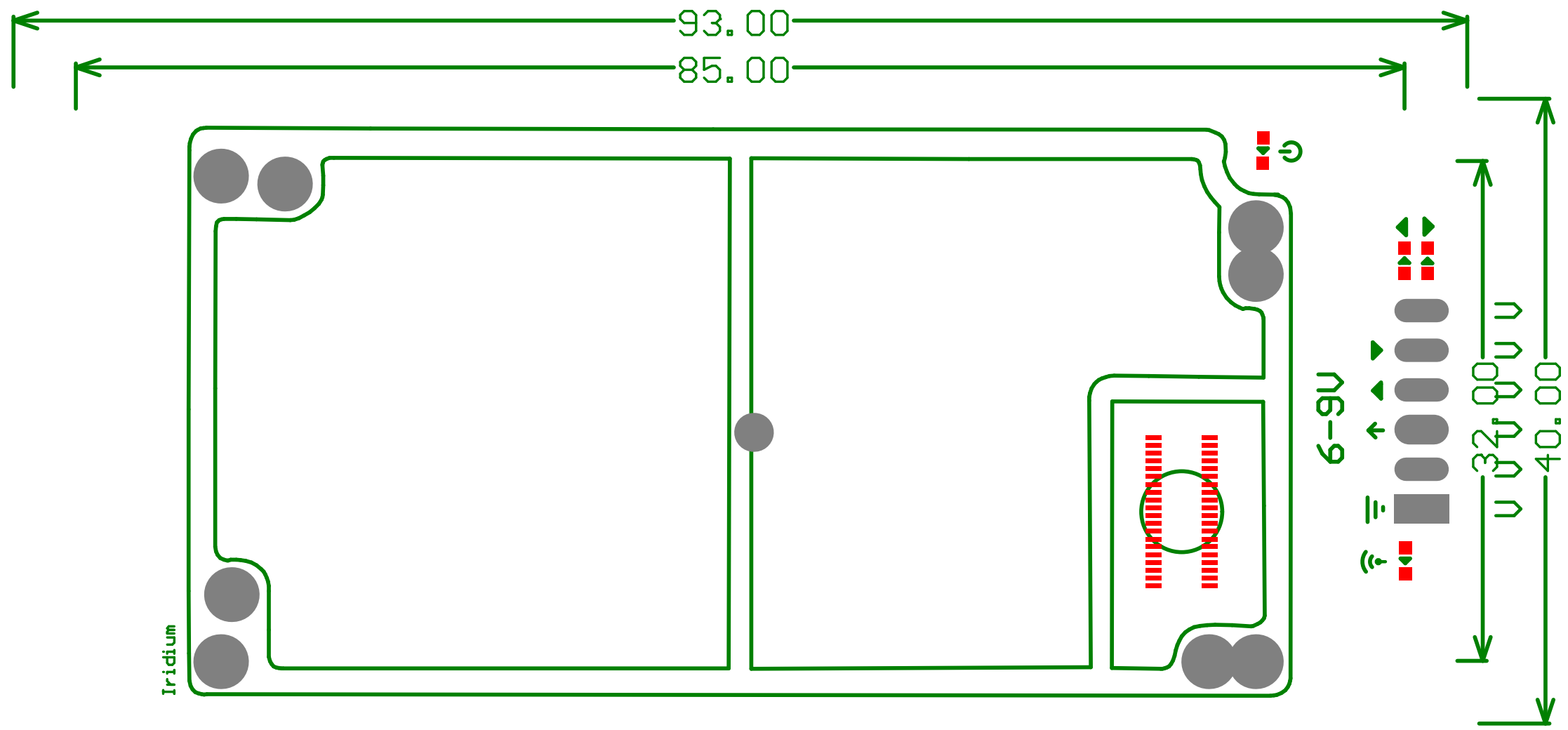
MicroController:



Xtal



Title			
Size	Number	Revision	
A3		v1.0	
Date:	2-10-2016	Sheet of	
File:	E:\SubVersion\...\IridiumPhoneCarrier.Sch	Drawn By:	MayLab - TU Delft



Quantity	value	Footprint	Comment	Description	Designator	Famell	LibRef
1		44A_M	ATmega162-16AC	8-Bit AVR Microcontroller with 16K Bytes of In-System Programmable Flash Memory	U1	9171150	ATmega162-16AC
1		DFN-MF8	LT3580	Boost DCDC	U5	1663573	LT3580
1		E	47uF/35V/0.3R/10 % CaseE		C40	1135125	ELECTRO1
1		iridiumphone	IR9523 - MOLEX 53885-0408 Stacking Board Connector		Iridium	1567698	IR9523
1		simcard	MOLEX 47388-2001 CONNECTOR, SIM CARD, 1.9MM HEIGHT		SimCard	2060729	SIMCARD
1		T491D	470uF/6V		C41		ELECTRO1
2		DO-216AA	B230A 30 V, 2 A, DO-214AC, 0.5V, UPS140	Silicon RF Schottky Diode for Mixer Applications in the VHF/UHF Range	D4, D7	1843686	Diode BAT17
4		KP-1608SURC_R	D11	Diode, LED	D1, D2, D3, D5		D11
5	1k	V0603RES	R12	Resistor	R3, R4, R5, R7, R10		R12
2	4.7mH	XFL4020	XFL4020-472MEC	Inductor	L1, L2	2289218	Inductor
2	10k	0603RES	0603	RESISTOR, 0603 10K	R6, R12	9330399	Res2
2	10nF	V0603	Cap	Capacitor	C8, C17	1776000	Cap
1	10uF 0603	V0603	Cap	Capacitor	C9		Cap
1	10uF 0805	V0805	Cap	Capacitor	C18		Cap
1	10uF / 35V	1210	1210	Ceramic Chip Capacitor - Standard	C7	1735537	C0603
1	10.2k	V0603RES	R12	Resistor	R9	1652829	R12
1	16MHz	CRY_2_5x3_2	Xtal Osc	Crystal Oscillator	X1	1712829	CFPS-39 2.5 x 3mm 16MHz
1	22uF	1210	Cap	Capacitor	C19		Cap
1	22uF 16V	1210	1210	Ceramic Chip Capacitor - Standard	C6	1907528	C0603
1	31.6k	V0603RES	R12	Resistor	R8	2138454	R12
1	35.7k	0603RES	0603	RESISTOR, 0603 10K	R13		Res2
11	100nF	V0603	2.2nF, 47pF, 100nF, 0603	Ceramic Chip Capacitor - Standard	C1, C3, C4, C5, C10, C11, C12, C13, C14, C15, C16		C0603, CAP
2	200R	V0603RES	R12	Resistor	R1, R2		R12
1	316k	0603RES	0603	RESISTOR, 0603 10K	R11	2303268	Res2
1	ADP2300	SOT-23-OT6_N	ADP2300	SOT23-6 DCDC Switcher	U2	1843650	LM2734
1	LP2992AIM5-3.3	MF05A_N	LP2992AIM5-3.3	Micropower 250 mA Low-Noise Ultra Low-Dropout Regulator, 5-pin SOT-23	U3	1469139	LP2992AIM5-3.3
1	NCN4555	QFN-ML16_L	NCN4555		U4	2534480	NCN4555
1	X7R, 10UF, 0805	V0805	TAJR475K006RNJ	Polarized Capacitor (C2	2346934	Cap Pol3