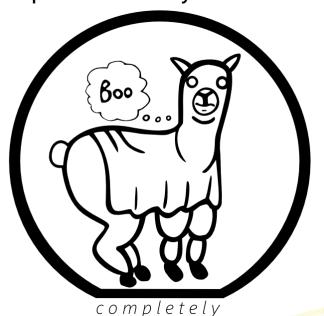
BLACKCHAT INCOGNITO MESSAGING SYSTEM

Alpaca Security Solutions



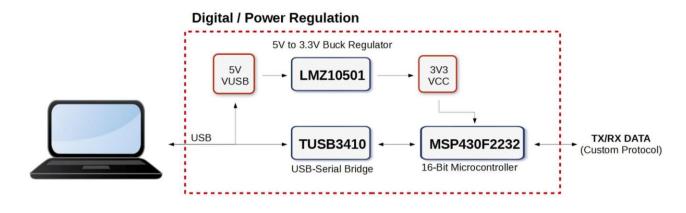
invisible

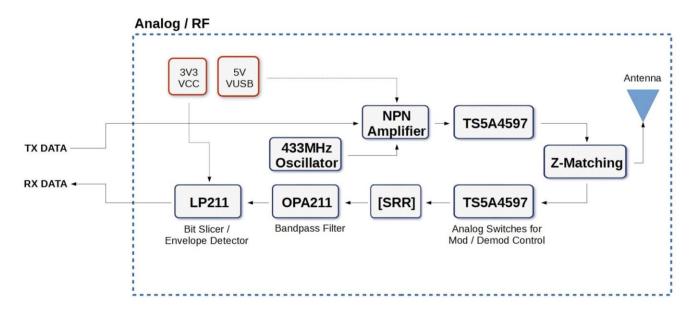
Patrick Lloyd Russell Crowe

SYSTEM LEVEL

- External USB device for wireless text messaging
 - MSP430F2xxx processor
 - AES-128 encryption
 - Portable Linux interface
- Discrete RF transceiver
 - 433MHz ISM band
 - OOK modulation scheme
 - Super-regenerative receiver
 - <10mW broadcast power</p>

HARDWARE – TOP LEVEL

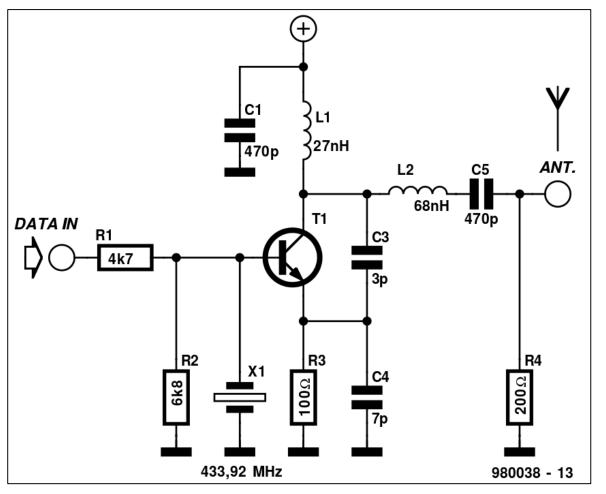


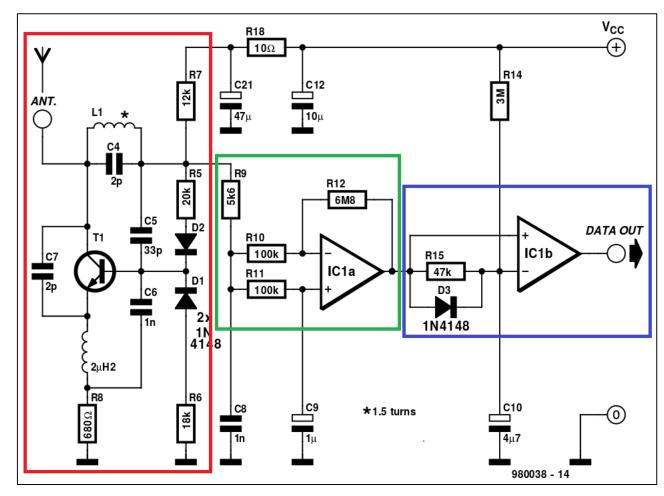


HARDWARE - RF

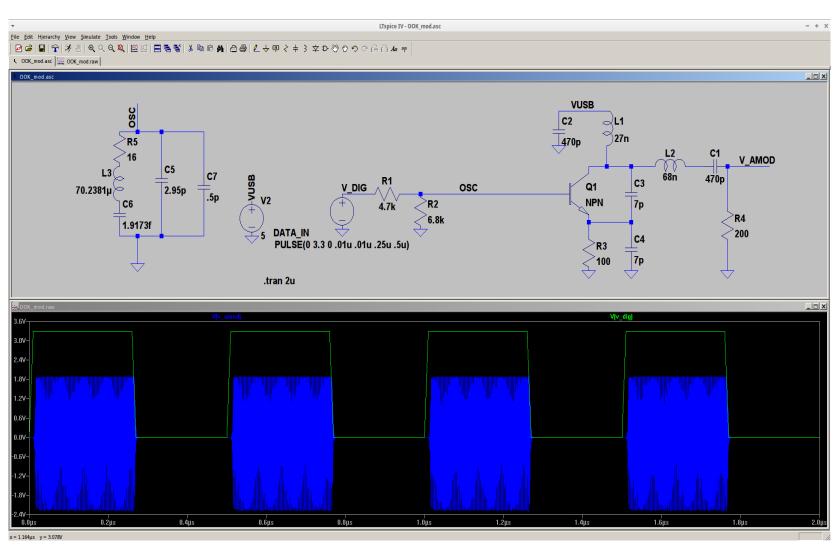
Modulator

Demodulator

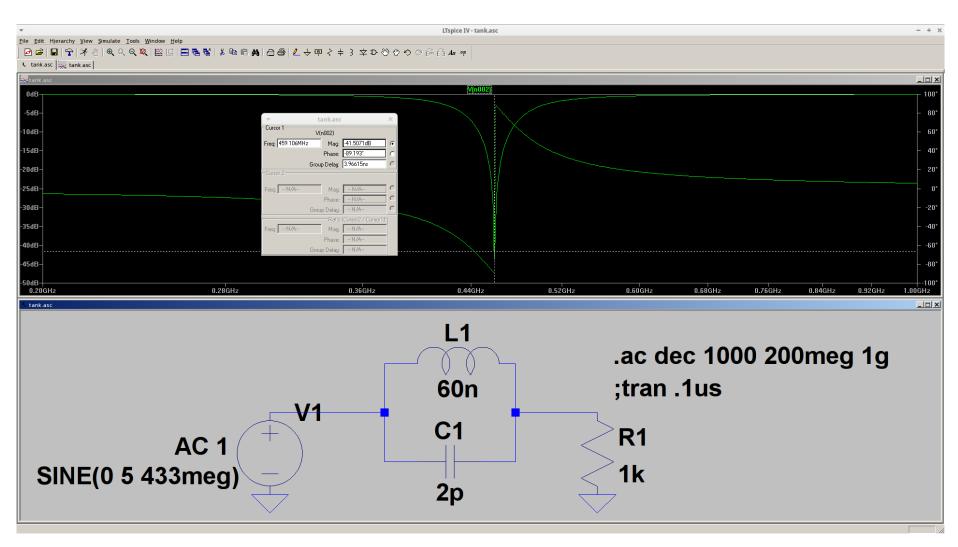




SIMULATIONS - MODULATOR



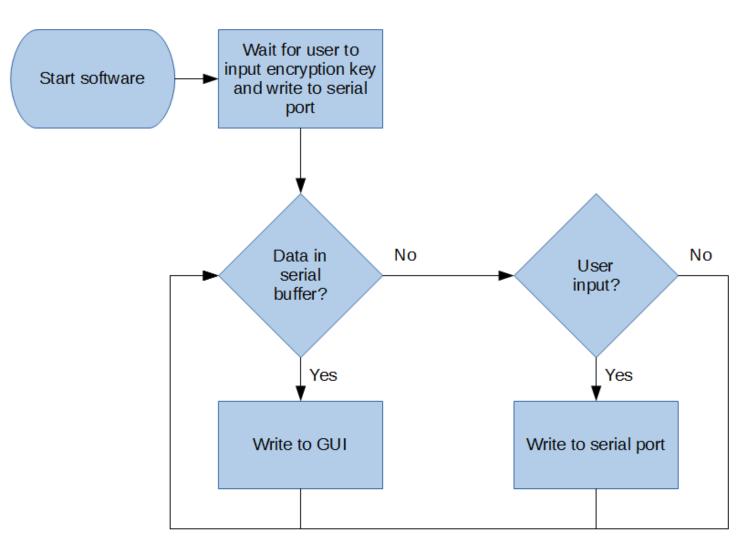
SIMULATIONS – LC TANK



Packet in Packet in Plug in USB USART1 No **USARTO** No Rx Rx register? register? Establish Yes connection with Yes software through Continue receiving USART0 and packets, form header, TSUSB chip Continue receiving and encrypt packets and decrypt Yes Initialize USART1 for interface with Transmit and wait for transceiver No Packet acknowledgment **Packets** received? Yes message missing or invalid data? Wait for 128-bit encryption key from software No Receive Wait for packet in ACK No USART1 Rx for specified + random message Send data to software time and transmit acknowledgment message` Yes

FIRMWARE

SOFTWARE



DIVISION OF LABOR

	Russell	Patrick
PDR	(\$)	(\$)
Transmitter	(#)	
Antenna		(^)
Receiver		(*)
Firmware	(@)	
uC-TRX Interface		(-)
Laptop Software	(&)	
uC-Laptop Interface	(!)	
Final Board Design	(%)	(%)
Testing & Validation	(\)	(\)
Stretch Goals	(+)	(+)

GANTT CHART

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Date	1-Sep	8-Sep	15-Sep	22-Sep	29-Sep	6-Oct	13-Oct	20-Oct	27-Oct	3-Nov	10-Nov	17-Nov	24-Nov	1-Dec	8-Dec	15-Dec
PDR																
Transmitter																
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uC Laptop																
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Stretch Goals																

STRETCH GOALS

Near

- 3+ module communication
- More discrete form factor
- Cross platform (Windows compatibility)

Far

- 2.4Ghz transceiver with more robust modulation scheme
- Forward error correction
- Plausibly deniable filesystem

QUESTIONS?