TECHNICAL OVERVIEW

THE FIRST FUNCTIONAL COLD WALLET WITH INTEGRATED NFC TECHNOLOGY SPECIFICALLY DESIGNED FOR SOLANA

WHY SOLANA

MAKE SOLANA GREAT AGAIN

Solana is for everyone

The superior speed and affordability of Solana ensure that users can engage with blockchain technology effortlessly, from making payments to interacting with smart contracts

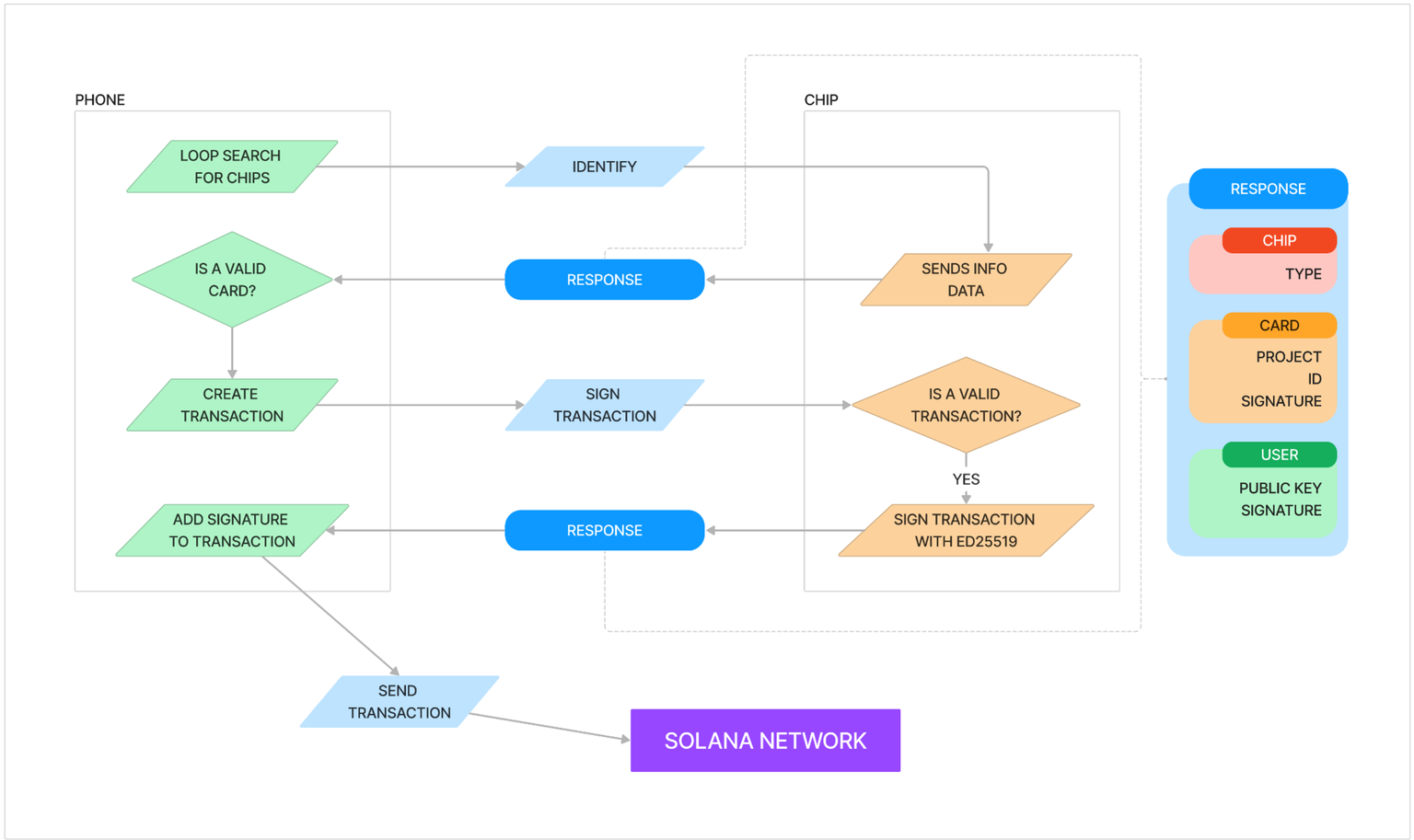
Built-in validation

Solana's transaction structure allows for an array of instructions, enabling us to verify whether our smart contract is included in the last instruction or not. This feature allows the firmware to guarantee a secure call to the program where rules will be validated

On-chain validation

Solana's features enable us to inspect addresses and balances changes on-chain, allowing the program to validate whether user rules are respected or if a transaction should fail atomically

TRANSACTION FLOW



POWER REQUIREMENTS

Assuming the use of the maximum 64 MHz clock speed

Arm Cortex-M0 Implementation Data ***		
180ULL (7-track, typical 1.8v, 25°C)	90LP (7-track, typical 1.2v, 25°C)	40LP (9-track, typical 1.1v, 25°C)
66µW/MHz	12.5µW/MHz	5.3µW/MHz
0.11mm^2	0.03mm^2	0.008mm^2

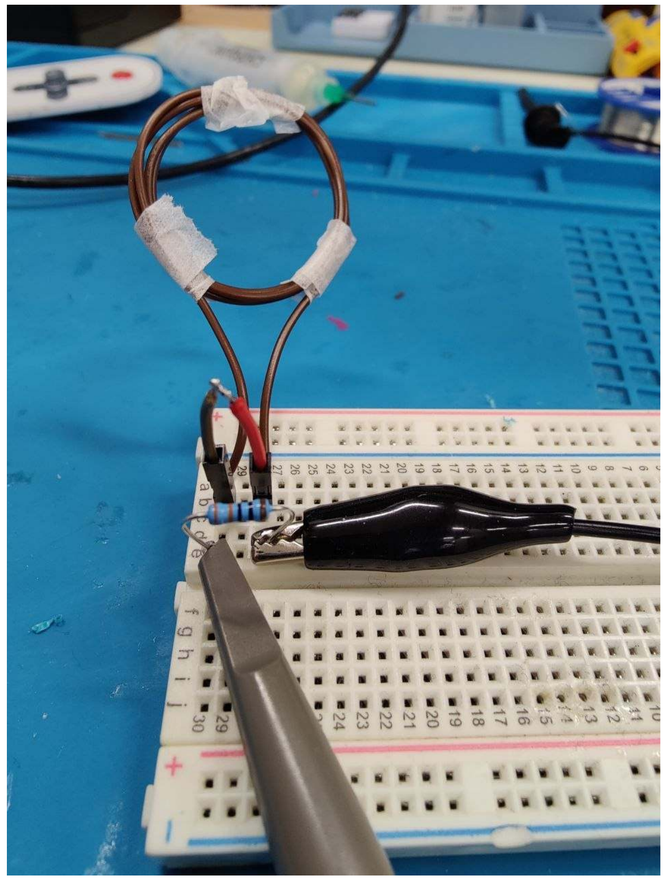
↓ ↓ ↓

4.224 mA **0.8 mA** **0.4 mA**

Clock speed can be reduced enough to lower power consumption to adapt it to our low-scale requirements

POWER HARVESTING

OUR RESULTS TO TEST PRACTICABILITY

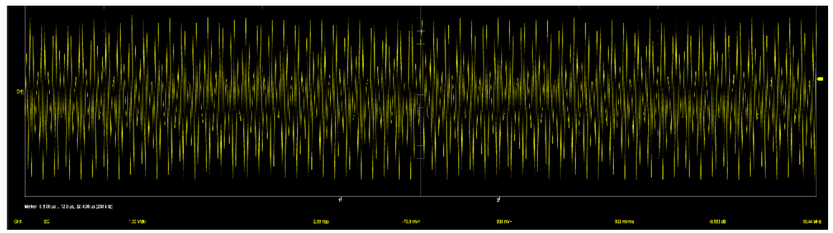


Using a copper wire wrapped in a circle with a radius of 35mm and 4 turns. Adding 100pF capacitor, gives a 13.56MHz resonant antenna.

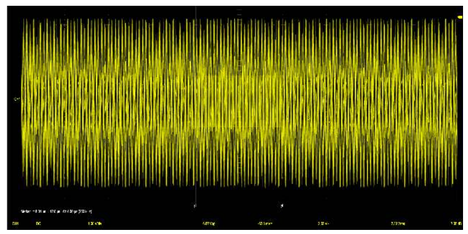
The test was performed by measuring the voltage across a 330 Ohm resistor to simulate a load

SOME RESULTS

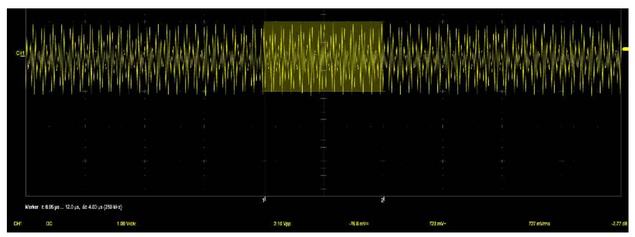
OSCILLOSCOPE WITH DIFFERENT DEVICES



OnePlus 9 Pro — **Vrms = 0.9V**, **7.06 mA**



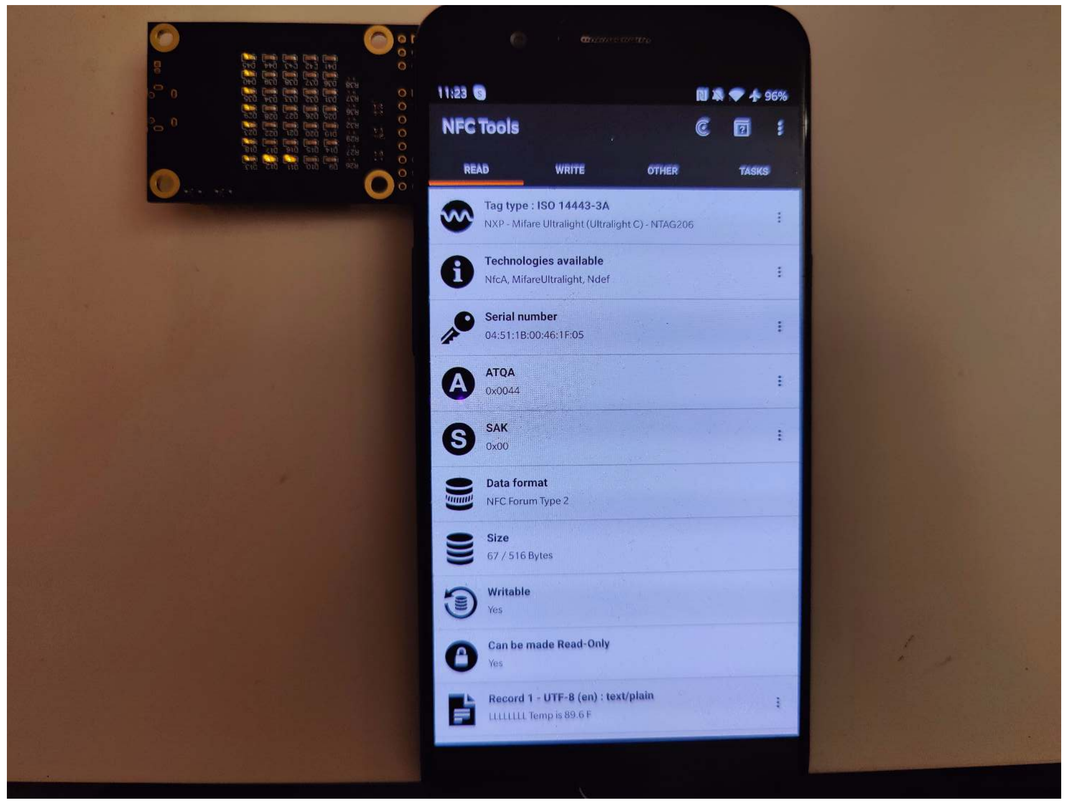
PN532 — **Vrms = 2.33V**, **2.73 mA**



OnePlus 5T — **Vrms = 0.7V**, **2.1 mA**

NFC SIGNATURE

A MESSAGE SENT, SIGNED AND RECEIVED BACK THROUGH NFC



The message is sent from mobile phone, received from NFC tag, signed and sent back to the mobile phone.

Working code deployed on GitHub

THANK YOU

WWW.QUADRA.TO