

SDR Tricks with HackRF

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Great Scott Gadgets

REcon 2014

Happy Tau Day!

- 6.2831853...

the perfect card for all occasions

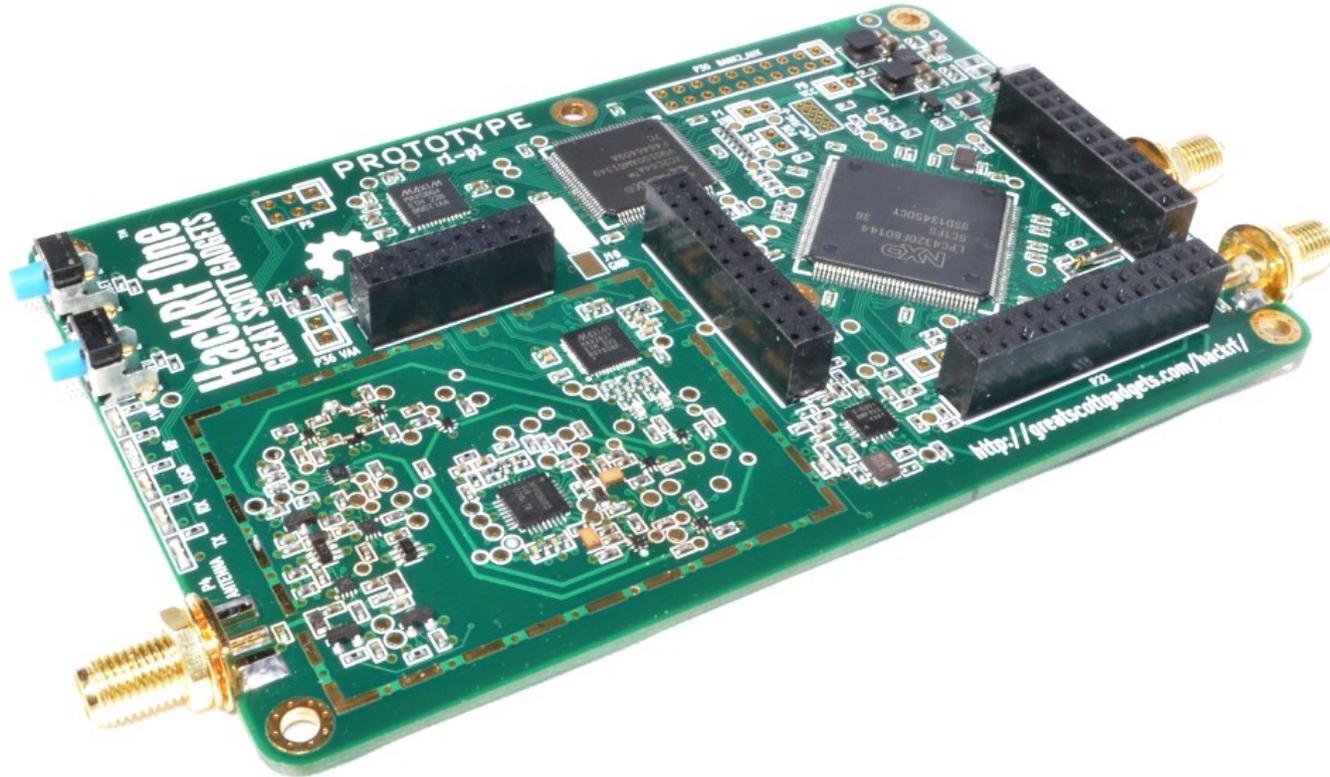
PLEASE SEE MY CUSTOMISED MESSAGE BELOW

happy birthday
congrats
bon voyage
thanks
it's a girl
let's celebrate
nice arse
i love you
get well soon
great job
sorry
i didn't mean it
you're the best

i didn't do it
please forgive me
let's get on it
you're so beautiful
i miss you
great work
happy holidays
let's catch up
i owe you a drink
happy housewarming
let's dance
im thinking of you
you're good lookin'

it's a boy
you're awesome
happy anniversary
you owe me a drink
just a quick hello
you're hitched
don't forget to write
you look lovely
please forgive me
good luck
i like your shoes
other
all of the above

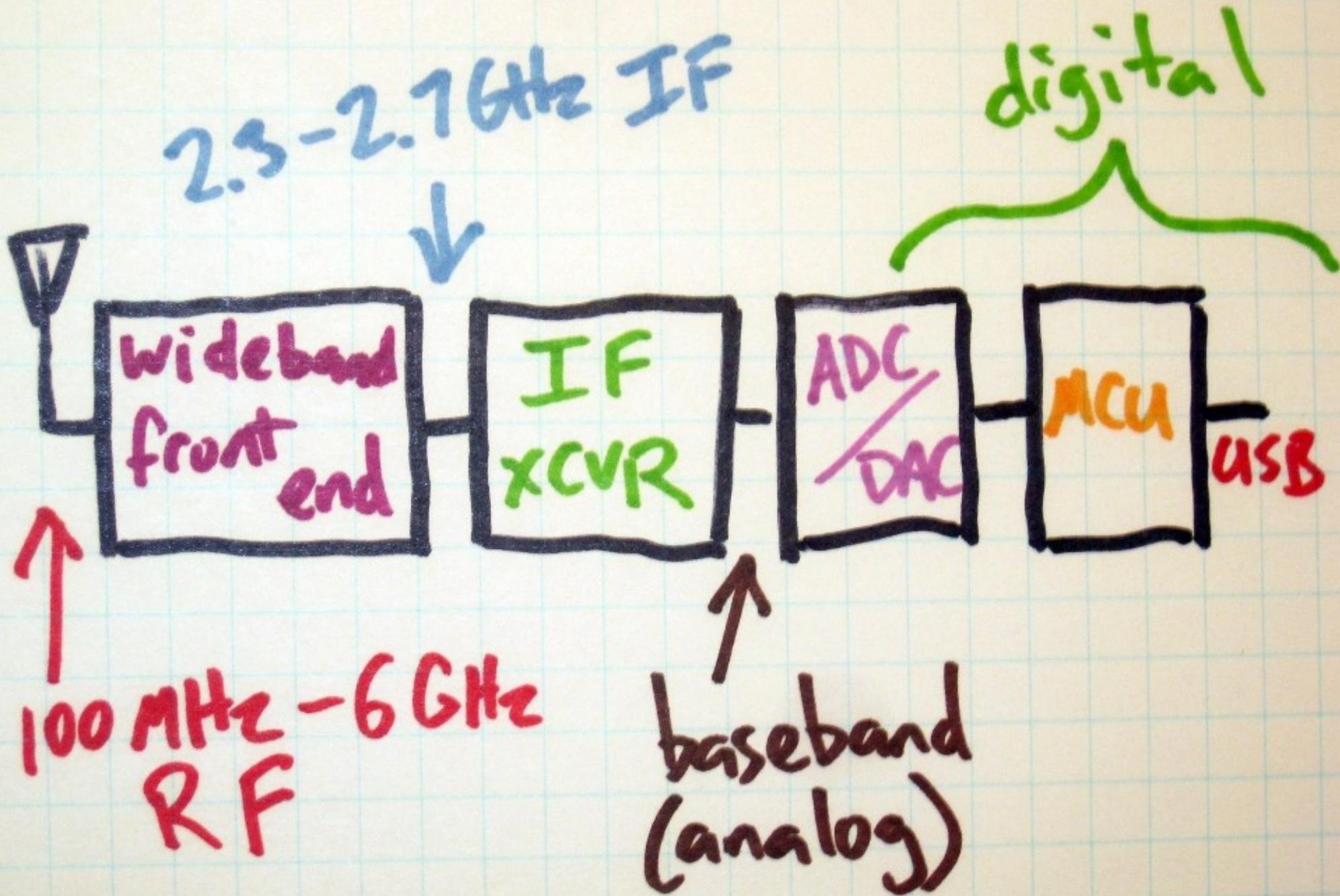
HackRF One

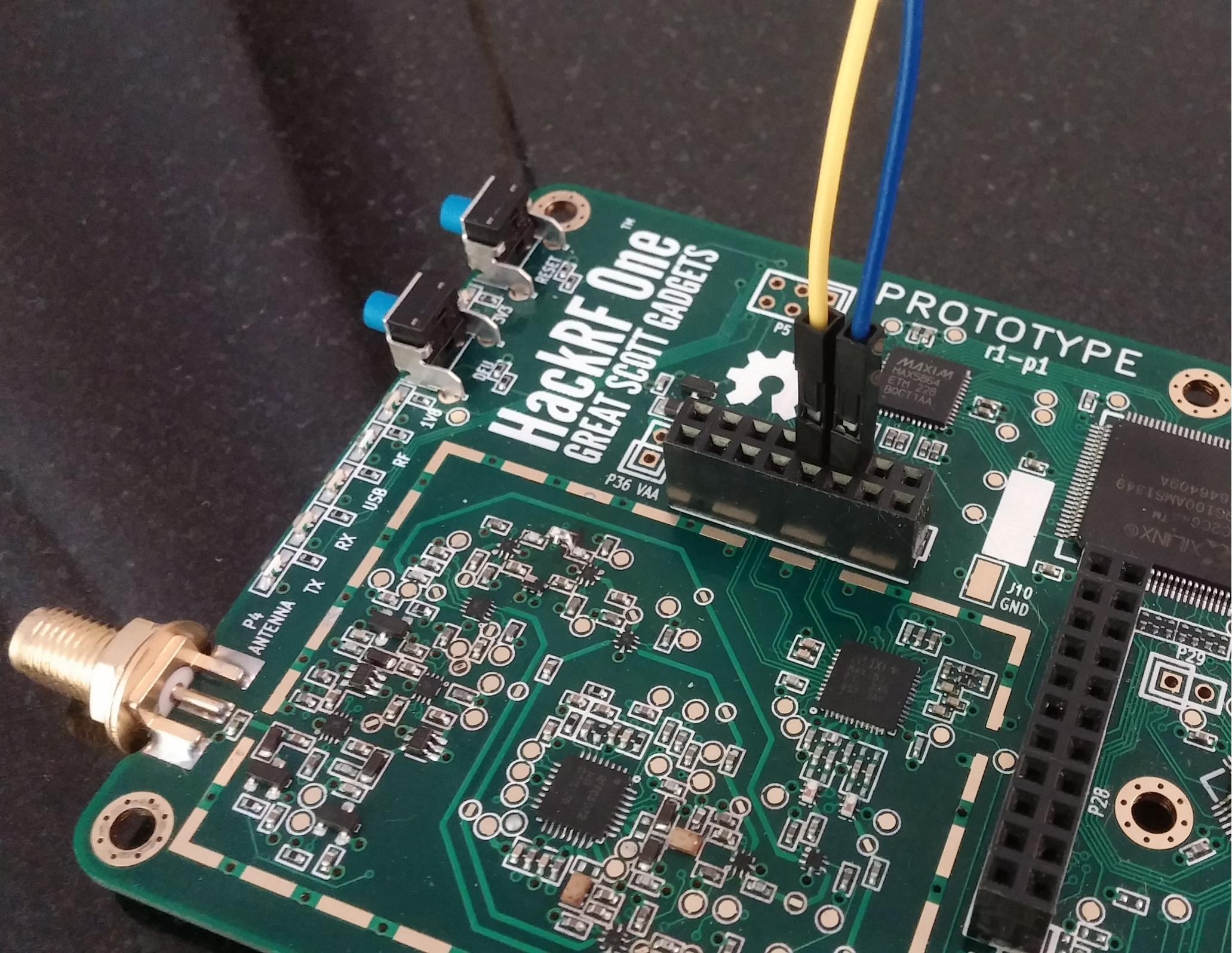


10 MHz to 6 GHz

20 MHz bandwidth (20 Msps quadrature)

Half-duplex SDR transceiver





HackRF One™
GREAT SCOTT GADGETS

PROTOTYPE
r1-p1

P4 ANTENNA
TX
RX
USB
RF

MAXIM
MAX5864
ETM 288
B0CT1AA

J10
GND

P28

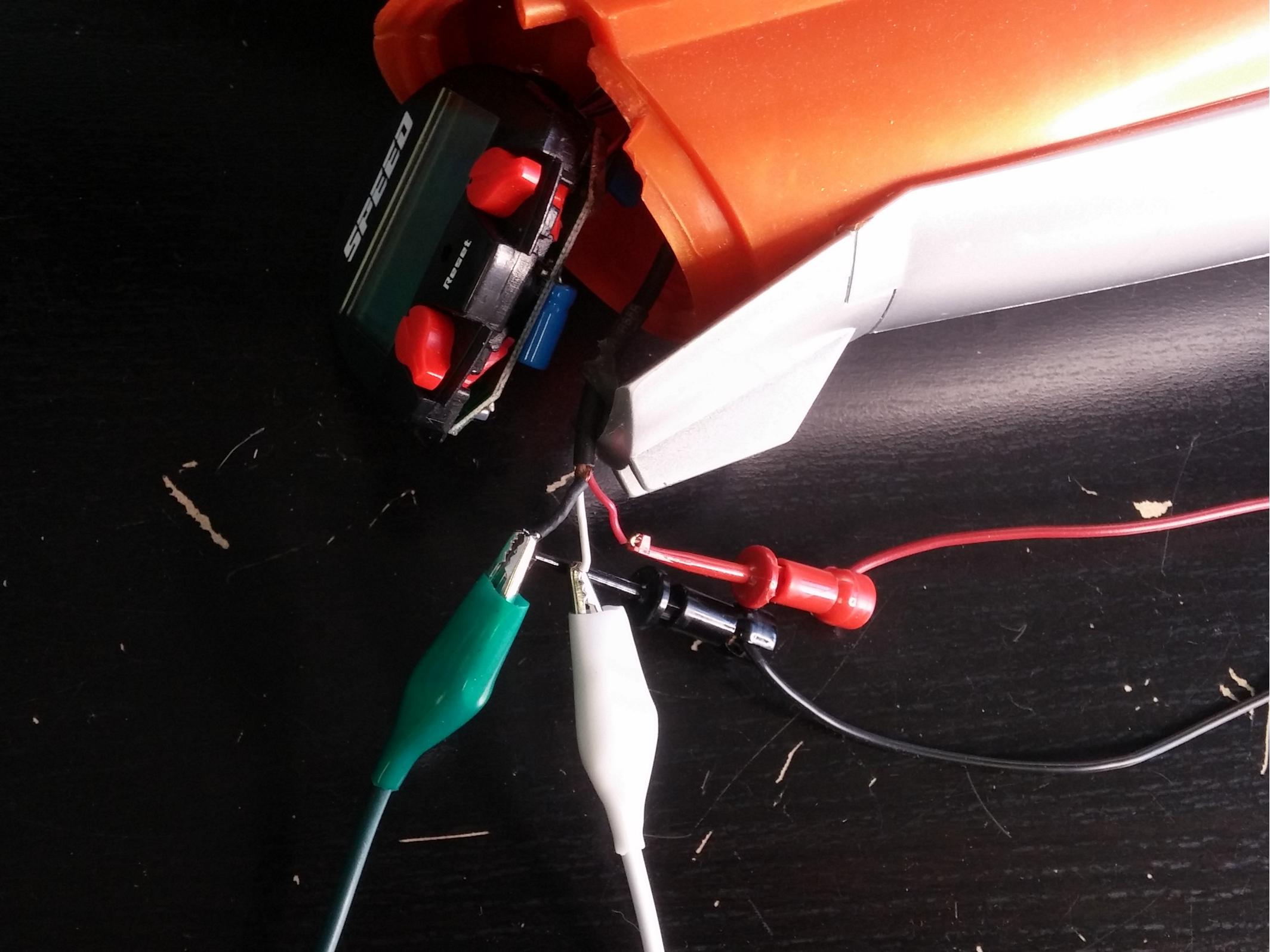
P29

P36 VAA

P5

Direct ADC

- Two channels
- Differential, 1 V peak-to-peak
- No anti-aliasing filter



Direct DAC

- Two channels
- Differential, 800 mV peak-to-peak
- No anti-aliasing filter

Baseband Expansion Board

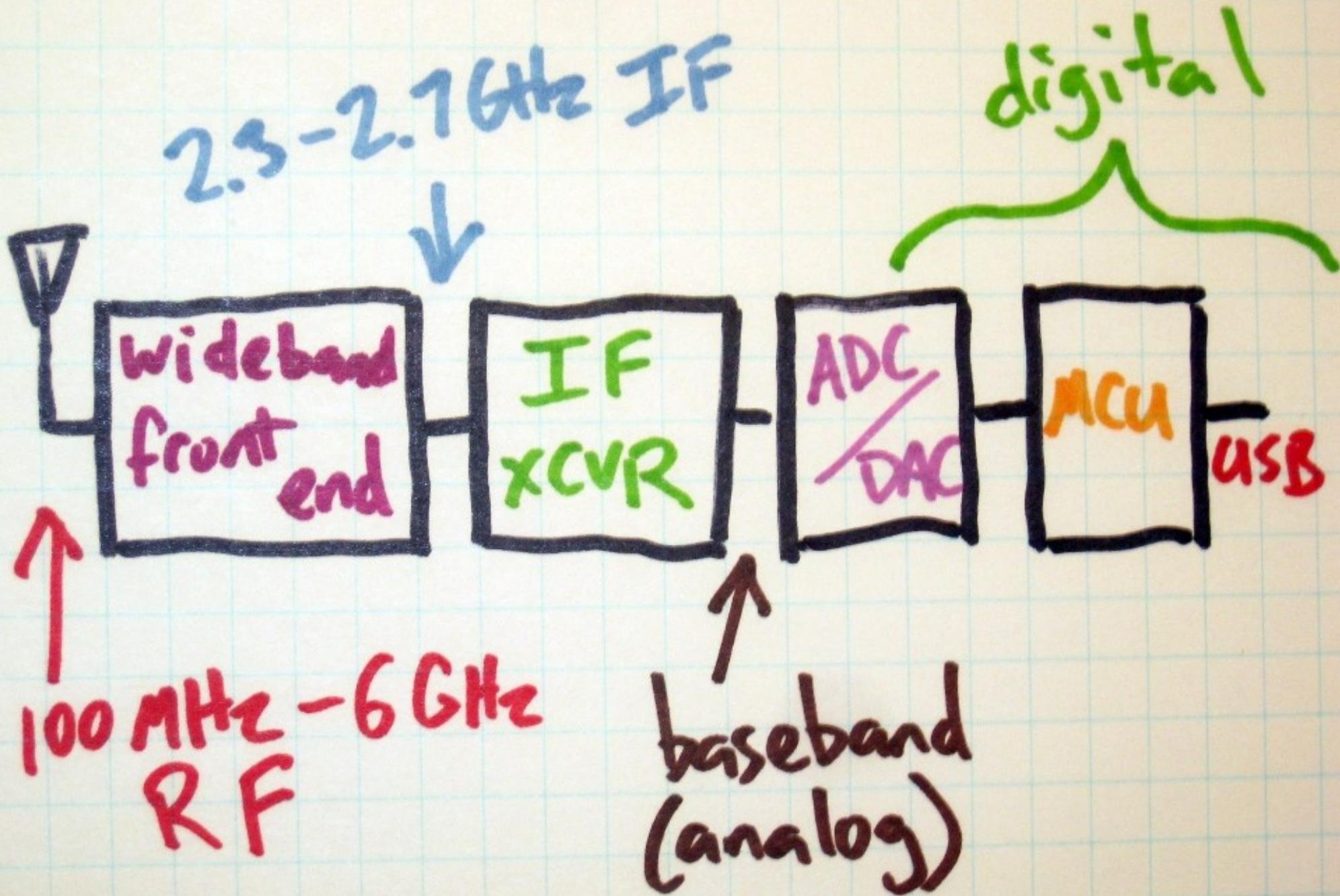
- Will make direct ADC/DAC easier to use
- Oscilloscope/DAQ
- Function generator
- Interface with external RF front-end

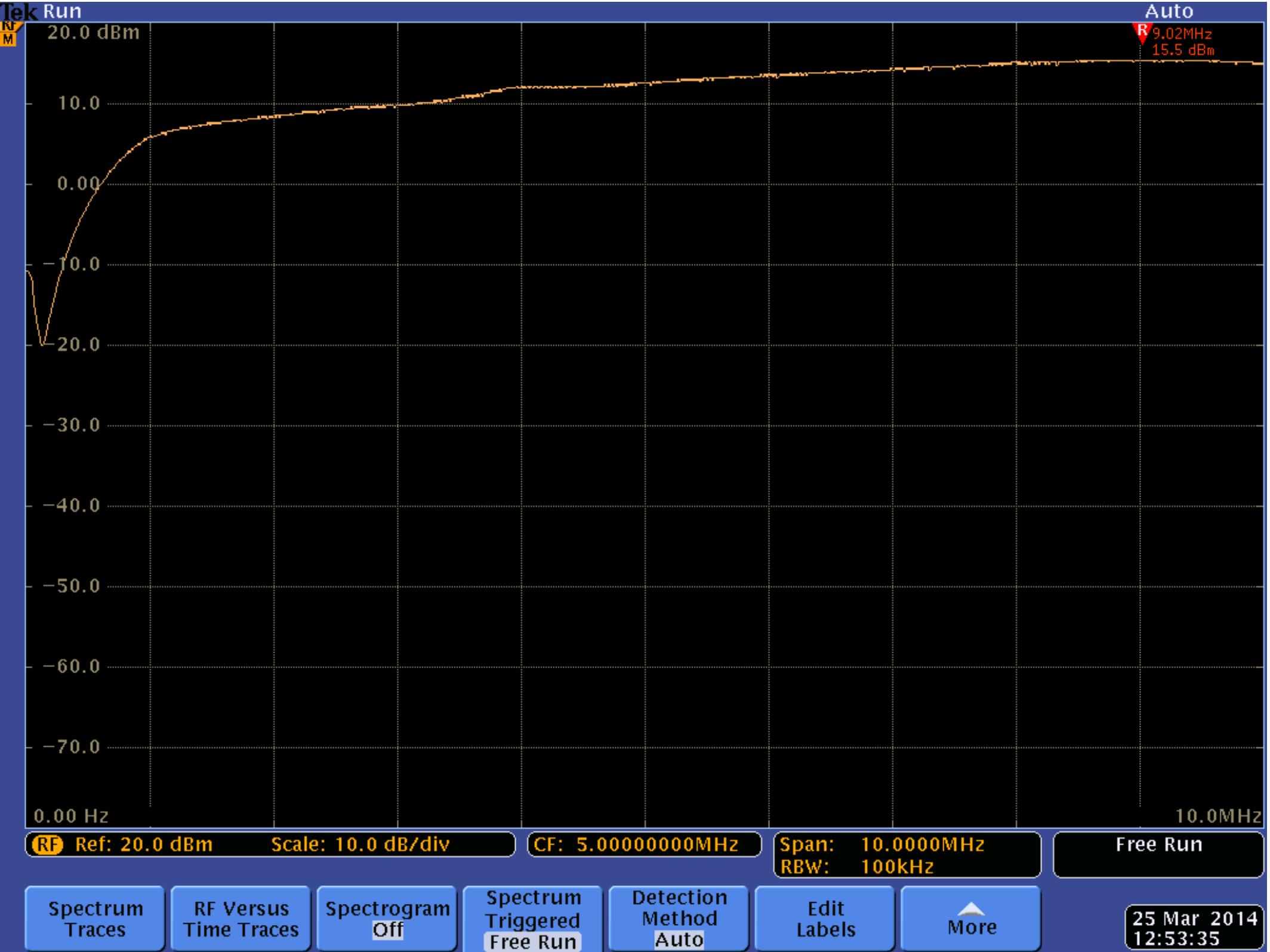
Full-Duplex

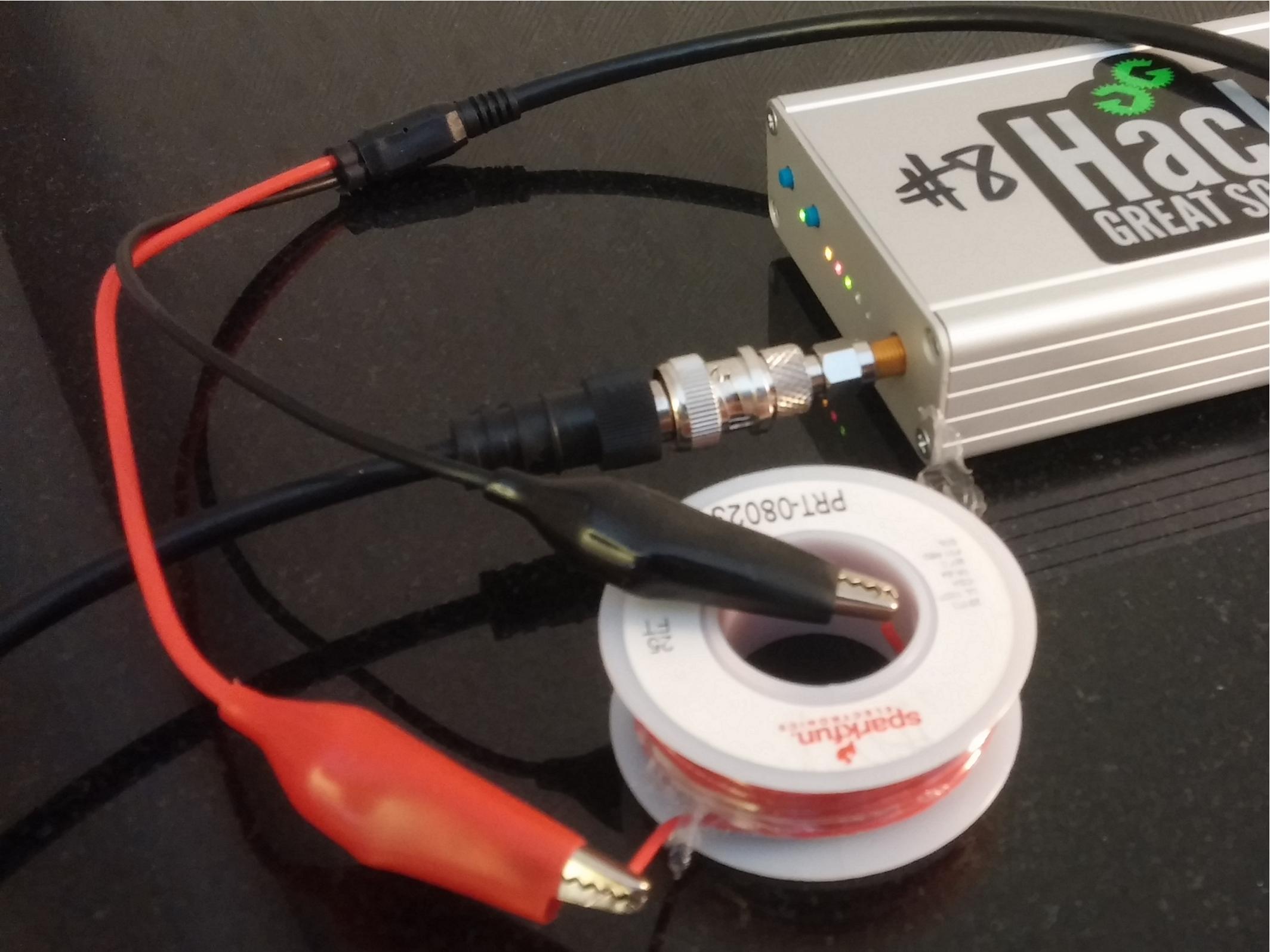
- RF section is Half-Duplex
- USB through ADC/DAC is Full-Duplex (at reduced sample rate)

Operating Frequency

- Design goal: 100 MHz to 6 GHz
- After components selected: 30 MHz to 6 GHz
- After beta: 10 MHz to GHz
- Future: 1 MHz to 6 GHz ?







#8 Hack GREAT STUFF

PRT-08023

sparkfun

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