SOFTWARE ARCHITECTURE

SDR
Cube

CODEC
TLV320AIC23B

Receive Path

I

Q

I

Q

To / From Commutating Mixer
(On Softrock transceiver)

Transmit Path

I

Q

I

Q

SPI
(Control)

All pass Filter
+/- 45 deg shift
(FIR)

I

Q

SSB Demodulator

+

Audio BPF

(Step-adjustable with coefficients)

LSB / USB selection can be done by swapping I and Q signals in these points

All pass Filter
+/- 45deg shift
(FIR)

Mic filter

(Applies pre-emphasis with simple IIR filter.)

Mic

Phones

dsPIC33F Audio Processing Functions in Software