Options
Title: FREQUENCY HOPPING
Author: sv1bds
Output Language: Python
Generate Options: QT GUI

Variable
ID: samp_rate
Value: 1M

Variable
ID: ipaddress
Value: 10.2.83.5

Variable
ID: ratio
Value: 125

Import
Import: np

QT GUI Range
ID: freq
Label: Sweep Freq
Default Value: 1
Start: 100m
Stop: 1k
Step: 100m

QT GUI Range
ID: delay
Label: Delay
Default Value: 0
Start: -10k
Stop: 10k
Step: 1

QT GUI Check Box
ID: ptt
Label: PTT
Default Value: False
True: True
False: False

QT GUI Check Box
ID: enablemic
Label: Enable Mic
Default Value: 0
True: 1
False: 0

QT GUI Check Box
ID: sel
Label: Select
Default Value: 0
True: 1
False: 0

QT GUI Range
ID: doppler
Label: Doppler
Default Value: 200
Start: -250
Stop: 250
Step: 1

QT GUI Waterfall Sink
FFT Size: 2048
Center Frequency (Hz): ...25M
Bandwidth (Hz): 1M

Signal Source
Sample Rate: 1M
Waveform: Cosine
Frequency: 200
Amplitude: 1
Offset: 0
Initial Phase (Radians): 0

QT GUI Waterfall Sink
FFT Size: 2048
Center Frequency (Hz): 0
Bandwidth (Hz): 8k

PlutoSDR Source
IIO context URI: 10.2.83.5
LO Frequency: 743.25M
Sample Rate: 1M
Buffer size: 32.768k
Quadrature: True
RF DC Correction: True
BB DC Correction: True
Gain Mode (RX1): Manual
Manual Gain (RX1)(dB): 30
Filter Configuration: Auto
RF Bandwidth (Hz): 20M

Multiply

Multiply

Rational Resampler
Interpolation: 1
Decimation: 125
Taps:
Fractional BW: 0

Virtual Sink
Stream ID: Rx IF

Virtual Source
Stream ID: Rx Lo

Complex Conjugate

Signal Source
Sample Rate: 8k
Waveform: Cosine
Frequency: 1.5k
Amplitude: 1
Offset: 0
Initial Phase (Radians): 0

Selector
Enabled: Enabled
Number of Inputs: 2
Number of Outputs: 1
Input Index: 0
Output Index: 0

Rational Resampler
Interpolation: 125
Decimation: 1
Taps:
Fractional BW: 0

Multiply

Multiply Const
Constant: 0

PlutoSDR Sink
IIO context URI: 10.2.83.5
LO Frequency: 434.25M
Sample Rate: 1M
Buffer size: 32.768k
Cyclic: False
Attenuation TX1 (dB): 0
Filter Configuration: Auto
RF Bandwidth (Hz): 1M

Virtual Source
Stream ID: Tx IF

Virtual Source
Stream ID: Tx Lo

Signal Source
Sample Rate: 1M
Waveform: Saw Tooth
Frequency: 1
Amplitude: 1
Offset: -500m
Initial Phase (Radians): 0

Selector
Enabled: Enabled
Number of Inputs: 2
Number of Outputs: 1
Input Index: 0
Output Index: 0

VCO (complex)
Sample Rate: 1M
Sensitivity: 6.28319M
Amplitude: 1

Delay
Delay: 274.2k

Virtual Sink
Stream ID: Rx Lo

Virtual Sink
Stream ID: Tx Lo

Add Const
Constant: -500m

Random Source
Minimum: 0
Maximum: 32.768k
Num Samples: 10k
Repeat: Yes

Short To Float
Scale: 32.768k

Probe Rate
Min Update Time (ms): 500
Update Alpha: 150m

Message Debug
PDU Vectors: On

Audio Source
Sample Rate: 48 kHz

Rational Resampler
Interpolation: 1
Decimation: 6
Taps:
Fractional BW: 0

Float To Short
Scale: 32.768k

FreeDV modulator
Operating Mode: 1600
Text Message: SV1BDS
Interleave Frames: 1
Clip: False
Tx BPF: True

Short To Float
Scale: 32.768k

Band Pass Filter
Decimation: 1
Gain: 15
Sample Rate: 8k
Low Cutoff Freq: 800
High Cutoff Freq: 2.2k
Transition Width: 100
Window: Hamming
Beta: 6.76

Virtual Sink
Stream ID: Tx IF

Virtual Source
Stream ID: Rx IF

Complex To Real

Float To Short
Scale: 32.768k

FreeDV demodulator
Operating Mode: 1600
Squelch Threshold: -100
Interleave Frames: 1
Squelch Enable: True

Short To Float
Scale: 32.768k

Rational Resampler
Interpolation: 6
Decimation: 1
Taps:
Fractional BW: 0

Audio Sink
Sample Rate: 48 kHz

Wav File Sink
File: /home/sv1bds/fh.wav
Sample Rate: 48k
Output Format: WAV
Bits per Sample: 16-bit
Append to existing file: No