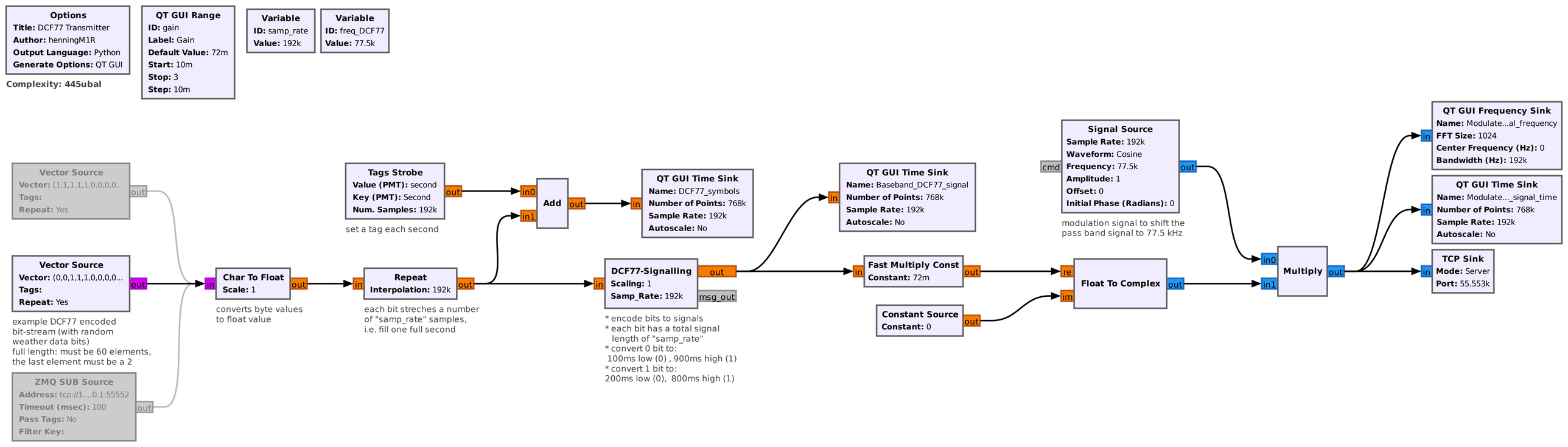
Options
Title: DCF77 Transmitter
Author: henningM1R
Output Language: Python
Generate Options: QT GUI
Complexity: 445ubal
QT GUI Range
ID: gain
Label: Gain
Default Value: 72m
Start: 10m
Stop: 3
Step: 10m
Variable
ID: samp_rate
Value: 192k
Variable
ID: freq_DCF77
Value: 77.5k
Vector Source
Vector: (1,1,1,1,1,0,0,0,0...
Tags:
Repeat: Yes
out
Vector Source
Vector: (0,0,1,1,1,0,0,0,0...
Tags:
Repeat: Yes
out
example DCF77 encoded
bit-stream (with random
weather data bits)
full length: must be 60 elements,
the last element must be a 2
ZMQ SUB Source
Address: tcp://1....0.1:55552
Timeout (msec): 100
Pass Tags: No
Filter Key:
out
Char To Float
Scale: 1
in
out
converts byte values
to float value
Tags Strobe
Value (PMT): second
Key (PMT): Second
Num. Samples: 192k
out
set a tag each second
Repeat
Interpolation: 192k
in
out
each bit streches a number
of "samp_rate" samples,
i.e. fill one full second
Add
in0
in1
out
QT GUI Time Sink
Name: DCF77_symbols
Number of Points: 768k
Sample Rate: 192k
Autoscale: No
in
DCF77-Signalling
Scaling: 1
Samp_Rate: 192k
in
out
msg_out
* encode bits to signals
* each bit has a total signal
length of "samp_rate"
* convert 0 bit to:
100ms low (0) , 900ms high (1)
* convert 1 bit to:
200ms low (0), 800ms high (1)
QT GUI Time Sink
Name: Baseband_DCF77_signal
Number of Points: 768k
Sample Rate: 192k
Autoscale: No
in
Fast Multiply Const
Constant: 72m
in
out
Constant Source
Constant: 0
out
Signal Source
Sample Rate: 192k
Waveform: Cosine
Frequency: 77.5k
Amplitude: 1
Offset: 0
Initial Phase (Radians): 0
cmd
out
modulation signal to shift the
pass band signal to 77.5 kHz
Float To Complex
re
im
out
Multiply
in0
in1
out
QT GUI Frequency Sink
Name: Modulate...al_frequency
FFT Size: 1024
Center Frequency (Hz): 0
Bandwidth (Hz): 192k
in
QT GUI Time Sink
Name: Modulate..._signal_time
Number of Points: 768k
Sample Rate: 192k
Autoscale: No
in
TCP Sink
Mode: Server
Port: 55.553k
in