

Options
Title: QAM
Author: Pross N...Sara Cinzia
Output Language: Python
Generate Options: QT GUI
Realtime Scheduling: On

Variable
Id: samp_rate
Value: 32k

QT GUI Tab Widget
Id: params
Num Tabs: 2
Label 0: Channel
Label 1: Receiver

QT GUI Tab Widget
Id: plots
Num Tabs: 3
Label 0: Constellations
Label 1: Frequency
Label 2: Time

Random Source
Minimum: 0
Maximum: 256
Num Samples: 1k
Repeat: Yes

Variable
Id: sps
Value: 4

Variable
Id: excess_bw
Value: 350m

Constellation Modulator
Constellation: <con... 16qam>
Differential Encoding: Yes
Samples/Symbol: 4
Excess BW: 350m

Constellation Rect. Object
Id: qam_const
Symbol Map: [0, 4, 12, 8, ...]
Constellation Points: [(-3...
Rotational Symmetry: 4
Real Sectors: 1
Imaginary Sectors: 1
Width Real Sectors: 1
Width Imaginary Sectors: 1

Constellation Object
Id: const
Constellation Type: 16QAM

Variable
Id: chn_taps
Value: 1

Channel Model
Noise Voltage: 100u
Frequency Offset: 0
Epsilon: 1
Taps: 1
Seed: 0
Block Tag Propagation: No

QT GUI Range
Id: noise_volt
Label: Noise Voltage
Default Value: 100u
Start: 0
Stop: 1
Step: 10m

QT GUI Range
Id: freq_offset
Label: Frequency Offset
Default Value: 0
Start: -100m
Stop: 100m
Step: 1m

QT GUI Range
Id: time_offset
Label: Timing Offset
Default Value: 1
Start: 999m
Stop: 1.001
Step: 100u

QT GUI Constellation Sink
Name: Channel
Number of Points: 2.048k
Autoscale: No

QT GUI Frequency Sink
Name: Channel
FFT Size: 1.024k
Center Frequency (Hz): 0
Bandwidth (Hz): 32k

Polyphase Clock Sync
Samples/Symbol: 4
Loop Bandwidth: 62.8319m
Filter Size: 32
Initial Phase: 16
Maximum Rate Deviation: 1.5
Output SPS: 1

Variable
Id: nfilters
Value: 32

Variable
Id: rrc_taps
Value: firdes.root_raised_...

QT GUI Range
Id: timing_loop_bw
Label: Time Bandwidth
Default Value: 62.8319m
Start: 0
Stop: 200m
Step: 10m

QT GUI Constellation Sink
Name: Synchronized
Number of Points: 2.048k
Autoscale: No

CMA Equalizer
Num. Taps: 15
Modulus: 1
Gain: 10m
Samples per Symbol: 1

Variable
Id: eq_mod
Value: 1

Variable
Id: eq_ntaps
Value: 15

QT GUI Range
Id: eq_gain
Label: Equalizer Rate
Default Value: 10m
Start: 0
Stop: 100m
Step: 1m

QT GUI Constellation Sink
Name: Equalized
Number of Points: 1.024k
Autoscale: No

Costas Loop
Loop Bandwidth: 62.8319m
Order: 4

QT GUI Range
Id: phase_bw
Label: Phase Bandwidth
Default Value: 62.8319m
Start: 0
Stop: 1
Step: 10m

QT GUI Constellation Sink
Name: Locked
Number of Points: 1.024k
Autoscale: No

Constellation Decoder
Constellation Object: ...qam>

Differential Decoder
Modulus: 4

Map
Map: 0, 1, 3, 2

Char To Float
Scale: 1

Unpack K Bits
K: 2

QT GUI Time Sink
Name: Decoded
Number of Points: 1.024k
Sample Rate: 32k
Autoscale: No

Delay
Delay: 50

