```
% main
[FILENAME, PATHNAME, FILTERINDEX] = ...
    uigetfile('*.*', 'select pics', 'MultiSelect','on');
if FILTERINDEX > 0
    results = [];    close all;
    if ~iscell(FILENAME)
        FILENAME = {FILENAME};
    end
    for name = sort(FILENAME)
        r = read_pwm_from_screenshot([PATHNAME, name{1}]);
        results = [results; r];
    end
end
```

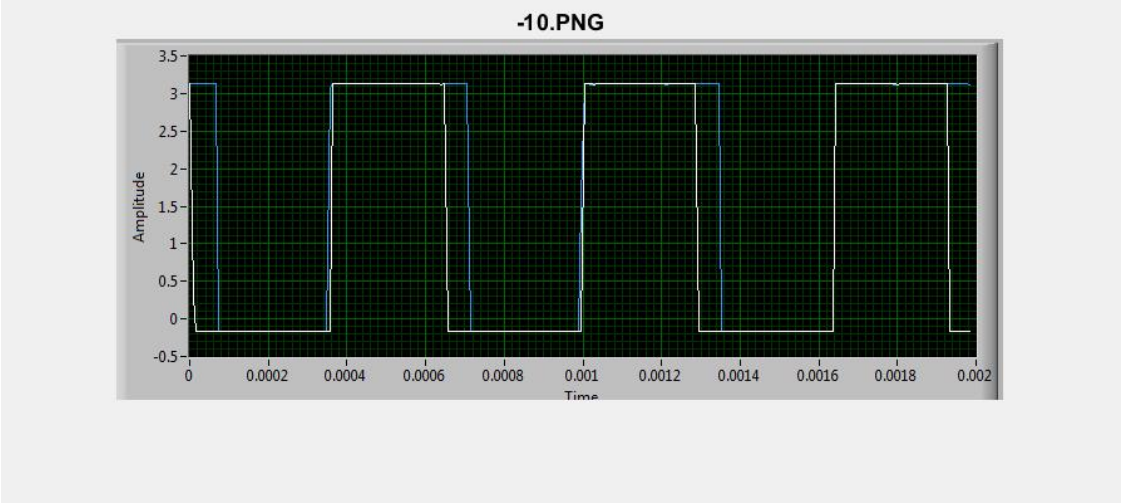
```
-10.PNG

dc =

    0.5558    0.5495


dc =

    0.4564    0.4539

-100.PNG
vertical difference is less than 5 pixels. skip
vertical difference is less than 5 pixels. skip
-20.PNG

dc =

    0.5975    0.5999


dc =

    0.4025    0.4033

-30.PNG

dc =

    0.6474    0.6536


dc =

    0.3516    0.3491

-40.PNG
```

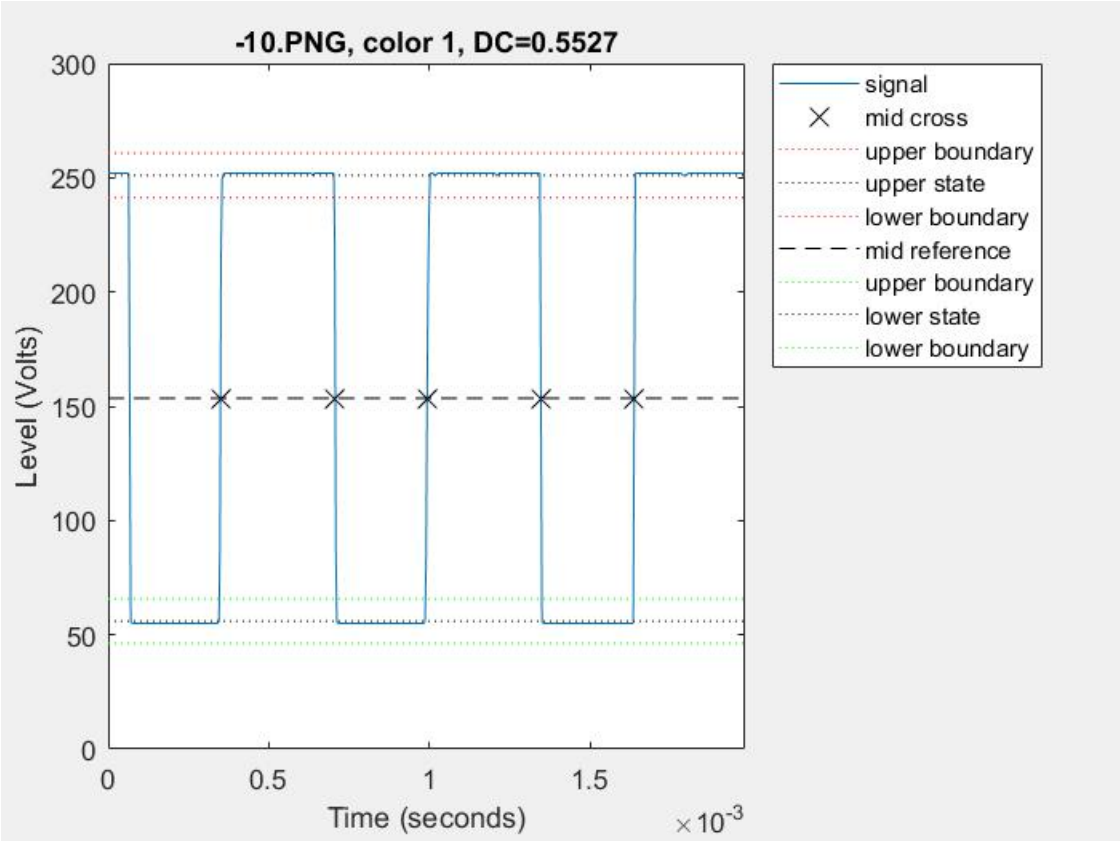
```
dc =

    0.6989    0.6929

dc =

    0.2975    0.2992

-50.PNG

dc =

    0.7531    0.7531

dc =

    0.2469    0.2469

-60.PNG

dc =

    0.7951    0.7905

dc =

    0.1946    0.2001

-70.PNG

dc =

    0.8458    0.8579

dc =

    0.1535    0.1474

-80.PNG

dc =

    0.9077    0.9074

dc =

    0.0923    0.1012

-90.PNG
```

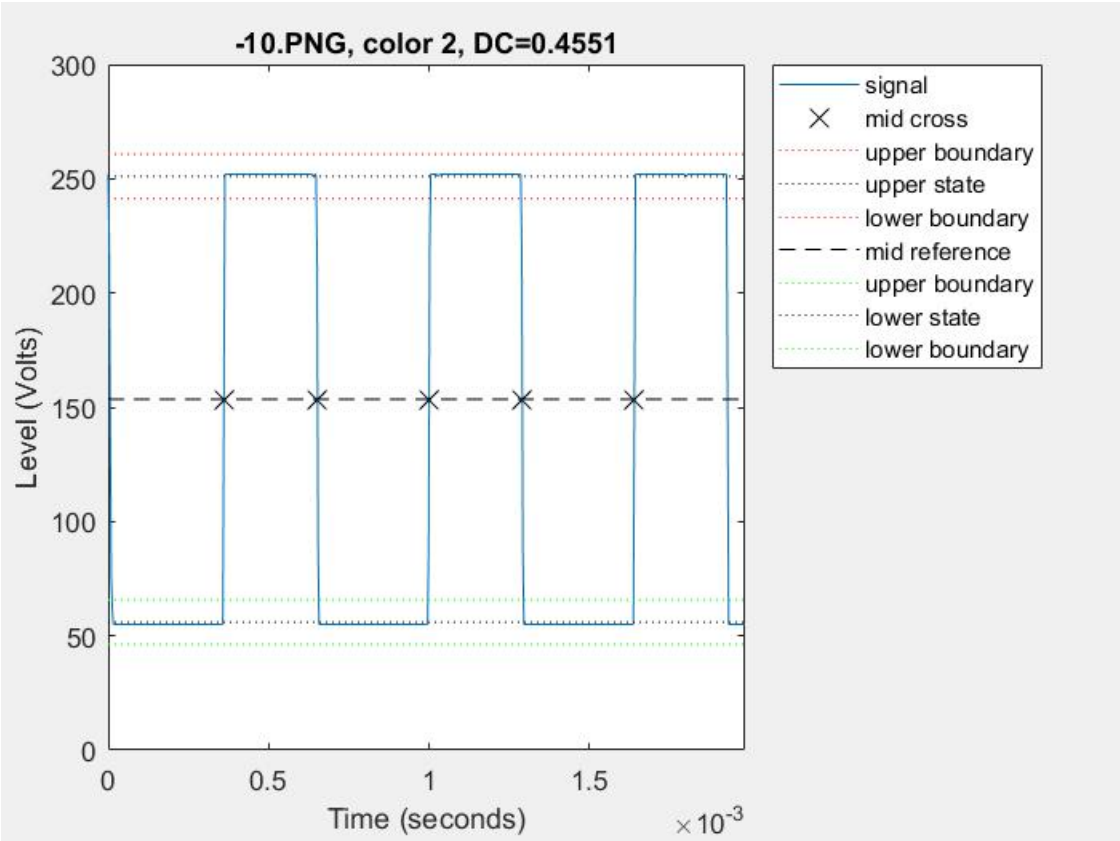
```
dc =

    0.9528    0.9602


dc =

    0.0540    0.0500

0.PNG

dc =

    0.4925    0.4957


dc =

    0.5062    0.5062

10.PNG

dc =

    0.4539    0.4538


dc =

    0.5450    0.5461

100.PNG
vertical difference is less than 5 pixels. skip
vertical difference is less than 5 pixels. skip
20.PNG

dc =

    0.4026


dc =

    0.6049    0.5995

30.PNG

dc =

    0.3525    0.3523


dc =
```

```
    0.6484    0.6505

40.PNG

dc =

    0.3018


dc =

    0.7000    0.6991

50.PNG

dc =

    0.2469    0.2552


dc =

    0.7414    0.7531

60.PNG

dc =

    0.1945    0.1937


dc =

    0.8030    0.8017

70.PNG

dc =

    0.1571    0.1529


dc =

    0.8429    0.8449

80.PNG

dc =

    0.1022    0.1025
```

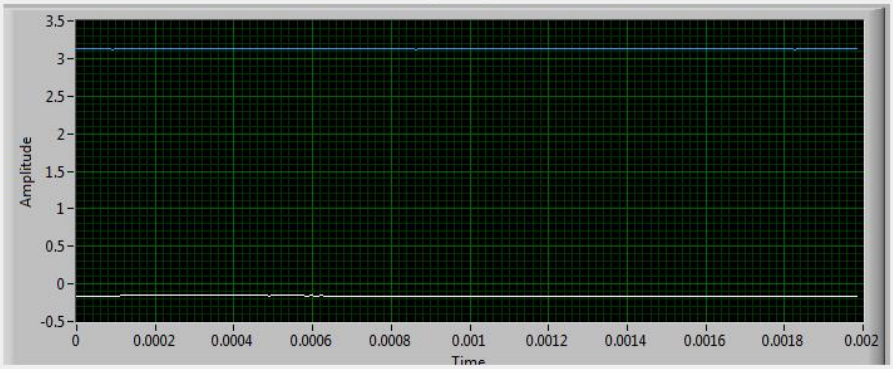
```
dc =

    0.8953    0.8953

90.PNG

dc =

    0.0541    0.0500


dc =

    0.9482    0.9476
```



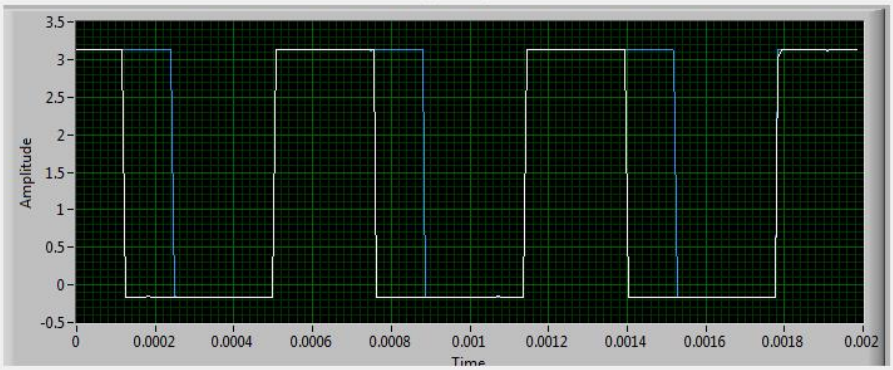

-10.PNG, color 1, DC=0.5527
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

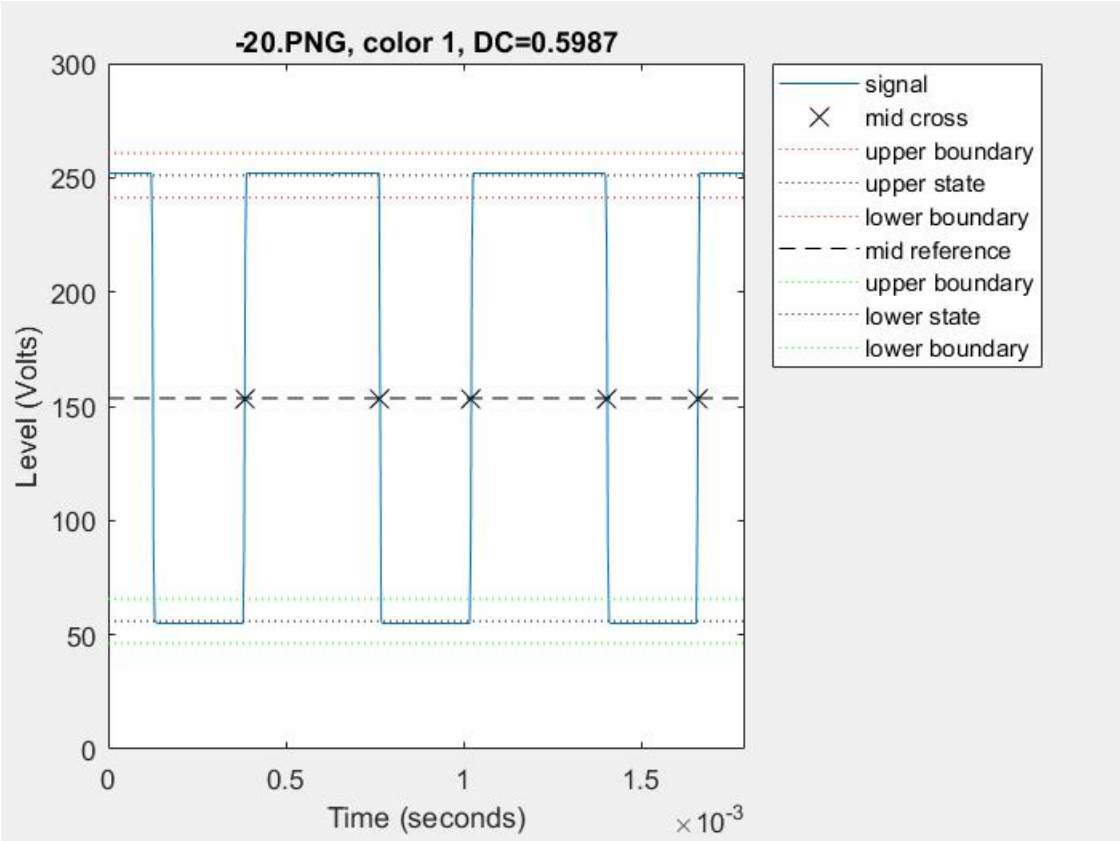

-10.PNG, color 2, DC=0.4551
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

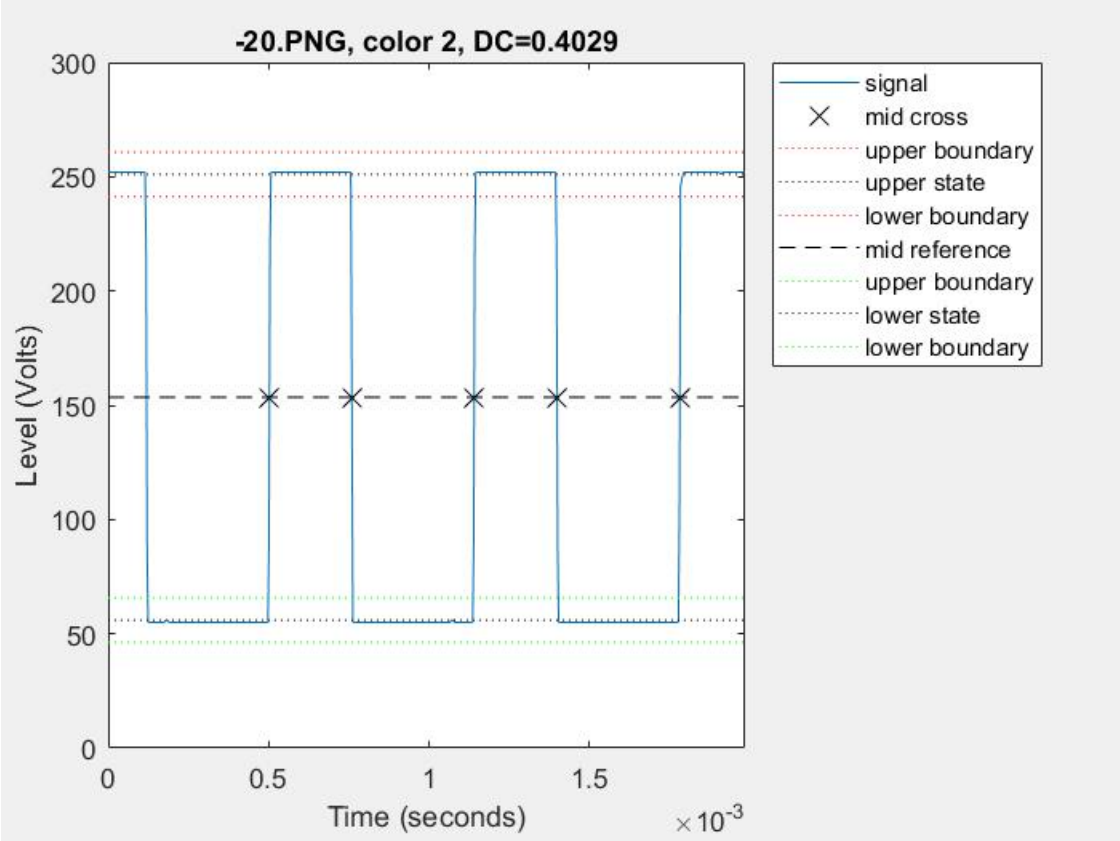
-100.PNG

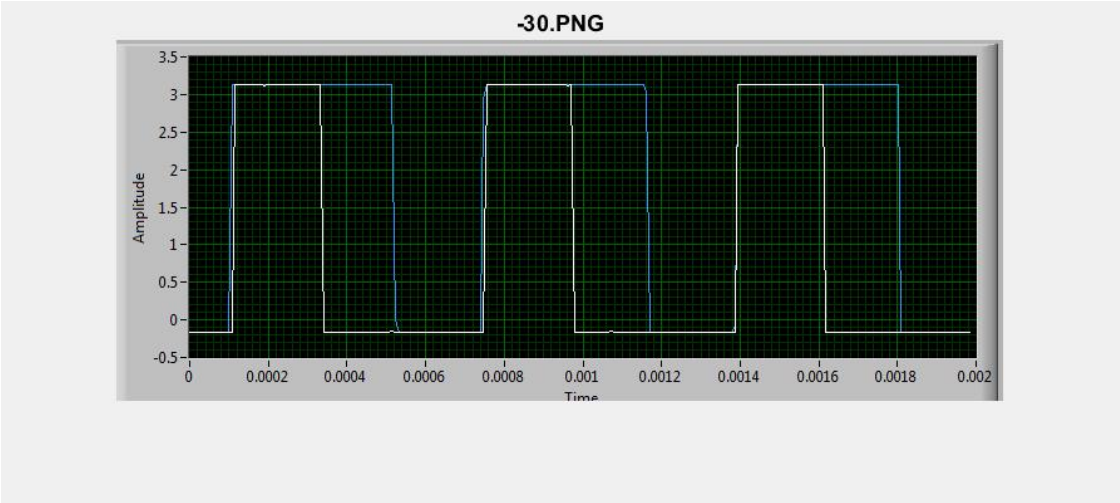


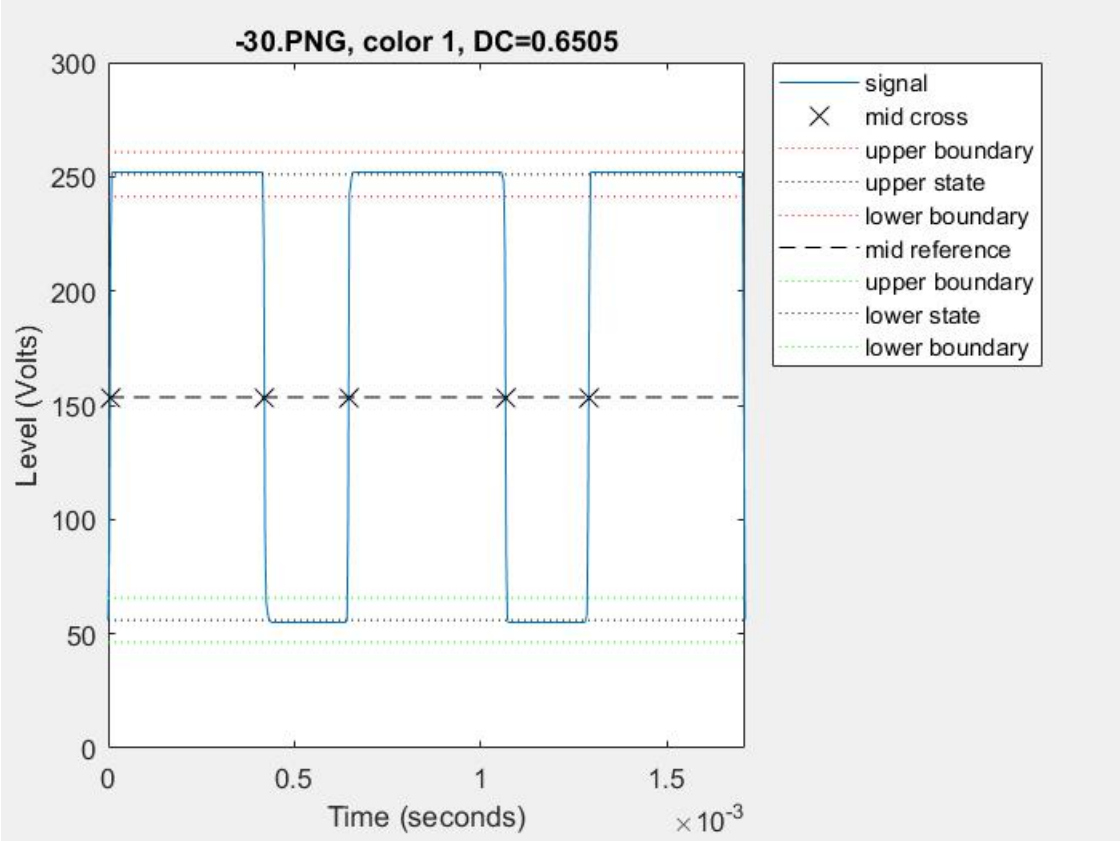
-20.PNG

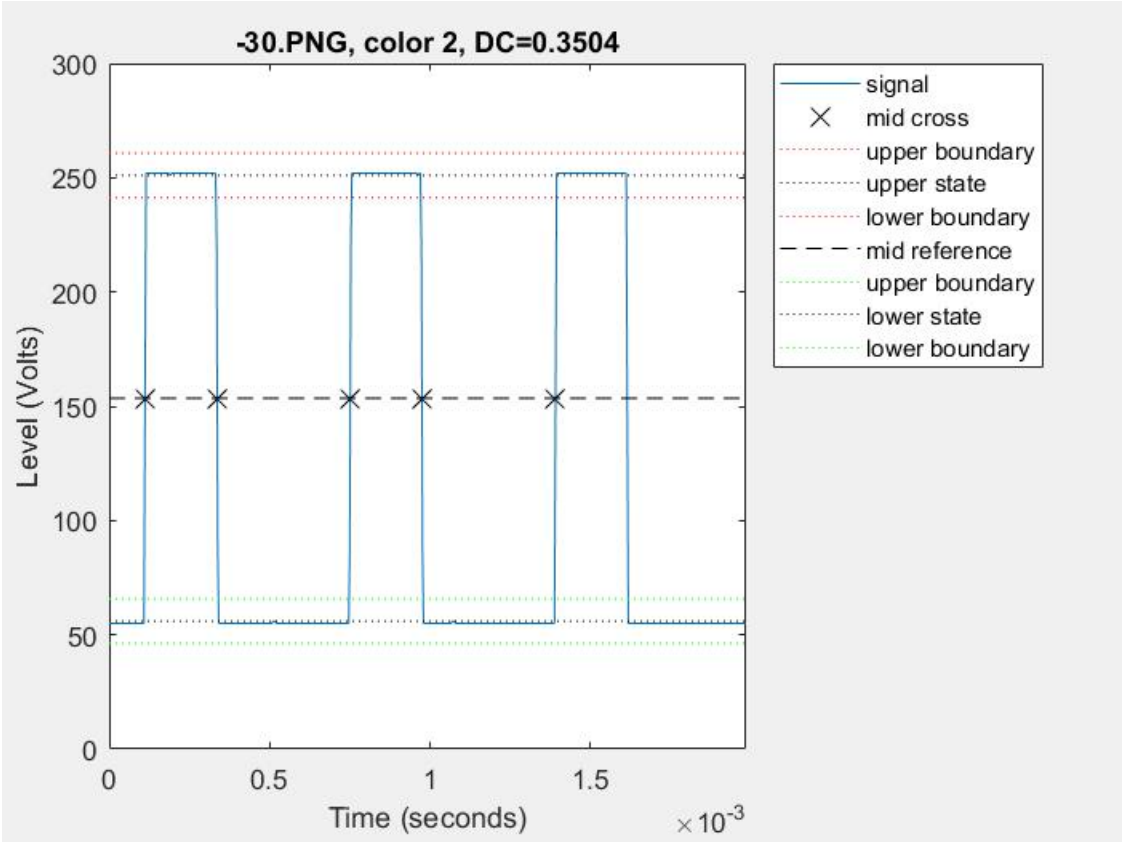


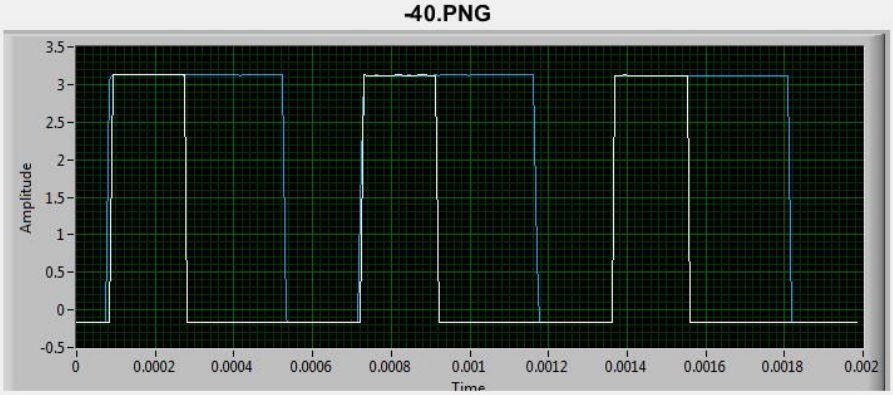

-20.PNG, color 1, DC=0.5987
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

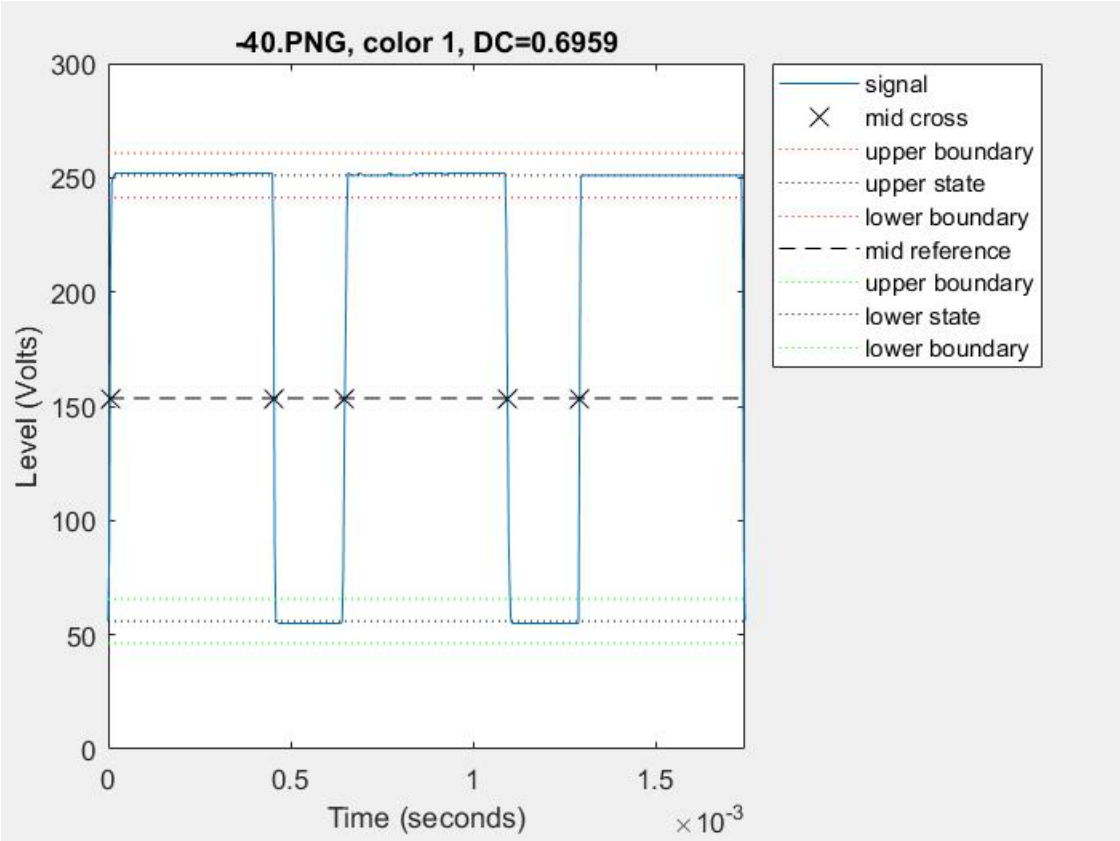

-20.PNG, color 2, DC=0.4029
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

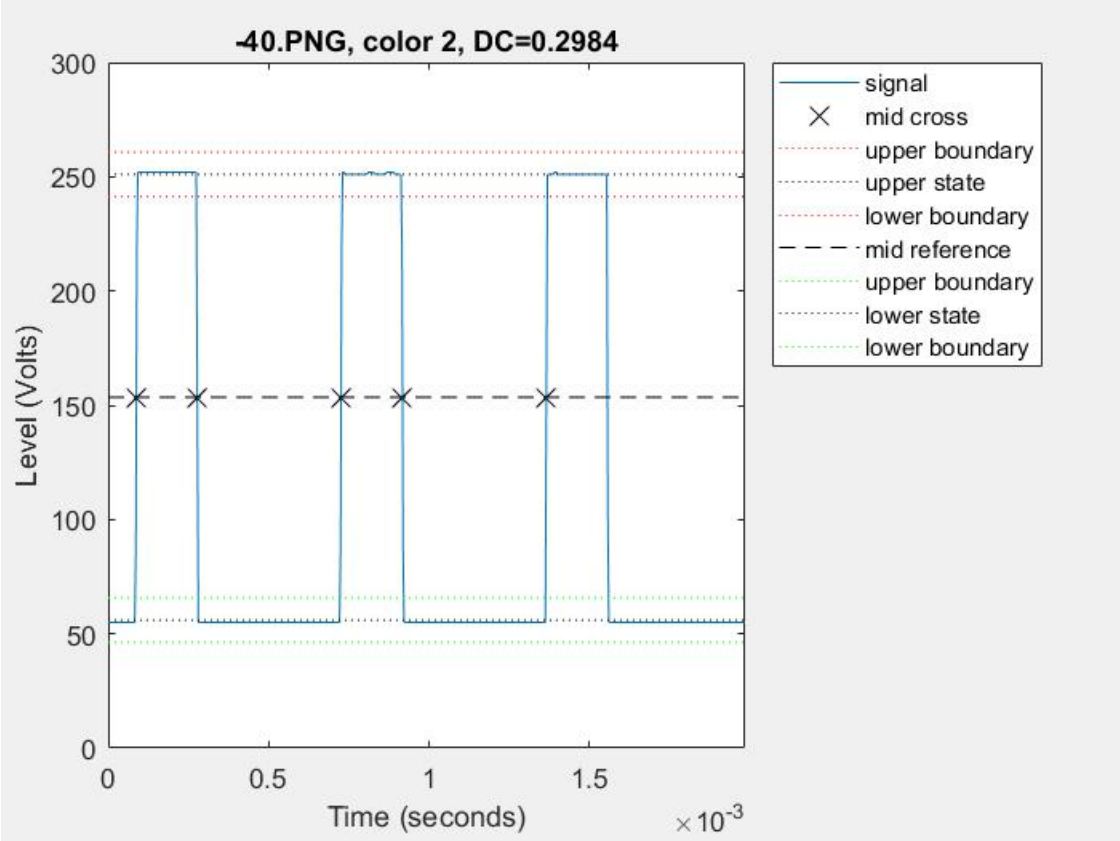

-30.PNG
Amplitude
Time
3.5
3
2.5
2
1.5
1
0.5
0
-0.5
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
0.0016
0.0018
0.002

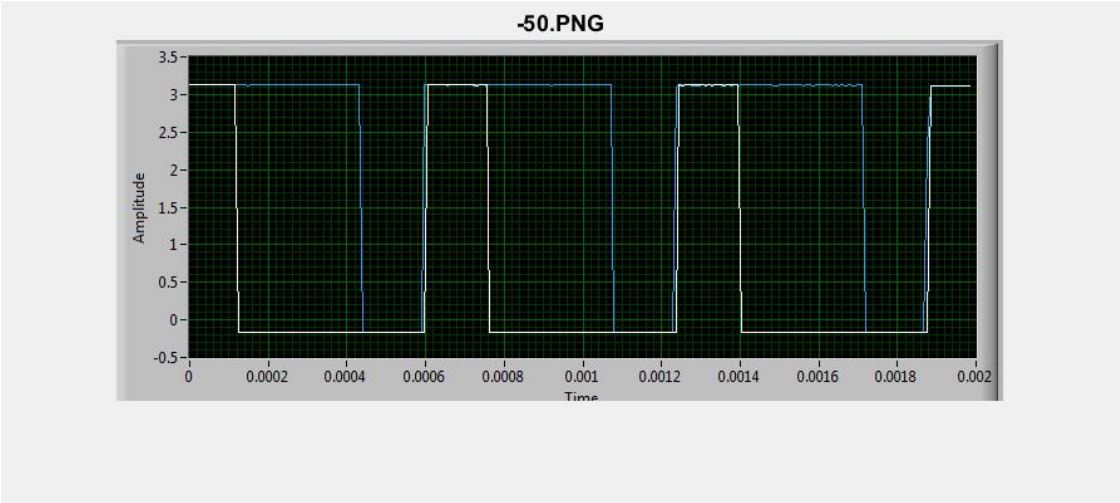

-30.PNG, color 1, DC=0.6505
Level (Volts)
Time (seconds)
×10^-3
300
250
200
150
100
50
0
0
0.5
1
1.5
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

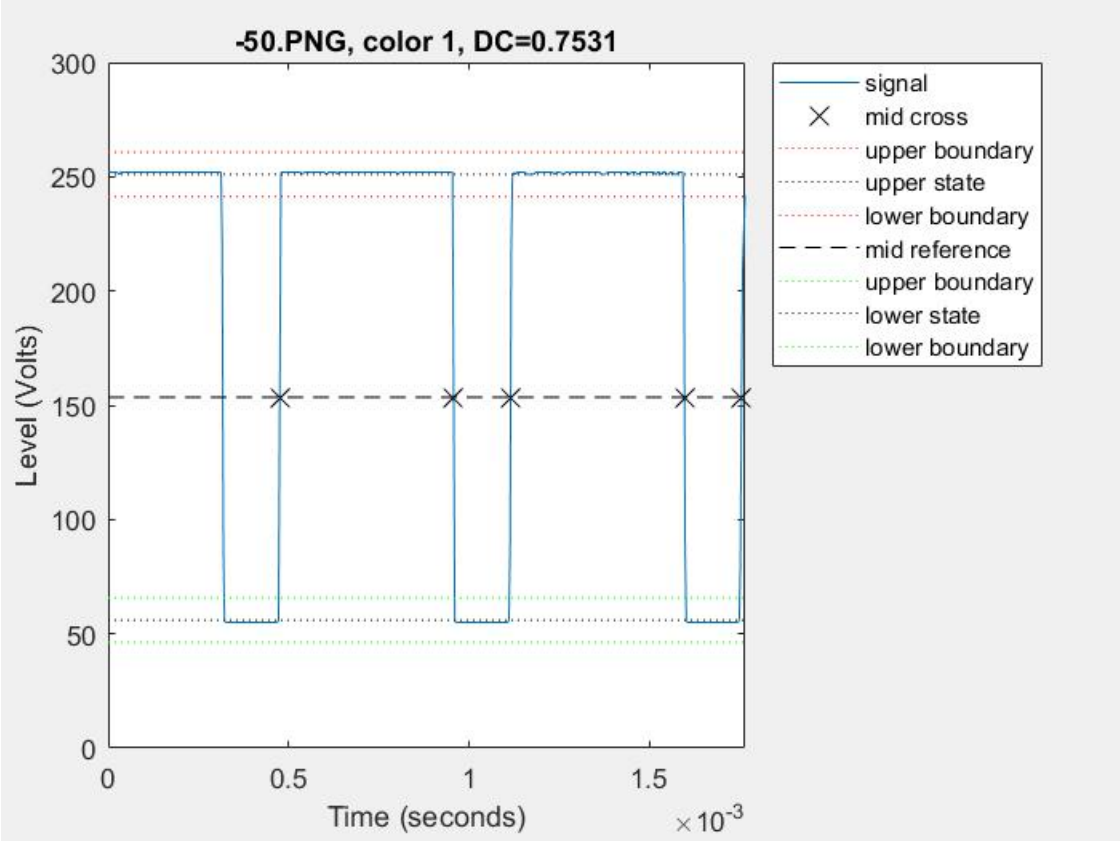

-30.PNG, color 2, DC=0.3504
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

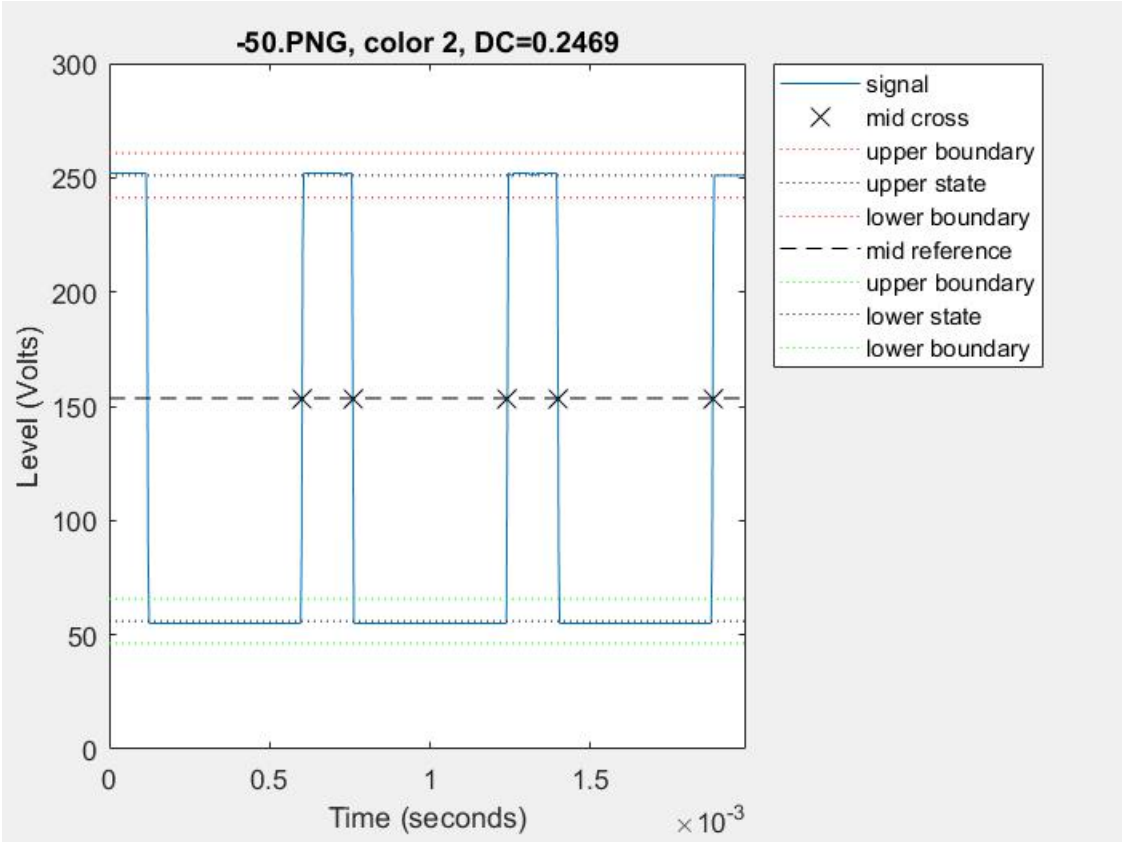

-40.PNG
Amplitude
Time

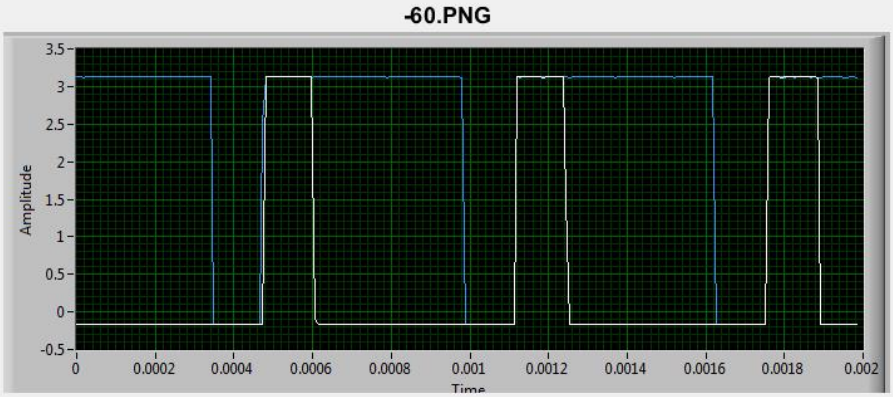

-40.PNG, color 1, DC=0.6959
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

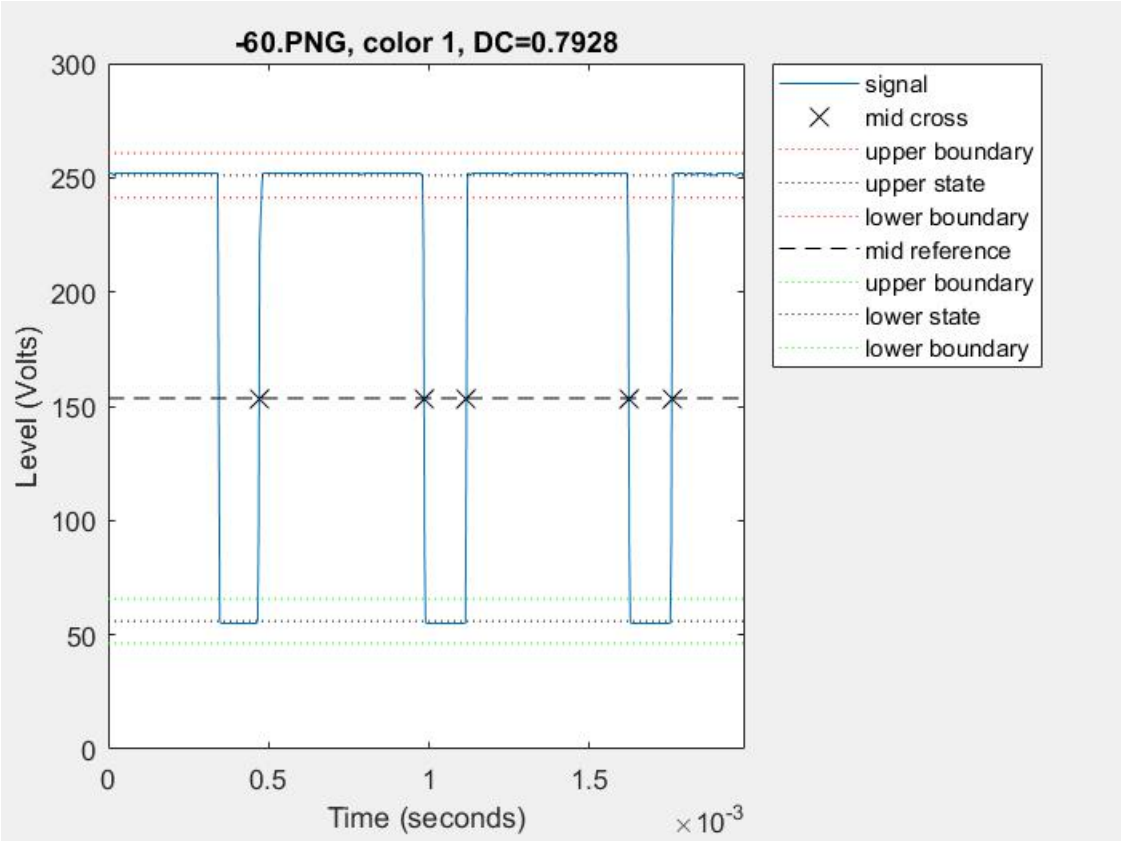

-40.PNG, color 2, DC=0.2984
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

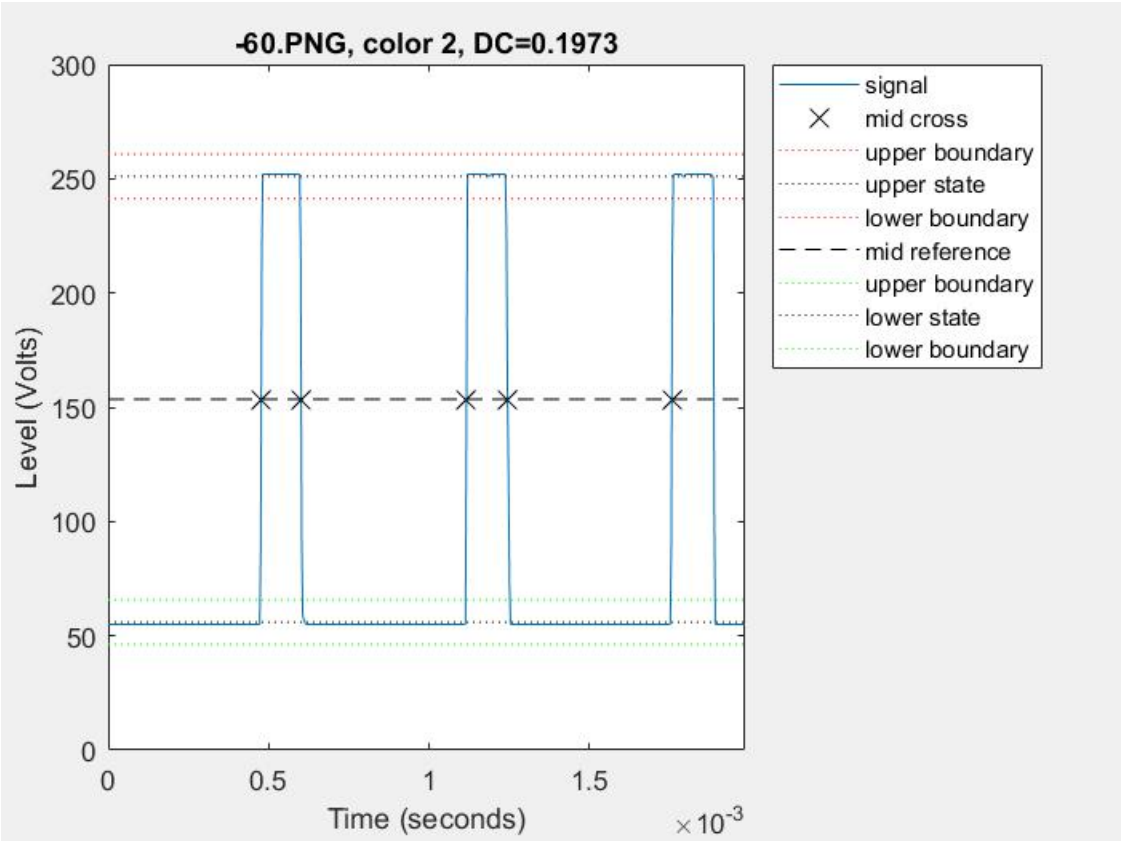

-50.PNG
Amplitude
Time
3.5
3
2.5
2
1.5
1
0.5
0
-0.5
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
0.0016
0.0018
0.002

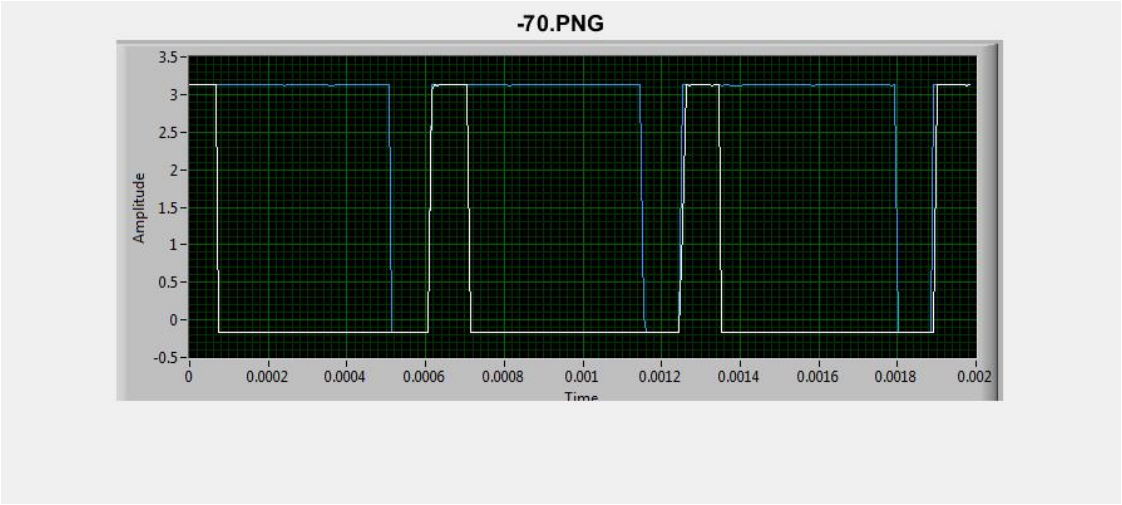

-50.PNG, color 1, DC=0.7531
Level (Volts)
Time (seconds)
×10^-3
300
250
200
150
100
50
0
0
0.5
1
1.5
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

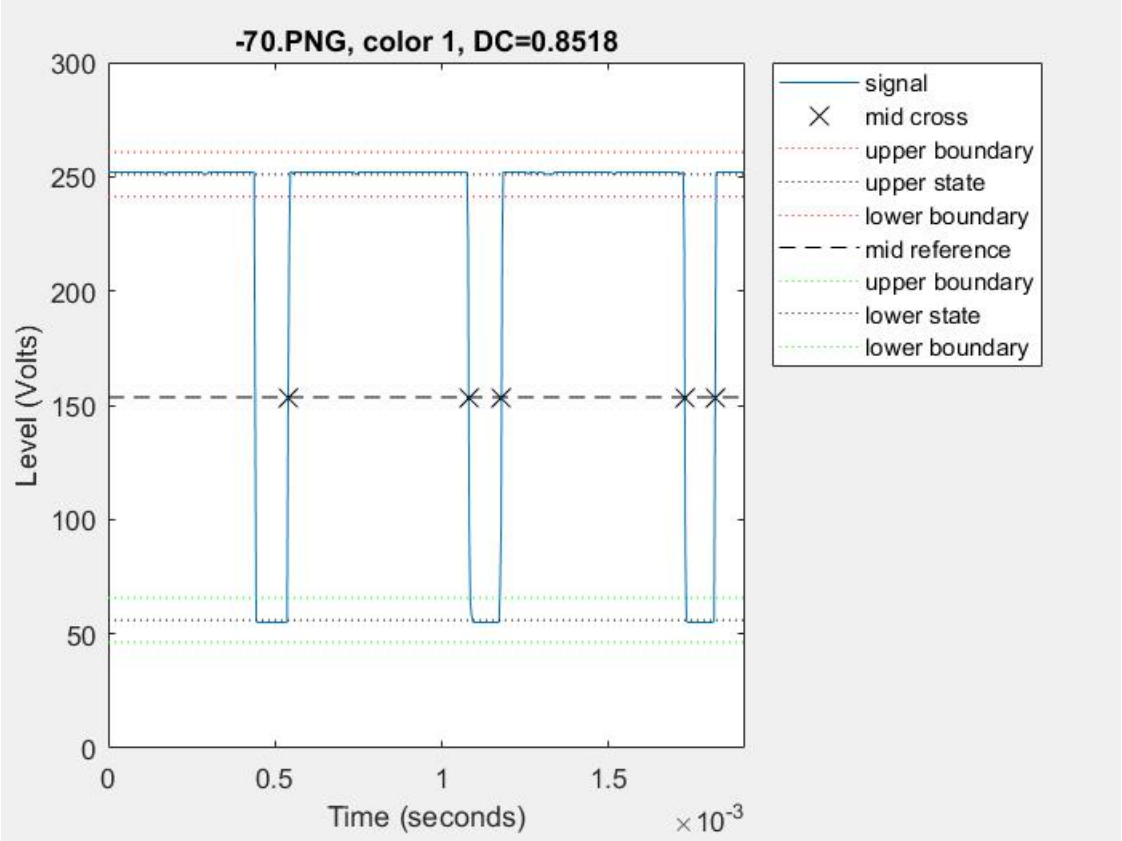

-50.PNG, color 2, DC=0.2469
Level (Volts)
Time (seconds)
$\times 10^{-3}$
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

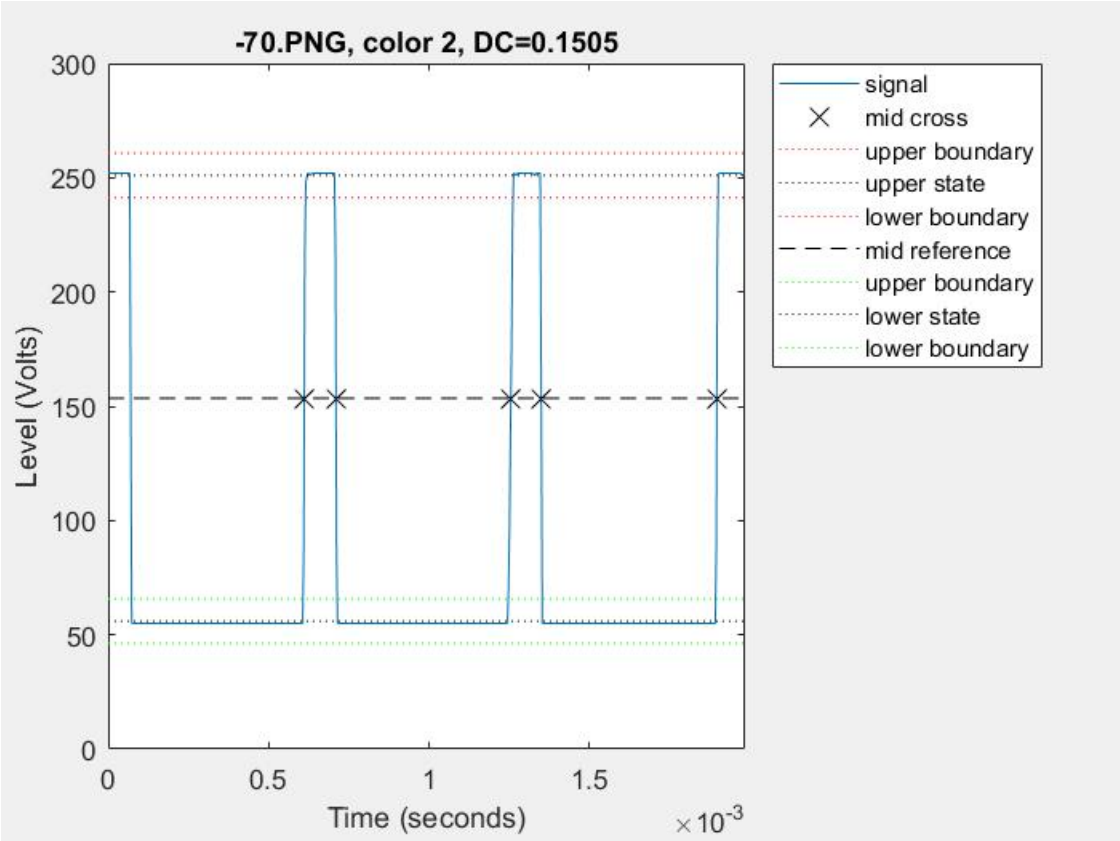

-60.PNG
Amplitude
Time

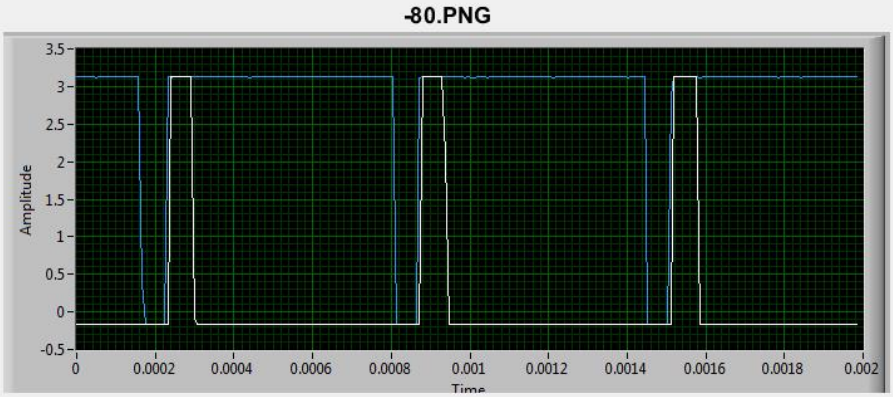

-60.PNG, color 1, DC=0.7928
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

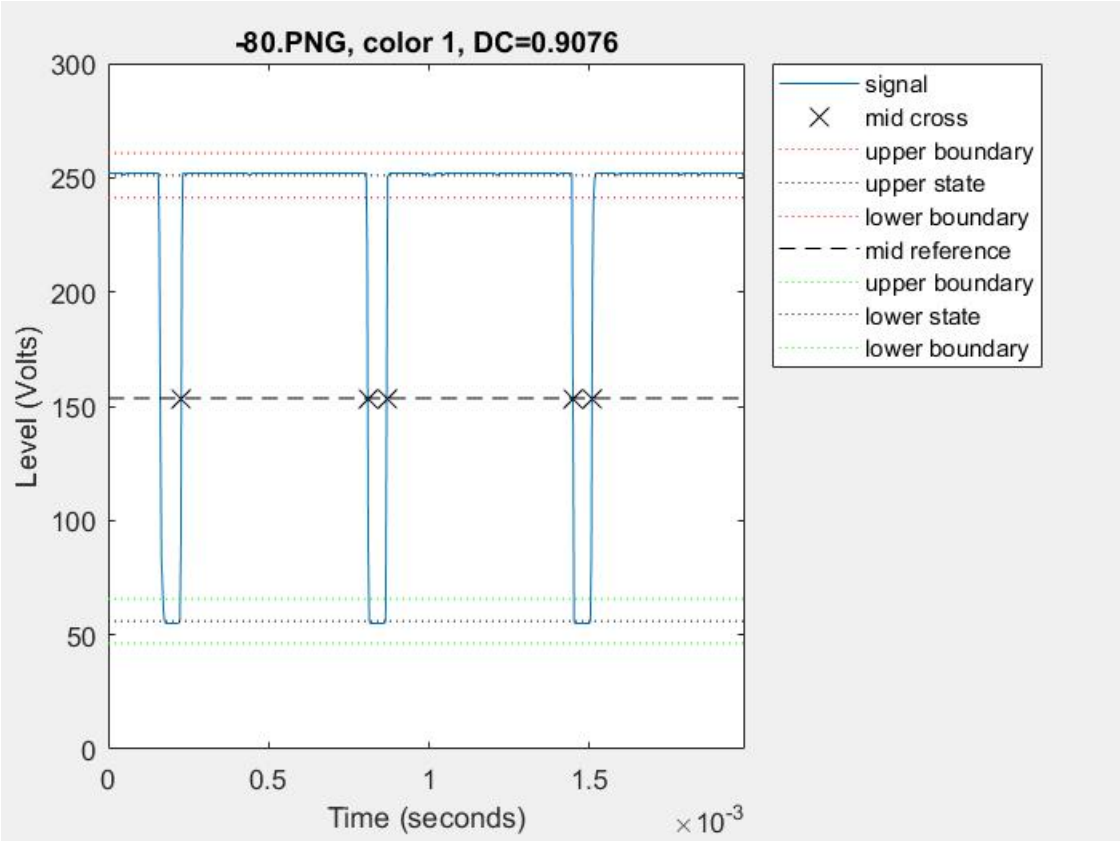

-60.PNG, color 2, DC=0.1973
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

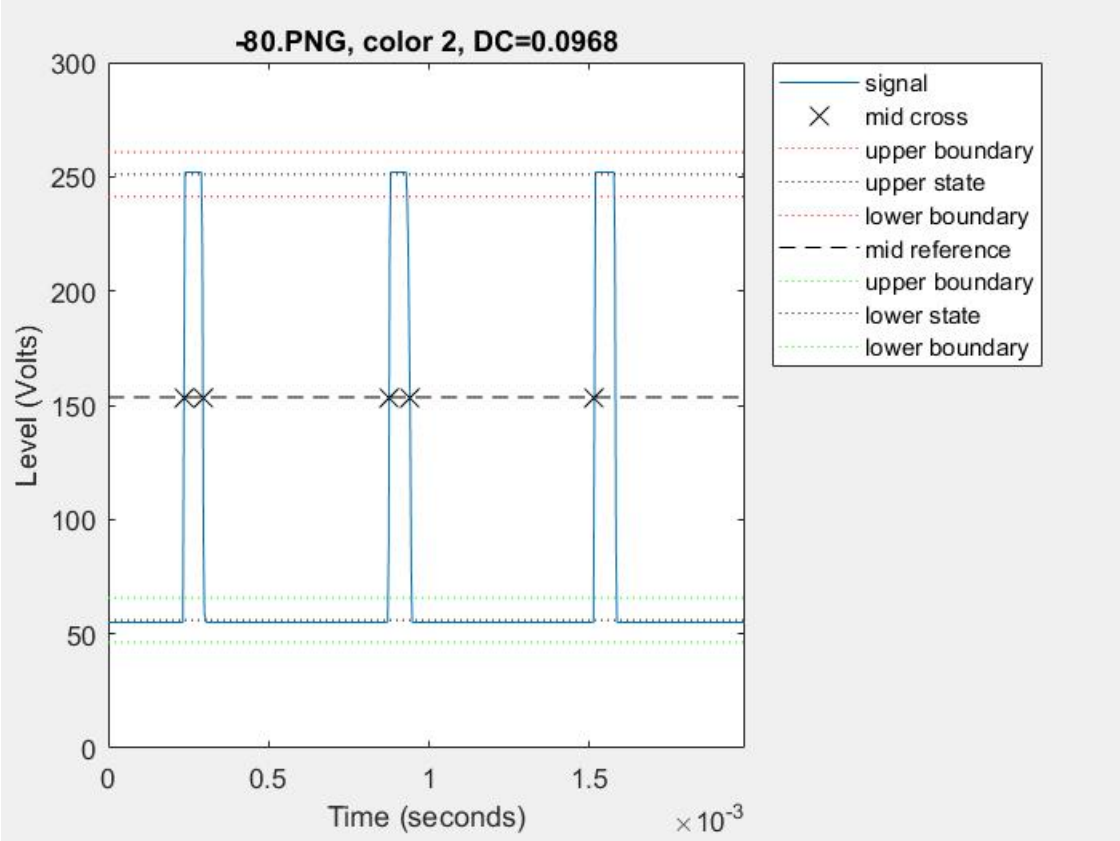

-70.PNG
Amplitude
Time
3.5
3
2.5
2
1.5
1
0.5
0
-0.5
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
0.0016
0.0018
0.002

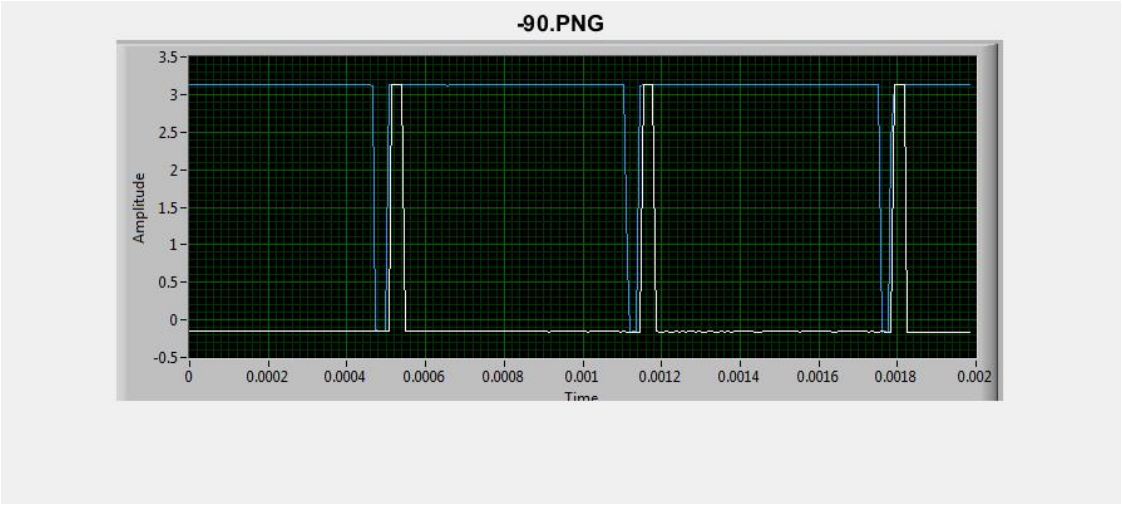

-70.PNG, color 1, DC=0.8518
Level (Volts)
Time (seconds)
×10^-3
300
250
200
150
100
50
0
0
0.5
1
1.5
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

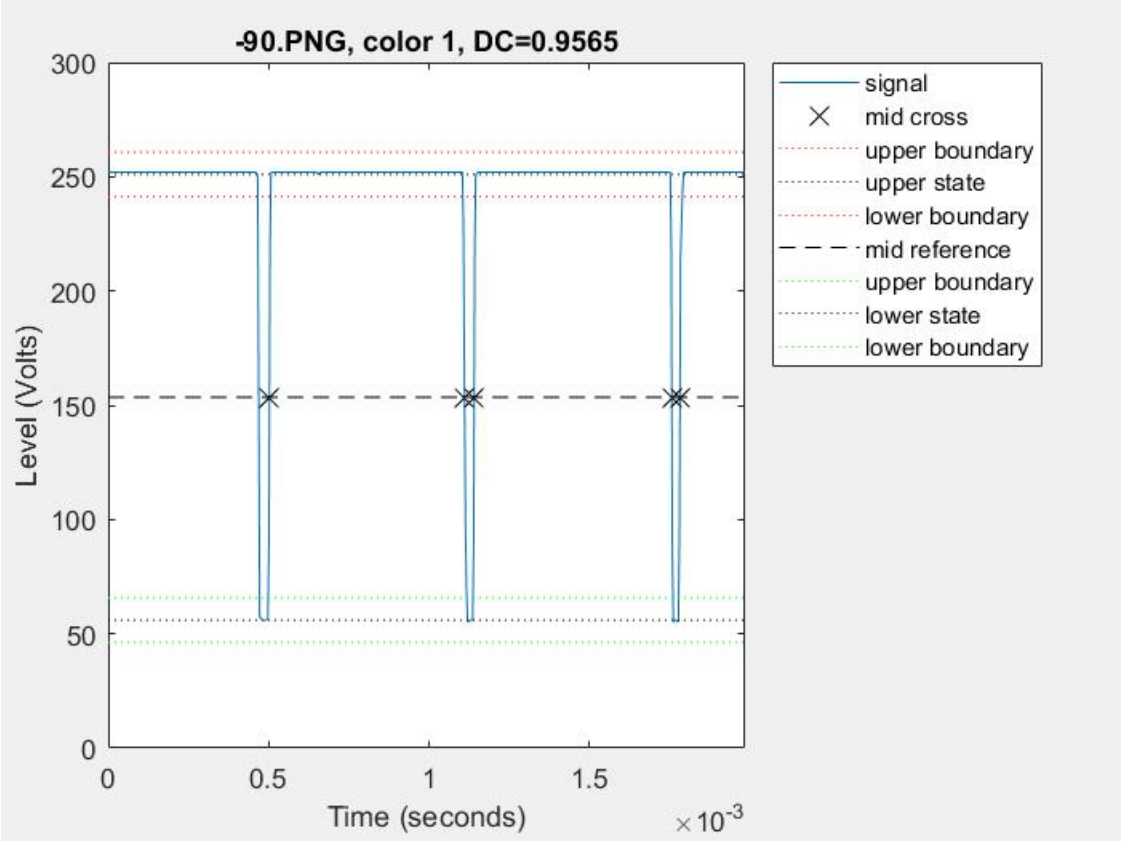

-70.PNG, color 2, DC=0.1505
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

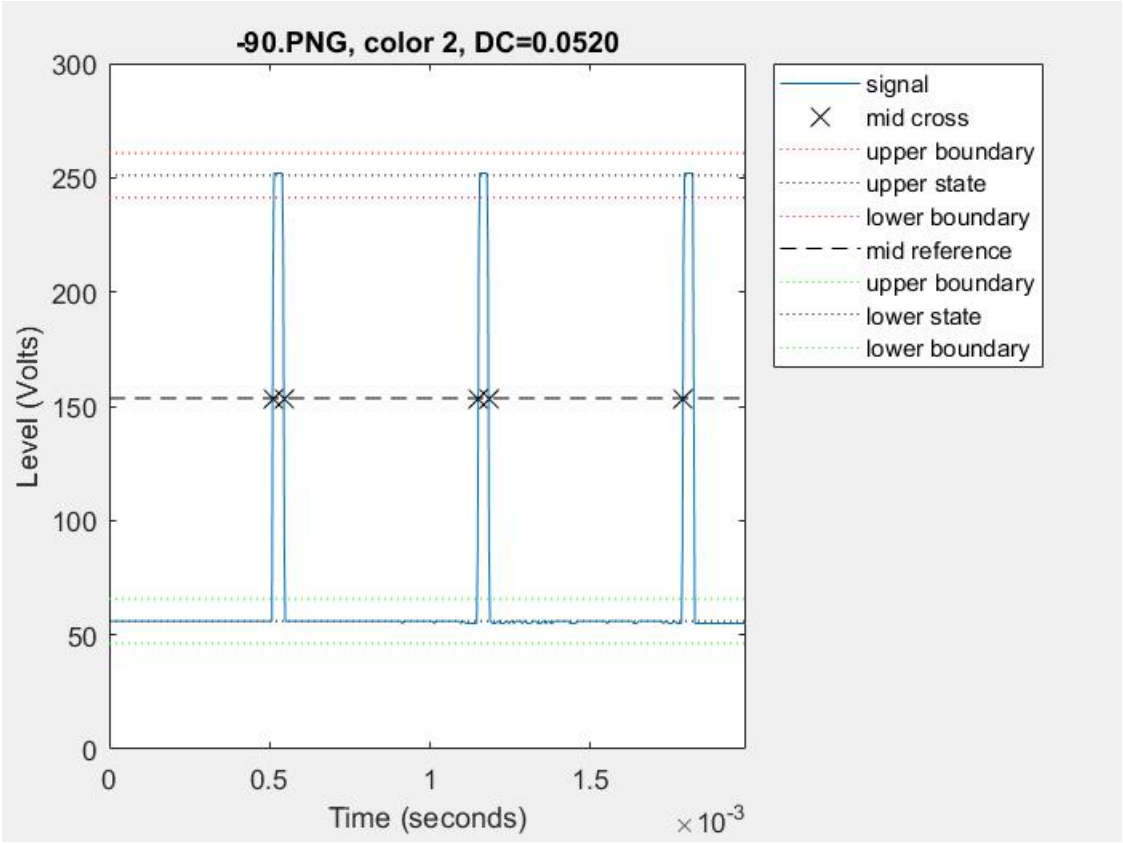

-80.PNG
Amplitude
Time

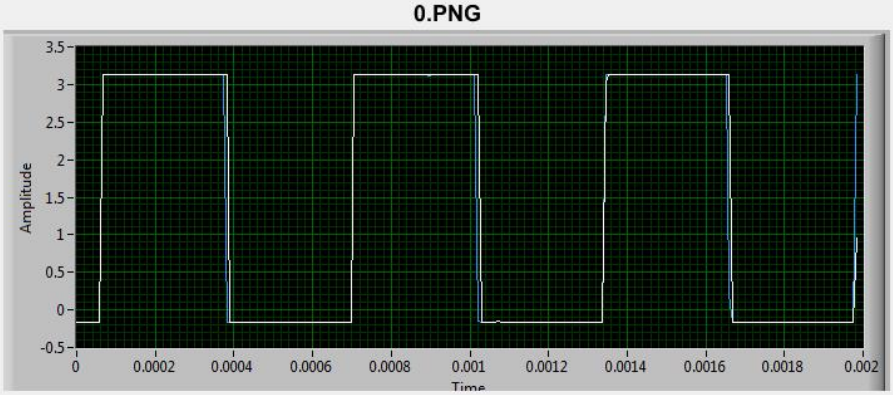

-80.PNG, color 1, DC=0.9076
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

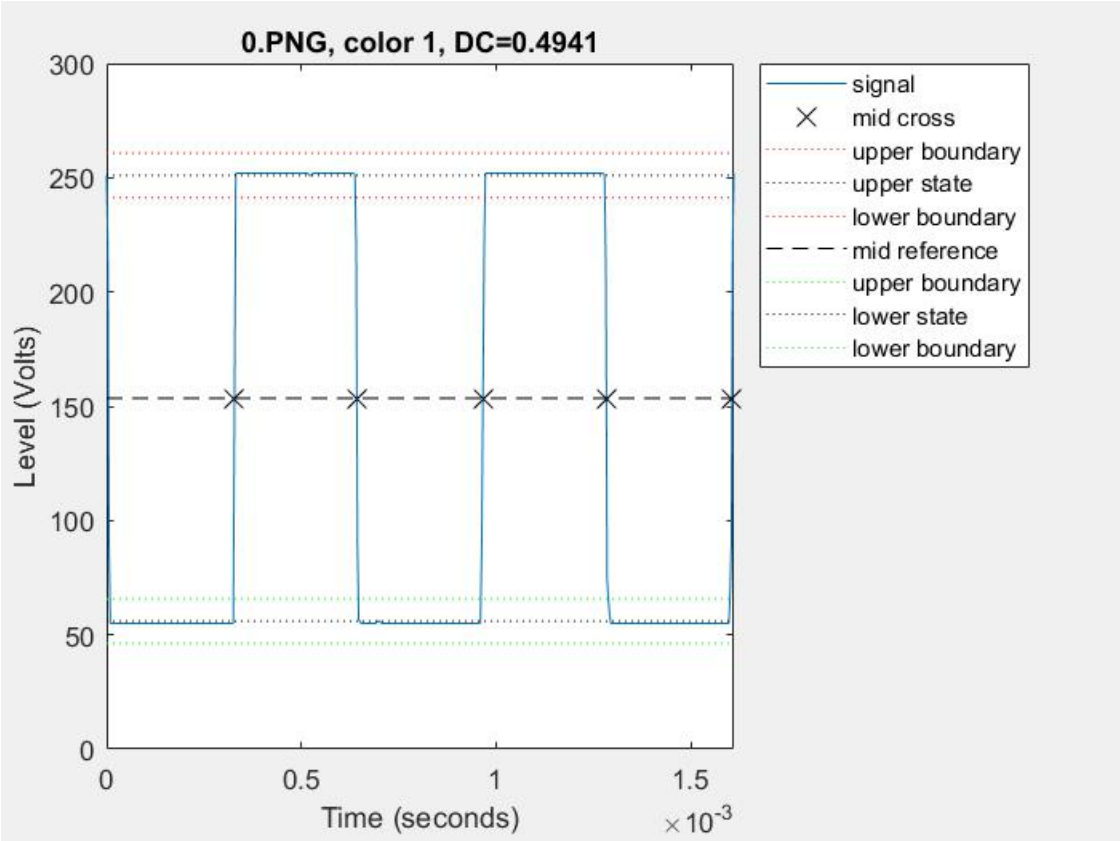

-80.PNG, color 2, DC=0.0968
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

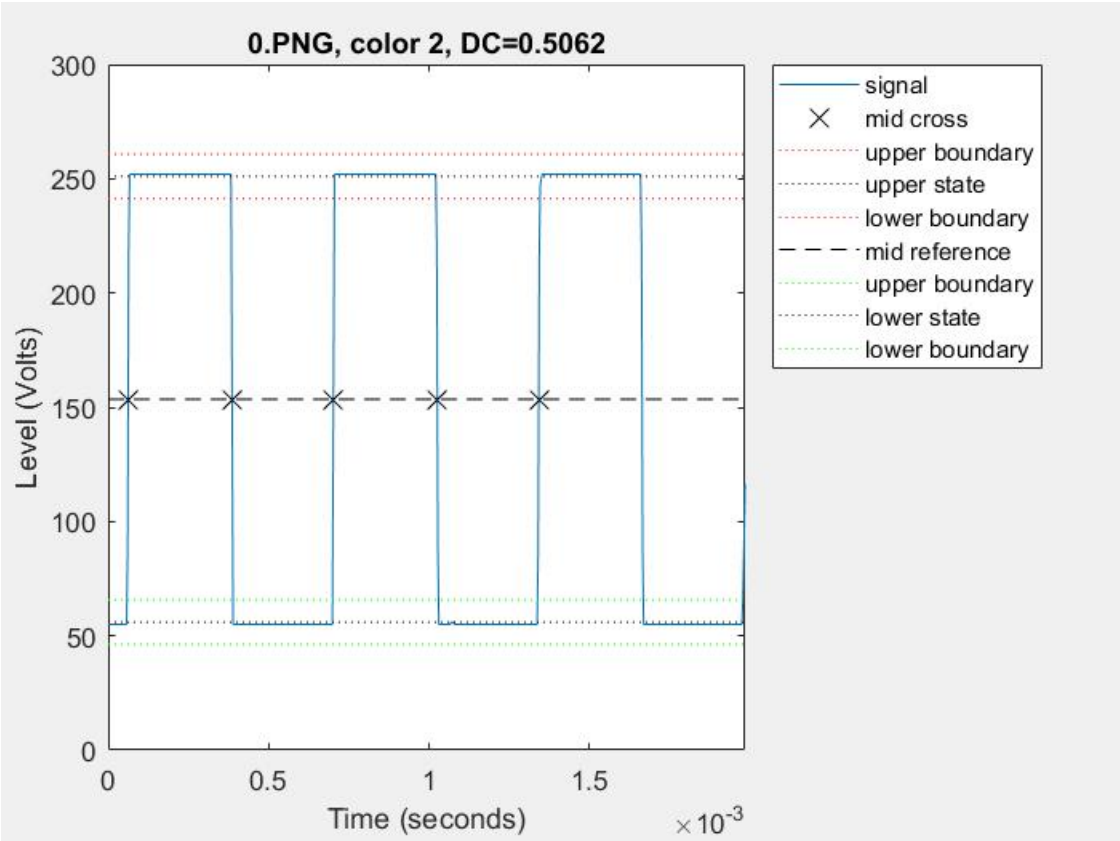

-90.PNG
Amplitude
Time
3.5
3
2.5
2
1.5
1
0.5
0
-0.5
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
0.0016
0.0018
0.002

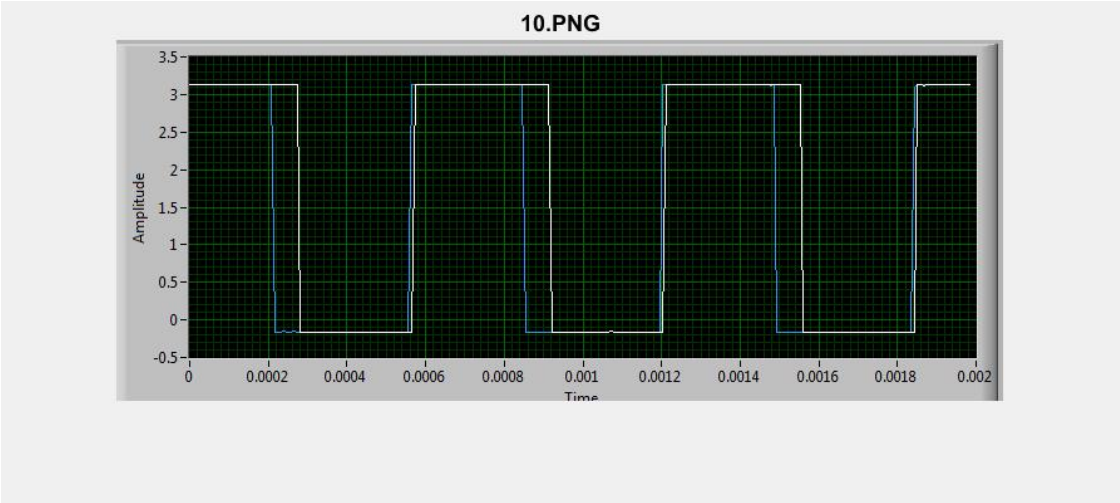

-90.PNG, color 1, DC=0.9565
Level (Volts)
Time (seconds)
×10^-3
300
250
200
150
100
50
0
0
0.5
1
1.5
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

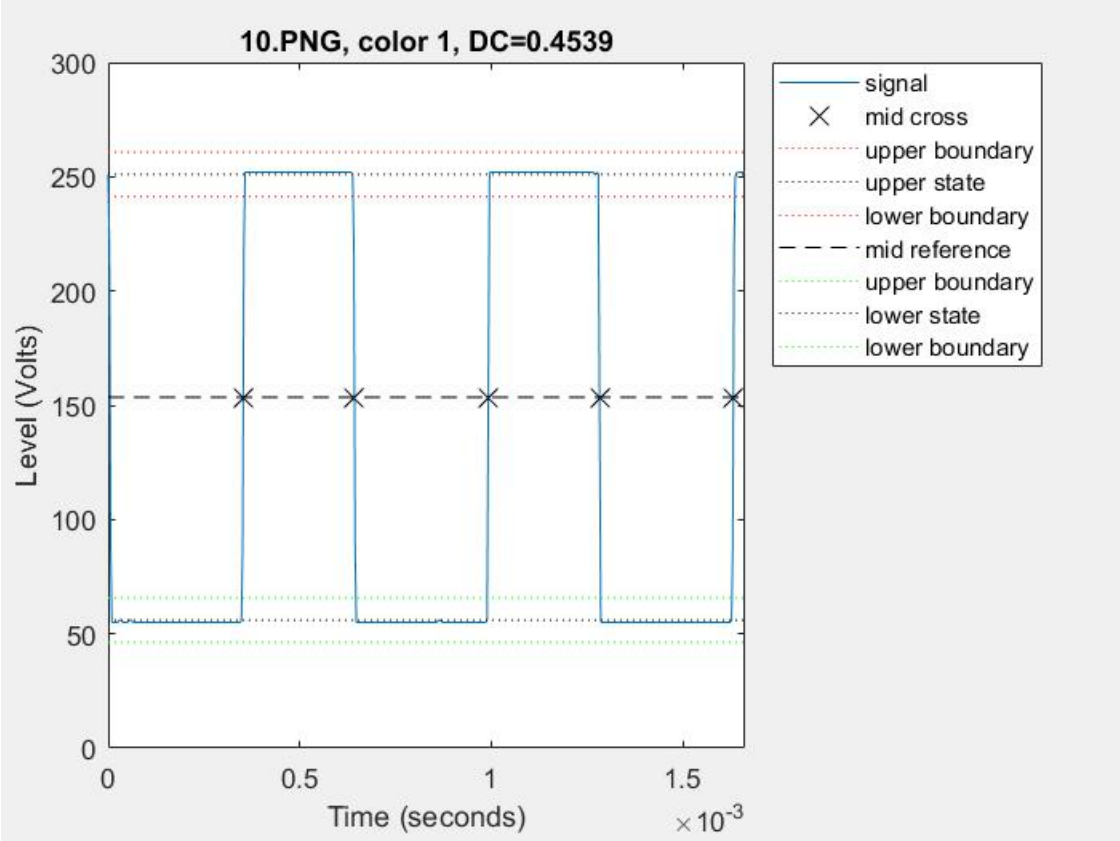

-90.PNG, color 2, DC=0.0520
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

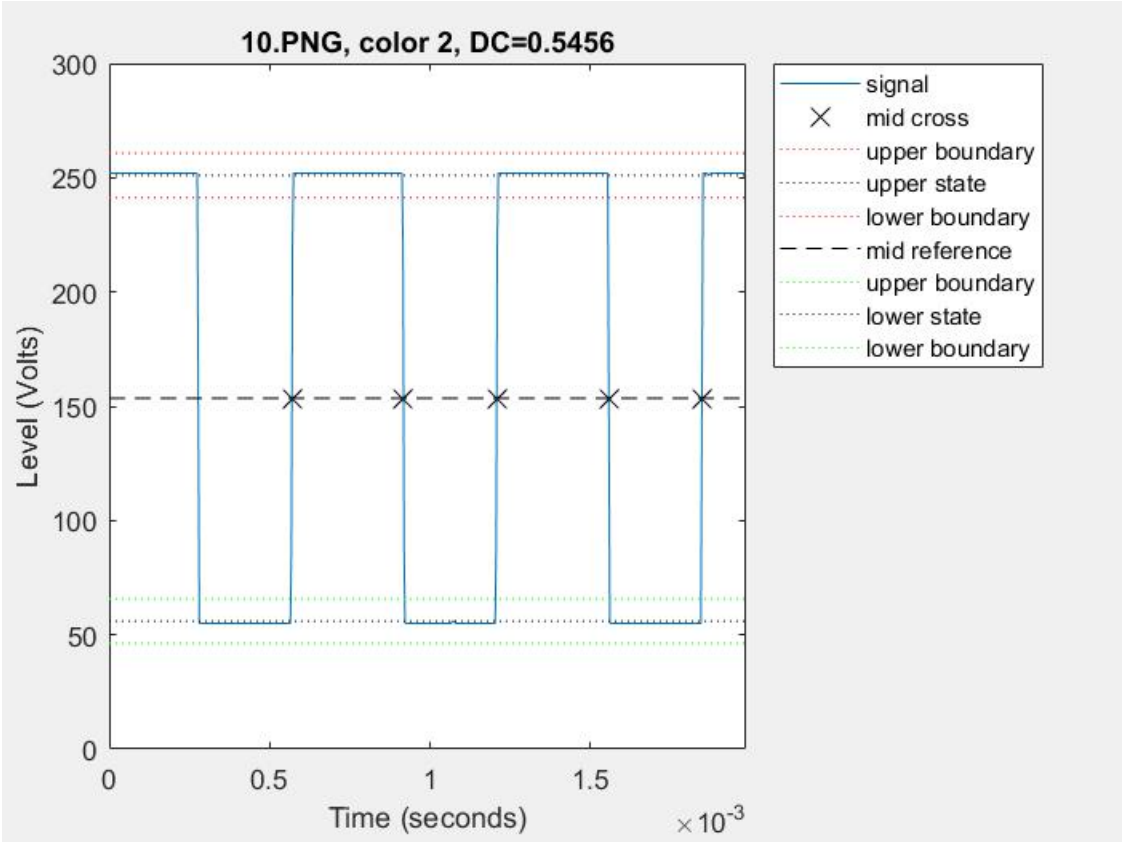

0.PNG
Amplitude
Time

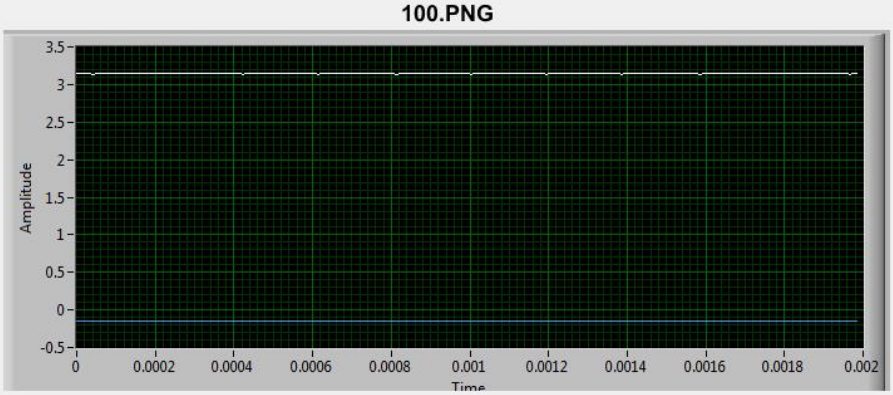

0.PNG, color 1, DC=0.4941
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

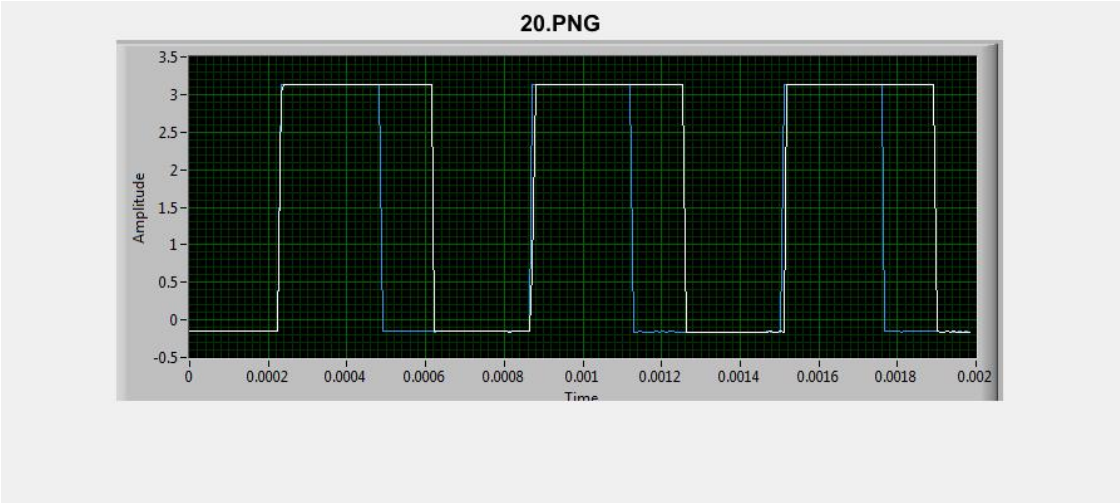

0.PNG, color 2, DC=0.5062
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

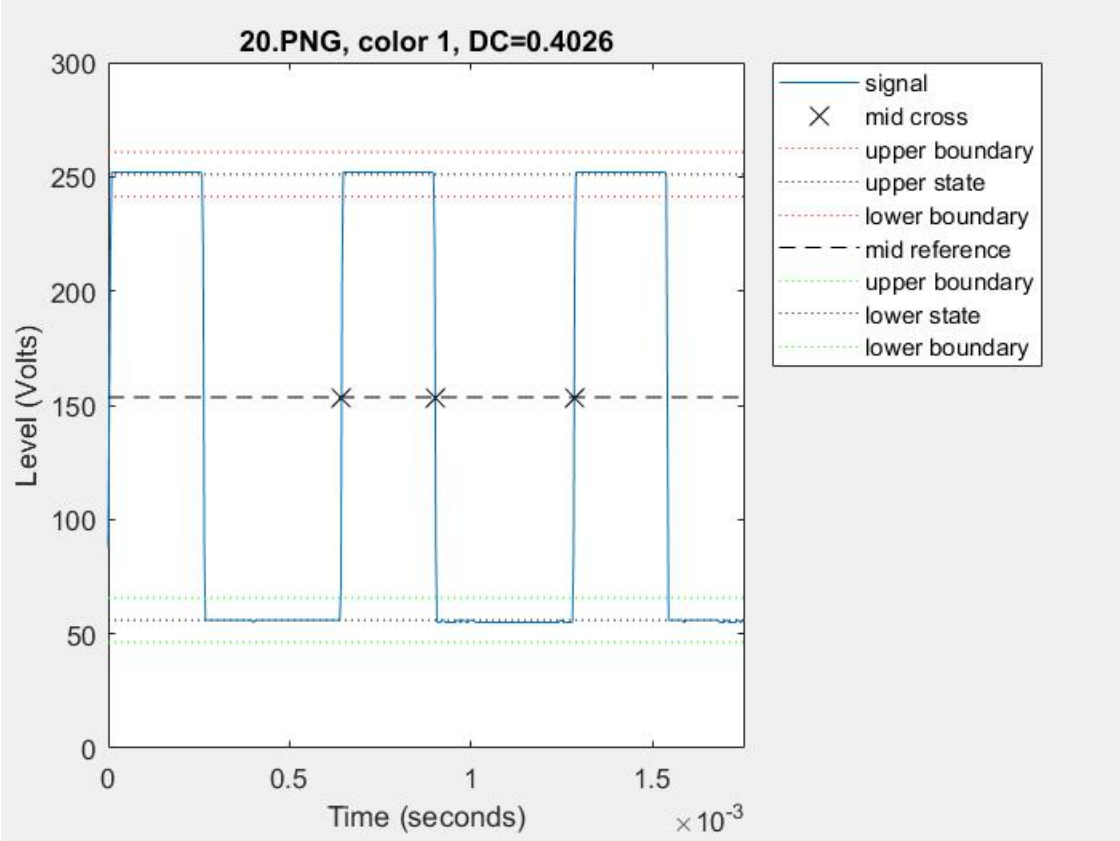

10.PNG
Amplitude
Time
3.5
3
2.5
2
1.5
1
0.5
0
-0.5
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
0.0016
0.0018
0.002

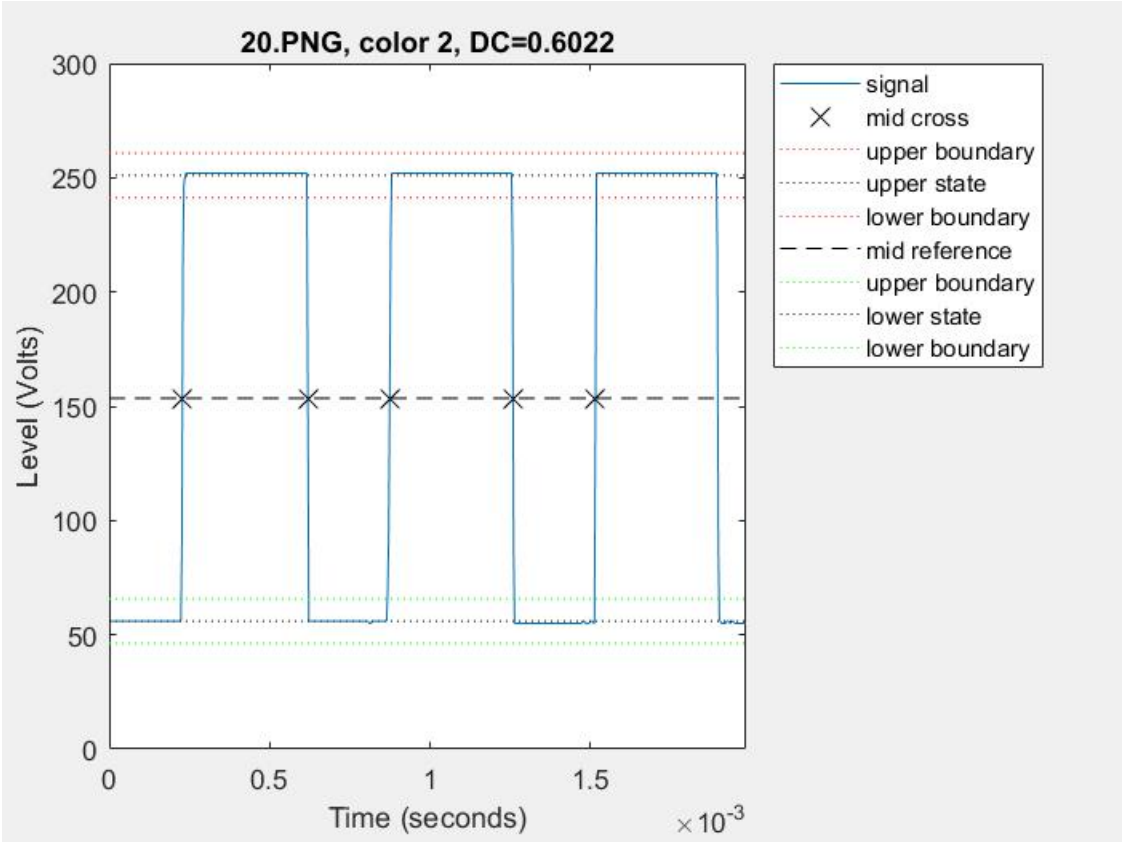

10.PNG, color 1, DC=0.4539
Level (Volts)
Time (seconds)
×10^-3
300
250
200
150
100
50
0
0
0.5
1
1.5
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

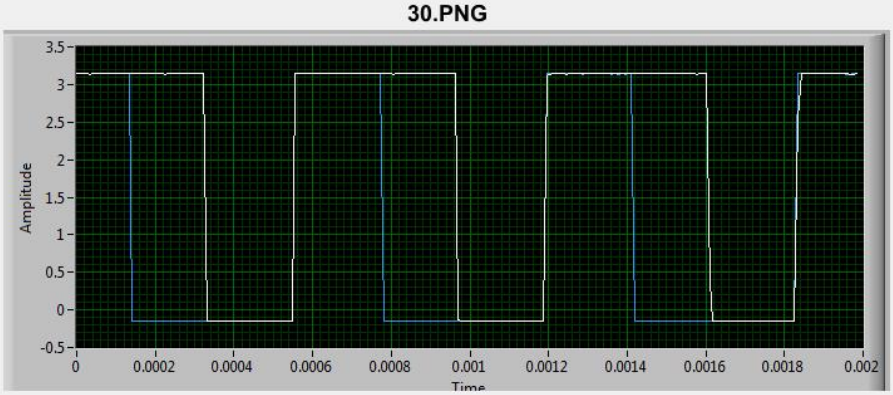

10.PNG, color 2, DC=0.5456
300
250
200
150
100
50
0
Level (Volts)
0
0.5
1
1.5
Time (seconds)
×10-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

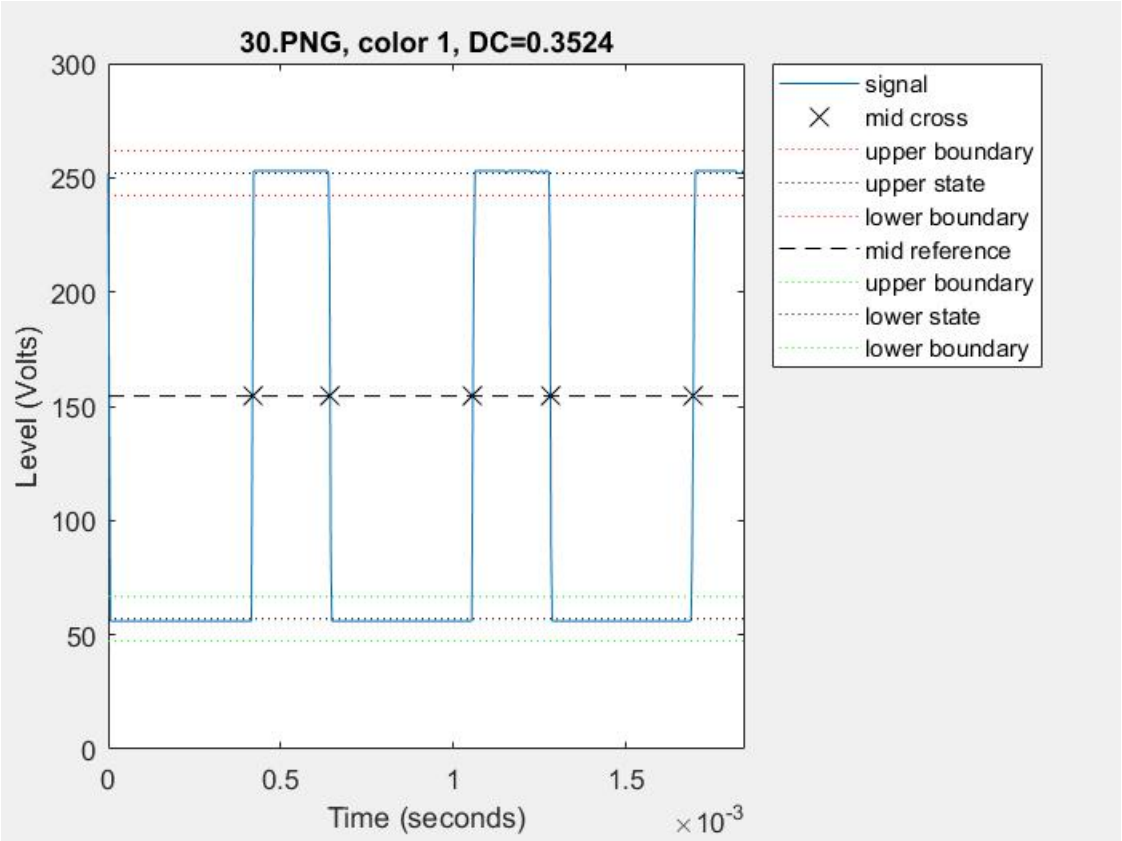

100.PNG
Amplitude
3.5
3
2.5
2
1.5
1
0.5
0
-0.5
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
0.0016
0.0018
0.002
Time

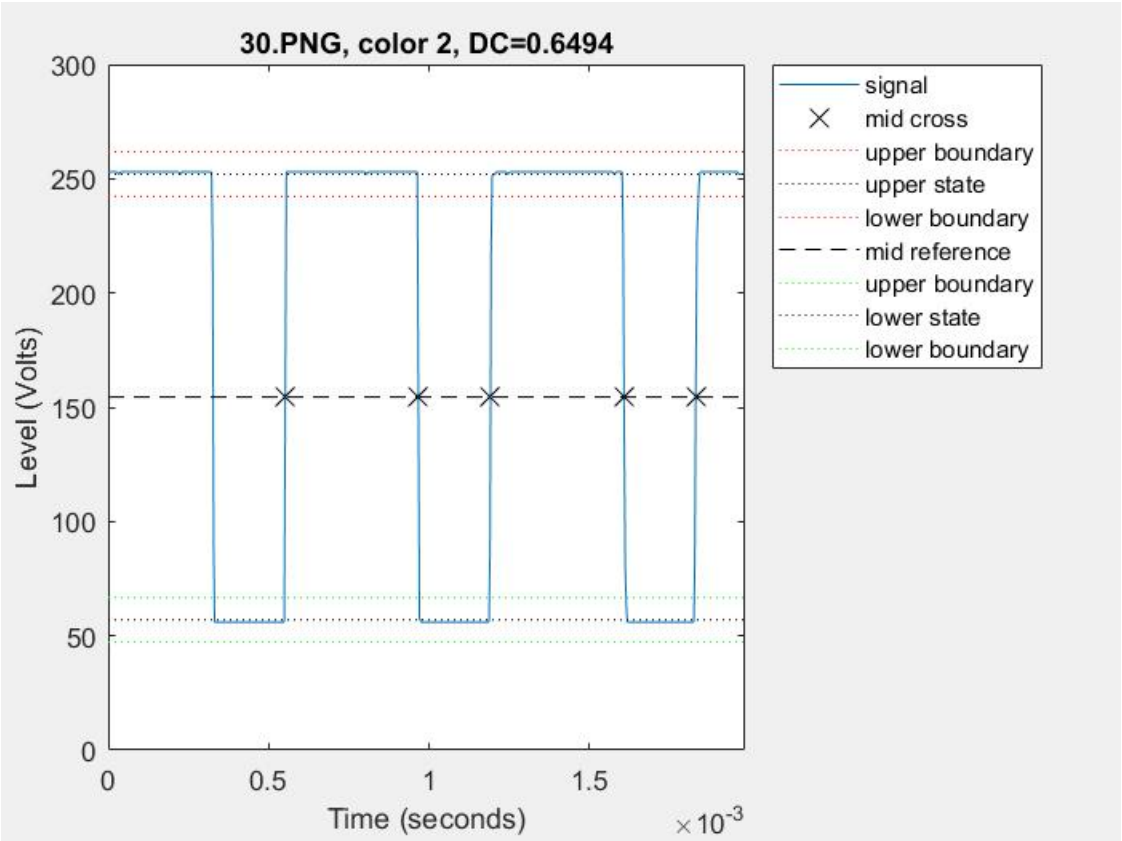

20.PNG
Amplitude
Time
3.5
3
2.5
2
1.5
1
0.5
0
-0.5
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
0.0016
0.0018
0.002

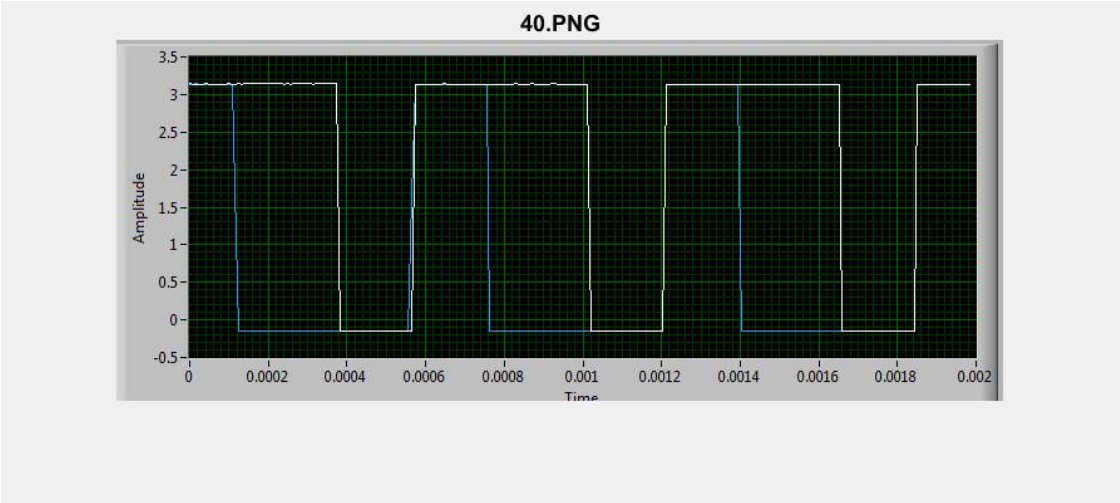

20.PNG, color 1, DC=0.4026
Level (Volts)
Time (seconds)
×10^-3
300
250
200
150
100
50
0
0
0.5
1
1.5
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

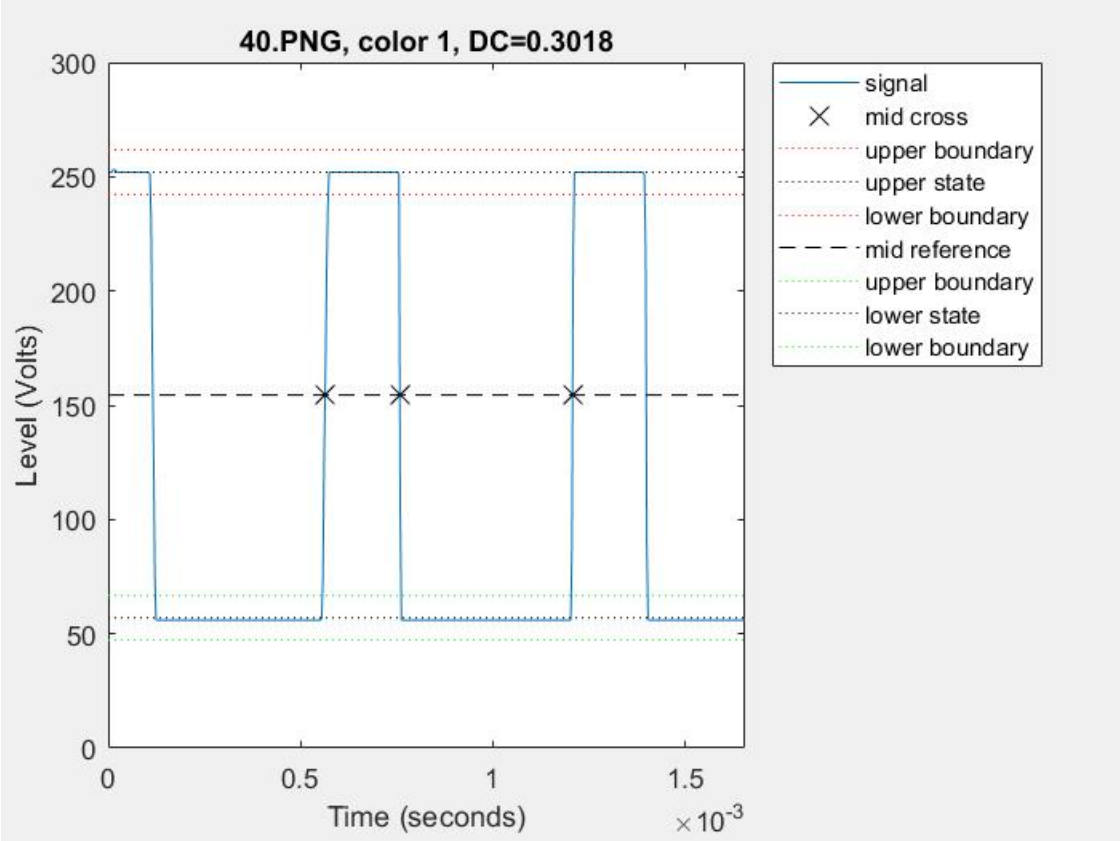

20.PNG, color 2, DC=0.6022
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

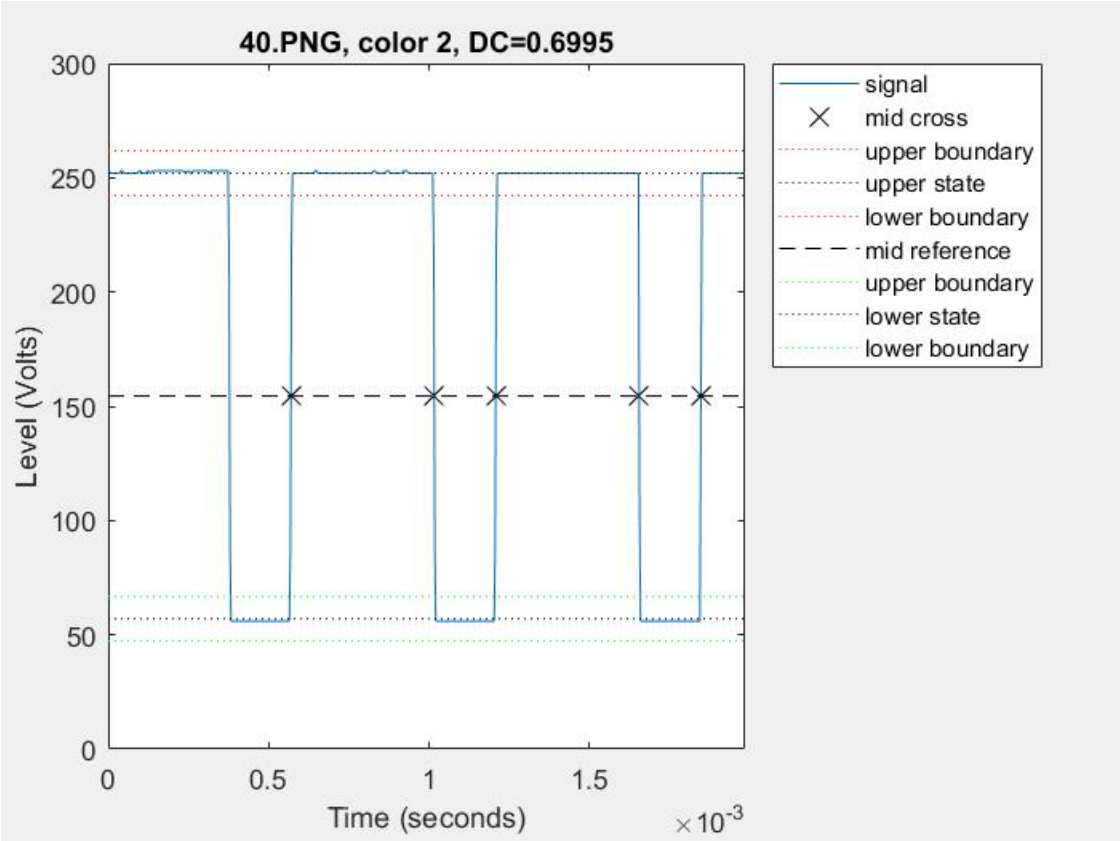

30.PNG
Amplitude
Time

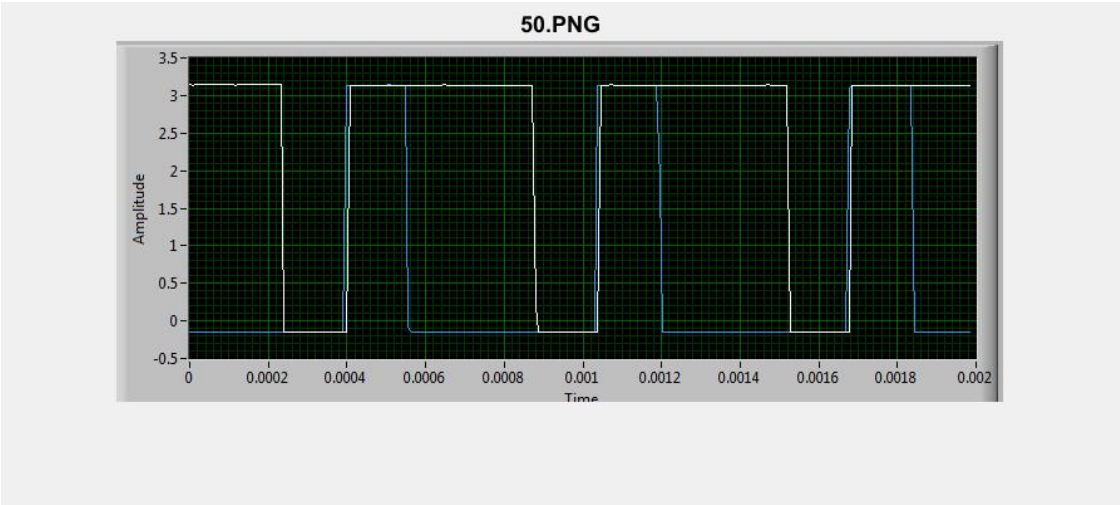

30.PNG, color 1, DC=0.3524
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

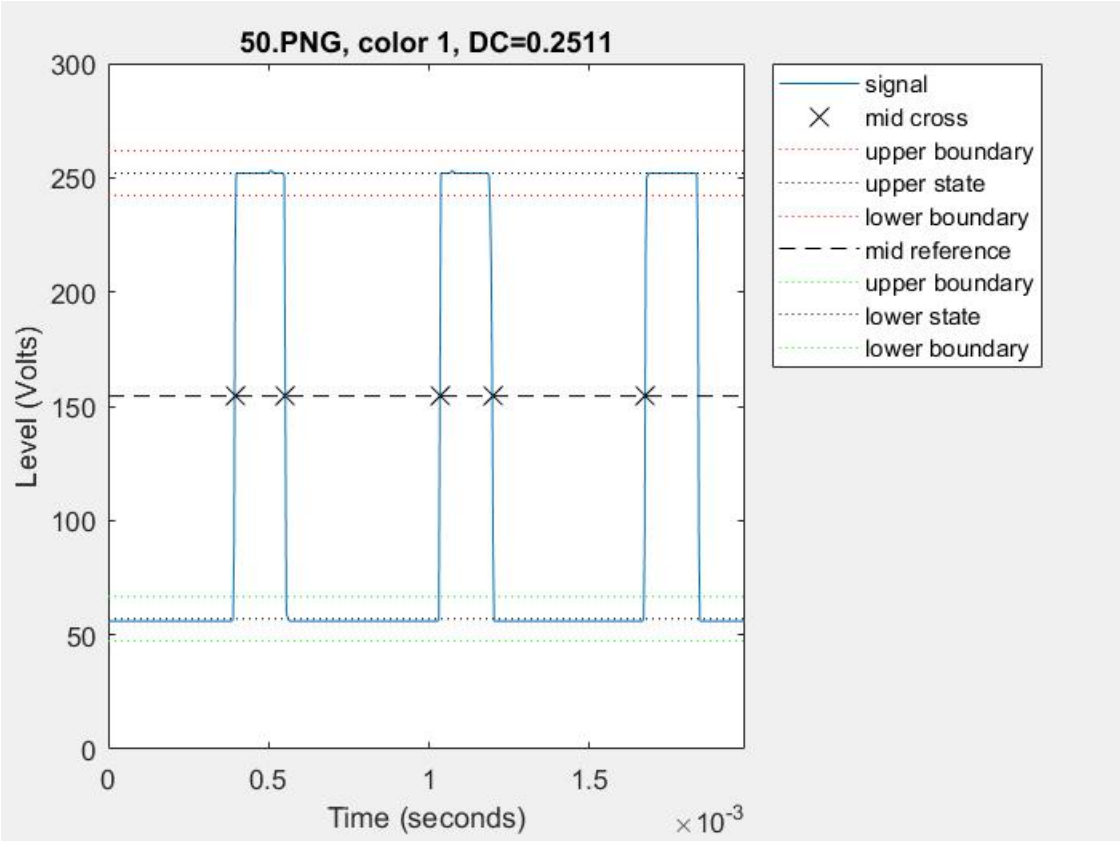

30.PNG, color 2, DC=0.6494
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

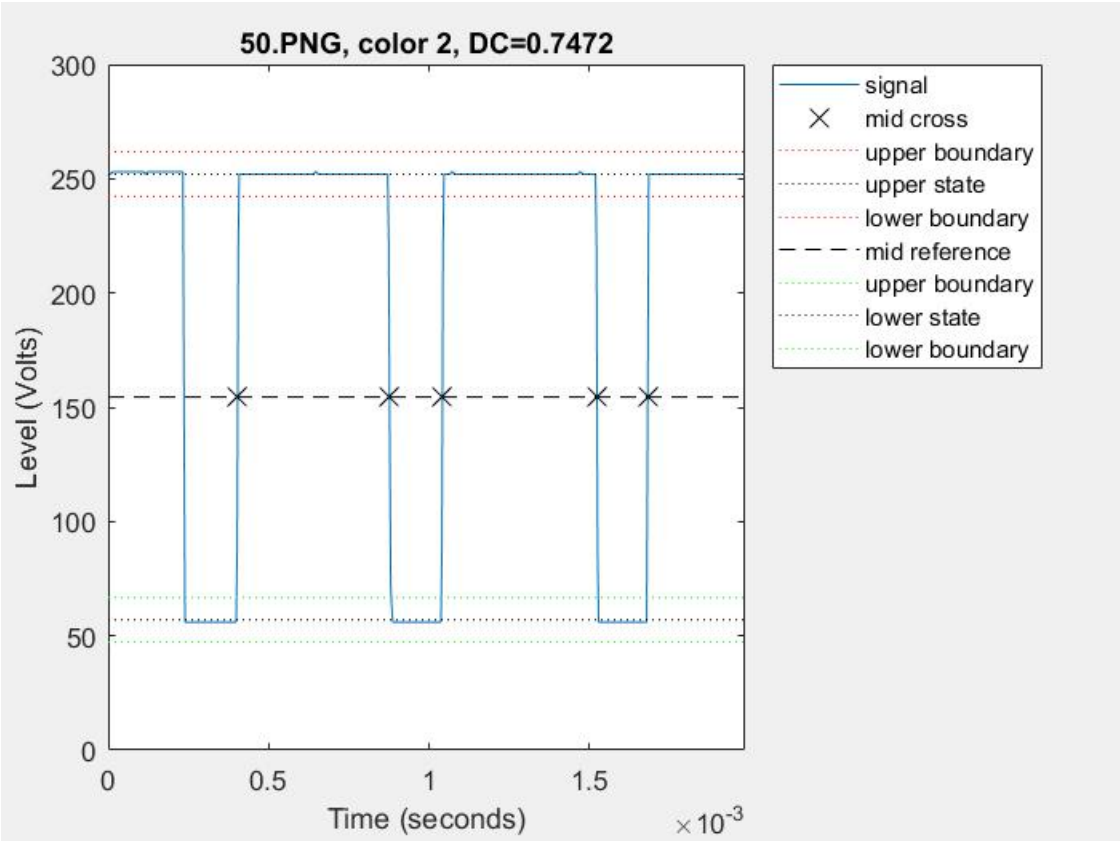

40.PNG
Amplitude
Time
3.5
3
2.5
2
1.5
1
0.5
0
-0.5
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
0.0016
0.0018
0.002

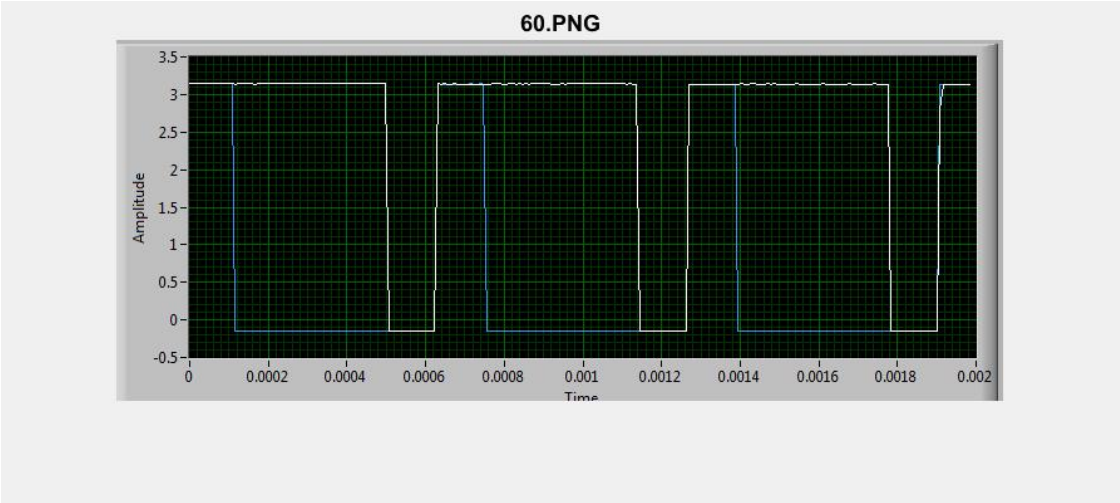

40.PNG, color 1, DC=0.3018
Level (Volts)
Time (seconds)
×10^-3
300
250
200
150
100
50
0
0
0.5
1
1.5
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

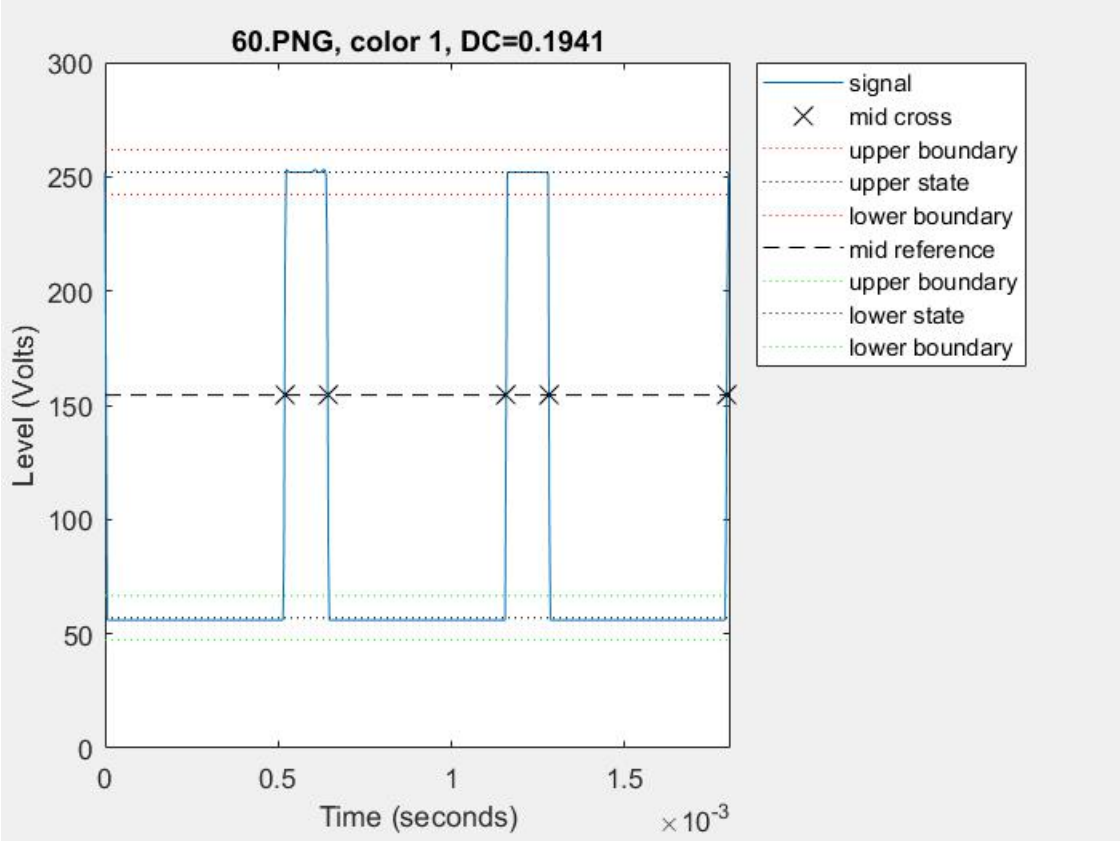

40.PNG, color 2, DC=0.6995
300
250
200
150
100
50
0
Level (Volts)
0
0.5
1
1.5
Time (seconds)
×10-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

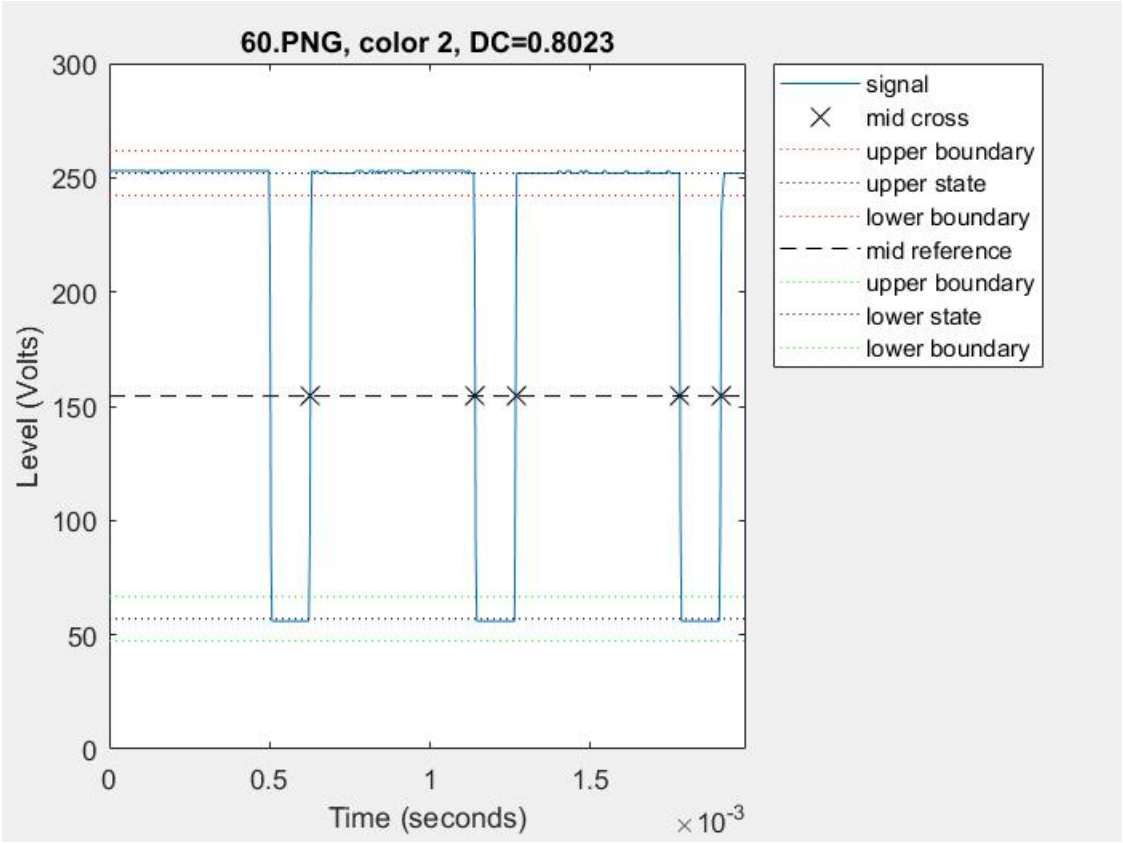

50.PNG
Amplitude
3.5
3
2.5
2
1.5
1
0.5
0
-0.5
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
0.0016
0.0018
0.002
Time

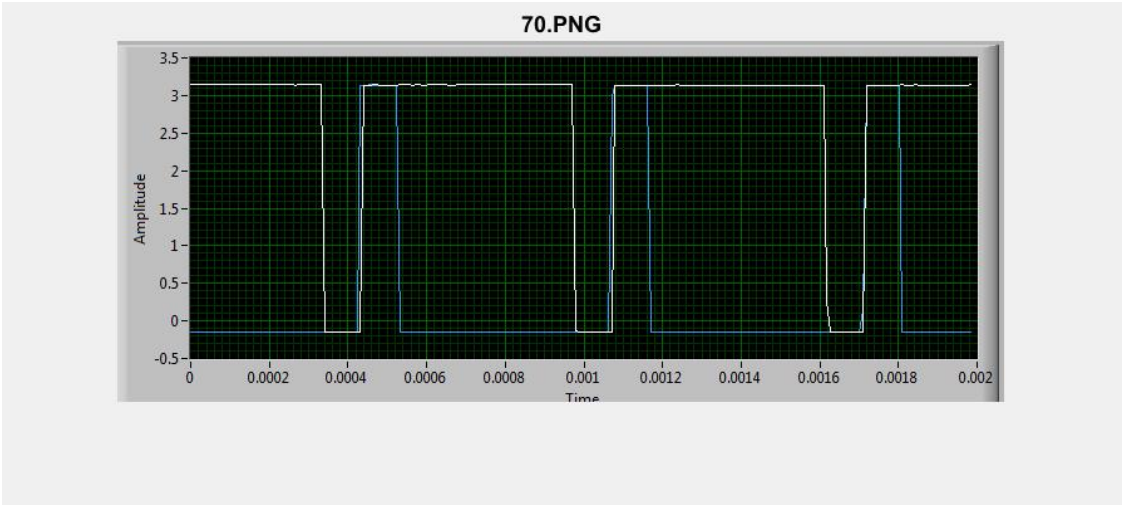

50.PNG, color 1, DC=0.2511
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

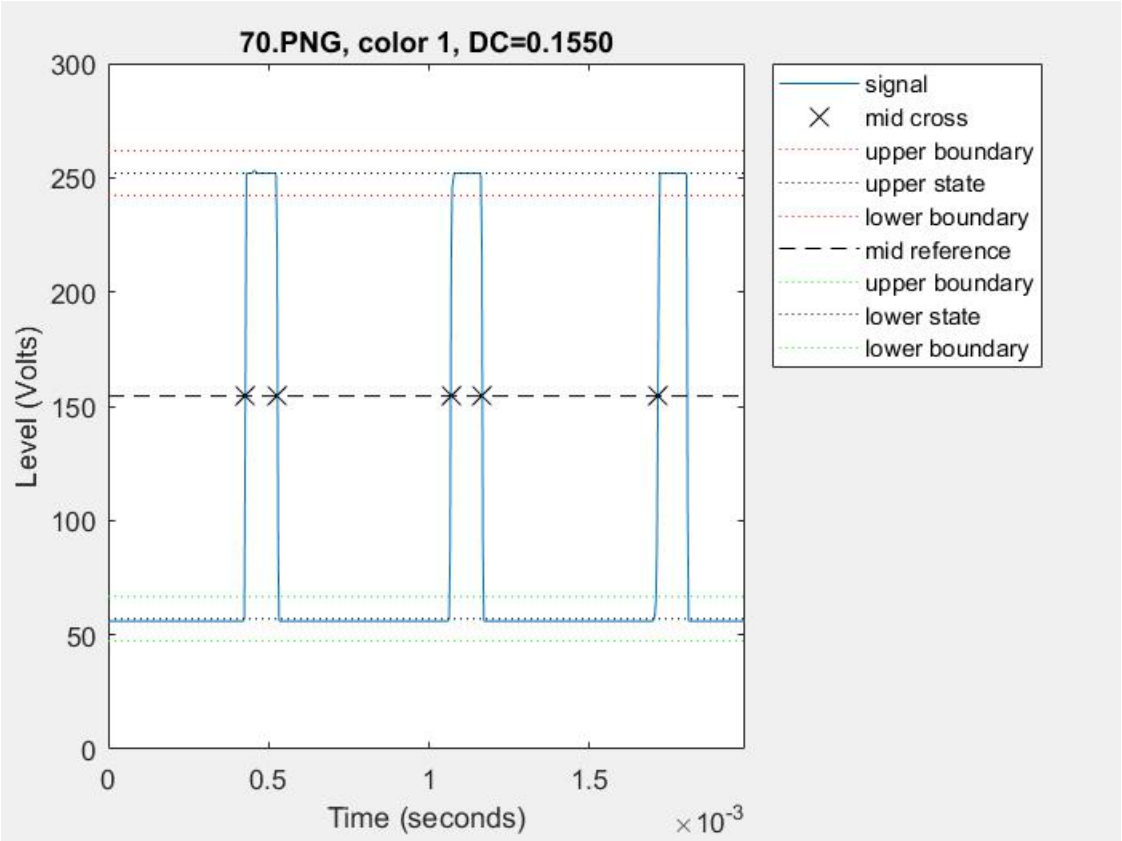

50.PNG, color 2, DC=0.7472
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

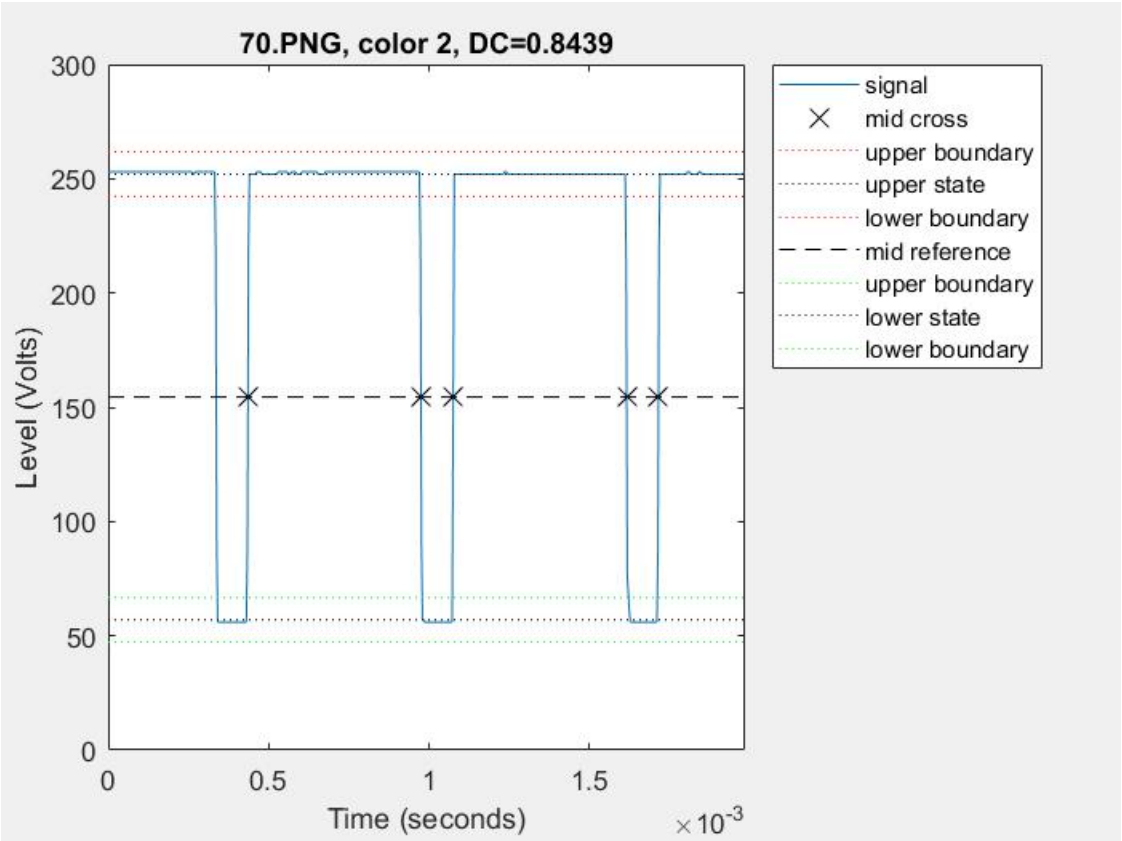

60.PNG
Amplitude
Time
3.5
3
2.5
2
1.5
1
0.5
0
-0.5
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
0.0016
0.0018
0.002

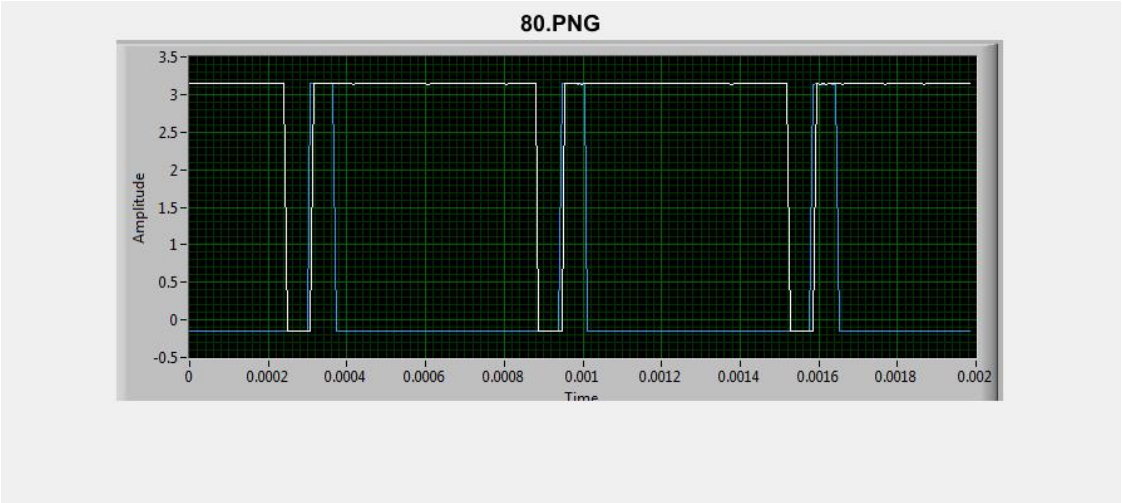

60.PNG, color 1, DC=0.1941
Level (Volts)
Time (seconds)
×10^-3
300
250
200
150
100
50
0
0
0.5
1
1.5
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

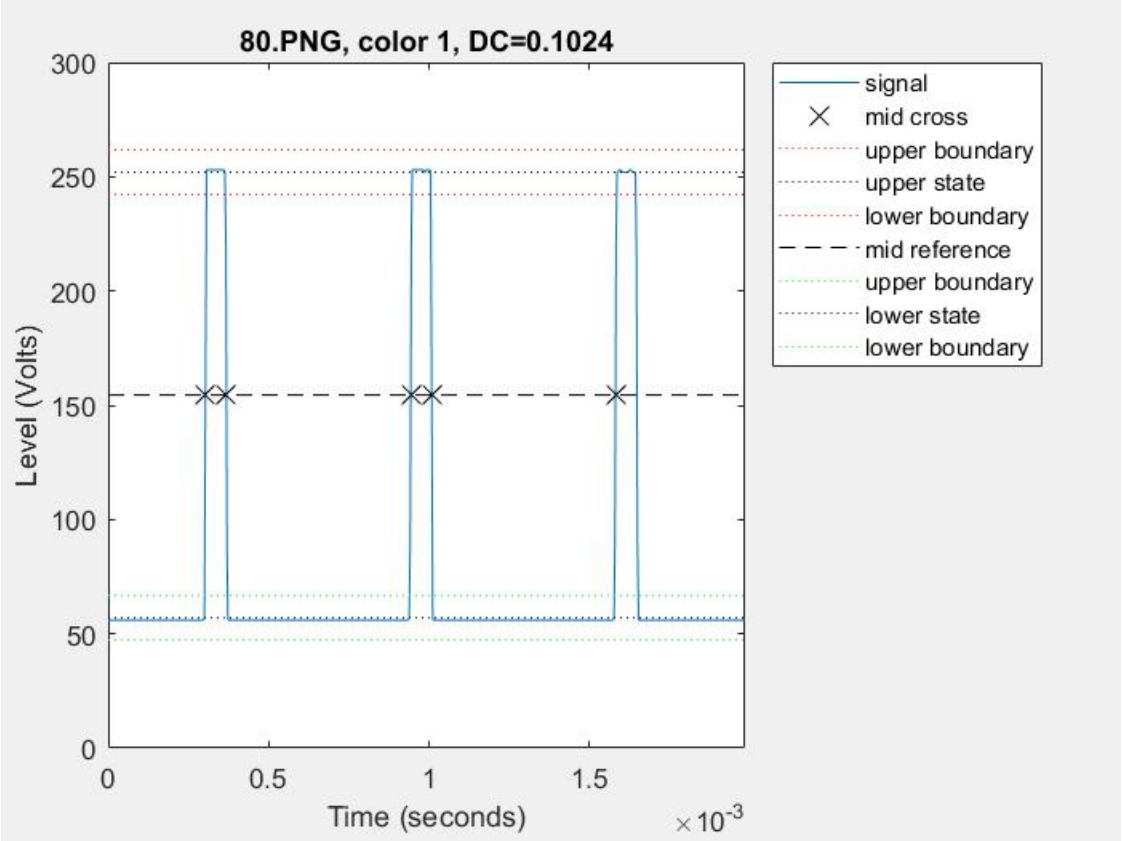

60.PNG, color 2, DC=0.8023
300
250
200
150
100
50
0
0
0.5
1
1.5
Level (Volts)
Time (seconds)
×10-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

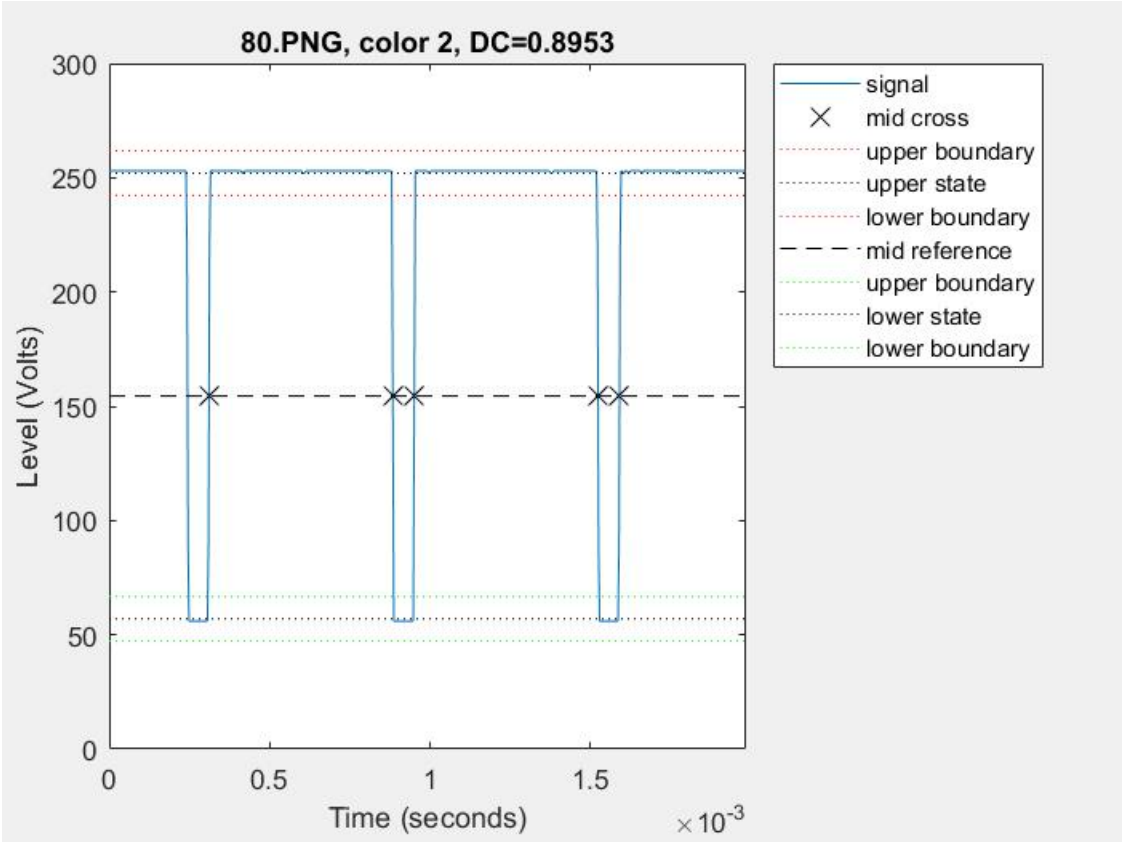

70.PNG
3.5
3
2.5
2
1.5
1
0.5
0
-0.5
Amplitude
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
0.0016
0.0018
0.002
Time

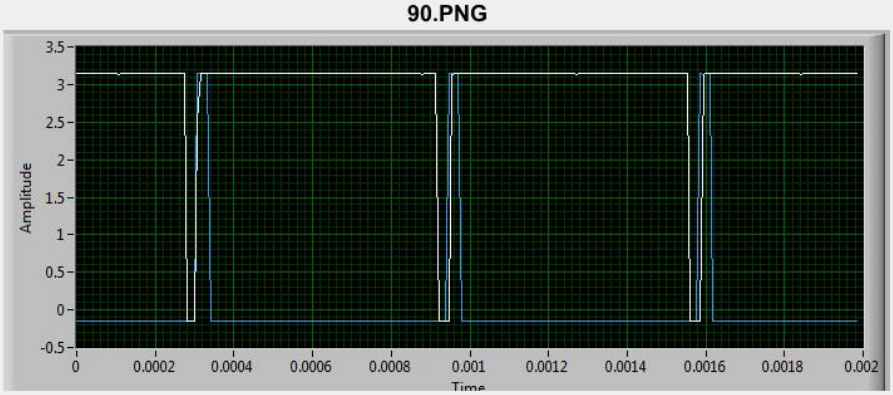

70.PNG, color 1, DC=0.1550
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

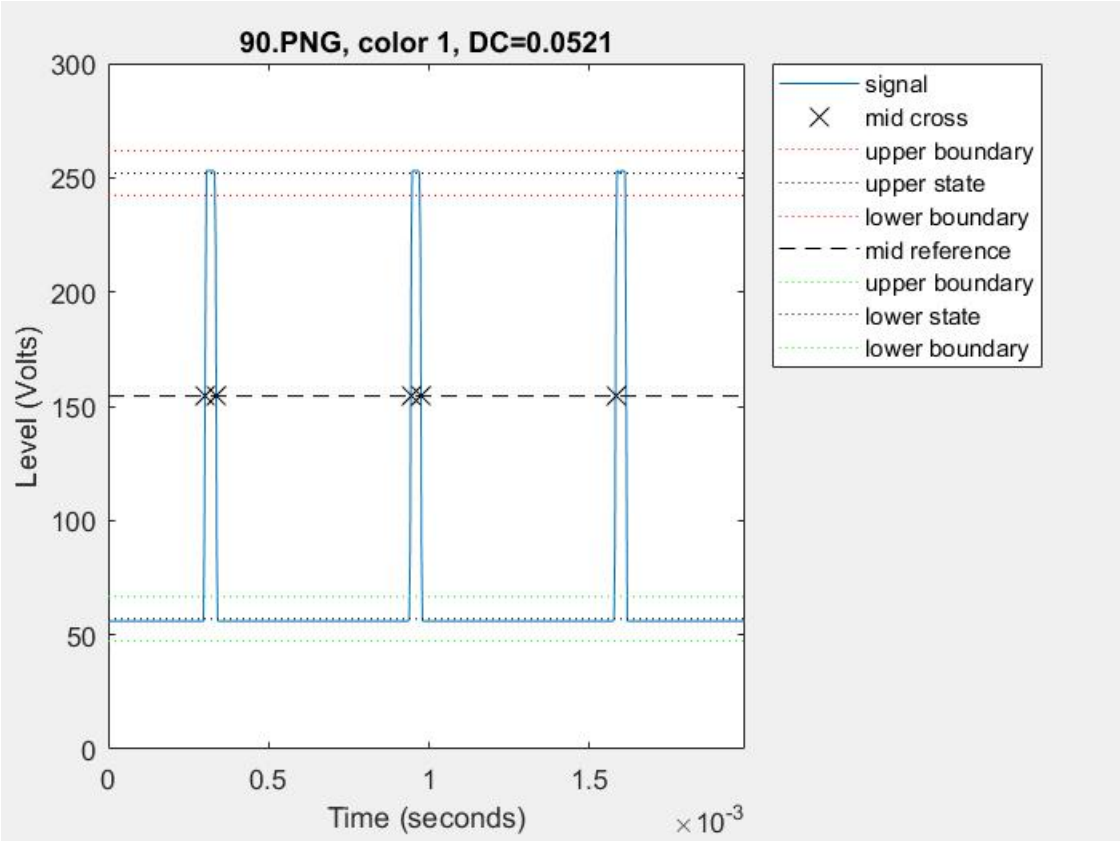

70.PNG, color 2, DC=0.8439
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

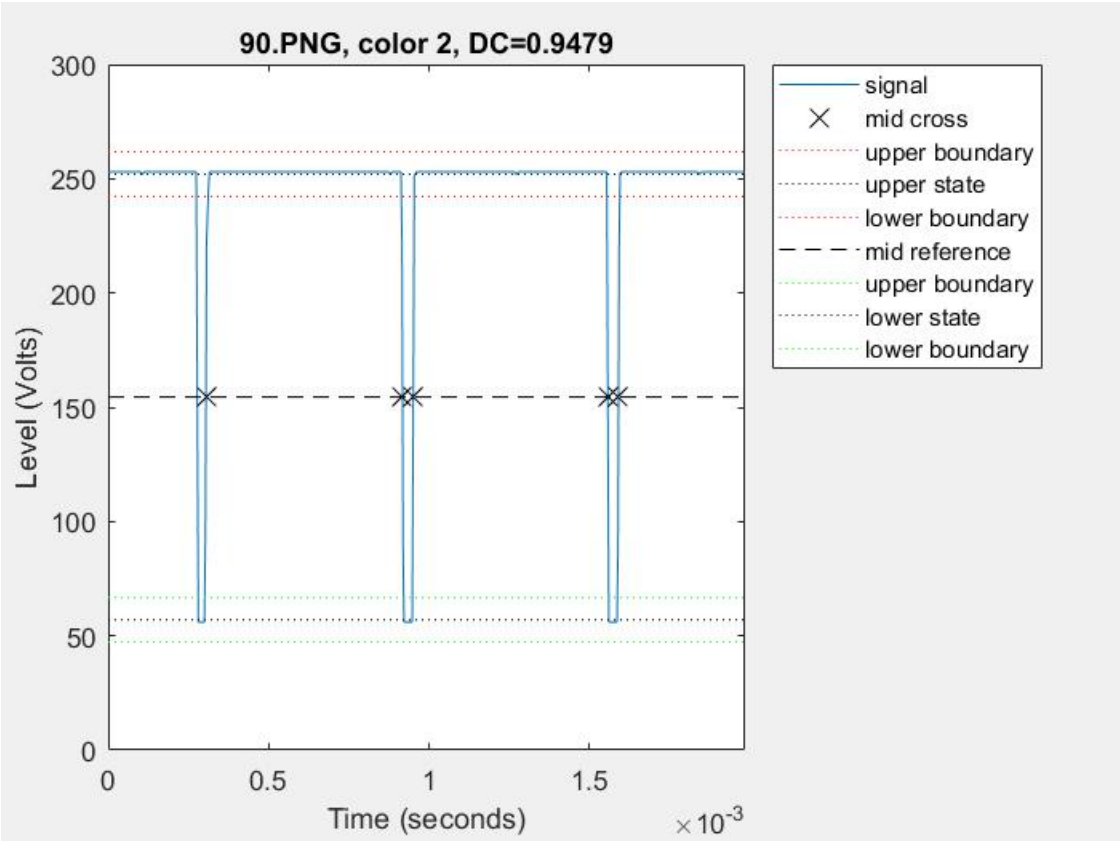

80.PNG
Amplitude
Time
3.5
3
2.5
2
1.5
1
0.5
0
-0.5
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
0.0016
0.0018
0.002


80.PNG, color 1, DC=0.1024
Level (Volts)
Time (seconds)
×10^-3
300
250
200
150
100
50
0
0
0.5
1
1.5
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary


80.PNG, color 2, DC=0.8953
300
250
200
150
100
50
0
0
0.5
1
1.5
Time (seconds)
×10-3
Level (Volts)
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary


90.PNG
3.5
3
2.5
2
1.5
1
0.5
0
-0.5
Amplitude
0
0.0002
0.0004
0.0006
0.0008
0.001
0.0012
0.0014
0.0016
0.0018
0.002
Time


90.PNG, color 1, DC=0.0521
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary


90.PNG, color 2, DC=0.9479
Level (Volts)
Time (seconds)
×10^-3
signal
mid cross
upper boundary
upper state
lower boundary
mid reference
upper boundary
lower state
lower boundary

```
close all;
```

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