

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

ans =

"Acquisition search 100.0% completed."

ans =

struct with fields:

```
maxPeak: 0.0088
idStartTime: 281651
idDopplerShift: 49
    mean: 8.0974e-10
meanSquare: 4.8497e-09
    phase: 2.0981
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 1"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"  
  ACQUISITION_OK: 1  
    TRACKING_OK: 1  
  DEMODULATION_OK: 1  
        SV_ID: '000001'  
    message_ID: '0011'
```

```
message_body: '010100110001110011001011101110'  
CRC: '000110111100100010100001'  
ACKed: 1  
isACKmessage: 1  
estimatedDopplerStart: 46.9697  
estimatedDopplerEnd: 61.8516  
estimatedDelay: 0.0282  
estimatedPhase: 2.0981
```

```
ans =
```

```
"Results saved in MM_test_5.65_12.6_f0_d100_s10_c5.json"
```

```
Elapsed time is 17.812580 seconds.
```

```
.
```

```
ans =
```

```
"Generation test signal completed."
```

```
Elapsed time is 0.898830 seconds.
```

```
ans =
```

```
"Acquisition search 10.0% completed."
```

```
ans =
```

```
"Acquisition search 20.0% completed."
```

```
ans =
```

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

ans =

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0070
   idStartTime: 281651
 idDopplerShift: 49
           mean: 4.8988e-09
   meanSquare: 3.0686e-09
           phase: 2.0981
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 1"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
  ACQUISITION_OK: 1
    TRACKING_OK: 1
  DEMODULATION_OK: 1
      SV_ID: '000001'
    message_ID: '0011'
  message_body: '010100110001110011001011101110'
      CRC: '000110111100100010100001'
      ACKed: 1
    isACKmessage: 1
  estimatedDopplerStart: 46.9697
  estimatedDopplerEnd: 61.8516
  estimatedDelay: 0.0282
  estimatedPhase: 2.0981
```

```
ans =
```

```
"Results saved in MM_test_5.98_12.6_f0_d100_sl0_c5.json"
```

```
Elapsed time is 17.140179 seconds.
```

```
.
```

```
ans =
```

```
"Generation test signal completed."
```

```
Elapsed time is 0.908764 seconds.
```

```
ans =
```

```
"Acquisition search 10.0% completed."
```



```
ans =
```

```
"Acquisition search 20.0% completed."
```

```
ans =
```

```
"Acquisition search 30.0% completed."
```

```
ans =
```

```
"Acquisition search 40.0% completed."
```

```
ans =
```

```
"Acquisition search 50.0% completed."
```

```
ans =
```

```
"Acquisition search 60.0% completed."
```

```
ans =
```

```
"Acquisition search 70.0% completed."
```

```
ans =
```

```
"Acquisition search 80.0% completed."
```

```
ans =
```

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0056
    idStartTime: 281651
    idDopplerShift: 49
              mean: 6.9583e-10
    meanSquare: 1.9758e-09
              phase: 2.0981
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 1"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
  ACQUISITION_OK: 1
    TRACKING_OK: 1
  DEMODULATION_OK: 1
        SV_ID: '000001'
    message_ID: '0011'
  message_body: '010100110001110011001011101110'
        CRC: '000110111100100010100001'
        ACKed: 1
    isACKmessage: 1
estimatedDopplerStart: 46.9697
estimatedDopplerEnd: 61.8516
estimatedDelay: 0.0282
estimatedPhase: 2.0981
```

```
ans =
```

```
"Results saved in MM_test_6.31_12.6_f0_d100_s10_c5.json"
```

```
Elapsed time is 16.977221 seconds.
```

```
.
```

```
ans =
```

```
"Generation test signal completed."
```

```
Elapsed time is 0.897825 seconds.
```

```
ans =
```

```
"Acquisition search 10.0% completed."
```

```
ans =
```

```
"Acquisition search 20.0% completed."
```

```
ans =
```

```
"Acquisition search 30.0% completed."
```

```
ans =
```

```
"Acquisition search 40.0% completed."
```

```
ans =
```

```
"Acquisition search 50.0% completed."
```

```
ans =
```

```
"Acquisition search 60.0% completed."
```

```
ans =
```

```
"Acquisition search 70.0% completed."
```

```
ans =
```

```
"Acquisition search 80.0% completed."
```

```
ans =
```

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0044  
    idStartTime: 281651  
    idDopplerShift: 49  
              mean: 2.4004e-10  
    meanSquare: 1.2287e-09  
              phase: 2.0981
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 1"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"  
    ACQUISITION_OK: 1  
    TRACKING_OK: 1  
    DEMODULATION_OK: 1  
        SV_ID: '000001'  
        message_ID: '0011'  
    message_body: '010100110001110011001011101110'  
        CRC: '000110111100100010100001'  
    ACKed: 1  
    isACKmessage: 1  
    estimatedDopplerStart: 46.9697  
    estimatedDopplerEnd: 61.8516  
    estimatedDelay: 0.0282  
    estimatedPhase: 2.0981
```



```
ans =
```

```
"Results saved in MM_test_6.64_12.6_f0_d100_s10_c5.json"
```

```
Elapsed time is 17.425149 seconds.
```

```
.
```

```
ans =
```

```
"Generation test signal completed."
```

```
Elapsed time is 1.088636 seconds.
```

```
ans =
```

```
"Acquisition search 10.0% completed."
```

```
ans =
```

```
"Acquisition search 20.0% completed."
```

```
ans =
```

```
"Acquisition search 30.0% completed."
```

```
ans =
```

```
"Acquisition search 40.0% completed."
```

```
ans =
```

```
"Acquisition search 50.0% completed."
```

```
ans =
```

```
"Acquisition search 60.0% completed."
```

```
ans =
```

```
"Acquisition search 70.0% completed."
```

```
ans =
```

```
"Acquisition search 80.0% completed."
```

```
ans =
```

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0897  
    idStartTime: 281651
```

```
idDopplerShift: 51
    mean: 2.1877e-08
    meanSquare: 4.9875e-07
    phase: 2.1088
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 1"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"  
    ACQUISITION_OK: 1  
    TRACKING_OK: 1  
    DEMODULATION_OK: 1  
        SV_ID: '000001'  
        message_ID: '0011'  
    message_body: '010100110001110011001011101110'  
        CRC: '000110111100100010100001'
```

```
        ACKed: 1
        isACKmessage: 1
estimatedDopplerStart: 51.0101
estimatedDopplerEnd: 63.3039
estimatedDelay: 0.0282
estimatedPhase: 2.1088
```

```
ans =
```

```
"Results saved in MM_test_2.32_25.4_f0_d100_s10_c5.json"
```

```
Elapsed time is 17.230536 seconds.
```

```
.
```

```
ans =
```

```
"Generation test signal completed."
```

```
Elapsed time is 0.964887 seconds.
```

```
ans =
```

```
"Acquisition search 10.0% completed."
```

```
ans =
```

```
"Acquisition search 20.0% completed."
```

```
ans =
```

```
"Acquisition search 30.0% completed."
```

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

ans =

"Acquisition search 100.0% completed."

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0564
   idStartTime: 281651
   idDopplerShift: 51
           mean: 3.2707e-08
   meanSquare: 1.9254e-07
           phase: 2.1088
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 1"
```

```
ans =
```

```
struct with fields:
```



```
        version: "2"
    ACQUISITION_OK: 1
    TRACKING_OK: 1
    DEMODULATION_OK: 1
        SV_ID: '000001'
        message_ID: '0011'
        message_body: '010100110001110011001011101110'
        CRC: '000110111100100010100001'
        ACKed: 1
        isACKmessage: 1
    estimatedDopplerStart: 51.0101
    estimatedDopplerEnd: 63.3039
    estimatedDelay: 0.0282
    estimatedPhase: 2.1088
```

```
ans =
```

```
"Results saved in MM_test_2.99_25.4_f0_d100_s10_c5.json"
```

```
Elapsed time is 17.364250 seconds.
```

```
.
```

```
ans =
```

```
"Generation test signal completed."
```

```
Elapsed time is 0.975253 seconds.
```

```
ans =
```

```
"Acquisition search 10.0% completed."
```

```
ans =
```

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

```
ans =
```

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0357
    idStartTime: 281651
    idDopplerShift: 51
               mean: 2.5044e-08
    meanSquare: 7.7790e-08
               phase: 2.1088
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

"Tracker step 3: demodulated 30 symbols."

ans =

"Tracker step 4: demodulated 40 symbols."

ans =

"Tracker step 5: demodulated 50 symbols."

ans =

"Tracker step 6: demodulated 60 symbols."

ans =

"Tracker step 7: demodulated 70 symbols."

ans =

"Tracker step 8: demodulated 80 symbols."

ans =

"Received message analyzed."

ans =

```
"DEMODULATION RESULT 1"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
  ACQUISITION_OK: 1
    TRACKING_OK: 1
  DEMODULATION_OK: 1
        SV_ID: '000001'
    message_ID: '0011'
  message_body: '010100110001110011001011101110'
        CRC: '000110111100100010100001'
        ACKed: 1
    isACKmessage: 1
estimatedDopplerStart: 51.0101
estimatedDopplerEnd: 63.3039
    estimatedDelay: 0.0282
    estimatedPhase: 2.1088
```

```
ans =
```

```
"Results saved in MM_test_3.65_25.4_f0_d100_s10_c5.json"
```

```
Elapsed time is 17.482216 seconds.
```

```
.
```

```
ans =
```

```
"Generation test signal completed."
```

Elapsed time is 0.960930 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

```
"Acquisition search 70.0% completed."
```

```
ans =
```

```
"Acquisition search 80.0% completed."
```

```
ans =
```

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0224
    idStartTime: 281651
    idDopplerShift: 51
              mean: 9.1005e-09
    meanSquare: 3.0906e-08
              phase: 2.1088
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

ans =

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

ans =

"Tracker step 4: demodulated 40 symbols."

ans =

"Tracker step 5: demodulated 50 symbols."

ans =

"Tracker step 6: demodulated 60 symbols."

ans =

"Tracker step 7: demodulated 70 symbols."

ans =

"Tracker step 8: demodulated 80 symbols."


```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 1"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
  ACQUISITION_OK: 1
    TRACKING_OK: 1
  DEMODULATION_OK: 1
        SV_ID: '000001'
    message_ID: '0011'
  message_body: '010100110001110011001011101110'
        CRC: '000110111100100010100001'
        ACKed: 1
    isAckmessage: 1
estimatedDopplerStart: 51.0101
estimatedDopplerEnd: 63.3039
estimatedDelay: 0.0282
estimatedPhase: 2.1088
```

```
ans =
```

```
"Results saved in MM_test_4.32_25.4_f0_d100_s10_c5.json"
```

```
Elapsed time is 17.146145 seconds.
```

```
.
```

```
ans =
```

```
"Generation test signal completed."
```

```
Elapsed time is 0.954927 seconds.
```

```
ans =
```

```
"Acquisition search 10.0% completed."
```

```
ans =
```

```
"Acquisition search 20.0% completed."
```

```
ans =
```

```
"Acquisition search 30.0% completed."
```

```
ans =
```

```
"Acquisition search 40.0% completed."
```

```
ans =
```

```
"Acquisition search 50.0% completed."
```

```
ans =
```

```
"Acquisition search 60.0% completed."
```

```
ans =
```

```
"Acquisition search 70.0% completed."
```

```
ans =
```

```
"Acquisition search 80.0% completed."
```

```
ans =
```

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0142  
    idStartTime: 281651  
    idDopplerShift: 51  
           mean: 4.6196e-09
```

```
meanSquare: 1.2238e-08  
phase: 2.1088
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 1"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
  ACQUISITION_OK: 1
    TRACKING_OK: 1
  DEMODULATION_OK: 1
        SV_ID: '000001'
    message_ID: '0011'
  message_body: '010100110001110011001011101110'
        CRC: '000110111100100010100001'
        ACKed: 1
  isACKmessage: 1
```

```
estimatedDopplerStart: 51.0101
estimatedDopplerEnd: 63.3039
estimatedDelay: 0.0282
estimatedPhase: 2.1088
```

```
ans =
```

```
"Results saved in MM_test_4.98_25.4_f0_d100_s10_c5.json"
```

```
Elapsed time is 17.043492 seconds.
```

```
.
```

```
ans =
```

```
"Generation test signal completed."
```

```
Elapsed time is 1.004489 seconds.
```

```
ans =
```

```
"Acquisition search 10.0% completed."
```

```
ans =
```

```
"Acquisition search 20.0% completed."
```

```
ans =
```

```
"Acquisition search 30.0% completed."
```

```
ans =
```

```
"Acquisition search 40.0% completed."
```

```
ans =
```

```
"Acquisition search 50.0% completed."
```

```
ans =
```

```
"Acquisition search 60.0% completed."
```

```
ans =
```

```
"Acquisition search 70.0% completed."
```

```
ans =
```

```
"Acquisition search 80.0% completed."
```

```
ans =
```

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0112
   idStartTime: 281651
 idDopplerShift: 51
         mean: 4.2186e-09
 meanSquare: 7.6662e-09
        phase: 2.1088
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```



```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 1"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"  
ACQUISITION_OK: 1
```

```
TRACKING_OK: 1
DEMODULATION_OK: 1
    SV_ID: '000001'
    message_ID: '0011'
    message_body: '010100110001110011001011101110'
        CRC: '000110111100100010100001'
    ACKed: 1
    isACKmessage: 1
    estimatedDopplerStart: 51.0101
    estimatedDopplerEnd: 63.3039
    estimatedDelay: 0.0282
    estimatedPhase: 2.1088
```

```
ans =
```

```
"Results saved in MM_test_5.32_25.4_f0_d100_s10_c5.json"
```

```
Elapsed time is 17.089856 seconds.
```

```
.
```

```
ans =
```

```
"Generation test signal completed."
```

```
Elapsed time is 1.415358 seconds.
```

```
ans =
```

```
"Acquisition search 10.0% completed."
```

```
ans =
```

```
"Acquisition search 20.0% completed."
```

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0089
   idStartTime: 281651
  idDopplerShift: 51
           mean: 4.5210e-09
    meanSquare: 4.8769e-09
           phase: 2.1088
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 1"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
  ACQUISITION_OK: 1
   TRACKING_OK: 1
 DEMODULATION_OK: 1
       SV_ID: '000001'
   message_ID: '0011'
 message_body: '010100110001110011001011101110'
          CRC: '000110111100100010100001'
        ACKed: 1
    isACKmessage: 1
estimatedDopplerStart: 51.0101
estimatedDopplerEnd: 63.3039
estimatedDelay: 0.0282
estimatedPhase: 2.1088
```

```
ans =
```

```
"Results saved in MM_test_5.65_25.4_f0_d100_s10_c5.json"
```

```
Elapsed time is 17.484106 seconds.
```

```
.
```

```
ans =
```

```
"Generation test signal completed."
```

```
Elapsed time is 0.979760 seconds.
```

```
ans =
```

```
"Acquisition search 10.0% completed."
```

```
ans =
```

```
"Acquisition search 20.0% completed."
```

```
ans =
```

```
"Acquisition search 30.0% completed."
```

```
ans =
```

```
"Acquisition search 40.0% completed."
```

```
ans =
```

```
"Acquisition search 50.0% completed."
```

```
ans =
```

```
"Acquisition search 60.0% completed."
```

```
ans =
```

```
"Acquisition search 70.0% completed."
```

```
ans =
```

```
"Acquisition search 80.0% completed."
```

```
ans =
```

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0071
   idStartTime: 281651
 idDopplerShift: 51
              mean: 1.8235e-09
              meanSquare: 3.0963e-09
                phase: 2.1088
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```


"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

ans =

"Tracker step 4: demodulated 40 symbols."

ans =

"Tracker step 5: demodulated 50 symbols."

ans =

"Tracker step 6: demodulated 60 symbols."

ans =

"Tracker step 7: demodulated 70 symbols."

ans =

"Tracker step 8: demodulated 80 symbols."

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 1"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
  ACQUISITION_OK: 1
    TRACKING_OK: 1
  DEMODULATION_OK: 1
        SV_ID: '000001'
      message_ID: '0011'
  message_body: '010100110001110011001011101110'
          CRC: '000110111100100010100001'
        ACKed: 1
    isACKmessage: 1
estimatedDopplerStart: 51.0101
estimatedDopplerEnd: 63.3039
estimatedDelay: 0.0282
estimatedPhase: 2.1088
```

```
ans =
```

```
"Results saved in MM_test_5.98_25.4_f0_d100_s10_c5.json"
```

Elapsed time is 17.079731 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.953210 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

```
"Acquisition search 60.0% completed."
```

```
ans =
```

```
"Acquisition search 70.0% completed."
```

```
ans =
```

```
"Acquisition search 80.0% completed."
```

```
ans =
```

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0056  
    idStartTime: 281651  
    idDopplerShift: 51  
              mean: 2.7983e-09  
    meanSquare: 1.8901e-09  
              phase: 2.1088
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 1"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"  
    ACQUISITION_OK: 1  
    TRACKING_OK: 1  
    DEMODULATION_OK: 1  
        SV_ID: '000001'  
        message_ID: '0011'  
    message_body: '010100110001110011001011101110'  
        CRC: '000110111100100010100001'  
    ACKed: 1  
    isACKmessage: 1  
    estimatedDopplerStart: 51.0101  
    estimatedDopplerEnd: 63.3039
```

```
estimatedDelay: 0.0282  
estimatedPhase: 2.1088
```

```
ans =
```

```
"Results saved in MM_test_6.31_25.4_f0_d100_s10_c5.json"
```

```
Elapsed time is 17.180686 seconds.
```

```
.
```

```
ans =
```

```
"Generation test signal completed."
```

```
Elapsed time is 1.015548 seconds.
```

```
ans =
```

```
"Acquisition search 10.0% completed."
```

```
ans =
```

```
"Acquisition search 20.0% completed."
```

```
ans =
```

```
"Acquisition search 30.0% completed."
```

```
ans =
```

```
"Acquisition search 40.0% completed."
```

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

ans =

"Acquisition search 100.0% completed."

ans =


```
struct with fields:
```

```
    maxPeak: 0.0045
    idStartTime: 281651
    idDopplerShift: 51
              mean: 2.5029e-09
    meanSquare: 1.2391e-09
              phase: 2.1088
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 1"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"  
  ACQUISITION_OK: 1  
    TRACKING_OK: 1  
  DEMODULATION_OK: 1
```

```
SV_ID: '000001'
message_ID: '0011'
message_body: '01010011000111001100101011101110'
CRC: '000110111100100010100001'
ACKed: 1
isACKmessage: 1
estimatedDopplerStart: 51.0101
estimatedDopplerEnd: 63.3039
estimatedDelay: 0.0282
estimatedPhase: 2.1088
```

```
ans =
```

```
"Results saved in MM_test_6.64_25.4_f0_d100_s10_c5.json"
```

```
Elapsed time is 17.838430 seconds.
```

```
.
```

```
ans =
```

```
"Generation test signal completed."
```

```
Elapsed time is 0.968492 seconds.
```

```
ans =
```

```
"Acquisition search 10.0% completed."
```

```
ans =
```

```
"Acquisition search 20.0% completed."
```

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0890
    idStartTime: 281651
    idDopplerShift: 55
              mean: 4.1227e-08
    meanSquare: 4.9871e-07
              phase: 2.1282
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
Warning: Error no ack: received CRC 000110111100100100011110 and CRC remainder 00000000000000001101111111  
> In MessageAnalyzer/analyzeMessage (line 85)  
In RECEIVER (line 259)  
In RECEIVERTest/globalTest (line 109)
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 0"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
  ACQUISITION_OK: 1
    TRACKING_OK: 1
  DEMODULATION_OK: 0
        SV_ID: '000001'
    message_ID: '0011'
  message_body: '010100110001110011001011101110'
        CRC: '000110111100100100011110'
        ACKed: 0
    isACKmessage: 1
  estimatedDopplerStart: 59.0909
  estimatedDopplerEnd: 83.0317
    estimatedDelay: 0.0282
  estimatedPhase: 2.1282
```

```
ans =
```

```
"Results saved in MM_test_2.32_51_f0_d100_s10_c5.json"
```

```
Elapsed time is 17.206306 seconds.
```

```
.
```

```
ans =
```

```
"Generation test signal completed."
```

Elapsed time is 0.998618 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =


```
"Acquisition search 70.0% completed."
```

```
ans =
```

```
"Acquisition search 80.0% completed."
```

```
ans =
```

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0559
    idStartTime: 281651
    idDopplerShift: 55
               mean: 1.9581e-08
    meanSquare: 1.9420e-07
               phase: 2.1282
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
Warning: Error no ack: received CRC 0001101111100100100011110 and CRC remainder 0000000000000000110111111
> In MessageAnalyzer/analyzeMessage (line 85)
In RECEIVER (line 259)
In RECEIVERTest/globalTest (line 109)

ans =

"Received message analyzed."

ans =

"DEMODULATION RESULT 0"

ans =

struct with fields:

    version: "2"
  ACQUISITION_OK: 1
        TRACKING_OK: 1
  DEMODULATION_OK: 0
          SV_ID: '000001'
        message_ID: '0011'
    message_body: '010100110001110011001001011101110'
          CRC: '000110111100100100011110'
        ACKed: 0
    isACKmessage: 1
estimatedDopplerStart: 59.0909
estimatedDopplerEnd: 83.0317
estimatedDelay: 0.0282
estimatedPhase: 2.1282
```

```
ans =
```

```
"Results saved in MM_test_2.99_51_f0_d100_s10_c5.json"
```

```
Elapsed time is 17.233054 seconds.
```

```
.
```

```
ans =
```

```
"Generation test signal completed."
```

```
Elapsed time is 0.977835 seconds.
```

```
ans =
```

```
"Acquisition search 10.0% completed."
```

```
ans =
```

```
"Acquisition search 20.0% completed."
```

```
ans =
```

```
"Acquisition search 30.0% completed."
```

```
ans =
```

```
"Acquisition search 40.0% completed."
```

```
ans =
```

```
"Acquisition search 50.0% completed."
```

```
ans =
```

```
"Acquisition search 60.0% completed."
```

```
ans =
```

```
"Acquisition search 70.0% completed."
```

```
ans =
```

```
"Acquisition search 80.0% completed."
```

```
ans =
```

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0354
    idStartTime: 281651
    idDopplerShift: 55
        mean: 2.3289e-08
    meanSquare: 7.7092e-08
        phase: 2.1282
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
Warning: Error no ack: received CRC 000110111100100100011110 and CRC remainder 00000000000000001101111111
> In MessageAnalyzer/analyzeMessage (line 85)
In RECEIVER (line 259)
In RECEIVERTest/globalTest (line 109)
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 0"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
ACQUISITION_OK: 1
```

```
TRACKING_OK: 1
DEMODULATION_OK: 0
    SV_ID: '000001'
    message_ID: '0011'
    message_body: '010100110001110011001001011101110'
        CRC: '000110111100100100100011110'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 59.0909
    estimatedDopplerEnd: 83.0317
    estimatedDelay: 0.0282
    estimatedPhase: 2.1282
```

```
ans =
```

```
"Results saved in MM_test_3.65_51_f0_d100_s10_c5.json"
```

```
Elapsed time is 17.774227 seconds.
```

```
.
```

```
ans =
```

```
"Generation test signal completed."
```

```
Elapsed time is 0.984198 seconds.
```

```
ans =
```

```
"Acquisition search 10.0% completed."
```

```
ans =
```

```
"Acquisition search 20.0% completed."
```


ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0222
   idStartTime: 281651
 idDopplerShift: 55
           mean: 1.2540e-08
   meanSquare: 3.0813e-08
           phase: 2.1282
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
Warning: Error no ack: received CRC 000110111100100100011110 and CRC remainder 000000000000000110111111  
> In MessageAnalyzer/analyzeMessage (line 85)  
In RECEIVER (line 259)  
In RECEIVERTest/globalTest (line 109)
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 0"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
  ACQUISITION_OK: 1
    TRACKING_OK: 1
  DEMODULATION_OK: 0
        SV_ID: '000001'
    message_ID: '0011'
  message_body: '010100110001110011001011101110'
        CRC: '000110111100100100011110'
        ACKed: 0
    isACKmessage: 1
estimatedDopplerStart: 59.0909
estimatedDopplerEnd: 83.0317
estimatedDelay: 0.0282
estimatedPhase: 2.1282
```

```
ans =
```

```
"Results saved in MM_test_4.32_51_f0_d100_s10_c5.json"
```

```
Elapsed time is 17.289638 seconds.
```

```
.
```

```
ans =
```

"Generation test signal completed."

Elapsed time is 0.986405 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

```
ans =
```

```
"Acquisition search 70.0% completed."
```

```
ans =
```

```
"Acquisition search 80.0% completed."
```

```
ans =
```

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0141
    idStartTime: 281651
    idDopplerShift: 55
              mean: 4.2955e-09
    meanSquare: 1.2307e-08
              phase: 2.1282
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
Warning: Error no ack: received CRC 0001101111100100100011110 and CRC remainder 00000000000000001101111111
> In MessageAnalyzer/analyzeMessage (line 85)
In RECEIVER (line 259)
In RECEIVERTest/globalTest (line 109)
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 0"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
  ACQUISITION_OK: 1
    TRACKING_OK: 1
  DEMODULATION_OK: 0
        SV_ID: '000001'
    message_ID: '0011'
  message_body: '010100110001110011001011101110'
        CRC: '000110111100100100011110'
      ACKed: 0
    isACKmessage: 1
estimatedDopplerStart: 59.0909
estimatedDopplerEnd: 83.0317
```



```
estimatedDelay: 0.0282  
estimatedPhase: 2.1282
```

```
ans =
```

```
"Results saved in MM_test_4.98_51_f0_d100_s10_c5.json"
```

```
Elapsed time is 17.267804 seconds.
```

```
.
```

```
ans =
```

```
"Generation test signal completed."
```

```
Elapsed time is 1.010397 seconds.
```

```
ans =
```

```
"Acquisition search 10.0% completed."
```

```
ans =
```

```
"Acquisition search 20.0% completed."
```

```
ans =
```

```
"Acquisition search 30.0% completed."
```

```
ans =
```

```
"Acquisition search 40.0% completed."
```

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

ans =

"Acquisition search 100.0% completed."

ans =

```
struct with fields:
```

```
    maxPeak: 0.0111
   idStartTime: 281651
  idDopplerShift: 55
           mean: 5.2271e-09
   meanSquare: 7.7924e-09
           phase: 2.1282
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
Warning: Error no ack: received CRC 000110111100100100011110 and CRC remainder 000000000000000110111111
> In MessageAnalyzer/analyzeMessage (line 85)
In RECEIVER (line 259)
In RECEIVERTest/globalTest (line 109)
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 0"
```

```
ans =
```

```
struct with fields:
```

```
        version: "2"
    ACQUISITION_OK: 1
    TRACKING_OK: 1
    DEMODULATION_OK: 0
        SV_ID: '000001'
        message_ID: '0011'
        message_body: '010100110001110011001011101110'
        CRC: '000110111100100100011110'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 59.0909
    estimatedDopplerEnd: 83.0317
    estimatedDelay: 0.0282
    estimatedPhase: 2.1282
```

```
ans =
```

```
"Results saved in MM_test_5.32_51_f0_d100_s10_c5.json"
```

```
Elapsed time is 17.992481 seconds.
```

```
.
```

```
ans =
```

```
"Generation test signal completed."
```

```
Elapsed time is 0.998255 seconds.
```

```
ans =
```

```
"Acquisition search 10.0% completed."
```

```
ans =
```

```
"Acquisition search 20.0% completed."
```

```
ans =
```

```
"Acquisition search 30.0% completed."
```

```
ans =
```

```
"Acquisition search 40.0% completed."
```

```
ans =
```

```
"Acquisition search 50.0% completed."
```

```
ans =
```

```
"Acquisition search 60.0% completed."
```

```
ans =
```

```
"Acquisition search 70.0% completed."
```

```
ans =
```

```
"Acquisition search 80.0% completed."
```

```
ans =
```

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0088
    idStartTime: 281651
    idDopplerShift: 55
               mean: 4.0432e-09
    meanSquare: 4.9005e-09
               phase: 2.1282
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
Warning: Error no ack: received CRC 000110111100100100100011110 and CRC remainder 0000000000000000110111111  
> In MessageAnalyzer/analyzeMessage (line 85)  
In RECEIVER (line 259)  
In RECEIVERTest/globalTest (line 109)
```

```
ans =
```



```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 0"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
  ACQUISITION_OK: 1
    TRACKING_OK: 1
  DEMODULATION_OK: 0
        SV_ID: '000001'
    message_ID: '0011'
  message_body: '010100110001110011001011101110'
        CRC: '000110111100100100011110'
        ACKed: 0
    isACKmessage: 1
estimatedDopplerStart: 59.0909
estimatedDopplerEnd: 83.0317
    estimatedDelay: 0.0282
    estimatedPhase: 2.1282
```

```
ans =
```

```
"Results saved in MM_test_5.65_51_f0_d100_s10_c5.json"
```

```
Elapsed time is 17.081123 seconds.
```

```
.
```

ans =

"Generation test signal completed."

Elapsed time is 1.012059 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

```
ans =  
"Acquisition search 70.0% completed."  
  
ans =  
"Acquisition search 80.0% completed."  
  
ans =  
"Acquisition search 90.0% completed."  
  
ans =  
"Acquisition search 100.0% completed."  
  
ans =  
  
struct with fields:  
    maxPeak: 0.0070  
    idStartTime: 281651  
    idDopplerShift: 55  
        mean: 5.7302e-09  
    meanSquare: 3.0765e-09  
        phase: 2.1282
```

ans =

"Tracker step 1: demodulated 10 symbols."

ans =

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

ans =

"Tracker step 4: demodulated 40 symbols."

ans =

"Tracker step 5: demodulated 50 symbols."

ans =

"Tracker step 6: demodulated 60 symbols."

ans =

"Tracker step 7: demodulated 70 symbols."

```
ans =

"Tracker step 8: demodulated 80 symbols."

Warning: Error no ack: received CRC 0001101111100100100011110 and CRC remainder 0000000000000000110111111
> In MessageAnalyzer/analyzeMessage (line 85)
In RECEIVER (line 259)
In RECEIVERTest/globalTest (line 109)

ans =

"Received message analyzed."

ans =

"DEMODULATION RESULT 0"

ans =

struct with fields:
    version: "2"
    ACQUISITION_OK: 1
    TRACKING_OK: 1
    DEMODULATION_OK: 0
    SV_ID: '000001'
    message_ID: '0011'
    message_body: '010100110001110011001011101110'
    CRC: '0001101111100100100011110'
    ACKed: 0
    isACKmessage: 1
```

```
estimatedDopplerStart: 59.0909
estimatedDopplerEnd: 83.0317
estimatedDelay: 0.0282
estimatedPhase: 2.1282
```

```
ans =
```

```
"Results saved in MM_test_5.98_51_f0_d100_s10_c5.json"
```

```
Elapsed time is 17.268916 seconds.
```

```
.
```

```
ans =
```

```
"Generation test signal completed."
```

```
Elapsed time is 0.976571 seconds.
```

```
ans =
```

```
"Acquisition search 10.0% completed."
```

```
ans =
```

```
"Acquisition search 20.0% completed."
```

```
ans =
```

```
"Acquisition search 30.0% completed."
```

```
ans =
```

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

ans =

"Acquisition search 100.0% completed."

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0056
   idStartTime: 281651
 idDopplerShift: 55
           mean: 2.9244e-09
   meanSquare: 1.9350e-09
           phase: 2.1282
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```



```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
Warning: Error no ack: received CRC 000110111100100100011110 and CRC remainder 000000000000000110111111  
> In MessageAnalyzer/analyzeMessage (line 85)  
In RECEIVER (line 259)  
In RECEIVERTest/globalTest (line 109)
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 0"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
  ACQUISITION_OK: 1
    TRACKING_OK: 1
  DEMODULATION_OK: 0
      SV_ID: '000001'
    message_ID: '0011'
  message_body: '010100110001110011001011101110'
      CRC: '000110111100100100011110'
    ACKed: 0
    isACKmessage: 1
  estimatedDopplerStart: 59.0909
  estimatedDopplerEnd: 83.0317
    estimatedDelay: 0.0282
  estimatedPhase: 2.1282
```

```
ans =
```

```
"Results saved in MM_test_6.31_51_f0_d100_s10_c5.json"
```

```
Elapsed time is 17.587522 seconds.
```

```
.
```

```
ans =
```

```
"Generation test signal completed."
```

```
Elapsed time is 0.955512 seconds.
```

```
ans =
```

```
"Acquisition search 10.0% completed."
```

```
ans =
```

```
"Acquisition search 20.0% completed."
```

```
ans =
```

```
"Acquisition search 30.0% completed."
```

```
ans =
```

```
"Acquisition search 40.0% completed."
```

```
ans =
```

```
"Acquisition search 50.0% completed."
```

```
ans =
```

```
"Acquisition search 60.0% completed."
```

```
ans =
```

```
"Acquisition search 70.0% completed."
```

```
ans =
```

```
"Acquisition search 80.0% completed."
```

```
ans =
```

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0045  
    idStartTime: 281651  
    idDopplerShift: 55  
              mean: 2.3441e-09  
    meanSquare: 1.2071e-09  
              phase: 2.1282
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
Warning: Error no ack: received CRC 000110111100100100011110 and CRC remainder 000000000000000110111111
> In MessageAnalyzer/analyzeMessage (line 85)
In RECEIVER (line 259)
In RECEIVERTest/globalTest (line 109)
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 0"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
  ACQUISITION_OK: 1
    TRACKING_OK: 1
  DEMODULATION_OK: 0
        SV_ID: '000001'
    message_ID: '0011'
  message_body: '010100110001110011001011101110'
        CRC: '000110111100100100011110'
        ACKed: 0
    isACKmessage: 1
  estimatedDopplerStart: 59.0909
  estimatedDopplerEnd: 83.0317
    estimatedDelay: 0.0282
  estimatedPhase: 2.1282
```

```
ans =
```

```
"Results saved in MM_test_6.64_51_f0_d100_s10_c5.json"
```

Elapsed time is 17.089830 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 1.039109 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

```
"Acquisition search 60.0% completed."
```

```
ans =
```

```
"Acquisition search 70.0% completed."
```

```
ans =
```

```
"Acquisition search 80.0% completed."
```

```
ans =
```

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0867  
    idStartTime: 281650  
    idDopplerShift: 61  
              mean: 5.9153e-08  
    meanSquare: 4.9369e-07  
              phase: 2.6918
```



```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
Warning: Error. Incorrect received tail 001001.
```

```
> In MessageAnalyzer/validateAndSplitMessage (line 110)
```

```
In MessageAnalyzer/analyzeMessage (line 71)
```

```
In RECEIVER (line 259)
```

```
In RECEIVERTest/globalTest (line 109)
```

```
Warning: Error no ack: received CRC 001110100111000010110111 and CRC remainder 1010000001100101100010100
```

```
> In MessageAnalyzer/analyzeMessage (line 85)
```

```
In RECEIVER (line 259)
```

```
In RECEIVERTest/globalTest (line 109)
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 0"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
```

```
    ACQUISITION_OK: 1
```

```
    TRACKING_OK: 1
```

```
DEMODULATION_OK: 0
    SV_ID: '000001'
    message_ID: '0011'
    message_body: '010100110110000000110011101000'
                CRC: '001110100111000010110111'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 71.2121
    estimatedDopplerEnd: 90.6238
    estimatedDelay: 0.0282
    estimatedPhase: 2.6918

ans =

"Results saved in MM_test_2.32_102.6_f0_d100_s10_c5.json"

Elapsed time is 17.130913 seconds.
.
ans =

"Generation test signal completed."

Elapsed time is 0.992905 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."
```

```
ans =
```

```
"Acquisition search 30.0% completed."
```

```
ans =
```

```
"Acquisition search 40.0% completed."
```

```
ans =
```

```
"Acquisition search 50.0% completed."
```

```
ans =
```

```
"Acquisition search 60.0% completed."
```

```
ans =
```

```
"Acquisition search 70.0% completed."
```

```
ans =
```

```
"Acquisition search 80.0% completed."
```

```
ans =
```

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0545
   idStartTime: 281650
 idDopplerShift: 61
           mean: 4.7238e-08
    meanSquare: 1.9017e-07
           phase: 2.6918
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
Warning: Error. Incorrect received tail 001001.
```

```
> In MessageAnalyzer/validateAndSplitMessage (line 110)
```

```
In MessageAnalyzer/analyzeMessage (line 71)
```

```
In RECEIVER (line 259)
```

```
In RECEIVERTest/globalTest (line 109)
```

```
Warning: Error no ack: received CRC 001110100111000010110111 and CRC remainder 1010000001100101100010100
```

```
> In MessageAnalyzer/analyzeMessage (line 85)
```

```
In RECEIVER (line 259)
```

```
In RECEIVERTest/globalTest (line 109)
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 0"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
  ACQUISITION_OK: 1
    TRACKING_OK: 1
  DEMODULATION_OK: 0
        SV_ID: '000001'
      message_ID: '0011'
  message_body: '010100110110000000110011101000'
          CRC: '001110100111000010110111'
        ACKed: 0
    isACKmessage: 1
estimatedDopplerStart: 71.2121
estimatedDopplerEnd: 90.6238
estimatedDelay: 0.0282
estimatedPhase: 2.6918
```

```
ans =
```

```
"Results saved in MM_test_2.99_102.6_f0_d100_s10_c5.json"
```

Elapsed time is 17.827877 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.990449 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =


```
"Acquisition search 60.0% completed."
```

```
ans =
```

```
"Acquisition search 70.0% completed."
```

```
ans =
```

```
"Acquisition search 80.0% completed."
```

```
ans =
```

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0345  
    idStartTime: 281650  
    idDopplerShift: 61  
              mean: 2.8572e-08  
    meanSquare: 7.7330e-08  
              phase: 2.6918
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
Warning: Error. Incorrect received tail 001001.
```

```
> In MessageAnalyzer/validateAndSplitMessage (line 110)
```

```
In MessageAnalyzer/analyzeMessage (line 71)
```

```
In RECEIVER (line 259)
```

```
In RECEIVERTest/globalTest (line 109)
```

```
Warning: Error no ack: received CRC 001110100111000010110111 and CRC remainder 10100000011001011000010100
```

```
> In MessageAnalyzer/analyzeMessage (line 85)
```

```
In RECEIVER (line 259)
```

```
In RECEIVERTest/globalTest (line 109)
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 0"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
```

```
    ACQUISITION_OK: 1
```

```
    TRACKING_OK: 1
```

```
DEMODULATION_OK: 0
    SV_ID: '000001'
    message_ID: '0011'
    message_body: '010100110110000000110011101000'
                CRC: '001110100111000010110111'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 71.2121
    estimatedDopplerEnd: 90.6238
    estimatedDelay: 0.0282
    estimatedPhase: 2.6918

ans =

"Results saved in MM_test_3.65_102.6_f0_d100_s10_c5.json"

Elapsed time is 16.944910 seconds.
.
ans =

"Generation test signal completed."

Elapsed time is 0.981120 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."
```

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0217
    idStartTime: 281650
    idDopplerShift: 61
              mean: 8.0147e-09
              meanSquare: 3.0790e-08
              phase: 2.6918
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
Warning: Error. Incorrect received tail 001001.
```

```
> In MessageAnalyzer/validateAndSplitMessage (line 110)
```

```
In MessageAnalyzer/analyzeMessage (line 71)
```

```
In RECEIVER (line 259)
```

```
In RECEIVERTest/globalTest (line 109)
```

```
Warning: Error no ack: received CRC 001110100111000010110111 and CRC remainder 1010000001100101100010100
```

```
> In MessageAnalyzer/analyzeMessage (line 85)
```

```
In RECEIVER (line 259)
```

```
In RECEIVERTest/globalTest (line 109)
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 0"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
  ACQUISITION_OK: 1
    TRACKING_OK: 1
  DEMODULATION_OK: 0
        SV_ID: '000001'
      message_ID: '0011'
  message_body: '010100110110000000110011101000'
          CRC: '001110100111000010110111'
        ACKed: 0
    isACKmessage: 1
estimatedDopplerStart: 71.2121
estimatedDopplerEnd: 90.6238
estimatedDelay: 0.0282
estimatedPhase: 2.6918
```

```
ans =
```

```
"Results saved in MM_test_4.32_102.6_f0_d100_s10_c5.json"
```


Elapsed time is 17.046808 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 1.029792 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

```
"Acquisition search 60.0% completed."
```

```
ans =
```

```
"Acquisition search 70.0% completed."
```

```
ans =
```

```
"Acquisition search 80.0% completed."
```

```
ans =
```

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0137
    idStartTime: 281650
    idDopplerShift: 61
              mean: 7.2842e-09
    meanSquare: 1.2263e-08
              phase: 2.6918
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
Warning: Error. Incorrect received tail 110110.
```

```
> In MessageAnalyzer/validateAndSplitMessage (line 110)
```

```
In MessageAnalyzer/analyzeMessage (line 71)
```

```
In RECEIVER (line 259)
```

```
In RECEIVERTest/globalTest (line 109)
```

```
Warning: Error no ack: received CRC 001110100111000010110111 and CRC remainder 1010000001100101100010100
```

```
> In MessageAnalyzer/analyzeMessage (line 85)
```

```
In RECEIVER (line 259)
```

```
In RECEIVERTest/globalTest (line 109)
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 0"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
```

```
    ACQUISITION_OK: 1
```

```
    TRACKING_OK: 1
```

```
DEMODULATION_OK: 0
    SV_ID: '000001'
    message_ID: '0011'
    message_body: '010100110110000000110011101000'
                CRC: '001110100111000010110111'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 71.2121
    estimatedDopplerEnd: 90.6238
    estimatedDelay: 0.0282
    estimatedPhase: 2.6918

ans =

"Results saved in MM_test_4.98_102.6_f0_d100_s10_c5.json"

Elapsed time is 16.962372 seconds.
.
ans =

"Generation test signal completed."

Elapsed time is 1.071788 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."
```

```
ans =
```

```
"Acquisition search 30.0% completed."
```

```
ans =
```

```
"Acquisition search 40.0% completed."
```

```
ans =
```

```
"Acquisition search 50.0% completed."
```

```
ans =
```

```
"Acquisition search 60.0% completed."
```

```
ans =
```

```
"Acquisition search 70.0% completed."
```

```
ans =
```

```
"Acquisition search 80.0% completed."
```

```
ans =
```

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0108
   idStartTime: 281650
 idDopplerShift: 61
         mean: 6.9184e-09
   meanSquare: 7.6856e-09
         phase: 2.6918
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
Warning: Error. Incorrect received tail 001001.
```

```
> In MessageAnalyzer/validateAndSplitMessage (line 110)
```

```
In MessageAnalyzer/analyzeMessage (line 71)
```

```
In RECEIVER (line 259)
```

```
In RECEIVERTest/globalTest (line 109)
```

```
Warning: Error no ack: received CRC 001110100111000010110111 and CRC remainder 1010000001100101100010100
```

```
> In MessageAnalyzer/analyzeMessage (line 85)
```

```
In RECEIVER (line 259)
```

```
In RECEIVERTest/globalTest (line 109)
```



```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 0"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
  ACQUISITION_OK: 1
    TRACKING_OK: 1
  DEMODULATION_OK: 0
        SV_ID: '000001'
      message_ID: '0011'
  message_body: '010100110110000000110011101000'
          CRC: '001110100111000010110111'
        ACKed: 0
      isACKmessage: 1
  estimatedDopplerStart: 71.2121
  estimatedDopplerEnd: 90.6238
    estimatedDelay: 0.0282
  estimatedPhase: 2.6918
```

```
ans =
```

```
"Results saved in MM_test_5.32_102.6_f0_d100_s10_c5.json"
```

Elapsed time is 17.110349 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.984967 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

```
"Acquisition search 60.0% completed."
```

```
ans =
```

```
"Acquisition search 70.0% completed."
```

```
ans =
```

```
"Acquisition search 80.0% completed."
```

```
ans =
```

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0086
    idStartTime: 281650
    idDopplerShift: 61
              mean: 1.1899e-08
    meanSquare: 4.9129e-09
              phase: 2.6918
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
Warning: Error. Incorrect received tail 110110.
```

```
> In MessageAnalyzer/validateAndSplitMessage (line 110)
```

```
In MessageAnalyzer/analyzeMessage (line 71)
```

```
In RECEIVER (line 259)
```

```
In RECEIVERTest/globalTest (line 109)
```

```
Warning: Error no ack: received CRC 001110100111000010110111 and CRC remainder 1010000001100101100010100
```

```
> In MessageAnalyzer/analyzeMessage (line 85)
```

```
In RECEIVER (line 259)
```

```
In RECEIVERTest/globalTest (line 109)
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 0"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
```

```
    ACQUISITION_OK: 1
```

```
    TRACKING_OK: 1
```

```
DEMODULATION_OK: 0
    SV_ID: '000001'
    message_ID: '0011'
    message_body: '010100110110000000110011101000'
                CRC: '001110100111000010110111'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 71.2121
    estimatedDopplerEnd: 90.6238
    estimatedDelay: 0.0282
    estimatedPhase: 2.6918

ans =

"Results saved in MM_test_5.65_102.6_f0_d100_s10_c5.json"

Elapsed time is 16.967578 seconds.
.
ans =

"Generation test signal completed."

Elapsed time is 0.991351 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."
```

```
ans =
```

```
"Acquisition search 30.0% completed."
```

```
ans =
```

```
"Acquisition search 40.0% completed."
```

```
ans =
```

```
"Acquisition search 50.0% completed."
```

```
ans =
```

```
"Acquisition search 60.0% completed."
```

```
ans =
```

```
"Acquisition search 70.0% completed."
```

```
ans =
```

```
"Acquisition search 80.0% completed."
```

```
ans =
```

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0069
   idStartTime: 281650
  idDopplerShift: 61
           mean: 1.2025e-09
        meanSquare: 3.0643e-09
           phase: 2.6918
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```



```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
Warning: Error. Incorrect received tail 001001.
```

```
> In MessageAnalyzer/validateAndSplitMessage (line 110)
```

```
In MessageAnalyzer/analyzeMessage (line 71)
```

```
In RECEIVER (line 259)
```

```
In RECEIVERTest/globalTest (line 109)
```

```
Warning: Error no ack: received CRC 001110100111000010110111 and CRC remainder 101000001100101100010100
```

```
> In MessageAnalyzer/analyzeMessage (line 85)
```

```
In RECEIVER (line 259)
```

```
In RECEIVERTest/globalTest (line 109)
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 0"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
  ACQUISITION_OK: 1
    TRACKING_OK: 1
  DEMODULATION_OK: 0
        SV_ID: '000001'
      message_ID: '0011'
  message_body: '010100110110000000110011101000'
          CRC: '001110100111000010110111'
        ACKed: 0
    isACKmessage: 1
estimatedDopplerStart: 71.2121
estimatedDopplerEnd: 90.6238
estimatedDelay: 0.0282
estimatedPhase: 2.6918
```

```
ans =
```

```
"Results saved in MM_test_5.98_102.6_f0_d100_s10_c5.json"
```

Elapsed time is 17.156022 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.989178 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

```
"Acquisition search 60.0% completed."
```

```
ans =
```

```
"Acquisition search 70.0% completed."
```

```
ans =
```

```
"Acquisition search 80.0% completed."
```

```
ans =
```

```
"Acquisition search 90.0% completed."
```

```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0055  
    idStartTime: 281650  
    idDopplerShift: 61  
              mean: 7.7201e-10  
    meanSquare: 1.9387e-09  
              phase: 2.6918
```

ans =

"Tracker step 1: demodulated 10 symbols."

ans =

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

ans =

"Tracker step 4: demodulated 40 symbols."

ans =

"Tracker step 5: demodulated 50 symbols."

ans =

"Tracker step 6: demodulated 60 symbols."

ans =

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
Warning: Error. Incorrect received tail 110110.
```

```
> In MessageAnalyzer/validateAndSplitMessage (line 110)
```

```
In MessageAnalyzer/analyzeMessage (line 71)
```

```
In RECEIVER (line 259)
```

```
In RECEIVERTest/globalTest (line 109)
```

```
Warning: Error no ack: received CRC 001110100111000010110111 and CRC remainder 1010000001100101100010100
```

```
> In MessageAnalyzer/analyzeMessage (line 85)
```

```
In RECEIVER (line 259)
```

```
In RECEIVERTest/globalTest (line 109)
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 0"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
```

```
    ACQUISITION_OK: 1
```

```
    TRACKING_OK: 1
```

```
DEMODULATION_OK: 0
    SV_ID: '000001'
    message_ID: '0011'
    message_body: '010100110110000000110011101000'
                CRC: '001110100111000010110111'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 71.2121
    estimatedDopplerEnd: 90.6238
    estimatedDelay: 0.0282
    estimatedPhase: 2.6918

ans =

"Results saved in MM_test_6.31_102.6_f0_d100_s10_c5.json"

Elapsed time is 17.856786 seconds.
.
ans =

"Generation test signal completed."

Elapsed time is 1.018768 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."
```

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."


```
ans =
```

```
"Acquisition search 100.0% completed."
```

```
ans =
```

```
struct with fields:
```

```
    maxPeak: 0.0043
   idStartTime: 281650
   idDopplerShift: 61
           mean: 3.2125e-09
       meanSquare: 1.2251e-09
           phase: 2.6918
```

```
ans =
```

```
"Tracker step 1: demodulated 10 symbols."
```

```
ans =
```

```
"Tracker step 2: demodulated 20 symbols."
```

```
ans =
```

```
"Tracker step 3: demodulated 30 symbols."
```

```
ans =
```

```
"Tracker step 4: demodulated 40 symbols."
```

```
ans =
```

```
"Tracker step 5: demodulated 50 symbols."
```

```
ans =
```

```
"Tracker step 6: demodulated 60 symbols."
```

```
ans =
```

```
"Tracker step 7: demodulated 70 symbols."
```

```
ans =
```

```
"Tracker step 8: demodulated 80 symbols."
```

```
Warning: Error. Incorrect received tail 001001.
```

```
> In MessageAnalyzer/validateAndSplitMessage (line 110)
```

```
In MessageAnalyzer/analyzeMessage (line 71)
```

```
In RECEIVER (line 259)
```

```
In RECEIVERTest/globalTest (line 109)
```

```
Warning: Error no ack: received CRC 001110100111000010110111 and CRC remainder 1010000001100101100010100
```

```
> In MessageAnalyzer/analyzeMessage (line 85)
```

```
In RECEIVER (line 259)
```

```
In RECEIVERTest/globalTest (line 109)
```

```
ans =
```

```
"Received message analyzed."
```

```
ans =
```

```
"DEMODULATION RESULT 0"
```

```
ans =
```

```
struct with fields:
```

```
    version: "2"
  ACQUISITION_OK: 1
    TRACKING_OK: 1
  DEMODULATION_OK: 0
        SV_ID: '000001'
      message_ID: '0011'
  message_body: '010100110110000000110011101000'
          CRC: '001110100111000010110111'
        ACKed: 0
    isACKmessage: 1
estimatedDopplerStart: 71.2121
estimatedDopplerEnd: 90.6238
estimatedDelay: 0.0282
estimatedPhase: 2.6918
```

```
ans =
```

```
"Results saved in MM_test_6.64_102.6_f0_d100_s10_c5.json"
```

Elapsed time is 17.079152 seconds.

.

Done RECEIVERTest

ans =

1x1200 TestResult array with properties:

Name
Passed
Failed
Incomplete
Duration
Details

Totals:

1200 Passed, 0 Failed, 0 Incomplete.

22968.6674 seconds testing time.

>>