

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: 48.9899
    estimatedDopplerEnd: 61.2836
    estimatedDelay: 0.0282
```

```
estimatedPhase: 1.8461
```

```
ans =
```

```
"Results saved in MM_test_5.32_12.6_f1_d100_s10_c5.json"
```

```
Elapsed time is 16.220979 seconds.
```

```
.
```

```
ans =
```

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

```
Elapsed time is 0.881119 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: 0.0087
idStartTime: 281652
idDopplerShift: 50
    mean: 8.1232e-10
meanSquare: 4.8486e-09
    phase: 1.8461
```

```
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: 48.9899
estimatedDopplerEnd: 61.2836
estimatedDelay: 0.0282
estimatedPhase: 1.8461
```

```
ans =
```

```
"Results saved in MM_test_5.65_12.6_f1_d100_s10_c5.json"
```

```
Elapsed time is 16.580767 seconds.
```

```
.
```

```
ans =
```

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

```
Elapsed time is 0.820815 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: 281652  
    idDopplerShift: 50  
              mean: 4.2067e-09  
    meanSquare: 3.1055e-09  
              phase: 1.8461
```

```
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: 48.9899
  estimatedDopplerEnd: 61.2836
  estimatedDelay: 0.0282
  estimatedPhase: 1.8461
```

ans =

```
"Results saved in MM_test_5.98_12.6_f1_d100_s10_c5.json"
```

Elapsed time is 16.063532 seconds.

.

ans =

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

Elapsed time is 0.839028 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: 281652  
    idDopplerShift: 50  
              mean: 5.6468e-09  
    meanSquare: 1.9621e-09  
              phase: 1.8461
```

```
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: 48.9899
estimatedDopplerEnd: 61.2836
estimatedDelay: 0.0282
estimatedPhase: 1.8461
```

```
ans =
```

```
"Results saved in MM_test_6.31_12.6_f1_d100_s10_c5.json"
```

```
Elapsed time is 16.254088 seconds.
```

```
.
```

```
ans =
```

"Generation test signal completed."

Elapsed time is 0.819346 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: 281652  
    idDopplerShift: 50  
              mean: 4.0370e-09  
    meanSquare: 1.2393e-09  
              phase: 1.8461
```

```
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: 48.9899
  estimatedDopplerEnd: 61.2836
    estimatedDelay: 0.0282
  estimatedPhase: 1.8461
```

```
ans =
```

```
"Results saved in MM_test_6.64_12.6_f1_d100_sl0_c5.json"
```

```
Elapsed time is 16.089114 seconds.
```

```
.
```

```
ans =
```

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

```
Elapsed time is 0.896625 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: 0.0873
```

```
idStartTime: 281652
idDopplerShift: 52
    mean: 2.6432e-08
    meanSquare: 4.9444e-07
    phase: 1.8561
```

```
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: '00011011111001000101000001'
        ACKed: 1
        isACKmessage: 1
        estimatedDopplerStart: 53.0303
        estimatedDopplerEnd: 66.6182
        estimatedDelay: 0.0282
        estimatedPhase: 1.8561

ans =

"Results saved in MM_test_2.32_25.4_f1_d100_s10_c5.json"

Elapsed time is 16.022570 seconds.
.
ans =

"Generation test signal completed."

Elapsed time is 0.909902 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: 0.0549
   idStartTime: 281652
 idDopplerShift: 52
         mean: 1.1929e-08
   meanSquare: 1.9609e-07
         phase: 1.8561
```

```
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: 53.0303
    estimatedDopplerEnd: 66.6182
    estimatedDelay: 0.0282
    estimatedPhase: 1.8561
```

```
ans =
```

```
"Results saved in MM_test_2.99_25.4_f1_d100_s10_c5.json"
```

```
Elapsed time is 16.083826 seconds.
```

```
.
```

```
ans =
```

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

```
Elapsed time is 0.985144 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: 0.0347
    idStartTime: 281652
    idDopplerShift: 52
              mean: 6.3848e-09
    meanSquare: 7.7775e-08
              phase: 1.8561
```

```
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: 53.0303
  estimatedDopplerEnd: 66.6182
    estimatedDelay: 0.0282
  estimatedPhase: 1.8561
```

```
ans =
```

```
"Results saved in MM_test_3.65_25.4_f1_d100_s10_c5.json"
```

```
Elapsed time is 16.214749 seconds.
```

```
.
```

```
ans =
```

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



Elapsed time is 0.898735 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: 0.0218
    idStartTime: 281652
    idDopplerShift: 52
              mean: 1.8105e-08
    meanSquare: 3.0979e-08
              phase: 1.8561
```

```
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: 53.0303
  estimatedDopplerEnd: 66.6182
    estimatedDelay: 0.0282
    estimatedPhase: 1.8561
```

```
ans =
```

```
"Results saved in MM_test_4.32_25.4_f1_d100_s10_c5.json"
```

```
Elapsed time is 15.714516 seconds.
```

```
.  
ans =
```

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

```
Elapsed time is 0.893306 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: 0.0138  
    idStartTime: 281652  
    idDopplerShift: 52
```

```
    mean: 1.2335e-08  
    meanSquare: 1.2196e-08  
    phase: 1.8561
```

```
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: 53.0303
estimatedDopplerEnd: 66.6182
estimatedDelay: 0.0282
estimatedPhase: 1.8561
```

```
ans =
```

```
"Results saved in MM_test_4.98_25.4_f1_d100_s10_c5.json"
```

```
Elapsed time is 16.078920 seconds.
```

```
.
```

```
ans =
```

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

```
Elapsed time is 0.957669 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: 0.0109
   idStartTime: 281652
 idDopplerShift: 52
           mean: 5.7109e-09
   meanSquare: 7.5519e-09
           phase: 1.8561
```

```
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 =
```

```
"DEMULATION 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: 53.0303
estimatedDopplerEnd: 66.6182
estimatedDelay: 0.0282
estimatedPhase: 1.8561
```

```
ans =
```

```
"Results saved in MM_test_5.32_25.4_f1_d100_s10_c5.json"
```

```
Elapsed time is 16.931675 seconds.
```

```
.
```

```
ans =
```

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

```
Elapsed time is 0.905040 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: 0.0087
    idStartTime: 281652
    idDopplerShift: 52
        mean: 4.9191e-09
    meanSquare: 4.8597e-09
        phase: 1.8561
```

```
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: 53.0303
estimatedDopplerEnd: 66.6182
estimatedDelay: 0.0282
estimatedPhase: 1.8561
```

```
ans =
```

```
"Results saved in MM_test_5.65_25.4_f1_d100_s10_c5.json"
```

```
Elapsed time is 16.183532 seconds.
```

```
.
```

```
ans =
```

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

```
Elapsed time is 0.898092 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: 281652
    idDopplerShift: 52
               mean: 5.4238e-09
    meanSquare: 3.1055e-09
               phase: 1.8561
```

```
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: 53.0303
estimatedDopplerEnd: 66.6182
estimatedDelay: 0.0282
estimatedPhase: 1.8561
```

```
ans =
```

```
"Results saved in MM_test_5.98_25.4_f1_d100_s10_c5.json"
```

Elapsed time is 16.345694 seconds.

.  
ans =

"Generation test signal completed."

Elapsed time is 0.890846 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: 281652  
    idDopplerShift: 52  
              mean: 4.6053e-09  
    meanSquare: 1.9521e-09
```

phase: 1.8561

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: 53.0303
```

```
estimatedDopplerEnd: 66.6182  
estimatedDelay: 0.0282  
estimatedPhase: 1.8561
```

```
ans =
```

```
"Results saved in MM_test_6.31_25.4_f1_d100_s10_c5.json"
```

```
Elapsed time is 16.884354 seconds.
```

```
.
```

```
ans =
```

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

```
Elapsed time is 0.874853 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: 281652
    idDopplerShift: 52
           mean: 1.8233e-09
    meanSquare: 1.2243e-09
           phase: 1.8561
```

```
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: 53.0303
    estimatedDopplerEnd: 66.6182
    estimatedDelay: 0.0282
    estimatedPhase: 1.8561

ans =

"Results saved in MM_test_6.64_25.4_fl_d100_s10_c5.json"

Elapsed time is 16.154107 seconds.
.
ans =

"Generation test signal completed."

Elapsed time is 0.909451 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: 0.0865
   idStartTime: 281651
 idDopplerShift: 54
         mean: 1.3182e-08
   meanSquare: 4.9428e-07
         phase: 2.3838
```

```
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 111110.
```

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

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
Warning: Error no ack: received CRC 000110110011000011010010 and CRC remainder 00000000011111000001110011
```

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
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: '000110110011000011010010'
        ACKed: 0
    isACKmessage: 1
estimatedDopplerStart: 57.0707
estimatedDopplerEnd: 77.1291
estimatedDelay: 0.0282
estimatedPhase: 2.3838
```

```
ans =
```

```
"Results saved in MM_test_2.32_51_f1_d100_s10_c5.json"
```

Elapsed time is 16.185525 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.921672 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: 0.0544  
    idStartTime: 281651  
    idDopplerShift: 54  
              mean: 6.6026e-08  
    meanSquare: 1.9460e-07  
              phase: 2.3838
```

```
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 111110.
```

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

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
Warning: Error no ack: received CRC 000110110011000011010010 and CRC remainder 00000000011111000001110011
```

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
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: '000110110011000011010010'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 57.0707
    estimatedDopplerEnd: 77.1291
    estimatedDelay: 0.0282
    estimatedPhase: 2.3838
```

```
ans =
```

```
"Results saved in MM_test_2.99_51_fl_d100_s10_c5.json"
```

```
Elapsed time is 16.415462 seconds.
```

```
.
```

```
ans =
```

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

```
Elapsed time is 0.931893 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: 0.0344
   idStartTime: 281651
 idDopplerShift: 54
         mean: 1.0075e-08
   meanSquare: 7.8892e-08
         phase: 2.3838
```

```
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 111110.
```

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

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
Warning: Error no ack: received CRC 000110110011000011010010 and CRC remainder 00000000011111000001110011
```

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
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: '000110110011000011010010'  
        ACKed: 0  
        isACKmessage: 1  
        estimatedDopplerStart: 57.0707  
        estimatedDopplerEnd: 77.1291  
        estimatedDelay: 0.0282  
        estimatedPhase: 2.3838
```

```
ans =
```

```
"Results saved in MM_test_3.65_51_f1_d100_s10_c5.json"
```

Elapsed time is 16.126458 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.943226 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: 0.0216  
    idStartTime: 281651  
    idDopplerShift: 54  
              mean: 1.8894e-08  
    meanSquare: 3.0623e-08  
              phase: 2.3838
```

```
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 111110.
```

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

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
Warning: Error no ack: received CRC 000110110011000011010000 and CRC remainder 00000000011111000001110001
```

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
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: '0101001100011100110010101101110'
                CRC: '000110110011000011010000'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 57.0707
    estimatedDopplerEnd: 80.3644
    estimatedDelay: 0.0282
    estimatedPhase: 2.3838
```

```
ans =
```

```
"Results saved in MM_test_4.32_51_fl_d100_s10_c5.json"
```

```
Elapsed time is 16.109649 seconds.
```

```
.
```

```
ans =
```

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

```
Elapsed time is 0.912076 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: 281651
    idDopplerShift: 54
           mean: 8.4816e-09
    meanSquare: 1.2233e-08
           phase: 2.3838
```

```
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 111110.
```

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

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
Warning: Error no ack: received CRC 000110110011000011010010 and CRC remainder 00000000011111000001110011
```

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
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: '000110110011000011010010'
        ACKed: 0
      isACKmessage: 1
  estimatedDopplerStart: 57.0707
  estimatedDopplerEnd: 77.1291
    estimatedDelay: 0.0282
  estimatedPhase: 2.3838
```

```
ans =
```

```
"Results saved in MM_test_4.98_51_fl_d100_s10_c5.json"
```

Elapsed time is 16.130142 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.924512 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: 281651
    idDopplerShift: 54
              mean: 8.6097e-09
    meanSquare: 7.6091e-09
              phase: 2.3838
```

```
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 111110.
```

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

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
Warning: Error no ack: received CRC 000110110011000011010000 and CRC remainder 00000000011111000001110001
```

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
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: '0101001100011100110010101101110'
                CRC: '000110110011000011010000'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 57.0707
    estimatedDopplerEnd: 80.3644
    estimatedDelay: 0.0282
    estimatedPhase: 2.3838

ans =

"Results saved in MM_test_5.32_51_fl_d100_s10_c5.json"

Elapsed time is 15.956745 seconds.
.
ans =

"Generation test signal completed."

Elapsed time is 0.927489 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: 281651
 idDopplerShift: 54
         mean: 5.7468e-09
   meanSquare: 4.8336e-09
         phase: 2.3838
```

```
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 111110.
```

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

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
Warning: Error no ack: received CRC 000110110011000011010010 and CRC remainder 00000000011111000001110011
```

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
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: '000110110011000011010010'
        ACKed: 0
    isACKmessage: 1
estimatedDopplerStart: 57.0707
estimatedDopplerEnd: 77.1291
estimatedDelay: 0.0282
estimatedPhase: 2.3838
```

```
ans =
```

```
"Results saved in MM_test_5.65_51_f1_d100_s10_c5.json"
```

Elapsed time is 16.044168 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.921549 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: 0.0068  
    idStartTime: 281651  
    idDopplerShift: 54  
              mean: 5.4410e-09  
    meanSquare: 3.0923e-09  
              phase: 2.3838
```

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 111110.
```

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

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
Warning: Error no ack: received CRC 000110110011000011010000 and CRC remainder 00000000011111000001110001
```

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
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: '000110110011000011010000'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 57.0707
    estimatedDopplerEnd: 80.3644
    estimatedDelay: 0.0282
    estimatedPhase: 2.3838
```

```
ans =
```

```
"Results saved in MM_test_5.98_51_fl_d100_s10_c5.json"
```

```
Elapsed time is 16.175068 seconds.
```

```
.
```

```
ans =
```

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

```
Elapsed time is 1.015235 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: 0.0054  
    idStartTime: 281651  
    idDopplerShift: 54  
           mean: 7.7456e-10  
    meanSquare: 1.9511e-09  
           phase: 2.3838
```

```
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 111110.
```

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

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
Warning: Error no ack: received CRC 000110110011000011010010 and CRC remainder 00000000011111000001110011
```

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
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: '000110110011000011010010'
        ACKed: 0
    isACKmessage: 1
estimatedDopplerStart: 57.0707
estimatedDopplerEnd: 77.1291
  estimatedDelay: 0.0282
estimatedPhase: 2.3838
```

```
ans =
```

```
"Results saved in MM_test_6.31_51_fl_d100_s10_c5.json"
```

Elapsed time is 16.491565 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.924121 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: 281651  
    idDopplerShift: 54  
              mean: 3.7105e-09  
    meanSquare: 1.2415e-09  
              phase: 2.3838
```



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 111110.
```

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

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
Warning: Error no ack: received CRC 000110110011000011010010 and CRC remainder 00000000011111000001110011
```

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
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: '000110110011000011010010'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 57.0707
    estimatedDopplerEnd: 77.1291
    estimatedDelay: 0.0282
    estimatedPhase: 2.3838

ans =

"Results saved in MM_test_6.64_51_fl_d100_s10_c5.json"

Elapsed time is 16.020268 seconds.
.
ans =

"Generation test signal completed."

Elapsed time is 0.926289 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: 0.0847
    idStartTime: 281651
    idDopplerShift: 61
           mean: 6.9693e-08
    meanSquare: 4.9226e-07
           phase: 2.6891
```

```
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 100001.
```

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

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
Warning: Error no ack: received CRC 111101000111011010101011 and CRC remainder 100101111010101111101111000
```

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
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: '010100110001110000100010010000'
          CRC: '11110100011101101010101011'
        ACKed: 0
    isACKmessage: 1
estimatedDopplerStart: 71.2121
estimatedDopplerEnd: 94.5061
estimatedDelay: 0.0282
estimatedPhase: 2.6891
```

```
ans =
```

```
"Results saved in MM_test_2.32_102.6_fl_d100_s10_c5.json"
```

Elapsed time is 15.816107 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.927388 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: 0.0532
    idStartTime: 281651
    idDopplerShift: 61
              mean: 6.0945e-08
    meanSquare: 1.9454e-07
              phase: 2.6891
```

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 100001.
```

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

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
Warning: Error no ack: received CRC 111101000111011010101011 and CRC remainder 10010111010101111101111000
```

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
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: '010100110001110000100010010000'
                CRC: '11110100011101101010101011'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 71.2121
    estimatedDopplerEnd: 94.5061
    estimatedDelay: 0.0282
    estimatedPhase: 2.6891

ans =

"Results saved in MM_test_2.99_102.6_fl_d100_s10_c5.json"

Elapsed time is 16.513250 seconds.
.
ans =

"Generation test signal completed."

Elapsed time is 0.929430 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: 0.0337
    idStartTime: 281651
    idDopplerShift: 61
              mean: 1.6749e-08
              meanSquare: 7.8086e-08
              phase: 2.6891
```

```
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 100001.
```

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

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
Warning: Error no ack: received CRC 111101000111011010101011 and CRC remainder 10010111010101111101111000
```

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
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: '010100110001110000100010010000'
          CRC: '11110100011101101010101011'
        ACKed: 0
      isACKmessage: 1
  estimatedDopplerStart: 71.2121
  estimatedDopplerEnd: 94.5061
    estimatedDelay: 0.0282
  estimatedPhase: 2.6891
```

```
ans =
```

```
"Results saved in MM_test_3.65_102.6_fl_d100_s10_c5.json"
```



Elapsed time is 15.825589 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.901949 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: 0.0212  
    idStartTime: 281651  
    idDopplerShift: 61  
              mean: 3.0108e-08  
    meanSquare: 3.0533e-08  
              phase: 2.6891
```

```
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 100001.
```

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

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
Warning: Error no ack: received CRC 111101000111011010101011 and CRC remainder 100101111010101111101111000
```

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
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: '010100110001110000100010010000'
                CRC: '11110100011101101010101011'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 71.2121
    estimatedDopplerEnd: 94.5061
    estimatedDelay: 0.0282
    estimatedPhase: 2.6891

ans =

"Results saved in MM_test_4.32_102.6_fl_d100_s10_c5.json"

Elapsed time is 15.751599 seconds.
.
ans =

"Generation test signal completed."

Elapsed time is 0.921863 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: 0.0134
   idStartTime: 281651
 idDopplerShift: 61
         mean: 1.1684e-08
   meanSquare: 1.2358e-08
         phase: 2.6891
```

```
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 100001.
```

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

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
Warning: Error no ack: received CRC 111101000111011010101011 and CRC remainder 10010111010101111101111000
```

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```



```
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: '010100110001110000100010010000'
          CRC: '11110100011101101010101011'
        ACKed: 0
      isACKmessage: 1
  estimatedDopplerStart: 71.2121
  estimatedDopplerEnd: 94.5061
    estimatedDelay: 0.0282
  estimatedPhase: 2.6891
```

```
ans =
```

```
"Results saved in MM_test_4.98_102.6_fl_d100_s10_c5.json"
```

Elapsed time is 16.403817 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.921098 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: 0.0106
    idStartTime: 281651
    idDopplerShift: 61
              mean: 7.8670e-10
    meanSquare: 7.7117e-09
              phase: 2.6891
```

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 100001.
```

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

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
Warning: Error no ack: received CRC 111101000111011010101011 and CRC remainder 100101111010101111101111000
```

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
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: '010100110001110000100010010000'
                CRC: '11110100011101101010101011'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 71.2121
    estimatedDopplerEnd: 94.5061
    estimatedDelay: 0.0282
    estimatedPhase: 2.6891

ans =

"Results saved in MM_test_5.32_102.6_fl_d100_s10_c5.json"

Elapsed time is 16.140527 seconds.
.
ans =

"Generation test signal completed."

Elapsed time is 0.929799 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: 0.0084
   idStartTime: 281651
 idDopplerShift: 61
         mean: 9.7245e-09
    meanSquare: 4.8692e-09
         phase: 2.6891
```

```
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 100001.
```

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

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
Warning: Error no ack: received CRC 111101000111011010101011 and CRC remainder 10010111010101111101111000
```

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
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: '010100110001110000100010010000'
          CRC: '11110100011101101010101011'
        ACKed: 0
    isACKmessage: 1
estimatedDopplerStart: 71.2121
estimatedDopplerEnd: 94.5061
estimatedDelay: 0.0282
estimatedPhase: 2.6891
```

```
ans =
```

```
"Results saved in MM_test_5.65_102.6_fl_d100_s10_c5.json"
```

Elapsed time is 15.877613 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.919160 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: 0.0067  
    idStartTime: 281651  
    idDopplerShift: 61  
        mean: 5.9410e-09  
    meanSquare: 3.0036e-09  
        phase: 2.6891
```

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 011110.
```

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

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
Warning: Error no ack: received CRC 111101000111011010010100 and CRC remainder 10010111010101111101000111
```

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
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: '010100110001110000100010010000'
                CRC: '111101000111011010010100'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 71.2121
    estimatedDopplerEnd: 94.5061
    estimatedDelay: 0.0282
    estimatedPhase: 2.6891

ans =

"Results saved in MM_test_5.98_102.6_fl_d100_s10_c5.json"

Elapsed time is 16.203366 seconds.
.
ans =

"Generation test signal completed."

Elapsed time is 0.927618 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: 0.0053
   idStartTime: 281651
 idDopplerShift: 61
         mean: 3.2201e-09
   meanSquare: 1.9237e-09
         phase: 2.6891
```

```
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 011110.
```

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

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
Warning: Error no ack: received CRC 0000101110001001010100 and CRC remainder 0110101101000010010011011
```

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
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: '010100110001110001011101101111'
          CRC: '000010111000100101010100'
        ACKed: 0
    isACKmessage: 1
estimatedDopplerStart: 71.2121
estimatedDopplerEnd: 94.5061
estimatedDelay: 0.0282
estimatedPhase: 2.6891
```

```
ans =
```

```
"Results saved in MM_test_6.31_102.6_fl_d100_s10_c5.json"
```

Elapsed time is 15.761018 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.946805 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: 0.0042  
    idStartTime: 281651  
    idDopplerShift: 61  
              mean: 3.0459e-09  
    meanSquare: 1.2269e-09  
              phase: 2.6891
```

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 011110.
```

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

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
Warning: Error no ack: received CRC 111101000111011010010100 and CRC remainder 10010111010101111101000111
```

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

```
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
```

```
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: '010100110001110000100010010000'
                CRC: '111101000111011010010100'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 71.2121
    estimatedDopplerEnd: 94.5061
    estimatedDelay: 0.0282
    estimatedPhase: 2.6891
```

```
ans =
```

```
"Results saved in MM_test_6.64_102.6_fl_d100_s10_c5.json"
```

```
Elapsed time is 16.070764 seconds.
```

```
.
Done RECEIVERTest
```

```
ans =
```

```
1x1200 TestResult array with properties:
```

```
    Name
    Passed
    Failed
    Incomplete
    Duration
    Details
```



Totals:

1200 Passed, 0 Failed, 0 Incomplete.  
23370.7833 seconds testing time.

>>