

```
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: 60.1010  
        estimatedDopplerEnd: 74.3360  
        estimatedDelay: 0.0282  
        estimatedPhase: 0.9714  
  
ans =  
    "Results saved in MM_test_5.98_12.6_f3_d1000_s10_c5.json"  
  
Elapsed time is 7.750979 seconds.  
.
```

```
ans =  
    "Generation test signal completed."  
Elapsed time is 0.338470 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: 51
```

```
mean: 1.5696e-09
meanSquare: 1.2031e-09
phase: 0.9714
```

```
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: 60.1010
estimatedDopplerEnd: 74.3360
estimatedDelay: 0.0282
estimatedPhase: 0.9714
```

ans =

```
"Results saved in MM_test_6.31_12.6_f3_d1000_s10_c5.json"
```

Elapsed time is 7.750790 seconds.

.

ans =

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

Elapsed time is 0.335809 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: 0.0035
   idStartTime: 281652
 idDopplerShift: 51
         mean: 6.4512e-11
   meanSquare: 7.6049e-10
         phase: 0.9714
```

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: 60.1010  
        estimatedDopplerEnd: 74.3360  
        estimatedDelay: 0.0282  
        estimatedPhase: 0.9714  
  
ans =  
  
    "Results saved in MM_test_6.64_12.6_f3_d1000_s10_c5.json"  
  
Elapsed time is 7.738918 seconds.  
.  
ans =  
  
    "Generation test signal completed."  
  
Elapsed time is 0.338890 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: 0.0866  
    idStartTime: 281651  
    idDopplerShift: 51  
        mean: 3.2111e-08  
    meanSquare: 3.0345e-07  
        phase: 1.9930
```

```
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 000110111100100111011110 and CRC remainder 000000000000000101111111
> 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: '000110111100100111011110'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 60.1010
    estimatedDopplerEnd: 78.8654
    estimatedDelay: 0.0282
    estimatedPhase: 1.9930
```

```
ans =
```

```
"Results saved in MM_test_2.32_25.4_f3_d1000_s10_c5.json"
```

```
Elapsed time is 7.744942 seconds.
```

```
.
ans =
```

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

```
Elapsed time is 0.347981 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: 51  
            mean: 2.2475e-08  
        meanSquare: 1.1985e-07  
        phase: 1.9930
```

```
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 000110111100100111011110 and CRC remainder 000000000000000101111111  
> 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: '000110111100100111011110'  
    ACKed: 0  
    isACKmessage: 1  
estimatedDopplerStart: 60.1010  
estimatedDopplerEnd: 78.8654  
estimatedDelay: 0.0282  
estimatedPhase: 1.9930
```

ans =

```
"Results saved in MM_test_2.99_25.4_f3_d1000_s10_c5.json"
```

Elapsed time is 7.754021 seconds.

.

ans =

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

Elapsed time is 0.343425 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: 51
         mean: 1.4734e-08
   meanSquare: 4.7999e-08
         phase: 1.9930
```

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 000110111100100111011110 and CRC remainder 00000000000000101111111
> 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: '000110111100100111011110'
    ACKed: 0
  isACKmessage: 1
estimatedDopplerStart: 60.1010
estimatedDopplerEnd: 78.8654
estimatedDelay: 0.0282
estimatedPhase: 1.9930
```

ans =

"Results saved in MM_test_3.65_25.4_f3_d1000_s10_c5.json"

Elapsed time is 7.753005 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.346042 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: 51  
        mean: 3.6601e-09  
        meanSquare: 1.8981e-08  
        phase: 1.9930  
  
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 000110111100100111011110 and CRC remainder 00000000000000101111111
> 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: '000110111100100111011110'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 60.1010
    estimatedDopplerEnd: 78.8654
    estimatedDelay: 0.0282
    estimatedPhase: 1.9930

```

ans =

"Results saved in MM_test_4.32_25.4_f3_d1000_s10_c5.json"

Elapsed time is 7.750258 seconds.

.
ans =

"Generation test signal completed."

Elapsed time is 0.345681 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: 51
         mean: 2.9278e-09
    meanSquare: 7.5987e-09
```


phase: 1.9930

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 000110111100100111011110 and CRC remainder 0000000000000010111111
> 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: '000110111100100111011110'
ACKed: 0
isACKmessage: 1
estimatedDopplerStart: 60.1010
estimatedDopplerEnd: 78.8654
estimatedDelay: 0.0282
estimatedPhase: 1.9930
```

ans =

```
"Results saved in MM_test_4.98_25.4_f3_d1000_s10_c5.json"
```

Elapsed time is 7.743403 seconds.

```
.
ans =
```

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

Elapsed time is 0.338030 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: 51  
           mean: 2.8251e-10  
    meanSquare: 4.7435e-09  
           phase: 1.9930
```

```
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 000110111100100111011110 and CRC remainder 000000000000000101111111
> 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: '000110111100100111011110'
    ACKed: 0
  isACKmessage: 1
estimatedDopplerStart: 60.1010
estimatedDopplerEnd: 78.8654
estimatedDelay: 0.0282
estimatedPhase: 1.9930
```

```
ans =
```

```
"Results saved in MM_test_5.32_25.4_f3_d1000_s10_c5.json"
```

```
Elapsed time is 7.753392 seconds.
```

```
.
ans =
```

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

```
Elapsed time is 0.343626 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: 51  
            mean: 3.0379e-09  
        meanSquare: 3.0021e-09  
        phase: 1.9930  
  
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 000110111100100111011110 and CRC remainder 00000000000000101111111
> 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: '000110111100100111011110'
        ACKed: 0
    isACKmessage: 1
estimatedDopplerStart: 60.1010
estimatedDopplerEnd: 78.8654
estimatedDelay: 0.0282
estimatedPhase: 1.9930
```

```
ans =
```

```
"Results saved in MM_test_5.65_25.4_f3_d1000_s10_c5.json"
```

```
Elapsed time is 7.737100 seconds.
```

```
.  
ans =  
  
    "Generation test signal completed."  
  
Elapsed time is 0.342156 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: 281651
```

```
idDopplerShift: 51
    mean: 1.4737e-09
    meanSquare: 1.8997e-09
    phase: 1.9930
```

```
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 000110111100100111011110 and CRC remainder 00000000000000101111111
> 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: '000110111100100111011110'
        ACKed: 0
        isACKmessage: 1
    estimatedDopplerStart: 60.1010
    estimatedDopplerEnd: 78.8654
    estimatedDelay: 0.0282
    estimatedPhase: 1.9930
```

ans =

```
"Results saved in MM_test_5.98_25.4_f3_d1000_s10_c5.json"
```

Elapsed time is 7.742058 seconds.

.

ans =

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

Elapsed time is 0.337272 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: 51  
    mean: 1.2522e-09  
    meanSquare: 1.2017e-09  
    phase: 1.9930  
  
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 000110111100100111011110 and CRC remainder 0000000000000010111111
> 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: '000110111100100111011110'  
    ACKed: 0  
    isACKmessage: 1  
    estimatedDopplerStart: 60.1010  
    estimatedDopplerEnd: 78.8654  
    estimatedDelay: 0.0282  
    estimatedPhase: 1.9930
```

ans =

"Results saved in MM_test_6.31_25.4_f3_d1000_s10_c5.json"

Elapsed time is 7.782148 seconds.

.
ans =

"Generation test signal completed."

Elapsed time is 0.347569 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: 51  
        mean: 6.4750e-10  
    meanSquare: 7.6028e-10  
        phase: 1.9930
```

```
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 111111.

> 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 000110111100100000100001 and CRC remainder 000000000000000010000000

> 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: '000110111100100000100001'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 60.1010
    estimatedDopplerEnd: 78.8654
    estimatedDelay: 0.0282

```

```
estimatedPhase: 1.9930
```

```
ans =
```

```
"Results saved in MM_test_6.64_25.4_f3_d1000_s10_c5.json"
```

```
Elapsed time is 7.810453 seconds.
```

```
.
```

```
ans =
```

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

```
Elapsed time is 0.347060 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: 0.0666
   idStartTime: 281652
 idDopplerShift: 52
         mean: 2.8694e-08
   meanSquare: 3.0336e-07
         phase: 1.4336
```

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 111010.
> In MessageAnalyzer/validateAndSplitMessage (line 110)
In MessageAnalyzer/analyzeMessage (line 71)
In RECEIVER (line 260)
In RECEIVERTest/globalTest (line 115)
Warning: Error. Incorrect received sync 1010011111.
> In MessageAnalyzer/validateAndSplitMessage (line 115)
In MessageAnalyzer/analyzeMessage (line 71)
In RECEIVER (line 260)
In RECEIVERTest/globalTest (line 115)
```

```
Warning: Error. Not my message, incorrect received SV_ID 111110.
> In MessageAnalyzer/validateAndSplitMessage (line 120)
In MessageAnalyzer/analyzeMessage (line 71)
In RECEIVER (line 260)
In RECEIVERTest/globalTest (line 115)
Warning: Error no ack: received CRC 001001011100011110011000 and CRC remainder 101100111010100100010000
> 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: '111110'
    message_ID: '1100'
    message_body: '101011001110001100011001100110'
    CRC: '001001011100011110011000'
    ACKed: 0
    isACKmessage: 0
    estimatedDopplerStart: 80.3030
    estimatedDopplerEnd: 102.3030
    estimatedDelay: 0.0282
    estimatedPhase: 1.4336
```

```
ans =
```

```
"Results saved in MM_test_2.32_51_f3_d1000_s10_c5.json"
```

```
Elapsed time is 7.767931 seconds.
```

```
.
ans =
```

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

```
Elapsed time is 0.347451 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: 0.0418  
    idStartTime: 281652  
    idDopplerShift: 52  
        mean: 6.8688e-09  
    meanSquare: 1.1978e-07  
        phase: 1.4336
```

```
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 111010.
```

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

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

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

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

```
Warning: Error. Incorrect received sync 1010011111.
```

```
> In MessageAnalyzer/validateAndSplitMessage (line 115)
```

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

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

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

```
Warning: Error. Not my message, incorrect received SV_ID 111110.
```

```
> In MessageAnalyzer/validateAndSplitMessage (line 120)
```

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

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

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

```
Warning: Error no ack: received CRC 001001011100011110011000 and CRC remainder 101100111010100100010000
```

```
> 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: '111110'
message_ID: '1100'
message_body: '1010110011110001100011001100110'
CRC: '0010010111100011110011000'
ACKed: 0
isACKmessage: 0
estimatedDopplerStart: 80.3030
estimatedDopplerEnd: 102.3030
estimatedDelay: 0.0282
estimatedPhase: 1.4336
```

```
ans =
```

```
"Results saved in MM_test_2.99_51_f3_d1000_s10_c5.json"
```

```
Elapsed time is 7.789457 seconds.
```

```
.
ans =
```

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

```
Elapsed time is 0.358473 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: 0.0265  
    idStartTime: 281652  
    idDopplerShift: 52  
        mean: 4.5345e-09  
    meanSquare: 4.7994e-08  
    phase: 1.4336
```

```
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 111010.
> In MessageAnalyzer/validateAndSplitMessage (line 110)
In MessageAnalyzer/analyzeMessage (line 71)
In RECEIVER (line 260)
In RECEIVERTest/globalTest (line 115)
Warning: Error. Incorrect received sync 1010011111.
> In MessageAnalyzer/validateAndSplitMessage (line 115)
In MessageAnalyzer/analyzeMessage (line 71)
In RECEIVER (line 260)
In RECEIVERTest/globalTest (line 115)
Warning: Error. Not my message, incorrect received SV_ID 111110.
> In MessageAnalyzer/validateAndSplitMessage (line 120)
In MessageAnalyzer/analyzeMessage (line 71)
In RECEIVER (line 260)
In RECEIVERTest/globalTest (line 115)
Warning: Error no ack: received CRC 001001011100011110011000 and CRC remainder 101100111010100100010000
> 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: '111110'
    message_ID: '1100'
    message_body: '1010110011110001100011001100110'
    CRC: '001001011100011110011000'
    ACKed: 0
    isACKmessage: 0
    estimatedDopplerStart: 80.3030
    estimatedDopplerEnd: 102.3030
    estimatedDelay: 0.0282
    estimatedPhase: 1.4336

```

```
ans =
```

```
"Results saved in MM_test_3.65_51_f3_d1000_s10_c5.json"
```

```
Elapsed time is 7.797006 seconds.
```

```

.
ans =

```

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

```
Elapsed time is 0.343860 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: 0.0166  
        idStartTime: 281652  
        idDopplerShift: 52  
        mean: 2.0356e-09  
        meanSquare: 1.8953e-08  
        phase: 1.4336  
  
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 111010.
```

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

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

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

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

```
Warning: Error. Incorrect received sync 1010011111.
```

```
> In MessageAnalyzer/validateAndSplitMessage (line 115)
```

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

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

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

```
Warning: Error. Not my message, incorrect received SV_ID 111110.
```

```
> In MessageAnalyzer/validateAndSplitMessage (line 120)
```

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

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

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

```
Warning: Error no ack: received CRC 001001011100011110011000 and CRC remainder 101100111010100100010000
```

```
> 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: '111110'
    message_ID: '1100'
  message_body: '101011001110001100011001100110'
        CRC: '001001011100011110011000'
    ACKed: 0
  isACKmessage: 0
estimatedDopplerStart: 80.3030
estimatedDopplerEnd: 102.3030
estimatedDelay: 0.0282
estimatedPhase: 1.4336
```

ans =

"Results saved in MM_test_4.32_51_f3_d1000_s10_c5.json"

Elapsed time is 7.785877 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.339642 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: 0.0105  
    idStartTime: 281652  
    idDopplerShift: 52  
        mean: 1.9465e-09  
    meanSquare: 7.5911e-09  
        phase: 1.4336
```

```
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 111010.
```

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

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

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

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

```
Warning: Error. Incorrect received sync 1010011111.
```

```
> In MessageAnalyzer/validateAndSplitMessage (line 115)
```

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

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

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

```
Warning: Error. Not my message, incorrect received SV_ID 111110.
```

```
> In MessageAnalyzer/validateAndSplitMessage (line 120)
```

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

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

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

```
Warning: Error no ack: received CRC 001001011100011110011000 and CRC remainder 101100111010100100010000
```

```
> 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: '111110'
  message_ID: '1100'
  message_body: '101011001110001100011001100110'
    CRC: '001001011100011110011000'
    ACKed: 0
  isACKmessage: 0
  estimatedDopplerStart: 80.3030
  estimatedDopplerEnd: 102.3030
  estimatedDelay: 0.0282
  estimatedPhase: 1.4336
```

```
ans =
```

```
"Results saved in MM_test_4.98_51_f3_d1000_s10_c5.json"

Elapsed time is 7.775216 seconds.
.
ans =

    "Generation test signal completed."

Elapsed time is 0.347495 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: 0.0083  
    idStartTime: 281652  
    idDopplerShift: 52  
        mean: 4.0318e-09  
    meanSquare: 4.7453e-09  
    phase: 1.4336
```

```
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 111010.  
> In MessageAnalyzer/validateAndSplitMessage (line 110)  
In MessageAnalyzer/analyzeMessage (line 71)  
In RECEIVER (line 260)  
In RECEIVERTest/globalTest (line 115)  
Warning: Error. Incorrect received sync 1010011111.  
> In MessageAnalyzer/validateAndSplitMessage (line 115)  
In MessageAnalyzer/analyzeMessage (line 71)  
In RECEIVER (line 260)  
In RECEIVERTest/globalTest (line 115)  
Warning: Error. Not my message, incorrect received SV_ID 111110.  
> In MessageAnalyzer/validateAndSplitMessage (line 120)  
In MessageAnalyzer/analyzeMessage (line 71)  
In RECEIVER (line 260)
```

```
In RECEIVERTest/globalTest (line 115)
Warning: Error no ack: received CRC 001001011100011110011000 and CRC remainder 101100111010100100010000
> 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: '111110'
  message_ID: '1100'
  message_body: '1010110011110001100011001100110'
    CRC: '001001011100011110011000'
    ACKed: 0
    isACKmessage: 0
estimatedDopplerStart: 80.3030
estimatedDopplerEnd: 102.3030
estimatedDelay: 0.0282
estimatedPhase: 1.4336
```

```
ans =
```

```
"Results saved in MM_test_5.32_51_f3_d1000_s10_c5.json"
```

```
Elapsed time is 7.929956 seconds.
```

```
.
ans =
```

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

```
Elapsed time is 0.338743 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: 0.0066  
        idStartTime: 281652  
        idDopplerShift: 52  
            mean: 1.0168e-09  
        meanSquare: 2.9996e-09  
        phase: 1.4336  
  
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 111010.
```

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

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

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

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

```
Warning: Error. Incorrect received sync 1010011111.
```

```
> In MessageAnalyzer/validateAndSplitMessage (line 115)
```

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

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

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

```
Warning: Error. Not my message, incorrect received SV_ID 111110.
```

```
> In MessageAnalyzer/validateAndSplitMessage (line 120)
```

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

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

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

```
Warning: Error no ack: received CRC 001001011100011110011000 and CRC remainder 101100111010100100010000
```

```
> 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: '111110'
```

```
    message_ID: '1100'
```

```
message_body: '1010110011110001100011001100110'  
CRC: '0010010111100011110011000'  
ACKed: 0  
isACKmessage: 0  
estimatedDopplerStart: 80.3030  
estimatedDopplerEnd: 102.3030  
estimatedDelay: 0.0282  
estimatedPhase: 1.4336
```

```
ans =
```

```
"Results saved in MM_test_5.65_51_f3_d1000_s10_c5.json"
```

```
Elapsed time is 7.794390 seconds.
```

```
.
```

```
ans =
```

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

```
Elapsed time is 0.344185 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: 281652  
    idDopplerShift: 52  
        mean: 2.5014e-09  
    meanSquare: 1.9000e-09  
    phase: 1.4336
```

```
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 111010.  
> In MessageAnalyzer/validateAndSplitMessage (line 110)  
In MessageAnalyzer/analyzeMessage (line 71)
```

```

In RECEIVER (line 260)
In RECEIVERTest/globalTest (line 115)
Warning: Error. Incorrect received sync 1010011111.
> In MessageAnalyzer/validateAndSplitMessage (line 115)
In MessageAnalyzer/analyzeMessage (line 71)
In RECEIVER (line 260)
In RECEIVERTest/globalTest (line 115)
Warning: Error. Not my message, incorrect received SV_ID 111110.
> In MessageAnalyzer/validateAndSplitMessage (line 120)
In MessageAnalyzer/analyzeMessage (line 71)
In RECEIVER (line 260)
In RECEIVERTest/globalTest (line 115)
Warning: Error no ack: received CRC 001001011100011110011000 and CRC remainder 101100111010100100010000
> 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: '111110'
    message_ID: '1100'
    message_body: '1010110011110001100011001100110'
    CRC: '001001011100011110011000'
    ACKed: 0
    isACKmessage: 0
    estimatedDopplerStart: 80.3030
    estimatedDopplerEnd: 102.3030
    estimatedDelay: 0.0282
    estimatedPhase: 1.4336

```

```
ans =
```

```
"Results saved in MM_test_5.98_51_f3_d1000_s10_c5.json"
```

```
Elapsed time is 7.841320 seconds.
```

```
ans =
```

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

```
Elapsed time is 0.363709 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: 281652  
        idDopplerShift: 52  
        mean: 8.2207e-10  
        meanSquare: 1.2011e-09  
        phase: 1.4336  
  
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 111010.

> In MessageAnalyzer/validateAndSplitMessage (line 110)

In MessageAnalyzer/analyzeMessage (line 71)

In RECEIVER (line 260)

In RECEIVERTest/globalTest (line 115)

Warning: Error. Incorrect received sync 1010011111.

> In MessageAnalyzer/validateAndSplitMessage (line 115)

In MessageAnalyzer/analyzeMessage (line 71)

In RECEIVER (line 260)

In RECEIVERTest/globalTest (line 115)

Warning: Error. Not my message, incorrect received SV_ID 111110.

> In MessageAnalyzer/validateAndSplitMessage (line 120)

In MessageAnalyzer/analyzeMessage (line 71)

In RECEIVER (line 260)

In RECEIVERTest/globalTest (line 115)

Warning: Error no ack: received CRC 001001011100011110011000 and CRC remainder 101100111010100100010000

> 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: '111110'
   message_ID: '1100'
 message_body: '1010110011110001100011001100110'
      CRC: '001001011100011110011000'
    ACKed: 0
   isACKmessage: 0
estimatedDopplerStart: 80.3030
estimatedDopplerEnd: 102.3030
    estimatedDelay: 0.0282
    estimatedPhase: 1.4336
```

ans =

"Results saved in MM_test_6.31_51_f3_d1000_s10_c5.json"

Elapsed time is 7.801152 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.342871 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: 0.0033  
        idStartTime: 281652  
        idDopplerShift: 52  
            mean: 8.8061e-10  
        meanSquare: 7.6022e-10  
        phase: 1.4336  
  
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 111010.

> In MessageAnalyzer/validateAndSplitMessage (line 110)

In MessageAnalyzer/analyzeMessage (line 71)

In RECEIVER (line 260)

In RECEIVERTest/globalTest (line 115)

Warning: Error. Incorrect received sync 1010011111.

> In MessageAnalyzer/validateAndSplitMessage (line 115)

In MessageAnalyzer/analyzeMessage (line 71)

In RECEIVER (line 260)

In RECEIVERTest/globalTest (line 115)

Warning: Error. Not my message, incorrect received SV_ID 111110.

> In MessageAnalyzer/validateAndSplitMessage (line 120)

In MessageAnalyzer/analyzeMessage (line 71)

In RECEIVER (line 260)

In RECEIVERTest/globalTest (line 115)

Warning: Error no ack: received CRC 001001011100011110011000 and CRC remainder 101100111010100100010000

> 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: '111110'
    message_ID: '1100'
    message_body: '101011001110001100011001100110'
    CRC: '001001011100011110011000'
    ACKed: 0
    isACKmessage: 0
    estimatedDopplerStart: 80.3030
    estimatedDopplerEnd: 102.3030
    estimatedDelay: 0.0282
    estimatedPhase: 1.4336

```

ans =

"Results saved in MM_test_6.64_51_f3_d1000_s10_c5.json"

Elapsed time is 7.766366 seconds.

```
.  
ans =  
  
    "Generation test signal completed."  
  
Elapsed time is 0.341219 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: 0.0771  
        idStartTime: 281649
```



```
idDopplerShift: 53
    mean: 5.1915e-08
    meanSquare: 3.0351e-07
    phase: 3.1397
```

```
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 110111.
```

```
> 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 000010011101000111100111 and CRC remainder 000100010111100011100110
```

```
> 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: '010101110001000011100110000011'
    CRC: '000010011101000111100111'
    ACKed: 0
    isACKmessage: 1
estimatedDopplerStart: 100.5050
estimatedDopplerEnd: 103.7400
estimatedDelay: 0.0282
estimatedPhase: 3.1397
```

ans =

"Results saved in MM_test_2.32_102.6_f3_d1000_s10_c5.json"

Elapsed time is 7.742775 seconds.

.
ans =

"Generation test signal completed."

Elapsed time is 0.335744 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: 0.0484  
        idStartTime: 281649  
        idDopplerShift: 53  
        mean: 1.5259e-08  
        meanSquare: 1.1991e-07  
        phase: 3.1397  
  
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 110111.

> 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 000010011101000111100111 and CRC remainder 000100010111100011100110

> 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: '010101110001000011100110000011'
    CRC: '000010011101000111100111'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 100.5050
    estimatedDopplerEnd: 103.7400
    estimatedDelay: 0.0282
    estimatedPhase: 3.1397

```

ans =

"Results saved in MM_test_2.99_102.6_f3_d1000_s10_c5.json"

Elapsed time is 7.755704 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.339066 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: 0.0307  
    idStartTime: 281649  
    idDopplerShift: 53  
        mean: 8.6439e-09  
    meanSquare: 4.7980e-08  
        phase: 3.1397
```

```
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 110111.

> 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 000010011101000111100111 and CRC remainder 000100010111100011100110

> 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: '010101110001000011100110000011'
        CRC: '000010011101000111100111'
        ACKed: 0
        isACKmessage: 1
estimatedDopplerStart: 100.5050
estimatedDopplerEnd: 103.7400
estimatedDelay: 0.0282
estimatedPhase: 3.1397
```

ans =

```
"Results saved in MM_test_3.65_102.6_f3_d1000_s10_c5.json"
```

Elapsed time is 7.770884 seconds.

.
ans =

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

Elapsed time is 0.338608 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: 0.0193  
    idStartTime: 281649  
    idDopplerShift: 53  
        mean: 4.7077e-09  
    meanSquare: 1.8975e-08  
    phase: 3.1397  
  
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 110111.
> 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 000010011101000111100111 and CRC remainder 000100010111100011100110
> 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: '010101110001000011100110000011'
    CRC: '000010011101000111100111'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 100.5050
    estimatedDopplerEnd: 103.7400
    estimatedDelay: 0.0282
    estimatedPhase: 3.1397
```

```
ans =
```

```
"Results saved in MM_test_4.32_102.6_f3_d1000_s10_c5.json"
```

```
Elapsed time is 7.742440 seconds.
```

```
.
ans =
```

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

```
Elapsed time is 0.345914 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: 0.0122  
    idStartTime: 281649  
    idDopplerShift: 53  
        mean: 6.5400e-09  
    meanSquare: 7.5993e-09  
        phase: 3.1397
```

```
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 110111.
```

```
> 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 000010011101000111100111 and CRC remainder 000100010111100011100110
```

```
> 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: '010101110001000011100110000011'
```

```
    CRC: '000010011101000111100111'
```

```
    ACKed: 0
```

```
    isACKmessage: 1
```

```
    estimatedDopplerStart: 100.5050
```

```
    estimatedDopplerEnd: 103.7400
```

```
estimatedDelay: 0.0282
estimatedPhase: 3.1397
```

```
ans =
```

```
"Results saved in MM_test_4.98_102.6_f3_d1000_s10_c5.json"
```

```
Elapsed time is 7.753196 seconds.
```

```
.
```

```
ans =
```

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

```
Elapsed time is 0.346320 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: 0.0096
   idStartTime: 281649
 idDopplerShift: 53
         mean: 5.9906e-09
   meanSquare: 4.7433e-09
         phase: 3.1397
```

```
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 110111.
```

```
> 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 000010011101000111100111 and CRC remainder 000100010111100011100110
```

```
> 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: '010101110001000011100110000011'  
        CRC: '000010011101000111100111'  
        ACKed: 0  
        isACKmessage: 1  
        estimatedDopplerStart: 100.5050  
        estimatedDopplerEnd: 103.7400  
        estimatedDelay: 0.0282  
        estimatedPhase: 3.1397  
  
ans =  
  
    "Results saved in MM_test_5.32_102.6_f3_d1000_s10_c5.json"  
  
Elapsed time is 7.755213 seconds.  
.  
ans =  
  
    "Generation test signal completed."  
  
Elapsed time is 0.346713 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: 0.0077  
        idStartTime: 281649  
        idDopplerShift: 53  
        mean: 2.7452e-09  
        meanSquare: 3.0001e-09  
        phase: 3.1397  
  
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 110111.
```

```
> 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 000010011101000111100111 and CRC remainder 000100010111100011100110
```

```
> 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: '010101110001000011100110000011'
    CRC: '000010011101000111100111'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 100.5050
    estimatedDopplerEnd: 103.7400
    estimatedDelay: 0.0282
    estimatedPhase: 3.1397
```

```
ans =
```

```
"Results saved in MM_test_5.65_102.6_f3_d1000_s10_c5.json"
```

```
Elapsed time is 7.753621 seconds.
```



```
.  
ans =  
  
    "Generation test signal completed."  
  
Elapsed time is 0.348586 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: 0.0061  
        idStartTime: 281649
```

```
idDopplerShift: 53
    mean: 3.0762e-09
    meanSquare: 1.9000e-09
    phase: 3.1397
```

```
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 110111.
```

```
> 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 000010011101000111100111 and CRC remainder 111101010111011110001000
```

```
> 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: '010101100001000011100110000011'
        CRC: '000010011101000111100111'
      ACKed: 0
   isACKmessage: 1
estimatedDopplerStart: 100.5050
estimatedDopplerEnd: 103.7400
estimatedDelay: 0.0282
estimatedPhase: 3.1397
```

ans =

"Results saved in MM_test_5.98_102.6_f3_d1000_s10_c5.json"

Elapsed time is 7.737113 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.343537 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: 0.0048  
    idStartTime: 281649  
    idDopplerShift: 53  
        mean: 1.0531e-09  
    meanSquare: 1.2016e-09  
    phase: 3.1397  
  
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 110111.

> 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 000010011101000111100111 and CRC remainder 111101010111011110001000

> 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: '010101100001000011100110000011'
    CRC: '000010011101000111100111'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 100.5050
    estimatedDopplerEnd: 103.7400
    estimatedDelay: 0.0282
    estimatedPhase: 3.1397

```

ans =

"Results saved in MM_test_6.31_102.6_f3_d1000_s10_c5.json"

Elapsed time is 7.748495 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.345032 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: 0.0039
    idStartTime: 281649
    idDopplerShift: 53
        mean: 2.0813e-09
    meanSquare: 7.6069e-10
        phase: 3.1397

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 110111.

> 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 000010011101000111100111 and CRC remainder 000100010111100011100110

> 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: '010101110001000011100110000011'
    CRC: '000010011101000111100111'
    ACKed: 0
    isACKmessage: 1
estimatedDopplerStart: 100.5050
estimatedDopplerEnd: 103.7400
estimatedDelay: 0.0282
estimatedPhase: 3.1397
```

ans =

```
"Results saved in MM_test_6.64_102.6_f3_d1000_s10_c5.json"
```

Elapsed time is 7.761908 seconds.

```
.
Done RECEIVERTest
```

ans =

1×1200 TestResult array with properties:

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

Totals:

```
1200 Passed, 0 Failed, 0 Incomplete.
13954.9619 seconds testing time.
```

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