

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: 80.1595
    estimatedDelay: 0.0282
    estimatedPhase: 0.9586
```

ans =

"Results saved in MM\_test\_5.65\_12.6\_f1\_d1000\_s10\_c5.json"

Elapsed time is 7.613802 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.338485 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: 281653  
        idDopplerShift: 51  
            mean: 1.8530e-09  
        meanSquare: 1.9002e-09  
        phase: 0.9586  
  
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: 80.1595  
    estimatedDelay: 0.0282  
    estimatedPhase: 0.9586
```

```
ans =
```

```
"Results saved in MM_test_5.98_12.6_f1_d1000_s10_c5.json"
```

```
Elapsed time is 7.644294 seconds.
```

```
.  
ans =
```

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

```
Elapsed time is 0.332762 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: 281653  
    idDopplerShift: 51  
        mean: 1.5725e-09  
    meanSquare: 1.2025e-09  
        phase: 0.9587
```

```
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: 80.1595  
        estimatedDelay: 0.0282  
        estimatedPhase: 0.9587  
  
ans =  
    "Results saved in MM_test_6.31_12.6_f1_d1000_s10_c5.json"  
  
Elapsed time is 7.676249 seconds.  
.
```

```
ans =  
    "Generation test signal completed."  
Elapsed time is 0.329506 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: 281653  
    idDopplerShift: 51
```

```
mean: 6.4800e-11
meanSquare: 7.6027e-10
phase: 0.9587
```

```
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: 80.1595
estimatedDelay: 0.0282
estimatedPhase: 0.9587
```

ans =

```
"Results saved in MM_test_6.64_12.6_f1_d1000_s10_c5.json"
```

Elapsed time is 7.617817 seconds.

.

ans =

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

Elapsed time is 0.336906 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: 0.0860  
        idStartTime: 281652  
        idDopplerShift: 51  
        mean: 3.2142e-08  
        meanSquare: 3.0341e-07  
        phase: 1.9918  
  
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 100000.
```

```
> 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 000110111100100001101110 and CRC remainder 00000000000000011001111
> 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: '000110111100100001101110'
      ACKed: 0
   isACKmessage: 1
estimatedDopplerStart: 60.1010
estimatedDopplerEnd: 80.1595
    estimatedDelay: 0.0282
    estimatedPhase: 1.9918
```

```
ans =
```

```
"Results saved in MM_test_2.32_25.4_f1_d1000_s10_c5.json"
```

```
Elapsed time is 7.650453 seconds.
```

```
.
ans =
```

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

```
Elapsed time is 0.332968 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: 0.0540  
    idStartTime: 281652  
    idDopplerShift: 51  
        mean: 2.2486e-08  
    meanSquare: 1.1983e-07  
        phase: 1.9918
```

```
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 100000.

> 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 000110111100100001101110 and CRC remainder 000000000000000011001111

> 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: '000110111100100001101110'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 60.1010
    estimatedDopplerEnd: 80.1595
    estimatedDelay: 0.0282

```

```
estimatedPhase: 1.9918
```

```
ans =
```

```
"Results saved in MM_test_2.99_25.4_f1_d1000_s10_c5.json"
```

```
Elapsed time is 7.650449 seconds.
```

```
.
```

```
ans =
```

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

```
Elapsed time is 0.336147 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: 0.0342
   idStartTime: 281652
  idDopplerShift: 51
         mean: 1.4747e-08
   meanSquare: 4.7992e-08
         phase: 1.9918
```

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 100000.

> 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 000110111100100001101110 and CRC remainder 00000000000000011001111

> 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: '000110111100100001101110'  
        ACKed: 0  
        isACKmessage: 1  
        estimatedDopplerStart: 60.1010  
        estimatedDopplerEnd: 80.1595  
        estimatedDelay: 0.0282  
        estimatedPhase: 1.9918  
  
ans =  
  
    "Results saved in MM_test_3.65_25.4_f1_d1000_s10_c5.json"  
  
Elapsed time is 7.626569 seconds.  
.  
ans =  
  
    "Generation test signal completed."  
  
Elapsed time is 0.348582 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: 0.0215  
    idStartTime: 281652  
    idDopplerShift: 51  
        mean: 3.6614e-09  
    meanSquare: 1.8976e-08  
    phase: 1.9918
```

```
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 100000.

> 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 000110111100100001101110 and CRC remainder 000000000000000011001111

> 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: '000110111100100001101110'
        ACKed: 0
        isACKmessage: 1
    estimatedDopplerStart: 60.1010
    estimatedDopplerEnd: 80.1595
    estimatedDelay: 0.0282
    estimatedPhase: 1.9918

```

ans =

"Results saved in MM\_test\_4.32\_25.4\_f1\_d1000\_s10\_c5.json"

Elapsed time is 7.650111 seconds.

.

```
ans =  
    "Generation test signal completed."  
Elapsed time is 0.337446 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: 0.0136  
    idStartTime: 281652  
    idDopplerShift: 51
```

```
mean: 2.9287e-09
meanSquare: 7.5975e-09
phase: 1.9918
```

```
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 100000.
```

```
> 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 000110111100100001101110 and CRC remainder 00000000000000011001111
```

```
> 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: '000110111100100001101110'
    ACKed: 0
   isACKmessage: 1
estimatedDopplerStart: 60.1010
estimatedDopplerEnd: 80.1595
estimatedDelay: 0.0282
estimatedPhase: 1.9918
```

ans =

"Results saved in MM\_test\_4.98\_25.4\_f1\_d1000\_s10\_c5.json"

Elapsed time is 7.663824 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.338285 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: 0.0107  
        idStartTime: 281652  
        idDopplerShift: 51  
            mean: 2.8514e-10  
        meanSquare: 4.7429e-09  
        phase: 1.9918  
  
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 100000.
```

```
> 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 000110111100100001101110 and CRC remainder 00000000000000011001111
```

```
> 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: '000110111100100001101110'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 60.1010
    estimatedDopplerEnd: 80.1595
    estimatedDelay: 0.0282
    estimatedPhase: 1.9918
```

```
ans =
```

```
"Results saved in MM_test_5.32_25.4_f1_d1000_s10_c5.json"
```

```
Elapsed time is 7.634861 seconds.
```

```
.
ans =
```

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

```
Elapsed time is 0.335531 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: 0.0085  
        idStartTime: 281652  
        idDopplerShift: 51  
        mean: 3.0408e-09  
        meanSquare: 3.0015e-09  
        phase: 1.9918  
  
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 100000.

> 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 000110111100100001101110 and CRC remainder 000000000000000011001111

> 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: '000110111100100001101110'
ACKed: 0
isACKmessage: 1
estimatedDopplerStart: 60.1010
estimatedDopplerEnd: 80.1595
estimatedDelay: 0.0282
estimatedPhase: 1.9918
```

```
ans =
```

```
"Results saved in MM_test_5.65_25.4_f1_d1000_s10_c5.json"
```

```
Elapsed time is 7.649466 seconds.
```

```
.
```

```
ans =
```

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

```
Elapsed time is 0.335540 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: 281652  
    idDopplerShift: 51  
        mean: 1.4728e-09  
    meanSquare: 1.8987e-09  
    phase: 1.9918  
  
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 100000.
```

```
> 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 000110111100100001101110 and CRC remainder 00000000000000011001111
> 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: '000110111100100001101110'
    ACKed: 0
    isACKmessage: 1
  estimatedDopplerStart: 60.1010
  estimatedDopplerEnd: 80.1595
  estimatedDelay: 0.0282
  estimatedPhase: 1.9918
```

```
ans =
```

```
"Results saved in MM_test_5.98_25.4_f1_d1000_s10_c5.json"
```

```
Elapsed time is 7.669108 seconds.
```

```
.
ans =
```

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

```
Elapsed time is 0.334603 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: 281652  
    idDopplerShift: 51  
        mean: 1.2508e-09  
    meanSquare: 1.2011e-09  
        phase: 1.9918
```

```
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 100000.

> 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 000110111100100001101110 and CRC remainder 000000000000000011001111

> 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: '000110111100100001101110'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 60.1010
    estimatedDopplerEnd: 80.1595
    estimatedDelay: 0.0282

```

```
estimatedPhase: 1.9918
```

```
ans =
```

```
"Results saved in MM_test_6.31_25.4_f1_d1000_s10_c5.json"
```

```
Elapsed time is 7.638497 seconds.
```

```
.
```

```
ans =
```

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

```
Elapsed time is 0.341657 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: 281652
  idDopplerShift: 51
         mean: 6.4920e-10
   meanSquare: 7.6006e-10
         phase: 1.9918
```

```
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 100000.
```

```
> 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 000110111100100001101110 and CRC remainder 00000000000000011001111
```

```
> 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: '000110111100100001101110'  
        ACKed: 0  
        isACKmessage: 1  
        estimatedDopplerStart: 60.1010  
        estimatedDopplerEnd: 80.1595  
        estimatedDelay: 0.0282  
        estimatedPhase: 1.9918  
  
ans =  
  
    "Results saved in MM_test_6.64_25.4_f1_d1000_s10_c5.json"  
  
Elapsed time is 7.650302 seconds.  
.  
ans =  
  
    "Generation test signal completed."  
  
Elapsed time is 0.342555 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: 0.0664  
   idStartTime: 281653  
idDopplerShift: 52  
        mean: 2.8678e-08  
   meanSquare: 3.0331e-07  
        phase: 1.4213
```

```
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 100000.
```

```
> 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 00010011111100101010011 and CRC remainder 01010100110100000000110
```

```
> 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: '101011001110001111101010010000'
```

```
    CRC: '00010011111100101010011'
```

```
    ACKed: 0
```

```
    isACKmessage: 0
```

```
    estimatedDopplerStart: 80.3030
```

```
    estimatedDopplerEnd: 87.4207
```

```
estimatedDelay: 0.0282  
estimatedPhase: 1.4213
```

```
ans =
```

```
"Results saved in MM_test_2.32_51_f1_d1000_s10_c5.json"
```

```
Elapsed time is 7.657721 seconds.
```

```
.
```

```
ans =
```

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

```
Elapsed time is 0.339489 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: 0.0417  
    idStartTime: 281653  
    idDopplerShift: 52  
        mean: 6.8830e-09  
    meanSquare: 1.1976e-07  
    phase: 1.4213
```

```
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 100000.  
> 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 000100111111100101010011 and CRC remainder 01010100110100000000110
> 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: '101011001110001111101010010000'
    CRC: '000100111111100101010011'
    ACKed: 0
    isACKmessage: 0
    estimatedDopplerStart: 80.3030
    estimatedDopplerEnd: 87.4207
    estimatedDelay: 0.0282
    estimatedPhase: 1.4213

```

```
ans =
```

```
"Results saved in MM_test_2.99_51_f1_d1000_s10_c5.json"
```

```
Elapsed time is 7.645770 seconds.
```

```
.
```

```
ans =
```

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

```
Elapsed time is 0.344314 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: 0.0264  
        idStartTime: 281653  
        idDopplerShift: 52  
        mean: 4.5413e-09  
        meanSquare: 4.7987e-08  
        phase: 1.4213  
  
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 100000.
```

```
> 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 00010011111100101010011 and CRC remainder 01010100110100000000110
```

```
> 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: '101011001110001111101010010000'
    CRC: '000100111111100101010011'
    ACKed: 0
    isACKmessage: 0
    estimatedDopplerStart: 80.3030
    estimatedDopplerEnd: 87.4207
    estimatedDelay: 0.0282
    estimatedPhase: 1.4213
```

```
ans =
```

```
"Results saved in MM_test_3.65_51_f1_d1000_s10_c5.json"
```

```
Elapsed time is 7.637688 seconds.
```

```
.
ans =
```

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

```
Elapsed time is 0.337338 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: 281653  
    idDopplerShift: 52  
        mean: 2.0332e-09  
    meanSquare: 1.8948e-08  
        phase: 1.4213
```

```
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 100000.
> 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 00010011111100101010011 and CRC remainder 01010100110100000000110
> 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: '101011001110001111101010010000'
    CRC: '00010011111100101010011'
    ACKed: 0
    isACKmessage: 0
    estimatedDopplerStart: 80.3030
    estimatedDopplerEnd: 87.4207
    estimatedDelay: 0.0282
    estimatedPhase: 1.4213
```

ans =

"Results saved in MM\_test\_4.32\_51\_f1\_d1000\_s10\_c5.json"

Elapsed time is 7.638750 seconds.

.  
ans =

"Generation test signal completed."

Elapsed time is 0.354354 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: 281653  
        idDopplerShift: 52  
        mean: 1.9466e-09  
        meanSquare: 7.5899e-09  
        phase: 1.4213
```

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 100000.

> 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 00010011111100101010011 and CRC remainder 01010100110100000000110

> 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: '1010110011110001111101010010000'
        CRC: '000100111111100101010011'
    ACKed: 0
  isACKmessage: 0
estimatedDopplerStart: 80.3030
estimatedDopplerEnd: 87.4207
estimatedDelay: 0.0282
estimatedPhase: 1.4213
```

ans =

"Results saved in MM\_test\_4.98\_51\_f1\_d1000\_s10\_c5.json"

Elapsed time is 7.671319 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.340859 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: 281653  
        idDopplerShift: 52  
        mean: 4.0314e-09  
        meanSquare: 4.7447e-09  
        phase: 1.4213  
  
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 100000.
```

```
> 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 00010011111100101010011 and CRC remainder 01010100110100000000110
```

```
> 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: '101011001110001111101010010000'
```

```
    CRC: '00010011111100101010011'
```

```
    ACKed: 0
```

```
    isACKmessage: 0
```

```
    estimatedDopplerStart: 80.3030
```

```
    estimatedDopplerEnd: 87.4207
```

```
    estimatedDelay: 0.0282
```

```
    estimatedPhase: 1.4213
```

```
ans =  
    "Results saved in MM_test_5.32_51_f1_d1000_s10_c5.json"  
Elapsed time is 7.650592 seconds.  
.  
ans =  
    "Generation test signal completed."  
Elapsed time is 0.340305 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: 281653
    idDopplerShift: 52
        mean: 1.0165e-09
    meanSquare: 2.9991e-09
    phase: 1.4213
```

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 100000.
> 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 000100111111100101010011 and CRC remainder 010101001101000000000110
> 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: '1010110011110001111101010010000'
    CRC: '000100111111100101010011'
    ACKed: 0
  isACKmessage: 0
estimatedDopplerStart: 80.3030
estimatedDopplerEnd: 87.4207
estimatedDelay: 0.0282
estimatedPhase: 1.4213
```

```
ans =
```

```
"Results saved in MM_test_5.65_51_f1_d1000_s10_c5.json"
```

```
Elapsed time is 7.657548 seconds.
```

```
.
ans =
```

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

```
Elapsed time is 0.339261 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: 0.0052  
        idStartTime: 281653  
        idDopplerShift: 52  
            mean: 2.5026e-09  
        meanSquare: 1.8990e-09  
        phase: 1.4213  
  
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 100000.

> 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 00010011111100101010011 and CRC remainder 01010100110100000000110

> 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: '1010110011110001111101010010000'  
        CRC: '000100111111100101010011'  
    ACKed: 0  
    isACKmessage: 0  
estimatedDopplerStart: 80.3030  
estimatedDopplerEnd: 87.4207  
estimatedDelay: 0.0282  
estimatedPhase: 1.4213
```

ans =

```
"Results saved in MM_test_5.98_51_f1_d1000_s10_c5.json"
```

Elapsed time is 7.663921 seconds.

.

ans =

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

Elapsed time is 0.346615 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: 281653
  idDopplerShift: 52
         mean: 8.2193e-10
   meanSquare: 1.2004e-09
         phase: 1.4213
```

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. 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 00010011111100101010011 and CRC remainder 01010100110100000000110
> 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: '101011001110001111101010010000'
    CRC: '000100111111100101010011'
    ACKed: 0
    isACKmessage: 0
    estimatedDopplerStart: 80.3030
    estimatedDopplerEnd: 87.4207
    estimatedDelay: 0.0282
    estimatedPhase: 1.4213

```

```
ans =
```

```
"Results saved in MM_test_6.31_51_f1_d1000_s10_c5.json"
```

```
Elapsed time is 7.643473 seconds.
```

```
.
ans =
```

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

```
Elapsed time is 0.338642 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: 281653  
        idDopplerShift: 52  
        mean: 8.7972e-10  
        meanSquare: 7.6000e-10  
        phase: 1.4213  
  
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. 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 000100111111001010011 and CRC remainder 01010100110100000000110

> In MessageAnalyzer/analyzeMessage (line 85)

In RECEIVER (line 260)

In RECEIVERTest/globalTest (line 115)

ans =

"Received message analyzed."

ans =

"DEMULATION 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: '101011001110001111101010010000'
        CRC: '000100111111100101010011'
    ACKed: 0
   isACKmessage: 0
estimatedDopplerStart: 80.3030
estimatedDopplerEnd: 87.4207
estimatedDelay: 0.0282
estimatedPhase: 1.4213
```

ans =

"Results saved in MM\_test\_6.64\_51\_f1\_d1000\_s10\_c5.json"

Elapsed time is 7.676120 seconds.

.  
ans =

"Generation test signal completed."

Elapsed time is 0.337446 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: 0.0773  
        idStartTime: 281650  
        idDopplerShift: 53  
        mean: 5.1887e-08  
        meanSquare: 3.0346e-07  
        phase: 3.1312  
  
ans =  
    "Tracker step 1: demodulated 10 symbols."  
  
ans =  
    "Tracker step 2: demodulated 20 symbols."  
  
ans =  
    "Tracker step 3: demodulated 30 symbols."  
  
ans =  
    "Tracker step 4: demodulated 40 symbols."  
  
ans =  
    "Tracker step 5: demodulated 50 symbols."  
  
ans =  
    "Tracker step 6: demodulated 60 symbols."
```

ans =

"Tracker step 7: demodulated 70 symbols."

ans =

"Tracker step 8: demodulated 80 symbols."

Warning: Error. Incorrect received tail 001001.

> In MessageAnalyzer/validateAndSplitMessage (line 110)

In MessageAnalyzer/analyzeMessage (line 71)

In RECEIVER (line 260)

In RECEIVERTest/globalTest (line 115)

Warning: Error no ack: received CRC 111101100110000111011000 and CRC remainder 000110001011000110011110

> 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: '0010'
    message_body: '010000011001101101111010000010'
    CRC: '111101100110000111011000'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 100.5050
    estimatedDopplerEnd: 104.3870
    estimatedDelay: 0.0282
    estimatedPhase: 3.1312

```

ans =

"Results saved in MM\_test\_2.32\_102.6\_f1\_d1000\_s10\_c5.json"

Elapsed time is 7.642652 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.338088 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: 0.0486
    idStartTime: 281650
    idDopplerShift: 53
        mean: 1.5268e-08
    meanSquare: 1.1989e-07
        phase: 3.1312

ans =

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

ans =

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

ans =

"Tracker step 4: demodulated 40 symbols."

ans =

"Tracker step 5: demodulated 50 symbols."

ans =

"Tracker step 6: demodulated 60 symbols."

ans =

"Tracker step 7: demodulated 70 symbols."

ans =

"Tracker step 8: demodulated 80 symbols."

Warning: Error. Incorrect received tail 001001.

> In MessageAnalyzer/validateAndSplitMessage (line 110)

In MessageAnalyzer/analyzeMessage (line 71)

In RECEIVER (line 260)

In RECEIVERTest/globalTest (line 115)

Warning: Error no ack: received CRC 111101100110000111011000 and CRC remainder 000110001011000110011110

> 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: '0010'
    message_body: '010000011001101101111010000010'
    CRC: '111101100110000111011000'
    ACKed: 0
    isACKmessage: 1
estimatedDopplerStart: 100.5050
estimatedDopplerEnd: 104.3870
estimatedDelay: 0.0282
estimatedPhase: 3.1312
```

```
ans =
```

```
"Results saved in MM_test_2.99_102.6_f1_d1000_s10_c5.json"
```

```
Elapsed time is 7.632008 seconds.
```

```
.
ans =
```

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

```
Elapsed time is 0.344596 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: 281650  
    idDopplerShift: 53  
        mean: 8.6455e-09  
    meanSquare: 4.7972e-08  
    phase: 3.1312  
  
ans =  
    "Tracker step 1: demodulated 10 symbols."  
  
ans =  
    "Tracker step 2: demodulated 20 symbols."  
  
ans =  
    "Tracker step 3: demodulated 30 symbols."  
  
ans =  
    "Tracker step 4: demodulated 40 symbols."  
  
ans =  
    "Tracker step 5: demodulated 50 symbols."  
  
ans =  
    "Tracker step 6: demodulated 60 symbols."  
  
ans =  
    "Tracker step 7: demodulated 70 symbols."  
  
ans =  
    "Tracker step 8: demodulated 80 symbols."
```



```
Warning: Error. Incorrect received tail 001001.
> In MessageAnalyzer/validateAndSplitMessage (line 110)
In MessageAnalyzer/analyzeMessage (line 71)
In RECEIVER (line 260)
In RECEIVERTest/globalTest (line 115)
Warning: Error no ack: received CRC 111101100110000111011000 and CRC remainder 000110001011000110011110
> 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: '0010'
    message_body: '010000011001101101111010000010'
    CRC: '111101100110000111011000'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 100.5050
    estimatedDopplerEnd: 104.3870
    estimatedDelay: 0.0282
    estimatedPhase: 3.1312
```

```
ans =
```

```
"Results saved in MM_test_3.65_102.6_f1_d1000_s10_c5.json"
```

```
Elapsed time is 7.633819 seconds.
```

```
.
ans =
```

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

```
Elapsed time is 0.336624 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: 281650  
    idDopplerShift: 53  
        mean: 4.7107e-09  
    meanSquare: 1.8970e-08  
        phase: 3.1312
```

```
ans =
```

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

```
ans =
```

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

```
ans =
```

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

```
ans =
```

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

```
ans =
```

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

```
ans =
```

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

```
ans =
```

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

```
ans =
```

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

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

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

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

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

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

```
Warning: Error no ack: received CRC 111101100110000111011000 and CRC remainder 000110001011000110011110
```

```
> 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: '0010'
```

```
    message_body: '010000011001101101111010000010'
```

```
    CRC: '111101100110000111011000'
```

```
    ACKed: 0
```

```
    isACKmessage: 1
```

```
    estimatedDopplerStart: 100.5050
```

```
    estimatedDopplerEnd: 104.3870
```

```
estimatedDelay: 0.0282  
estimatedPhase: 3.1312
```

```
ans =
```

```
"Results saved in MM_test_4.32_102.6_f1_d1000_s10_c5.json"
```

```
Elapsed time is 7.666843 seconds.
```

```
.
```

```
ans =
```

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

```
Elapsed time is 0.342009 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: 281650
    idDopplerShift: 53
        mean: 6.5424e-09
    meanSquare: 7.5981e-09
        phase: 3.1312
```

```
ans =
```

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

```
ans =
```

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

```
ans =
```

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

```
ans =
```

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

```
ans =
```

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

```
ans =
```

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

```
ans =
```

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

```
ans =
```

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

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

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

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

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

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

```
Warning: Error no ack: received CRC 000010011001111000100111 and CRC remainder 001100011110111100000001
```

```
> 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: '0010'  
        message_body: '101111100110010010000101111101'  
        CRC: '000010011001111000100111'  
        ACKed: 0  
        isACKmessage: 0  
        estimatedDopplerStart: 100.5050  
        estimatedDopplerEnd: 104.3870  
        estimatedDelay: 0.0282  
        estimatedPhase: 3.1312  
  
ans =  
  
    "Results saved in MM_test_4.98_102.6_f1_d1000_s10_c5.json"  
  
Elapsed time is 7.634262 seconds.  
.  
ans =  
  
    "Generation test signal completed."  
  
Elapsed time is 0.339078 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: 0.0097  
        idStartTime: 281650  
        idDopplerShift: 53  
        mean: 5.9907e-09  
        meanSquare: 4.7427e-09  
        phase: 3.1312  
  
ans =  
    "Tracker step 1: demodulated 10 symbols."  
  
ans =  
    "Tracker step 2: demodulated 20 symbols."  
  
ans =  
    "Tracker step 3: demodulated 30 symbols."  
  
ans =  
    "Tracker step 4: demodulated 40 symbols."  
  
ans =
```

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

```
ans =
```

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

```
ans =
```

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

```
ans =
```

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

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

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

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

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

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

```
Warning: Error no ack: received CRC 111101100110000111011000 and CRC remainder 000110001011000110011110
```

```
> 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: '0010'
    message_body: '010000011001101101111010000010'
    CRC: '111101100110000111011000'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 100.5050
    estimatedDopplerEnd: 104.3870
    estimatedDelay: 0.0282
    estimatedPhase: 3.1312
```

```
ans =
```

```
"Results saved in MM_test_5.32_102.6_f1_d1000_s10_c5.json"
```

```
Elapsed time is 7.656393 seconds.
```



```
.
ans =

    "Generation test signal completed."

Elapsed time is 0.338967 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: 281650
```

```
idDopplerShift: 53
    mean: 2.7418e-09
    meanSquare: 2.9995e-09
    phase: 3.1312
```

```
ans =
```

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

```
ans =
```

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

```
ans =
```

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

```
ans =
```

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

```
ans =
```

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

```
ans =
```

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

```
ans =
```

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

```
ans =
```

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

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

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

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

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

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

```
Warning: Error no ack: received CRC 000010011001111000100111 and CRC remainder 001100011110111100000001
```

```
> 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: '0010'
 message_body: '101111100110010010000101111101'
        CRC: '000010011001111000100111'
    ACKed: 0
   isACKmessage: 0
estimatedDopplerStart: 100.5050
estimatedDopplerEnd: 104.3870
estimatedDelay: 0.0282
estimatedPhase: 3.1312
```

ans =

"Results saved in MM\_test\_5.65\_102.6\_f1\_d1000\_s10\_c5.json"

Elapsed time is 7.639764 seconds.

.  
ans =

"Generation test signal completed."

Elapsed time is 0.336734 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: 281650  
        idDopplerShift: 53  
        mean: 3.0765e-09  
        meanSquare: 1.8989e-09  
        phase: 3.1312  
  
ans =  
    "Tracker step 1: demodulated 10 symbols."  
  
ans =  
    "Tracker step 2: demodulated 20 symbols."  
  
ans =  
    "Tracker step 3: demodulated 30 symbols."  
  
ans =  
    "Tracker step 4: demodulated 40 symbols."  
  
ans =  
    "Tracker step 5: demodulated 50 symbols."  
  
ans =  
    "Tracker step 6: demodulated 60 symbols."
```

ans =

"Tracker step 7: demodulated 70 symbols."

ans =

"Tracker step 8: demodulated 80 symbols."

Warning: Error. Incorrect received tail 110110.

> In MessageAnalyzer/validateAndSplitMessage (line 110)

In MessageAnalyzer/analyzeMessage (line 71)

In RECEIVER (line 260)

In RECEIVERTest/globalTest (line 115)

Warning: Error no ack: received CRC 000010011001111000100111 and CRC remainder 001100011110111100000001

> 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: '0010'
    message_body: '101111100110010010000101111101'
    CRC: '000010011001111000100111'
    ACKed: 0
    isACKmessage: 0
    estimatedDopplerStart: 100.5050
    estimatedDopplerEnd: 104.3870
    estimatedDelay: 0.0282
    estimatedPhase: 3.1312

```

ans =

"Results saved in MM\_test\_5.98\_102.6\_f1\_d1000\_s10\_c5.json"

Elapsed time is 7.647712 seconds.

.

ans =

"Generation test signal completed."

Elapsed time is 0.348983 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: 0.0049
    idStartTime: 281650
    idDopplerShift: 53
        mean: 1.0527e-09
    meanSquare: 1.2010e-09
        phase: 3.1312

ans =

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

ans =

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

ans =

"Tracker step 4: demodulated 40 symbols."

ans =

"Tracker step 5: demodulated 50 symbols."

ans =

"Tracker step 6: demodulated 60 symbols."

ans =

"Tracker step 7: demodulated 70 symbols."

ans =

"Tracker step 8: demodulated 80 symbols."

Warning: Error. Incorrect received tail 110110.

> In MessageAnalyzer/validateAndSplitMessage (line 110)

In MessageAnalyzer/analyzeMessage (line 71)

In RECEIVER (line 260)

In RECEIVERTest/globalTest (line 115)

Warning: Error no ack: received CRC 000010011001111000100111 and CRC remainder 001100011110111100000001

> 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: '0010'
    message_body: '101111100110010010000101111101'
    CRC: '000010011001111000100111'
    ACKed: 0
    isACKmessage: 0
estimatedDopplerStart: 100.5050
estimatedDopplerEnd: 104.3870
estimatedDelay: 0.0282
estimatedPhase: 3.1312
```

```
ans =
```

```
"Results saved in MM_test_6.31_102.6_f1_d1000_s10_c5.json"
```

```
Elapsed time is 7.632365 seconds.
```

```
.
ans =
```

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

```
Elapsed time is 0.338658 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: 281650  
        idDopplerShift: 53  
        mean: 2.0841e-09  
        meanSquare: 7.6046e-10  
        phase: 3.1312  
  
ans =  
    "Tracker step 1: demodulated 10 symbols."  
  
ans =  
    "Tracker step 2: demodulated 20 symbols."  
  
ans =  
    "Tracker step 3: demodulated 30 symbols."  
  
ans =  
    "Tracker step 4: demodulated 40 symbols."  
  
ans =  
    "Tracker step 5: demodulated 50 symbols."  
  
ans =  
    "Tracker step 6: demodulated 60 symbols."  
  
ans =  
    "Tracker step 7: demodulated 70 symbols."  
  
ans =  
    "Tracker step 8: demodulated 80 symbols."
```

```
Warning: Error. Incorrect received tail 001001.
> In MessageAnalyzer/validateAndSplitMessage (line 110)
In MessageAnalyzer/analyzeMessage (line 71)
In RECEIVER (line 260)
In RECEIVERTest/globalTest (line 115)
Warning: Error no ack: received CRC 111101100110000111011000 and CRC remainder 000110001011000110011110
> 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: '0010'
    message_body: '010000011001101101111010000010'
    CRC: '111101100110000111011000'
    ACKed: 0
    isACKmessage: 1
    estimatedDopplerStart: 100.5050
    estimatedDopplerEnd: 104.3870
    estimatedDelay: 0.0282
    estimatedPhase: 3.1312
```

```
ans =
```

```
"Results saved in MM_test_6.64_102.6_f1_d1000_s10_c5.json"
```

```
Elapsed time is 7.652706 seconds.
```

```
.
Done RECEIVERTest
```

```
ans =
```

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

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

```
Totals:
```

```
1200 Passed, 0 Failed, 0 Incomplete.
```

```
13406.5409 seconds testing time.
```

```
>>
```