```
ans =
```

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

ans =

"Acquisition search 100.0% completed."

ans =

struct with fields:

```
maxPeak: 0.0088
idStartTime: 281651
idDopplerShift: 49
mean: 8.0974e-10
```

meanSquare: 4.8497e-09

phase: 2.0981

ans =

"Tracker step 1: demodulated 10 symbols."

ans =

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

ans =

"Tracker step 4: demodulated 40 symbols."

ans =

"Tracker step 5: demodulated 50 symbols."

```
"Tracker step 6: demodulated 60 symbols."
                                                                                                               "Tracker step 7: demodulated 70 symbols."
                                                                                                                                                                                                                               "Tracker step 8: demodulated 80 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SV_ID: '000001'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          message_ID: '0011'
                                                                                                                                                                                                                                                                                                                                                "Received message analyzed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          version: "2" ACQUISITION_OK: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TRACKING_OK: 1
DEMODULATION_OK: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                             "DEMODULATION RESULT 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             struct with fields:
                                                                                                                                                                                                                                                                                                     ans =
                                                                                                                                                                                       ans =
                                                                                                                                                                                                                                                                                                                                                                                                                     ans =
                                                                       ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ans =
```

```
"Results saved in MM_test_5.65_12.6_f0_d100_s10_c5.json"
message_body: '01010011100111001110111101110'
                             CRC: '000110111100100010100001'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Acquisition search 10.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Acquisition search 20.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Generation test signal completed."
                                                                                                                                                             estimatedDopplerEnd: 61.8516
                                                                                                                                 estimatedDopplerStart: 46.9697
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Elapsed time is 17.812580 seconds.
                                                                                                                                                                                            estimatedDelay: 0.0282
                                                                                                                                                                                                                          estimatedPhase: 2.0981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Elapsed time is 0.898830 seconds.
                                                                ACKed: 1
                                                                                               isACKmessage: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ans =
                                                                                                                                                                                                                                                                                                                               ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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."

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

struct with fields:

maxPeak: 0.0070

idStartTime: 281651

idDopplerShift: 49

mean: 4.8988e-09

meanSquare: 3.0686e-09

phase: 2.0981

ans =

"Tracker step 1: demodulated 10 symbols."

ans =

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

ans =

"Tracker step 4: demodulated 40 symbols."

```
ans =
```

"Tracker step 5: demodulated 50 symbols."

ans =

"Tracker step 6: demodulated 60 symbols."

ans =

"Tracker step 7: demodulated 70 symbols."

ans =

"Tracker step 8: demodulated 80 symbols."

ans =

"Received message analyzed."

ans =

"DEMODULATION RESULT 1"

```
struct with fields:
```

```
version: "2"

ACQUISITION_OK: 1

TRACKING_OK: 1

SV_ID: '000001'

message_ID: '0011'

message_body: '01010011001100111011101

CRC: '00011011110010001010001'

ACKed: 1

isACKmessage: 1

estimatedDopplerStart: 46.9697

estimatedDopplerEnd: 61.8516

estimatedDopplerEnd: 2.0981
```

"Results saved in MM_test_5.98_12.6_f0_d100_s10_c5.json"

Elapsed time is 17.140179 seconds.

ans =

"Generation test signal completed."

Elapsed time is 0.908764 seconds.

ans =

"Acquisition search 10.0% completed."

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

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

ans =
   "Acquisition search 100.0% completed."

ans =
   struct with fields:
    maxPeak: 0.0056
   idStartTime: 281651
   idDopplerShift: 49
    meanSquare: 1.9758e-09
   phase: 2.0981
```

"Tracker step 1: demodulated 10 symbols."

ans =

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."

```
"Results saved in MM_test_6.31_12.6_f0_d100_s10_c5.json"
                                                                                                                                                                                                                                                                                                                                                                       message_body: '010100110001110011001011101110'
                                                                                                                                                                                                                                                                                                                                                                                                 CRC: '0001101111100100010100001'
                                                                                                                                                                                                                                                                                                                        SV_ID: '000001'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            estimatedDopplerStart: 46.9697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    estimatedDopplerEnd: 61.8516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Elapsed time is 16.977221 seconds.
                                                                                                                                                                                                                                                                                                                                                message_ID: '0011'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            estimatedDelay: 0.0282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     estimatedPhase: 2.0981
                                                                                                                                                                                                                          version: "2"
                                                                                                                                                                                                                                                ACQUISITION_OK: 1
TRACKING_OK: 1
                                                                                                                                                                                                                                                                                                                                                                                                                            ACKed: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                    isACKmessage: 1
                                                                                                                                                                                                                                                                                                  DEMODULATION_OK: 1
                                                "DEMODULATION RESULT 1"
                                                                                                                                                                        struct with fields:
ans =
                                                                                                                            ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ans =
```

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

Elapsed time is 0.897825 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

```
ans =
```

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

ans =

"Acquisition search 100.0% completed."

ans =

struct with fields:

maxPeak: 0.0044

idStartTime: 281651

idDopplerShift: 49

mean: 2.4004e-10

meanSquare: 1.2287e-09 phase: 2.0981

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

"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."

```
message_body: '010100110001110011001011101110'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CRC: '000110111100100010100001'
"Tracker step 8: demodulated 80 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SV_ID: '000001'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           estimatedDopplerEnd: 61.8516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    estimatedDopplerStart: 46.9697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        message_ID: '0011'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   estimatedDelay: 0.0282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        estimatedPhase: 2.0981
                                                                                                                       "Received message analyzed."
                                                                                                                                                                                                                                                                                                                                                                                                                     version: "2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACKed: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TRACKING_OK: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                            ACQUISITION_OK: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEMODULATION_OK: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          isACKmessage: 1
                                                                                                                                                                                                                                              "DEMODULATION RESULT 1"
                                                                                                                                                                                                                                                                                                                                                                      struct with fields:
                                                                           ans =
                                                                                                                                                                                                  ans =
                                                                                                                                                                                                                                                                                                                        ans =
```

```
ans =
```

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

Elapsed time is 17.425149 seconds.

ans =

"Generation test signal completed."

Elapsed time is 1.088636 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

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

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

ans =

"Acquisition search 100.0% completed."

ans =

struct with fields:

maxPeak: 0.0897

idStartTime: 281651

```
idDopplerShift: 51
```

mean: 2.1877e-08 meanSquare: 4.9875e-07

phase: 2.1088

ans =

"Tracker step 1: demodulated 10 symbols."

ans =

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

ans =

"Tracker step 4: demodulated 40 symbols."

ans =

"Tracker step 5: demodulated 50 symbols."

ans =

"Tracker step 6: demodulated 60 symbols."

```
message_body: ^{\circ}010100110001110011001011011101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CRC: '000110111100100010100001'
                                             "Tracker step 7: demodulated 70 symbols."
                                                                                                                                                                       "Tracker step 8: demodulated 80 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SV_ID: '000001'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            message_ID: '0011'
                                                                                                                                                                                                                                                                                                   "Received message analyzed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      version: "2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACQUISITION_OK: 1
TRACKING_OK: 1
DEMODULATION_OK: 1
                                                                                                                                                                                                                                                                                                                                                                                                                           "DEMODULATION RESULT 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     struct with fields:
ans =
                                                                                                                        ans =
                                                                                                                                                                                                                                                    ans =
                                                                                                                                                                                                                                                                                                                                                                               ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ans =
```

```
ACKed: 1
```

isACKmessage: 1

estimatedDopplerStart: 51.0101

estimatedDopplerEnd: 63.3039

estimatedDelay: 0.0282

estimatedPhase: 2.1088

ans =

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

Elapsed time is 17.230536 seconds.

ans =

"Generation test signal completed."

Elapsed time is 0.964887 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

ans =

"Acquisition search 100.0% completed."

```
ans =

struct with fields:

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

ans =

"Tracker step 1: demodulated 10 symbols."

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

ans =

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

"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:

```
"Results saved in MM_test_2.99_25.4_f0_d100_s10_c5.json"
                                                                                                                                                            message_body: '010100110001110011001011011101
                                                                                                                                                                                          CRC: '000110111100100010100011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Acquisition search 10.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Generation test signal completed."
                                                                                                           SV_ID: '000001'
                                                                                                                                                                                                                                                                                                      estimatedDopplerEnd: 63.3039
                                                                                                                                                                                                                                                                            estimatedDopplerStart: 51.0101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Elapsed time is 17.364250 seconds.
                                                                                                                                      message_ID: '0011'
                                                                                                                                                                                                                                                                                                                                  estimatedDelay: 0.0282
                                                                                                                                                                                                                                                                                                                                                            estimatedPhase: 2.1088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Elapsed time is 0.975253 seconds.
version: "2"
                                                                                                                                                                                                                       ACKed: 1
                                                                              DEMODULATION_OK: 1
                                                                                                                                                                                                                                                  isACKmessage: 1
                                                     TRACKING_OK: 1
                         ACQUISITION_OK: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ans =
```

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

```
ans =
```

"Acquisition search 90.0% completed."

ans =

"Acquisition search 100.0% completed."

ans =

struct with fields:

maxPeak: 0.0357

idStartTime: 281651

mean: 2.5044e-08 idDopplerShift: 51

meanSquare: 7.7790e-08

phase: 2.1088

ans =

"Tracker step 1: demodulated 10 symbols."

ans =

"Tracker step 2: demodulated 20 symbols."

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

"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."

```
"Results saved in MM_test_3.65_25.4_f0_d100_s10_c5.json"
                                                                                                                                                                                                                                                                                                                                                       message_body: '010100110001110011001011101110'
                                                                                                                                                                                                                                                                                                                                                                                    CRC: '000110111100100010100001'
                                                                                                                                                                                                                                                                                                     SV_ID: '000001'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                estimatedDopplerEnd: 63.3039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       estimatedDopplerStart: 51.0101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Elapsed time is 17.482216 seconds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           estimatedDelay: 0.0282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     estimatedPhase: 2.1088
                                                                                                                                                                                                                                                                                                                                message_ID: '0011'
                                                                                                                                                                                          version: "2"
                                                                                                                                                                                                                                                                                                                                                                                                                                           isACKmessage: 1
                                                                                                                                                                                                                                                                                                                                                                                                               ACKed: 1
                                                                                                                                                                                                                     ACQUISITION_OK: 1
                                                                                                                                                                                                                                                 TRACKING_OK: 1
                                                                                                                                                                                                                                                                         DEMODULATION_OK: 1
"DEMODULATION RESULT 1"
                                                                                                                                    struct with fields:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ans =
```

"Generation test signal completed."

```
Elapsed time is 0.960930 seconds.
```

"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."

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

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

ans =

"Acquisition search 100.0% completed."

ns n

struct with fields:

maxPeak: 0.0224

idStartTime: 281651

idDopplerShift: 51

mean: 9.1005e-09

meanSquare: 3.0906e-08 phase: 2.1088

ans =

"Tracker step 1: demodulated 10 symbols."

```
ans =
```

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

ans =

"Tracker step 4: demodulated 40 symbols."

ans =

"Tracker step 5: demodulated 50 symbols."

ans =

"Tracker step 6: demodulated 60 symbols."

ans =

"Tracker step 7: demodulated 70 symbols."

ans =

"Tracker step 8: demodulated 80 symbols."

```
message_body: '0101001100011100110010111011101
                                                                                                                                                                                                                                                                                                                                                                                                                                                              CRC: '0001101111100100010100001'
                                                                                                                                                                                                                                                                                                                                                                                                SV_ID: '000001'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 estimatedDopplerStart: 51.0101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       estimatedDopplerEnd: 63.3039
                                                                                                                                                                                                                                                                                                                                                                                                                    message_ID: '0011'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            estimatedDelay: 0.0282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  estimatedPhase: 2.1088
                                         "Received message analyzed."
                                                                                                                                                                                                                                                                                                         version: "2"
                                                                                                                                                                                                                                                                                                                              ACQUISITION_OK: 1
                                                                                                                                                                                                                                                                                                                                                     TRACKING_OK: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACKed: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           isACKmessage: 1
                                                                                                                                                                                                                                                                                                                                                                           DEMODULATION_OK: 1
                                                                                                                                                    "DEMODULATION RESULT 1"
                                                                                                                                                                                                                                                                struct with fields:
ans =
                                                                                                          ans =
                                                                                                                                                                                                                        ans =
```

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

Elapsed time is 17.146145 seconds.

ans =

"Generation test signal completed."

Elapsed time is 0.954927 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

```
ans =
```

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

ans =

"Acquisition search 100.0% completed."

ans =

struct with fields:

maxPeak: 0.0142

idStartTime: 281651

idDopplerShift: 51

mean: 4.6196e-09

```
meanSquare: 1.2238e-08
```

phase: 2.1088

ans =

"Tracker step 1: demodulated 10 symbols."

ans =

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

ans =

"Tracker step 4: demodulated 40 symbols."

ans =

"Tracker step 5: demodulated 50 symbols."

ans =

"Tracker step 6: demodulated 60 symbols."

```
message_body: '010100110001110011001011101110'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CRC: '000110111100100010100001'
                                         "Tracker step 7: demodulated 70 symbols."
                                                                                                                                                                "Tracker step 8: demodulated 80 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SV_ID: '000001'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    message_ID: '0011'
                                                                                                                                                                                                                                                                                       "Received message analyzed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 version: "2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACQUISITION_OK: 1
TRACKING_OK: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     isACKmessage: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEMODULATION_OK: 1
                                                                                                                                                                                                                                                                                                                                                                                                            "DEMODULATION RESULT 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  struct with fields:
                                                                                                                                                                                                                                                                                                                                                                ans =
ans =
                                                                                                                      ans =
                                                                                                                                                                                                                                            ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ans =
```

```
"Results saved in MM_test_4.98_25.4_f0_d100_s10_c5.json"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Acquisition search 10.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Acquisition search 20.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Acquisition search 30.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Generation test signal completed."
                               estimatedDopplerEnd: 63.3039
estimatedDopplerStart: 51.0101
                                                                                                                                                                                                                                                                                                                           Elapsed time is 17.043492 seconds.
                                                               estimatedDelay: 0.0282
                                                                                             estimatedPhase: 2.1088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Elapsed time is 1.004489 seconds.
                                                                                                                                                                                                                                                                                                                                                                                            ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ans =
                                                                                                                                                                                                   ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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."

```
28/05/22 7.02
```

struct with fields:

maxPeak: 0.0112

idStartTime: 281651

idDopplerShift: 51

mean: 4.2186e-09

meanSquare: 7.6662e-09

phase: 2.1088

ans =

"Tracker step 1: demodulated 10 symbols."

ans =

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

ans =

"Tracker step 4: demodulated 40 symbols."

```
"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

```
"Results saved in MM_test_5.32_25.4_f0_d100_s10_c5.json"
                                                                                                              message_body: '010100110001110011001011011101
                                                                                                                                          CRC: '000110111100100010100001'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Acquisition search 10.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Generation test signal completed."
                                                       SV_ID: '000001'
                                                                                                                                                                                                                                                             estimatedDopplerEnd: 63.3039
                                                                                                                                                                                                                                 estimatedDopplerStart: 51.0101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Elapsed time is 17.089856 seconds.
                                                                                   message_ID: '0011'
                                                                                                                                                                                                                                                                                          estimatedDelay: 0.0282
                                                                                                                                                                                                                                                                                                                       estimatedPhase: 2.1088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Elapsed time is 1.415358 seconds.
                                                                                                                                                                          ACKed: 1
TRACKING_OK: 1
                            DEMODULATION_OK:
                                                                                                                                                                                                     isACKmessage:
                                                                                                                                                                                                                                                                                                                                                                                                                  ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ans =
```

"Acquisition search 20.0% completed."

"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."

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

"Acquisition search 100.0% completed."

ans =

struct with fields:

maxPeak: 0.0089

idStartTime: 281651

idDopplerShift: 51

mean: 4.5210e-09

meanSquare: 4.8769e-09

phase: 2.1088

ans =

"Tracker step 1: demodulated 10 symbols."

ans =

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

```
ans =
```

"Tracker step 4: demodulated 40 symbols."

ans =

"Tracker step 5: demodulated 50 symbols."

ans =

"Tracker step 6: demodulated 60 symbols."

ans =

"Tracker step 7: demodulated 70 symbols."

ans =

"Tracker step 8: demodulated 80 symbols."

ans =

"Received message analyzed."

ans =

"DEMODULATION RESULT 1"

```
"Results saved in MM_test_5.65_25.4_f0_d100_s10_c5.json"
                                                                                                                                                                                                                                                            message_body: '0101001100011100110010111011110'
                                                                                                                                                                                                                                                                                           CRC: '000110111100100010100001'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Generation test signal completed."
                                                                                                                                                                                                             SV_ID: '000001'
                                                                                                                                                                                                                                                                                                                                                                                                  estimatedDopplerEnd: 63.3039
                                                                                                                                                                                                                                                                                                                                                                          estimatedDopplerStart: 51.0101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Elapsed time is 17.484106 seconds.
                                                                                                                                                                                                                                     message_ID: '0011'
                                                                                                                                                                                                                                                                                                                                                                                                                              estimatedDelay: 0.0282
                                                                                                                                                                                                                                                                                                                                                                                                                                                       estimatedPhase: 2.1088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Elapsed time is 0.979760 seconds.
                                                                                                   version: "2"
                                                                                                                                                                                                                                                                                                                 ACKed: 1
                                                                                                                                                        TRACKING_OK: 1
                                                                                                                                                                                 DEMODULATION_OK: 1
                                                                                                                                                                                                                                                                                                                                              isACKmessage: 1
                                                                                                                              ACQUISITION_OK: 1
                                                 struct with fields:
ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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 =
   struct with fields:
   maxPeak: 0.0071
   idStartTime: 281651
   idDopplerShift: 51
   mean: 1.8235e-09
   meanSquare: 3.0963e-09
   phase: 2.1088

ans =
```

"Tracker step 1: demodulated 10 symbols."

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

"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."

```
"Received message analyzed."
ans =
"DEMODULATION RESULT 1"
```

struct with fields:

ans =

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

message_body: '0101001100111001100111011101
CRC: '000110111100100010100001'

ACKed: 1 isACKmessage: 1

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

ans =

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

```
Elapsed time is 17.079731 seconds.
```

"Generation test signal completed."

Elapsed time is 0.953210 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

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

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

ans =

"Acquisition search 100.0% completed."

ans =

struct with fields:

maxPeak: 0.0056 idStartTime: 281651

mean: 2.7983e-09 idDopplerShift: 51

meanSquare: 1.8901e-09

phase: 2.1088

```
ans =
```

"Tracker step 1: demodulated 10 symbols."

ans =

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

ans =

"Tracker step 4: demodulated 40 symbols."

ans =

"Tracker step 5: demodulated 50 symbols."

ans =

"Tracker step 6: demodulated 60 symbols."

```
message_body: '010100111001110011101111011110'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CRC: '000110111100100010100001'
                                                                                                                        "Tracker step 8: demodulated 80 symbols."
"Tracker step 7: demodulated 70 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SV_ID: '000001'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               estimatedDopplerStart: 51.0101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      estimatedDopplerEnd: 63.3039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        message_ID: '0011'
                                                                                                                                                                                                                                                  "Received message analyzed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                version: "2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACQUISITION_OK: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACKed: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        isACKmessage: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TRACKING_OK: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEMODULATION_OK: 1
                                                                                                                                                                                                                                                                                                                                                                         "DEMODULATION RESULT 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 struct with fields:
                                                                                                                                                                                                   ans =
                                                                              ans =
                                                                                                                                                                                                                                                                                                                            ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ans =
```

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

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

Elapsed time is 17.180686 seconds.

ans =

"Generation test signal completed."

Elapsed time is 1.015548 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

"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."

```
struct with fields:
```

```
maxPeak: 0.0045
```

idStartTime: 281651

idDopplerShift: 51

mean: 2.5029e-09 meanSquare: 1.2391e-09

phase: 2.1088

ans =

"Tracker step 1: demodulated 10 symbols."

ans =

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

ans =

"Tracker step 4: demodulated 40 symbols."

ans =

"Tracker step 5: demodulated 50 symbols."

```
"Tracker step 6: demodulated 60 symbols."
                                                                                                                                                             "Tracker step 7: demodulated 70 symbols."
                                                                                                                                                                                                                                                                              "Tracker step 8: demodulated 80 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                "Received message analyzed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             version: "2"
ACQUISITION_OK: 1
TRACKING_OK: 1
DEMODULATION_OK: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "DEMODULATION RESULT 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   struct with fields:
ans =
                                                                                                                                                                                                                                                                                                                                                      ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ans =
                                                                                                                  ans =
                                                                                                                                                                                                                                     ans =
```

```
"Results saved in MM_test_6.64_25.4_f0_d100_s10_c5.json"
                                                        message_body: '010100110001110011001011011101
                                                                                        CRC: '000110111100100010100001'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Generation test signal completed."
SV_ID: '000001'
                                                                                                                                                                                 estimatedDopplerStart: 51.0101
                                                                                                                                                                                                               estimatedDopplerEnd: 63.3039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Elapsed time is 17.838430 seconds.
                                                                                                                                                                                                                                             estimatedDelay: 0.0282
                                                                                                                                                                                                                                                                           estimatedPhase: 2.1088
                            message_ID: '0011'
                                                                                                                      ACKed: 1
                                                                                                                                                   isACKmessage: 1
                                                                                                                                                                                                                                                                                                                                                                        ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ans =
```

"Acquisition search 10.0% completed."

Elapsed time is 0.968492 seconds.

ans =

"Acquisition search 20.0% completed."

"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."

```
"Tracker step 1: demodulated 10 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Tracker step 3: demodulated 30 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Tracker step 2: demodulated 20 symbols."
                                               "Acquisition search 100.0% completed."
                                                                                                                                                                                                                                                                                                 mean: 4.1227e-08
                                                                                                                                                                                                                                                                                                                       meanSquare: 4.9871e-07
                                                                                                                                                                                                                                                                                                                                                phase: 2.1282
                                                                                                                                                                                                                       maxPeak: 0.0890
                                                                                                                                                                                                                                               idStartTime: 281651
                                                                                                                                                                                                                                                                      idDopplerShift: 55
                                                                                                                                                                        struct with fields:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ans =
ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ans =
                                                                                                                           ans =
                                                                                                                                                                                                                                                                                                                                                                                                                               ans =
```

```
Warning: Error no ack: received CRC 000110111100100100111110 and CRC remainder 00000000000000110111111
"Tracker step 4: demodulated 40 symbols."
                                                                                                                                                                                                        "Tracker step 5: demodulated 50 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                "Tracker step 6: demodulated 60 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Tracker step 8: demodulated 80 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Tracker step 7: demodulated 70 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   > In MessageAnalyzer/analyzeMessage (line 85)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Received message analyzed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IN RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                                      ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ans =
                                                                                                                             ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ans =
```

```
message_body: '010100110001110011001011101110'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Results saved in MM_test_2.32_51_f0_d100_s10_c5.json"
                                                                                                                                                                                                                                                                                                                                                                                 CRC: '000110111100100100011110'
                                                                                                                                                                                                                                                                                                   SV_ID: '000001'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   estimatedDopplerStart: 59.0909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            estimatedDopplerEnd: 83.0317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Elapsed time is 17.206306 seconds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      estimatedDelay: 0.0282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 estimatedPhase: 2.1282
                                                                                                                                                                                                                                                                                                                              message_ID: '0011'
                                                                                                                                                                                         version: "2"
                                                                                                                                                                                                                                                                                                                                                                                                                                        isACKmessage: 1
                                                                                                                                                                                                                                                                                                                                                                                                            ACKed: 0
                                                                                                                                                                                                                                             TRACKING_OK: 1 DEMODULATION_OK: 0
                                                                                                                                                                                                                    ACQUISITION_OK: 1
"DEMODULATION RESULT 0"
                                                                                                                                   struct with fields:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ans =
```

"Generation test signal completed."

```
Elapsed time is 0.998618 seconds.
```

"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."

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

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

ans =

"Acquisition search 100.0% completed."

ans =

struct with fields:

maxPeak: 0.0559

idStartTime: 281651
idDopplerShift: 55

mean: 1.9581e-08

meanSquare: 1.9420e-07

phase: 2.1282

ans =

"Tracker step 1: demodulated 10 symbols."

```
ans =
```

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

ans =

"Tracker step 4: demodulated 40 symbols."

ans =

"Tracker step 5: demodulated 50 symbols."

ans =

"Tracker step 6: demodulated 60 symbols."

ans =

"Tracker step 7: demodulated 70 symbols."

ans =

"Tracker step 8: demodulated 80 symbols."

```
Warning: Error no ack: received CRC 00011011110010010011110 and CRC remainder 000000000000001111111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  message_body: '010100110001110011001011101110'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CRC: '000110111100100100011110'
                               > In MessageAnalyzer/analyzeMessage (line 85)
                                                                                          In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SV_ID: '000001'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                estimatedDopplerStart: 59.0909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           estimatedDopplerEnd: 83.0317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          estimatedDelay: 0.0282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       estimatedPhase: 2.1282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       message_ID: '0011'
                                                                                                                                                                                                                   "Received message analyzed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       version: "2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   isACKmessage: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEMODULATION_OK: 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACKed: 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TRACKING_OK: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACQUISITION_OK: 1
                                                                                                                                                                                                                                                                                                                                                                        "DEMODULATION RESULT 0"
                                                            In RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           struct with fields:
                                                                                                                                                           ans =
                                                                                                                                                                                                                                                                                                                ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ans =
```

```
ans =
```

"Results saved in MM_test_2.99_51_f0_d100_s10_c5.json"

Elapsed time is 17.233054 seconds.

ans =

"Generation test signal completed."

Elapsed time is 0.977835 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

```
ans =
```

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

ans =

"Acquisition search 100.0% completed."

ans =

struct with fields:

```
maxPeak: 0.0354
                    idStartTime: 281651
```

idDopplerShift: 55

mean: 2.3289e-08

meanSquare: 7.7092e-08

phase: 2.1282

ans =

"Tracker step 1: demodulated 10 symbols."

ans =

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

ans =

"Tracker step 4: demodulated 40 symbols."

ans =

"Tracker step 5: demodulated 50 symbols."

```
Warning: Error no ack: received CRC 00011011110010010011110 and CRC remainder 000000000000001111111
                                                                                                                                                                            "Tracker step 7: demodulated 70 symbols."
"Tracker step 6: demodulated 60 symbols."
                                                                                                                                                                                                                                                                                                                                                      "Tracker step 8: demodulated 80 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                             > In MessageAnalyzer/analyzeMessage (line 85)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Received message analyzed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         version: "2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACQUISITION_OK: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "DEMODULATION RESULT 0"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IN RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     struct with fields:
                                                                                                                                                                                                                                                                                        ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ans =
                                                                                                            ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ans =
```

```
message_body: '010100110001110011001011011101
                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Results saved in MM_test_3.65_51_f0_d100_s10_c5.json"
                                                                                                                                      CRC: '0001101111100100100011110'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Acquisition search 10.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Generation test signal completed."
                                                   SV_ID: '000001'
                                                                                                                                                                                                                            estimatedDopplerStart: 59.0909
                                                                                                                                                                                                                                                        estimatedDopplerEnd: 83.0317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Elapsed time is 17.774227 seconds.
                                                                                 message_ID: '0011'
                                                                                                                                                                                                                                                                                     estimatedDelay: 0.0282
                                                                                                                                                                                                                                                                                                                 estimatedPhase: 2.1282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Elapsed time is 0.984198 seconds.
                                                                                                                                                                       ACKed: 0
                                                                                                                                                                                                  isACKmessage: 1
TRACKING_OK: 1
                          DEMODULATION_OK: 0
                                                                                                                                                                                                                                                                                                                                                                                                          ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ans =
```

"Acquisition search 20.0% completed."

"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."

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

"Acquisition search 100.0% completed."

ans =

struct with fields:

maxPeak: 0.0222

idStartTime: 281651

idDopplerShift: 55

mean: 1.2540e-08

meanSquare: 3.0813e-08

phase: 2.1282

ans =

"Tracker step 1: demodulated 10 symbols."

ans =

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

```
Warning: Error no ack: received CRC 000110111100100100111110 and CRC remainder 00000000000000110111111
                                                                           "Tracker step 4: demodulated 40 symbols."
                                                                                                                                                                                                                                                                         "Tracker step 5: demodulated 50 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Tracker step 6: demodulated 60 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Tracker step 7: demodulated 70 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Tracker step 8: demodulated 80 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        > In MessageAnalyzer/analyzeMessage (line 85)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Received message analyzed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 In RECEIVER (line 259)
ans =
                                                                                                                                                                                                    ans =
                                                                                                                                                                                                                                                                                                                                                                                                    ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ans =
```

```
message_body: '010100110001110011001011101110'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Results saved in MM_test_4.32_51_f0_d100_s10_c5.json"
                                                                                                                                                                                                                                                                                                                                                                              CRC: '0001101111100100100011110'
                                                                                                                                                                                                                                                                                    DEMODULATION_OK: 0
SV_ID: '000001'
                                                                                                                                                                                                                                                                                                                                                                                                                                                       estimatedDopplerStart: 59.0909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              estimatedDopplerEnd: 83.0317
                                                                                                                                                                                                                                                                                                                                 message_ID: '0011'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     estimatedDelay: 0.0282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             estimatedPhase: 2.1282
                                                                                                                                                                                                                version: "2"
                                                                                                                                                                                                                                   ACQUISITION_OK: 1 TRACKING_OK: 1
                                                                                                                                                                                                                                                                                                                                                                                                       ACKed: 0
                                                                                                                                                                                                                                                                                                                                                                                                                                isACKmessage: 1
                                             "DEMODULATION RESULT 0"
                                                                                                                                                                struct with fields:
ans =
                                                                                                                       ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ans =
```

Elapsed time is 17.289638 seconds.

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

Elapsed time is 0.986405 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

```
ans =
```

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

ans =

"Acquisition search 100.0% completed."

ans =

struct with fields:

maxPeak: 0.0141

idStartTime: 281651

idDopplerShift: 55

mean: 4.2955e-09

meanSquare: 1.2307e-08

phase: 2.1282

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

"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."

```
Warning: Error no ack: received CRC 00011011110010010011110 and CRC remainder 0000000000000011111111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      message_body: '010100110001110011001011011101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CRC: '000110111100100100011110'
                                                                                         > In MessageAnalyzer/analyzeMessage (line 85)
"Tracker step 8: demodulated 80 symbols."
                                                                                                                                                   In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SV_ID: '000001'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     estimatedDopplerStart: 59.0909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  estimatedDopplerEnd: 83.0317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                message_ID: '0011'
                                                                                                                                                                                                                                                                                 "Received message analyzed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         version: "2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACKed: 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACQUISITION_OK: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        isACKmessage: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEMODULATION_OK: 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TRACKING_OK: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                      "DEMODULATION RESULT 0"
                                                                                                                        In RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             struct with fields:
                                                                                                                                                                                                                     ans =
                                                                                                                                                                                                                                                                                                                                                                              ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     II
```

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

"Results saved in MM_test_4.98_51_f0_d100_s10_c5.json"

Elapsed time is 17.267804 seconds.

ans =

"Generation test signal completed."

Elapsed time is 1.010397 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

"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."

```
"Tracker step 1: demodulated 10 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                "Tracker step 2: demodulated 20 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Tracker step 4: demodulated 40 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Tracker step 3: demodulated 30 symbols."
                                                                                                                       mean: 5.2271e-09
                                                                                                                                                 meanSquare: 7.7924e-09
                                                                                                                                                                          phase: 2.1282
                                                                       idStartTime: 281651
                                                 maxPeak: 0.0111
                                                                                                 idDopplerShift: 55
struct with fields:
                                                                                                                                                                                                                                                                                                                                                                                  ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ans =
                                                                                                                                                                                                                                                          ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ans =
```

"Tracker step 5: demodulated 50 symbols."

```
Warning: Error no ack: received CRC 00011011110010010011110 and CRC remainder 000000000000001111111
                                                                    "Tracker step 6: demodulated 60 symbols."
                                                                                                                                                                                                                                             "Tracker step 7: demodulated 70 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                            "Tracker step 8: demodulated 80 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     > In MessageAnalyzer/analyzeMessage (line 85)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      In RECEIVERTESt/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Received message analyzed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "DEMODULATION RESULT 0"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   In RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              struct with fields:
ans =
                                                                                                                                                                                 ans =
                                                                                                                                                                                                                                                                                                                                                            ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ans =
```

```
message_body: '010100111001110011001011101110'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Results saved in MM_test_5.32_51_f0_d100_s10_c5.json"
                                                                                                                                                                                       CRC: '0001101111100100100011110'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Acquisition search 10.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Generation test signal completed."
                                                                                                          SV_ID: '000001'
                                                                                                                                                                                                                                                                          estimatedDopplerStart: 59.0909
                                                                                                                                                                                                                                                                                                    estimatedDopplerEnd: 83.0317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Elapsed time is 17.992481 seconds.
                                                                                                                                      message_ID: '0011'
                                                                                                                                                                                                                                                                                                                               estimatedDelay: 0.0282
                                                                                                                                                                                                                                                                                                                                                          estimatedPhase: 2.1282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Elapsed time is 0.998255 seconds.
version: "2"
                                                                                                                                                                                                                     ACKed: 0
                                                                               DEMODULATION_OK: 0
                                                                                                                                                                                                                                               isACKmessage: 1
                         ACQUISITION_OK: 1
                                                    TRACKING_OK: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ans =
```

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

```
ans =
```

"Acquisition search 90.0% completed."

ans =

"Acquisition search 100.0% completed."

ans =

struct with fields:

maxPeak: 0.0088

idStartTime: 281651 idDopplerShift: 55

mean: 4.0432e-09

meanSquare: 4.9005e-09

phase: 2.1282

ans =

"Tracker step 1: demodulated 10 symbols."

ans =

"Tracker step 2: demodulated 20 symbols."

```
Warning: Error no ack: received CRC 000110111100100100111110 and CRC remainder 00000000000000110111111
                                                                                                                                                                                               "Tracker step 4: demodulated 40 symbols."
"Tracker step 3: demodulated 30 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                "Tracker step 5: demodulated 50 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Tracker step 6: demodulated 60 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Tracker step 7: demodulated 70 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Tracker step 8: demodulated 80 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            > In MessageAnalyzer/analyzeMessage (line 85)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 In RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                       ans =
                                                                                                                            ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ans =
```

```
message_body: '010100110001110011001011011101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Results saved in MM_test_5.65_51_f0_d100_s10_c5.json"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CRC: '0001101111100100100011110'
                                                                                                                                                                                                                                                                                                                                                                                                 SV_ID: '000001'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               estimatedDopplerStart: 59.0909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      estimatedDopplerEnd: 83.0317
                                                                                                                                                                                                                                                                                                                                                                                                                     message_ID: '0011'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                estimatedDelay: 0.0282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       estimatedPhase: 2.1282
"Received message analyzed."
                                                                                                                                                                                                                                                                                                 version: "2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACKed: 0
                                                                                                                                                                                                                                                                                                                                              TRACKING_OK: 1
                                                                                                                                                                                                                                                                                                                                                                       DEMODULATION_OK: 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       isACKmessage: 1
                                                                                                                                                                                                                                                                                                                        ACQUISITION_OK: 1
                                                                                                                        "DEMODULATION RESULT 0"
                                                                                                                                                                                                                                                struct with fields:
                                                                                                                                                                                                  ans =
                                                                             ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ans =
```

Elapsed time is 17.081123 seconds.

"Generation test signal completed."

Elapsed time is 1.012059 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

```
ans =
```

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

ans =

"Acquisition search 100.0% completed."

ans =

struct with fields:

maxPeak: 0.0070

idStartTime: 281651
idDopplerShift: 55

mean: 5.7302e-09

meanSquare: 3.0765e-09

phase: 2.1282

```
ans =
```

"Tracker step 1: demodulated 10 symbols."

ans =

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

ans =

"Tracker step 4: demodulated 40 symbols."

ans =

"Tracker step 5: demodulated 50 symbols."

ans =

"Tracker step 6: demodulated 60 symbols."

ans =

"Tracker step 7: demodulated 70 symbols."

```
Warning: Error no ack: received CRC 00011011110010010011110 and CRC remainder 000000000000001111111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 message_body: '010100110001110011001011101110'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CRC: '000110111100100100011110'
                                                        "Tracker step 8: demodulated 80 symbols."
                                                                                                                                                > In MessageAnalyzer/analyzeMessage (line 85)
                                                                                                                                                                                                            In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SV_ID: '000001'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   message_ID: '0011'
                                                                                                                                                                                                                                                                                                                                   "Received message analyzed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     version: "2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TRACKING_OK: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            isACKmessage: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEMODULATION_OK: 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACQUISITION_OK: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "DEMODULATION RESULT 0"
                                                                                                                                                                              In RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         struct with fields:
ans =
                                                                                                                                                                                                                                                                           ans =
                                                                                                                                                                                                                                                                                                                                                                                                                              ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ans =
```

```
"Results saved in MM_test_5.98_51_f0_d100_s10_c5.json"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Acquisition search 10.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Acquisition search 20.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Acquisition search 30.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Generation test signal completed."
estimatedDopplerStart: 59.0909
                               estimatedDopplerEnd: 83.0317
                                                                                                                                                                                                                                                                                                                         Elapsed time is 17.268916 seconds.
                                                               estimatedDelay: 0.0282
                                                                                             estimatedPhase: 2.1282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Elapsed time is 0.976571 seconds.
                                                                                                                                                                                                                                                                                                                                                                                            ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ans =
                                                                                                                                                                                                   ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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."

```
28/05/22 7.02
```

struct with fields:

maxPeak: 0.0056

idStartTime: 281651

idDopplerShift: 55

mean: 2.9244e-09

meanSquare: 1.9350e-09

phase: 2.1282

ans =

"Tracker step 1: demodulated 10 symbols."

ans =

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

ans =

"Tracker step 4: demodulated 40 symbols."

```
Warning: Error no ack: received CRC 00011011110010010011110 and CRC remainder 00000000000000110111111
                                                                                                                                                                                            "Tracker step 6: demodulated 60 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Tracker step 8: demodulated 80 symbols."
"Tracker step 5: demodulated 50 symbols."
                                                                                                                                                                                                                                                                                                                                                                                            "Tracker step 7: demodulated 70 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          > In MessageAnalyzer/analyzeMessage (line 85)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Received message analyzed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "DEMODULATION RESULT 0"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 In RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                    ans =
                                                                                                                         ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ans =
```

```
\verb|message_body: 010100110001110011001011101110| \\
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Results saved in MM_test_6.31_51_f0_d100_s10_c5.json"
                                                                                                                                                                                                                                                            CRC: '0001101111100100100011110'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Generation test signal completed."
                                                                                                                                                                            SV_ID: '000001'
                                                                                                                                                                                                                                                                                                                                                      estimatedDopplerStart: 59.0909
                                                                                                                                                                                                                                                                                                                                                                                 estimatedDopplerEnd: 83.0317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Elapsed time is 17.587522 seconds.
                                                                                                                                                                                                                                                                                                                                                                                                              estimatedDelay: 0.0282
                                                                                                                                                                                                                                                                                                                                                                                                                                          estimatedPhase: 2.1282
                                                                                                                                                                                                       message_ID: '0011'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Elapsed time is 0.955512 seconds.
                                                         version: "2"
                                                                                                                                                                                                                                                                                            ACKed: 0
                                                                                                                                                                                                                                                                                                                           isACKmessage: 1
                                                                                     ACQUISITION_OK: 1
                                                                                                                TRACKING_OK: 1
                                                                                                                                             DEMODULATION_OK: 0
struct with fields:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ans =
```

"Acquisition search 10.0% completed."

"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."

```
"Acquisition search 100.0% completed."
                                         "Acquisition search 90.0% completed."
                                                                                                                                                                                                                                                                                                                  maxPeak: 0.0045
                                                                                                                                                                                                                                                                                                                                      idStartTime: 281651
                                                                                                                                                                                                                                                                      struct with fields:
ans =
                                                                                                             ans =
                                                                                                                                                                                                                            ans =
```

phase: 2.1282

meanSquare: 1.2071e-09

mean: 2.3441e-09

idDopplerShift: 55

ans =

"Tracker step 1: demodulated 10 symbols."

ans =

"Tracker step 2: demodulated 20 symbols."

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

"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 00011011110010010011110 and CRC remainder 000000000000001111111

> In MessageAnalyzer/analyzeMessage (line 85)

In RECEIVER (line 259)

In RECEIVERTest/globalTest (line 109)

```
ans = "Received message analyzed." ans =
```

"DEMODULATION RESULT 0"

struct with fields:

version: "2"

ACQUISITION_OK: 1

TRACKING_OK: 1

DEMODULATION_OK: 0

SV_ID: '000001'

message_LDdy: '01010011001110011101110'

CRC: '0001101111100100101110'

ACKed: 0

isACKmessage: 1

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

ans =

"Results saved in MM_test_6.64_51_f0_d100_s10_c5.json"

```
Elapsed time is 17.089830 seconds.
```

"Generation test signal completed."

Elapsed time is 1.039109 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

```
"Acquisition search 100.0% completed."
"Acquisition search 60.0% completed."
                                                                                                                             "Acquisition search 70.0% completed."
                                                                                                                                                                                                                                                           "Acquisition search 80.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                          "Acquisition search 90.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              mean: 5.9153e-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        meanSquare: 4.9369e-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             idStartTime: 281650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 phase: 2.6918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     maxPeak: 0.0867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      idDopplerShift: 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    struct with fields:
                                                                                                                                                                                                                                                                                                                                          ans =
                                                                                                                                                                                                              ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ans =
                                                                                ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ans =
```

```
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."

```
Warning: Error no ack: received CRC 0011101001110000101111 and CRC remainder 1010000110010110010100
                                                                                                                                                                                                                                                                                                                                               > In MessageAnalyzer/validateAndSplitMessage (line 110)
                                                                                                                                                                                                                                                                                                       Warning: Error. Incorrect received tail 001001
"Tracker step 7: demodulated 70 symbols."
                                                                                                                                                                                                                  "Tracker step 8: demodulated 80 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    > In MessageAnalyzer/analyzeMessage (line 85)
                                                                                                                                                                                                                                                                                                                                                                                            In MessageAnalyzer/analyzeMessage (line 71)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Received message analyzed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "DEMODULATION RESULT 0"
                                                                                                                                                                                                                                                                                                                                                                                                                                       IN RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IN RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      struct with fields:
                                                                                                                                         ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ans =
```

version: "2"

ACQUISITION_OK: 1 TRACKING_OK: 1

```
"Results saved in MM_test_2.32_102.6_f0_d100_s10_c5.json"
                                                                                    \verb|message_body|: |01010011011000000110011101000|
                                                                                                                  CRC: '001110100111000010110111'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Acquisition search 10.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Acquisition search 20.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Generation test signal completed."
                          SV_ID: '000001'
                                                                                                                                                                                                                                            estimatedDopplerEnd: 90.6238
                                                                                                                                                                                                              estimatedDopplerStart: 71.2121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Elapsed time is 17.130913 seconds.
                                                                                                                                                                                                                                                                          estimatedDelay: 0.0282
                                                                                                                                                                                                                                                                                                     estimatedPhase: 2.6918
                                                        message_ID: '0011'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Elapsed time is 0.992905 seconds.
                                                                                                                                                ACKed: 0
                                                                                                                                                                                isACKmessage: 1
DEMODULATION_OK: 0
                                                                                                                                                                                                                                                                                                                                                                                                     ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ans =
```

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

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

ans =
   struct with fields:
        maxPeak: 0.0545
   idStartTime: 281650
   idDopplerShift: 61
        mean: 4.7238e-08
   meanSquare: 1.9017e-07
   phase: 2.6918
```

ans =

ans =

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

```
Warning: Error no ack: received CRC 001110100111000010110111 and CRC remainder 101000001100101100010100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        > In MessageAnalyzer/validateAndSplitMessage (line 110)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Warning: Error. Incorrect received tail 001001.
                                                                                 "Tracker step 4: demodulated 40 symbols."
                                                                                                                                                                                                                                                                                                              "Tracker step 5: demodulated 50 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Tracker step 6: demodulated 60 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Tracker step 7: demodulated 70 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Tracker step 8: demodulated 80 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   > In MessageAnalyzer/analyzeMessage (line 85)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  In MessageAnalyzer/analyzeMessage (line 71)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               In RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               In RECEIVER (line 259)
ans =
                                                                                                                                                                                                                            ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ans =
```

```
ans =
```

"Received message analyzed."

ans =

"DEMODULATION RESULT 0"

ans =

struct with fields:

version: "2"

ACQUISITION_OK: 1

DEMODULATION_OK: 0 TRACKING_OK: 1

SV_ID: '000001'

message_body: '0101001101100000011001101101000' message_ID: '0011'

CRC: '001110100111000010110111'

ACKed: 0

estimatedDopplerStart: 71.2121 isACKmessage: 1

estimatedDopplerEnd: 90.6238

estimatedDelay: 0.0282

estimatedPhase: 2.6918

ans =

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

```
Elapsed time is 17.827877 seconds.
```

"Generation test signal completed."

Elapsed time is 0.990449 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

```
"Acquisition search 100.0% completed."
"Acquisition search 60.0% completed."
                                                                                                                             "Acquisition search 70.0% completed."
                                                                                                                                                                                                                                                          "Acquisition search 80.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                        "Acquisition search 90.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mean: 2.8572e-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     meanSquare: 7.7330e-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              phase: 2.6918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          idStartTime: 281650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  maxPeak: 0.0345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   idDopplerShift: 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 struct with fields:
                                                                                                                                                                                                                                                                                                                                        ans =
                                                                                                                                                                                                             ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ans =
                                                                                ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ans =
```

```
ans =
```

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."

```
Warning: Error no ack: received CRC 0011101001110000101111 and CRC remainder 1010000110010110010100
MATLAB Command Window
                                                                                                                                                                                                                                                                                                                                                                                                                                                  > In MessageAnalyzer/validateAndSplitMessage (line 110)
                                                                                                                                                                                                                                                                                                                                                                                                           Warning: Error. Incorrect received tail 001001
                                                                                                           "Tracker step 7: demodulated 70 symbols."
                                                                                                                                                                                                                                                                                                                        "Tracker step 8: demodulated 80 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                > In MessageAnalyzer/analyzeMessage (line 85)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             In MessageAnalyzer/analyzeMessage (line 71)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Received message analyzed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "DEMODULATION RESULT 0"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IN RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IN RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               struct with fields:
                                                                                                                                                                                                                                                 ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ans =
```

version: "2"

TRACKING_OK: 1 ACQUISITION_OK: 1

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```
"Results saved in MM_test_3.65_102.6_f0_d100_s10_c5.json"
                                                                                     \verb|message_body|: |01010011011000000110011101000|
                                                                                                                   CRC: '001110100111000010110111'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Acquisition search 10.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Acquisition search 20.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Generation test signal completed."
                          SV_ID: '000001'
                                                                                                                                                                                                                                             estimatedDopplerEnd: 90.6238
                                                                                                                                                                                                               estimatedDopplerStart: 71.2121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Elapsed time is 16.944910 seconds.
                                                                                                                                                                                                                                                                           estimatedDelay: 0.0282
                                                                                                                                                                                                                                                                                                      estimatedPhase: 2.6918
                                                        message_ID: '0011'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Elapsed time is 0.981120 seconds.
                                                                                                                                                 ACKed: 0
                                                                                                                                                                                 isACKmessage: 1
DEMODULATION_OK: 0
                                                                                                                                                                                                                                                                                                                                                                                                      ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ans =
```

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

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

ans =
   struct with fields:
        maxPeak: 0.0217
   idStartTime: 281650
   idDopplerShift: 61
        mean: 8.0147e-09
   meanSquare: 3.0790e-08
   phase: 2.6918

ans =
   "Tracker step 1: demodulated 10 symbols."

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

```
Warning: Error no ack: received CRC 001110100111000010110111 and CRC remainder 101000001100101100010100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      > In MessageAnalyzer/validateAndSplitMessage (line 110)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Warning: Error. Incorrect received tail 001001.
                                                                                "Tracker step 4: demodulated 40 symbols."
                                                                                                                                                                                                                                                                                                         "Tracker step 5: demodulated 50 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Tracker step 6: demodulated 60 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Tracker step 7: demodulated 70 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Tracker step 8: demodulated 80 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            > In MessageAnalyzer/analyzeMessage (line 85)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               In MessageAnalyzer/analyzeMessage (line 71)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           In RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        II
ans =
                                                                                                                                                                                                                         ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ans
```

In RECEIVERTest/globalTest (line 109)

In RECEIVER (line 259)

```
"Received message analyzed."

ans =

"DEMODULATION RESULT 0"

ans =

struct with fields:
```

version: "2"

ACQUISITION_OK: 1

TRACKING_OK: 1

SV_ID: '000001'

message_ID: '0011'

message_body: '010100110110000111011000'

CRC: '001110100111010111111'

ACKed: 0

isACKmessage: 1

estimatedDopplerStart: 71.2121

estimatedDelay: 0.0282

estimatedDhase: 2.6918

ans =

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

```
Elapsed time is 17.046808 seconds.
```

"Generation test signal completed."

Elapsed time is 1.029792 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

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

"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:

idStartTime: 281650 maxPeak: 0.0137

mean: 7.2842e-09 idDopplerShift: 61

meanSquare: 1.2263e-08

phase: 2.6918

```
ans =
```

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."

```
Warning: Error no ack: received CRC 0011101001110000101111 and CRC remainder 1010000110010110010100
                                                                                                                                                                                                                                                                                                                                                > In MessageAnalyzer/validateAndSplitMessage (line 110)
                                                                                                                                                                                                                                                                                                        Warning: Error. Incorrect received tail 110110.
"Tracker step 7: demodulated 70 symbols."
                                                                                                                                                                                                                  "Tracker step 8: demodulated 80 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     > In MessageAnalyzer/analyzeMessage (line 85)
                                                                                                                                                                                                                                                                                                                                                                                             In MessageAnalyzer/analyzeMessage (line 71)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Received message analyzed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "DEMODULATION RESULT 0"
                                                                                                                                                                                                                                                                                                                                                                                                                                        IN RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IN RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        struct with fields:
                                                                                                                                         ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ans =
```

version: "2"

ACQUISITION_OK: 1 TRACKING_OK: 1

```
"Results saved in MM_test_4.98_102.6_f0_d100_s10_c5.json"
                                                                                    \verb|message_body|: |01010011011000000110011101000|
                                                                                                                  CRC: '001110100111000010110111'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Acquisition search 10.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Acquisition search 20.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Generation test signal completed."
                          SV_ID: '000001'
                                                                                                                                                                                                                                            estimatedDopplerEnd: 90.6238
                                                                                                                                                                                                              estimatedDopplerStart: 71.2121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Elapsed time is 16.962372 seconds.
                                                                                                                                                                                                                                                                          estimatedDelay: 0.0282
                                                                                                                                                                                                                                                                                                     estimatedPhase: 2.6918
                                                        message_ID: '0011'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Elapsed time is 1.071788 seconds.
                                                                                                                                                ACKed: 0
                                                                                                                                                                                isACKmessage: 1
DEMODULATION_OK: 0
                                                                                                                                                                                                                                                                                                                                                                                                     ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ans =
```

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

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

ans =
   struct with fields:
        maxPeak: 0.0108
   idStartTime: 281650
   idDopplerShift: 61
        mean: 6.9184e-09
   meanSquare: 7.6856e-09
```

ans =

phase: 2.6918

ans =

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

```
Warning: Error no ack: received CRC 001110100111000010110111 and CRC remainder 101000001100101100010100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  > In MessageAnalyzer/validateAndSplitMessage (line 110)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Warning: Error. Incorrect received tail 001001.
                                                                               "Tracker step 4: demodulated 40 symbols."
                                                                                                                                                                                                                                                                                                    "Tracker step 5: demodulated 50 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Tracker step 6: demodulated 60 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Tracker step 7: demodulated 70 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Tracker step 8: demodulated 80 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     > In MessageAnalyzer/analyzeMessage (line 85)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           In MessageAnalyzer/analyzeMessage (line 71)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      In RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                In RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             II
ans =
                                                                                                                                                                                                                     ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                          ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ans
```

```
"Received message analyzed."
ans =
"DEMODULATION RESULT 0"
```

struct with fields:

ans =

version: "2"

ACQUISITION_OK: 1

TRACKING_OK: 1

DEMODULATION_OK: 0

SV_ID: '000001'

message_ID: '0011'

message_body: '01010011011000000111011000'

CRC: '0011101001111011111'

ACKed: 0 isACKmessage: 1 estimatedDopplerStart: 71.2121

estimatedDopplerEnd: 90.6238 estimatedDelay: 0.0282 estimatedPhase: 2.6918

ans =

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

```
Elapsed time is 17.110349 seconds.
```

"Generation test signal completed."

Elapsed time is 0.984967 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

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

"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:

idStartTime: 281650 maxPeak: 0.0086

idDopplerShift: 61

mean: 1.1899e-08

meanSquare: 4.9129e-09

phase: 2.6918

```
ans =
```

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."

```
Warning: Error no ack: received CRC 0011101001110000101111 and CRC remainder 1010000110010110010100
                                                                                                                                                                                                                                                                                                                                                > In MessageAnalyzer/validateAndSplitMessage (line 110)
                                                                                                                                                                                                                                                                                                        Warning: Error. Incorrect received tail 110110.
"Tracker step 7: demodulated 70 symbols."
                                                                                                                                                                                                                  "Tracker step 8: demodulated 80 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     > In MessageAnalyzer/analyzeMessage (line 85)
                                                                                                                                                                                                                                                                                                                                                                                             In MessageAnalyzer/analyzeMessage (line 71)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Received message analyzed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "DEMODULATION RESULT 0"
                                                                                                                                                                                                                                                                                                                                                                                                                                        IN RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IN RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        struct with fields:
                                                                                                                                         ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ans =
```

version: "2"

ACQUISITION_OK: 1 TRACKING_OK: 1

```
"Results saved in MM_test_5.65_102.6_f0_d100_s10_c5.json"
                                                                                    \verb|message_body|: |01010011011000000110011101000|
                                                                                                                  CRC: '001110100111000010110111'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Acquisition search 10.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Acquisition search 20.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Generation test signal completed."
                          SV_ID: '000001'
                                                                                                                                                                                                                                            estimatedDopplerEnd: 90.6238
                                                                                                                                                                                                              estimatedDopplerStart: 71.2121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Elapsed time is 16.967578 seconds.
                                                                                                                                                                                                                                                                          estimatedDelay: 0.0282
                                                                                                                                                                                                                                                                                                     estimatedPhase: 2.6918
                                                        message_ID: '0011'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Elapsed time is 0.991351 seconds.
                                                                                                                                                ACKed: 0
                                                                                                                                                                                isACKmessage: 1
DEMODULATION_OK: 0
                                                                                                                                                                                                                                                                                                                                                                                                     ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ans =
```

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

```
ans =
   "Acquisition search 100.0% completed."
ans =
   struct with fields:
        maxPeak: 0.0069
   idStartTime: 281650
```

idDopplerShift: 61
 mean: 1.2025e-09
 meanSquare: 3.0643e-09
 phase: 2.6918

"Tracker step 1: demodulated 10 symbols."

ans =

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

```
Warning: Error no ack: received CRC 001110100111000010110111 and CRC remainder 101000001100101100010100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  > In MessageAnalyzer/validateAndSplitMessage (line 110)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Warning: Error. Incorrect received tail 001001.
                                                                               "Tracker step 4: demodulated 40 symbols."
                                                                                                                                                                                                                                                                                                    "Tracker step 5: demodulated 50 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Tracker step 6: demodulated 60 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Tracker step 7: demodulated 70 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Tracker step 8: demodulated 80 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     > In MessageAnalyzer/analyzeMessage (line 85)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           In MessageAnalyzer/analyzeMessage (line 71)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      In RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                In RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             II
ans =
                                                                                                                                                                                                                     ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                          ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ans
```

```
"Received message analyzed."
ans =
"DEMODULATION RESULT 0"
```

struct with fields:

ans =

version: "2"
ACQUISITION_OK: 1

ACQUISITION_OK: 1
TRACKING_OK: 1
DEMODULATION_OK: 0

SV_ID: '000001'
message_ID: '0011'
message_body: '01010011011000000110011101000'

CRC: '001110100111000010110111

ACKed: 0

isACKmessage: 1
estimatedDopplerStart: 71.2121
estimatedDopplerEnd: 90.6238

estimatedDelay: 0.0282 estimatedPhase: 2.6918

ans =

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

```
Elapsed time is 17.156022 seconds.
```

"Generation test signal completed."

Elapsed time is 0.989178 seconds.

ans =

"Acquisition search 10.0% completed."

ans =

"Acquisition search 20.0% completed."

ans =

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

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

"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:

idStartTime: 281650 maxPeak: 0.0055

mean: 7.7201e-10 idDopplerShift: 61

meanSquare: 1.9387e-09

phase: 2.6918

```
ans =
```

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."

```
Warning: Error no ack: received CRC 0011101001110000101111 and CRC remainder 1010000110010110010100
                                                                                                                                                                                                                                                                                                                                                > In MessageAnalyzer/validateAndSplitMessage (line 110)
                                                                                                                                                                                                                                                                                                        Warning: Error. Incorrect received tail 110110.
"Tracker step 7: demodulated 70 symbols."
                                                                                                                                                                                                                  "Tracker step 8: demodulated 80 symbols."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     > In MessageAnalyzer/analyzeMessage (line 85)
                                                                                                                                                                                                                                                                                                                                                                                             In MessageAnalyzer/analyzeMessage (line 71)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          In RECEIVERTest/globalTest (line 109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Received message analyzed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "DEMODULATION RESULT 0"
                                                                                                                                                                                                                                                                                                                                                                                                                                        IN RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IN RECEIVER (line 259)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        struct with fields:
                                                                                                                                         ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ans =
```

version: "2"

ACQUISITION_OK: 1 TRACKING_OK: 1

```
"Results saved in MM_test_6.31_102.6_f0_d100_s10_c5.json"
                                                                                    \verb|message_body|: |01010011011000000110011101000|
                                                                                                                  CRC: '001110100111000010110111'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Acquisition search 10.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Acquisition search 20.0% completed."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Generation test signal completed."
                          SV_ID: '000001'
                                                                                                                                                                                                                                            estimatedDopplerEnd: 90.6238
                                                                                                                                                                                                              estimatedDopplerStart: 71.2121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Elapsed time is 17.856786 seconds.
                                                                                                                                                                                                                                                                          estimatedDelay: 0.0282
                                                                                                                                                                                                                                                                                                     estimatedPhase: 2.6918
                                                        message_ID: '0011'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Elapsed time is 1.018768 seconds.
                                                                                                                                                ACKed: 0
                                                                                                                                                                                isACKmessage: 1
DEMODULATION_OK: 0
                                                                                                                                                                                                                                                                                                                                                                                                     ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ans =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ans =
```

"Acquisition search 30.0% completed."

ans =

"Acquisition search 40.0% completed."

ans =

"Acquisition search 50.0% completed."

ans =

"Acquisition search 60.0% completed."

ans =

"Acquisition search 70.0% completed."

ans =

"Acquisition search 80.0% completed."

ans =

"Acquisition search 90.0% completed."

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

ans =
   struct with fields:
        maxPeak: 0.0043
   idStartTime: 281650
   idDopplerShift: 61
        mean: 3.2125e-09
   meanSquare: 1.2251e-09
   phase: 2.6918
```

ans =

-

ans =

"Tracker step 2: demodulated 20 symbols."

ans =

"Tracker step 3: demodulated 30 symbols."

28/05/22 7.02

```
ans =
```

"Tracker step 4: demodulated 40 symbols."

ans =

"Tracker step 5: demodulated 50 symbols."

ans =

"Tracker step 6: demodulated 60 symbols."

ans =

"Tracker step 7: demodulated 70 symbols."

ans =

"Tracker step 8: demodulated 80 symbols."

Warning: Error. Incorrect received tail 001001.

> In MessageAnalyzer/validateAndSplitMessage (line 110)

In MessageAnalyzer/analyzeMessage (line 71)

In RECEIVER (line 259)

In RECEIVERTest/globalTest (line 109)

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

> In MessageAnalyzer/analyzeMessage (line 85)

In RECEIVER (line 259)

In RECEIVERTest/globalTest (line 109)

```
"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: '0101001101100000110011101000'
CRC: '001110100111000101101111'
ACKed: 0
 isACKmessage: 1
 estimatedDopplerStart: 71.2121
 estimatedDopplerEnd: 90.6238
 estimatedDelay: 0.0282
 estimatedPhase: 2.6918

ans =

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

```
Elapsed time is 17.079152 seconds.
```

Done RECEIVERTest

ans =

1x1200 TestResult array with properties:

Name

Passed

Failed

Incomplete

Duration

Details

Totals:

1200 Passed, 0 Failed, 0 Incomplete.

22968.6674 seconds testing time.

٨