

# Jammertest 2025 Transmission Plan

Jammertest Consortium

2025-06-19 14:59:02

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# Monday

#### Location 1 Bleik

Monday morning before lunch will be used for setting up equipment and checking that all systems are operational. After lunch the testing will start with high power jamming.

### Location 2 Grunnvatn

No activity before lunch. Testing of low-power handheld jammers after lunch.

### □ Location 3 Motorcade

No activity before lunch. Testing of low-power handheld jammers inside and outside vehicles after lunch.

Table 1.1: Monday

| Monday      |   |   |   |
|-------------|---|---|---|
| 2025-09-15  | Bleik(1)  | Grunnvatn(2)  | Motorcade(3)  |
| Start time: | 11:00   | 11:00   | 11:00   |
| 08:00       |   |   |   |
| 09:00       |   |   |   |
| 10:00       |   |   |   |
| 11:00       | 11:00-13:00 - 0.0.1  Mandatory morning briefing  Comment: MANDATORY  Contact: Christian Skjetne (NPRA)  | 11:00-13:00 - 0.0.1  Mandatory morning briefing  Comment: MANDATORY attendence at Bleik (Site 1)  Contact: Christian Skjetne (NPRA)   | 11:00-13:00 - 0.0.1  Mandatory morning briefing  Comment: MANDATORY attendence at Bleik (Site 1)  Contact: Christian Skjetne (NPRA) |
| 12:00       |   |   |   |
| 13:00       | 13:00-14:00 - 0.1.1 Grace period Comment: Lunch Contact: Christian Skjetne (NPRA)   | 13:00-14:00 - 0.1.1 Grace period Comment: Lunch @ Bleik (Site 1) Contact: Christian Skjetne (NPRA)  | 13:00-14:00 - 0.1.1 Grace period Comment: Lunch @ Bleik (Site 1) Contact: Christian Skjetne (NPRA)                                  |
| 14:00       | 14:00-14:10 - 1.2.1  Jammer F8.1 "Porcus Major": 50 W  CW: L1  Power: 50W  Contact: Anders Eriksen (NKOM)  14:20-14:30 - 1.2.4  Jammer F8.1 "Porcus Major": 50 W  CW: L1, G1, L2, L5  Power: 50W  Contact: Anders Eriksen (NKOM)  14:40-14:50 - 1.3.5  Jammer F8.1 "Porcus Major": 50 W  sweep: L1, sweep rate: 1 kHz, BW: 6  MHz  Power: 50W  Contact: Anders Eriksen (NKOM) | 14:00-14:12 - 1.1.1  Jammer S1.1  Contact: Øystein Karlsen (NKOM)  14:16-14:28 - 1.1.4  Jammer S2.1  Contact: Øystein Karlsen (NKOM)  14:32-14:44 - 1.1.8  Jammer U1.1  Contact: Øystein Karlsen (NKOM)  14:48-15:00 - 1.1.12  Jammer H1.1  Contact: Øystein Karlsen (NKOM) |   |

Table 1.1: Monday (Continued)

| Monday   |   |  |   |
|----------|---|--|---|
| 25-09-15 | Bleik(1)  | Grunnvatn(2)   | Motorcade(3)  |
| 5:00     | 15:00-15:10 - 1.3.8  Jammer F8.1 "Porcus Major": 50 W sweep: L1, G1, L2, L5, sweep rate: 1 kHz, BW: 6 MHz Power: 50W Contact: Anders Eriksen (NKOM)  15:20-15:30 - 1.4.1 Jammer F8.1 "Porcus Major": 50 W PRN: L1, Chiprate: 3 MHz Power: 50W Contact: Anders Eriksen (NKOM)  15:40-15:50 - 1.4.4 Jammer F8.1 "Porcus Major": 50 W PRN: L1, G1, L2, L5, Chiprate: 3 MHz Power: 50W Contact: Anders Eriksen (NKOM) | 15:04-15:16 - 1.1.13  Jammer H1.2  Contact: Øystein Karlsen (NKOM)  15:20-15:32 - 1.1.16  Jammer H3.1  Contact: Øystein Karlsen (NKOM)  15:36-15:48 - 1.1.18  Jammer H3.3  Contact: Øystein Karlsen (NKOM)  15:52-16:04 - 1.1.19  Jammer H4.1  Contact: Øystein Karlsen (NKOM) | 15:00-16:15 - 1.11.7 Driving with multi-band jammer in vehicle in front of the test vehicle  Power: 1.58W Contact: Jahn Erik Røhme (NPRA) |

Table 1.1: Monday (Continued)

| Monday     |  |  |   |
|------------|--|--|---|
| 2025-09-15 | Bleik(1)   | Grunnvatn(2)   | Motorcade(3)  |
| 16:00      | 16:00-16:14 - 1.6.1 Power ramping with Jammer F8.1 "Porcus Major": 0.2 μW (-37dBm) to 50 W (47dBm) with 2 dB increments PRN: L1 Power: 50W Contact: Anders Eriksen (NKOM)  16:25-16:39 - 1.6.4 Power ramping with Jammer F8.1 "Porcus Major": 0.2 μW (-37dBm) to 50 W (47dBm) with 2 dB increments PRN: L1, G1, L2, L5 Power: 50W Contact: Anders Eriksen (NKOM)  16:50-18:05 - 1.8.1 Jammer F8.1 "Porcus Major": 50 W PRN pyramid: E6, E5b, L5, G2, L2, B1I, G1, L1 Power: 50W Contact: Anders Eriksen (NKOM) | 16:08-16:20 - 1.1.20  Jammer H6.1  Contact: Øystein Karlsen (NKOM)  16:24-16:36 - 1.1.21  Jammer H6.2  Contact: Øystein Karlsen (NKOM)  16:40-16:52 - 1.1.22  Jammer H6.3  Contact: Øystein Karlsen (NKOM)  16:56-17:08 - 1.1.23  Jammer H6.4  Contact: Øystein Karlsen (NKOM) | 16:30-17:45 - 1.11.8 Driving with multi-band jammer in vehicle behind the test vehicle  Power: 1.58W Contact: Jahn Erik Røhme (NPRA)      |
| 17:00      |  | 17:12-17:24 - 1.1.26  Jammer H8.1  Contact: Øystein Karlsen (NKOM)  17:28-17:40 - 1.1.27  Jammer F6.1  Contact: Øystein Karlsen (NKOM)  17:44-17:56 - 1.1.29  Jammer H2.1  Contact: Øystein Karlsen (NKOM)   |   |
| 18:00      | 18:30-19:00 - 0.0.2<br>Mandatory afternoon (de)briefing<br>Contact: Christian Skjetne (NPRA)   | 18:30-19:00 - 0.0.2  Mandatory afternoon (de)briefing  Comment: MANDATORY attendence at Bleik (Site 1)  Contact: Christian Skjetne (NPRA)  | 18:30-19:00 - 0.0.2  Mandatory afternoon (de)briefing  Comment: MANDATORY attendence at Bleik (Site 1)  Contact: Christian Skjetne (NPRA) |

Table 1.1: Monday (Continued)

| Monday     |          |              |              |
|------------|----------|--------------|--------------|
| 2025-09-15 | Bleik(1) | Grunnvatn(2) | Motorcade(3) |
| 19:00      |          |              |              |
| 20:00      |          |              |              |
| 21:00      |          |              |              |
| 22:00      |          |              |              |

Monday

# Tuesday

### Location 1 Bleik

Tuesday will be used for meaconing and unintentional RFI test. During the evening there will be very high power jamming running untill 22:00.

### Location 2 Grunnvatn

Test of multiple low-power handheld jammers in circular configuration. Relevant for mobile testing in car, drones and CRPA antennas.

### Location 3 Motorcade

Testing of low-power handheld jammers inside and outside vehicles.

Table 2.1: Tuesday

| Tuesday   |  |   |   |
|---|--|---|---|
| 2025-09-16  | Bleik(1)   | Grunnvatn(2)  | Motorcade(3)  |
| Start time:   | 08:00  | 08:00   | 08:00   |
| 08:00   | 08:00-08:30 - 0.0.1  Mandatory morning briefing  Comment: MANDATORY  Contact: Christian Skjetne (NPRA)   | 08:00-08:30 - 0.0.1  Mandatory morning briefing  Comment: MANDATORY attendence at Bleik (Site 1)  Contact: Christian Skjetne (NPRA) | 08:00-08:30 - 0.0.1  Mandatory morning briefing  Comment: MANDATORY attendence at Bleik (Site 1)  Contact: Christian Skjetne (NPRA) |
| 09:00   | Meacon F1.1 "Porcellus": RX1 at 1 W  Power: 1W Contact: Anders Eriksen (NKOM)  3 jammers at 50 meters from center S1.1, S1.2 and S1.3  Power: 0.171W | 3 jammers at 50 meters from center S1.1, S1.2 and S1.3  Power: 0.171W   |   |
|   | 09:15-09:25 - 3.1.2 Meacon F1.1 "Porcellus": RX1 at 1 W with initial jamming Power: 1W Contact: Anders Eriksen (NKOM)                                | 3 jammers at 100 meters from center S1.1, S1.2 and S1.3  Power: 0.171W Contact: Øystein Karlsen (NKOM)                              |   |
|   | 09:35-09:40 - 3.1.3 Meacon F1.1 "Porcellus": RX1 at 10 W Power: 10W Contact: Anders Eriksen (NKOM)   |   |   |
| 09:50-10:00 - 3.1.4  Meacon F1.1 "Porcellus": RX1 at 10  W with initial jamming  Power: 10W  Contact: Anders Eriksen (NKOM) | 09:48-09:58 - 1.19.4 3 jammers at 50 meters from center S2.1, S2.2 and S2.3  Power: 1.26W Contact: Øystein Karlsen (NKOM)                            |   |   |

Table 2.1: Tuesday (Continued)

| Tuesday    |   |   |  |
|------------|---|---|--|
| 2025-09-16 | Bleik(1)  | Grunnvatn(2)  | Motorcade(3)   |
| 10:00      | 10:10-10:15 - 3.1.5 Meacon F1.1 "Porcellus": RX2 at 10 W Power: 10W Contact: Anders Eriksen (NKOM)  10:25-10:45 - 3.2.3 Meacon F1.1 "Porcellus": RX1 and RX2 at 10 W turned on and off at different times Power: 10W Contact: Anders Eriksen (NKOM)  10:55-11:05 - 3.2.4 Meacon F1.1 "Porcellus": RX1 and RX2 at 10 W alternating Power: 10W Contact: Anders Eriksen (NKOM) | 10:04-10:14 - 1.19.5 3 jammers at 100 meters from center S2.1, S2.2 and S2.3  Power: 1.26W Contact: Øystein Karlsen (NKOM)  10:20-10:30 - 1.19.6 3 jammers at 150 meters from center S2.1, S2.2 and S2.3  Power: 1.26W Contact: Øystein Karlsen (NKOM)  10:36-10:46 - 1.19.7 3 jammers at 50 meters from center U1.1, U1.2 and U1.3  Contact: Øystein Karlsen (NKOM)  10:52-11:02 - 1.19.8 3 jammers at 100 meters from center U1.1, U1.2 and U1.3  Contact: Øystein Karlsen (NKOM) | 10:00-11:00 - 1.10.6 Driving while passing three consecutive parked cars with multi-band jammer  Power: 1W Contact: Jahn Erik Røhme (NPRA) |

Table 2.1: Tuesday (Continued)

| Tuesday   |  |  |              |
|---|--|--|--------------|
| 2025-09-16  | Bleik(1)   | Grunnvatn(2)   | Motorcade(3) |
| 11:15-11:35 - 3.2.5  Meacon F1.1 "Porcellus": RX1 and RX2 at 10 W alternating with breaks  Power: 10W Contact: Anders Eriksen (NKOM)  11:45-12:01 - 3.2.6  Meacon F1.1 "Porcellus": RX1 and RX2 at 10 W alternating with decreasing durations without breaks  Power: 10W Contact: Anders Eriksen (NKOM) | 11:08-11:18 - 1.19.9 3 jammers at 150 meters from center U1.1, U1.2 and U1.3 Contact: Øystein Karlsen (NKOM)                           | 11:00-12:00 - 1.10.6 Driving while passing three consecuti parked cars with multi-band jammer  Power: 1W   |              |
|   | 11:24-11:34 - 1.19.10 3 jammers at 50 meters from center H6.4, H6.5 and H6.6 Power: 1.58W Contact: Øystein Karlsen (NKOM)              | Contact: Jahn Erik Røhme (NPRA)  |              |
|   | 11:40-11:50 - 1.19.11 3 jammers at 100 meters from center H6.4, H6.5 and H6.6 Power: 1.58W Contact: Øystein Karlsen (NKOM)             |  |              |
|   | 11:56-12:06 - 1.19.12<br>3 jammers at 150 meters from center<br>H6.4, H6.5 and H6.6<br>Power: 1.58W<br>Contact: Øystein Karlsen (NKOM) | •  |              |
| 12:25-12:59 - 3.3.1 Meacon F1.1 "Porcellus": RX1 with ramping power Power: 10W Contact: Anders Eriksen (NKOM)   | 12:12-12:22 - 1.19.13 3 jammers at 50 meters from center H1.1, H1.4 and H1.5 Power: 0.1W Contact: Øystein Karlsen (NKOM)               | 12:00-13:00 - 1.11.6<br>(Deprecated - Not available) Driving<br>with multi-band jammer in test vehicle<br>Power: 1W<br>Contact: Jahn Erik Røhme (NPRA) |              |
|   | 12:28-12:38 - 1.19.14 3 jammers at 100 meters from center H1.1, H1.4 and H1.5 Power: 0.1W Contact: Øystein Karlsen (NKOM)              |  |              |
|   | 12:44-12:54 - 1.19.15 3 jammers at 150 meters from center H1.1, H1.4 and H1.5 Power: 0.1W Contact: Øystein Karlsen (NKOM)              |  |              |

Table 2.1: Tuesday (Continued)

| Tuesday<br>2025-09-16 | Bleik(1)  | Grunnvatn(2)  | Motorcade(3)   |
|-----------------------|---|---|--|
| 13:00                 | 13:00-14:00 - 0.1.1 Grace period Comment: Lunch Contact: Christian Skjetne (NPRA)   | 13:00-14:00 - 0.1.1 Grace period Comment: Lunch @ Stave (Site 3) Contact: Christian Skjetne (NPRA)  | 13:00-14:00 - 0.1.1 Grace period Comment: Lunch @ Stave (Site 3) Contact: Christian Skjetne (NPRA)   |
| 14:00                 | 14:00-14:14 - 3.2.7  Meacon F1.1 "Porcellus": RX1 and RX2 at 10 W alternating with different switching frequencies.  Power: 10W Contact: Anders Eriksen (NKOM)  14:25-14:45 - 3.2.5  Meacon F1.1 "Porcellus": RX1 and RX2 at 10 W alternating with breaks  Power: 10W Contact: Anders Eriksen (NKOM)  14:55-15:11 - 3.2.6  Meacon F1.1 "Porcellus": RX1 and RX2 at 10 W alternating with decreasing durations without breaks  Power: 10W Contact: Anders Eriksen (NKOM) | 14:30-14:42 - 1.20.1 3 jammers at 50 meters from center H1.1, H1.4 and H1.5 Power: 1W Comment: +30dBm from each direction, A, B and C Contact: Øystein Karlsen (NKOM)  14:48-15:00 - 1.20.2 3 jammers at 100 meters from center H1.1, H1.4 and H1.5 Power: 1W Comment: +30dBm from each direction, A, B and C Contact: Øystein Karlsen (NKOM) | 14:00-14:30 - 1.10.3  Vehicle starting in dual-band denied environment  Power: 0.1W Contact: Jahn Erik Røhme (NPRA)  14:30-15:00 - 1.10.4  Vehicle starting in multi-band denied environment  Power: 1.58W Contact: Jahn Erik Røhme (NPRA) |

Table 2.1: Tuesday (Continued)

| Tuesday    |   |   |  |
|------------|---|---|--|
| 2025-09-16 | Bleik(1)  | Grunnvatn(2)  | Motorcade(3)   |
| 15:00      | 15:25-15:39 - 3.2.7 Meacon F1.1 "Porcellus": RX1 and RX2 at 10 W alternating with different switching frequencies.  Power: 10W Contact: Anders Eriksen (NKOM) | 15:06-15:18 - 1.20.3 3 jammers at 150 meters from center H1.1, H1.4 and H1.5 Power: 1W Comment: +30dBm from each direction, A, B and C Contact: Øystein Karlsen (NKOM)  15:24-15:36 - 1.20.4 3 jammers at 50 meters from center H1.1, H1.4 and H1.5 Power: 1W Comment: +30dBm from each direction, A, B and C Contact: Øystein Karlsen (NKOM)  15:42-15:54 - 1.20.5 3 jammers at 100 meters from center H1.1, H1.4 and H1.5 Power: 1W Comment: +30dBm from each direction, A, B and C Contact: Øystein Karlsen (NKOM) | 15:00-15:30 - 1.10.3 Vehicle starting in dual-band denied environment  Power: 0.1W Contact: Jahn Erik Røhme (NPRA)  15:30-16:00 - 1.10.4 Vehicle starting in multi-band denied environment  Power: 1.58W Contact: Jahn Erik Røhme (NPRA) |

Table 2.1: Tuesday (Continued)

| Tuesday    |   |   |  |
|------------|---|---|--|
| 2025-09-16 | Bleik(1)  | Grunnvatn(2)  | Motorcade(3)   |
| 16:00      | 16:00-16:01 - 1.18.4  Jammer F8.1 "Porcus Major": 50 W drift: 1545 to 1620 MHz, with CW and sweep time of 1 minute  Power: 50W Contact: Anders Eriksen (NKOM)  16:10-16:25 - 1.18.5  Jammer F8.1 "Porcus Major": 50 W drift: 1545 to 1620 MHz, with CW and sweep time of 15 minutes  Power: 50W Contact: Anders Eriksen (NKOM)  16:35-16:50 - 1.18.7  Jammer F8.1 "Porcus Major": 50 W drift: 1620 to 1545 MHz, with CW and sweep time of 15 minutes  Power: 50W Contact: Anders Eriksen (NKOM) | 16:00-16:12 - 1.20.6 3 jammers at 150 meters from center H1.1, H1.4 and H1.5 Power: 1W Comment: +30dBm from each direction, A, B and C Contact: Øystein Karlsen (NKOM)  16:18-16:30 - 1.20.7 3 jammers at 50 meters from center H1.1, H1.4 and H1.5 Power: 1W Comment: +30dBm from each direction, A, B and C Contact: Øystein Karlsen (NKOM)  16:36-16:48 - 1.20.8 3 jammers at 100 meters from center H1.1, H1.4 and H1.5 Power: 1W Comment: +30dBm from each direction, A, B and C Contact: Øystein Karlsen (NKOM)  16:54-17:06 - 1.20.9 3 jammers at 150 meters from center H1.1, H1.4 and H1.5 Power: 1W Comment: +30dBm from each direction, A, B and C Contact: Øystein Karlsen (NKOM) | Vehicle starting in dual-band denied environment  Power: 0.1W Contact: Jahn Erik Røhme (NPRA)  16:30-17:00 - 1.10.4  Vehicle starting in multi-band denied environment  Power: 1.58W Contact: Jahn Erik Røhme (NPRA) |

| Tuesday    |  |  |   |
|------------|--|--|---|
| 2025-09-16 | Bleik(1)   | Grunnvatn(2)   | Motorcade(3)  |
| 17:00      | 17:00-17:01 - 1.18.8  Jammer F8.1 "Porcus Major": 50 W drift: 1545 to 1620 MHz, gaussian noise with BW of 500 kHz and sweep time of 1 minute  Power: 50W Contact: Anders Eriksen (NKOM)  17:10-17:25 - 1.18.13 Jammer F8.1 "Porcus Major": 50 W drift: 1150 to 1300 MHz, with CW and sweep time of 15 minutes  Power: 50W Contact: Anders Eriksen (NKOM)  17:35-17:50 - 1.18.15 Jammer F8.1 "Porcus Major": 50 W drift: 1300 to 1150 MHz, with CW and sweep time of 15 minutes  Power: 50W Contact: Anders Eriksen (NKOM)  17:59-18:00 - 1.18.16 Jammer F8.1 "Porcus Major": 50 W drift: 1150 to 1300 MHz, gaussian noise with BW of 500 kHz and sweep time of 1 minute  Power: 50W Contact: Anders Eriksen (NKOM) | 17:12-17:24 - 1.20.10 3 jammers at 50 meters from center H1.1, H1.4 and H1.5 Power: 1W Comment: +30dBm from each direction, A, B and C Contact: Øystein Karlsen (NKOM)  17:30-17:40 - 1.20.11 3 jammers at 100 meters from center H1.1, H1.4 and H1.5 Power: 1W Comment: +30dBm from each direction, A, B and C Contact: Øystein Karlsen (NKOM)  17:46-17:58 - 1.20.12 3 jammers at 150 meters from center H1.1, H1.4 and H1.5 Power: 1W Comment: +30dBm from each direction, A, B and C Contact: Øystein Karlsen (NKOM) |   |
| 18:00      | 18:30-19:00 - 0.0.2  Mandatory afternoon (de)briefing  Contact: Christian Skjetne (NPRA)   | 18:30-19:00 - 0.0.2  Mandatory afternoon (de)briefing  Comment: MANDATORY attendence at Bleik (Site 1)  Contact: Christian Skjetne (NPRA)  | 18:30-19:00 - 0.0.2  Mandatory afternoon (de)briefing  Comment: MANDATORY attendence at Bleik (Site 1)  Contact: Christian Skjetne (NPRA) |
| 19:00      | 19:15-22:00 - 1.16.4 High Power PRN jamming: L1, G1, L2, L5 Power: 100W Contact: Anders Eriksen (NKOM)   |  |   |

Table 2.1: Tuesday (Continued)

| Tuesday    |          |              |              |
|------------|----------|--------------|--------------|
| 2025-09-16 | Bleik(1) | Grunnvatn(2) | Motorcade(3) |
| 20:00      |          |              |              |
| 21:00      |          |              |              |
| 22:00      |          |              |              |

# Wednesday

### Location 1 Bleik

Wednesday will be used for position and SBAS spoofing.

### Location 2 Grunnvatn

Test of stationary coherent spoofing with circle of jammers. Relevant for mobile testing in car, drones and CRPA antennas.

# Location 3 Motorcade

Booking of timeslots available for custom testing.

Table 3.1: Wednesday

| Wednesday   |  |   |   |
|-------------|--|---|---|
| 2025-09-17  | Bleik(1)   | Grunnvatn(2)  | Motorcade(3)  |
| Start time: | 08:00  | 08:00   | 08:00   |
| 08:00       | 08:00-08:30 - 0.0.1  Mandatory morning briefing  Comment: MANDATORY  Contact: Christian Skjetne (NPRA)         | 08:00-08:30 - 0.0.1  Mandatory morning briefing  Comment: MANDATORY attendence at Bleik (Site 1)  Contact: Christian Skjetne (NPRA)   | 08:00-08:30 - 0.0.1  Mandatory morning briefing  Comment: MANDATORY attendence at Bleik (Site 1)  Contact: Christian Skjetne (NPRA) |
| 09:00       | 09:00-09:40 - 2.1.1 Large position and time jump, with power ramp Power: 0.316W Contact: Anders Eriksen (NKOM) | O9:00-09:40 - 2.10.1  Spoofing route GPS L1 and Galileo E1 only  Power: 0.001W Comment: Spoofing route that start at LOK2-ORIG, and goes out forming a spoofing cirle above position A150, B150 and C150. Spoofing signal will perfom power ramp from uW to mW during the first 30 minutes of the test. Signals: GPS L1 C/A. Galileo E1. No initial jamming. Spoofing route duration is 40 minutes.  Contact: Øystein Karlsen (NKOM)  O9:50-10:55 - 2.10.2  Circle of 3 stationary jammers, L1, L2 and spoofing route GPS L1 and Galileo E1 only  Power: 3W Comment: Jamming from A50, B50 and C50, with jammer H1.1, H1.4 and H1.5, L1, L2, CHIRP. HIGH PWR. The Jammers are connected to RHCP antennas to boost the power. 15 minutes of initial jamming first. Then spoofing starts, same spoofing route as test 2.10.1  Contact: Øystein Karlsen (NKOM) |   |

Table 3.1: Wednesday (Continued)

| Wednesday  |   |   |   |
|------------|---|---|---|
| 2025-09-17 | Bleik(1)  | Grunnvatn(2)  | Motorcade(3)  |
| 10:00      | 10:00-10:15 - 2.1.3 Large position and time jump. Galileo E1 only Power: 0.316W Contact: Anders Eriksen (NKOM)  10:20-10:35 - 2.1.2           |   | 10:00-11:00 - 0.2.1  Jamming booking slot  Comment: Pre-booking required. Inform staff of required jammer equipment (see Appendix G of test catalog)  Contact: Jahn Erik Røhme (NPRA) |
|            | Large position and time jump. GPS L1 C/A only  Power: 0.316W Contact: Anders Eriksen (NKOM)   |   |   |
|            | 10:40-10:55 - 2.1.4 Large position and time jump. GPS L1 and Galileo E1 only Power: 0.316W Contact: Anders Eriksen (NKOM)                     |   |   |
| 11:00      | 11:25-11:40 - 2.1.9 Simulated driving (route 1). GPS L1 C/A and Galileo E1, with initial jamming Power: 0.316W Contact: Anders Eriksen (NKOM) | 11:05-12:00 - 2.10.3 Circle of 3 stationary jammers, 2 moving jammers L1, L2 and spoofing route GPS L1 and Galileo E1 only Power: 4W Comment: Jamming from A50, B50 and C50, with jammer H1.1, H1.4 and H1.5, L1, L2, CHIRP. HIGH PWR. The Jammers are connected to RHCP antennas to boost the power. Two additional mobile jammers will be added H1.6 and H1.7 with L1, L2 NB, HIGH PWR. 15 minutes of initial jamming first. Then spoofing starts, same spoofing route as test 2.10.1 Contact: Øystein Karlsen (NKOM) | 11:00-12:00 - 0.2.1  Jamming booking slot  Comment: Pre-booking required. Inform staff of required jammer equipment (see Appendix G of test catalog)  Contact: Jahn Erik Røhme (NPRA) |
|            | 11:45-12:00 - 2.1.10<br>Simulated driving (route 1), with<br>initial jamming<br>Power: 0.316W<br>Contact: Anders Eriksen (NKOM)               |   |   |

Table 3.1: Wednesday (Continued)

| Wednesday  |  |   |   |
|------------|--|---|---|
| 2025-09-17 | Bleik(1)   | Grunnvatn(2)  | Motorcade(3)  |
| 12:00      | 12:30-12:40 - 2.8.1 EGNOS with "Do Not Use GPS" commands Power: 1W Contact: Anders Eriksen (NKOM)  12:45-13:00 - 2.8.1 EGNOS with "Do Not Use GPS" commands Power: 1W Contact: Anders Eriksen (NKOM)   | 12:10-13:05 - 2.10.4 Circle of 3 stationary jammers, 5 moving jammers and spoofing route GPS L1 and Galileo E1 only Power: 5W Comment: Jamming from A50, B50 and C50, with jammer H1.1, H1.4 and H1.5, L1, L2, CHIRP. HIGH PWR. The Jammers are connected to RHCP antennas to boost the power. Five additional mobile jammers will be added H1.6 and H1.7 with L1, L2 NB, HIGH PWR, and H6.3, H6.4 and H6.5, L1, L2. 15 minutes of initial jamming first. Then spoofing starts, same spoofing route as test 2.10.1. Contact: Øystein Karlsen (NKOM) | 12:00-13:00 - 0.2.1  Jamming booking slot  Comment: Pre-booking required. Inform staff of required jammer equipment (see Appendix G of test catalog)  Contact: Jahn Erik Røhme (NPRA) |
| 13:00      | 13:00-14:00 - 0.1.1 Grace period Comment: Lunch Contact: Christian Skjetne (NPRA)  | 13:00-14:00 - 0.1.1 Grace period Comment: Lunch @ Stave (Site 3) Contact: Christian Skjetne (NPRA)  | 13:00-14:00 - 0.1.1 Grace period Comment: Lunch @ Stave (Site 3) Contact: Christian Skjetne (NPRA)  |
| 14:00      | 14:00-14:15 - 2.2.3 Position jump Power: 0.316W Contact: Anders Eriksen (NKOM)  14:20-14:35 - 2.3.3 Small position jump Power: 0.316W Contact: Anders Eriksen (NKOM)  14:40-14:55 - 2.3.2 Small position jump with initial and continuous jamming Power: 0.316W Contact: Anders Eriksen (NKOM) | 14:10-14:50 - 2.10.1  Spoofing route GPS L1 and Galileo E1 only  Power: 0.001W  Comment: Spoofing route that start at  LOK2-ORIG, and goes out forming a spoofing cirle above position A150, B150 and C150. Spoofing signal will perfom power ramp from uW to mW during the first 30 minutes of the test. Signals: GPS L1 C/A. Galileo E1. No initial jamming. Spoofing route duration is 40 minutes.  Contact: Øystein Karlsen (NKOM)  | 14:00-15:00 - 0.2.1  Jamming booking slot  Comment: Pre-booking required. Inform staff of required jammer equipment (see Appendix G of test catalog)  Contact: Jahn Erik Røhme (NPRA) |

Table 3.1: Wednesday (Continued)

| Wednesday  |   |   |   |
|------------|---|---|---|
| 2025-09-17 | Bleik(1)  | Grunnvatn(2)  | Motorcade(3)  |
| 15:00      | 15:25-15:35 - 2.3.8 Simulated driving (route 1). Galileo only  Power: 0.316W Contact: Anders Eriksen (NKOM)                         | Circle of 3 stationary jammers, L1, L2<br>and spoofing route GPS L1 and Galileo<br>E1 only  | 15:00-16:00 - 0.2.1  Jamming booking slot  Comment: Pre-booking required. Inform staff of required jammer equipment (see Appendix G of test catalog)  Contact: Jahn Erik Røhme (NPRA) |
|            | 15:40-15:50 - 2.3.5<br>Simulated driving (route 1). GPS only<br>Power: 0.316W<br>Contact: Anders Eriksen (NKOM)                     |   |   |
|            | 15:55-16:05 - 2.3.10<br>Simulated driving (route 1)<br>Power: 0.316W<br>Contact: Anders Eriksen (NKOM)                              | Contact: Øystein Karlsen (NKOM)   |   |
| 16:00      | 16:10-16:25 - 2.3.11 Simulated driving (route 1) with initial and continuous jamming.  Power: 0.316W Contact: Anders Eriksen (NKOM) | 16:05-17:00 - 2.10.3 Circle of 3 stationary jammers, 2 moving jammers L1, L2 and spoofing route GPS L1 and Galileo E1 only Power: 4W Comment: Jamming from A50, B50 and C50, with   | 16:00-17:00 - 0.2.1  Jamming booking slot  Comment: Pre-booking required. Inform staff of required jammer equipment (see Appendix G of test catalog)  Contact: Jahn Erik Røhme (NPRA) |
|            | 16:55-17:05 - 2.3.15 Flying (route 2) - "helicopter scenario"  Power: 0.316W Contact: Anders Eriksen (NKOM)                         | Comment: Jamming from A50, B50 and C50, with jammer H1.1, H1.4 and H1.5, L1, L2, CHIRP. HIGH PWR. The Jammers are connected to RHCP antennas to boost the power. Two additional mobile jammers will be added H1.6 and H1.7 with L1, L2 NB, HIGH PWR. 15 minutes of initial jamming first. Then spoofing starts, same spoofing route as test 2.10.1  Contact: Øystein Karlsen (NKOM) |   |

Table 3.1: Wednesday (Continued)

| Wednesday                              |   |  |   |
|--|---|--|---|
| 2025-09-17 B                           | leik(1)   | Grunnvatn(2)   | Motorcade(3)  |
| Fly GI  Fly GI  17  Fly GI  17  Fly GI | 7:10-17:20 - 2.3.12 lying (route 4) - "drone scenario" PS L1 C/A only Power: 0.316W Contact: Anders Eriksen (NKOM) 7:30-17:40 - 2.3.13 lying (route 4) - "drone scenario" Power: 0.316W Contact: Anders Eriksen (NKOM) 7:45-18:00 - 2.3.15 lying (route 2) - "helicopter scenario" Power: 0.316W Contact: Anders Eriksen (NKOM) | 17:10-18:05 - 2.10.4 Circle of 3 stationary jammers, 5 moving jammers and spoofing route GPS L1 and Galileo E1 only Power: 5W Comment: Jamming from A50, B50 and C50, with jammer H1.1, H1.4 and H1.5, L1, L2, CHIRP. HIGH PWR. The Jammers are connected to RHCP antennas to boost the power. Five additional mobile jammers will be added H1.6 and H1.7 with L1, L2 NB, HIGH PWR, and H6.3, H6.4 and H6.5, L1, L2. 15 minutes of initial jamming first. Then spoofing starts, same spoofing route as test 2.10.1 Contact: Øystein Karlsen (NKOM) |   |
| M                                      | 3:30-19:00 - 0.0.2 Iandatory afternoon (de)briefing Comment: MANDATORY Contact: Christian Skjetne (NPRA)  | 18:30-19:00 - 0.0.2  Mandatory afternoon (de)briefing  Comment: MANDATORY attendence at Bleik (Site 1)  Contact: Christian Skjetne (NPRA)  | 18:30-19:00 - 0.0.2  Mandatory afternoon (de)briefing  Comment: MANDATORY attendence at Bleik (Site 1)  Contact: Christian Skjetne (NPRA) |
| 19:00                                  |   |  |   |
| 20:00                                  |   |  |   |
| 21:00                                  |   |  |   |
| 22:00                                  |   |  |   |

# Thursday

### Location 1 Bleik

Thursday will be used for time spoofing. During the evening there will be long time meaconing running until 22:00.

### Location 2 Grunnvatn

Test of multiple low-power handheld jammers in circular configuration. Relevant for mobile testing in car, drones and CRPA antennas.

## Location 3 Motorcade

Mobile SDR spoofing. Timeslot after lunch is still not decided.

Table 4.1: Thursday

| Thursday    |  |  |  |
|-------------|--|--|--|
| 2025-09-18  | Bleik(1)   | Grunnvatn(2)   | Motorcade(3)   |
| Start time: | 08:00  | 08:00  | 08:00  |
| 08:00       | 08:00-08:30 - 0.0.1  Mandatory morning briefing  Comment: MANDATORY  Contact: Christian Skjetne (NPRA)   | 08:00-08:30 - 0.0.1  Mandatory morning briefing  Comment: MANDATORY attendence at Bleik (Site 1)  Contact: Christian Skjetne (NPRA)  | 08:00-08:30 - 0.0.1  Mandatory morning briefing  Comment: MANDATORY attendence at Bleik (Site 1)  Contact: Christian Skjetne (NPRA)  |
| 09:00       | 09:00-09:25 - 2.4.2 Time offset 15 minutes from real time, with power ramp Power: 0.0316W Contact: Anders Eriksen (NKOM)  09:40-09:55 - 2.4.3 Time offset -3 minutes from real time, with power jump Power: 0.0316W Contact: Anders Eriksen (NKOM) | 09:00-10:00 - 1.23.1  Jammer S1.1 with 10dB gain at 50 meters above ground  Power: 0.316W Comment: Drone with jammer onboard.  Dependent on weather conditions Contact: Øystein Karlsen (NKOM) |  |
| 10:00       | 10:10-10:25 - 2.4.12 Static + Pseudorange error Power: 0.0316W Contact: Anders Eriksen (NKOM)  10:40-10:55 - 2.4.13 Static + Pseudorange error, with initial and continous jamming Power: 0.001W Contact: Anders Eriksen (NKOM)                    | 10:00-11:00 - 1.23.1  Jammer S1.1 with 10dB gain at 50 meters above ground  Power: 0.316W Comment: Drone with jammer onboard. Dependent on weather conditions Contact: Øystein Karlsen (NKOM)  | 10:00-10:20 - 2.6.1  Spoofer (in vehicle with roof mounted antenna) stationary with dynamic spoofed position.  Power: 0.01W Contact: Anders Rødningsby (FFI)  10:45-11:05 - 2.6.2  Spoofer (in vehicle with roof mounted antenna) stationary and then moving with fixed spoofed position.  Power: 0.01W Contact: Anders Rødningsby (FFI) |

Table 4.1: Thursday (Continued)

| Thursday  |  |  |  |
|---|--|--|--|
| 2025-09-18  | Bleik(1)   | Grunnvatn(2)   | Motorcade(3)   |
| 11:00   | 11:25-11:40 - 2.5.6  Time offset 15 minutes from real time  Power: 0.001W Contact: Anders Eriksen (NKOM)  11:55-12:10 - 2.5.3  Time offset -3 minutes from real time,      | 11:00-12:00 - 1.23.2  Jammer S1.1 with 10dB gain at 100  meters above ground  Power: 0.316W  Comment: Drone with jammer onboard.  Dependent on weather conditions  Contact: Øystein Karlsen (NKOM) | 11:30-11:50 - 2.6.3  Spoofer (in vehicle with roof mounted antenna) moving with fixed spoofed position.  Power: 0.01W Contact: Anders Rødningsby (FFI)   |
|   | with power jump  Power: 0.001W  Contact: Anders Eriksen (NKOM)   |  |  |
| 12:00   | 12:25-13:00 - 2.5.25 Static + UTC-parameter nav. data manipulation (adding leap seconds), with initial and continuous jamming Power: 0.001W Contact: Anders Eriksen (NKOM) | 12:00-13:00 - 1.23.2  Jammer S1.1 with 10dB gain at 100  meters above ground  Power: 0.316W  Comment: Drone with jammer onboard.  Dependent on weather conditions  Contact: Øystein Karlsen (NKOM) | 12:15-12:35 - 2.6.4 Spoofer (in vehicle with roof mounted antenna) stationary and then moving with first fixed and then dynamic spoofed position.  Power: 0.01W Contact: Anders Rødningsby (FFI) |
| 13:00   | 13:00-14:00 - 0.1.1  Grace period  Comment: Lunch Contact: Christian Skjetne (NPRA)  | 13:00-14:00 - 0.1.1 Grace period Comment: Lunch @ Stave (Site 3) Contact: Christian Skjetne (NPRA)   | 13:05-14:00 - 0.1.1 Grace period Comment: Lunch @ Stave (Site 3) Contact: Christian Skjetne (NPRA)   |
| Power: 0.0316W Contact: Anders Eriksen (NKOM)  14:20-14:35 - 2.5.4 Time offset 15 minutes from real GPS L1 C/A Power: 0.0316W Contact: Anders Eriksen (NKOM)  14:40-14:55 - 2.5.6 | Time offset 15 minutes from real time.  Galileo E1  Power: 0.0316W   | 14:00-15:00 - 0.3.1 Ad hoc test Contact: Øystein Karlsen (NKOM)  | 14:00-14:20 - 2.6.1  Spoofer (in vehicle with roof mounted antenna) stationary with dynamic spoofed position.  Power: 0.01W  |
|   | Time offset 15 minutes from real time.  GPS L1 C/A  Power: 0.0316W   |  | Contact: Anders Rødningsby (FFI)  14:45-15:05 - 2.6.2  Spoofer (in vehicle with roof mounted antenna) stationary and then moving with fixed spoofed position.                                    |
|   | Time offset 15 minutes from real time Power: 1e-05W  |  | Power: 0.01W<br>Contact: Anders Rødningsby (FFI)   |

Table 4.1: Thursday (Continued)

| Thursday   |  |  |   |
|------------|--|--|---|
| 2025-09-18 | Bleik(1)   | Grunnvatn(2)   | Motorcade(3)  |
| 15:00      | 15:25-15:40 - 2.5.13 Static + Pseudorange error. GPS L1 and Galileo E1 only Power: 0.001W Contact: Anders Eriksen (NKOM) | 15:00-16:00 - 1.22.1 12 jammers at 50 meters from center Comment: U1.1, U1.2, U1.3, S2.1, S2.2, S2.3, H1.1, H1.4, H1.5, H6.3, H6.4, H6.5 Contact: Øystein Karlsen (NKOM) | 15:30-15:50 - 2.6.3 Spoofer (in vehicle with roof mounted antenna) moving with fixed spoofed position.  Power: 0.01W            |
|            | 15:45-16:00 - 2.5.15<br>Static + Pseudorange error<br>Power: 1e-05W<br>Contact: Anders Eriksen (NKOM)                    |  | Contact: Anders Rødningsby (FFI)  |
| 16:00      | 16:15-16:40 - 2.5.16<br>Static + Pseudorange error, with<br>initial and continuous jamming                               | 16:05-16:15 - 1.1.1<br>Jammer S1.1<br>Contact: Øystein Karlsen (NKOM)  | 16:15-16:35 - 2.6.4 Spoofer (in vehicle with roof mounted antenna) stationary and then moving with first fixed and then dynamic |
|            | Contact: Anders Eriksen (NKOM)  16:55-17:20 - 2.5.26  Static + UTC-parameter nav. data                                   | 16:20-16:30 - 1.1.4  Jammer S2.1  Contact: Øystein Karlsen (NKOM)  | spoofed position.  Power: 0.01W  Contact: Anders Rødningsby (FFI)   |
|            | manipulation (removing leap seconds).  GPS L1 C/A  Power: 1e-05W  Contact: Anders Eriksen (NKOM)                         | 16:35-16:45 - 1.1.8  Jammer U1.1  Contact: Øystein Karlsen (NKOM)  |   |
|            |  | 16:50-17:00 - 1.1.12<br>Jammer H1.1<br>Contact: Øystein Karlsen (NKOM)   |   |

Table 4.1: Thursday (Continued)

| Thursday   |   |   |   |
|------------|---|---|---|
| 2025-09-18 | Bleik(1)  | Grunnvatn(2)  | Motorcade(3)  |
| 17:00      | 17:30-18:00 - 2.5.27<br>Static + UTC-parameter nav. data<br>manipulation (removing leap seconds)<br>Power: 1e-05W | 17:05-17:15 - 1.1.18  Jammer H3.3  Comment: TBD  Contact: Øystein Karlsen (NKOM)  |   |
|            | Contact: Anders Eriksen (NKOM)  | 17:20-17:30 - 1.1.19  Jammer H4.1  Comment: TBD  Contact: Øystein Karlsen (NKOM)  |   |
|            |   | 17:35-17:45 - 1.1.22  Jammer H6.3  Comment: TBD  Contact: Øystein Karlsen (NKOM)  |   |
|            |   | 17:50-18:00 - 1.1.23 Jammer H6.4 Comment: Lunch @ Stave (Site 3) Contact: Christian Skjetne (NPRA)  |   |
| 18:00      | 18:30-19:00 - 0.0.2  Mandatory afternoon (de)briefing  Comment: MANDATORY  Contact: Christian Skjetne (NPRA)      | 18:30-19:00 - 0.0.2  Mandatory afternoon (de)briefing  Comment: MANDATORY attendence at Bleik (Site 1)  Contact: Christian Skjetne (NPRA) | 18:30-19:00 - 0.0.2  Mandatory afternoon (de)briefing  Comment: MANDATORY attendence at Bleik (Site 1)  Contact: Christian Skjetne (NPRA) |
| 19:00      | 19:30-22:00 - 3.1.3 Meacon F1.1 "Porcellus": RX1 at 10 W Power: 10W Contact: Anders Eriksen (NKOM)                |   |   |
| 20:00      |   |   |   |
| 21:00      |   |   |   |
| 22:00      |   |   |   |

# Friday

### Location 1 Bleik

Friday will be used for time spoofing and repitions of previous tests. Time after lunch will be used for tearing down and packing up equipment.

### Location 2 Grunnvatn

There will be no testing on this site on Friday.

## Location 3 Motorcade

There will be no testing on this site on Friday.

Table 5.1: Friday

| Friday      |  |   |  |
|-------------|--|---|--|
| 2025-09-19  | Bleik(1)   | Grunnvatn(2)  | Motorcade(3)   |
| Start time: | 08:00  | 09:00   | 09:00  |
| 08:00       | 08:00-08:30 - 0.0.1  Mandatory morning briefing  Comment: MANDATORY  Contact: Christian Skjetne (NPRA)   |   |  |
| 09:00       | 09:00-09:10 - 0.3.1  Ad hoc test  Power: 0.316W Comment: L2 only spoofing Contact: Anders Eriksen (NKOM)  09:20-09:40 - 0.3.1  Ad hoc test  Power: 10W Comment: 3.1.3 + 2.1.2, meaconing (10 W) + spoofing (20 dBm) Contact: Anders Eriksen (NKOM)  09:50-10:00 - 3.2.5  Meacon F1.1 "Porcellus": RX1 and RX2 at 10 W alternating with breaks  Power: 10W Comment: Only using RX1 Contact: Anders Eriksen (NKOM) | 09:00-16:00 - 0.1.1 Grace period Comment: SITE IS CLOSED! Contact: Øystein Karlsen (NKOM) | 09:00-16:00 - 0.0.1  Mandatory morning briefing  Comment: SITE IS CLOSED!  Contact: Christian Skjetne (NPRA) |
| 10:00       | 10:10-10:33 - 1.6.4 Power ramping with Jammer F8.1 "Porcus Major": 0.2 µW (-37dBm) to 50 W (47dBm) with 2 dB increments PRN: L1, G1, L2, L5 Power: 50W Comment: 20 seconds per step, power ramp (up and down) from -21 (to 47) dBm Contact: Anders Eriksen (NKOM)  10:50-11:10 - 2.7.12 Static + Time manipulation (2 years forwards), with power ramp Power: 0.0316W Contact: Anders Eriksen (NKOM)             |   |  |

Table 5.1: Friday (Continued)

| Friday     |  |              |              |
|------------|--|--------------|--------------|
| 2025-09-19 | Bleik(1)   | Grunnvatn(2) | Motorcade(3) |
| 11:00      | 11:30-11:50 - 2.7.16 Static + Time manipulation (April 2019), with initial and continuous jamming  Power: 0.0316W Contact: Anders Eriksen (NKOM) |              |              |
| 12:00      | 12:00-12:22 - 2.4.2 Time offset 15 minutes from real time, with power ramp Power: 0.0316W Contact: Anders Eriksen (NKOM)                         |              |              |
|            | 12:30-12:40 - 2.5.5 Time offset 15 minutes from real time. Galileo E1 Power: 0.0316W Contact: Anders Eriksen (NKOM)                              |              |              |
|            | 12:50-13:00 - 0.3.1  Ad hoc test  Power: 0.316W  Comment: Jamming of L1, G1, B1I from S (the spoofing system)  Contact: Anders Eriksen (NKOM)    |              |              |
| 13:00      | 13:00-14:00 - 0.1.1 Grace period Comment: Lunch Contact: Christian Skjetne (NPRA)  |              |              |
| 14:00      | 14:00-14:30 - 0.0.2  Mandatory afternoon (de)briefing  Comment: Summary briefing and closing of event  Contact: Christian Skjetne (NPRA)         |              |              |
| 15:00      |  |              |              |
| 16:00      |  |              |              |
| 17:00      |  |              |              |

Table 5.1: Friday (Continued)

| Friday     |          |              |              |
|------------|----------|--------------|--------------|
| 2025-09-19 | Bleik(1) | Grunnvatn(2) | Motorcade(3) |
| 18:00      |          |              |              |
| 19:00      |          |              |              |
| 20:00      |          |              |              |
| 21:00      |          |              |              |
| 22:00      |          |              |              |