



Jammertest 2024 Transmission Plan

Jammertest Consortium

2025-04-22
12:08:48

Contents

Monday	3
Tuesday	9
Wednesday	17
Thursday	23
Friday	31

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 2024-09-09	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 attendance at Bleik (Site 1) Contact: Christian Skjetne (NPRA)	11:00-13:00 - 0.0.1 Mandatory morning briefing Comment: MANDATORY attendance 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: Nicolai Gerrard (NKOM) <hr/> 14:20-14:30 - 1.2.4 Jammer F8.1 "Porcus Major": 50 W CW: L1, G1, L2, L5 Power: 50W Contact: Nicolai Gerrard (NKOM) <hr/> 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: Nicolai Gerrard (NKOM)	14:00-14:12 - 1.1.1 Jammer S1.1 Power: 0.0316W Contact: Øystein Karlsen (NKOM) <hr/> 14:16-14:28 - 1.1.4 Jammer S2.1 Power: 0.1W Contact: Øystein Karlsen (NKOM) <hr/> 14:32-14:44 - 1.1.8 Jammer U1.1 Contact: Øystein Karlsen (NKOM) <hr/> 14:48-15:00 - 1.1.12 Jammer H1.1 Power: 0.1W Contact: Øystein Karlsen (NKOM)	

Continued on next page

Table 1.1: Monday (Continued)

Monday 2024-09-09	Bleik(1)	Grunnvatn(2)	Motorcade(3)
15:00	<div><div>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: Nicolai Gerrard (NKOM)</div><div>15:20-15:30 - 1.4.1 Jammer F8.1 "Porcus Major": 50 W PRN: L1, Chiprate: 3 MHz Power: 50W Contact: Nicolai Gerrard (NKOM)</div><div>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: Nicolai Gerrard (NKOM)</div></div>	<div><div>15:04-15:16 - 1.1.13 Jammer H1.2 Power: 0.0631W Contact: Øystein Karlsen (NKOM)</div><div>15:20-15:32 - 1.1.16 Jammer H3.1 Power: 0.1W Contact: Øystein Karlsen (NKOM)</div><div>15:36-15:48 - 1.1.18 Jammer H3.3 Power: 1W Contact: Øystein Karlsen (NKOM)</div><div>15:52-16:04 - 1.1.19 Jammer H4.1 Power: 0.631W Contact: Øystein Karlsen (NKOM)</div></div>	<div>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)</div>

Continued on next page

Table 1.1: Monday (Continued)

Monday 2024-09-09	Bleik(1)	Grunnvatn(2)	Motorcade(3)
16:00	<div><div>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: Nicolai Gerrard (NKOM)</div><div>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: Nicolai Gerrard (NKOM)</div><div>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: Nicolai Gerrard (NKOM)</div></div>	<div><div>16:08-16:20 - 1.1.20 Jammer H6.1 Power: 0.631W Contact: Øystein Karlsen (NKOM)</div><div>16:24-16:36 - 1.1.21 Jammer H6.2 Power: 1W Contact: Øystein Karlsen (NKOM)</div><div>16:40-16:52 - 1.1.22 Jammer H6.3 Power: 1W Contact: Øystein Karlsen (NKOM)</div><div>16:56-17:08 - 1.1.23 Jammer H6.4 Power: 1W Contact: Øystein Karlsen (NKOM)</div></div>	<div>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)</div>
17:00		<div><div>17:12-17:24 - 1.1.26 Jammer H8.1 Power: 0.631W Contact: Øystein Karlsen (NKOM)</div><div>17:28-17:40 - 1.1.27 Jammer F6.1 Power: 6.31W Contact: Øystein Karlsen (NKOM)</div><div>17:44-17:56 - 1.1.29 Jammer H2.1 Contact: Øystein Karlsen (NKOM)</div></div>	

Continued on next page

Table 1.1: Monday (Continued)

Monday 2024-09-09	Bleik(1)	Grunnvatn(2)	Motorcade(3)
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 attendance at Bleik (Site 1) Contact: Christian Skjetne (NPRA)	18:30-19:00 - 0.0.2 Mandatory afternoon (de)briefing Comment: MANDATORY attendance at Bleik (Site 1) Contact: Christian Skjetne (NPRA)
19:00			
20:00			
21:00			
22:00			

Tuesday

Location 1 Bleik

Tuesday will be used for meaoning 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. Could be usefull for testing of CRPA antennas.

Location 3 Motorcade

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

Table 2.1: Tuesday

Tuesday 2024-09-10	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 attendance at Bleik (Site 1) Contact: Christian Skjetne (NPRA)	08:00-08:30 - 0.0.1 Mandatory morning briefing Comment: MANDATORY attendance at Bleik (Site 1) Contact: Christian Skjetne (NPRA)
09:00	09:00-09:05 - 3.1.1 Meacon F1.1 "Porcellus": RX1 at 1 W Power: 1W Contact: Nicolai Gerrard (NKOM) <hr/> 09:15-09:25 - 3.1.2 Meacon F1.1 "Porcellus": RX1 at 1 W with initial jamming Power: 1W Contact: Nicolai Gerrard (NKOM) <hr/> 09:35-09:40 - 3.1.3 Meacon F1.1 "Porcellus": RX1 at 10 W Power: 10W Contact: Nicolai Gerrard (NKOM) <hr/> 09:50-10:00 - 3.1.4 Meacon F1.1 "Porcellus": RX1 at 10 W with initial jamming Power: 10W Contact: Nicolai Gerrard (NKOM)	09:00-09:10 - 1.19.1 3 jammers at 50 meters from center S1.1, S1.2 and S1.3 Power: 0.171W Contact: Øystein Karlsen (NKOM) <hr/> 09:16-09:26 - 1.19.2 3 jammers at 100 meters from center S1.1, S1.2 and S1.3 Power: 0.171W Contact: Øystein Karlsen (NKOM) <hr/> 09:32-09:42 - 1.19.3 3 jammers at 150 meters from center S1.1, S1.2 and S1.3 Power: 0.171W Contact: Øystein Karlsen (NKOM) <hr/> 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)	

Continued on next page

Table 2.1: Tuesday (Continued)

Tuesday 2024-09-10	Bleik(1)	Grunnvatn(2)	Motorcade(3)
10:00	<div><div>10:10-10:15 - 3.1.5 Meacon F1.1 "Porcellus": RX2 at 10 W Power: 10W Contact: Nicolai Gerrard (NKOM)</div><div>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: Nicolai Gerrard (NKOM)</div><div>10:55-11:05 - 3.2.4 Meacon F1.1 "Porcellus": RX1 and RX2 at 10 W alternating Power: 10W Contact: Nicolai Gerrard (NKOM)</div></div>	<div><div>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)</div><div>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)</div><div>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)</div><div>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)</div></div>	<div><div>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)</div></div>

Continued on next page

Table 2.1: Tuesday (Continued)

Tuesday 2024-09-10	Bleik(1)	Grunnvatn(2)	Motorcade(3)
11:00	11:15-11:35 - 3.2.5 Meacon F1.1 "Porcellus": RX1 and RX2 at 10 W alternating with breaks Power: 10W Contact: Nicolai Gerrard (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 consecutive parked cars with multi-band jammer Power: 1W Contact: Jahn Erik Røhme (NPRA)
	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: Nicolai Gerrard (NKOM)	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)	
		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 3 jammers at 150 meters from center H6.4, H6.5 and H6.6 Power: 1.58W Contact: Øystein Karlsen (NKOM)	
12:00	12:25-12:59 - 3.3.1 Meacon F1.1 "Porcellus": RX1 with ramping power Power: 10W Contact: Nicolai Gerrard (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 (Deprecated - Not available) Driving with multi-band jammer in test vehicle Power: 1W 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)	

Continued on next page

Table 2.1: Tuesday (Continued)

Tuesday 2024-09-10	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: Nicolai Gerrard (NKOM) <hr/> 14:25-14:45 - 3.2.5 Meacon F1.1 "Porcellus": RX1 and RX2 at 10 W alternating with breaks Power: 10W Contact: Nicolai Gerrard (NKOM) <hr/> 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: Nicolai Gerrard (NKOM)	14:00-15:00 - 1.20.13 3 jammers at 150 meters from center H1.1, H1.4 and H1.5 turned on sequentially Power: 0.0592W Comment: Requires booking for drones 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) <hr/> 14:30-15:00 - 1.10.4 Vehicle starting in multi-band denied environment Power: 1.58W Contact: Jahn Erik Røhme (NPRA)
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: Nicolai Gerrard (NKOM)	15:20-16:20 - 1.20.14 3 jammers at 150 meters from center H1.1, H1.4 and H1.5 turned on sequentially Power: 0.0592W Comment: Requires booking for drones 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) <hr/> 15:30-16:00 - 1.10.4 Vehicle starting in multi-band denied environment Power: 1.58W Contact: Jahn Erik Røhme (NPRA)

Continued on next page

Table 2.1: Tuesday (Continued)

Tuesday 2024-09-10	Bleik(1)	Grunnvatn(2)	Motorcade(3)
16:00	<div><div>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: Nicolai Gerrard (NKOM)</div><div>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: Nicolai Gerrard (NKOM)</div><div>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: Nicolai Gerrard (NKOM)</div></div>	<div>16:40-17:40 - 1.20.15 3 jammers at 150 meters from center H1.1, H1.4 and H1.5 turned on sequentially Power: 0.0592W Comment: Requires booking for drones Contact: Øystein Karlsen (NKOM)</div>	<div>16:00-16:30 - 1.10.3 Vehicle starting in dual-band denied environment Power: 0.1W Contact: Jahn Erik Røhme (NPRA)</div> <div>16:30-17:00 - 1.10.4 Vehicle starting in multi-band denied environment Power: 1.58W Contact: Jahn Erik Røhme (NPRA)</div>

Continued on next page

Table 2.1: Tuesday (Continued)

Tuesday 2024-09-10	Bleik(1)	Grunnvatn(2)	Motorcade(3)
17:00	<div><div>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: Nicolai Gerrard (NKOM)</div><div>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: Nicolai Gerrard (NKOM)</div><div>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: Nicolai Gerrard (NKOM)</div><div>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: Nicolai Gerrard (NKOM)</div></div>		
18:00	<div>18:30-19:00 - 0.0.2 Mandatory afternoon (de)briefing Contact: Christian Skjetne (NPRA)</div>	<div>18:30-19:00 - 0.0.2 Mandatory afternoon (de)briefing Comment: MANDATORY attendance at Bleik (Site 1) Contact: Christian Skjetne (NPRA)</div>	<div>18:30-19:00 - 0.0.2 Mandatory afternoon (de)briefing Comment: MANDATORY attendance at Bleik (Site 1) Contact: Christian Skjetne (NPRA)</div>
19:00	<div>19:15-22:00 - 1.16.4 High Power PRN jamming: L1, G1, L2, L5 Power: 100W Contact: Nicolai Gerrard (NKOM)</div>		

Continued on next page

Table 2.1: Tuesday (Continued)

Tuesday			
2024-09-10	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

Booking of timeslots available for custom testing.

Location 3 Motorcade

Booking of timeslots available for custom testing.

Table 3.1: Wednesday

Wednesday 2024-09-11	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 attendance at Bleik (Site 1) Contact: Christian Skjetne (NPRA)	08:00-08:30 - 0.0.1 Mandatory morning briefing Comment: MANDATORY attendance 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: Nicolai Gerrard (NKOM)	09:00-10:00 - 0.2.1 Jamming booking slot Comment: Pre-booking required. Inform staff of required jammer equipment (see Appendix G of test catalog) Contact: Øystein Karlsen (NKOM)	
10:00	10:00-10:15 - 2.1.3 Large position and time jump. Galileo E1 only Power: 0.316W Contact: Nicolai Gerrard (NKOM) <hr/> 10:20-10:35 - 2.1.2 Large position and time jump. GPS L1 C/A only Power: 0.316W Contact: Nicolai Gerrard (NKOM) <hr/> 10:40-10:55 - 2.1.4 Large position and time jump. GPS L1 and Galileo E1 only Power: 0.316W Contact: Nicolai Gerrard (NKOM)	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: Øystein Karlsen (NKOM)	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)

Continued on next page

Table 3.1: Wednesday (Continued)

Wednesday 2024-09-11	Bleik(1)	Grunnvatn(2)	Motorcade(3)
11:00	<p>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: Nicolai Gerrard (NKOM)</p> <hr/> <p>11:45-12:00 - 2.1.10 Simulated driving (route 1), with initial jamming Power: 0.316W Contact: Nicolai Gerrard (NKOM)</p>	<p>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: Øystein Karlsen (NKOM)</p>	<p>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)</p>
12:00	<p>12:30-12:40 - 2.8.1 EGNOS with "Do Not Use GPS" commands Power: 1W Contact: Nicolai Gerrard (NKOM)</p> <hr/> <p>12:45-13:00 - 2.8.1 EGNOS with "Do Not Use GPS" commands Power: 1W Contact: Nicolai Gerrard (NKOM)</p>	<p>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: Øystein Karlsen (NKOM)</p>	<p>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)</p>
13:00	<p>13:00-14:00 - 0.1.1 Grace period Comment: Lunch Contact: Christian Skjetne (NPRA)</p>	<p>13:00-14:00 - 0.1.1 Grace period Comment: Lunch @ Stave (Site 3) Contact: Christian Skjetne (NPRA)</p>	<p>13:00-14:00 - 0.1.1 Grace period Comment: Lunch @ Stave (Site 3) Contact: Christian Skjetne (NPRA)</p>

Continued on next page

Table 3.1: Wednesday (Continued)

Wednesday 2024-09-11	Bleik(1)	Grunnvatn(2)	Motorcade(3)
14:00	<div><div>14:00-14:15 - 2.2.3 Position jump Power: 0.316W Contact: Nicolai Gerrard (NKOM)</div><div>14:20-14:35 - 2.3.3 Small position jump Power: 0.316W Contact: Nicolai Gerrard (NKOM)</div><div>14:40-14:55 - 2.3.2 Small position jump with initial and continuous jamming Power: 0.316W Contact: Nicolai Gerrard (NKOM)</div></div>	<div><div>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: Øystein Karlsen (NKOM)</div></div>	<div><div>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)</div></div>
15:00	<div><div>15:25-15:35 - 2.3.8 Simulated driving (route 1). Galileo only Power: 0.316W Contact: Nicolai Gerrard (NKOM)</div><div>15:40-15:50 - 2.3.5 Simulated driving (route 1). GPS only Power: 0.316W Contact: Nicolai Gerrard (NKOM)</div><div>15:55-16:05 - 2.3.10 Simulated driving (route 1) Power: 0.316W Contact: Nicolai Gerrard (NKOM)</div></div>	<div><div>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: Øystein Karlsen (NKOM)</div></div>	<div><div>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)</div></div>

Continued on next page

Table 3.1: Wednesday (Continued)

Wednesday 2024-09-11	Bleik(1)	Grunnvatn(2)	Motorcade(3)
16:00	<p>16:10-16:25 - 2.3.11 Simulated driving (route 1) with initial and continuous jamming. Power: 0.316W Contact: Nicolai Gerrard (NKOM)</p> <hr/> <p>16:55-17:05 - 2.3.15 Flying (route 2) - "helicopter scenario" Power: 0.316W Contact: Nicolai Gerrard (NKOM)</p>	<p>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: Øystein Karlsen (NKOM)</p>	<p>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)</p>
17:00	<p>17:10-17:20 - 2.3.12 Flying (route 4) - "drone scenario" GPS L1 C/A only Power: 0.316W Contact: Nicolai Gerrard (NKOM)</p> <hr/> <p>17:30-17:40 - 2.3.13 Flying (route 4) - "drone scenario" Power: 0.316W Contact: Nicolai Gerrard (NKOM)</p> <hr/> <p>17:45-18:00 - 2.3.15 Flying (route 2) - "helicopter scenario" Power: 0.316W Contact: Nicolai Gerrard (NKOM)</p>	<p>17:00-18:00 - 0.2.1 Jamming booking slot Comment: Pre-booking required. Inform staff of required jammer equipment (see Appendix G of test catalog) Contact: Øystein Karlsen (NKOM)</p>	
18:00	<p>18:30-19:00 - 0.0.2 Mandatory afternoon (de)briefing Comment: MANDATORY Contact: Christian Skjetne (NPRA)</p>	<p>18:30-19:00 - 0.0.2 Mandatory afternoon (de)briefing Comment: MANDATORY attendance at Bleik (Site 1) Contact: Christian Skjetne (NPRA)</p>	<p>18:30-19:00 - 0.0.2 Mandatory afternoon (de)briefing Comment: MANDATORY attendance at Bleik (Site 1) Contact: Christian Skjetne (NPRA)</p>
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 meaoning running untill 22:00.

Location 2 Grunnvatn

Test of multiple low-power handheld jammers in circular configuration. Could be usefull for testing of CRPA antennas.

Location 3 Motorcade

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

Table 4.1: Thursday

Thursday 2024-09-12	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 attendance at Bleik (Site 1) Contact: Christian Skjetne (NPRA)	08:00-08:30 - 0.0.1 Mandatory morning briefing Comment: MANDATORY attendance 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: Nicolai Gerrard (NKOM) <hr/> 09:40-09:55 - 2.4.3 Time offset -3 minutes from real time, with power jump Power: 0.0316W Contact: Nicolai Gerrard (NKOM)	09:00-10:00 - 1.20.10 3 jammers at 50 meters from center H1.1, H1.4 and H1.5 Power: 0.0592W Comment: Requires booking for drones Contact: Øystein Karlsen (NKOM)	
10:00	10:10-10:25 - 2.4.12 Static + Pseudorange error Power: 0.0316W Contact: Nicolai Gerrard (NKOM) <hr/> 10:40-10:55 - 2.4.13 Static + Pseudorange error, with initial and continous jamming Power: 0.001W Contact: Nicolai Gerrard (NKOM)	10:30-11:30 - 1.20.11 3 jammers at 100 meters from center H1.1, H1.4 and H1.5 Power: 0.0592W Comment: Requires booking for drones Contact: Øystein Karlsen (NKOM)	10:00-10:20 - 2.6.1 Spoofers (in vehicle with roof mounted antenna) stationary with dynamic spoofed position. Power: 0.01W Contact: Anders Rødningsby (FFI) <hr/> 10:45-11:05 - 2.6.2 Spoofers (in vehicle with roof mounted antenna) stationary and then moving with fixed spoofed position. Power: 0.01W Contact: Anders Rødningsby (FFI)

Continued on next page

Table 4.1: Thursday (Continued)

Thursday 2024-09-12	Bleik(1)	Grunnvatn(2)	Motorcade(3)
11:00	<div><div>11:25-11:40 - 2.5.6 Time offset 15 minutes from real time Power: 0.001W Contact: Nicolai Gerrard (NKOM)</div><div>11:55-12:10 - 2.5.3 Time offset -3 minutes from real time, with power jump Power: 0.001W Contact: Nicolai Gerrard (NKOM)</div></div>		<div><div>11:30-11:50 - 2.6.3 Spoofers (in vehicle with roof mounted antenna) moving with fixed spoofed position. Power: 0.01W Contact: Anders Rødningsby (FFI)</div></div>
12:00	<div><div>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: Nicolai Gerrard (NKOM)</div></div>	<div><div>12:00-13:00 - 1.20.12 3 jammers at 150 meters from center H1.1, H1.4 and H1.5 Power: 0.0592W Comment: Requires booking for drones Contact: Øystein Karlsen (NKOM)</div></div>	<div><div>12:15-12:35 - 2.6.4 Spoofers (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)</div></div>
13:00	<div><div>13:00-14:00 - 0.1.1 Grace period Comment: Lunch Contact: Christian Skjetne (NPRA)</div></div>	<div><div>13:00-14:00 - 0.1.1 Grace period Comment: Lunch @ Stave (Site 3) Contact: Christian Skjetne (NPRA)</div></div>	<div><div>13:05-14:00 - 0.1.1 Grace period Comment: Lunch @ Stave (Site 3) Contact: Christian Skjetne (NPRA)</div></div>

Continued on next page

Table 4.1: Thursday (Continued)

Thursday			
2024-09-12	Bleik(1)	Grunnvatn(2)	Motorcade(3)
14:00	14:00-14:15 - 2.5.5 Time offset 15 minutes from real time. Galileo E1 Power: 0.0316W Contact: Nicolai Gerrard (NKOM)	14:00-14:10 - 1.19.1 3 jammers at 50 meters from center S1.1, S1.2 and S1.3 Power: 0.171W Contact: Øystein Karlsen (NKOM)	14:00-14:20 - 2.6.1 Spoofers (in vehicle with roof mounted antenna) stationary with dynamic spoofed position. Power: 0.01W Contact: Anders Rødningby (FFI)
	14:20-14:35 - 2.5.4 Time offset 15 minutes from real time. GPS L1 C/A Power: 0.0316W Contact: Nicolai Gerrard (NKOM)	14:16-14:26 - 1.19.2 3 jammers at 100 meters from center S1.1, S1.2 and S1.3 Power: 0.171W Contact: Øystein Karlsen (NKOM)	14:45-15:05 - 2.6.2 Spoofers (in vehicle with roof mounted antenna) stationary and then moving with fixed spoofed position. Power: 0.01W Contact: Anders Rødningby (FFI)
	14:40-14:55 - 2.5.6 Time offset 15 minutes from real time Power: 1e-05W Contact: Nicolai Gerrard (NKOM)	14:32-14:42 - 1.19.3 3 jammers at 150 meters from center S1.1, S1.2 and S1.3 Power: 0.171W Contact: Øystein Karlsen (NKOM)	
		14:48-14:58 - 1.19.4 3 jammers at 50 meters from center S2.1, S2.2 and S2.3 Power: 1.26W Contact: Øystein Karlsen (NKOM)	

Continued on next page

Table 4.1: Thursday (Continued)

Thursday 2024-09-12	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: Nicolai Gerrard (NKOM)	15:04-15:14 - 1.19.5 3 jammers at 100 meters from center S2.1, S2.2 and S2.3 Power: 1.26W Contact: Øystein Karlsen (NKOM)	15:30-15:50 - 2.6.3 Spoofers (in vehicle with roof mounted antenna) moving with fixed spoofed position. Power: 0.01W Contact: Anders Rødningsby (FFI)
	15:45-16:00 - 2.5.15 Static + Pseudorange error Power: 1e-05W Contact: Nicolai Gerrard (NKOM)	15:20-15:30 - 1.19.6 3 jammers at 150 meters from center S2.1, S2.2 and S2.3 Power: 1.26W Contact: Øystein Karlsen (NKOM)	
		15:36-15:46 - 1.19.7 3 jammers at 50 meters from center U1.1, U1.2 and U1.3 Contact: Øystein Karlsen (NKOM)	
		15:52-16:02 - 1.19.8 3 jammers at 100 meters from center U1.1, U1.2 and U1.3 Contact: Øystein Karlsen (NKOM)	

Continued on next page

Table 4.1: Thursday (Continued)

Thursday			
2024-09-12	Bleik(1)	Grunnvatn(2)	Motorcade(3)
16:00	<div><div>16:15-16:40 - 2.5.16 Static + Pseudorange error, with initial and continuous jamming Power: 1e-05W Contact: Nicolai Gerrard (NKOM)</div><div>16:55-17:20 - 2.5.26 Static + UTC-parameter nav. data manipulation (removing leap seconds). GPS L1 C/A Power: 1e-05W Contact: Nicolai Gerrard (NKOM)</div></div>	<div><div>16:08-16:18 - 1.19.9 3 jammers at 150 meters from center U1.1, U1.2 and U1.3 Contact: Øystein Karlsen (NKOM)</div><div>16:24-16:34 - 1.19.10 3 jammers at 50 meters from center H6.4, H6.5 and H6.6 Power: 1.58W Contact: Øystein Karlsen (NKOM)</div><div>16:40-16:50 - 1.19.11 3 jammers at 100 meters from center H6.4, H6.5 and H6.6 Power: 1.58W Contact: Øystein Karlsen (NKOM)</div><div>16:56-17:06 - 1.19.12 3 jammers at 150 meters from center H6.4, H6.5 and H6.6 Power: 1.58W Contact: Øystein Karlsen (NKOM)</div></div>	<div><div>16:15-16:35 - 2.6.4 Spoofers (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)</div></div>
17:00	<div><div>17:30-18:00 - 2.5.27 Static + UTC-parameter nav. data manipulation (removing leap seconds) Power: 1e-05W Contact: Nicolai Gerrard (NKOM)</div></div>	<div><div>17:12-17:22 - 1.19.13 3 jammers at 50 meters from center H1.1, H1.4 and H1.5 Power: 0.1W Contact: Øystein Karlsen (NKOM)</div><div>17:28-17:38 - 1.19.14 3 jammers at 100 meters from center H1.1, H1.4 and H1.5 Power: 0.1W Contact: Øystein Karlsen (NKOM)</div><div>17:44-17:54 - 1.19.15 3 jammers at 150 meters from center H1.1, H1.4 and H1.5 Power: 0.1W Contact: Øystein Karlsen (NKOM)</div></div>	

Continued on next page

Table 4.1: Thursday (Continued)

Thursday 2024-09-12	Bleik(1)	Grunnvatn(2)	Motorcade(3)
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 attendance at Bleik (Site 1) Contact: Christian Skjetne (NPRA)	18:30-19:00 - 0.0.2 Mandatory afternoon (de)briefing Comment: MANDATORY attendance 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: Nicolai Gerrard (NKOM)		
20:00			
21:00			
22:00			

Friday

Location 1 Bleik

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

Location 2 Grunnvatn

Testing of low-power handheld jammers.

Location 3 Motorcade

There will be no testing on this site on Friday.

Table 5.1: Friday

Friday 2024-09-13	Bleik(1)	Grunnvatn(2)	Motorcade(3)
Start time:	08:00	09:00	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 attendance at Bleik (Site 1) Contact: Christian Skjetne (NPRA)
09:00	09:00-09:10 - 0.3.1 Ad hoc test Power: 0.316W Comment: L2 only spoofing Contact: Nicolai Gerrard (NKOM) <hr/> 09:20-09:40 - 0.3.1 Ad hoc test Power: 10W Comment: 3.1.3 + 2.1.2, meaoning (10 W) + spoofing (20 dBm) Contact: Nicolai Gerrard (NKOM) <hr/> 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: Nicolai Gerrard (NKOM)	09:00-16:00 - 0.1.1 Grace period Comment: SITE IS CLOSED! Contact: Øystein Karlsen (NKOM)	

Continued on next page

Table 5.1: Friday (Continued)

Friday 2024-09-13	Bleik(1)	Grunnvatn(2)	Motorcade(3)
10:00	<p>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</p> <p>Power: 50W Comment: 20 seconds per step, power ramp (up and down) from -21 (to 47) dBm Contact: Nicolai Gerrard (NKOM)</p> <hr/> <p>10:50-11:10 - 2.7.12 Static + Time manipulation (2 years forwards), with power ramp</p> <p>Power: 0.0316W Contact: Nicolai Gerrard (NKOM)</p>		
11:00	<p>11:30-11:50 - 2.7.16 Static + Time manipulation (April 2019), with initial and continuous jamming</p> <p>Power: 0.0316W Contact: Nicolai Gerrard (NKOM)</p>		
12:00	<p>12:00-12:22 - 2.4.2 Time offset 15 minutes from real time, with power ramp</p> <p>Power: 0.0316W Contact: Nicolai Gerrard (NKOM)</p> <hr/> <p>12:30-12:40 - 2.5.5 Time offset 15 minutes from real time. Galileo E1</p> <p>Power: 0.0316W Contact: Nicolai Gerrard (NKOM)</p> <hr/> <p>12:50-13:00 - 0.3.1 Ad hoc test</p> <p>Power: 0.316W Comment: Jamming of L1, G1, BII from S (the spoofing system) Contact: Nicolai Gerrard (NKOM)</p>		

Continued on next page

Table 5.1: Friday (Continued)

Friday 2024-09-13	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 @ Bleik (Site1) 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			
18:00			
19:00			
20:00			
21:00			
22:00			