###### Enable GNSS

***Objective:***

The objective of this test is to enable the GNSS receiver and acquire a GNSS lock.

***Topology:***

Antenna connected to the GNSS input (SMB antenna input).

***Procedure:***

The user creates a GNSS input to obtain a lock. Configurable parameters are shown in the outputs below. Elevation Mask, CNR and PDOP (Position Dilution of Precision) are configurable masks that serve as screening criteria.

5171> show sync gnss

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SYNC GNSS GLOBAL +

| Parameter | Value |

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| Elevation Mask | 10 **(0 – 89)** |

| Carrier to Noise Ratio | 35 **(0 – 55)** |

| Position Dilution Of Precision | 6 **(0 – 50)** |

| Anti-Jamming | enabled |

| Time Standard | UTC |

| Antenna Cable Delay Rate | 5.05 **(1.0 – 100.0)** |

| Satellite Visibility Threshold | 2 **(2 – 12)** |

| Serial Number | 1299000105 |

| Firmware Version | Maj:1-Min:7-BuildNum:0 |

| Antenna Status | detected |

| Almanac Status | complete |

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5171\*> show sync gnss antenna-inputs antenna antin

+ SYNC GNSS ANTENNA INPUT +

| Parameter | Value |

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| Name | antin |

| Constellations | gps |

| Antenna Cable Length | 2 |

| Forced Quality Level | QL-PRTC |

+ + +

| Operational State | Locked |

| Antenna Signal Condition | Normal |

| Current Time | 2020-09-22T17:26:35+00:00 |

| Latitude | 45.3443499 |

| Longitude | 75.9285244 |

| Altitude | 90.34485 |

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1. Configure gnss parameters. Refer to output above. If no configurable parameters are set, defaults will be used.

antenna-cable-delay-rate elevation-mask time-standard anti-jamming pdop-mask

cnr satellite-visibility-threshold

1. Configure Frequency and Phase protection groups and add a gnss input. Note: The frequency protection group threshold is set to PRTC.

sync protection-groups frequency-protection-group FreqProtGrp

gnss-antenna-input gnss\_in threshold-quality-level prtc

phase-protection-group PhaseProtGrp gnss-antenna-input gnss\_in threshold-clock-class 6

***Expected Results:***

The GNSS receiver locks.

5171> show sync frequency protection-groups

+ SYNC FREQUENCY PROTECTION GROUPS +

| Name | Threshold QL | Oper State | Selected Ref | Forced Selection | Ref Switch Count |

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| FreqProtGrp | QL-PRC | Locked | gnss\_in | False | 2 |

+ + + + + + +

5171> show sync phase protection-groups

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SYNC PHASE PROTECTION GROUPS

| Name | Threshold Clock Class | Oper State | Selected Ref | Forced Selection | Ref Switch Count |

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| PhaseProtGrp | 6 | Locked | gnss\_in | False |

2 |

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Test Case Results:

Passed: Yes No Verified by Date/Time Comments