

NCS NOVA

GNSS RF Simulator Portfolio

2025

New Highlights

- Galileo 2nd Generation E1 Quasi-Pilot signals
- Phase synchronous signal generation for CRPA
- I/Q signal samples streaming



Specification

2025

RF Simulator Type	NCS NOVA	NCS NOVA+
Channels, RF Bands and Frequencies		
GNSS Constellations	GPS-II/-III, Galileo-1G/-2G, BeiDou-2/-3, GLONASS, NavIC (IRNSS), QZSS, SBAS (WAAS, EGNOS, SCDM, GAGAN, KASS)	
RF Frequency Range	RF frequency ranging from 1.125 GHz to 2.5 GHz (L and S band)	
RF Modules	1 RF module (with 1 or 2 RF outputs)	Up to 2 RF modules (with 1, 2 or 4 RF outputs)
RF Bands (signal chains) per RF Module	4 RF bands per RF module (with 50 MHz bandwidth of each band and selectable frequency per SW licence)	
L1 Signal Band (1,559 - 1,610 MHz)	GPS L1 CA & L1C Galileo E1 with OSNMA Galileo-2G Quasi-Pilot GLONASS L1 BeiDou B1C & B1I NavIC L1 QZSS L1 SBAS L1	
E5 Signal Band (1,164 - 1,214 MHz)	GPS L5 Galileo E5ab AltBOC BeiDou B2a & B2I NavIC L5 QZSS L5	
L2 Signal Band (1,217 - 1,260 MHz)	GPS L2C GLONASS L2 QZSS L2C	
E6 Signal Band (1,261- 1,300 MHz)	Galileo E6 (unencrypted) with HAS SL1	Galileo E6 (with encryption) with HAS SL1
S Signal Band (2,483 - 2,500 MHz)	NavIC S-Band	
Signal Channels and simultaneous GNSS Signals	Up to 60 channels up to 7 signals simultaneously	Up to 160+ channels up to 18 signals simultaneously
Multipath Channels per Signal Channel	Not limited (as generated in SW)	
Multipath Capability	From simple ground reflection up to complex LMS Narrow- / Wide-Band models	
Power Levels		
RF Signal Power	- 60 dBm to -155 dBm	
Dynamic Range	95 dB	
Resolution	0.1 dB	
Absolute Accuracy	± 0.3 dB	
Run-to-Run Repeatability	± 0.1 dB	
Signal Accuracy		
Simulation (Iteration) Rate	10, 20, 50, 100 Hz	10, 20, 50, 100 Hz (up to 250 Hz optional)
Pseudorange Accuracy	< 0.1 mm RMS	
Pseudorange Rate Accuracy	< 0.1 mm/s RMS	
Optional Signal Capabilities		
Interference & Spoofing	CW, AWGN & trajectory spoofing	CW, AWGN, Chirp & Trajectory spoofing
I/Q signal samples streaming	Generation of I/Q output signal stream	
Signal Dynamics		
Max. Velocity (LoS)	± 1,460,000 m/s	
Max. Acceleration (LoS)	± 667,000 m/s ²	
Max. Jerk (LoS)	± 6,600,000 m/s ³	
Angular Rates (at 1.5 m and 0.5 m lever arm)	> 15 π rad/s and > 60 π rad/s	
Spectral Purity		
Harmonics	< -40 dBc	
In-band Spurious	< -70 dBc	
Phase Noise	< 0.005 rad RMS	
Signal Stability	Short term stability (ADEV 1 s) < ± 1 * 10 ⁻¹⁰ Long term stability (1 day) < ± 4 * 10 ⁻⁸	Optional: Short term stability (ADEV 1 s) < ± 6 * 10 ⁻¹³ Optional: Long term stability (1 day) < ± 1.5 * 10 ⁻¹⁰
Inter-Carrier Phase Coherence		
Carrier Phase Coherence (@ RF Output)	< 0.5°	
Additional Tools		
Supporting Tools	User Position Trajectory Generator & Antenna Pattern Editor	



Disclaimer:
All specifications subject to change
without prior notice

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