

NCS NOVA

GNSS RF Simulator Portfolio

2023



Specification

2023

RF Simulator Type	NCS NOVA	NCS NOVA+
Channels, RF Bands and Frequencies		
RF frequencies supported	Center frequency ranging from 1.125 GHz to 2.5 GHz	
RF modules	1 RF module with 1 RF-out or 2 RF-out	Up to 2 RF modules with 2 RF-out or 4 RF-out
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)	
RF band 1 signal coverage (1,559 - 1,610 MHz)	GPS L1 Galileo E1 with OSNMA GLONASS G1 BeiDou-3 B1C & B1I QZSS L1 SBAS L1	
RF band 2 signal coverage (1,164 - 1,214 MHz)	GPS L5 Galileo E5ab BeiDou-3 B2a NavIC(IRNSS) L5 QZSS L5	
RF band 3 signal coverage (1,217 - 1,260 MHz)	GPS L2 GLONASS G2 QZSS L2	
RF band 4 signal coverage (1,261- 1,300 MHz)	Galileo E6 (unencrypted) with HAS	Galileo E6 (with encryption) with HAS
RF band 5 signal coverage (2,483 - 2,500 MHz)	NavIC (IRNSS) S-Band	
Signal channels	Up to 60 channels	Up to 160 channels
Multipath channels per signal channel	Not limited (as generated in SW)	
Multipath capability	From simple ground reflection to complex LMS Narrow- / Wide-Band models	
Power Levels		
RF Signal Power	-30 dBm to -155 dBm	
Dynamic Range	125 dB	
Resolution	0.1 dB	
Linearity (over total Dynamic Range)	< 0.1 dB	
Absolute Accuracy	± 0.3 dB	
Run-to-Run Repeatability	± 0.1 dB	
Signal Accuracy		
Simulation (Iteration) Rate	100 Hz	100 Hz (up to 250 Hz optional)
Pseudorange Accuracy	< 0.1 mm RMS	
Pseudorange Rate Accuracy	< 0.1 mm/s RMS	
Pseudorange Uncertainty (due to Interchannel Bias)	0 mm RMS	
Deltarange Accuracy	< ±0.5 mm RMS	
Optional Signal Generation		
Noise Generation	-170 dBm/Hz to -110 dBm/Hz	
Interference & Spoofing	CW, AWGN Spoofing	CW, AWGN, Chirp Spoofing
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 (indicative) (at 1.5 m lever arm) (at 0.5 m lever arm)	> 15π rad/s > 60π 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	Short term stability (ADEV 1 s) < ± 6 * 10 ⁻¹³ Long term stability (1 day) < ± 1.5 * 10 ⁻¹⁰
Inter-Carrier Phase Coherence		
Carrier Phase Coherence (@ Rf Output)	< 0.5°	



Disclaimer:
All specifications subject to change without prior notice

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