

## GNSS Receiver SAMPLE Questionnaire (Completed)

<b>1. Respondent Contact</b>	<i>Public</i> <input checked="" type="checkbox"/> <i>Proprietary</i> <input type="checkbox"/>
<b>Name of Group/Company:</b>	
<b>Name of Business Unit Responding to the RFI (if applicable):</b>	
<b>Designated Point of Contact (provide <u>one</u> contact)</b> <b>Name:</b> <b>Phone Number:</b> <b>Email Address:</b>	
<b>Respondent Address:</b>	
<b>Total Number of Full-Time Employees:</b>	
<b>Corporate/Group Website URL:</b>	
<b>Business Classification:</b>	
<b>NAICS Code (if applicable):</b>	
<b>Small/Large Business, University:</b>	
<b>2. Receiver Summary</b>	<i>Public</i> <input checked="" type="checkbox"/> <i>Proprietary</i> <input type="checkbox"/>
<b>Brief Hardware/Software Description:</b>	<i>The Example-HW is a low SWaP receiver that can fly on small-satellite missions and supports dual-frequency GPS measurements.</i>
<b>Uses, Use-Cases:</b>	<i>PNT, radio occultation, atmospheric research on small satellites.</i>
<b>Intended Orbits of Operation:</b>	<i>200-800 km altitude</i>
<b>3. Procurement</b>	<i>Public</i> <input type="checkbox"/> <i>Proprietary</i> <input checked="" type="checkbox"/>
<b>Approximate Cost of Procurement:</b>	<i>\$200,000.00</i>
<b>Technical Readiness Level (TRL):</b>	<i>9</i>
<b>Flight Heritage Missions (if none or pending, describe):</b>	<i>Example Missions Listed here, On-orbit 12,000 hours</i>

<b>Additional Comments on Summary Fields:</b>	<i>Procurement cost is higher for missions requiring full 200 kRad dosage tolerance</i>					
<b>4. Hardware Characteristics</b>	<i>Public</i> <input checked="" type="checkbox"/>		<i>Proprietary</i> <input type="checkbox"/>			
<b>Approximate Physical Dimensions [meters]</b>	<i>Length:</i>	<i>0.2</i>	<i>Width:</i>	<i>0.2</i>	<i>Height:</i>	<i>0.1</i>
<b>Mass [kg]:</b>	<i>1</i>					
<b>Orbit Average Power Consumption [Watts]:</b>	<i>5</i>					
<b>Command/Telemetry Connector:</b>	<i>RS-422</i>					
<b>Power Connector:</b>	<i>RS-422</i>					
<b>Command/Telemetry Protocol:</b>	<i>MIL-STD-1553B</i>					
<b>Field Programmable Gate Array(s):</b>	<i>FPGA XYZ</i>					
<b>Radiation Dosage Tolerance [krad]:</b>	<i>100</i>					
<b>RF Input Connector Type:</b>	<i>SMA Female</i>					
<b>Thermal Survival Range:</b>	<i>-20 C to 120 C</i>					
<b>Additional Comments On Above HW Characteristics (if needed):</b>	<i>Box physical dimensions do not include connectors protruding from sides. Command, Telemetry and Power all share the same RS-422 connector.</i>					
<b>5. Performance Characteristics</b>	<i>Public</i> <input checked="" type="checkbox"/>		<i>Proprietary</i> <input type="checkbox"/>			
<b>Steady-State Position Accuracy:</b>	<i>Radial = 30m, Along-Track=50m, Cross-Track=20m</i>					
<b>Steady-State Velocity Accuracy:</b>	<i>Radial = .5m/s, Along-Track=.3m/s, Cross-Track=.2m/s</i>					
<b>Receiver Cold-Start Time to First Fix (TTFF) [seconds]:</b>	<i>1000</i>					
<b>Receiver Warm-Start TTFF [seconds]:</b>	<i>200</i>					
<b>1 Pulse-Per-Second Accuracy:</b>	<i>120 nano-seconds</i>					
<b>Additional Comments On Above Performance Characteristics (if needed):</b>	<i>Steady state performance accuracy numbers are representative for a Low-Earth Orbit at 400 km altitude, Radial/Along-Track/Cross-Track</i>					
<b>6. Signal Processing</b>	<i>Public</i> <input checked="" type="checkbox"/>		<i>Proprietary</i> <input type="checkbox"/>			

<b>GNSS Signal Types Supported:</b>	<i>GPS: L1 C/A, L2C</i>
<b>Maximum Number of Tracking Channels:</b>	<i>12</i>
<b>Additional Signal Tracking Comments:</b>	<i>i.e. Standard is 6 L1 C/A 6 L2C simultaneous, but can be altered depending on user needs</i>
<b>Signal Acquisition Threshold:</b>	<i>35 dB-Hz</i>
<b>Signal Tracking Threshold:</b>	<i>28 dB-Hz</i>
<b>Measurement Accuracy:</b>	<i>L1 C/A 2 meters, L2C 1 meter</i>
<b>Digital Signal Processing Methods:</b>	<i>Unique code-correlation allows...</i>
<b>Additional Signal Processing Comments:</b>	<i>Receiver can remove ionosphere measurement for higher accuracy measurements</i>