

**Technical Compliance Statement**  
*for*  
**CCSDS TM-TC ACQUISITION & PROCESSING UNIT**

- The vendor should fill the Compliance status along with Technical Bid.

Sl.No	Description	Specification	Compliance Yes/NO?
<b>Signal Specifications</b>			
1.	Input Signals (Telemetry)	Telemetry Data, Telemetry Clock and GND reference	Yes/NO?
2.	Input Signal Amplitude	5V CMOS Buffer O/P via 1k resistor	Yes/NO?
3.	Clock and Data Relationship	TM channel Clock and Data are synchronous and Data changes during falling edge of the clock	Yes/NO?
4.	Data Bit Sequence	Most significant Bit first	Yes/NO?
5.	Frame Length	256 Bytes (including frame sync 4 bytes)	Yes/NO?
6.	Number of Frames	8/16/32/64	Yes/NO?
7.	Frame Sync code	4 byte (1A-CF-FC-1D in hex) first 4 bytes in each frame	Yes/NO?
8.	TM Data format	Randomised as per CCSDS standard	Yes/NO?
9.	Output Signals (Tele-command)	Window signal, Burst clock, TC Data and GND reference	Yes/NO?
10.	Output Signal Amplitude	5V, Via CMOS Buffer CD4050	Yes/NO?
11.	Window, Clock and Data Relationship	<ul style="list-style-type: none"> <li>• NRZ- L Data synchronized with Clock signal</li> <li>• Data change with rising edge of clock</li> <li>• WINDOW rising edge before data start with a duration of 8 data bits</li> <li>• WINDOW falling edge after data end with a duration of 8 data bits</li> <li>• Burst Clock during data transfer period</li> </ul>	Yes/NO?
<b>Hardware Specifications</b>			
12.	Number of Input Channels	Two Independent Channels	Yes/NO?

<b>Sl.No</b>	<b>Description</b>	<b>Specification</b>	<b>Compliance Yes/NO?</b>
	(Telemetry)		
13.	Input Connector	9-Pin D-Type Male Connector	Yes/NO?
14.	Output Port Type	USB	Yes/NO?
15.	Acquisition Unit Data rate	Up-to 64 kBps (64*1024 Bits per sec)	Yes/NO?
16.	Input Isolation	Opto-coupler / Data Isolator	Yes/NO?
17.	Input Current Drawn	< 0.5 mA with opto-coupler	Yes/NO?
18.	Power Supply (TM section)	USB Power	Yes/NO?
19.	Number of Output Channels for Telecommand	Two Independent Channels	Yes/NO?
20.	Output Connector	9-Pin D-Type Female Connector	Yes/NO?
21.	Tele-command data rate	Programmable from 100Hz to 10 kHz with variable resolution 1Hz to 25Hz	Yes/NO?
22.	Tele-command data size	Programmable from 1 to 1024 bytes	Yes/NO?
23.	Tele-command output	CD4050 buffer O/P via 1K resistor	Yes/NO?
24.	Tele-command input output Isolation	via opto-coupler / Data Isolator	Yes/NO?
25.	Power Supply (TC section)	USB Power for TC input circuitry and External 5V provision for TC Opto-coupler circuitry / not required for Data Isolator	Yes/NO?
26.	Dimension	Light weight and compact in size with ABS plastic body	Yes/NO?
<b>Software Specifications</b>			

<b>Sl.No</b>	<b>Description</b>	<b>Specification</b>	<b>Compliance Yes/NO?</b>
27.	Driver Software Compatibility	Microsoft Windows-7/10	Yes/NO?
28.	Storage	Continuous storage of incoming Telemetry Data	Yes/NO?
29.	Stored Data Format	Microsoft Access compatible database	Yes/NO?
30.	Data conversion	De-randomization of acquired TM data as per CCSDS standard	Yes/NO?
<b>General Specifications</b>			
31.	Demo	If need arises, the Vendor shall arrange a Demo of UNIT at URSC before PO release.	Yes/NO?