



R18 Comm System Configuration (added for HDR)



- ◆ Capability Theme Description: These are basically “no-brainers” because they are all part of high data rate. They include: LDPC coding, uncoded capability, point A and B, and RHCP Antenna polarization.

- ◆ Requirements: For the requirements that are new to the DAC4 vehicle (from the “DAC-4” page of the spreadsheet), provide the requirement numbers and text. Example:
 - C3I-1612 Constellation systems shall use a LDPC coded Channel Access Data Unit (CADU) that has the characteristics listed in the LDPC Coded row of Table 3.1.2.1.2-1 when transmitting FEC coded data streams.
 - C3I-1613 Constellation systems shall use an uncoded Channel Access Data Unit (CADU) that has the characteristics listed in the Uncoded row of Table 3.1.2.1.2-1 when transmitting non-FEC coded data streams.
 - C3I-577 Constellation point A systems shall use transmit signals with modulation schemes in accordance with Table 3.1.3.2-1 for high rate point-to-point links.
 - C3I-578 Constellation point A systems shall receive signals with modulation schemes in accordance with Table 3.1.3.3-1 for high rate point-to-point links.
 - C3I-579 Constellation point B systems shall transmit signals with modulation schemes in accordance with Table 3.1.3.3-1 for high rate point-to-point links.
 - C3I-580 Constellation Point B systems shall receive signals with modulation schemes in accordance with the table entitled Point A High-Rate Point-to-Point Signal Characteristics for high-rate point-to-point links.
 - C3I-581 Constellation systems shall transmit using Right-Hand Circular Polarization (RHCP) for high rate point-to-point links.
 - C3I-589 Constellation systems shall receive using Right-Hand Circular Polarization for high-rate point-to-point links.

- ◆ Definition of Key Terms or Use Cases: no issues (same as LDAC3 but for HDR)



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- ◆ Expected Physical Solution and Operational Context: 0 mass / power change

	Mass (kg)	Mission Phases where Applicable				
		Launch	TLI	LOI	Descent	Ascent
Hardware item 1	1.0	X	X	X	X	
Hardware item 2	2.0	X	X	X	X	
Hardware item 3	3.0	X	X	X	X	X
Hardware item 4	4.0	X	X	X	X	X
Hardware item 5	5.0	X	X	X	X	X
Hardware Mass Total ("Dry Mass")	15.0					
Consumable / Fluid 1	6.0	X	X	X		
Consumable / Fluid 2	7.0	X	X	X	X	
Consumable / Fluid 3	8.0	X	X	X	X	
Consumable / Fluid 4	9.0	X	X	X	X	X
Consumable / Fluid 5	10.0	X	X	X	X	X
Fluid Mass Total ("Wet Mass")	40.0					

- ◆ Interface Summary:
 - Internal Interface changes (inside the vehicle): C3I router will perform signal processing
 - External Interface changes (between vehicles): CTN / Orion