



# Launch Mission Execution Forecast



**Mission:** ASTRA VCLS DEMO 2

**Issued:** 4 Feb 2022 / 0800L (1300Z)

**Valid:** 5 Feb 2022 / 1300 – 1600L (1800 – 2100Z)

**Forecast Discussion:** One last dry and warm day today before a weak cool front moves through before launch tomorrow morning. This front is forecast to move through sometime between 04-09L. This will bring rain showers in the morning extending into the early part of the count, and switch winds around from the north increasing to 15-20kt behind the front before the window. This is expected to bring some weather violations during the early part of the count, with just a deck of lower more stratocumulus clouds and a slight potential for some light lingering rain showers nearby into the early part of the launch window. Therefore, the primary concerns for launch are the Cumulus Cloud Rule and Liftoff Winds. For the backup forecast, a surface low develops off the coast of the Spaceport along the frontal boundary, leaving a higher chance for more convective rain showers. Therefore, the backup day POV has been increased with the primary concerns being the Cumulus Cloud Rule and Surface Electric Fields Rule.

		Probability of Violating Weather Constraints						
<b>Launch Day</b>	<b>40%</b>	<b>Primary Concerns:</b> Cumulus Cloud Rule, Liftoff Winds						
	<b>Weather Conditions</b>				<b>Additional Risk Criteria</b>			
	<b>Weather/Visibility:</b>	Few Showers / 7 mi.	<b>Clouds</b>				<b>Upper-Level Wind Shear:</b>	Low
	<b>Temp/Humidity:</b>	66°F / 90%	Type	Coverage	Base (ft)	Tops (ft)	<b>Solar Activity:</b>	N/A
<b>Liftoff Winds (30'):</b>	360° 15 - 20 kts	Cumulus	Few	2,000	9,000			
		Stratocumulus	Overcast	2,000	6,000			
<b>24-Hour Delay</b>	<b>Probability of Violating Weather Constraints</b>							
	<b>60%</b>	<b>Primary Concerns:</b> Cumulus Cloud Rule, Surface Electric Fields Rule						
	<b>Weather Conditions</b>				<b>Additional Risk Criteria</b>			
	<b>Weather/Visibility:</b>	Sct. Showers / 7 mi.	<b>Clouds</b>				<b>Upper-Level Wind Shear:</b>	Low
<b>Temp/Humidity:</b>	67°F / 86%	Type	Coverage	Base (ft)	Tops (ft)	<b>Solar Activity:</b>	N/A	
<b>Liftoff Winds (30'):</b>	350° 7 - 12 kts	Cumulus	Scattered	3,000	16,000			
		Altostratus	Scattered	12,000	15,000			

**Note:** The Probability of Violation (POV) is the chance that a Lightning Launch Commit Criteria (LLCC) or certain user constraints (surface winds, precipitation, and temperatures, etc.) will be violated during the launch window. It does not take into account upper-level wind shear, booster recovery weather, and solar activity.

**Next Forecast Will Be Issued** | As required