EchoStar 105/SES-11 Mission

Mission Overview

SpaceX's Falcon 9 rocket will deliver EchoStar 105/SES-11, a commercial communications satellite, to a Geostationary Transfer Orbit (GTO).

SpaceX is targeting launch of EchoStar 105/SES-11 from Launch Complex 39A (LC-39A) at NASA's Kennedy Space Center, Florida. The two-hour launch window opens on Wednesday, October 11 at 6:53 p.m. EDT, or 22:53 UTC. A two-hour backup launch window opens on Thursday, October 12 at 6:53 p.m. EDT, or 22:53 UTC. The satellite will be deployed approximately 36 minutes after liftoff.

Falcon 9's first stage for the EchoStar 105/SES-11 mission previously supported SpaceX's 10th resupply mission to the International Space Station (CRS-10) in February of this year.

Official SpaceX EchoStar 105/SES-11 mission patch

Following stage separation, Falcon 9's first stage will attempt a landing on the "Of Course I Still Love You" droneship, which will be stationed in the Atlantic Ocean.

Payload

EchoStar 105/SES-11, a high-powered hybrid Ku and C-band communications satellite, is a dual-mission satellite for US-based operator EchoStar and Luxembourg-based operator SES. EchoStar 105/SES-11 provides EchoStar with 24 Ku-band transponders of 36 MHz, marketed as EchoStar 105, while it provides SES with a C-band payload of 24 transponders, marketed under the name SES-11. EchoStar 105/SES-11 replaces Ku-band capacity for AMC-15 and C-band capacity for AMC-18 at SES' well-established 105 degrees West orbital slot.

EchoStar 105 was tailored to meet the Ku-band capacity needs of EchoStar's enterprise, media and broadcast, and U.S. government service provider customers, offering coverage of the 50 U.S. states and expanded reach to the Gulf of Mexico and the Caribbean.

SES-11, designed to accelerate the development of SES's U.S. prime video neighborhood and the delivery of High definition (HD) and ultra-high definition (UHD) channels, joins SES-1 and SES-3 at the center of SES's robust North American orbital arc, which reaches more than a hundred million TV homes. It also replaces C-band capacity for AMC-18, which SES offers over North America, including Hawaii, Mexico and the Caribbean, empowering businesses and governments to capture new opportunities and expand their reach.

Mission Timeline (all times approximate)

COUNTDOWN

Hour/Min/Sec	Events
- 01:13:00	SpaceX Launch Director verifies go for propellant load
- 01:10:00	RP-1 (rocket grade kerosene) loading underway
- 00:35:00	LOX (liquid oxygen) loading underway
- 00:07:00	Falcon 9 begins engine chill prior to launch
- 00:01:00	Flight computer commanded to begin final prelaunch checks
- 00:01:00	Propellant tank pressurization to flight pressure begins
- 00:00:45	SpaceX Launch Director verifies go for launch
- 00:00:03	Engine controller commands engine ignition sequence to start
00:00:00	Falcon 9 liftoff

LAUNCH AND SATELLITE DEPLOYMENT

Hour/Min/Sec	Events
00:01:18	Max Q (moment of peak mechanical stress on the rocket)
00:02:35	1st stage main engine cutoff (MECO)
00:02:38	1st and 2nd stages separate
00:02:40	2nd stage engine starts
00:03:40	Fairing deployment
00:06:24	1st stage entry burn
00:08:33	1st stage landing
00:08:38	2nd stage engine cutoff (SECO-1)
00:26:59	2nd stage engine restarts
00:27:58	2nd stage engine cutoff (SECO-2)
00:36:07	EchoStar 105/SES-11 satellite deployment

Launch Facility

Launch Complex 39A at Kennedy Space Center, Florida

Launch Complex 39A (LC-39A) at Kennedy Space Center has a history dating back to the early 1960s. Originally built to support the Apollo program, LC-39A supported the first Saturn V launch (Apollo 4), and many subsequent Apollo missions, including Apollo 11 in July 1969. Beginning in the late 1970s, LC-39A was modified to support space shuttle launches, hosting the first and last shuttle missions to orbit in 1981 and 2011, respectively.

In 2014, SpaceX signed a 20-year lease with NASA for the use of Launch Complex 39A. Since then, the company has made significant upgrades to modernize the pad's structures and ground systems, while preserving its important heritage. Extensive modifications to LC-39A have been made to support launches of both the Falcon 9 and Falcon Heavy launch vehicles. These upgrades will also enable the pad to serve as the complex from which SpaceX will launch crew rotation missions to and from the International Space Station for NASA's Commercial Crew Program.

Resources

SpaceX Contact | John Taylor, Director of Communications, 310-363-6703, media@spacex.com.
Photos | High-resolution photos will be posted at flickr.com/spacex.
Webcast | Launch webcast will go live about 15 minutes before liftoff at spacex.com/webcast.