

Application

HawkEye 360, Inc. (“HE360”) seeks special temporary authority to conduct on-the-ground testing at the SpaceX Payload Processing Facility (PPF) at Cape Canaveral Space Force Station (CCSFS) in Cape Canaveral, Florida. Testing is required to validate, prior to launch, the operations of communication systems that will fly on the HawkEye 360 Cluster 8 and Cluster 9 spacecraft.

Purpose and Objectives

HE360 is a Delaware corporation providing geospatial analytics, with its headquarters and operations located in Herndon, Virginia. The HE360 Constellation is a U.S.-licensed system (Call Sign S3042) used to receive and sense RF spectrum and survey and map usage of certain radio frequencies within the electromagnetic spectrum. The Hawk-8A, Hawk-8B, and Hawk-8C (collectively, “Cluster 8”) and Hawk-9A, Hawk-9B, and Hawk-9C (collectively, “Cluster 9”) spacecraft are launching on the SpaceX Bandwagon-1 Mission, with a launch window opening on March 15, 2024. Prior to integration with the launch vehicle, HE360 intends to perform over-the-air (OTA) testing of the communications systems on the Cluster 8 and Cluster 9 spacecraft. This time-limited, intermittent testing will validate the functionality of the communications links for the six HE360 spacecraft.

The testing will take place indoors at SpaceX’s PPF at CCSFS, located at 23.544 °N, 80.591 °W. The ground tests will verify proper transmission and reception of payload telemetry and communications. Each of the 6 spacecraft have an estimated time of no more than 2 hours of testing. All of the proposed testing is expected to take place over approximately 2 working days in mid-March, 2024. Accordingly, HE360 seeks expedited action on the application for STA.

A summary table of the transmissions for the 6 spacecraft is included, below.

Table 1: Communication Links

System	Description	Communications Links					
		Bus TT&C Receive	Bus TT&CX Transmit	Bus TT&CS Transmit	Payload Receive	Payload Transmit 1	Payload Transmit 2
Receiver	Manufacturer	Rigol	UTIAS-SFL	UTIAS-SFL	Ettus Research	Syrlinks	Syrlinks
	Model	DSG836	SFL-GEN-COM-XFE v1	SFL-GNB-COM-STX A2.3	N310	EWC-27	N-XONOS
Antenna	Manufacturer	RFSpace	UTIAS SFL	UTIAS-SFL	RFSpace	Endurosat	Endurosat
	Model	TSA900	SFL-GNB-COM-XPA	SFL-GNB-COM-SPA	TSA900	X-Band 2x2 Patch Array	X-Band 4x4 Patch Array
Antenna Characteristics	Directional? (Y/N)	Y	Y	Y	Y	Y	Y
	HPBW (Deg)	60	90.5	90.5	60	40	18
	Peak Gain (dBi)	6	3.4	6	6	13	17
Frequency & Emissions	Lower Frequency (MHz)	2025	8025	2200	2025	8025	8025
	Upper Frequency (MHz)	2110	8400	2290	2110	8400	8400
	Carrier Frequencies (MHz)	2052.1	8291	2242	2046.5	8075	
		2053.0	8297	2254	2049.3	8165	8090
		2053.7	8303	2260	2075	8255	8210
	Station class (Fixed/mobile)	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
	EIRP (dBW) (Peak)	-34	-2	-1.42	-34	11.91	17
	Emission Designator(s)	180KF1D	4M00G1D	4M00G1D	2M00G1D	80M0G1D	105MG1D
Modulating Signal	QPSK	QPSK	QPSK	QPSK	OQPSK	QPSK / 8PSK	

In the event that HE360 is notified that the testing is causing harmful interference to authorized operations, HE360 will cease transmissions immediately.

Stop Buzzer Contact Information

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