



**UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
RADIO STATION AUTHORIZATION**

Name: Astronics AeroSat Corporation

Call Sign: E140087

Authorization Type: Modification of License

File Number: SES-MFS-20170319-00302

Non Common Carrier

Grant date: 06/19/2017

Expiration Date: 03/13/2030



Nature of Service: Earth Station Aboard Aircraft

Nature of Service: Fixed Satellite Service

Class of Station: Other

A) Site Location(s)

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	Special Provisions NAD (Refer to Section H)
1)	AES1	Operate up to 1000 ESAA terminals 0.24 m U.S. and International			0	83
		Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.				
2)	AES2	Operate up to 1000 ESAA terminals 0.29m U.S. and International				83
		Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.				

Subject to the provisions of the Communications Act of 1934, The Communications Satellite Act of 1962, subsequent acts and treaties, and all present and future regulations made by this Commission, and further subject to the conditions and requirements set forth in this license, the grantee is authorized to construct, use and operate the radio facilities described below for radio communications for the term beginning March 13, 2015 (3 AM Eastern Standard Time) and ending March 13, 2030 (3 AM Eastern Standard Time). The required date of completion of construction and commencement of operation is June 19, 2018 (3 AM Eastern Standard Time). Grantee must file with the Commission a certification upon completion of construction and commencement of operation.

B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
1)	14000.0000-14500.0000	H,V	1M22G7D	Tx	43.71	18.86	AES1		Digital Data Services
2)	14000.0000-14500.0000	H,V	2M43G7D	Tx	43.42	15.58	AES1		Digital Data Services
3)	14000.0000-14500.0000	H,V	4M80G7D	Tx	45.00	14.20	AES1		Digital Data Services
4)	14000.0000-14500.0000	H,V	4M86G7D	Tx	43.87	16.03	AES1		Digital Data Services



UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

RADIO STATION AUTHORIZATION

Name: Astronics AeroSat Corporation

Call Sign: E140087

Authorization Type: Modification of License

File Number: SES-MFS-20170319-00302

Non Common Carrier

Grant date: 06/19/2017

Expiration Date: 03/13/2030

B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
5)	14000.0000-14500.0000	H, V	4M89G7D	Tx	43.69	18.83	AES1		Digital Data Services
6)	14000.0000-14500.0000	H, V	4M94G7D	Tx	42.90	18.00	AES1		Digital Data Services
7)	14000.0000-14500.0000	H, V	5M40G7D	Tx	44.93	14.42	AES1		Digital Data Services
8)	14000.0000-14500.0000	H, V	6M00G7D	Tx	45.18	14.21	AES1		Digital Data Services
9)	14000.0000-14500.0000	H, V	7M20G7D	Tx	44.88	12.66	AES1		Digital Data Services
10)	14000.0000-14500.0000	H, V	7M92G7D	Tx	43.99	11.82	AES1		Digital Data Services
11)	14000.0000-14500.0000	H, V	8M00G7D	Rx	45.17	12.95	AES1		Digital Data Services
12)	14000.0000-14500.0000	H, V	929KG7D	Tx	42.65	18.99	AES1		Digital Data Services
13)	14000.0000-14500.0000	H, V	9M00G7D	Tx	45.14	12.41	AES1		Digital Data Services
14)	14000.0000-14500.0000	H, V	9M72G7D	Tx	43.87	16.03	AES1		Digital Data Services
15)	12500.0000-12750.0000	H, V	2M00G7D	Rx			AES1		Digital Data Services
16)	12500.0000-12750.0000	H, V	36M0G7D	Rx			AES1		Digital Data Services
17)	12500.0000-12750.0000	H, V	54M0G7D	Rx			AES1		Digital Data Services
18)	12500.0000-12750.0000	H, V	5M50G7D	Rx			AES1		Digital Data Services
19)	12500.0000-12750.0000	H, V	8M10G7D	Rx			AES1		Digital Data Services
20)	12500.0000-12600.0000	H, V	48M6G7D	Rx			AES1		Digital Data Services
21)	12500.0000-12600.0000	H, V	54M0G7D	Rx			AES1		Digital Data Services
22)	12250.0000-12750.0000	H, V	25M0G7D	Rx			AES1		Digital Data Services
23)	12250.0000-12750.0000	H, V	27M0G7D	Rx			AES1		Digital Data Services
24)	12250.0000-12750.0000	H, V	3M90G7D	Rx			AES1		Digital Data Services
25)	12250.0000-12750.0000	H, V	54M0G7D	Rx			AES1		Digital Data Services
26)	12200.0000-12750.0000	H, V	27M0G7D	Rx			AES1		Digital Data Services
27)	11700.0000-12200.0000	H, V	10M9G7D	Rx			AES1		Digital Data Services
28)	11700.0000-12200.0000	H, V	25M0G7D	Rx			AES1		Digital Data Services



UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

RADIO STATION AUTHORIZATION

Name: Astronics AeroSat Corporation

Call Sign: E140087

Authorization Type: Modification of License

File Number: SES-MFS-20170319-00302

Non Common Carrier

Grant date: 06/19/2017

Expiration Date: 03/13/2030

B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
29)	11700.0000-12200.0000	H, V	28M6G7D	Rx			AES1		Digital Data Services
30)	11700.0000-12200.0000	H, V	36M0G7D	Rx			AES1		Digital Data Services
31)	11700.0000-12200.0000	H, V	5M69G7D	Rx			AES1		Digital Data Services
32)	11700.0000-12200.0000	H, V	8M00G7D	Rx			AES1		Digital Data Services
33)	11450.0000-12750.0000	H, V	8M00G7D	Rx			AES1		Digital Data Services
34)	11450.0000-12200.0000	H, V	48M6G7D	Rx			AES1		Digital Data Services
35)	11450.0000-12200.0000	H, V	54M0G7D	Rx			AES1		Digital Data Services
36)	11450.0000-12200.0000	H, V	54M0G7D	Rx			AES1		Digital Data Services
37)	11450.0000-11700.0000	H, V	17M5G7D	Rx			AES1		Digital Data Services
38)	11450.0000-11700.0000	H, V	25M0G7D	Rx			AES1		Digital Data Services
39)	11450.0000-11700.0000	H, V	36M0G7D	Rx			AES1		Digital Data Services
40)	10950.0000-12500.0000	H, V	54M0G7D	Rx			AES1		Digital Data Services
41)	10950.0000-12200.0000	H, V	46M5G7D	Rx			AES1		Digital Data Services
42)	10950.0000-11700.0000	H, V	54M0G7D	Rx			AES1		Digital Data Services
43)	10950.0000-11200.0000	H, V	10M9G7D	Rx			AES1		Digital Data Services
44)	10950.0000-11200.0000	H, V	25M0G7D	Rx			AES1		Digital Data Services
45)	10950.0000-11200.0000	H, V	48M6G7D	Rx			AES1		Digital Data Services
46)	10950.0000-11200.0000	H, V	54M0G7D	Rx			AES1		Digital Data Services
47)	10700.0000-12750.0000	H, V	27M6G7D	Rx			AES1		Digital Data Services
48)	14000.0000-14500.0000	H, V	4M92G7D	Tx	36.81	6.71	AES2		Digital Data Services
49)	14000.0000-14500.0000	H, V	8M00G7D	Tx	41.49	8.49	AES2		Digital Data Services
50)	14000.0000-14500.0000	H, V	9M00G7D	Tx	41.49	7.95	AES2		Digital Data Services
51)	12500.0000-12750.0000	H, V	20M0G7D	Rx			AES2		Digital Data Services
52)	12500.0000-12750.0000	H, V	36M0G7D	Rx			AES2		Digital Data Services



**UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
RADIO STATION AUTHORIZATION**

Name: Astronics AeroSat Corporation

Call Sign: E140087

Authorization Type: Modification of License

File Number: SES-MFS-20170319-00302

Non Common Carrier

Grant date: 06/19/2017

Expiration Date: 03/13/2030

B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
53)	12500.0000-12750.0000	H, V	36M0G7D	Rx			AES2		Digital Data Services
54)	12500.0000-12750.0000	H, V	54M0G7D	Rx			AES2		Digital Data Services
55)	12500.0000-12600.0000	H, V	48M6G7D	Rx			AES2		Digital Data Services
56)	12500.0000-12600.0000	H, V	54M0G7D	Rx			AES2		Digital Data Services
57)	12250.0000-12750.0000	H, V	16M0G7D	Rx			AES2		Digital Data Services
58)	12250.0000-12750.0000	H, V	16M5G7D	Rx			AES2		Digital Data Services
59)	12250.0000-12750.0000	H, V	36M0G7D	Rx			AES2		Digital Data Services
60)	12250.0000-12750.0000	H, V	54M0G7D	Rx			AES2		Digital Data Services
61)	12200.0000-12750.0000	H, V	18M0G7D	Rx			AES2		Digital Data Services
62)	12200.0000-12750.0000	H, V	23M8G7D	Rx			AES2		Digital Data Services
63)	12200.0000-12750.0000	H, V	27M0G7D	Rx			AES2		Digital Data Services
64)	12200.0000-12750.0000	H, V	5M25G7D	Rx			AES2		Digital Data Services
65)	12200.0000-12750.0000	H, V	9M28G7D	Rx			AES2		Digital Data Services
66)	11700.0000-12200.0000	H, V	36M0G7D	Rx			AES2		Digital Data Services
67)	11450.0000-12750.0000	H, V	24M0G7D	Rx			AES2		Digital Data Services
68)	11450.0000-12200.0000	H, V	24M0G7D	Rx			AES2		Digital Data Services
69)	11450.0000-12200.0000	H, V	2M94G7D	Rx			AES2		Digital Data Services
70)	11450.0000-12200.0000	H, V	48M6G7D	Rx			AES2		Digital Data Services
71)	11450.0000-11700.0000	H, V	17M5G7D	Rx			AES2		Digital Data Services
72)	11450.0000-11700.0000	H, V	18M0G7D	Rx			AES2		Digital Data Services
73)	11450.0000-11700.0000	H, V	23M8G7D	Rx			AES2		Digital Data Services
74)	11450.0000-11700.0000	H, V	24M0G7D	Rx			AES2		Digital Data Services
75)	11450.0000-11700.0000	H, V	31M3G7D	Rx			AES2		Digital Data Services
76)	11450.0000-11700.0000	H, V	36M0G7D	Rx			AES2		Digital Data Services



UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

RADIO STATION AUTHORIZATION

Name: Astronics AeroSat Corporation

Call Sign: E140087

Authorization Type: Modification of License

File Number: SES-MFS-20170319-00302

Non Common Carrier

Grant date: 06/19/2017

Expiration Date: 03/13/2030

B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
77)	11450.0000-11700.0000	H, V	5M25G7D	Rx			AES2		Digital Data Services
78)	11450.0000-11700.0000	H, V	9M28G7D	Rx			AES2		Digital Data Services
79)	10950.0000-12500.0000	H, V	54M0G7D	Rx			AES2		Digital Data Services
80)	10950.0000-12200.0000	H, V	54M0G7D	Rx			AES2		Digital Data Services
81)	10950.0000-11700.0000	H, V	18M0G7D	Rx			AES2		Digital Data Services
82)	10950.0000-11700.0000	H, V	31M2G7D	Rx			AES2		Digital Data Services
83)	10950.0000-11700.0000	H, V	54M0G7D	Rx			AES2		Digital Data Services
84)	10950.0000-11200.0000	H, V	16M5G7D	Rx			AES2		Digital Data Services
85)	10950.0000-11200.0000	H, V	23M8G7D	Rx			AES2		Digital Data Services
86)	10950.0000-11200.0000	H, V	24M0G7D	Rx			AES2		Digital Data Services
87)	10950.0000-11200.0000	H, V	2M94G7D	Rx			AES2		Digital Data Services
88)	10950.0000-11200.0000	H, V	36M0G7D	Rx			AES2		Digital Data Services
89)	10950.0000-11200.0000	H, V	48M6G7D	Rx			AES2		Digital Data Services
90)	10950.0000-11200.0000	H, V	54M0G7D	Rx			AES2		Digital Data Services
91)	10950.0000-11200.0000	H, V	5M25G7D	Rx			AES2		Digital Data Services
92)	10950.0000-11200.0000	H, V	9M28G7D	Rx		0.00	AES2		Digital Data Services
93)	10700.0000-12750.0000	H, V	36M0G7D	Rx			AES2		Digital Data Services

C) Frequency Coordination Limits

#	Frequency Limits (MHz)	Satellite Arc (Deg. Long.)		Elevation (Degrees)		Azimuth (Degrees)		Max EIRP Density toward Horizon (dBW/4kHz)	Associated Antenna(s)
		East Limit	West Limit	East Limit	West Limit	East Limit	West Limit		
1)	12500.0000-12750.0000	10.0E	10.0E	05.0	05.0	000.0	360.0	0	AES1
2)	14000.0000-14500.0000	10.0E	10.0E	05.0	05.0	000.0	360.0	4.67	AES1
3)	10950.0000-11700.0000	70.5E	70.5E	05.0	05.0	000.0	360.0	0	AES1



UNITED STATES OF AMERICA
 FEDERAL COMMUNICATIONS COMMISSION
RADIO STATION AUTHORIZATION

Name: Astronics AeroSat Corporation

Call Sign: E140087

Authorization Type: Modification of License

File Number: SES-MFS-20170319-00302

Non Common Carrier

Grant date: 06/19/2017

Expiration Date: 03/13/2030

C) Frequency Coordination Limits

#	Frequency Limits (MHz)	Satellite Arc (Deg. Long.)		Elevation (Degrees)		Azimuth (Degrees)		Max EIRP Density toward Horizon (dBW/4kHz)	Associated Antenna(s)
		East Limit	West Limit	East Limit	West Limit	East Limit	West Limit		
4)	12500.0000-12750.0000	70.5E	70.5E	05.0	05.0	000.0	360.0		AES1
5)	14000.0000-14500.0000	70.5E	70.5E	05.0	05.0	000.0	360.0	6.13	AES1
6)	11700.0000-12200.0000	114.9W	114.9W	05.0	05.0	000.0	360.0		AES1
7)	14000.0000-14500.0000	114.9W	114.9W	05.0	05.0	000.0	360.0	4.81	AES1
8)	12500.0000-12750.0000	85.2E	85.2E	05.0	05.0	000.0	360.0		AES1
9)	14000.0000-14500.0000	85.2E	85.2E	05.0	05.0	000.0	360.0	5.93	AES1
10)	10950.0000-12200.0000	50.0W	50.0W	05.0	05.0	000.0	360.0		AES1
11)	14000.0000-14500.0000	50.0W	50.0W	05.0	05.0	000.0	360.0	4.58	AES1
12)	12250.0000-12750.0000	132.0E	132.0E	05.0	05.0	000.0	360.0		AES1
13)	14000.0000-14500.0000	132.0E	132.0E	05.0	05.0	000.0	360.0	4.7	AES1
14)	11450.0000-11700.0000	95.0E	95.0E	05.0	05.0	000.0	360.0		AES1
15)	12500.0000-12750.0000	95.0E	95.0E	05.0	05.0	000.0	360.0	0	AES1
16)	14000.0000-14500.0000	95.0E	95.0E	05.0	05.0	000.0	360.0	4.87	AES1
17)	12200.0000-12750.0000	144.0E	144.0E	05.0	05.0	000.0	360.0		AES1
18)	14000.0000-14500.0000	144.0E	144.0E	05.0	05.0	000.0	360.0	3.73	AES1
19)	10950.0000-12200.0000	15.0W	15.0W	05.0	05.0	000.0	360.0	0	AES1
20)	14000.0000-14500.0000	15.0W	15.0W	05.0	05.0	000.0	360.0	2.6	AES1
21)	10950.0000-11200.0000	183.0E	183.0E	05.0	05.0	000.0	360.0	0	AES1
22)	11450.0000-11700.0000	183.0E	183.0E	05.0	05.0	000.0	360.0	0	AES1
23)	14000.0000-14500.0000	90.0E	90.0E	05.0	05.0	000.0	360.0	4.69	AES1
24)	14000.0000-14500.0000	183.0E	183.0E	05.0	05.0	000.0	360.0	4.81	AES1
25)	10950.0000-11200.0000	90.0E	90.0E	05.0	05.0	000.0	360.0	0	AES1
26)	11450.0000-12750.0000	90.0E	90.0E	05.0	05.0	000.0	360.0		AES1
27)	14000.0000-14500.0000	154.0E	154.0E	05.0	05.0	000.0	360.0	6.01	AES1
28)	10950.0000-11200.0000	8.0W	177.0W	05.0	05.0	000.0	360.0		AES1
29)	11450.0000-12200.0000	8.0W	177.0W	05.0	05.0	000.0	360.0		AES1
30)	10950.0000-11200.0000	60.0E	60.0E	05.0	05.0	000.0	360.0		AES1
31)	11450.0000-11700.0000	154.0E	154.0E	05.0	05.0	000.0	360.0		AES1
32)	11450.0000-12200.0000	60.0E	60.0E	05.0	05.0	000.0	360.0		AES1
33)	11700.0000-12200.0000	99.0W	99.0W	05.0	05.0	000.0	360.0		AES1
34)	12250.0000-12750.0000	105.5E	105.5E	05.0	05.0	000.0	360.0		AES1
35)	12500.0000-12600.0000	60.0E	60.0E	05.0	05.0	000.0	360.0		AES1
36)	14000.0000-14500.0000	8.0W	177.0W	05.0	05.0	000.0	360.0	8.69	AES1
37)	14000.0000-14500.0000	60.0E	60.0E	05.0	05.0	000.0	360.0	6.54	AES1



UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
RADIO STATION AUTHORIZATION

Name: Astronics AeroSat Corporation

Call Sign: E140087

Authorization Type: Modification of License

File Number: SES-MFS-20170319-00302

Non Common Carrier

Grant date: 06/19/2017

Expiration Date: 03/13/2030

C) Frequency Coordination Limits

#	Frequency Limits (MHz)	Satellite Arc (Deg. Long.)		Elevation (Degrees)		Azimuth (Degrees)		Max EIRP Density toward Horizon (dBW/4kHz)	Associated Antenna(s)
		East Limit	West Limit	East Limit	West Limit	East Limit	West Limit		
38)	14000.0000-14500.0000	99.0W	99.0W	05.0	05.0	000.0	360.0	8.69	AES1
39)	14000.0000-14500.0000	105.5E	105.5E	05.0	05.0	000.0	360.0	6.39	AES1
40)	11700.0000-12200.0000	107.3W	107.3W	05.0	05.0	000.0	360.0	0	AES1
41)	14000.0000-14500.0000	107.3W	107.3W	05.0	05.0	000.0	360.0	2.73	AES1
42)	10700.0000-12750.0000	134.0E	134.0E	05.0	05.0	000.0	360.0	0	AES1
43)	14000.0000-14500.0000	134.0E	134.0E	05.0	05.0	000.0	360.0	6.34	AES1
44)	11450.0000-12200.0000	100.5E	100.5E	05.0	05.0	000.0	360.0		AES1
45)	14000.0000-14500.0000	100.5E	100.5E	05.0	05.0	000.0	360.0	4.7	AES1
46)	11450.0000-12200.0000	100.5E	100.5E	05.0	05.0	000.0	360.0	0	AES2
47)	14000.0000-14500.0000	100.5E	100.5E	05.0	05.0	000.0	360.0	-1.52	AES2
48)	12500.0000-12750.0000	10.0E	10.0E	05.0	05.0	000.0	360.0	0	AES2
49)	14000.0000-14500.0000	10.0E	10.0E	05.0	05.0	000.0	360.0	-1.22	AES2
50)	10950.0000-11700.0000	70.5E	70.5E	05.0	05.0	000.0	360.0	0	AES2
51)	12500.0000-12750.0000	70.5E	70.5E	05.0	05.0	000.0	360.0	0	AES2
52)	14000.0000-14500.0000	70.5E	70.5E	05.0	05.0	000.0	360.0	-1.72	AES2
53)	11700.0000-12200.0000	114.9W	114.9W	05.0	05.0	000.0	360.0	0	AES2
54)	14000.0000-14500.0000	114.9W	114.9W	05.0	05.0	000.0	360.0	-2.32	AES2
55)	12500.0000-12750.0000	85.2E	85.2E	05.0	05.0	000.0	360.0	0	AES2
56)	14000.0000-14500.0000	85.2E	85.2E	05.0	05.0	000.0	360.0	-1.02	AES2
57)	14000.0000-14500.0000	183.0E	183.0E	05.0	05.0	000.0	360.0	-1.52	AES2
58)	10950.0000-11200.0000	90.0E	90.0E	05.0	05.0	000.0	360.0		AES2
59)	11450.0000-12750.0000	90.0E	90.0E	05.0	05.0	000.0	360.0		AES2
60)	14000.0000-14500.0000	90.0E	90.0E	05.0	05.0	000.0	360.0	-1.52	AES2
61)	10950.0000-11200.0000	37.5W	37.5W	05.0	05.0	000.0	360.0		AES2
62)	12250.0000-12750.0000	37.5W	37.5W	05.0	05.0	000.0	360.0		AES2
63)	14000.0000-14500.0000	37.5W	37.5W	05.0	05.0	000.0	360.0	-1.02	AES2
64)	11450.0000-11700.0000	45.0W	45.0W	05.0	05.0	000.0	360.0		AES2
65)	14000.0000-14500.0000	45.0W	45.0W	05.0	05.0	000.0	360.0	-1.92	AES2
66)	10950.0000-11200.0000	172.0E	172.0E	05.0	05.0	000.0	360.0		AES2
67)	11450.0000-11700.0000	172.0E	172.0E	05.0	05.0	000.0	360.0		AES2
68)	11450.0000-11700.0000	183.0E	183.0E	05.0	05.0	000.0	360.0	0	AES2
69)	12250.0000-12750.0000	132.0E	132.0E	05.0	05.0	000.0	360.0	0	AES2
70)	14000.0000-14500.0000	132.0E	132.0E	05.0	05.0	000.0	360.0	-1.92	AES2
71)	11450.0000-11700.0000	95.0E	95.0E	05.0	05.0	000.0	360.0		AES2



UNITED STATES OF AMERICA
 FEDERAL COMMUNICATIONS COMMISSION
RADIO STATION AUTHORIZATION

Name: Astronics AeroSat Corporation

Call Sign: E140087

Authorization Type: Modification of License

File Number: SES-MFS-20170319-00302

Non Common Carrier

Grant date: 06/19/2017

Expiration Date: 03/13/2030

C) Frequency Coordination Limits

#	Frequency Limits (MHz)	Satellite Arc (Deg. Long.)		Elevation (Degrees)		Azimuth (Degrees)		Max EIRP Density toward Horizon (dBW/4kHz)	Associated Antenna(s)
		East Limit	West Limit	East Limit	West Limit	East Limit	West Limit		
72)	12500.0000-12750.0000	95.0E	95.0E	05.0	05.0	000.0	360.0	0	AES2
73)	14000.0000-14500.0000	95.0E	95.0E	05.0	05.0	000.0	360.0	-1.72	AES2
74)	12200.0000-12750.0000	144.0E	144.0E	05.0	05.0	000.0	360.0	0	AES2
75)	14000.0000-14500.0000	144.0E	144.0E	05.0	05.0	000.0	360.0	-1.52	AES2
76)	10950.0000-12200.0000	15.0W	15.0W	05.0	05.0	000.0	360.0	0	AES2
77)	12200.0000-12750.0000	172.0E	172.0E	05.0	05.0	000.0	360.0		AES2
78)	14000.0000-14500.0000	172.0E	172.0E	05.0	05.0	000.0	360.0	-1.52	AES2
79)	11700.0000-12200.0000	116.8W	116.8W	05.0	05.0	000.0	360.0		AES2
80)	14000.0000-14500.0000	116.8W	116.8W	05.0	05.0	000.0	360.0	-4.62	AES2
81)	11450.0000-11700.0000	76.5E	76.5E	05.0	05.0	000.0	360.0		AES2
82)	14000.0000-14500.0000	76.5E	76.5E	05.0	05.0	000.0	360.0	-1.42	AES2
83)	14000.0000-14500.0000	15.0W	15.0W	05.0	05.0	000.0	360.0	-1.52	AES2
84)	10950.0000-11200.0000	183.0E	183.0E	05.0	05.0	000.0	360.0		AES2
85)	11700.0000-12200.0000	107.3W	107.3W	05.0	05.0	000.0	360.0	0	AES2
86)	14000.0000-14500.0000	107.3W	107.3W	05.0	05.0	000.0	360.0	-1.42	AES2
87)	10700.0000-12750.0000	134.0E	134.0E	05.0	05.0	000.0	360.0	0	AES2
88)	14000.0000-14500.0000	134.0E	134.0E	05.0	05.0	000.0	360.0	-1.52	AES2
89)	10950.0000-12200.0000	50.0W	50.0W	05.0	05.0	000.0	360.0	0	AES2
90)	14000.0000-14500.0000	50.0W	50.0W	05.0	05.0	000.0	360.0	-2.92	AES2
91)	14000.0000-14500.0000	8.0W	177.0W	05.0	05.0	000.0	360.0	-1.02	AES2
92)	14000.0000-14500.0000	60.0E	60.0E	05.0	05.0	000.0	360.0	-1.96	AES2
93)	10950.0000-11200.0000	60.0E	60.0E	05.0	05.0	000.0	360.0		AES2
94)	14000.0000-14500.0000	99.0W	99.0W	05.0	05.0	000.0	360.0	-2.29	AES2
95)	14000.0000-14500.0000	105.5E	105.5E	05.0	05.0	000.0	360.0	-2.12	AES2
96)	14000.0000-14500.0000	154.0E	154.0E	05.0	05.0	000.0	360.0	-2.49	AES2
97)	10950.0000-11200.0000	8.0W	177.0W	05.0	05.0	000.0	360.0		AES2
98)	11450.0000-11700.0000	154.0E	154.0E	05.0	05.0	000.0	360.0		AES2
99)	11450.0000-12200.0000	8.0W	177.0W	05.0	05.0	000.0	360.0		AES2
100)	11450.0000-12200.0000	60.0E	60.0E	05.0	05.0	000.0	360.0		AES2
101)	11700.0000-12200.0000	99.0W	99.0W	05.0	05.0	000.0	360.0		AES2
102)	12250.0000-12750.0000	105.5E	105.5E	05.0	05.0	000.0	360.0		AES2
103)	12500.0000-12600.0000	60.0E	60.0E	05.0	05.0	000.0	360.0		AES2



UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
RADIO STATION AUTHORIZATION

Name: Astronics AeroSat Corporation

Call Sign: E140087

Authorization Type: Modification of License

File Number: SES-MFS-20170319-00302

Non Common Carrier

Grant date: 06/19/2017

Expiration Date: 03/13/2030

D) Points of Communications

The following stations located in the Satellite orbits consistent with Sections B and C of this Entry:

- 1) AES1 to Apstar 7 (M090165) @ 76.5 degrees E.L. (China-licensed)
- 2) AES1 to GALAXY 3C (S2381) @ 95.05 W.L. (U.S.-licensed)
- 3) AES1 to INTELSAT 14 (S2785) @ 45 degrees W.L. (U.S.-licensed)
- 4) AES1 to EUTELSAT 117WA (S2873) @ 116.8 degrees W.L. (formerly SATMEX 8) (Mexico-licensed)
- 5) AES1 to INTELSAT 22 (S2846) @ 72.1 degrees E.L. (U.S.-licensed)
- 6) AES1 to INTELSAT 19 (S2850) @ 166.0 degrees E.L. (U.S.-licensed)
- 7) AES1 to TELSTAR 11N (S2357) @ 37.55 degrees W.L. (U.S.-licensed)
- 8) AES1 to EUTELSAT 172A (S2610) @ 172 degrees E.L. (formerly GE-23) (U.S.-licensed)
- 9) AES1 to Estrela do Sul 2 (S2821) @ 63 degrees W.L. (Brazil-licensed)
- 10) AES1 to SUPERBIRD C2 (S2639) @ 144 degrees E.L. (Japan-licensed)
- 11) AES1 to APSTAR 6 (M292090) @ 226 degrees W.L. (China-licensed)
- 12) AES1 to Eutelsat 10A (W2A) (M0311) @ 10 degrees E.L. (France-licensed)
- 13) AES1 to JCSAT 5A (M063130) @ 132 degrees E.L. (Japan-licensed)
- 14) AES1 to TELSTAR 12V (S2933) @ 15 degrees W.L. (U.S.-licensed)
- 15) AES1 to Eutelsat 70B (M090167) @ 70.5 degrees E.L. (France Licensed)
- 16) AES1 to Yamal 401 @ 90 degrees E.L. (Russia-licensed)
- 17) AES1 to ANIK G1 @ 107.3 degrees W.L. (Canada-licensed)
- 18) AES1 to INTELSAT 15 (S2789) @ 85.15 degrees E.L. (U.S.-licensed)
- 19) AES1 to ASIASAT 5 (M090163) @ 100.5 degrees E.L. (China-licensed)
- 20) AES1 to NSS-6 @ 95 degree E.L. (Netherlands-licensed)
- 21) AES1 to Yamal 300K (M174162) @ 183 degrees E.L. (Russia-licensed)
- 22) AES1 to EUTELSAT 115WB (S2938) @ 114.9 degrees W.L. (formerly SATMEX 7) (Mexico-licensed)
- 23) AES1 to INTELSAT 29e (S2913) @ 50.0 degrees W.L. (U.S.-licensed)
- 24) AES1 to INTELSAT 33e (S2939) @ 60.0 degrees E.L. (U.S.-licensed)
- 25) AES1 to ASIASAT 7 (M174161) @ 105.5 degrees E.L. (China-licensed)
- 26) AES1 to JCSAT-2B (M174163) @ 154 degrees E.L. (Japan-licensed)
- 27) AES1 to Permitted Space Station List
- 28) AES1 to GALAXY 16 (S2687) @ 99 degrees W.L. (U.S.-licensed)
- 29) AES2 to SUPERBIRD C2 (S2639) @ 144 degrees E.L. (Japan-licensed)
- 30) AES2 to EUTELSAT 117WA (S2873) @ 116.8 degrees W.L. (formerly SATMEX 8) (Mexico-licensed)
- 31) AES2 to APSTAR 6 (M292090) @ 226 degrees W.L. (China-licensed)
- 32) AES2 to Eutelsat 10A (W2A) (M0311) @ 10 degrees E.L. (France-licensed)
- 33) AES2 to JCSAT 5A (M063130) @ 132 degrees E.L. (Japan-licensed)
- 34) AES2 to TELSTAR 12V (S2933) @ 15 degrees W.L. (U.S.-licensed)
- 35) AES2 to Apstar 7 (M090165) @ 76.5 degrees E.L. (China-licensed)



UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

RADIO STATION AUTHORIZATION

Name: Astronics AeroSat Corporation

Call Sign: E140087

Authorization Type: Modification of License

File Number: SES-MFS-20170319-00302

Non Common Carrier

Grant date: 06/19/2017

Expiration Date: 03/13/2030

D) Points of Communications

The following stations located in the Satellite orbits consistent with Sections B and C of this Entry:

- 36) AES2 to Eutelsat 70B (M090167) @ 70.5 degrees E.L. (France Licensed)
- 37) AES2 to Yamal 401 @ 90 degrees E.L. (Russia-licensed)
- 38) AES2 to ANIK G1 @ 107.3 degrees W.L. (Canada-licensed)
- 39) AES2 to INTELSAT 15 (S2789) @ 85.15 degrees E.L. (U.S.-licensed)
- 40) AES2 to ASIASAT 5 (M090163) @ 100.5 degrees E.L. (China-licensed)
- 41) AES2 to TELSTAR 11N (S2357) @ 37.55 degrees W.L. (U.S.-licensed)
- 42) AES2 to NSS-6 @ 95 degree E.L. (Netherlands-licensed)
- 43) AES2 to EUTELSAT 172A (S2610) @ 172 degrees E.L. (formerly GE-23) (U.S.-licensed)
- 44) AES2 to Yamal 300K (M174162) @ 183 degrees E.L. (Russia-licensed)
- 45) AES2 to INTELSAT 14 (S2785) @ 45 degrees W.L. (U.S.-licensed)
- 46) AES2 to EUTELSAT 115WB (S2938) @ 114.9 degrees W.L. (formerly SATMEX 7) (Mexico-licensed)
- 47) AES2 to INTELSAT 29e (S2913) @ 50.0 degrees W.L. (U.S.-licensed)
- 48) AES2 to ASIASAT 7 (M174161) @ 105.5 degrees E.L. (China-licensed)
- 49) AES2 to INTELSAT 33e (S2939) @ 60.0 degrees E.L. (U.S.-licensed)
- 50) AES2 to JCSAT-2B (M174163) @ 154 degrees E.L. (Japan-licensed)
- 51) AES2 to Permitted Space Station List
- 52) AES2 to GALAXY 16 (S2687) @ 99 degrees W.L. (U.S.-licensed)

E) Antenna Facilities

Site ID	Antenna ID	Units	Diameter (meters)	Manufacturer	Model number	Site Elevation (Meters)	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
AES1	AES1	1000	0.24	Astronics AeroSat	HR6400	0	0 AGL/ 0 AMSL	
		Max Gains(s):	29.0 dBi @	14.4700 GHz	31.8 dBi @	11.7000 GHz		
		Maximum total input power at antenna flange (Watts) =				35.00		
		Maximum aggregate output EIRP for all carriers (dBW) =				45.18		
AES2	AES2	1000	0.29	ASTRONICS AEROSAT	HR129			
		Max Gains(s):	28.9 dBi @	10.7000 GHz	31.4 dBi @	14.2500 GHz		
		Maximum total input power at antenna flange (Watts) =				10.21		
		Maximum aggregate output EIRP for all carriers (dBW) =				41.49		



UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
RADIO STATION AUTHORIZATION

Name: Astronics AeroSat Corporation

Call Sign: E140087

Authorization Type: Modification of License

File Number: SES-MFS-20170319-00302

Non Common Carrier

Grant date: 06/19/2017

Expiration Date: 03/13/2030

F) Remote Control Point:

AES1	Networks Operations Center AMHERST, HILLSBOROUGH, NH 03031 1-603-879-0205	Call Sign: E030279
AES2	Networks Operations Center AMHERST, HILLSBOROUGH, NH 03031 1-603-879-0205	Call Sign: E030279

G) Antenna Structure marking and lighting requirements:

None unless otherwise specified under Special and General Provisions

H) Special and General Provisions

- A) This RADIO STATION AUTHORIZATION is granted subject to the following special provisions and general conditions:
- 4 --- Licensee must ensure that a current listing of the name, title, mailing address, email address, and telephone number of the responsible point of contact are on file at the FCC. Any changes must be filed electronically in the International Bureau Filing System (IBFS) in the "Other Filings" tab within 10 days of the change.
 - 90062 --- Operation pursuant to this authorization outside the United States in the 14.0-14.5 GHz band must be in compliance with the provisions of Annex 1, Part C of Recommendation ITU-R M.1643, with respect to any radio astronomy station performing observations in the 14.47-14.5 GHz band.
 - 90066 --- Stations authorized herein must not be used to provide air traffic control communications.
 - 90067 --- Operation in the territory or airspace of any country other than the United States must be in compliance with the applicable laws, regulations, and licensing procedures of that country, as well as with the conditions of this authorization.
 - 90075 --- Licensee is afforded 30 days from the date of release of this grant and authorization to decline this authorization as conditioned. Failure to respond within this period will constitute formal acceptance of the authorization as conditioned.
 - 90079 --- Antenna elevation for all operations must be at least 5 degrees above the geographic horizon while the aircraft is on the ground.
 - 90095 --- The licensee shall comply with any pertinent limits established by the International Telecommunication Union to protect other services allocated internationally.
 - 90104 --- For any new antenna authorized by this grant, the licensee must file with the Commission a certification including the following information: name of the licensee, file number of the application, call sign of the antenna, Site ID, date of the license and certification that the antenna model was put into operation.



UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
RADIO STATION AUTHORIZATION

Name: Astronics AeroSat Corporation

Call Sign: E140087

Authorization Type: Modification of License

File Number: SES-MFS-20170319-00302

Non Common Carrier

Grant date: 06/19/2017

Expiration Date: 03/13/2030

H) Special and General Provisions

A) This RADIO STATION AUTHORIZATION is granted subject to the following special provisions and general conditions:

- 90105 --- Authority is granted to operate this station by remote control provided that the operator is responsible for ensuring the operations are in accordance with the terms and conditions of the license and pursuant to Section 25.271 of the Commission's rules. 47 C.F.R 25.271.
- 90116 --- The licensee must maintain a U.S. point of contact available 24 hours per day, seven days per week, with the authority and ability to terminate operations authorized herein. The licensee shall have available, at all times, the technical personnel necessary to perform supervision of remote station operations.
- 90122 --- The earth stations in this blanket license are operated by remote control. The remote control point is a material term of the license and may not be changed without prior authorization under Section 25.117 of the Commission's rules. Public Notice "The International Bureau Provides Guidance Concerning the Relocation of Earth Station Remote Control Points," DA 06-978 (rel. May 4, 2006).
- 90123 --- Operations authorized pursuant to this license are operations by U.S.-registered aircraft anywhere within the coverage area/frequency bands identified in the application for the satellites listed as points of communication. Operations authorized pursuant to this license also include operations by non-U.S.-registered aircraft within U.S. territory, including territorial waters. Authorization for operations by U.S.-registered aircraft outside U.S. territory, pursuant to this license, does not constitute a grant of access to the market in the United States under the Commission's DISCO II policies.
- 90246 --- ESAs authorized herein must employ a tracking algorithm that is resistant to capturing and tracking adjacent satellite signals, and each station must be capable of inhibiting its own transmission in the event it detects unintended satellite tracking.
- 90247 --- ESAs authorized herein must be monitored and controlled by a ground-based network control and monitoring center. Such stations must be able to receive "enable transmission" and "disable transmission" commands from the network control center and must cease transmission immediately after receiving a "parameter change" command until receiving an "enable transmission" command from the network control center. The network control center must monitor operation of each ESAA to determine if it is malfunctioning, and each ESAA must self-monitor and automatically cease transmission on detecting an operational fault that could cause harmful interference to a fixed-satellite service network.
- 90259 --- For purposes of this authorization, the term earth stations aboard aircraft, or ESAA, is used to refer to any earth station on aircraft communicating with Fixed-Satellite Service (FSS) geostationary-orbit (GSO) space stations, without reference to the technical and licensing rules specifically adopted for earth stations on aircraft in the 10.95-11.2 GHz, 11.45-11.7 GHz, 11.7-12.2 GHz, and 14.0-14.5 GHz frequency bands. See 47 C.F.R. § 25.227; Revisions to Parts 2 and 25 of the Commission's Rules to Govern the Use of Earth Stations Aboard Aircraft Communicating with Fixed-Satellite Service Geostationary-Orbit Space Stations Operating in the 10.95-11.2 GHz, 11.34-11.7 GHz, 11.7-12.2 GHz and 14.0-14.5 GHz Frequency Bands, IB Docket No. 12-376, Notice of Proposed Rulemaking and Report and Order, FCC 12-161, 27 FCC Rcd 16510 (2012); Revisions of Parts 2 and 25 of the Commission's Rules to Govern the Use of Earth Stations Aboard Aircraft Communicating with Fixed-Satellite Service Geostationary-Orbit Space Stations Operating in the 10.95-11.2 GHz, 11.45-11.7 GHz, 11.7-12.2 GHz and 14.0-14.5 GHz Frequency Bands, IB Docket No. 12-376, Second Report and Order on Reconsideration, FCC 14-45, 29 FCC Rcd 4226 (2014). Nothing in this authorization extends those technical and licensing rules to earth stations on aircraft not operating in those specified frequency bands.



UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
RADIO STATION AUTHORIZATION

Name: Astronics AeroSat Corporation

Call Sign: E140087

Authorization Type: Modification of License

File Number: SES-MFS-20170319-00302

Non Common Carrier

Grant date: 06/19/2017

Expiration Date: 03/13/2030

H) Special and General Provisions

A) This RADIO STATION AUTHORIZATION is granted subject to the following special provisions and general conditions:

- 90304 --- Operation pursuant to this authorization must be in compliance with the terms of the licensee's coordination agreements with the National Science Foundation and the National Aeronautics and Space Administration pertaining to operation of ESAA's in the Ku-Band.
- 90305 --- When operating in international airspace within line-of-sight of the territory of a foreign administration where Fixed Service networks have a primary allocation in the 14.0-14.5 GHz band, an ESAA must not produce ground-level power flux density (pfd) in such territory in excess of the following values unless the foreign administration has imposed other conditions for protecting its FS stations: $-132 + 0.5 \times \text{THETA}$ dB(W/(m² MHz)) for $\text{THETA} \leq 40^\circ$; -112 dB(W/(m² MHz)) for $40^\circ < \text{THETA} \leq 90^\circ$. Where: THETA is the angle of arrival of the radio-frequency wave in degrees above the horizontal, and the aforementioned limits relate to the pfd and angles of arrival that would be obtained under free space propagation conditions.
- 90308 --- The ESAA's are authorized to receive downlink transmissions in the 11.7-12.2 GHz frequency band from the geostationary orbit space stations listed as a point of communication in Section D above subject to the particulars of operation and identified frequencies included in Section B above and the licensee's application. Reception is authorized on a primary basis as an application of the Fixed-Satellite Service pursuant to the allocation determinations and service rules in IB Docket No.12-376 (Docket Name: Revisions to Parts 2 and 25 of the Commission's Rules to Govern the Use of Earth Stations Aboard Aircraft Communicating with Fixed-Satellite Service Geostationary Orbit Space Stations Operating in the 10.95-11.2 GHz, 11.45-11.7 GHz, 11.7-12.2 GHz and 14.0-14.5 GHz Frequency Bands). Operations must be in accordance with the Federal Communications Commission's rules not waived herein, the technical specifications contained in licensee's application, and are subject to the other conditions listed in the authorization.
- 90309 --- The ESAA's are authorized to receive downlink transmissions in the 10.95-11.2 GHz and 11.45-11.7 GHz frequency band from the geostationary orbit space stations listed as a point of communication in Section D above subject to the particulars of operation and identified frequencies included in Section B above and the licensee's application. Reception is authorized on an unprotected basis as an application of the Fixed-Satellite Service pursuant to the allocation determinations and service rules in IB Docket No.12-376 (Docket Name: Revisions to Parts 2 and 25 of the Commission's Rules to Govern the Use of Earth Stations Aboard Aircraft Communicating with Fixed-Satellite Service Geostationary Orbit Space Stations Operating in the 10.95-11.2 GHz, 11.45-11.7 GHz, 11.7-12.2 GHz and 14.0-14.5 GHz Frequency Bands). Operations must be in accordance with the Federal Communications Commission's rules not waived herein, the technical specifications contained in licensee's application, and are subject to the other conditions listed in the authorization.
- 90310 --- For each ESAA transmitter, the licensee shall maintain records of the following data for each operating ESAA, a record of the aircraft location (i.e., latitude/longitude/altitude), transmit frequency, channel bandwidth and satellite used shall be time annotated and maintained for a period of not less than one year. Records shall be recorded at time intervals no greater than one (1) minute while the ESAA is transmitting. The ESAA operator shall make this data available, in the form of a comma delimited electronic spreadsheet, within 24 hours of a request from the Commission, NTIA, or a frequency coordinator for purposes of resolving harmful interference events. A description of the units (i.e., degrees, minutes, MHz ...) in which the records values are recorded will be supplied along with the records.



UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
RADIO STATION AUTHORIZATION

Name: Astronics AeroSat Corporation

Call Sign: E140087

Authorization Type: Modification of License

File Number: SES-MFS-20170319-00302

Non Common Carrier

Grant date: 06/19/2017

Expiration Date: 03/13/2030

H) Special and General Provisions

A) This RADIO STATION AUTHORIZATION is granted subject to the following special provisions and general conditions:

- 90311 --- The ESAAs are authorized to transmit in the 14.0-14.5 GHz frequency band to the geostationary orbit space stations listed as a point of communication in Section D above subject to the particulars of operation and identified frequencies included in Section B above and the licensee's application. Such transmissions are authorized on a primary basis as an application of the Fixed-Satellite Service pursuant to the allocation determinations and service rules in IB Docket No. 12-376 (Docket Name: Revisions to Parts 2 and 25 of the Commission's Rules to Govern the Use of Earth Stations Aboard Aircraft Communicating with Fixed-Satellite Service Geostationary Orbit Space Stations Operating in the 10.95-11.2 GHz, 11.45-11.7 GHz, 11.7-12.2 GHz and 14.0-14.5 GHz Frequency Bands). Operations must be in accordance with the Federal Communications Commission's rules not waived herein, the technical specifications contained in licensee's application, and are subject to the other conditions listed in the authorization.
- 90327 --- Yamal 300K has previously been granted U.S. market access in IBFS File No. SES-MFS-20160404-00304. Operations under this authorization are limited to ESAA terminals. Gateway operations have been addressed in IBFS File No. SES-MFS-20160404-00304.
- 90388 --- The licensee shall not operate in the band 14.0-14.2 GHz within 125 km of the NASA TDRSS facilities on Guam (latitude 13°36'55" N, longitude 144°51'22" E), White Sands, New Mexico (latitude 32°20'59" N, longitude 106°36'31" W and latitude 32°32'40" N, longitude 106°36'48" W), and Blossom Point, Maryland (latitude 38° 25' 44" N.L., longitude 77° 05' 02" W.L.), unless and until the licensee enters into an agreement with NASA that NTIA has approved. The licensee must conform its operations to the terms of any coordination agreement with the NASA and must file a copy of the agreement with the Commission within 30 days of execution.
- 90389 --- Communications between ESAAs and the Anik G1 space station must be in compliance with all existing and future space station coordination agreements reached between Canada and other Administrations.
- 90391 --- Communications between ESAAs and the NSS-6 and Yamal 300K space stations must be in compliance with all existing and future space station coordination agreements reached between the Netherlands and other Administrations.
- 90393 --- Communications between ESAAs and the Yamal 401 space station must be in compliance with all existing and future space station coordination agreements reached between Russia and other Administrations.
- 90394 --- Communications between ESAAs and the Eutelsat 10A and Eutelsat 70B space stations must be in compliance with all existing and future space station coordination agreements reached between France and other Administrations.
- 90398 --- Changes to previously authorized transmitting facilities, operations and devices regulated by the Commission that may have significant environmental impact, and are not excluded by §1.1306, require the preparation of an Environmental Assessment (EA) by the licensee. (See 47 C.F.R. §§1.1307, 1.1308 and 1.1311)



UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
RADIO STATION AUTHORIZATION

Name: Astronics AeroSat Corporation

Call Sign: E140087

Authorization Type: Modification of License

File Number: SES-MFS-20170319-00302

Non Common Carrier

Grant date: 06/19/2017

Expiration Date: 03/13/2030

H) Special and General Provisions

A) This RADIO STATION AUTHORIZATION is granted subject to the following special provisions and general conditions:

- 90399 --- The licensee shall, at all times, take all necessary measures to ensure that operation of this (these) authorized earth station(s) does not create potential exposure of humans to radiofrequency radiation in excess of the FCC exposure limits defined in 47 CFR §§ 1.1307(b) and 1.1310. Physical measures must be taken to ensure compliance with limits for both occupational/controlled exposure and for general population/uncontrolled exposure, as defined in these rule sections. Compliance can be accomplished in most cases by appropriate restrictions, such as fencing. Requirements for restrictions can be determined by predictions based on calculations, modeling, or by field measurements. The FCC's OET Bulletin 65 (available on-line at www.fcc.gov/oet/rfsafety) provides information on predicting exposure levels and on methods for ensuring compliance, including the use of warning and alerting signs and protective equipment for workers.
- 90406 --- Reception of downlink transmissions is on a non-interference, non-protected basis from the following geostationary orbit space stations: Eutelsat 172A (formerly GE-23) (Call Sign: S2610) at 172° E.L. in the 10.95-11.2GHz, 11.45-11.7 GHz, and 12.2-12.75 GHz frequency band; Eutelsat 10A at 10° E.L. in the 12.5-12.75 GHz frequency band; Apstar 6 at 134.0° E.L. in the 10.7-11.7, and 12.2-12.75 GHz frequency band; Apstar 7 at 76.5° E.L. in the 11.45-11.7 GHz frequency band; Asiasat 5 in the 11.45-11.7 GHz frequency band; Superbird C2 in the 12.2-12.75 GHz frequency band; Intelsat 14 (Call Sign S2785) at 45° W.L. in the 11.45-11.7 GHz frequency band; Intelsat 15 (Call Sign S2789) at 85.0° E.L. in the 12.5-12.75 GHz frequency band; Eutelsat 70B at 70.5° E.L. in the 10.95-11.7 GHz and 12.5-12.75 GHz frequency band; JCAT-5A at 132° E.L. in the 12.25-12.75 GHz frequency band; Yamal 401 at 90° E.L. in the 10.95-11.2 GHz, 11.45-11.7 GHz and 12.2-12.75 GHz frequency band; NSS-6 at 95° E.L. in the 11.45-11.7 GHz and 12.5-12.75 GHz frequency band; IS-29e (Call Sign S2913) at 50.° W.L. in the 10.95-11.7 GHz frequency band; Telstar 11N (Call Sign S2357) at 37.5° W.L. in the 10.95-11.2 GHz and 12.5-12.75 GHz frequency band; Telstar 12V (Call Sign S2933) at 15.0° W.L. in the 10.95-11.2 GHz, and 11.45-11.7 GHz frequency band; Yamal 300K at 183.0° E.L. in the 10.95-11.2 GHz and 11.45-11.7 GHz frequency band; JCSAT-2B at 154.0° E.L. in the 11.45-11.7 GHz frequency band; and IS-33e (Call Sign S2939) at 60.0° E.L. in the 10.95-11.2 GHz, and 11.45-11.7 GHz frequency band. When receiving transmissions from these satellites in these frequency bands, the ESAA operations authorized herein must accept interference from any authorized user of the band.
- 90407 --- Reception of downlink transmissions in Region 2 is on a non-interference, non-protected basis from the following geostationary orbit space stations: AsiaSat 7 at 105.5° E.L. in the 12.25-12.75 GHz frequency band; and IS-33e (Call Sign S2939) at 60.0° E.L. in the 12.5-12.6 GHz frequency band. Operations are not authorized in these bands over the U.S. and its territories. When receiving transmissions from these space stations in these frequency bands, the ESAA operations authorized herein must accept interference from any authorized user of the band.
- 90408 --- Communications between ESAAs and the Superbird C2, JCSAT-5A, and JCSAT-2B space stations must be in compliance with all existing and future space station coordination agreements reached between Japan and other Administrations.
- 90409 --- Communications between ESAAs and the Apstar 6, Apstar 7, AsiaSat 5, and AsiaSat 7 space stations must be in compliance with all existing and future space station coordination agreements reached between China and other Administrations.
- 90410 --- Operations pursuant to this authorization must be in compliance with the off-axis e.i.r.p.-density levels in Section 25.227(a)(1) for the AsiaSat 7, Galaxy 16, IS-33e, and JCSAT-2B space stations unless and until such operation has been coordinated with operators of other Ku-band geostationary space stations within six angular degrees of those space stations or Astronics AeroSat demonstrates that such operation will not cause harmful interference to the new co-frequency space station.



UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
RADIO STATION AUTHORIZATION

Name: Astronics AeroSat Corporation

Call Sign: E140087

Authorization Type: Modification of License

File Number: SES-MFS-20170319-00302

Non Common Carrier

Grant date: 06/19/2017

Expiration Date: 03/13/2030

H) Special and General Provisions

A) This RADIO STATION AUTHORIZATION is granted subject to the following special provisions and general conditions:

- 90411 --- Operations pursuant to this authorization must be in compliance with the terms of coordination agreements between the operators of the Eutelsat 172A, Eutelsat 10A, Eutelsat 70B, Intelsat 14, Intelsat 29e, Anik G1, Apstar 6, Apstar 7, Asiasat 5, Intelsat 15, Eutelsat 117WA, Eutelsat 115WB, Superbird C2, Telstar 11N, Telstar 12V, Yamal 300K, JCSAT-5A, Yamal 401, and NSS-6 space stations and operators of other Ku-band geostationary space stations within six angular degrees of those space stations. In the event that another GSO fixed-satellite service space station commences operation in the 14.0-14.5 GHz band at a location within six degrees of any of these space stations, ESAAs operating pursuant to this authorization must cease transmitting to that space station unless and until such operation has been coordinated with the new space station's operator or Astronics AeroSat demonstrates that such operation will not cause harmful interference to the new co-frequency space station.
- 90412 --- The Permitted Space Station List (Permitted List) is a list of all geostationary space stations providing fixed-satellite service pursuant to a Commission license or grant of U.S. market access in the following bands: 3600-4200 MHz (space-to-Earth) 5850-6725 MHz (Earth-to-space) 10.95-11.2 GHz (space-to-Earth) 11.45-12.2 GHz (space-to-Earth) 13.75-14.5 GHz (Earth-to-space) 18.3-18.8 GHz (space-to-Earth) 19.7-20.2 GHz (space-to-Earth) 24.75-25.25 GHz (Earth-to-space) 28.35-28.6 GHz (Earth-to-space) 29.25-30.0 GHz (Earth-to-space). Operations pursuant to this authorization in the 14-14.5 GHz (Earth-to-space) frequency band with space stations on the Permitted List must comply with the off axis e.i.r.p. density power limits established in 47 CFR 25.227(a)(1).
- 900388 --- Communications between the ESAAs and the Eutelsat 115 West B and Eutelsat 117 West A space stations must be in compliance with all existing and future space station coordination agreements reached between Mexico and other Administrations.
- 900397 --- Waiver of the Table of Frequency Allocation, Section 2.106 and Footnote NG52 of the Commission's rules, 47 C.F.R. § 2.106, NG52, is granted for space-to-Earth ESAA operations, on an unprotected, non-interference basis, in the 11.2-11.45 GHz frequency band from Intelsat 29e in ITU Region 2, including U.S. airspace. Operations in this band are authorized based upon and subject to the conditions, waivers, and findings specified for Call Sign S2913. See IBFS File Nos. SAT-MOD-20130722-00097 and SAT-AMD-20140718-00087.



UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
RADIO STATION AUTHORIZATION

Name: Astronics AeroSat Corporation

Call Sign: E140087

Authorization Type: Modification of License

File Number: SES-MFS-20170319-00302

Non Common Carrier

Grant date: 06/19/2017

Expiration Date: 03/13/2030

B) This RADIO STATION AUTHORIZATION is granted subject to the additional conditions specified below:

This authorization is issued on the grantee's representation that the statements contained in the application are true and that the undertakings described will be carried out in good faith.

This authorization shall not be construed in any manner as a finding by the Commission on the question of marking or lighting of the antenna system should future conditions require. The grantee expressly agrees to install such marking or lighting as the Commission may require under the provisions of Section 303(q) of the Communications Act. 47 U.S.C. § 303(q).

Neither this authorization nor the right granted by this authorization shall be assigned or otherwise transferred to any person, firm, company or corporation without the written consent of the Commission. This authorization is subject to the right of use or control by the government of the United States conferred by Section 706 of the Communications Act. 47 U.S.C. § 706. Operation of this station is governed by Part 25 of the Commission's Rules. 47 C.F.R. Part 25.

This authorization shall not vest in the licensee any right to operate this station nor any right in the use of the designated frequencies beyond the term of this license, nor in any other manner than authorized herein.

This authorization is issued on the grantee's representation that the station is in compliance with environmental requirements set forth in Section 1.1307 of the Commission's Rules. 47 C.F.R. § 1.1307.

This authorization is issued on the grantee's representation that the station is in compliance with the Federal Aviation Administration (FAA) requirements as set forth in Section 17.4 of the Commission's Rules. 47 C.F.R. § 17.4.

The following condition applies when this authorization permits construction of or modifies the construction permit of a radio station.

This authorization shall be automatically forfeited if the station is not ready for operation by the required date of completion of construction unless an application for modification of authorization to request additional time to complete construction is filed by that date, together with a showing that failure to complete construction by the required date was due to factors not under control of the grantee.

Licensees are required to pay annual regulatory fees related to this authorization. The requirement to collect annual regulatory fees from regulatees is contained in Public Law 103-66, "The Omnibus Budget Reconciliation Act of 1993." These regulatory fees, which are likely to change each fiscal year, are used to offset costs associated with the Commission's enforcement, public service, international and policy and rulemaking activities. The Commission issues a Report and Order each year, setting the new regulatory fee rates. Receive only earth stations are exempt from payment of regulatory fees.