

FCC Filing Notes **On-The-Move SATCOM Permanent Licensing**

Form 312, Schedule B

E10: Our earth station is mobile with operation within CONUS and Hawaii. We are excluding transmissions near White Sands, NM in order to not interfere with government operations in that area.

- Mobile-CONUS
- 14.0 to 14.5 GHz
- No transmissions between 14.0 GHz and 14.2 GHz within 125 km of
 - White Sands, NM
 - latitude: 32.5430N, longitude 106.6121W
 - latitude: 32.5008N, longitude 106.6086W
 - Blossom Point, MD
 - latitude: 38.4289N, longitude 77.0839W

E11,12,14: Since this is a mobile satellite earth station we are leaving the coordinates completely empty and have indicated CONUS coverage in E10. The elevation is left blank since it will vary.

E29: While we anticipate filing for a blanket license in the future, the current filing is intended to be for **ONE** mobile satellite earth station. We understand that there are additional rules that we need to address for a blanket license. We expect to be able to comply with the blanket license rulings, but would like to review these in detail and prepare a future filing. For now the filing is for **ONE** mobile satellite earth station only.

E32, 33, 34: Antenna Patterns are included in the technical brief. These patterns are for the L3/Datron FSS-4180-LP Antenna Assembly which is an elliptical antenna with the following attributes:

E32: Diameter (meters): 0.36 (equivalent diameter)
 E33: Diameter Minor (meters): 0.30
 E34: Diameter Major (meters): 0.44

E33 and E34 are actual dimensions. For E32 we put the equivalent diameter (ie. as if it were circular).

E35: The antenna will typically be mounted on top of a vehicle with a height of about 1-2 meters. We have indicated a maximum height of 3 meters to include the antenna height as well as that of the vehicle.

E36, 37, 39: Since this is a mobile satellite earth station the height field is left blank since it will vary.

E48, 49: For receive carriers we have left the EIRP field blank.

E49 Maximum EIRP Density per Carrier:

A range of transmit emissions are possible with an average EIRP density of 11.1 dBW/4kHz. Only ONE carrier type will be transmitted at any one time. Following is a list of carrier types that cover the minimum and maximum bandwidths and the minimum and maximum EIRPs.



	Maximum EIRP Density	11.1	dBW/4 kHz
	Carrier ID	Bandwidth (kHz)	Maximum EIRP/Carrier
	1T	45	21.6 dBW
	2T	717	33.6 dBW
	3T	1430	36.6 dBW
	5T	11500	45.7 dBW

E56, 57, 58, 59 Frequency Coord:

The radiation safety report (04_20090915MV05_FSS4180LP_Rad_Hazard.pdf) describes the built-in safety controls on low elevation transmissions. Radiation safety calculations are shown for emissions down to low elevation angles which may NOT be needed in some operational scenarios.

For the satellites and CONUS operation requested in this license the lowest elevation angle is 10 degrees and this occurs at Caribou, Maine while pointing at IA7 at 129 degrees W.

We have examined the azimuth and elevation angles for locations within CONUS to determine the extremities for eastern and western satellite limits.

- E56: ES Az Eastern Limit 124
- E57: ES EI Eastern Limit 21
- E58: ES Az Western Limit 250
- E59: ES EI Western Limit 10

Western Limit - 129 degrees W

<p>Puget Sound, WA Lat 47.62 Long -122.58 EI 34.96 True Az 188.67</p>	<p>Caribou, MA Lat 46.87 Long -68.01 EI 10.84 True Az 248</p>
<p>Chula Vista, CA Lat 32.62 Long -117.07 EI 49.93 True Az 201.42</p>	<p>Miami, FL Lat 25.48 Long -79.98 EI 28.68 True Az 249.54</p>

Minimum elevation =10 degrees
 Most Westerly Azimuth = 250 degrees



Eastern Limit - 79 degrees W

Puget Sound, WA Lat 47.62 Long -122.58 EI 21.14 True Az 127.79	Caribou, MA Lat 46.87 Long -68.01 EI 35.07 True Az 194.91
Chula Vista, CA Lat 32.62 Long -117.07 EI 34.38 True Az 124.51	Miami, FL Lat 25.48 Long -79.98 EI 60.22 True Az 177.72

Minimum elevation = 21 degrees
 Most Easterly Azimuth = 124 degrees