

SATELLITE EARTH STATION AUTHORIZATIONS
FCC Form 312 - Schedule B:(Technical and Operational Description)
FOR OFFICIAL USE ONLY

Location of Earth Station Site

E1: Site Identifier:	M40	E5: Call Sign:	
E2: Contact Name:	Steven C. Hemple	E6: Phone Number:	760-681-9337
E3: Street:		E7: City:	
E4: State:		E8: County:	
		E9: Zip Code:	
E10: Area of Operation:			
E11: Latitude:	0° 0' 0"		
E12: Longitude:	0° 0' 0"		
E13: Lat/Lon Coordinates are:			
E14: Site Elevation (AMSL):	0		

If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurement? If NO, provide a technical analysis showing compliance with two-degree spacing policy.	No
If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS) or if they operate in the Fixed Satellite Service (FSS) with non-geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurement?	N/A
Is Frequency Coordination required?	No
Is coordination with another country required?	No
Is FAA notification required?	No
Is facility operated by remote control?	Yes

POINTS OF COMMUNICATION

Satellite Name: VIASAT-2 (S2902)

E21. Common Name: VIASAT-2 (S2902)	E22. ITU Name: VIASAT-2 (S2902)
E23. Orbit Location: 69.9 W.L.	E24. Country:

Satellite Name: q	
E21. Common Name: VIASAT-3F3	E22. ITU Name: UK-KA-159E
E23. Orbit Location: 158.55E	E24. Country: GBR

ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size (meters)	E41/42. Antenna Gain Transmit and/or Recieve (dBi at GHz)
M40	M40	4000	Viasat, Inc.	M-40	0.397	undefined at 0

E28. Antenna Id	E33/34. Diameter Minor/Major (meters)	E35. Above Ground Level (meters)	E36. Above Sea Level (meters)	E37. Building Height Above Ground Level (meters)	E38. Total Input Power at Antenna Flange (Watts)	E39. Maximum Antenna Height Above Rooftop (meters)	E40. Total EIRP for all carriers (dBW)
M40	0.1575/0.7874	0	0	0	4	0	43.5

FREQUENCY

E28. Antenna Id	E43/44. Frequency Bands (MHz)	E45. T/R Mode	E46. Antenna Polarization (H,V,L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
M40	18800 19300	R	null	417MG7D	0	0

E50. Modulation and Services

416.6 MBd M-ary PSK Digital Data

E28. Antenna Id	E43/44. Frequency Bands (MHz)	E45. T/R Mode	E46. Antenna Polarization (H,V,L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
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E28. Antenna Id	E43/44. Frequency Bands (MHz)	E45. T/R Mode	E46. Antenna Polarization (H,V,L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier (dBW)	E49. Maximum EIRP Density per Carrier (dBW/4kHz)
M40	17700 18300	R	null	500MG7D	0	0

E50. Modulation and Services	500 MBd M-ary PSK Digital Data
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E28. Antenna Id	E43/44. Frequency Bands (MHz)	E45. T/R Mode	E46. Antenna Polarization (H,V,L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
M40	18300 18800	R	null	417MG7D	0	0

E50. Modulation and Services
417 MBd PSK, Digital Data

E28. Antenna Id	E43/44. Frequency Bands (MHz)	E45. T/R Mode	E46. Antenna Polarization (H,V,L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
M40	28600 29100	T	null	20M0G7D	43.5	6.5

E50. Modulation and Services
20.0 MBd PSK, Digital Carrier

E28. Antenna Id	E43/44. Frequency Bands (MHz)	E45. T/R Mode	E46. Antenna Polarization (H,V,L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
M40	29500 30000	T	null	10M0G7D	43.5	9.5

E50. Modulation and Services

10.0 MBd PSK, Digital Carrier

E28. Antenna Id	E43/44. Frequency Bands (MHz)	E45. T/R Mode	E46. Antenna Polarization (H,V,L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
M40	19700 20200	R	null	417MG7D	0	0

E50. Modulation and Services

417 MBd PSK, Digital Data

E28. Antenna Id	E43/44. Frequency Bands (MHz)	E45. T/R Mode	E46. Antenna Polarization (H,V,L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
M40	28100 28350	T	null	10M0G7D	43.5	9.5

E50. Modulation and Services

10.0 MBd PSK, Digital Carrier

FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc E/W Limit	E56. Earth Station Azimuth Angle Eastern/Western Limit	E57. Antenna Elevation Angle Eastern/Western Limit	E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)
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M40	Geostationary	18800 19300	69.9 / 69.9	254 / 111	6 / 8	-4.5
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M40Geostationary28350

2860069.9 / 69.9254 / 1116 / 8-4.5M40Geostationary29500

3000069.9 / 69.9254 / 1116 / 8-4.5M40Geostationary19700

2020069.9 / 69.9254 / 1116 / 80M40Geostationary17700

1830069.9 / 69.9254 / 1116 / 8-4.5M40Geostationary18300

1880069.9 / 69.9254 / 1116 / 8-4.5M40Geostationary28600

2910069.9 / 69.9254 / 1116 / 8-4.5M40Geostationary28100

2835069.9 / 69.9254 / 1116 / 8-4.5

REMOTE CONTROL POINT LOCATION

E61. Call Sign:		E65. Phone Number: 720-493-7300	
E62. Street Address: 349 Inverness Drive South			
E63. City: Englewood	E67. County: Arapahoe	E64/68. State/Country: undefined / undefined	E66. Zip Code: 80112

Location of Earth Station Site

E1: Site Identifier:	GM40	E5: Call Sign:	
E2: Contact Name:	Steven C. Hemple	E6: Phone Number:	760-681-9337
E3: Street:		E7: City:	
E4: State:		E8: County:	
		E9: Zip Code:	
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E12: Longitude:	0° 0' 0"		
E13: Lat/Lon Coordinates are:			
E14: Site Elevation (AMSL):	0		

If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain	No
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patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurement? If NO, provide a technical analysis showing compliance with two-degree spacing policy.	
If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS) or if they operate in the Fixed Satellite Service (FSS) with non-geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurement?	N/A
Is Frequency Coordination required?	No
Is coordination with another country required?	No
Is FAA notification required?	No
Is facility operated by remote control?	Yes

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E23. Orbit Location: 158.55E	E24. Country: GBR

ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size (meters)	E41/42. Antenna Gain Transmit and/or Recieve (dBi at GHz)
GM40	GM40	4000	Viasat, Inc.	GM-40	0.397	undefined at 0

E28. Antenna Id	E33/34. Diameter Minor/Major (meters)	E35. Above Ground Level (meters)	E36. Above Sea Level (meters)	E37. Building Height Above Ground Level (meters)	E38. Total Input Power at Antenna Flange (Watts)	E39. Maximum Antenna Height Above Rooftop (meters)	E40. Total EIRP for all carriers (dBW)
GM40	0.158/0.787	0	0	0	31.6	0	55.5

FREQUENCY

E28. Antenna Id	E43/44. Frequency Bands (MHz)	E45. T/R Mode	E46. Antenna Polarization (H,V,L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
GM40	19300 19700	R	null	320MG7D	0	0
E50. Modulation and Services						
320 MBd PSK, Digital Carrier						

E28. Antenna Id	E43/44. Frequency Bands (MHz)	E45. T/R Mode	E46. Antenna Polarization (H,V,L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
GM40	29100 29500	T	null	320MG7D	55.5	6.46
E50. Modulation and Services						
320 MBd PSK, Digital Carrier						

E28. Antenna Id	E43/44. Frequency Bands (MHz)	E45. T/R Mode	E46. Antenna Polarization (H,V,L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
GM40	18800 19300	R	null	417MG7D	0	0
E50. Modulation and Services						
416.6 MBd M-ary PSK Digital Data						

E28. Antenna Id	E43/44. Frequency Bands (MHz)	E45. T/R Mode	E46. Antenna Polarization (H,V,L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
GM40	28600	T	null	160MG7D	55.5	9.47

	29100					
E50. Modulation and Services						
160 MBd PSK, Digital Carrier						

E28. Antenna Id	E43/44. Frequency Bands (MHz)	E45. T/R Mode	E46. Antenna Polarization (H,V,L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
GM40	17700 18300	R	null	500MG7D	0	0
E50. Modulation and Services						
500 MBd M-ary PSK Digital Data						

E28. Antenna Id	E43/44. Frequency Bands (MHz)	E45. T/R Mode	E46. Antenna Polarization (H,V,L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
GM40	18300 18800	R	null	417MG7D	0	0
E50. Modulation and Services						
417 MBd PSK, Digital Data						

E28. Antenna Id	E43/44. Frequency Bands (MHz)	E45. T/R Mode	E46. Antenna Polarization (H,V,L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
GM40	27500 28350	T	null	160MG7D	55.5	9.47
E50. Modulation and Services						
160 MBd PSK, Digital Carrier						

E28. Antenna	E43/44. Frequency	E45. T/R	E46. Antenna Polarization	E47. Emission	E48. Maximum	E49. Maximum ERIP Density
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Id	Bands (MHz)	Mode	(H,V,L,R)	Designator	EIRP per Carrier (dBW)	per Carrier (dBW/4kHz)
GM40	28350 28600	T	null	160MG7D	55.5	9.47

E50. Modulation and Services

160 MBd PSK, Digital Carrier

E28. Antenna Id	E43/44. Frequency Bands (MHz)	E45. T/R Mode	E46. Antenna Polarization (H,V,L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier (dBW)	E49. Maximum EIRP Density per Carrier (dBW/4kHz)
GM40	19700 20200	R	null	417MG7D	0	0

E50. Modulation and Services

417 MBd PSK, Digital Data

E28. Antenna Id	E43/44. Frequency Bands (MHz)	E45. T/R Mode	E46. Antenna Polarization (H,V,L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier (dBW)	E49. Maximum EIRP Density per Carrier (dBW/4kHz)
GM40	29500 30000	T	null	320MG7D	55.5	6.46

E50. Modulation and Services

320 MBd PSK, Digital Carrier

FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc E/W Limit	E56. Earth Station Azimuth Angle Eastern/Western Limit	E57. Antenna Elevation Angle Eastern/Western Limit	E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)
GM40	Geostationary	19300	158.55 /	180 / 180	5 / 5	-4.5

		19700	158.55			
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GM40Geostationary29100

29500158.55 / 158.55180 / 1805 / 5-4.5GM40Geostationary18800

19300158.55 / 158.55180 / 1805 / 5-4.5GM40Geostationary28600

29100158.55 / 158.55180 / 1805 / 5-4.5GM40Geostationary17700

18300158.55 / 158.55180 / 1805 / 5-4.5GM40Geostationary18300

18800158.55 / 158.55180 / 1805 / 5-4.5GM40Geostationary27500

28350158.55 / 158.55180 / 1805 / 5-4.5GM40Geostationary28350

28600158.55 / 158.55180 / 1805 / 5-4.5GM40Geostationary19700

20200158.55 / 158.55180 / 1805 / 50GM40Geostationary29500

30000158.55 / 158.55180 / 1805 / 5-4.5GM40Geostationary28350

2860069.9 / 69.9254 / 1116 / 8-4.5GM40Geostationary29500

3000069.9 / 69.9254 / 1116 / 8-4.5GM40Geostationary19700

2020069.9 / 69.9254 / 1116 / 80GM40Geostationary18800

1930069.9 / 69.9254 / 1116 / 8-4.5GM40Geostationary28600

2910069.9 / 69.9254 / 1116 / 8-4.5GM40Geostationary17700

1830069.9 / 69.9254 / 1116 / 8-4.5GM40Geostationary18300

1880069.6 / 69.9254 / 1116 / 8-4.5GM40Geostationary27500

2835069.9 / 69.9254 / 1116 / 8-4.5

REMOTE CONTROL POINT LOCATION

E61. Call Sign:		E65. Phone Number: 720-493-7300	
E62. Street Address: 349 Inverness Drive South			
E63. City: Englewood	E67. County: Arapahoe	E64/68. State/Country: undefined / undefined	E66. Zip Code: 80112

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