

Compliance with FCC §25.136

Hawaii Pacific Teleport (HPT) is seeking authorization for operation in the 27.5-28.35 GHz band under the FCC Rules, section §25.136 (a)(4). HPT will operate the Kapolei Ka-band terminal at a site which is collocated with an existing licensed facility in this band, where the population density limits will be met, and there are no existing operational UMFUS facilities.

Currently in the County of Oahu there are two earth stations licensed for the operation in 27.5-28.35 GHz band: the O3b Earth Station in Haleiwa, HI with call sign E100088 and the ViaSat Kapolei Earth Station Call sign E110046. The HPT Kapolei Earth Station is collocated with the ViaSat earth station site and therefore would comply with FCC rules, section §25.136(a)(4)(i).

The emissions from the HPT Kapolei terminal will be equal to or greater than the limit of -77.6 dBm/m²/MHz in calculated area with a maximum excursion of 1155 meters at an azimuth of 238 degrees. For azimuth angles 0 to 360 around the earth station the maximum distance required where the PFD limit is met is shown in Table 1 below. This data was determine using the link budget information included in Table and the antenna gain pattern shown in Figure 1 below.

As can be seen from the Figure 2 below in the PFD limit area calculated around the earth station the population is well below 0.1 percent for Oahu County. HPT complies with FCC rules, section §25.136(a)(4)(ii). As can also be seen from Figure 2 there are no major event venues, arterial streets, interstates, US Highways, urban mass transit routes, passenger railroads or cruise ship ports within the area shown, HPT complies with FCC rules, section §25.136(a)(4)(iii).

With respect to FCC Rules, Section §25.136(a)(4)(iv) HPT is not aware of any UMFUS licensees operating existing constructed and in operation facilities within the area in which the earth station generates a power flux density (PFD), at 10 meters above ground level, of greater than or equal to -77.6 dBm/m²/MHz,

Table 1 - HPT Kapolei 5G separation distance

140 MHz Carrier from Link Analyses			Symbol Rate	133	Msp/s
Satellite Arc			EIRP/4kHz	35.7	dBW/4kHz
East	188	WL	EIRP/MHz	59.7	dBW/MHz
West	188	WL	Power Density	-4.42	dBW/MHz
Site Coordinates			Elevation Angle	47.8	degrees
Latitude	21.3000	N	Ao	-50.2	dB*meters ²
Longitude	157.8000	W	Wavelength (λ)	0.011	m
E/S Antenna Gain	64.1	dBi	Frequency	27.500	GHz
Carrier EIRP	80.9	dBW	5G Limit	-107.6	dBW/m ² /MHz
Azimuth to Earth Station (deg.)	Earth Station Discrimination Angle (deg.)	Earth Station Gain (dBi)	EIRP/MHz to Horizon (dBW/MHz)	Path Losses to cover limit (dB)	Distance to cover limit (m)
0	110.83	-49.6	-55.32	102.5	115.7
5	113.82	-49.6	-55.32	102.5	115.7
10	116.69	-44.6	-50.32	107.5	205.7
15	119.40	-44.6	-50.32	107.5	205.7
20	121.94	-51.6	-57.32	100.5	91.9
25	124.27	-51.6	-57.32	100.5	91.9
30	126.36	-54.6	-60.32	97.5	65.1
35	128.17	-54.6	-60.32	97.5	65.1
40	129.69	-54.6	-60.32	97.5	65.1
45	130.87	-54.6	-60.32	97.5	65.1
50	131.68	-54.6	-60.32	97.5	65.1
55	132.12	-54.6	-60.32	97.5	65.1
60	132.16	-54.6	-60.32	97.5	65.1
65	131.81	-54.6	-60.32	97.5	65.1
70	131.07	-54.6	-60.32	97.5	65.1
75	129.97	-54.6	-60.32	97.5	65.1
80	128.52	-54.6	-60.32	97.5	65.1
85	126.77	-54.6	-60.32	97.5	65.1
90	124.73	-51.6	-57.32	100.5	91.9
95	122.45	-51.6	-57.32	100.5	91.9
100	119.96	-44.6	-50.32	107.5	205.7
105	117.28	-44.6	-50.32	107.5	205.7
110	114.44	-49.6	-55.32	102.5	115.7
115	111.47	-49.6	-55.32	102.5	115.7
120	108.40	-50.6	-56.32	101.5	103.1

125	105.23	-50.6	-56.32	101.5	103.1
130	102.00	-50.6	-56.32	101.5	103.1
135	98.71	-43.6	-49.32	108.5	230.8
140	95.38	-43.6	-49.32	108.5	230.8
145	92.03	-43.6	-49.32	108.5	230.8
150	88.68	-43.6	-49.32	108.5	230.8
155	85.33	-43.6	-49.32	108.5	230.8
160	81.99	-43.6	-49.32	108.5	230.8
165	78.70	-41.6	-47.32	110.5	290.6
170	75.45	-41.6	-47.32	110.5	290.6
175	72.27	-41.6	-47.32	110.5	290.6
180	69.17	-39.6	-45.32	112.5	365.9
185	66.18	-39.6	-45.32	112.5	365.9
190	63.31	-37.6	-43.32	114.5	460.6
195	60.60	-37.6	-43.32	114.5	460.6
200	58.06	-35.6	-41.32	116.5	579.8
205	55.73	-35.6	-41.32	116.5	579.8
210	53.64	-32.6	-38.32	119.5	819.0
215	51.83	-32.6	-38.32	119.5	819.0
220	50.31	-32.6	-38.32	119.5	819.0
225	49.13	-29.6	-35.32	122.5	1156.9
230	48.32	-29.6	-35.32	122.5	1156.9
235	47.88	-29.6	-35.32	122.5	1156.9
240	47.84	-29.6	-35.32	122.5	1156.9
245	48.19	-29.6	-35.32	122.5	1156.9
250	48.93	-29.6	-35.32	122.5	1156.9
255	50.03	-32.6	-38.32	119.5	819.0
260	51.48	-32.6	-38.32	119.5	819.0
265	53.23	-32.6	-38.32	119.5	819.0
270	55.27	-35.6	-41.32	116.5	579.8
275	57.55	-35.6	-41.32	116.5	579.8
280	60.04	-37.6	-43.32	114.5	460.6
285	62.72	-37.6	-43.32	114.5	460.6
290	65.56	-39.6	-45.32	112.5	365.9
295	68.53	-39.6	-45.32	112.5	365.9
300	71.60	-41.6	-47.32	110.5	290.6
305	74.77	-41.6	-47.32	110.5	290.6
310	78.00	-41.6	-47.32	110.5	290.6

315	81.29	-43.6	-49.32	108.5	230.8
320	84.62	-43.6	-49.32	108.5	230.8
325	87.97	-43.6	-49.32	108.5	230.8
330	91.32	-43.6	-49.32	108.5	230.8
335	94.67	-43.6	-49.32	108.5	230.8
340	98.01	-43.6	-49.32	108.5	230.8
345	101.30	-50.6	-56.32	101.5	103.1
350	104.55	-50.6	-56.32	101.5	103.1
355	107.73	-50.6	-56.32	101.5	103.1

*** The area contained within this contour around the earth station location must not cover more than 0.1 percent of the county population*

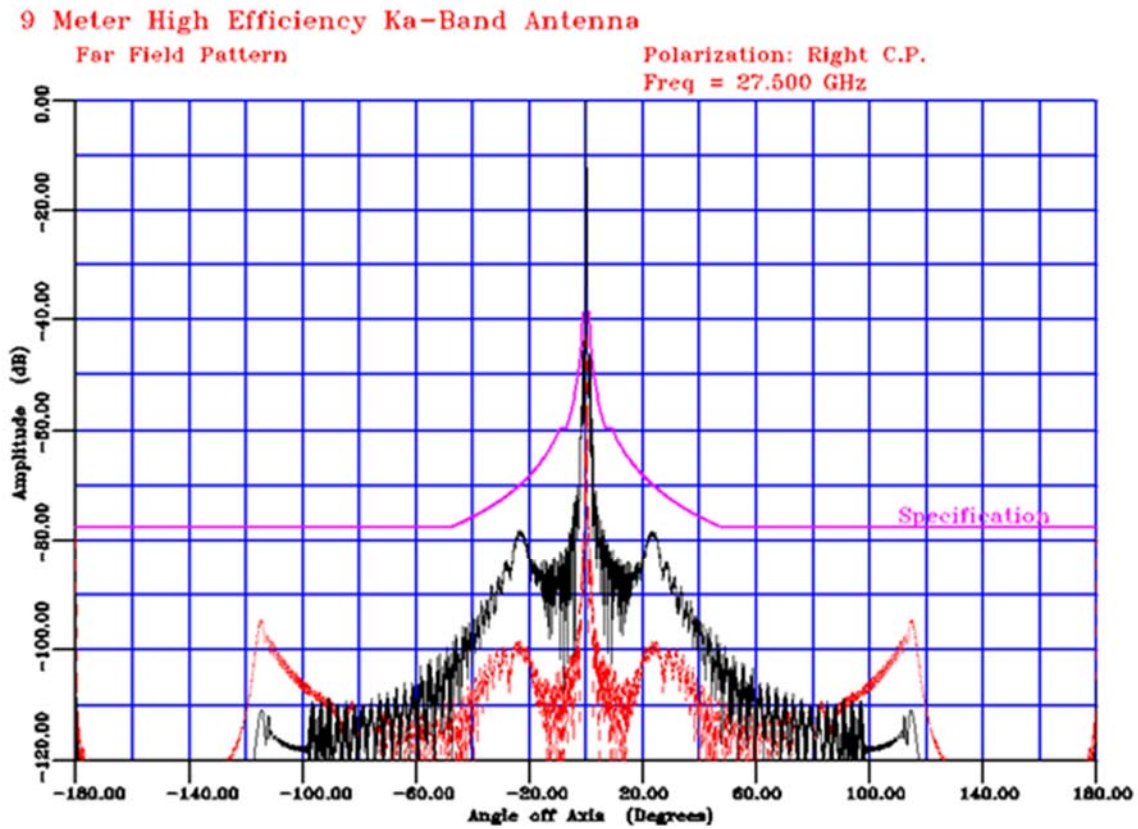


Figure 1 – GD 9.2m Ka-band Transmit Antenna Pattern



Figure 2 – HPT Kapolei Teleport: 25.136 -77.8 dBm/m²/MHz PFD Limit Zone

The population in the zone around the earth station is zero and there are no locations where there may be high population traffic as described in 25.136(a)(4)(ii) and (iii).