

Attachment 1

Gogo LLC - Virgin Atlantic GSM EASA Certification Test Program

The test transmitter aboard a stationary Virgin Atlantic aircraft will be operated for three hours maximum, the length of time required to validate non-interference to aircraft safety systems in the presence of the test signal. Test may be performed on up to six aircraft spread out over the 6 month license period. Testing will occur at night at any of the airports listed below. While operating, the transmitter will step through the listed frequencies and power levels at a dwell time of one step/second. There will be three steps (low, mid, high) in each of the five frequency bands supported by the Gogo PCS modem. A complete cycle through all bands will require 15 seconds to complete. For the second pass through the bands each frequency will shift upward by 2 MHz so that any user affected by the first pass will not be affected by the second pass. This will provide an effective period of 30 seconds between subsequent transmissions on any given frequency.

Airport test locations:

Airport Location	Airport Code	Latitude	Longitude
Atlanta, GA	ATL	33.643923	-84.413084
Boston, MA	BOS	42.373977	-71.027430
Chicago, IL	ORD	41.993047	-87.920397
Detroit, MI	DTW	42.233719	-83.343878
Los Angeles, CA	LAX	33.944902	-118.416324
Miami, FL	MIA	25.806010	-80.283660
Orlando, FL	MCO	28.440479	-81.291456
Newark, NJ	EWR	40.704050	-74.167308
New York, NY	JFK	40.643467	-73.793359
San Francisco, CA	SFO	37.626548	-122.379060
Washington, DC	IAD	38.943064	-77.453963
Minneapolis-St. Paul	MSP	44.52969	-93.13701

Test frequencies (channels) and bandwidth. Bandwidth of pulsed signal =1.6KHz

Frequency (MHz)	Output Power EIRP (W)
825	20W
835	20W

846	20W
881	20W
897	20W
912	20W
1711	20W
1737	20W
1782	20W
1851	20W
1879	20W
1907	20W
1921	10W
1949	10W
1977	10W
827	20W
837	20W
848	20W
883	20W
899	20W
914	20W
1713	20W
1739	20W
1784	20W
1853	20W
1881	20W

1909	20W
1923	10W
1951	10W
1979	10W