

GPS Re-Radiation System used at Bombardier Aircraft Service Centers.

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Donald J Hoehn
Spectrum Manager
Learjet Inc.
1530 So Tyler Rd
Bldg 6G / MS41
Wichita, KS 67209
GPS L1 (1575.42 MHz)
Emission 24M0G1D
Power at antenna is 5.0E-18 / 5nW

Bombardier Aircraft Services (BAS), located at Tucson International Airport in Tucson, Arizona installed a GPS Re-Radiation (Re-Rad) system to bring GPS signals into the aircraft service hanger. The hanger is constructed of metal, which attenuates the GPS signal to an unusable level inside the facility. The Re-Rad system allows the signal to be received inside the hanger where it is used to verify GPS receiver performance on customer aircraft.

The Re-Rad system receives the GPS signals from an active antenna mounted outside on the hanger roof. The GPS signal is then run via coax to an amplifier located inside the hanger which is mounted to the ceiling approximately 30 feet above the floor. A passive antenna with a 20-degree beam width, pointed directly at the hanger floor, is used to rebroadcast the signal, and creates a reception area approximately 28 feet in radius.

A handheld GPS receiver was used to verify that the signal does not radiate beyond the reception area or outside of the building.

The GPS Re-Rad system, model number GPSRKL1, was purchased from GPS Source in Pueblo, Colorado

Location	(NAD83) Lat	(NAD83) Long	Alt (m)
Hanger Bldg J	32-6-9.3	110-57-14.3	783
Hanger Bldg S	32-6-9.0	110-57-30.0	799