

100 foot free-space calculations (from radiation point)

Kansas City (Neff Yard): -128 dBm

link budget calculations for Kansas City (Neff Yard)

roof antenna gain: 38 dB

roof antenna cable (lmr-400, 23 ft.) loss (5.1 dB / 100 ft): 1.2 dB

s-12 repeater amplifier gain: 24 dB

total subsystem gain: 60.8 dB

Antenna a branch:

repeater antenna cable (lmr-400, 91 ft.) loss (5.1 dB / 100ft.): 4.6 dB

a-11 repeater amplifier gain: 8.8 dB

repeater antenna gain: 3 dB

total system gain: 68 dB

average receive power of 11 GPS signals in North America: -130 dBm

effective radiated power (average receive power + total system gain): -62 dBm

Antenna b branch:

repeater antenna cable (lmr-400, 77 ft.) loss (5.1 dB / 100 ft.): 3.9 dB

a-11 repeater amplifier gain: 8.1 dB

repeater antenna gain: 3 dB

total system gain: 68 dB

average receive power of 11 GPS signals in North America: -130 dBm

effective radiated power (average receive power + total system gain): -62 dBm