100 foot free-space calculations (from radiation point)

North Platte Diesel Shop (Site 2): -128 dBm

link budget calculations (North Platte Diesel Shop Site 2)

roof antenna gain: 38 dB
roof antenna cable (lmr-400, 64 ft.) loss (5.1 dB / 100 ft): 3.3 dB
s-14 repeater amplifier gain: 21 dB
total subsystem gain: 55.7 dB

Antenna a branch:
repeater antenna cable (lmr-400, 190 ft.) loss (5.1 dB / 100ft.): 9.7 dB
a-11 repeater amplifier gain: 19.0 dB
repeater antenna gain: 3 dB
total system gain: 68 dB
average receive power of l1 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, 70 ft.) loss (5.1 dB / 100 ft.): 3.57 dB
a-11 repeater amplifier gain: 12.8 dB
repeater antenna gain: 3 dB
total system gain: 68 dB
average receive power of l1 GPS signals in North America: -130 dBm
effective radiated power (average receive power + total system gain): -62 dBm

Antenna c branch:
repeater antenna cable (lmr-400, 20 ft.) loss (5.1 dB / 100 ft.): 1.02 dB
a-11 repeater amplifier gain: 10.3 dB
repeater antenna gain: 3 dB
total system gain: 68 dB
average receive power of l1 GPS signals in North America: -130 dBm
effective radiated power (average receive power + total system gain): -62 dBm