

Component	Signal Level	Manufacturer	Part Number	Notes
GPS Signal Input (Pr)	-130 dBm (typical)			-110 to -149 dBm (-130dBm typical)
Antenna Gain (Gr)	3 dBi	GPS Networking	HNRRKIT-N/5/110	
Rx Antenna LNA (G ina)	30 dB (typical)			
Cable Loss (Lc1)	-5 dB		LMR240 (-10dB/100ft)	
Cable Loss (Lc2)	-5 dB		LMR240 (-10dB/100ft)	
Variable Attenuator (L attn)	0 dB (nominal)			Self Adjusting
Amplifier (G amp)	24 dB	GPS Networking	HNRRKIT-N/5/110	
Re-Radiating Antenna (Gt)	3 dB	GPS Networking	HNRRKIT-N/5/110	
GPS Transmit Power	-77 dBm			Self Adjusting

Path Loss @ XX ft -67.2 dB

EIRP @ 100ft from bldg -147.2 dBm/24 Mhz

Path Loss = 20 Log F (MHz) + 20 Log D (feet) - 37		
1575.42 MHz	L1 Frequency	
100 ft	Outside Building	
3 ft	Antenna to building wall	
103 ft	Total D	

$$\begin{aligned}
 \text{Psig (EIRP)} &= \text{Pr} + \text{Gr} + \text{Glna} + \text{Lc1} + \text{Lc2} + \text{Lattn} + \text{Gamp} + \text{Gt} + \text{Lfs} \\
 &= -130 + 3 + 30 - 5 - 5 + 24 + 3 - 67.2 \\
 &= -67.2
 \end{aligned}$$