General Motors Company, LLC
Sloan Engineering Center
29360 Willian Durant Blvd.
Warren, MI 49082

Revised 4/1/2026

GPS L1 **1575.42 MHz**

$$P_{Tmax} = P_R + 20\log_{10} f + 20\log_{10}(30 + d) - 27.55$$

P_R =	-140	dBm	*Power at 30 meters (100') from the building*
f =	1575.42	MHz	
d =	6.096	meters	*TX antenna distance from nearest outside wall*
$\boldsymbol{P_{Tmax}}$ =	**-72.45**	**dBm**	***EIRP***

$$P_{Tmax(pW)} = 10^{\left(\frac{P_{Tmax}}{10}+9\right)}$$

$\boldsymbol{P_{Tmax(pW)}}$ =	**56.85**	**pW**	***EIRP***

$$pW_{ERP} = pW_{EIRP} / 1.64$$

pW ERP =	**34.66**	**pW**	***ERP***

GPS L5 **1176.45 MHz**

$$P_{Tmax} = P_R + 20\log_{10} f + 20\log_{10}(30 + d) - 27.55$$

P_R =	-140	dBm	*Power at 30 meters (100') from the building*
f =	1176.45	MHz	
d =	6.096	meters	*TX antenna distance from nearest outside wall*
$\boldsymbol{P_{Tmax}}$ =	**-74.99**	**dBm**	***EIRP***

$$P_{Tmax(pW)} = 10^{\left(\frac{P_{Tmax}}{10}+9\right)}$$

$\boldsymbol{P_{Tmax(pW)}}$ =	**31.7**	**pW**	***EIRP***

$$pW_{ERP} = pW_{EIRP} / 1.64$$

pW ERP =	**19.3**	**pW**	***ERP***