Ericsson Model [1]

Ericsson Path Loss

$$PL = a_0 + a_1 \log_{10}(d) + a_2 \log_{10}(h_{tr}) + a_3 (\log_{10}(h_{tr}))(\log_{10}(d)) - 3.2(\log_{10}(11.75h_{tr}))^2 + g(f)$$

where

$$g(f) = 44.49(\log_{10}(f) - 4.78 \log_{10}(f))^2$$

d: distance between base station antenna and users in km
f: frequency in Gigahertz
h_{tr}: base station antenna height

Environment	a_0	a_1	a_2	a_3
Cities	36.2	30.2	12	0.1
Suburban	43.20	68.93	12	0.1
Villages	45.95	100.6	12	0.1

References

[1] Bengawan Alfaresi, Taufik Barlian, Feby Ardianto, and Muhammad Hurairah. 2020. Path Loss Propagation Evaluation and Modelling based ECC-Model in Lowland Area on 1800 MHz Frequency. *J. Robot. Control* 1, 5 (2020). DOI:https://doi.org/10.18196/jrc.1534