**TwoRayGroundPropagationLossModel**

Crossover distance - dCross (in m) [below which Friis is used]

Transmitter Power - Pt (in dBm)

Receiver Power - Pr (in dBm)

Transmitter Gain - Gt (unit-less)

Receiver Gain - Gr (unit-less)

Transmitter antenna height - Ht (in m)

Receiver antenna height - Hr (in m)

System Loss - L (unit-less)

Distance b/w Tx and Rx - d (in m)

**Pr = (Pt\*Gt\*Gr\*Ht2 \*Hr2 )/(d4 \*L)**

**dCross = (4\*pi\*Ht\*Hr/lamda)**

**lamda = c/f**

* Parameters are set in a way to achieve transmission range upto 160m

Pr = -40 dBm

Pt = 20 dBm

Gt=Gr=L = 1

Ht=Hr = 5m

c = 299792458 (default)

f = 51.5 MHz

→ d = 158.11m

→ dCross = 53.968m