

Cellular Expert Profile module features

Tasks	Features
<p>Point-to-point analysis</p>	<p>Free space path loss: ITU-R P.525-2</p> <p>Fresnel zone ellipsoids: ITU-R P.526-11</p> <p>Path clearance: ITU-R P.530-13</p> <p>Specific attenuation: ITU-R P.676-8 using input from ITU-R P.837-5, ITU-R P.838-3 and ITU-R P.839-3</p> <p>Rain attenuation: ITU-R P.530-13</p> <p>Diffraction algorithms:</p> <p>Single knife-edge (ITU-R P.526-11)</p> <p>Deygout (ITU-R P.526-11)</p> <p>Average (ITU-R P.530-13)</p> <p>Path loss models:</p> <p>Line-of-sight</p> <p>Hata</p> <p>Diffraction</p> <p>Macro Adaptive</p> <p>SUI</p> <p>Reflection analysis</p> <p>Multipath analysis</p> <p>Anti-correlation analysis</p> <p>Antenna height optimization</p> <p>Reporting</p>
<p>Propagation Models:</p> <p>HATA</p>	<p>Basic algorithm: Okumura-Hata equation Type: Point-to-multipoint Frequency: ~ 150 MHz - 2 GHz Distance: up to 100 km</p> <p>Hata Model Parameters:</p> <ul style="list-style-type: none"> • Standard (ETR 364, COST 231 and ITU-R P.529-3) • Macro Model • 9999 Model (Ericsson) <p>Effective Antenna Height methods:</p>

	<ul style="list-style-type: none"> • Absolute • Profile • Average • Relative • Slope <p>Diffraction</p> <ul style="list-style-type: none"> • Single knife-edge (ITU-R P.526-11) • Deygout (ITU-R P.526-11) • Spherical Earth (ITU-R P.526-11) • Average (ITU-R P.530-13)
Line of Sight	<p>Basic algorithm: ITU-R P.452-14 Type: Point-to-point and Point-to-multipoint Frequency: about 700 MHz - 40 GHz Distance: up to 100 - 150 km Percentage of Time: 0.001 to 50. Specific attenuation: ITU-R P.676-8 using input from ITU-R P.837-5, ITU-R P.838-3 and ITU-R P.839-3. Diffraction: Deygout method of ITU-R P.526-11 Rain attenuation: ITU-R P.530-13</p>
Walfish-Ikegami	<p>Basic algorithm: COST 231 Model (ETR 364, COST 231 Final Report) Type: Point-to-area (multipoint) Frequency: about 800 MHz - 2 GHz Distance: up to 5 km</p>
SUI	<p>Basic algorithm: IEEE 802.16 Type: Point-to-area (multipoint) Frequency: about 2 GHz - 5 GHz Distance: up to 70 km</p>
Best Server calculation	<p>N^{th} best servers coverage, number of servers coverage N^{th} best servers field strength coverage</p>
Prediction Model tuning	<p>Evaluation of prediction accuracy</p> <p>Hata model:</p> <ul style="list-style-type: none"> • 9999 model parameters adjustment • Macro model parameters adjustment • Clutter loss offset determination for each type of clutter <p>Walfish – Ikegami model tuning</p> <p>SUI model tuning</p> <p>Line of sight model:</p> <ul style="list-style-type: none"> • One slope model tuning • Dual slope model tuning