**KPI Validation Report**

* **Purpose**: Statistically demonstrate optimization benefits vs. pre-deployment baselines.
* **KPI Categories**:
  + **Radio Access Network (RAN)**: e.g., spectral efficiency, handover success rate, RSRP/RSRQ improvements.
  + **Core Network**: reduced call drop rates, session setup times, signaling efficiency.
  + **QoS/QoE**: Mean Opinion Score (MOS), jitter, packet loss, throughput.
* **Methodology**:
  + **Pre/Post Comparison**: t-tests and ANOVA for statistical significance.
  + **ML Impact Validation**: Cross-validation scores and F1 metrics for ML-based optimizers.
* **Sample Result**: “Average user throughput improved by 27%, p-value < 0.01, indicating statistically significant enhancement.”