Motorola’s STARLINE 1 GHz Nodes and Amplifiers have implemented Gallium Nitride hybrid technology to increase output levels and farther RF reaches. When building your network with Motorola’s Gallium Nitride enhanced Nodes and Amplifiers you can realize significant cost savings in capital expenditure (CAPEX) and operating expenditures (OPEX). In system level designs, we can demonstrate up to 10 percent CAPEX and 20 percent OPEX reductions when using GaN over GaAs Nodes and Amplifiers for some applications. N + 0 designs can also benefit significantly by enabling higher drive levels to service more homes where typical GaAs and Silicon designs will require an amplifier after the node. Older systems can also benefit from a much lower re-spacing of network actives in a frequency expansion upgrade than can be accomplished today.

Implementation and System Design
Please contact your sales representative to understand the system design cost benefits when using GaN products and design implementation.

Benefits Include:
- Higher output levels
  - Up to 60 dBmV in Node @ 1 GHz
  - Up to 48 dBmV in Amplifiers @ 550 MHz
- Increased slope capabilities
  - Up to 18 dB in Nodes
  - Up to 18 dB in Amplifiers

CapEx:
- Active Cost and Installation Cost
- Fiber and/or Cable Cost and Installation Cost
- RF and Optical Passives
- Connectors
- Accessories

OpEx:
- Maintenance
- Repair
- Powering
Node Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSO</td>
<td>–62 dBc</td>
<td>51 dBmV @ 550 MHz, analog loading from 55 – 550 MHz, and digital loading from 550 – 1003 MHz, virtual analog channel measures 60 dBmV @ 1003 MHz with 18.0 dB of slope</td>
</tr>
<tr>
<td>CTB</td>
<td>–60 dBc</td>
<td></td>
</tr>
<tr>
<td>CCN</td>
<td>50 dB</td>
<td></td>
</tr>
</tbody>
</table>

Amplifier Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSO</td>
<td>–69 dBc</td>
<td>48 dBmV @ 550 MHz, analog loading from 55 – 550 MHz, and digital loading from 550 – 1003 MHz, virtual analog channel measures 57 dBmV @ 1003 MHz with 18.0 dB of slope</td>
</tr>
<tr>
<td>CTB</td>
<td>–70 dBc</td>
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<tr>
<td>CCN</td>
<td>56 dB</td>
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</tr>
</tbody>
</table>

Typically > 47 dB CCN with All Digital QAM load @ 1 GHz 60 dBmV virtual output with 18 dB of tilt.

Specifications are subject to change without notice.