Power for C5504/05
## C5504/05 Power Spec Table

<table>
<thead>
<tr>
<th>Pin Name</th>
<th>Voltage (V)</th>
<th>Max Current (mA)</th>
<th>Tolerance</th>
<th>Sequencing Order</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDOI ³</td>
<td>1.8 - 3.6</td>
<td>5</td>
<td>-</td>
<td></td>
<td>Supplying <strong>ANA LDO</strong> (supplies VDDA_ANA and VDDA_PLL).</td>
</tr>
<tr>
<td>CVDD¹, CVDDRTC¹</td>
<td>1.05 / 1.30</td>
<td>500</td>
<td>-5%, +10%</td>
<td></td>
<td>Typical Core Power Consumption:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- 0.22mW/MHz for 75% DMAC + 25% NOP (CVDD = 1.3V @ 100MHz, Room Temp)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- 0.14mW/MHz for 75% DMAC + 25% NOP (CVDD = 1.05V @ 100MHz, Room Temp)</td>
</tr>
<tr>
<td>USB_VDD1P3, USB_VDDA1P3</td>
<td>1.3V</td>
<td>70</td>
<td>-5%, +10%</td>
<td></td>
<td>For best performance, these voltages should be powered by a LDO in order to minimize noise.</td>
</tr>
<tr>
<td>DVDDIO, DVDDRTC</td>
<td>1.8 / 2.5 / 2.8 / 3.3</td>
<td>300</td>
<td>-10%, +10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DVDDDEMIF</td>
<td>1.8 / 2.5 / 2.8 / 3.3</td>
<td>245</td>
<td>-10%, +10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>USB_VDDOSC, USB_VDDA3P3, USB_VDDPLL</td>
<td>3.3V</td>
<td>55</td>
<td>-5%, +5%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**
1) CVDD & CVDDRTC can be 1.05V or 1.30V for ≤60MHz operation and 1.30V for operating higher than 60MHz
2) **Power Supply Sequencing:** No sequencing is required (for further details, see section 5.3.1 of the data sheet)
3) If GPAIN pins are used as general purpose outputs, the internal ANA_LDO must not be used as the max current capability of ANA_LDO can be exceeded. In this case use an external regulator to supply VDDA_ANA.
4) This column shows the maximum design current of each power domain. See the C5505/04 data sheet for actual current consumptions of some usage cases. See the data in the “Comments” column above.
Power Options for C5504/05

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**Highest Efficiency, Low Cost Integrated PMIC**
- TPS65054 Multi-output DCDC Converter
- VIN: 3.6V – 5V
- 2 DCDC + 4 LDO's in 4x4mm QFN
- 2.25MHz for Small Inductors
- 180° Out-of-Phase Operation

**High-Efficiency, Dual DCDC + PMIC**
- TPS62400 Dual 600mA/400mA DCDC Converter
- EN1 EN2 DCDC1 DCDC2
- VIN: 3.6V – 6V
- Up to 95% Efficiency
- 2.25MHz for Small Inductors
- Integrated SVS

**Lowest Cost, Dual DCDC @ 3.3V & 1.3V**
- TPS62410 Dual 600mA/400mA DCDC Converter
- EN EN1 DCDC1 DCDC2
- VIN: 3.6V – 6V
- 3.6 – 6V input voltage
- Efficiency up to 95%
- 2.25MHz for Small Inductors

**High Input Voltage, DCDC Converters**
- TPS62111 1.5V DCDC Converter
- VIN: 12V
- TPS62400 Dual 600mA/400mA DCDC Converter
- EN1 EN2 DCDC1 DCDC2
- VIN: 3.6V – 6V
- Input voltage capable up to 17V
- PFM mode for high efficiency during light loads
- Low-Noise LDO (32uVrms)
Highest Efficiency, Single PMIC (TPS65054)

Vin: 3.6V – 5.5V

- 1.8V – 3.3V @ 5mA
- 1.8V – 2.5V – 2.8V – 3.3V @ 300mA
- 1.05V – 1.3V @ 500mA
- 1.8 – 3.3V @ 245mA
- 1.8 – 2.5 – 2.8 – 3.3V @ 70mA
- 1.3V @ 55mA
- 3.5V @ 5mA

- USB_VDD1P3, USB_VDDA1P3,
- USB_VDDOSC, USB_VDDA3P3,
- USB_VDPLL
High Efficiency, Low part count
(TPS62400 + TPS65001)
High Efficiency, Lowest cost
Reduce rails to 1.3V and 3.3V

Vin: 3.6V – 5.5V

TPS62410
800mA

VDDA

SLVA401A
High Input Voltage

**C5504/05**

- **USB_VDDOSC, USB_VDDA3P3, USB_VDDPLL**
- **LDI, DVDDIO, DVDDRTC**
- **CVDD, CVDDRTC**
- **DVDDSEMIF**
- **USB_VDD1P3, USB_VDDA1P3**

**Note:** If DVDDIO, DVDDRTC, DVDDSEMIF, LDI are 3.3V, connect directly to 3.3V
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