

Reference Circuit 6321

WIRELESS BACKHAUL POWER SUPPLIES

OVERVIEW

DETAILS

DESIGN RESOURCES

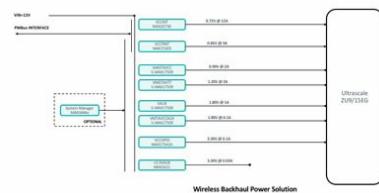
This example reference circuit provides all the power-supply rails and power sequencing necessary to power Xilinx® ZU9/15 Wireless Backhaul power supplies. The module accepts 12V input voltage and generates seven power. The VCCPINT output is set to 0.85V with 3A output-current capability by using the [MAX15303](#) step-down switching regulator. The VCCINT output is set to 0.72V with 12A output current capability by using the [MAX20730](#) PMBus™ step-down switching regulator. Both VMGTAVCC and VMGTAVTT output voltages are generated from the [MAX17509](#) dual step-down regulator. VMGTAVCC is set to 0.9V with 2A capability and the VMGTAVTT is set to 1.2V with 2A current capability. Both VMGTAVCC and VMGTAVTT output voltages have less than 10mV output ripple, which meet the ripple requirements. Another MAX17509 IC generates the VAUX and VMGTAVCCAUX output voltages. VAUX is capable of delivering 1A at 1.8V and VMGTAVCCAUX is capable of delivering 1A at 1.8V. The [MAX17541G](#) generates the VCCPIO output voltage. VCCPIO is capable of delivering 0.5A at 3.3V.

The power module provides extremely compact, high-efficiency power solutions with high-precision output voltages and excellent transient response.

Features

- InTune™ Digital PoL SMPS MAX15303
 - 600kHz Switching Frequency
 - 12V Input Voltage
 - 0.85V at 3A (VCCPINT)
- Integrated Buck Regulator SMPS MAX20730
 - 400kHz Switching Frequency
 - 12V Input Voltage
 - 0.72V at 12A (VCCINT), 10mV ripple
- Dual Buck Regulator SMPS MAX17509
 - 1MHz Switching Frequency
 - 12V Input Voltage
 - 0.9V at 2A (VMGTAVCC), 10mV ripple
 - 1.2V at 2A (VMGTAVTT), 10mV ripple
- Dual Buck Regulator SMPS MAX17509
 - 1MHz Switching Frequency
 - 12V Input Voltage
 - 1.8V at 1A (VAUX)
 - 1.8V at 1A (VMGTAVCCAUX)
- Buck Regulator SMPS MAX17541G
 - 600kHz Switching Frequency
 - 12V Input Voltage
 - 3.3V at 0.5A (VCCPIO)

Diagram


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