

ECR #: 23

Title: Power requirements for the power rails and make A.G.P. Power Supply Tolerance +5%

Release Date: Feb. 17, 1997

Impact: Change

Spec Version: A.G.P. 1.0

Summary:Add a table to the electrical section that defines the voltages and maximum current allowed for each of the power rails on the connector to the add-in card. Also, the A.G.P. power supply spec for Vddq3.3 and Vcc3.3 should be changed to 3.3 ± 0.15 V.

Background:The current revision of the A.G.P. interface specification does not define power requirements for the power rails. The graphics chip and add-in card designers need to know the maximum current for each of the voltage rails. The spec sets a value of about 1.0 Amp per pin on the connector.

Standard 3.3 volt PC power supplies are $\pm 5\%$ tolerance. The other standards such as USB are based on a 5% power supply. This is the tolerance for most chipsets and ASIC chips anyway. It makes it easier for the chip designers to meet spec and the timing margins and it reduces the maximum power for vendors by 5%.

Change Current Specification as shownChange the Vddq spec line in Table 4-1 as follows:

Table 4-1: DC Specifications for A.G.P 1X Signaling

Symbol	Parameter	Condition	Min	Max	Units	Notes
Vddq	I/O Supply Voltage		3.15	3.45	V	1

Add the following text to the A.G.P. interface specification in section 4.4.3.5 for add-in card voltage and current limits.

“The following table gives the voltage ranges for the supplies to the add-in card and maximum currents that can be supplied via the connector:”

Table 4-13: Add-in Card Power Supply Limits

Symbol	Parameter	Condition	Min	Max	Units	Notes
Vddq	I/O Supply Voltage	$I_{MAX} = 8.0A$	3.15	3.45	V	1
VCC3.3	3.3 V Power Supply	$I_{MAX} = 6.0A$	3.15	3.45	V	
VCC5	5 V Power Supply	$I_{MAX} = 2.0A$	4.75	5.25	V	
VCC12	12 V Power Supply	$I_{MAX} = 1.0A$	11.4	12.6	V	

Notes:

1. The Vddq current is due only to the A.C. switching transients of the A.G.P. I/O buffers. This level should not be seen in practice, but represents the current carrying capability of the connector. Little D.C. current is expected.