

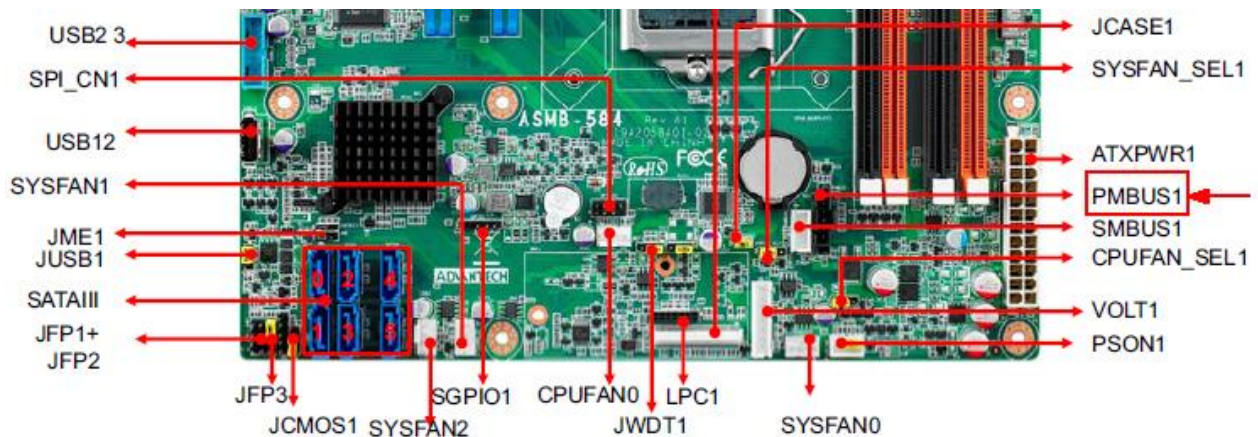
Advantech AE Technical Share Document

Date	2019/8/6	Release Note	<input type="checkbox"/> Internal <input checked="" type="checkbox"/> External
Category	<input checked="" type="checkbox"/> FAQ <input type="checkbox"/> SOP	Related OS	None
Abstract	Can't recognize all capacity of memory, or can't booting with the redundant power supply.		
Keyword	PMBus, SMBus, redundant PSU, DIMMA0, DIMM A1,IPMI		
Related Product	ASMB-584, ASMB-784,ASMB-785,ASMB-786G2		

■ **Problem Description:**

When we install all of 4 DIMM RAM with PMbus of redundant power supply using, the system recognize half capacity of memory only.

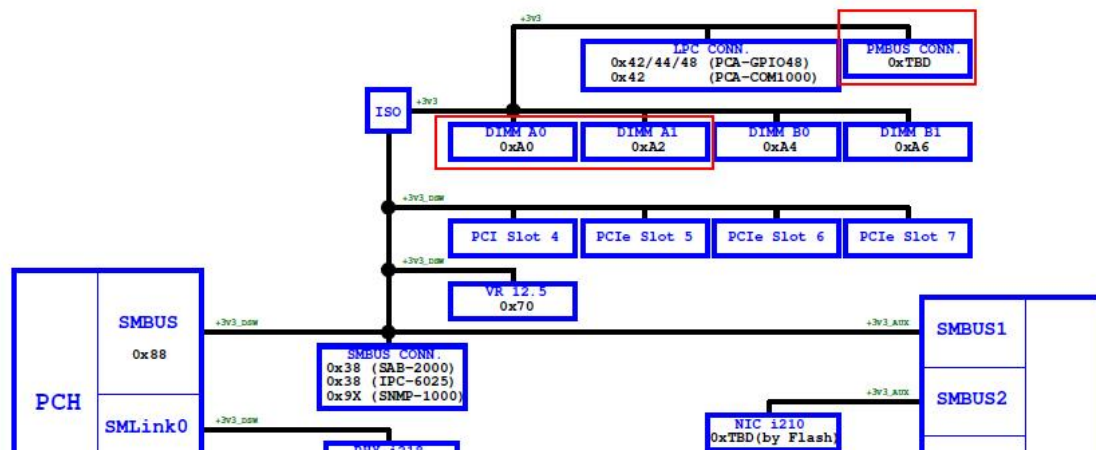
Or we install RAM in the DIMMA0/A1 only with PMbus using, that system can't boot.



■ **Problem Analysis:**

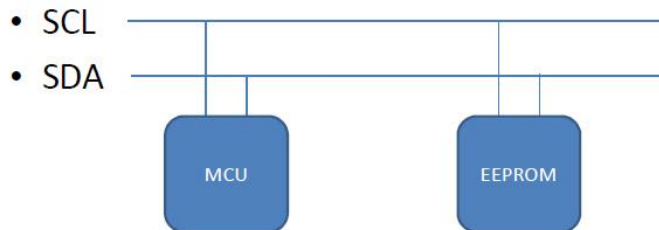
1. Currently redundant power supply has [PMBus](#) function which use SMbus to provide some status of PSU, so user can remote to get these status with some SMbus tools.
2. The PMbus also need some address of SMbus (**0XA0** and **0XA2**).
3. the SMbus design of ASMB-584/784 is using intel PCH, and the PMbus also use the same SMbus controller as below diagram
4. the address of DIMMs of ASMB-584/784 are **0XA0**, **0XA2**, 0XA4, 0XA6

SMBUS



PM bus Address

- BP 0x4A EEPROM 0xAC
- Module 0xB0 0xB2 EEPROM 0xA0 0xA2



Because the PMbus and DIMMs are using the same address of SMBus in 0xA0, 0xA2, that cause the system can't recognize the memory of DIMMA0, DIMMA1.

■ **Brief Solution:**

1. If customer doesn't need to use remote monitoring function with IPMI module in ASMB-584/784, we can remove the PMbus cable from MB.
2. If customer need to use remote monitoring function with IPMI module in ASMB-584/784 , please don't install the RAM in DIMMA0/A1
3. Other Server grade products that using different design of SMBus, so they don't have this kind of symptom, and other desktop MBs don't have the SMBus of DIMMs or no PMbus connector.

■ **Reference:**

1. PMbus specification: <http://pmbus.org/Home>
2. Smbus specification: <http://smbus.org/specs/>