

## DDR1/DDR2/DDR3 HYNIX Module Ordering Information

### DDR1

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>
HYM	XX	X	XX	X	X	X	XX	X	X	X	X	X	X	X

### DDR2

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>
HMP	X	XX	X	X	X	X	X	X	X	XX	XX

### DDR2

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>
HYM	XX	X	XX	X	XX	X	X	X	X	X	X	XX	X

### DDR3

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>
HMT	X	XX	X	X	X	X	X	X	X	XX

#### 1 Memory Module :

DDR1 : HYM
DDR2 : HMP
DDR2 : HYM
DDR3 : HMT

#### 8 Die Generation

DDR1	BLANK : 1st Gen
	A : 2nd Gen
	B : 3rd Gen
	C : 4th Gen

#### 2 Component Group

DDR1	D1 - 128Mb DDR SDRAM	D2 - 256Mb DDR SDRAM
	D5 - 512Mb DDR SDRAM	DG - 1Gb DDR SDRAM

##### Component Density

DDR2	2 - 256Mb DDR2 SDRAM	5 - 512Mb DDR2 SDRAM
	1 - 1Gb DDR2 SDRAM	3 - 2Gb DDR2 SDRAM
	4 - 4Gb DDR2 SDRAM	

##### Component Group

DDR2	P2 : 256Mb DDR2 SDRAM 8K Ref./48Banks
	P5 : 512Mb DDR2 SDRAM 8K Ref./48Banks
	P1 : 1Gb DDR2 SDRAM 8K Ref./48Banks
	P3 : 2Gb DDR2 SDRAM 8K Ref./48Banks
	P4 : 4Gb DDR2 SDRAM 8K Ref./48Banks

##### Component Density

DDR3	5 - 512Mb	1 - 1Gb
	3 - 2Gb	4 - 4Gb
	8 - 8Gb	

#### DDR2 Package Material

L -	Leaded
P -	Lead Free (ROHS Compliant)
R -	Lead Free & Halogen Free (ROHS Compliant)

#### DDR2 Power Consumption

Blank -	Normal
L -	Low Power

#### DDR3 Package Material

L -	Leaded
P -	Lead Free (ROHS Compliant)
R -	Lead Free & Halogen Free (ROHS Compliant)

#### 9 Power Consumption

DDR1	Blank -	Normal
	L -	Low Power

##### Component Organization

DDR2	4 -	x4 Based	8 -	x8 Based
	6 -	x6 Based		

### 3 Power Supply & Interface

DDR1	BLANK : VDD 2.5V & VDDQ 2.5V W : VDD 2.5V & VDDQ 1.8V S : VDD 1.8V & VDDQ 1.8V
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#### Memory Depth

DDR2	32- 32M      51- 512M 64- 64M      1G- 1G 12- 128M     2G- 2G 25- 256M     4G- 4G
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#### Power Supply & Interface

DDR2	Blank : VDD 1.8V & VDDQ 1.8V
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#### Memory Depth

DDR3	16 - 16Mb      51 - 521Mb 32 - 32Mb      1G - 1Gb 64 - 64Mb      2G - 2Gb 12 - 128Mb     4G - 4Gb 25 - 256Mb     8G- 8Gb
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### 4 Memory Depth

DDR1	8- 8M          25- 256M 16- 16M        51- 512M 32- 32M        1G- 1G 64- 64M        2G- 2G 12- 128M
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#### Modules Type

DDR2	U : 240pin Unbuffered DIMM R : 240pin Registered DIMM E : 276pin Registered DIMM P : 240pin Registered DIMM with CMD/ADDR Parity V : 240pin VLP Registered DIMM S : 240pin Unbuffered SO DIMM F : 240pin Fully Buffered DIMM with Full DIMM Heat Spreader L : 240pin Fully Buffered DIMM with Fully DIMM Heat Spreader
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#### Memory Depth

DDR2	16 - 16M      51 - 512M 32 - 32M      1G - 1G 64 - 64M      2G - 2G 12 - 128M     4G - 4G 25 - 256M
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#### Module Type

DDR3	U - 240pin Unbuffered DIMM R - 240pin Registered DIMM V - 240pin VLP Registered DIMM S - 204pin Unbuffered SO DIMM
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### Package Type

DDR2	Blank : FBGA Single Die P - FBGA Stak R - FBGA DDP (Dual Die Package ) H - FBGA DDP Stack
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### Organization

DDR3	4 - x4 Based      8 - x8 Based 6 - x16 Based
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### 10 Package Type

DDR1	Blank : TSOP      F : FBGA
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#### Operating Temperature & Power Consumption

DDR2	C - Commercial Temp2 & Normal P L - Commercial Temp2 & Low P E - Commercial Temp3& Lormal P I - Commercial Temp4 & Low P
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#### Package Material

DDR2	Blank : Normal P - Lead Free(ROHS Compliant) R - Lead & Halogen Free (ROHS Compliant)
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#### Operating Temperature & Power Consumption

DDR3	C - Commercial Temp2 & Normal P L - Commercial Temp2 & Low P E - Extended Temp3& Lormal P I - Industrial Temp4& Normal Power A - Commercial Temp1 & 1.35VDD P
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### 11 Package Stack

DDR1	Blank : Single Die      S: Hynix Stack K : M&T Stack          J: Other Stack M : Hynix DDP
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#### Module Speed (Tcl-Trcd-Trp)

DDR2	G7 - DDR2-1066 7-7-7 S6 - DDR2-800 6-6-6 S5 - DDR2-800 5-5-5 Y5 - DDR2-667 5-5-5 Y4 - DDR2-667 4-4-4 C4 - DDR2-533 4-4-4 E3 - DDR2-400 3-3-3
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#### Component Configuration

DDR2	4 - x4 Based 8 - x8 Based 6 - x6 Based
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## 5 Modules Type

DDR1	BLANK : 184pin Unbuffered DIMM G : 184pin Registered DIMM M : 200pin SO DIMM R : 200pin Registered DIMM E : 208pin Registered DIMM
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### Data Width

DDR2	6- x64 7- x72
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### Module Type

DDR2	B - Fully Buffered DIMM F - Fully Buffered DIMM with Full DIMM Heat Spreader E - 276pin Registered DIMM M - 214pin Micro-DIMM N - 244pin Mini -DIMM P - 240pin Registered DIMM with Command /Address Parity R - 240pin Registered DIMM S - 200pin SO-DIMM U - 240pin Unbuffered DIMM
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### Data Width

DDR3	6 - x64      7 - x72
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## 6 Data Width

DDR1	64- x64 72- x72
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### DDR2 Die Generation

DDR2	64 - x64 72 - x72	M - 1st      D - 5th A - 2nd      E - 6th B - 3rd      F - 7th C - 4th      G - 8th
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### Die Generation

DDR3	M - 1st      D - 5th A - 2nd      E - 6th B - 3rd      F - 7th C - 4th      G - 8th
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## 7 Refresh / Banks

DDR1	1- 4K Ref./2Banks 2- 8K Ref./2Banks 3- 16K Ref./2Banks 5- 4K Ref./4Banks 6- 8 Ref./4Banks 7- 16K Ref./4Banks
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### Package Type

DDR2	F- FBGA SDP ( Single Die Package ) P - FBGA DDP ( Dual Die Package ) H - FBGA QDP ( Quad Die Package )
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### Speed (Tcl-Trcd-Trp )

DDR3	P9 - DDR3-1600 9-9-9 PA - DDR3-1600 10-10-10 PB - DDR3-1600 11-11-11 H8- DDR3-1333 8-8-8 H9 - DDR3-1333 9-9-9 HA - DDR3-1333 10-10-10 G7 - DDR3-1066 7-7-7 G8 - DDR3-1066 8-8-8 S5 - DDR3-800 5-5-5 S6 - DDR3-800 6-6-6
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## 12 Package Material

DDR1	Blank : Normal P : Lead Free(ROHS* Compliant) R : Lead & Halogen Free (ROHS* Compliant)
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### Module Options

DDR2	FBDIMM1      Dx - IDT AMB Ex - NEC AMB Nx - Intel AMB Other DIMM'S L0 - Low Profile
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### Module Revision

DDR2	R - Low Cost L - Low Profile T - DDR2 667 SODIMM with Thermal Sensor
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## 13 Compnent Configuration

DDR1	4- x4 Based      8- x8 Based 6- x16 Based
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### AMB Vendor & Revision

DDR2	Nx - Intel Ex - NEC Dx - IDT Cx - ICS Px - Inphhi Ax - Infineon Mx - Micron
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## 14 Module Revision

DDR1	Blank: Origianl      A~H : Module Rev. M : Low Profile      R : Low Cost J : DDR333 / 400 Unbuffered DIMM N : DDR400 Registered DIMM U : IBM System Regatta E4 K : DDR500 Unbuffered DIMM
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**Die Generation**

DDR2	<b>Blank - 1st Gen</b>	<b>D - 5th Gen</b>
	<b>A - 2nd Gen</b>	<b>E - 6th Gen</b>
	<b>B - 3rd Gen</b>	<b>F - 7th Gen</b>
	<b>C - 4th Gen</b>	<b>G - 8th Gen</b>

**Package Type**

DDR3	<b>F : FBGA SDP (Single Die Packge )</b>
	<b>M : FBGA DDP (Dual Die Package )</b>
	<b>H : FBGA QDP ( Quad Die Package )</b>

**Speed**

DDR2	<b>S6 - DDR2-800 6-6-6</b>
	<b>S5 - DDR2-800 5-5-5</b>
	<b>Y5 - DDR2-667 5-5-5</b>
	<b>Y4 - DDR2-667 4-4-4</b>
	<b>C4 - DDR2-533 4-4-4</b>
	<b>E3 - DDR2-400 3-3-3</b>

**15 Package Type**

DDR1	<b>D5 : DDDR500 3-4-4</b>	<b>D43 : DDR400 3-3-3</b>
	<b>D4 : DDR400 3-4-4</b>	<b>J : DDR333 2.5-3-3</b>
	<b>M : DDR266 2-2-2</b>	<b>K : DDR266A 2-3-3</b>
	<b>H : DDR266B 2.5-3-3</b>	<b>L : DDR200 2-2-2</b>



