ADVANTECH

DRAM Memory Module

Portfolio Introduction

PAPS Product Management
Q4 / 2014

PART I.

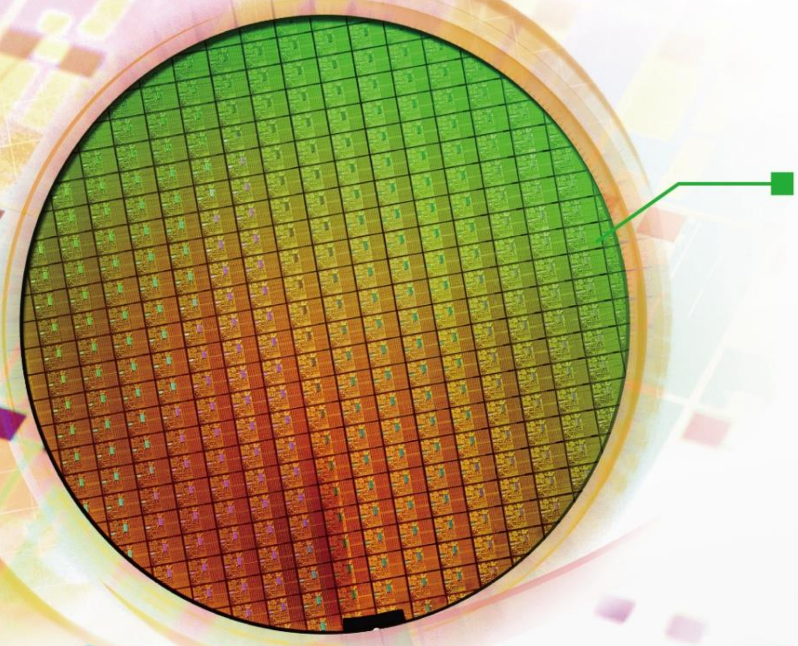
ADVANTECH QUALIFIED DIMM

(AQD)

ADVANTECH QUALIFIED DIMM

Built to Last ---

The toughest memory module for rigorous applications



Best Quality Component

Brand DRAM

AQD only uses the **BEST** quality and most durable components for industrial applications. This represents the top 15% of total wafer output.

SELLING PROPOSITION

QUALITY

RELIABILITY

COMPATIBILITY

LONGEVITY

LIFE-TIME WARRANTY

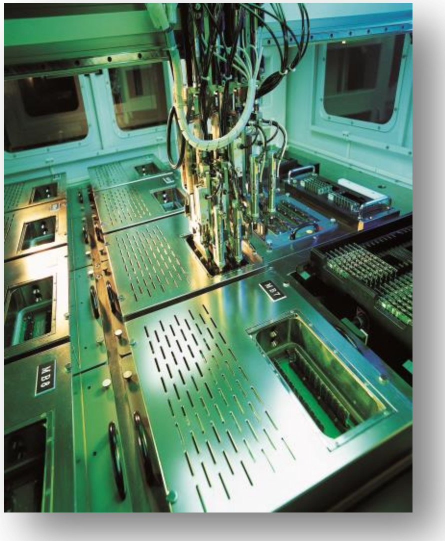

Quality Assurance Program
Material Selection Management
ISO-9000 Manufacturing Process
Industrial Testing Standard

100% Module On Board Testing

Shock & Vibration Test

Chamber Test

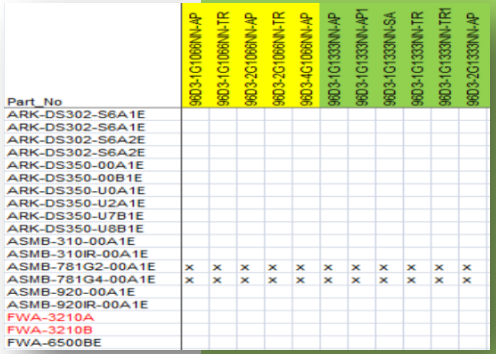
Functional Test



Check & Compare

Both Teams Cross Compare Testing Results to Ensure M/B & Memory Compatibility

Memory Compatibility Testing Result

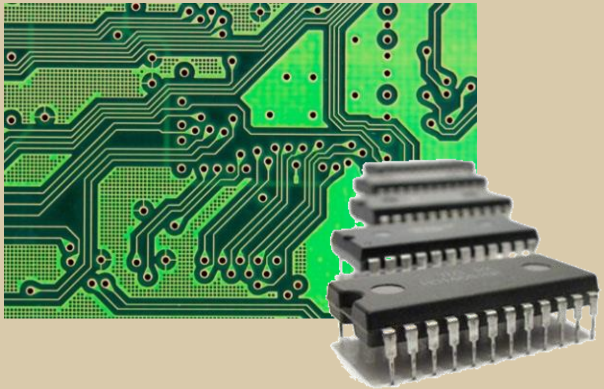


Part_No	96D3-1G1066NN-AP	96D3-1G1066NN-TR	96D3-2G1066NN-AP	96D3-2G1066NN-TR	96D3-4G1066NN-AP	96D3-1G1333NN-AP	96D3-1G1333NN-AP1	96D3-1G1333NN-SA	96D3-1G1333NN-TR	96D3-1G1333NN-TR1	96D3-2G1333NN-AP
ARK-DS302-S6A1E											
ARK-DS302-S6A1E											
ARK-DS302-S6A2E											
ARK-DS302-S6A2E											
ARK-DS350-00A1E											
ARK-DS350-00B1E											
ARK-DS350-U0A1E											
ARK-DS350-U2A1E											
ARK-DS350-U7B1E											
ARK-DS350-U8B1E											
ASMB-310-00A1E											
ASMB-310IR-00A1E											
ASMB-781G2-00A1E	x	x	x	x	x	x	x	x	x	x	x
ASMB-781G4-00A1E	x	x	x	x	x	x	x	x	x	x	x
ASMB-920-00A1E											
ASMB-920IR-00A1E											
FWA-3210A											
FWA-3210B											
FWA-6500BE											

Motherboard Team DOA Testing Result

☐ **Locked BOM**

- **IC Spec**
- **PCB Layout**

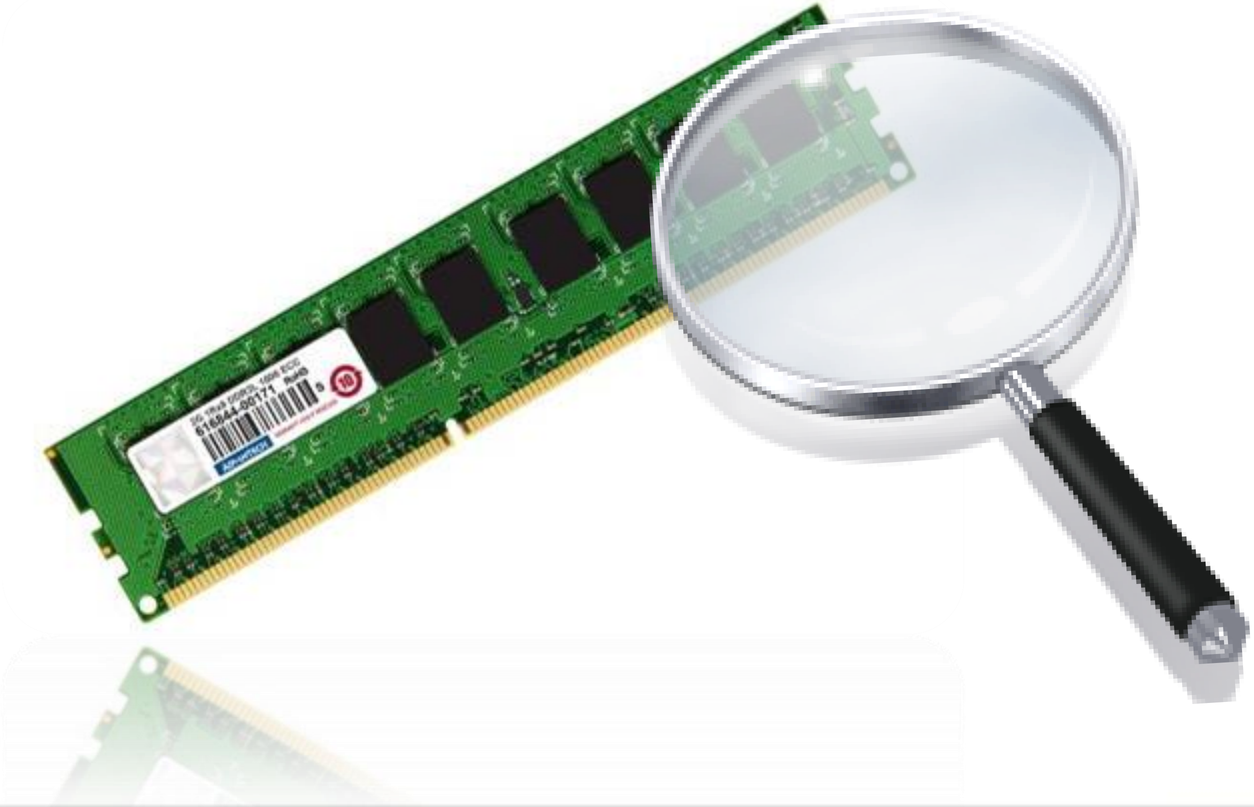


☐ **Minimum 3 Years Longevity**

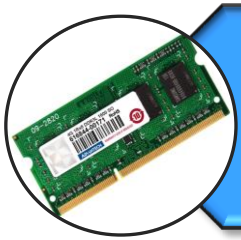
Every ADVATECH QUALIFIED DIMM (AQD) is back up by Lifetime Warranty

Small Things Matter

For better durability all AQD DRAM applies IPC-2221,using 30u Golden plated connector to ensure DRAM's stability in any given circumstances. (Est. Phase in schedule Q4 / 2014)



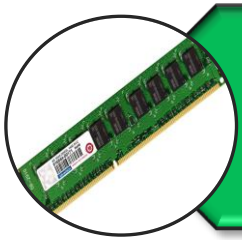
AQD Product Portfolio



Unbuffered DIMM

* General IPC Applications

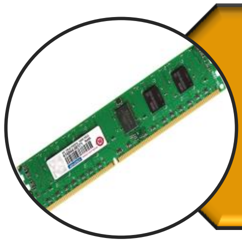
* 1GB, 2GB, 4GB & 8GB



ECC Unbuffered DIMM

* Improve system productivity and efficiency

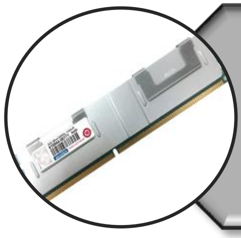
* 2GB, 4GB & 8GB



Registered DIMM

* Providing the best solution for capacity and performance requirement.

* 4GB, 8 GB & 16GB



Load Reduce DIMM

* Providing the biggest capacity per server with the lowest energy costs

* 32GB

Product Roadmap
2014 Q4

AQD Naming Convention

A Q D – S D 3 L 2 G N V 1 6 – S G

PRODUCT NAME
A=Advantech
Q=Qualified
D=DIMM

TYPE
D2=DDR2
D3=DDR3
SD2=DDR2 SO-DIMM
SD3=DDR3 SO-DIMM

VOLTAGE
Blank= 1.5V
L=1.35V
U=1.25V

CAPACITY
1G=1GB
2G=2GB
4G=4GB
8G=8GB
16 =16GB
32 =32GB
64= 64GB

ADVNCED FEATURE
N= NON-ECC and NON REGISTER
R= REGISTER
E= ECC ONLY
L=Load reduce

Height
V= VLP

SPEED
40=400Mt/s
53=533Mt/s
66=667Mt/s
80=800Mt/s
10=1066Mt/s
13=1333Mt/s
16=1600Mt/s
18=1866Mt/s

FAB
S=Samsung
H=Hynix
M=Micron /Elpida
N=Nanya

VERSION
X=1Gb(128Mx8)
T=1Gb(256Mx4)
Q=2Gb(256Mx8)
Y=2Gb(512Mx4)
G=4Gb(512Mx8)
Z= 4Gb(1Gbx4)
M=8Gb(2Gbx4)

Color / Symbol Key

Available Phasing-out Planning

ECC	ECC	B	Fully Buffered
R	Registered	LR	Load Reduce
LV	Low Voltage	VLP	Very Low Profile
🌡	Wide Temperature	F	Focus Product
NEW	New		

AQD DDR3 Memory Modules Portfolio

		1333		1600		
		LONG	SHORT	LONG		SHORT
		Non-VLP	Non-VLP	VLP	Non-VLP	Non-VLP
U-DIMM	1GB (128X8)	AQD-D31GN13-SX AQD-D31GN13-HX	AQD-SD31GN13-SX AQD-SD31GN13-HX			
	2GB (256MX8)			**AQD-D31GN16-HC** (NEW)	AQD-D3L2GN16-SQ AQD-D3L2GN16-HQ	**AQD-SD31GN16-HC** (NEW) AQD-SD3L2GN16-SQ AQD-SD3L2GN16-HQ
	4GB (512MX8)				AQD-D3L4GN16-SG AQD-D3L4GN16-HG AQD-D3L4GN16-MG	AQD-SD3L4GN16-SG AQD-SD3L4GN16-HG AQD-SD3L4GN16-MG
	4GB (256MX8)				AQD-D3L4GN16-MQ	AQD-SD3L4GN16-MQ
	8GB (512MX8)				AQD-D3L8GN16-SG AQD-D3L8GN16-HG AQD-D3L8GN16-MG	AQD-SD3L8GN16-SG AQD-SD3L8GN16-HG AQD-SD3L8GN16-MG
ECC U-DIMM	2GB (256MX8)				AQD-D3L2GE16-SQ	AQD-SD3L2GE16-MQ
	4GB (512MX8)				AQD-D3L4GE16-SG	AQD-SD3L4GE16-SG AQD-SD3L4GE16-MG
	8GB (512MX8)				AQD-D3L8GE16-SG	AQD-SD3L8GE16-SG AQD-SD3L8GE16-MG
R-DIMM	4GB (512MX8)				AQD-D3L4GR16-SG	
	8GB (512MX8)	AQD-D3L8GR13-SG		AQD-D38GRV16-SG AQD-D3L8GRV16-SG	AQD-D3L8GR16-SG	
	16GB (2Gbx4)			AQD-D316RV16-SM AQD-D3L16RV16-SM		
LOAD REDUCE	32GB (2GbX4)	AQD-D3L32L13-SM				

U-DIMM | ECC U-DIMM | R-DIMM | Load Reduce

Available Phasing-out Planning
ECC ECC
B Fully Buffered
R Registered
LR Load Reduce
LV Low Voltage
VLP Very Low Profile
Wide Temperature
F Focus Product
NEW New

DDR3 DIMM

1GB

AQD-D31GN13-SX F
240PIN, 1333Mt/s, 128Mx8, 1.181” Height, Samsung, 1.5V

AQD-D31GN13-HX F
240PIN, 1333Mt/s, 128Mx8, 1.181” Height, Hynix, 1.5V EOL:Q4/2014

AQD-D31GN16-HC F NEW
240PIN, 1600Mt/s, 128Mx16, 1.181” Height, Hynix, 1.5V

2GB

AQD-D3L2GN16-SQ F LV
240PIN, 1600Mt/s, 256Mx8, 1.181” Height, Samsung Chips 1.35V

AQD-D3L2GN16-HQ F LV
240PIN, 1600Mt/s, 256Mx8, 1.181” Height, Hynix Chips 1.35V

4GB

AQD-D3L4GN16-SG F LV
240PIN, 1600Mt/s, 512Mx8, 1.181” Height, Samsung Chips 1.35V

AQD-D3L4GN16-HG F LV
240PIN, 1600Mt/s, 512Mx8, 1.181” Height, Hynix Chips 1.35V

AQD-D3L4GN16-MG F LV
240PIN, 1600Mt/s, 512Mx8, 1.181” Height, Micron Chips 1.35V

AQD-D3L4GN16-MQ F LV
240PIN, 1600Mt/s, 256Mx8, 1.181” Height, Micron Chips 1.35V

8GB

AQD-D3L8GN16-SG F LV
240PIN, 1600Mt/s, 512Mx8, 1.181” Height, Samsung Chips 1.35V

AQD-D3L8GN16-HG F LV
240PIN, 1600Mt/s, 512Mx8, 1.181” Height, Hynix Chips 1.35V

AQD-D3L8GN16-MG F LV
240PIN, 1600Mt/s, 512Mx8, 1.181” Height, Micron Chips 1.35V

Q4/2014 Q1/2015 Q2/2015 Q3/2015

Enabling an Intelligent Planet

ADVANTECH

U-DIMM | ECC U-DIMM | R-DIMM | Load Reduce

Available | Phasing-out | Planning

ECC ECC | B Fully Buffered | R Registered | LR Load Reduce
LV Low Voltage | VLP Very Low Profile | 🌡 Wide Temperature
F Focus Product | NEW New

DDR3 SO-DIMM

Capacity	Part number	Description	Marks
1GB	AQD-SD31GN13-SX	204PIN, 1333Mt/s, 128Mx8, 1.181” Height, Samsung Chips 1.5V	F
	AQD-SD31GN13-HX	204PIN, 1333Mt/s, 128Mx8, 1.181” Height, Hynix Chips 1.5V EOL:Q4/2014	F
	AQD-SD31GN16-HC	204PIN, 1600Mt/s, 128Mx16 1.181” Height, Hynix Chips 1.5V	F, NEW
2GB	AQD-SD3L2GN16-SQ	204PIN, 1600Mt/s, 256Mx8, 1.181” Height, Samsung Chips 1.35V	F, LV
	AQD-SD3L2GN16-HQ	204PIN, 1600Mt/s, 256Mx8, 1.181” Height, Hynix, Chips 1.35V	F, LV
4GB	AQD-SD3L4GN16-SG	204PIN, 1600Mt/s, 512Mx8, 1.181” Height, Samsung Chips 1.35V	F, LV
	AQD-SD3L4GN16-HG	204PIN, 1600s, 512Mx8, 1.181” Height, Hynix Chips 1.35V	F, LV
	AQD-SD3L4GN16-MG	204PIN, 1600s, 512Mx8, 1.181” Height, Micron Chips 1.35V	F, LV
	AQD-SD3L4GN16-MQ	204PIN, 1600s, 256Mx8, 1.181” Height, Micron Chips 1.35V	F, LV
8GB	AQD-SD3L8GN16-SG	204PIN, 1600Mt/s, 512Mx8, 1.181” Height, Samsung, Chips 1.35V	F, LV
	AQD-SD3L8GN16-HG	204PIN, 1600Mt/s, 512Mx8, 1.181” Height, Hynix, Chips 1.35V	F, LV
	AQD-SD3L8GN16-MG	204PIN, 1600Mt/s, 512Mx8, 1.181” Height, Micron, Chips 1.35V	F, LV

Enabling an Intelligent Planet

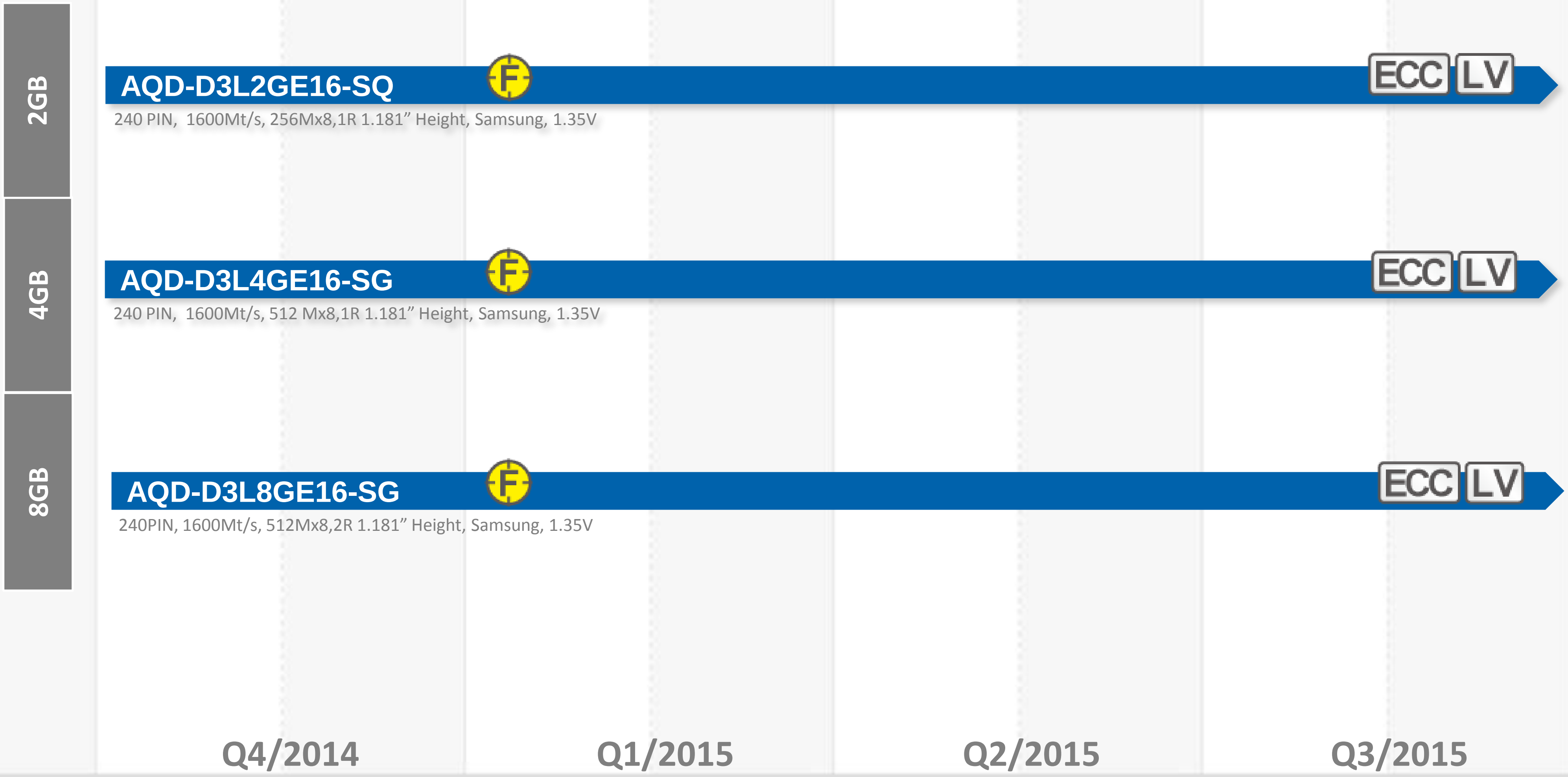
ADVANTECH

Available | Phasing-out | Planning

ECC	ECC	B	Fully Buffered	R	Registered	LR	Load Reduce
LV	Low Voltage	VLP	Very Low Profile	🌡	Wide Temperature		
Ⓕ	Focus Product	NEW	New				

DDR3 DIMM – Advanced Feature

ECC



2GB

AQD-D3L2GE16-SQ Ⓕ ECC LV

240 PIN, 1600Mt/s, 256Mx8,1R 1.181” Height, Samsung, 1.35V

4GB

AQD-D3L4GE16-SG Ⓕ ECC LV

240 PIN, 1600Mt/s, 512 Mx8,1R 1.181” Height, Samsung, 1.35V

8GB

AQD-D3L8GE16-SG Ⓕ ECC LV

240PIN, 1600Mt/s, 512Mx8,2R 1.181” Height, Samsung, 1.35V

Q4/2014 | Q1/2015 | Q2/2015 | Q3/2015

U-DIMM | **ECC U-DIMM** | R-DIMM | Load Reduce

Available | Phasing-out | Planning

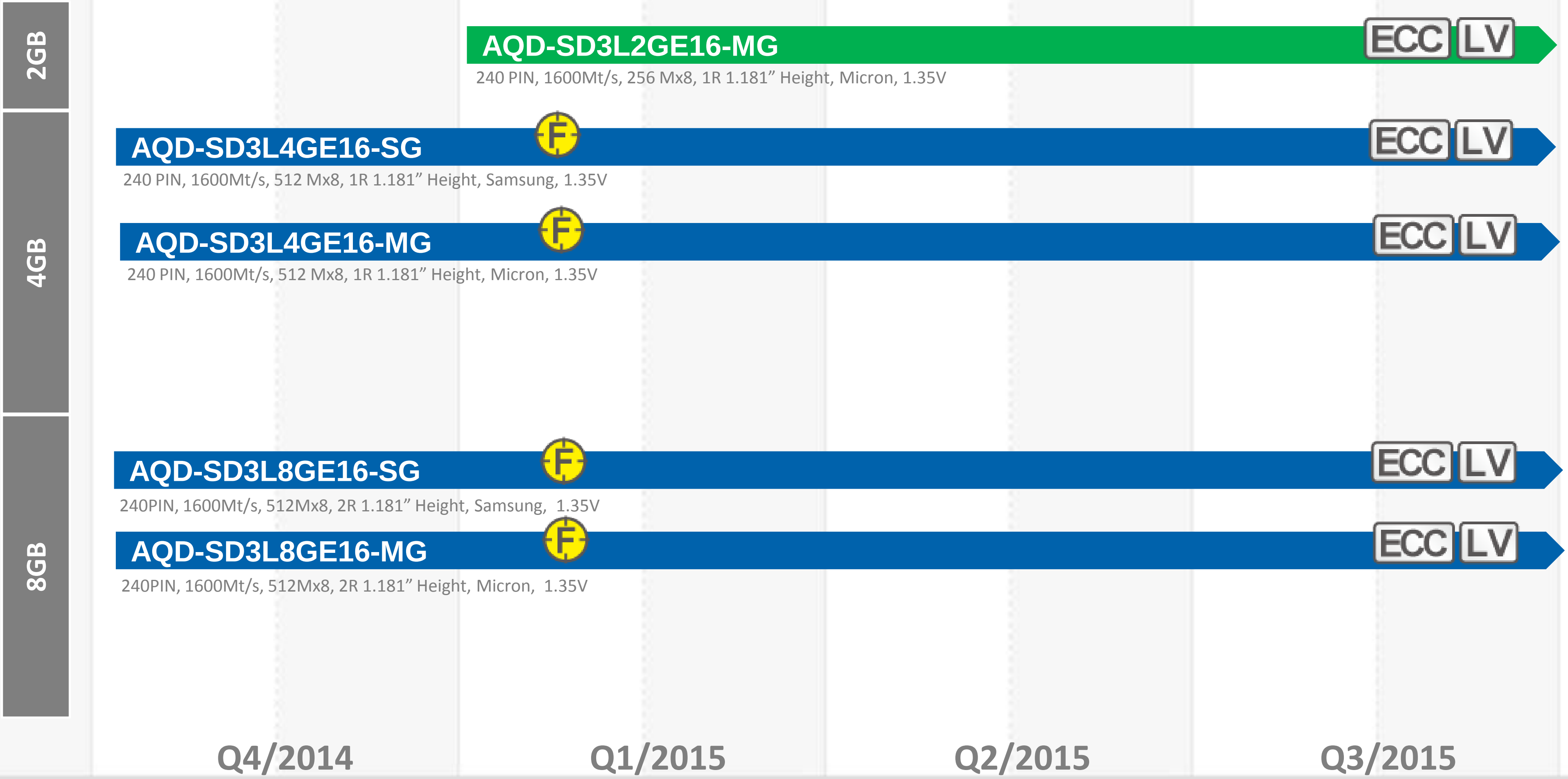
ECC ECC | B Fully Buffered | R Registered | LR Load Reduce

LV Low Voltage | VLP Very Low Profile | Wide Temperature

F Focus Product | NEW New

DDR3 SO-DIMM – Advanced Feature

ECC



AQD-SD3L2GE16-MG
240 PIN, 1600Mt/s, 256 Mx8, 1R 1.181” Height, Micron, 1.35V

AQD-SD3L4GE16-SG
240 PIN, 1600Mt/s, 512 Mx8, 1R 1.181” Height, Samsung, 1.35V

AQD-SD3L4GE16-MG
240 PIN, 1600Mt/s, 512 Mx8, 1R 1.181” Height, Micron, 1.35V

AQD-SD3L8GE16-SG
240PIN, 1600Mt/s, 512Mx8, 2R 1.181” Height, Samsung, 1.35V

AQD-SD3L8GE16-MG
240PIN, 1600Mt/s, 512Mx8, 2R 1.181” Height, Micron, 1.35V

Available | Phasing-out | Planning

ECC	ECC
B	Fully Buffered
R	Registered
LR	Load Reduce
LV	Low Voltage
VLP	Very Low Profile
🌡	Wide Temperature
F	Focus Product
NEW	New

DDR3 DIMM – Advanced Feature

Registered

4GB	**AQD-D3L4GR16-SG**	240PIN, 1600 Mt/s, 512 Mx8 1R, 1.18” Height, Samsung Chips 1.35V	F R LV
8GB	**AQD-D3L8GR13-SG**	240PIN, 1333 Mt/s, 512 Mx8 2R, 1.18” Height, Samsung Chips 1.35V	F R LV
	AQD-D3L8GR16-SG	240PIN, 1600 Mt/s, 512 Mx8 2R, 1.18” Height, Samsung Chips 1.35V	F R LV
	AQD-D38GRV16-SG	240PIN, 1600 Mt/s, 512 Mx8 2R, 1.18” Height, Samsung Chips 1.35V	F VLP R
	AQD-D3L8GRV16-SG	240PIN, 1600 Mt/s, 512 Mx8 2R, VLP 0.74” Height, Samsung Chips 1.35V	F VLP R LV
16GB	**AQD-D316RV16-SM**	240PIN, 1600 Mt/s, 2Gx4 2R, 0.74“ Height, Samsung, Chips 1.35V	F VLP R
	AQD-D3L16RV16-SM	240PIN, 1600 Mt/s, 2Gx4 2R, 0.74“ Height, Samsung, Chips 1.35V	F VLP R LV

Q4/2014 Q1/2015 Q2/2015 Q3/2015

U-DIMM | ECC U-DIMM | R-DIMM | **Load Reduce**

Available | Phasing-out | Planning

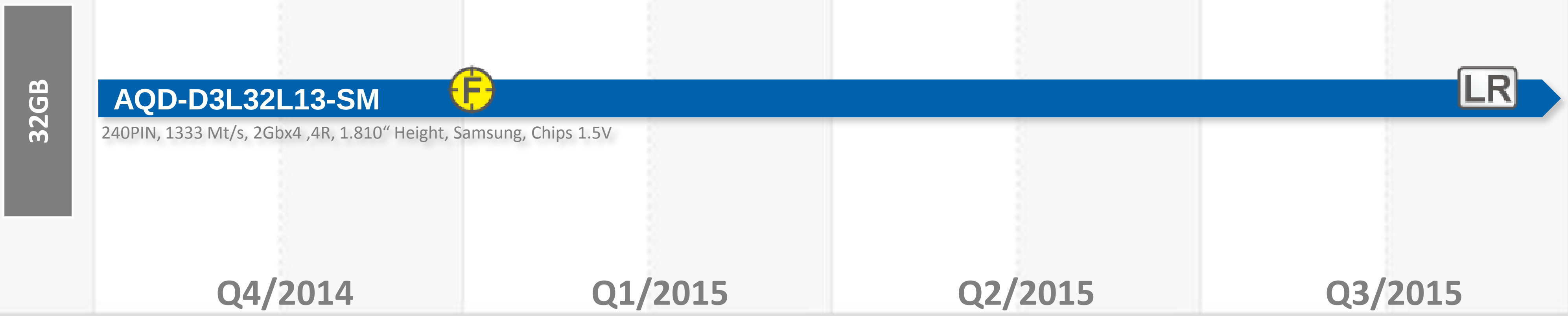
ECC ECC | B Fully Buffered | R Registered | LR Load Reduce

LV Low Voltage | VLP Very Low Profile | 🌡 Wide Temperature

F Focus Product | NEW New

DDR3 SO-DIMM – Advanced Feature

Load Reduce



32GB

AQD-D3L32L13-SM F LR

240PIN, 1333 Mt/s, 2Gbx4 ,4R, 1.810“ Height, Samsung, Chips 1.5V

Q4/2014 | Q1/2015 | Q2/2015 | Q3/2015

PART II,

96 PARTS MEMORY MODULE

96 DRAM Naming Convention

9 6 D M – 6 4 M 1 0 0 N N – A P

Memory Type

DR1=DDR
DR1I=INDUSTRIAL GRADE DDR1
D2=DDR2
D2I=INDUSTRIAL GRADE DDR2
D3=DDR3
SS=SDRAM SO-DIMM
SD=DDR SO-DIMM
SDI=INDUSTRIAL GRADE SO-DDR
SD2=DDR2 SO-DIMM
SD2I=INDUSRIAL GRADE SO-DDR2
SD3=DDR3 SO-DIMM
SD3I=INDUSTRIAL GRADE SO-DDR3

Capacity

64M=64MB
128M=128MB
256M=256MB
512M=512MB
1G=1GB
2G=2GB
4G=4GB
8G=8GB

Speed

100=100Mb/s
133=133Mb/s
266=266Mb/s
333=333Mb/s
400=400Mb/s
533=533Mb/s
667=667Mb/s
800=800Mb/s
1066=1066Mb/s
1333=1333Mbs

Advance Feature

NN=
NON-ECC and NON-REGISTER
ER=
ECC AND REGISTER
E=
ECC ONLY

Manufacturer

AP=APACER
ATL=ATP
DA=DATA
IK=INNODISK
KI=KINGSTON
MI=MIRCON
SB=SWISSBIT
TR=TRANSCEND
VI=VIRTIUM

Color / Symbol Key

Available Phasing-out Planning

ECC ECC
B Fully Buffered
Ⓡ Registered
LR Load Reduce
LV Low Voltage
VLP Very Low Profile
🌡 Wide Temperature
Ⓕ Focus Product
NEW New

Available Phasing-out Planning

ECC ECC
B Fully Buffered
R Registered
LR Load Reduce
LV Low Voltage
VLP Very Low Profile
🌡 Wide Temperature
F Focus Product
NEW New

SDRAM SO-DIMM

64MB

96SS-64M133NN-TR LV
144PIN, 133Mb/s, 8Mx16, 0.945" Height, Samsung Chips

128MB

96SS-128M133NN-TR
144PIN, 133Mb/s, 8Mx16, 1.150" Height, Samsung Chips

96SS-128M133NN-TR1 LV
144PIN, 133Mb/s, 16Mx16, 0.945" Height, Samsung Chips

96SS-256M133NN-TR
144PIN, 133Mb/s, 16Mx16, 1.250" Height, Samsung Chips

256MB

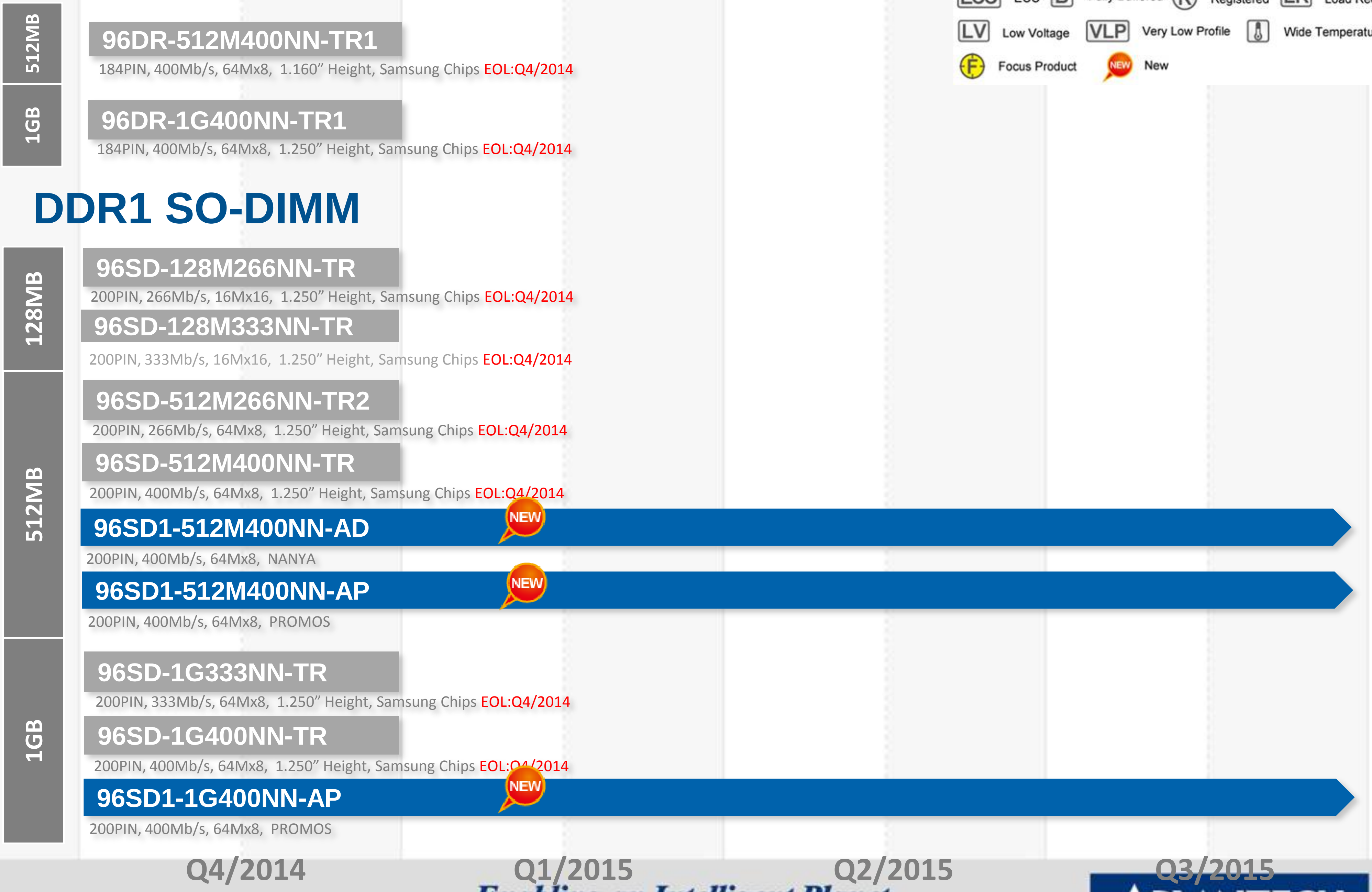
96SS-256M133NN-TR3
144PIN, 133Mb/s, 32Mx8, 1.150" Height, Samsung Chips

Q4/2014 Q1/2015 Q2/2015 Q3/2015

DDR1 DIMM

Available | Phasing-out | Planning

ECC ECC | B Fully Buffered | R Registered | LR Load Reduce
LV Low Voltage | VLP Very Low Profile | 🌡 Wide Temperature
F Focus Product | NEW New



512MB

96DR-512M400NN-TR1
184PIN, 400Mb/s, 64Mx8, 1.160” Height, Samsung Chips EOL:Q4/2014

1GB

96DR-1G400NN-TR1
184PIN, 400Mb/s, 64Mx8, 1.250” Height, Samsung Chips EOL:Q4/2014

DDR1 SO-DIMM

128MB

96SD-128M266NN-TR
200PIN, 266Mb/s, 16Mx16, 1.250” Height, Samsung Chips EOL:Q4/2014

96SD-128M333NN-TR
200PIN, 333Mb/s, 16Mx16, 1.250” Height, Samsung Chips EOL:Q4/2014

512MB

96SD-512M266NN-TR2
200PIN, 266Mb/s, 64Mx8, 1.250” Height, Samsung Chips EOL:Q4/2014

96SD-512M400NN-TR
200PIN, 400Mb/s, 64Mx8, 1.250” Height, Samsung Chips EOL:Q4/2014

96SD1-512M400NN-AD NEW
200PIN, 400Mb/s, 64Mx8, NANYA

96SD1-512M400NN-AP NEW
200PIN, 400Mb/s, 64Mx8, PROMOS

1GB

96SD-1G333NN-TR
200PIN, 333Mb/s, 64Mx8, 1.250” Height, Samsung Chips EOL:Q4/2014

96SD-1G400NN-TR
200PIN, 400Mb/s, 64Mx8, 1.250” Height, Samsung Chips EOL:Q4/2014

96SD1-1G400NN-AP NEW
200PIN, 400Mb/s, 64Mx8, PROMOS

Q4/2014 | Q1/2015 | Q2/2015 | Q3/2015

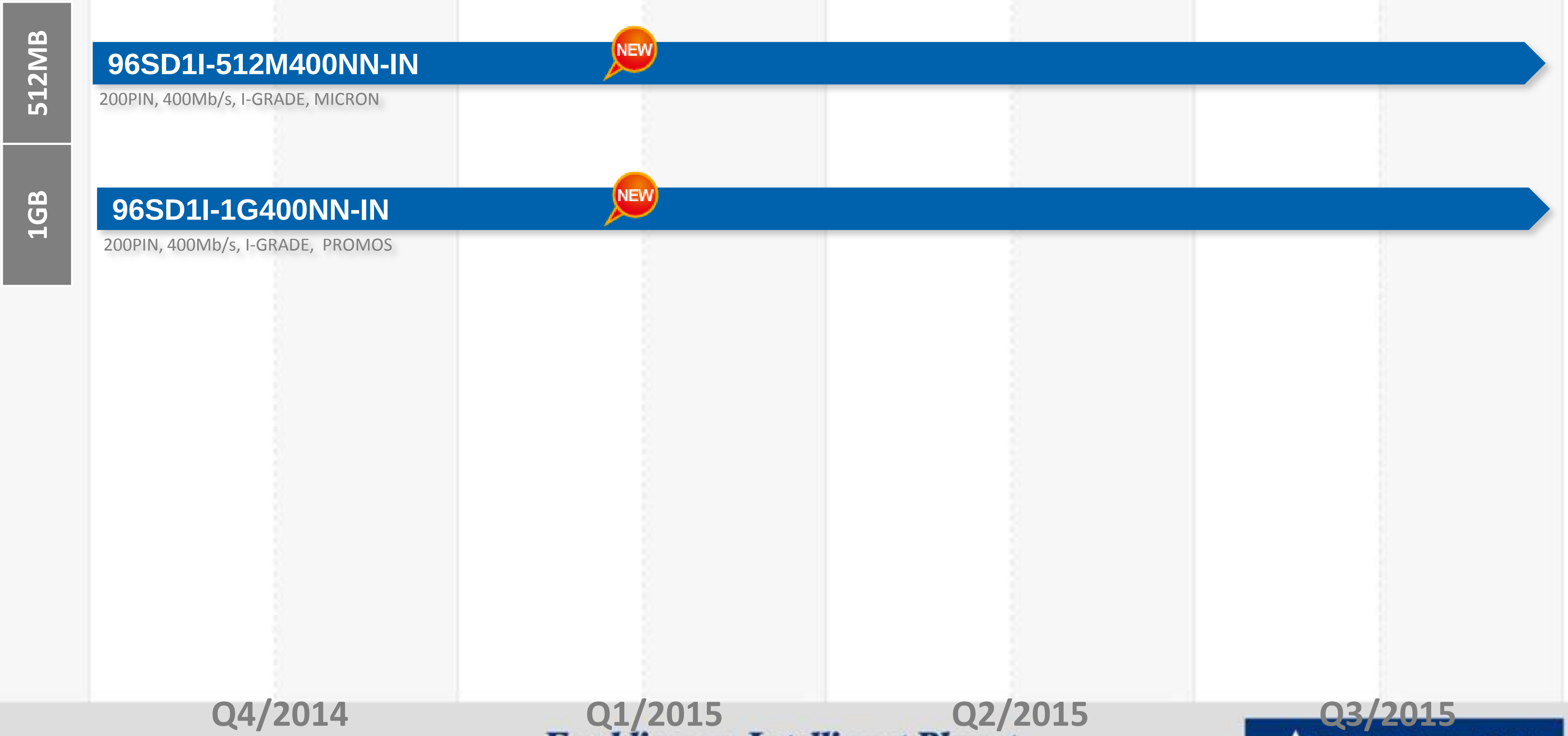
Enabling an Intelligent Planet

ADVANTECH

DDR1 SO-DIMM Wide Temperature (-20 ~ 80C)

Available Phasing-out Planning

ECC ECC
B Fully Buffered
R Registered
LR Load Reduce
LV Low Voltage
VLP Very Low Profile
🌡 Wide Temperature
F Focus Product
NEW New



512MB

96SD1I-512M400NN-IN NEW

200PIN, 400Mb/s, I-GRADE, MICRON

1GB

96SD1I-1G400NN-IN NEW

200PIN, 400Mb/s, I-GRADE, PROMOS

Q4/2014 Q1/2015 Q2/2015 Q3/2015

DDR2 DIMM

Available | Phasing-out | Planning

ECC ECC | B Fully Buffered | R Registered | LR Load Reduce

LV Low Voltage | VLP Very Low Profile | 🌡 Wide Temperature

F Focus Product | NEW New

512MB	96D2-512M400NN-TR	240PIN, 400Mb/s, 64Mx8,, Samsung Chips	
	96D2-512M667NN-TRL	240PIN, 667Mb/s, 64Mx8, 0.720" Height, Samsung Chips	VLP
1GB	96D2-1G533NN-TR1	240PIN, 533Mb/s, 64Mx8, Samsung Chips	
	96D2-1G667NN-TRL	240PIN, 667Mb/s, 64Mx8, 0.720" Height, Samsung Chips	VLP
	96D2-1G800NN-TRL1	240PIN, 800Mb/s, 128Mx8, 0.720" Height, Samsung Chips	VLP
	96D2-1G800NN-AP3	240PIN, 800Mb/s, 128Mx8, 1.181" Height, Samsung Chips	
2GB	96D2-2G667NN-TRL	240PIN, 667Mb/s, 128Mx8, 0.720" Height, Samsung Chips	VLP
	96D2-2G667-AP	240PIN, 667Mb/s, 128Mx8, 1.181" Height, Samsung Chips	
	96D2-2G800NN-TRL1	240PIN, 800Mb/s, 128Mx8, 0.720" Height, Samsung Chips	VLP
	96D2-2G800NN-AP	240PIN, 800Mb/s, 128Mx8, 1.181" Height, Samsung Chips	

Available | Phasing-out | Planning

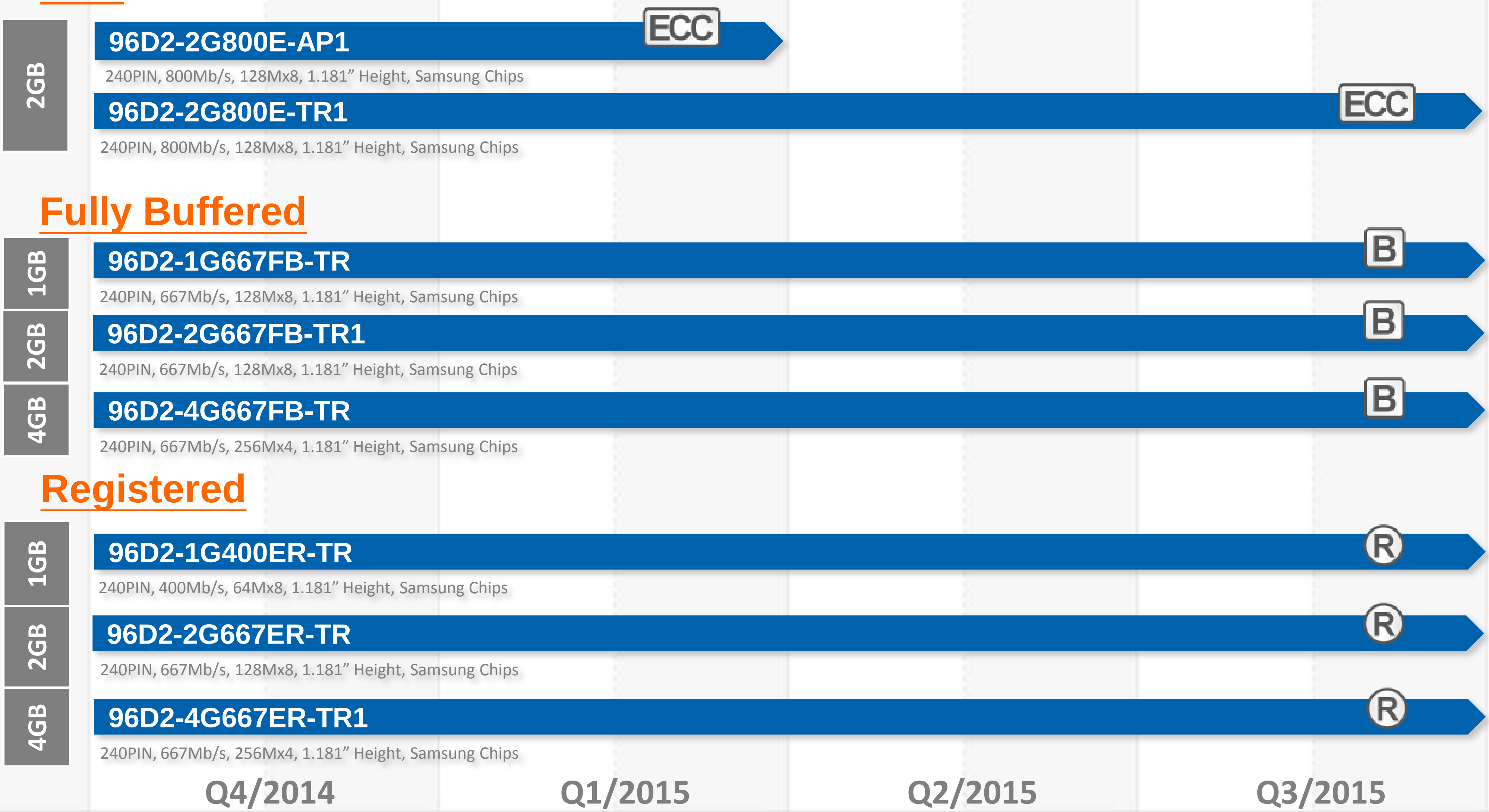
ECC ECC | B Fully Buffered | R Registered | LR Load Reduce

LV Low Voltage | VLP Very Low Profile | 🌡 Wide Temperature

F Focus Product | NEW New

DDR2 DIMM- Advanced Feature

ECC



2GB

96D2-2G800E-AP1 ECC

240PIN, 800Mb/s, 128Mx8, 1.181” Height, Samsung Chips

96D2-2G800E-TR1 ECC

240PIN, 800Mb/s, 128Mx8, 1.181” Height, Samsung Chips

Fully Buffered

1GB

96D2-1G667FB-TR B

240PIN, 667Mb/s, 128Mx8, 1.181” Height, Samsung Chips

2GB

96D2-2G667FB-TR1 B

240PIN, 667Mb/s, 128Mx8, 1.181” Height, Samsung Chips

4GB

96D2-4G667FB-TR B

240PIN, 667Mb/s, 256Mx4, 1.181” Height, Samsung Chips

Registered

1GB

96D2-1G400ER-TR R

240PIN, 400Mb/s, 64Mx8, 1.181” Height, Samsung Chips

2GB

96D2-2G667ER-TR R

240PIN, 667Mb/s, 128Mx8, 1.181” Height, Samsung Chips

4GB

96D2-4G667ER-TR1 R

240PIN, 667Mb/s, 256Mx4, 1.181” Height, Samsung Chips

Q4/2014 | Q1/2015 | Q2/2015 | Q3/2015

Available | Phasing-out | Planning

ECC ECC | B Fully Buffered | R Registered | LR Load Reduce

LV Low Voltage | VLP Very Low Profile | 🌡 Wide Temperature

F Focus Product | NEW New

DDR2 SO-DIMM

512MB

96SD2-512M667NN-TR

200PIN, 667Mb/s, 64Mx8, 1.181" Height, Samsung Chips

1GB

96SD2-1G667NN-TR

200PIN, 667Mb/s, 128Mx8, 1.181" Height, Samsung Chips

96SD2-1G800NN-AP3

200PIN, 800Mb/s, 128Mx8, 1.181" Height, Samsung Chips

96SD2-1G800NN-TR1

200PIN, 800Mb/s, 128Mx8, 1.181" Height, Samsung Chips

2GB

96SD2-2G667NN-TR1

200PIN, 667Mb/s, 128Mx8, 1.181" Height, Samsung Chips

96SD2-2G800NN-TR1

200PIN, 800Mb/s, 128Mx8, 1.181" Height, Samsung Chips

96SD2-2G800NN-AP2

200PIN, 800Mb/s, 128Mx8, 1.181" Height, Samsung Chips

DDR2 SO-DIMM Industrial Grade

1GB

96SD2I-1G667NN-AP4

200PIN, 667Mb/s, 128Mx8, 1.181" Height, Micron Chips

2GB

96SD2I-2G667NN-AP1

200PIN, 667Mb/s, 128Mx8, 1.181" Height, Micron Chips

Q4/2014 | Q1/2015 | Q2/2015 | Q3/2015

Available Phasing-out Planning

ECC ECC | B Fully Buffered | R Registered | LR Load Reduce

LV Low Voltage | VLP Very Low Profile | 🌡 Wide Temperature

F Focus Product | NEW New

DDR3 DIMM

1GB

96D3-1G1333NN-TR1

240PIN, 1333Mb/s, 128Mx8, 1.181” Height, Samsung Chips

96D3-1G1333NN-AP1

240PIN, 1333Mb/s, 128Mx8, 1.181” Height, Hynix Chips EOL:Q4/2014

2GB

96D3-2G1066NN-TR

240PIN, 1066Mb/s, 128Mx8, 1.181” Height, Samsung Chips

96D3-2G1333NN-AP1

240PIN, 1333Mb/s, 256Mx8, 1.181” Height, Hynix Chips

96D3-2G1333NN-AP4

240PIN, 1333Mb/s, 128Mx8, 1.181” Height, Hynix Chips EOL:Q4/2014

96D3-2G1333NN-TR2

240PIN, 1333Mb/s, 128Mx8, 1.181” Height, Samsung Chips

96D3-2G1600NN-APL VLP

240PIN, 1600Mb/s, 256Mx8, 0.740” Height, Hynix Chips

96D3-2G1600NN-TRL VLP

240PIN, 1600Mb/s, 256Mx8, 0.74” Height, Samsung Chips

96D3-2G1600NN-TR

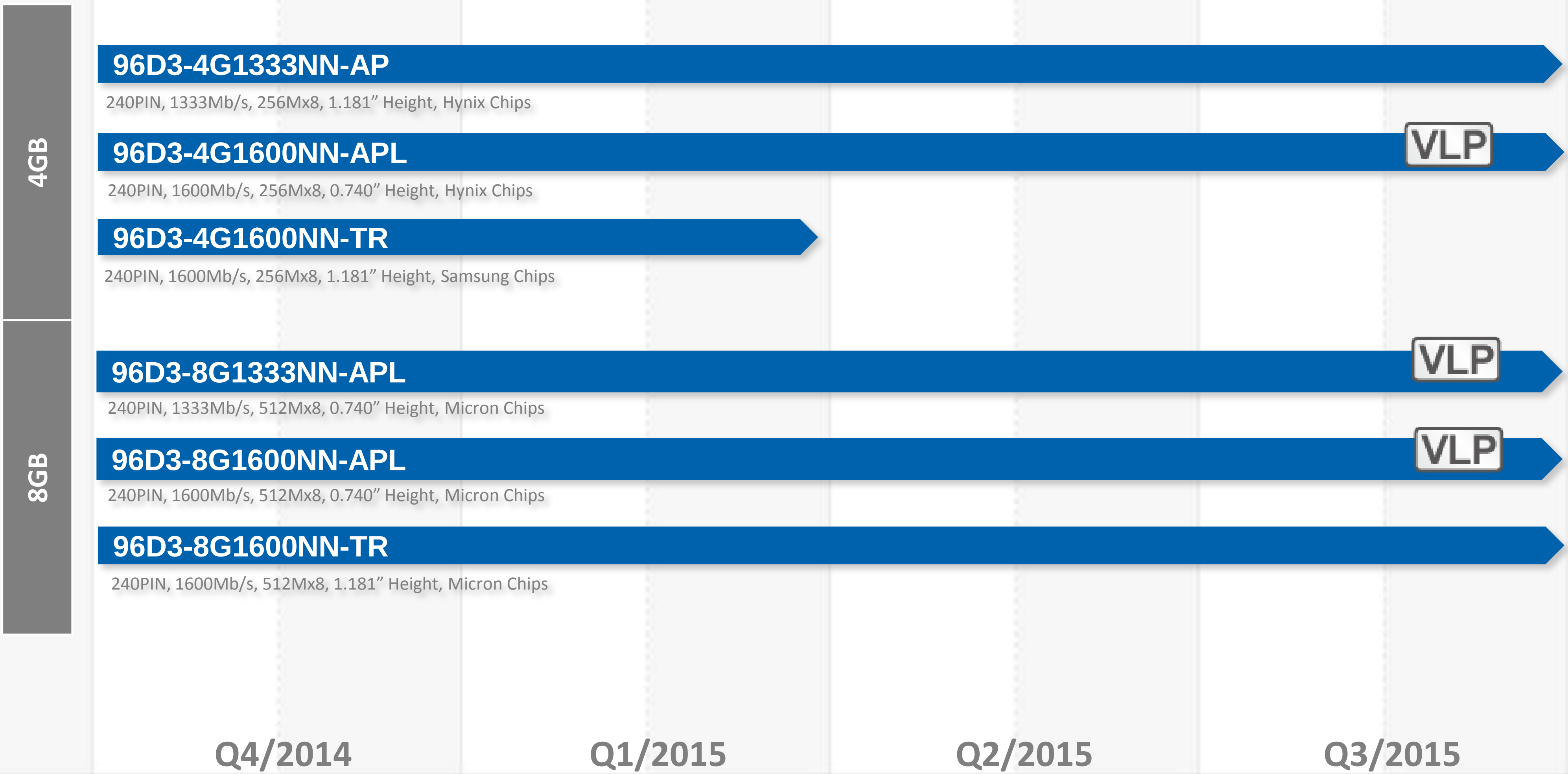
240PIN, 1600Mb/s, 256Mx8, 1.181” Height, MICRON Chips

Q4/2014 Q1/2015 Q2/2015 Q3/2015

DDR3 DIMM

Available Phasing-out Planning

ECC ECC
B Fully Buffered
R Registered
LR Load Reduce
LV Low Voltage
VLP Very Low Profile
🌡 Wide Temperature
F Focus Product
NEW New



4GB

96D3-4G1333NN-AP
240PIN, 1333Mb/s, 256Mx8, 1.181" Height, Hynix Chips

96D3-4G1600NN-APL VLP
240PIN, 1600Mb/s, 256Mx8, 0.740" Height, Hynix Chips

96D3-4G1600NN-TR
240PIN, 1600Mb/s, 256Mx8, 1.181" Height, Samsung Chips

8GB

96D3-8G1333NN-APL VLP
240PIN, 1333Mb/s, 512Mx8, 0.740" Height, Micron Chips

96D3-8G1600NN-APL VLP
240PIN, 1600Mb/s, 512Mx8, 0.740" Height, Micron Chips

96D3-8G1600NN-TR
240PIN, 1600Mb/s, 512Mx8, 1.181" Height, Micron Chips

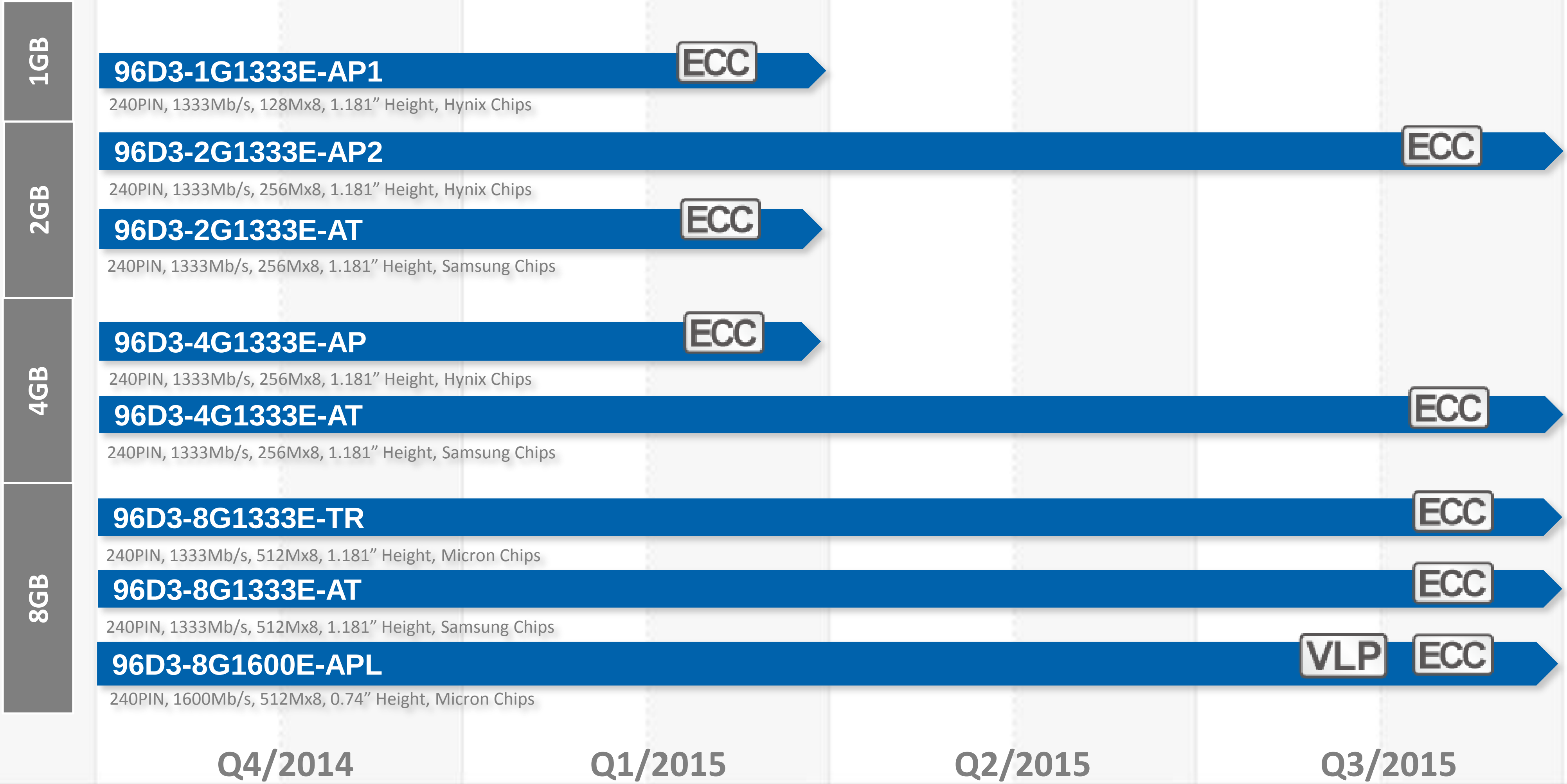
Q4/2014 Q1/2015 Q2/2015 Q3/2015

Available Phasing-out Planning

ECC ECC
B Fully Buffered
R Registered
LR Load Reduce
LV Low Voltage
VLP Very Low Profile
Wide Temperature
F Focus Product
NEW New

DDR3 DIMM- Advanced Feature

ECC



1GB

96D3-1G1333E-AP1 ECC
240PIN, 1333Mb/s, 128Mx8, 1.181” Height, Hynix Chips

2GB

96D3-2G1333E-AP2 ECC
240PIN, 1333Mb/s, 256Mx8, 1.181” Height, Hynix Chips

96D3-2G1333E-AT ECC
240PIN, 1333Mb/s, 256Mx8, 1.181” Height, Samsung Chips

4GB

96D3-4G1333E-AP ECC
240PIN, 1333Mb/s, 256Mx8, 1.181” Height, Hynix Chips

96D3-4G1333E-AT ECC
240PIN, 1333Mb/s, 256Mx8, 1.181” Height, Samsung Chips

8GB

96D3-8G1333E-TR ECC
240PIN, 1333Mb/s, 512Mx8, 1.181” Height, Micron Chips

96D3-8G1333E-AT ECC
240PIN, 1333Mb/s, 512Mx8, 1.181” Height, Samsung Chips

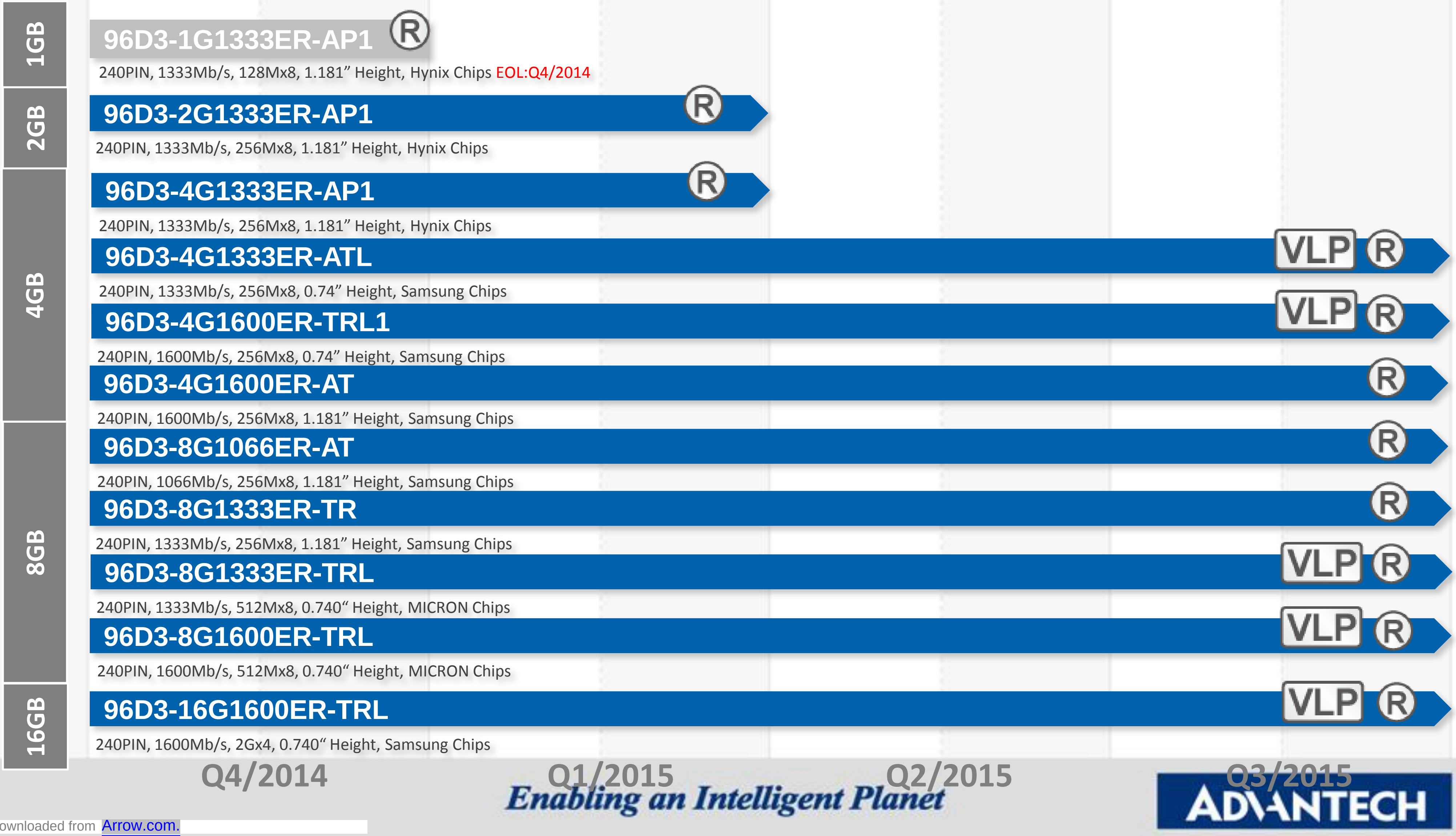
96D3-8G1600E-APL VLP ECC
240PIN, 1600Mb/s, 512Mx8, 0.74” Height, Micron Chips

Available | Phasing-out | Planning

- ECC: ECC
- B: Fully Buffered
- R: Registered
- LR: Load Reduce
- LV: Low Voltage
- VLP: Very Low Profile
- 🌡: Wide Temperature
- F: Focus Product
- NEW: New

DDR3 DIMM- Advanced Feature

Registered

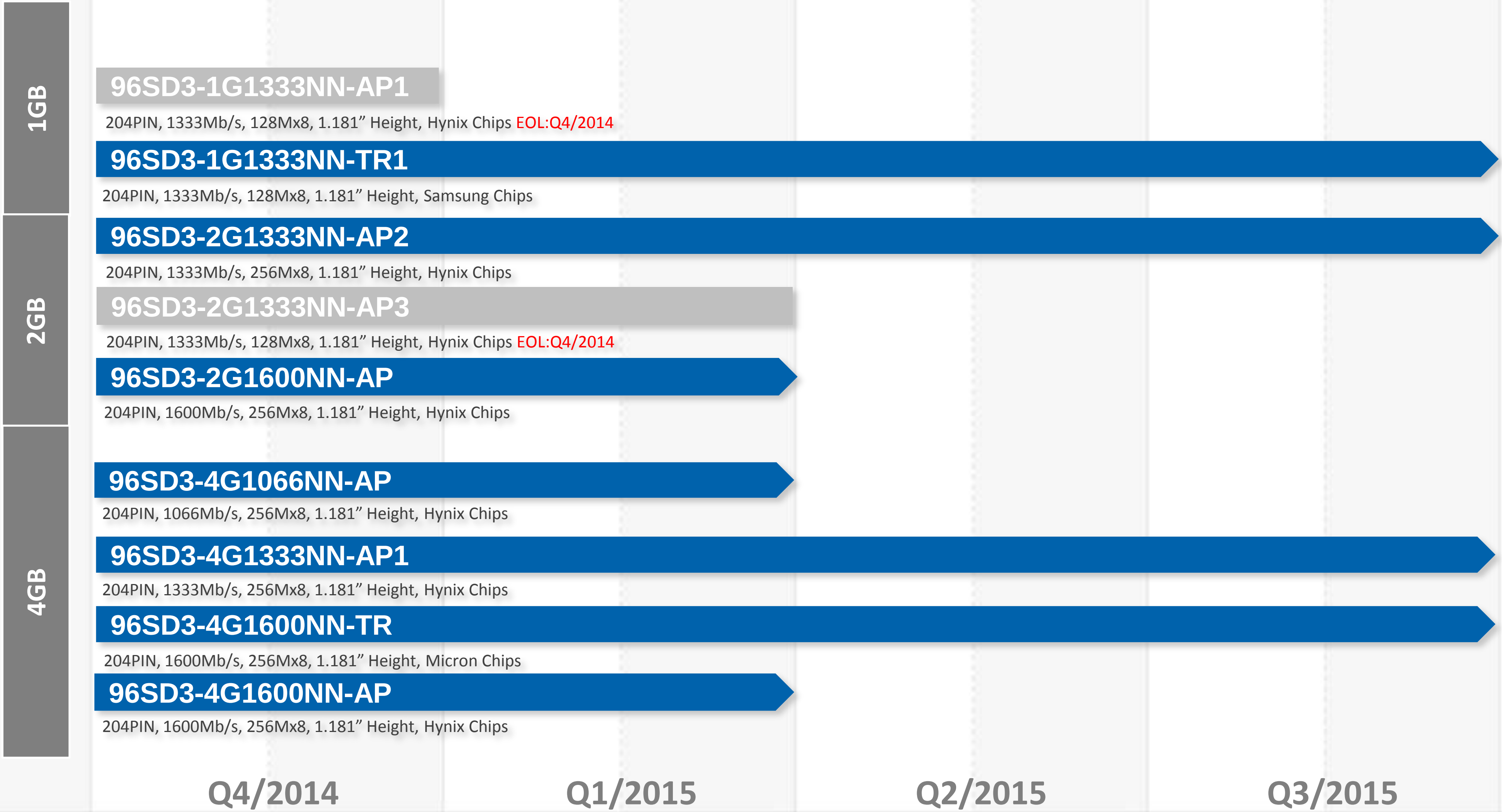


Capacity	Part number	Features	Specification
1GB	**96D3-1G1333ER-AP1**	R	240PIN, 1333Mb/s, 128Mx8, 1.181” Height, Hynix Chips EOL:Q4/2014
2GB	**96D3-2G1333ER-AP1**	R	240PIN, 1333Mb/s, 256Mx8, 1.181” Height, Hynix Chips
4GB	**96D3-4G1333ER-AP1**	R	240PIN, 1333Mb/s, 256Mx8, 1.181” Height, Hynix Chips
	96D3-4G1333ER-ATL	VLP R	240PIN, 1333Mb/s, 256Mx8, 0.74” Height, Samsung Chips
	96D3-4G1600ER-TRL1	VLP R	240PIN, 1600Mb/s, 256Mx8, 0.74” Height, Samsung Chips
	96D3-4G1600ER-AT	R	240PIN, 1600Mb/s, 256Mx8, 1.181” Height, Samsung Chips
8GB	**96D3-8G1066ER-AT**	R	240PIN, 1066Mb/s, 256Mx8, 1.181” Height, Samsung Chips
	96D3-8G1333ER-TR	R	240PIN, 1333Mb/s, 256Mx8, 1.181” Height, Samsung Chips
	96D3-8G1333ER-TRL	VLP R	240PIN, 1333Mb/s, 512Mx8, 0.740“ Height, MICRON Chips
	96D3-8G1600ER-TRL	VLP R	240PIN, 1600Mb/s, 512Mx8, 0.740“ Height, MICRON Chips
16GB	**96D3-16G1600ER-TRL**	VLP R	240PIN, 1600Mb/s, 2Gx4, 0.740“ Height, Samsung Chips

DDR3 SO-DIMM

Available Phasing-out Planning

ECC ECC
B Fully Buffered
R Registered
LR Load Reduce
LV Low Voltage
VLP Very Low Profile
Wide Temperature
F Focus Product
NEW New



1GB

96SD3-1G1333NN-AP1

204PIN, 1333Mb/s, 128Mx8, 1.181" Height, Hynix Chips EOL:Q4/2014

96SD3-1G1333NN-TR1

204PIN, 1333Mb/s, 128Mx8, 1.181" Height, Samsung Chips

2GB

96SD3-2G1333NN-AP2

204PIN, 1333Mb/s, 256Mx8, 1.181" Height, Hynix Chips

96SD3-2G1333NN-AP3

204PIN, 1333Mb/s, 128Mx8, 1.181" Height, Hynix Chips EOL:Q4/2014

96SD3-2G1600NN-AP

204PIN, 1600Mb/s, 256Mx8, 1.181" Height, Hynix Chips

4GB

96SD3-4G1066NN-AP

204PIN, 1066Mb/s, 256Mx8, 1.181" Height, Hynix Chips

96SD3-4G1333NN-AP1

204PIN, 1333Mb/s, 256Mx8, 1.181" Height, Hynix Chips

96SD3-4G1600NN-TR

204PIN, 1600Mb/s, 256Mx8, 1.181" Height, Micron Chips

96SD3-4G1600NN-AP

204PIN, 1600Mb/s, 256Mx8, 1.181" Height, Hynix Chips

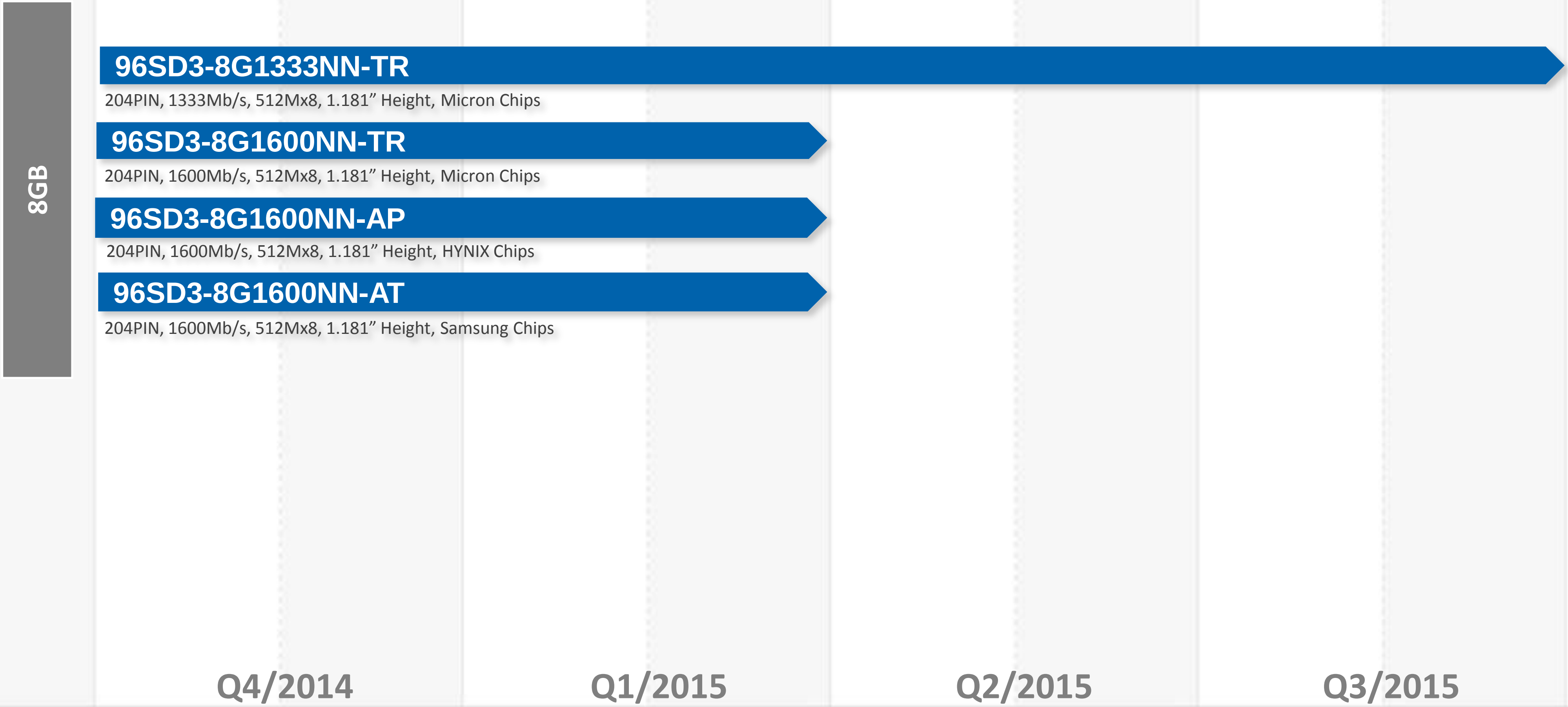
DDR3 SO-DIMM

Available Phasing-out Planning

ECC ECC | B Fully Buffered | R Registered | LR Load Reduce

LV Low Voltage | VLP Very Low Profile | 🌡 Wide Temperature

F Focus Product | NEW New



96SD3-8G1333NN-TR

204PIN, 1333Mb/s, 512Mx8, 1.181” Height, Micron Chips

96SD3-8G1600NN-TR

204PIN, 1600Mb/s, 512Mx8, 1.181” Height, Micron Chips

96SD3-8G1600NN-AP

204PIN, 1600Mb/s, 512Mx8, 1.181” Height, HYNIX Chips

96SD3-8G1600NN-AT

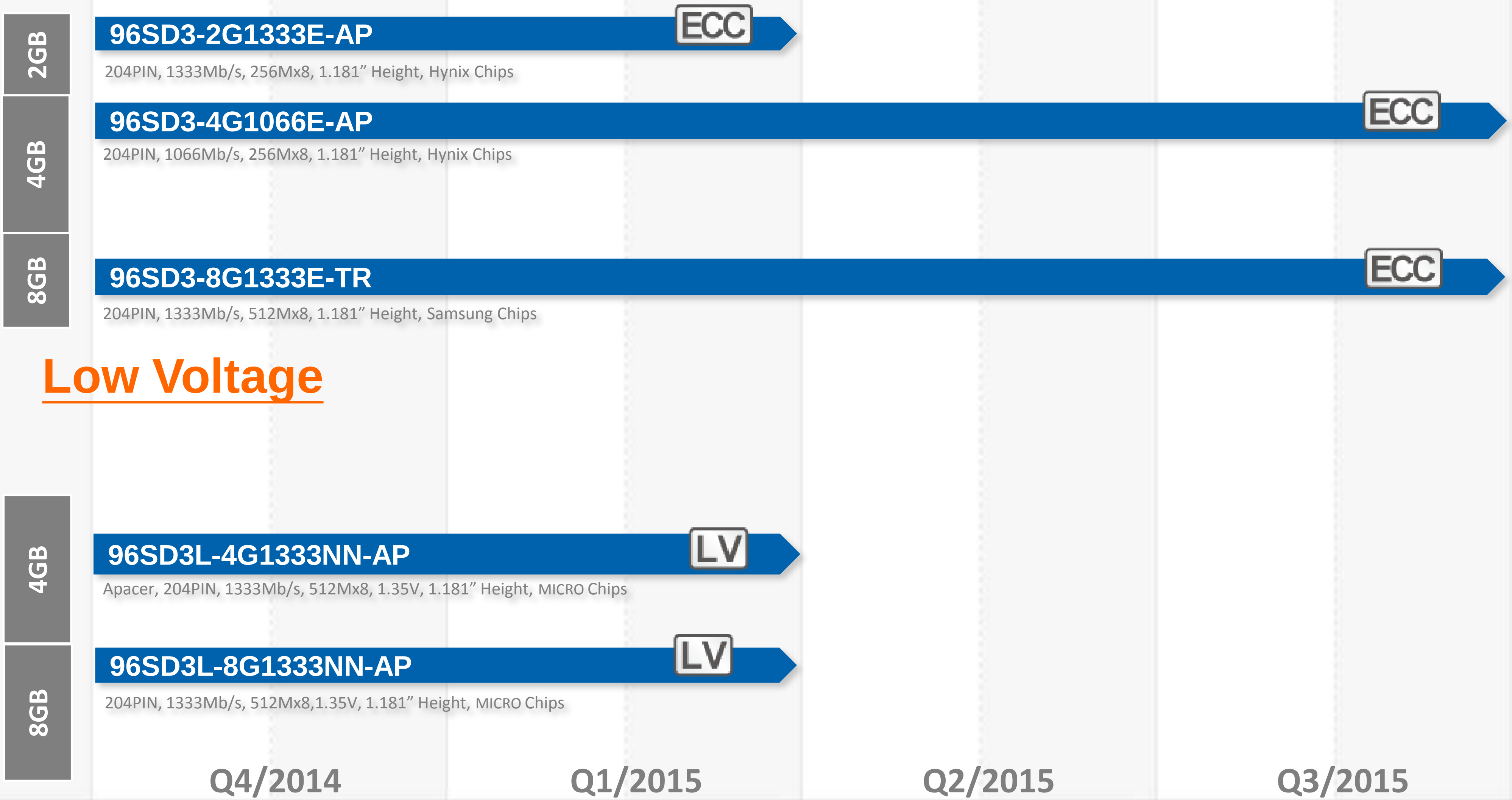
204PIN, 1600Mb/s, 512Mx8, 1.181” Height, Samsung Chips

Available Phasing-out Planning

ECC	ECC	B	Fully Buffered	R	Registered	LR	Load Reduce
LV	Low Voltage	VLP	Very Low Profile	🌡	Wide Temperature		
F	Focus Product	NEW	New				

DDR3 SO-DIMM- Advanced Feature

ECC



96SD3-2G1333E-AP

204PIN, 1333Mb/s, 256Mx8, 1.181” Height, Hynix Chips

96SD3-4G1066E-AP

204PIN, 1066Mb/s, 256Mx8, 1.181” Height, Hynix Chips

96SD3-8G1333E-TR

204PIN, 1333Mb/s, 512Mx8, 1.181” Height, Samsung Chips

Low Voltage

96SD3L-4G1333NN-AP

Apacer, 204PIN, 1333Mb/s, 512Mx8, 1.35V, 1.181” Height, MICRO Chips

96SD3L-8G1333NN-AP

204PIN, 1333Mb/s, 512Mx8,1.35V, 1.181” Height, MICRO Chips

Memory EOL Procedure

- **For support and product management optimization, PAPS will follow the Memory phase-out procedure as below.**

Thank you