

ECMA/TC38-TG3/2015/026 (Rev. 1 – 15 April 2015)

### Annex B2 - Product environmental attributes Notebooks and Tablets

The declaration may be published only when all rows and/or fields marked with \* are filled-in (n.a. for not applicable). Additional information regarding each item may be found under P15.

Brand *	Lenovo	Logo
Company name *	Lenovo	
Contact information *	Lenovo Global Environmental Affairs	Lenovo
e-mail address	Alvin L Carter	LEIIOVO
	alcarter@lenovo.com	
Internet site *	http://www.lenovo.com/social_responsibility/us/en/environment	.html
Additional information	The latest version of this document can be found at:	
	http://www.lenovo.com/ecodeclaration	

	based on product specification or test results based obtained from sample testing), that the product nts given in this declaration.
Type of product *	Notebook
Commercial name *	Lenovo 100e Chromebook 2nd Gen
Model number *	81MA
Issue date *	2018-12-14
Intended market *	🔀 Global 📃 Europe 📃 Asia, Pacific & Japan 📃 Americas 📃 Other
Additional information	

This is an uncontrolled copy when in printed form. Please refer to the contact information for the latest version.

#### About Annex B2

Annex B2 reflects Product environmental attributes relevant for Computers and Computer Monitors. The following items from the ECMA-370 Main body are not shown in the template: P4.1 – P4.3 Consumable materials P9.1 TEC and Print speed P10.2 - P10.3 Chemical emissions from printing products

P11.1 - P11.3 Consumable materials for printing products.

Model n	umber *	81MA Logo						
Issue date *		2018-12-14			VO.			
Produc	t environ	nmental attributes - Legal requirements	Require	emen	t me			
Item			Yes	No	n.a.			
P1		ous substances and preparations						
P1.1*		s do comply with current European RoHS Directive. (See legal reference and NOTE B1)	$\square$					
P1.2*		s do not contain Asbestos (see legal reference). nt: Legal reference has no maximum concentration value.	$\boxtimes$					
P1.3*	hydrobr trichloro	s do not contain Ozone Depleting Substances: Chlorofluorocarbons (CFC), omofluorocarbons (HBFC), hydrochlorofluorcarbons (HCFC), Halons, carbontetrachloride, 1,1,1- bethane, methyl bromide (see legal reference). Comment: Legal reference has no maximum ration values.						
P1.4*	Product	Products do not contain more than; 0,005% polychlorinated biphenyl (PCB), 0,005% polychlorinated terphenyl (PCT) in preparations (see legal reference).						
P1.5*	Product chain co	he 🔀						
P1.6*	(see leg	ith direct and prolonged skin contact do not release nickel in concentrations above 0,5 μg/cm²/wee jal reference). .nt: Max limit in legal reference when tested according to EN1811:2011-5.	∍k 🔀					
P1.7*	REACH	Article 33 information about substances in articles is available at (add URL or mail contact): ww.lenovo.com/social_responsibility/us/en/environment.html						
P2	Batterie							
P2.1*	symbol.	oduct contains a battery or an accumulator, the battery/accumulator is labeled with the disposal Information on proper disposal is provided in user manual. (See legal reference)	$\square$					
P2.2*	Batterie referenc	s or accumulators do not contain more than 0,0005% of mercury or 0,002% of cadmium. (See leg	al 🔀					
P2.3*	Batterie	s and accumulators are readily removable. (See legal reference)	$\square$					
P3	Confor	mity verification & Eco design (ErP)						
P3.1*	The Dec	duct is CE-marked to show conformance with applicable legal requirements (see legal reference). claration of Conformity can be requested at (add link or e-mail address): <a href="http://www.lenovo.com/social_responsibility/us/en/ec_doc_notebooks/">www.lenovo.com/social_responsibility/us/en/ec_doc_notebooks/</a>						
P3.2*	The pro	duct complies with the Eco design requirements for energy-related products, al reference).	$\boxtimes$					
	Require	d information is; given in item P15 or added to this document, available at (add URL): www.lenovo.com/social_responsibility/us/en/datasheets_notebooks/						
P5		t packaging						
P5.1*	Packagi	ing and packaging components do not contain more than 0,01% lead, mercury, cadmium a ent chromium by weight of these together.	nd 🔀					
P5.2*	The pac	ckaging materials are marked with abbreviations and numbers indicating the nature of the material ee legal reference).	(s) 🔀					
P5.3*	The pro (see leg	duct packaging material is free from ozone depleting substances as specified in the Montreal Proto al reference).	col 🔀					
P6		nt: Legal reference has no maximum concentration values.						

NOTE B1 Restriction applies to the homogeneous material, unless other specified and expressed in weight %. Stating "Yes" means that the product is compliant with the mandatory requirements.

Model nu	umber *	81MA	Logo			
Issue da	te *	2018-12-14		Len	ovc	<b>D</b> <sub>TM</sub>
Product		mental attributes - Market requirements (See General NOTE GN	below)			
	- Enviro	onmental conscious design		Require		
Item P7		tory to fill in. Additional information regarding each item may be found under P14. Disassembly, recycling		Yes	No	n.a.
P7.1*		t have to be treated separately are easily separable				
P7.2*		aterials in covers/housing have no surface coating.			$\dashv$	╞
P7.3*		arts > 100 g consist of one material or of easily separable materials.			╞	╞
P7.4*		arts > 25 g have material codes according to ISO 11469 referring ISO 1043-4.			⊢⊢	┢
P7.5	•	arts are free from metal inlays or have inlays that can be removed with commonly a	available tools.		⊢⊢	H
P7.6*		re easily separable. (This requirement does not apply to safety/regulatory labels).			H	H
-	Product					
P7.7*		g can be done e.g. with processor, memory, cards or drives				
P7.8*	Upgradin	g can be done using commonly available tools				Ē
P7.9	Spare pa	rts are available after end of production for: 5 years				Ē
P7.10	Service is	s available after end of production for: 5 years				
	Material	and substance requirements				
P7.11*	Material	cover/housing material type (e.g. plastics, metal, aluminum): type: PC/ABS Material type: Materia	al type:			
P7.12	Insulation	n materials of external electrical cables are PVC free.			$\boxtimes$	
P7.13		n materials of internal electrical cables are PVC free.			$\boxtimes$	
P7.14	weight (1 polyvinyl	plastic casing/cover parts > 25 g contain no more than 0,1% weight (1000 ppm) b 1000 ppm) chlorine attributable to brominated flame retardants, chlorinated flame chloride or 0,3% weight (3000 ppm) bromine and 0,3% weight (3000 ppm) chlorine in n 25% post-consumer recycled content.	e retardants, ar	nd		
P7.15		ircuit boards, PCBs (without components) are low halogen: all 🗌 PCBs > 25 g 📃 ed in IEC 61249-2-21. (See 1NOTE B2)	are low haloge	n	$\square$	
P7.16	Marking:	tarded plastic parts > 25 g in covers / housings are marked according ISO 1043-4: >PC+ABS-TD15FR(40)< >PC+ABS-FR(40)<		$\boxtimes$		
P7.17		nemical specifications of flame retardants in printed circuit boards > 25 g (without co A (additive), TBBPA (reactive) (See NOTE B3), Other: <b>Brominated epoxy</b> 8 8-7				
	according	nemical specifications of flame retardants in printed circuit boards (without compone g ISO 1043-4: <i>FR(16)</i>		$\boxtimes$		
P7.18	concentra 1. Chemi 2. Chemi	ame retarded plastic parts > 25 g contain the following flame retardant substance ations above 0,1%: ical name: BPADP, CAS #: 181028-79-5 (See NOTE B4) ical name: , CAS #: " ical name: , CAS #: "	es/preparations	in 🔀		
		nemical specifications of flame retardants in plastic parts > 25 g according ISO 1043	3-4:			
P7.19	In plastic	parts > 25 g, flame retardant substances/preparations above 0,1% are used which	n have been		$\boxtimes$	
	assigned	the following Risk phrases; and Hazard statements:				
			See note B5)			
P7.20*	Postcons	sumer recycled plastic material content is used in the product (See Note B6):		$\bowtie$		
	a) Of t	t least one of the two alternatives below shall be answered; otal plastic parts' weight > 25 g, the postconsumer recycled plastic material conten ercentage of total plastic by weight) is 2.7%. The weight of recycled material is 11.31g.	t (calculated as			

GENERAL NOTE Standard references should direct to the latest version of a standard. If an older version of a standard is used, section P15 shall be used for explanation.

NOTE B2 IEC 61249-2-21 defines maximum limits of 900 ppm for each of the substances chlorine and bromine and a maximum limit of 1500ppm of these substances combined. The standard does not address fluorine, iodine and astatine which are included in the group of halogens.

NOTE B3 and B4 A Guidance document on Chemical substances is available; see <a href="http://www.ecma-international.org/publications/standards/Ecma-370.htm">http://www.ecma-international.org/publications/standards/Ecma-370.htm</a>

NOTE B5 If a certain substance has been assigned a certain risk phrases / hazard statement in the referenced source, this does not necessarily mean the substance has been tested for all of the hazards referred to by a certain customer.

NOTE B6 Applies to a product containing plastic parts whose combined weight exceeds 100 g with the exception of printed circuit boards, cables, connectors and electronic components and bio-based plastic material.

Model number *	81MA	Logo	Lenovo
Issue date *	2018-12-14		
Product environment	nental attributes - Market requirements (continued)		Requirement met

Item

Requirement met Yes No n.a.

r						
<b>D7.04</b>		ostance requirements	1 1			
P7.21*	Biobased plastic	material content is used	d in the product (See NO	DIE B7):		
			es below shall be answe			
			the biobased plastic ma	aterial content (calculat	ted as a percentage of	
		by weight) is %.				
	or b) The weight	of the biobased plastic i	material is g.			
P7.22*	, ,		less than 0,1 mg/lamp.			
		d specify: Number of lar		um mercury content pe	r lamp: mg	
P8	Batteries	· •				
P8.1*	Battery chemical	composition: Lithium i	on			
P9	Energy consum	ption (See NOTE B8)				
P9.1			ls or energy consumptic	ons are reported:		
Energy mo	ode *	Power level at	Power level at	Power level at	Reference/Standard for energy	
		100 V AC	115 V AC	230 V AC	modes and test method *	
Peak (On-	max)	12.9 W	12.9 W	<b>13.356</b> W	Full load	
Categor	<u>y I1-</u>					
Short Idla	State - WOL	3.7 W	3.8 W	3.8 W	Use for ENERGY STAR V6	
Enabled	State - WOL	5.7 VV	5.0 VV	3.0 VV	registration (Pidle)	
	State - WOL	2.04 W	1.98 W	2.03 W	Use for ENERGY STAR V6	
Enabled					registration (Pidle)	
Sleep (S3)	) - WOL Disabled	0.47 W	0.48 W	<b>0.48</b> W	Reference	
Off (S5) -	WOL Disabled	0.4 W	0.4 W	0.4 W	Use for ErP	
EPS No-lo	ad	0.02 W	0.02 W	0.07 W		
			0.02 VV	0.07 VV		
	supply / charger plugged in the sconnected from the product.)		(= 00.14)	(7.00)))/		
PTEC *	ergy Consumption	17.89 W	17.89 W	17.89 W		$\boxtimes$
ETEC *	ergy consumption	13.72 kWh/year	13.83 kWh/year	13.69 kWh/year	$E_{TEC} = (8760/1000) \times (P_{off} \times 0.25)$	$\boxtimes$
_	ergy Consumption	i chi z ktrinyodi	i i i i i i i i i i i i i i i i i i i	ronoo kunnyoan	+ $P_{sleep} \times 0.35 + P_{long_ldle} \times 0.10+$	
					P <sub>short_Idle</sub> x 0.30)	
					d; Pidle: Idle State - WOL Enabled	
			I Efficiency Marking Pro	tocol) * : VI		
Display res	solution * : <b>1366*7</b>	68 megapixels				
Default tim	e to enter energy s	ave mode: 30 minutes				
P9.2*	Information abou	t the energy save functi	ion is provided with the	product.		
P9.3	Energy efficiency	class (monitors only):				
P10	Emissions	,				
	Noise emission	- Declared according to	o ISO 9296 (See NOTE	B9)		
P10.1	Mode	Mode description			t A-weighted sound power level, $L_{WA,c}$ (	B)
	ldle	* System Idle		* 17.4		
	Operation	* CPU;Operation		* 17.5		
	Other mode	Declared A-weighted sour	nd pressure level (dB) L <sub>pAm</sub>	(operator pos	sition desktop – idle)	
			ad pressure level (dB) $L_{pAm}$		sition desktop – operating)	
		ling to: 🔀 ISO 7779 🗌	ECMA-74	1		
		Other	(only if not covered by	FCMA-74)		
			(only if not covered by			

NOTE B7 The following is to be excluded from the calculation of percentage: printed circuit boards, labels, cables, connectors and electronic components and postconsumer recycled plastic

NOTE B8 A Guidance document on Energy Efficiency is available; see <a href="http://www.ecma-international.org/publications/standards/Ecma-370.htm">http://www.ecma-international.org/publications/standards/Ecma-370.htm</a>

NOTE B9 A Guidance document on Acoustic Noise is available;

see http://www.ecma-international.org/publications/standards/Ecma-370.htm

Model nu	mber *	81MA					Logo				
lssue dat	e *	2018-12-14						Le	eno	VO	гм
Product	environ	mental attribut	tes - Market requirer	nents (con	tinued)			Re	quire	ment	met
ltem									Yes	No	n.a.
		magnetic emissi									
P10.4	Comput program		the requirement for low	frequency el	ectromagnetic fields	s of the follo	owing volun	tary			$\square$
P12		mics for compu									
P12.1*	The disp	play meets the er	gonomic requirements c	of ISO 9241-3	307 for visual displa	y technolog	gies.		$\boxtimes$		
P12.2*	The phy	sical input device	e meets the requirement	s of ISO 999	5 and ISO 9241-41	0.					
P13	Packag	ing and docume	entation								
P13.1*	Product		ial type(s): <i>carton</i> ial type(s): <i>paper</i> ial type(s): <i>EPE</i>	weight (kg weight (kg weight (kg	): <b>0.008</b>						
P13.2*			ackaging is free from P						$\mathbf{X}$		
P13.3*		duct primary con er recovered fibe	rugated fiberboard pack r content: 90%	kaging, spec	ify the contained p	ercentage	of minimur	n post-			
P13.4*	Specify	media for user ar ronic, XPaper,	nd product documentation	on (tick box):							
P13.5	Ùser an		is item if paper docume entation on paper media						$\square$		
	Totally c	hlorine-free							$\square$		
	Element	al chlorine-free							$\Box$		
	Process	ed chlorine-free							H		
P14	Volunta	ry programs									
P14.1			equirements of the follow	ving voluntar	y program(s):						
	ENERG Eco-labe Eco-labe		Criteria version: <b>7.</b> Criteria version: Criteria version:	1	Date: <b>2018-12-20</b> Date: Date:	Product o Product o Product o	• •				
P15	Additio	nal information	(See NOTE B10)								
P9	Energy	consumption of	f specific configuration	n may vary;	description of the	tested pro	duct config	guration:			
	informat knowled	ion contained in t ge available at th there is approxim	o representations, guara this document. All inform ne time of completion, an nate and provided for in	nation provid	ed by supplier in thi hall have no obligat	is documen ion to upda	t is provide te such info	d based o ormation.	n supp The inf	olier's format	ion
P9	See Ene	ergy Star Qualifie	d Notebooks & Tablet C v/index.cfm?fuseaction-				code=CO				

NOTE B10 Additional lines may be inserted to declare further items, by positioning the cursor at the far right of the row and hitting the <Enter> key.

## Legal references Europe Annex B2

Reference	Declaration item
Directive 2011/65/EU (RoHS Directive) * * Specific exemptions apply for certain products and applications.	P1.1
Regulation (EC) 1907/2006(REACH, Annex XVII	P1.2, P1.4, P1.6, P1.7
Regulation (EC) 2037/2000, 2038/2000, 2039/2000 (Marketing and use of Ozone layer depleting substances)	P1.3, P5.3
Norwegian regulation relating to restrictions on the use of certain dangerous chemicals 20.12.2002	P1.5
Directive 2013/56/EC (Battery and accumulators Directive) * * These provisions shall not apply where, for safety, performance, medical or data integrity reasons, continuity of power supply is necessary and requires a permanent connection between the appliance and the battery or accumulator.	P2.1, P2.2, P2,3, P8.1
Directive 2006/95/EC (Low Voltage Directive)	P3.1
Directive 2004/108/EC (EMC Directive)	P3.1
Directive 1999/5/EC (R&TTE Directive)	P3.1
Regulation (EC) 801/2013 amending Regulation (EC) No 1275/2008 with regard to ecodesign requirements for standby, off mode electric power consumption of electrical and electronic household and office equipment, and amending Regulation (EC) No 642/2009 with regard to ecodesign requirements for televisions	P3.1, P3.2
Regulation (EC) No 1272/2008 (CLP Regulation)	P7.19
Directive 2004/12/EC (Packaging Directive)	P5.1
Decision 97/129/EC (Secondary packaging legislation)	P5.2
Directive 2012/19/EU (WEEE directive)	P6.1

# Lenovo ErP Lot3 Information Sheet - PC / Notebook -

As required by COMMISSION REGULATION (EU) No 617/2013 of 26 June 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for computers and computer servers (ErP Lot3).

#### Products scope of this sheet:

Desktop computer, integrated desktop computer, and notebook computer

This document is only valid in connection with the IT Eco Declaration of the specific Product.

Commercial name	Lenovo 100e Chromebook 2nd Gen	Logo
Model Number	81MA	
Issue Date	2018-12-14	Lenovo
Additional information		

P7.1.1	Product environmental attributes				
(d)	Year of manufacture:				2018
(e)	Etec value (kWh) per ErP Lot 3 Catego disabled and if the system is tested with				cards (dGfx) are
(f)	Etec value (kWh) per ErP Lot 3 Categor enable	0 1			cards (dGfx) are
		Category A (according to ErP Lot 3)	Category B (according to ErP Lot 3)	Category C (according to ErP Lot 3)	Category D (according to ErP Lot 3)
	Memory over base [GB]	8GB			
ients sting	Additional internal storage	NO (Yes / No)	(Yes / No)	(Yes / No)	(Yes / No)
capability adjustments applied during testing	Discrete television tuner	NO (Yes / No)	(Yes / No)	(Yes / No)	(Yes / No)
ability a	Discrete Audio Card	NO (Yes / No)	(Yes / No)	(Yes / No)	(Yes / No)
cap	Discrete graphics Card(s) [number / #]	NO #: (Yes / No)	#: (Yes / No)	#: (Yes / No)	#: (Yes / No)
	Category of discrete graphics Card(s)				
Test results	Etec Value (kWh) - dGfx disabled all discrete graphics cards (dGfx) are disabled/ UMA is active for switchable graphics/ product has no graphics cards (dGfx)	14.15			
Test r	Etec Value (kWh) - dGfx enabled all discrete graphics cards (dGfx) are enabled				
(g)	Idle state power demand (Watts);				3.8
(h)	Sleep mode power demand (Watts);				2.04
(i)	Sleep mode with WOL enabled power de	emand (Watts) (where	enabled);		
(j)	Off mode power demand (Watts);				0.4
(k)	Off mode with WOL enabled power dem	and (Watts) (where en	abled);		
(I)	Internal power supply efficiency at 10 %,	, 20 %, 50 % and 100 °	% of rated output powe	er (if applicable):	
	10% 20% 50%	100% Avera	age		
(m)	External power supply efficiency (if appli	cable)*:			
	Average active efficiency: 89.42%,88.7	7%,89.44%,88.37%,8	7.49%,88.45%		
(0)	*internal note: show values for all available external p Minimum number of loading cycles that t		tand (applies only to n	otebook computers):	300
(p-1)	Measurement methodology used to dete	ermine information mer <b>N/A</b>	ntioned in points (I) – ir	ternal PSU efficiency:	

Measurement methodology used to determine information mentioned in points (o) – loading cycles batteries: ≥70% of Cmin						
Measurement methodology used to determine information mentioned in maximum, idle, sleep, off mode power as defined in Point P9.1 in the Product IT Eco Declaration: IEC 62623						
Sequence of steps for achieving a stable condition with respect to power demand:: Power on -> Wait 5 minutes ->Stable condition						
	ff mode					
	tomatically changes to sleep and/or					
te condition before the computer automatically re		30min				
Length of time after a period of user inactivity in which the computer automatically reaches a power						
• • • • • • • • • • • • • • • • • • • •		10min				
how to enable the power management functionality: <i>Refer to User Guide</i>						
system, — information and documentation on the instance sting:	strumentation, set-up and circuits					
ry Information:						
Battery[ies] not user replaceable	Battery[ies] user replaceable	n/a				
The battery[ies] in this product cannot be easily replaced by users themselves. <sup>1)</sup>						
родукт не може да се замени[ят] лесно от самите потребител ser sustituidas facilmente por los propios usuarios. neměli provádět sami uživatelé. teriet/batterierne i dette produkt.						
e hõlpsasti asendada.						
	Program Requirements for Single Voltage Externa Eligibility Criteria (Version 2.0) bodology used to determine information mentioned in p >70% of Cmin bodology used to determine information mentioned in r Point P9.1 in the Product IT Eco Declaration: IEC 62623 bor achieving a stable condition with respect to power Power on -> Wait 5 minutes ->Stable condition leep and/or off mode was selected or programmed: Begin menu -> Power -> Select sleep or conditioned to the equipment au NA te condition before the computer automatically response to the applicable power demand requirement r a period of user inactivity in which the compute wer power demand requirement than sleep mode (in ore the display sleep mode is set to activate after nergy-saving potential of power management function Refer to User Guide how to enable the power management function Refer to User Guide measurements: — test voltage in V and frequency in system, — information and documentation on the in sting: 230V50HZ-2%-Edition 2.0, 2011-01, Section 4 ry Information: Battery[ies] not user replaceable The battery[ies] in this product cannot be easily replaced by users themselves. 1) Battery[ies] in this product cannot be easily replaced by users themselves. 10 Battery[ies] in this product cannot be easily replaced by users themselves. 10 10 10 10 10 10 10 10 10 10	dology used to determine information mentioned in points (o) – loading cycles batteries:         ≥70% of Cmin         dology used to determine information mentioned in maximum, idle, sleep, off mode         Point P9.1 in the Product IT Eco Declaration:         IEC 62623         or achieving a stable condition with respect to power demand::         Power on -> Walt 5 minutes ->Stable condition         leep and/or off mode was selected or programmed:         Begin menu -> Power -> Select sleep or off mode         required to reach the mode where the equipment automatically changes to sleep and/or         NA         te condition before the computer automatically reaches sleep mode, (in minutes):         r a period of user inactivity in which the computer automatically reaches a power were power demand requirement than sleep mode (in minutes):         ra end requirement than sleep mode (in minutes):         ra end requirement than sleep mode (in minutes):         re the display sleep mode is set to activate after user inactivity (in minutes):         nergy-saving potential of power management functionality:         Refer to User Guide         measurements: — test voltage in V and frequency in Hz, — total harmonic distortion of system, — information and documentation on the instrumentation, set-up and circuits sting:         280V50HZ-2%-Edition 2.0, 2011-01, Section 4, IEC62301         replaced by users themselves. ?)         Battery[ies] in this				

- Lietotāji paši nevar nomainīt šā ražojuma akumulatoru(-us). Šio gaminio baterijos [bateriju] pats vartotojas negali lengvai pakeisti. A termék akkumulátorát/akkumulátorait a felhasználó nem tudja egyedül egyszerűen kicserélni. II-batterija/batteriji f'dan iI-prodott ma tistax/jistgħux tiġi/jiġu sostitwita/i mill-utenti stess. Batteriet [ene] i dette produktet kan ikke lett erstattes av brukerne selv.

- Batteriet [ene] i dette produktet kan ikke lett erstattes av brukerne selv. De batterij(en) in dit product is (zijn) door de gebruiker niet gemakkelijk vervangbaar. Užytkownik nie može sam w latwy sposób wymienić baterii w tym produkcie. A ou as baterias deste produto não podem ser facilmente substituídas pelos próprios utilizadores. Bateria (bateriile) din acest produs nu poate (pot) fi uşor înlocuită (înlocuite) de utilizatorii înșiși. Batériu(-ie) v tomto výrobku nemôže vymieňať používateľ. Baterij/baterije v tem izdelku uporabniki sami ne morejo zlahka zamenjati. Tämän tuotteen akku [akut] ei[vät] ole helposti käyttäjän vaihdettavissa. Det är inte enkelt för kunden att själv byta ut batteriet/batterierna. Bu üründeki batarya(lar) kullanıcılar tarafından kolaylıkla değiştirilemez.

Annex B1 of ECMA-370 5th edition (Lenovo) 2015-04-08