

Battery Pack Test Report UN38.3

Customer: Lenovo

Pack Model: L16C2PB2

Nominal voltage: 7.6V

Nominal capacity: 30Wh

Configuration: 2S1P

Customer P/N: 5B10M88058

Celxpert P/N: 921300120

Cell Type: Coslight CA595490HV-C 4030mAh

Jan .22 2018

Reviewed by

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Figure photo of the pack









1. UN38	3.3 Test Re	port			
Test Period	2016/10/10~2	2016/11/07	Test Spec.	ST/SG/AC.	10/11/Rev.5 Amend.1& Amend.2
Parts Name	Battery Pack	Application	NB	Quantity	Pack 16PCS/Cell 25pcs

1.1 Test Summary

Item	Test Item	Test Result	Details
T1	Altitude simulation test (UN38.3-1)	Pass	Page 9
T2	Thermal test (UN38.3-2)	Pass	Page 10
Т3	Vibration test (UN38.3-3)	Pass	Page 11
T4	Shock test (UN38.3-4)	Pass	Page 12
T5	Short Circuit test (UN38.3-5)	Pass	Page 13
T6	Crush Test (UN38.3-6)	Pass	Page 13
T7	Overcharge test (UN38.3-7)	Pass	Page 14
T8	Forced discharge test (UN38.3-8)	Pass	Page 15

The battery pack passes UN38.3 test.





1.2 Test sample list

No.	Pack S/N	Test item	No.	Cell Num.	Test item
1	Sample No:1/16	38.3.1~5	1	Coslight CA595490HV-C 4030mAh	38.3.6
2	Sample No:2/16	38.3.1~5	2	Coslight CA595490HV-C 4030mAh	38.3.6
3	Sample No:3/16	38.3.1~5	3	Coslight CA595490HV-C 4030mAh	38.3.6
4	Sample No:4/16	38.3.1~5	4	Coslight CA595490HV-C 4030mAh	38.3.6
5	Sample No:5/16	38.3.1~5	5	Coslight CA595490HV-C 4030mAh	38.3.6
6	Sample No:6/16	38.3.1~5	6	Coslight CA595490HV-C 4030mAh	38.3.8
7	Sample No:7/16	38.3.1~5	7	Coslight CA595490HV-C 4030mAh	38.3.8
8	Sample No:8/16	38.3.1~5	8	Coslight CA595490HV-C 4030mAh	38.3.8
9	Sample No:9/16	38.3.7	9	Coslight CA595490HV-C 4030mAh	38.3.8
10	Sample No:10/16	38.3.7	10	Coslight CA595490HV-C 4030mAh	38.3.8
11	Sample No:11/16	38.3.7	11	Coslight CA595490HV-C 4030mAh	38.3.8
12	Sample No:12/16	38.3.7	12	Coslight CA595490HV-C 4030mAh	38.3.8
13	Sample No:13/16	38.3.7	13	Coslight CA595490HV-C 4030mAh	38.3.8
14	Sample No:14/16	38.3.7	14	Coslight CA595490HV-C 4030mAh	38.3.8
15	Sample No:15/16	38.3.7	15	Coslight CA595490HV-C 4030mAh	38.3.8
16	Sample No:16/16	38.3.7	16	Coslight CA595490HV-C 4030mAh	38.3.8
			17	Coslight CA595490HV-C 4030mAh	38.3.8
			18	Coslight CA595490HV-C 4030mAh	38.3.8
			19	Coslight CA595490HV-C 4030mAh	38.3.8
			20	Coslight CA595490HV-C 4030mAh	38.3.8
			21	Coslight CA595490HV-C 4030mAh	38.3.8
			22	Coslight CA595490HV-C 4030mAh	38.3.8
			23	Coslight CA595490HV-C 4030mAh	38.3.8
			24	Coslight CA595490HV-C 4030mAh	38.3.8
			25	Coslight CA595490HV-C 4030mAh	38.3.8



1.3 Test result

1.3 Test	result								
Item	Test Item			est specification		Judg	ge criteria	Samp	le(s)
T1	Altitude Simulation (UN38.3-1)	1-2.E	patteries and ending in for the patteries we charged based and the patteries so that the patteries at an and the patteries and the patteries at an and the patteries at an analysis and the patteries at an analysis and the patteries and the p	or less for a nbient tempe released. All	50 times, state. All sured. The ge are d. d. dat a pressure t least six erature 20+/-5 cells weight is dicell voltage	no leakag no disass rupture ar Battery vo e 10%.	e, no venting, embly, no	4 packs are scharged (Packs 50 cending in full states (Pack	ck#1~4) ycled y charged
Test Per	iod		t: 2016/10		End:2016/	10/10			
Test Equ					² Q090,真空		<u>//3</u>		
<u> </u>	<u> </u>	數位	电仪以口	0,电丁入1	以000, 具至	. /六和 QU4	- -J		
Major Pr		<u> </u>							
Warning -		-	1 11						
Recomm	nendation	The	battery	packs pass	s the test.				
					Altitude Simulation	on Test on Cl	narged Packs		
			В	efore	Afte	r	voltage residue	mass loss	
		No.	OCV	Weight	OCV	Weight	Volt	Weight	other event
		1	(V) 8.546	(g) 135.19	(V) 8.544	(g) 135.18	(%) 99.98%	(%) 0.01%	0
		2	8.603	135.19	8.602	135.18	99.99%	0.01%	0
		3	8.594	135.21	8.593	135.20	99.99%	0.01%	0
		4	8.557	135.26	8.554	135.25	99.96%	0.01%	0
		5	8.345	135.21	8.343	135.20	99.98%	0.01%	0
		6	8.453	135.17	8.450	135.16	99.96%	0.01%	0
		7	8.324	135.25	8.323	135.24	99.99%	0.01%	0
		8	8.336	135.21	8.332	135.20	99.95%	0.01%	0
				•	sembly; R-Rupture Disassembly, No F				
Ray	w Data								



Literay	Corporation							OT IT Q/ T Ear		
Item	Test Item			st specificatio				udge criteria	Samı	ole(s)
T2	Thermal test (UN38.3-2)	2-2.F	followed by some the maximu temperatu Repeat 2-1 for packs at aml weight are m	ored for 6 houstorage for 6 hm time intervaler extremes is or 10 times. The dieasured. The measured and	nours at -40: al between to a 30 minute then store the burs. All pac charged ba	±2°C. test s. te	no leal no disa rupture	ss loss (<0.1%), kage, no venting, assembly, no e and no fire. y voltage drop <	4 packs are stacharged (Pack 4 packs 50 cyc fully charged s (Pack#5~8)	#1~4) cled ending in
Test Per	iod	Star	t: 2016/10	/12	End:20	16/1	0/18			
Test Equ	ıipment	數位	z電表 Q15		² Q090, 2	令熱征	衝擊機	€ Q0446		
Major Pı	<u>'</u>	-	<u> </u>			. ,,				
Warning		_								
		The	nacke na	ass the tes	+					
Recomn	nendation	1116	packs pa	355 1116 165	٠١.					
					Therma	al Test	on Cha	arged Packs		
		NI-	Be	efore	A	fter		voltage residue	mass loss	-41
		No.	OCV	Weight	ocv		eight	Volt	Weight	other event
		1	(V) 8.544	(g) 135.18	(V) 8.475	135	g) 5.13	(%) 99.19%	0.04%	0
		2	8.602	135.22	8.526		5.16	99.12%	0.05%	0
		3	8.593	135.20	8.518	135		99.13%	0.04%	0
		4	8.554	135.25	8.480	135	5.21	99.13%	0.03%	0
		5	8.343	135.20	8.272	135	5.15	99.15%	0.04%	0
		6	8.450	135.16	8.375	135	5.11	99.11%	0.04%	0
		7	8.323	135.24	8.255	135		99.18%	0.04%	0
		8	8.332	135.20	8.257	135		99.10%	0.04%	0
			_	/enting; D-Disass				Fire		
Rav	w Data		О-по Leakage	, No Venting , No [Jisassembly , I	No Кир	ture , No	FIFE		



	Corporation										
Item	Test Item			Test spec	cification			Judge crite	eria	Sa	ample(s)
Т3		v k k 7 r n 3-2	ribration man manner as ribration sha ogarithmic so repeated 12 nutually per The logarith 7-18 Hz → 18-50 Hz → 18 packs we	0.8mm a	t distorting the cransmit the coidal waveful on 7 and 20 utes. This coital of 3 hour the terminary sweep is amplitude sured. The	the packs in vibration. Torm with a 100 Hz and buycle shall be urs for each al face. as follows:	The ack to e of 3	No mass loss (<0.1%), no leakage, no venting, no disassembly, rupture and n Battery voltagdrop < 10%.	no no fire.	charged	states
Test Per	iod	Sta	art: 2016/1	0/26	End:	2016/10/2	27				
Test Equ	iipment	數位	:電表 Q15	3, 電子天	平 Q090,	振動測試	機 Q	300			
Major Pr	oblem	-									
Warning		-									
	nendation	The	packs p	ass the te	st.						
						tion Test on					
		No.		fore		ter	volt	age residue		ss loss	other event
			OCV (V)	Weight (g)	OCV (V)	Weight (g)		Volt (%)		eight (%)	
		1	8.475	135.13	8.468	135.09		99.92%		.03%	0
		2	8.526	135.16	8.519	135.13		99.92%		.02%	0
		3	8.518 8.480	135.14 135.21	8.510 8.472	135.10 135.17		99.91% 99.91%		.03%	0
		5	8.272	135.15	8.264	135.12		99.90%		.03%	0
		6	8.375	135.11	8.369	135.06		99.93%		.03%	0
		7 8	8.255	135.18	8.246	135.15		99.89%		.02%	0
			8.257	/enting ; D-Disas	8.250	135.11		99.92%	0.	.02%	0
				, No Venting , No	•		No Fire				
Rav	w Data										



Energy	Corporation				1 (0)			(-Q/-Lab-O		
Item	Test Item			Test specific	ation		Ju	dge criteria	Sam	ıple(s)
Т4	Shock test (UN38.3-4)	4-2. I 4-2. I t t 4-3. /	by means of all mounting Packs shall I of peak acce of 6 millisect to 3 shocks in three shocks mutually periche pack for all batteries	a rigid moun surfaces. be subjected eleration 150g onds. Each part the positive in the negative pendicularly a total of 18 sweight are m	the testing m t, which will su to a half-sine a gn and pulse d ack shall be su e direction follotive direction of mounting positions shocks. heasured. The measured and	pport shock uration bjected wed by f three	no leaka no disas rupture a Battery 10%.	age, no venting, sembly, no and no fire.	4 packs are charged (P 4 packs 50 ending in fu states (Pac	ack#1~4) cycled ılly charged
Test Per	iod	Star	t: 2016/10	/28	End:201	6/10/2	8		•	
Test Equ	uipment	數位	電表 Q15	3, 電子天-	———— 平 Q090, 衝	擊測討	式機 Q15	54		
Major Pr	oblem	-			· · · · ·					
Warning		-								
	nendation	The	packs pa	ass the te	st.					
			Rei	fore		est on C	Charged P		mass loss	
		No.	OCV (V)	Weight (g)	OCV (V)	Wei	-	Voltage residue Volt (%)	Weight (%)	other event
		1	8.468	135.09	8.462	135.	.09	99.93%	0.00%	0
		2	8.519	135.13	8.514	135.		99.94%	0.01%	0
		3	8.510 8.472	135.10 135.17	8.505 8.466	135. 135.		99.94%	0.01%	0
		5	8.264	135.12	8.260	135.	.11	99.95%	0.01%	0
Rav	w Data	6	8.369	135.06	8.362	135.		99.92%	0.01%	0
		7 8	8.246 8.250	135.15 135.11	8.240 8.245	135. 135.		99.93% 99.94%	0.01%	0
					sembly ; R-Rupture Disassembly , No		No Fire			



	corporation							
Item	Test Item		Test specification			dge criteria		Sample(s)
Т5	Short Circuit Test (UN38.3-5)	ext 5-2.Wh sho wir 5-4. Tho	eks are placed in to a 55±2°C erior packs temperature are en packs exterior reach 55±2°C orted by connecting terminal e of resistance less than 100°C short was continued for mothe cell temperature return tooks are observed for a further	monitored 2°C, they are s with a copper Om Ohm. ore than 1hour o 55°C. The	disasse explos smoke exterio	ture, no embly, no on, no fire, . Packs r peak ature <170°	no 4 pack	ss are standard ed (Pack#1~4) ss 50 cycled ending charged states #5~8)
Test Per	iod	Start	: 2016/11/04	End:2016/11	/07			
Test Equ	ipment	數位電	表 Q153, 資料收集器(Q075, 烘箱(Q171			
Recomm	nendation	The p	acks pass the test.					
			Short Circuit Test on C	Charged Pacl	ks.			
		No.	Max. Temp.(°C)	Other ev	ent			
		1	54.56	0				
		2	55.21	0				
		3	55.23	0				
Pay	w Data	4	54.68	0				
Nav	w Dala	5	55.21	0				
		6	55.34	0				
		7 8	55.28	0				
		8	54.98	U				
		Note: I	D-Disassembly ; R-Ruptur	re ; F-Fire				
			O- No Disassembly , No	Rupture , No F	ire			
Item	Test Item		Test specificatio	n		Judge cr		Sample(s)
Т6	Crush test/ Impact test (UN38.3-6)	(A 9.1 k 61±2.5d 6-2.Cel (The ce	I's diameter > 18mm, Execu (g mass is to be dropped from cm onto the sample.) I's diameter < 18mm, Execu ells are crushed with a 13 KN Once the force is obtained in	om a height of tion crush test I with the crush	ce 17 di: wi te	ternal temp Il does not o 0℃ and the sassemb ly thin 6 hours	exceed ere is no and no fire	5 cells are 50% charged (Cell #1~5)
Test Per	iod	Start:	2016/10/17 E	nd:2016/10/1	7			
Test Equ	ıipment	數位電	表 Q153, 資料收集器	Q152, 擠壓部	式驗機	Q437/撞彎	^逐 測試機	Q231
Recomm	nendation	The C	Cells pass the test.					
			Crush Test on 509	% Charged C	ells			
		No.	Max. Temp.(°C)	Oth	er ev	ent		
		1	19.36		0			
	Б.	2	20.31		0			
Ray	w Data	3	19.97		0			
		4	20.16		0			
		5	20.31		0			
		Note: I	D-Disassembly ; F-Fire /	O-No Disasse	mbly ,	No Fire		



	Corporation						
Item	Test Item			st specification		Judge criteria	Sample(s)
Т7	Overcharge test (UN38.3-7)	rec 7-2.The (a) W mo the bat (b) W tha tim 7-3. Tes	commended maxing minimum voltage when the Spec's repore than 18V, the new lesser of two timestery or 22V. When the Spec's report 18V, the minimules the maximum of the spect o	ecommended charg um voltage of the t charge voltage. ucted at ambient t	harge current. le as follows: ge voltage is not f the test shall be harge voltage of the ge voltage is more est shall be 1.2	No disassembly, no fire within seven days after the test.	4 packs are fully charged (Pack#9~12) 4 packs are 50 times cycled ending in fully charged state (Pack #13~16)
Test Per	riod	Start:	2016/10/27	End:2016	6/11/03		
Test Equ	uipment	數位電	是表 Q153, 資	料收集器 Q078	B, 電源供應器 Q´	148/Q149/Q15	0
Major P	roblem	-					
Warning	Point	-					
	nendation	The p	acks pass the	e test.			
			Ove Charge	ercharge Tes	t on Charged	Packs	
		No.	Charge				
			Voltage(V)	Current(A)	Max. Temp.(°0		event
		9	_	_	20.54	Other	0
		10	_	_	20.54 20.36	Other	0
Ra	w Data	10 11	_	_	20.54 20.36 21.23	Other	0 0
Ra	w Data	10 11 12	_	_	20.54 20.36 21.23 20.19	Other	0 0 0 0
Ra	w Data	10 11 12 13	Voltage(V)	Current(A)	20.54 20.36 21.23 20.19 20.87	Other	0 0 0 0 0
Ra	w Data	10 11 12	Voltage(V)	Current(A)	20.54 20.36 21.23 20.19 20.87 20.13	Other	0 0 0 0
Ra	w Data	10 11 12 13 14	Voltage(V)	Current(A)	20.54 20.36 21.23 20.19 20.87	Other	0 0 0 0 0 0



Forced connecting it in series with a 12 V D.C. power supply at an (Pack#6~15)	Forced discharge are first cycle in fully discharged at ambient temperature by connecting it in series with a 12 V D.C. power supply at an initial current equal to the maximum discharge current Specified by the manufacturer. Forced discharge test (UN38.3-8) Specified by the manufacturer. Forced discharge are first cycle in fully discharged states (Pack #16~25) Fest Period Start: 2016/10/28 End:2016/11/02 Fest Equipment 数位電表 Q153,資料收集器 Q160,電源供應器 Q147/Q236/Q237 Major Problem Warning Point Recommendation The packs pass the test. Forced discharge are first cycle in fully discharged by the manufacturer in fully discharged states (Pack #16~25) Forced discharge are first cycle in fully discharged by the manufacturer in fully discharged states (Pack #16~25) Forced discharge are first cycle in fully discharged by the manufacture in fully discharged states (Pack #16~25) Forced discharge are first cycle in fully discharged by the manufacture in fully discharged states (Pack #16~25) Forced discharge are first cycle in fully discharged by the manufacture in fully discharged in fully discharged states (Pack #16~25) Forced discharge are first cycle in fully discharged by the manufacture in fully discharged in fully disc	Forced discharge are first cycle in fully discharged at ambient temperature by connecting it in series with a 12 V D.C. power supply at an initial current equal to the maximum discharge current Specified by the manufacturer. Forced discharge test (UN38.3-8) Specified by the manufacturer. Forced discharge are first cycle in fully discharged states (Pack #16~25) Fest Period Start: 2016/10/28 End:2016/11/02 Fest Equipment 数位電表 Q153,資料收集器 Q160,電源供應器 Q147/Q236/Q237 Major Problem Warning Point Recommendation The packs pass the test. Forced discharge are first cycle in fully discharged by the manufacturer in fully discharged states (Pack #16~25) Forced discharge are first cycle in fully discharged by the manufacturer in fully discharged states (Pack #16~25) Forced discharge are first cycle in fully discharged by the manufacture in fully discharged states (Pack #16~25) Forced discharge are first cycle in fully discharged by the manufacture in fully discharged states (Pack #16~25) Forced discharge are first cycle in fully discharged by the manufacture in fully discharged in fully discharged states (Pack #16~25) Forced discharge are first cycle in fully discharged by the manufacture in fully discharged in fully disc	Energy		_						
T8 Forced discharge test (UN38.3-8) Test Period Start: 2016/10/28 End:2016/11/02 Test Equipment 数位電表 Q153、資料收集器 Q160、電源供應器 Q147/Q236/Q237 Major Problem - Narning Point - The packs pass the test. Forced discharge are first cycle in fully discharged by the manufacture. Forced discharge are first cycle in fully discharged states (Pack #16-25) The packs pass the test.	T8 Forced discharge test in fully discharged states (UN38.3-8) To start: 2016/10/28 End:2016/11/02 Test Equipment 数位電表 Q153、資料收集器 Q160、電源供應器 Q147/Q236/Q237 Major Problem - Warning Point - Recommendation The packs pass the test. Forced discharge are first cycle in fully discharged by the manufacture of a 2.68 and 1.7 an	T8 Forced discharge test in fully discharged states (UN38.3-8) To start: 2016/10/28 End:2016/11/02 Test Equipment 数位電表 Q153、資料收集器 Q160、電源供應器 Q147/Q236/Q237 Major Problem - Warning Point - Recommendation The packs pass the test. Forced discharge are first cycle in fully discharged by the manufacture of a 2.68 and 1.7 an	Item	Test Item		T	est specification			ludge criteria	Sample(s)
Ferced discharge are first cycle in fully discharged Forced discharge are after 50 cycles ending in fully discharged Recommendation Recommendation Proced discharge are first cycle in fully discharged Forced discharge are after 50 cycles ending in fully discharged No. Max. Temp.(**C) Other event No. Max. Temp.(**	Start: 2016/10/28 End: 2016/11/02	Start: 2016/10/28 End: 2016/11/02	Т8	discharge test	conne initial	ecting it in series w current equal to th	vith a 12 V D.C. power ne maximum discharge	supply	no se re by at an	fire within ven days after e test.	cycle in fully discharged states (Pack#6~15) 10 cells are after 5 cycles ending in fully discharged states
Forced discharge are first cycle in fully discharged Forced discharge are after 50 cycles ending in fully discharged No. Max. Temp.(°C) Other event No.	Forced discharge are first cycle in fully discharged Forced discharge are after 50 cycles ending in fully discharged No. Max. Temp. (**C) Other event No.	Forced discharge are first cycle in fully discharged Forced discharge are after 50 cycles ending in fully discharged No. Max. Temp. (**C) Other event No.	Test Per	riod	Start	:: 2016/10/28	End:2016/	11/02	I		(r c.c.r. // 2-c/
Forced discharge are first cycle in fully discharged Forced discharge are after 50 cycles ending in fully discharged No. Max. Temp.(°C) Other event No.	Forced discharge are first cycle in fully discharged Forced discharge are after 50 cycles ending in fully discharged No. Max. Temp. (**C) Other event No.	Forced discharge are first cycle in fully discharged Forced discharge are after 50 cycles ending in fully discharged No. Max. Temp. (**C) Other event No.	Test Equ	uipment	數位	電表 Q153, 賞	資料收集器 Q160,	電源化	共應器 Q14	17/Q236/Q23	37
Forced discharge are first cycle in fully discharged Forced discharge are after 50 cycles ending in fully discharged No. Max. Temp.(°C) Other event No. No	Forced discharge are first cycle in fully discharged Forced discharge are after 50 cycles ending in fully discharged No. Max. Temp.(°C) Other event No. Max. Temp.(°C) Other event Other event No. Max. Temp.(°C) Other event No. Max. Temp.(°C) Other event Other event No. Max. Temp.(°C) Other event Ot	Forced discharge are first cycle in fully discharged Forced discharge are after 50 cycles ending in fully discharged No. Max. Temp.(°C) Other event No. Max. Temp.(°C) Other event Other event No. Max. Temp.(°C) Other event No. Max. Temp.(°C) Other event Other event No. Max. Temp.(°C) Other event Ot				<u> </u>	,			<u> </u>	
Forced discharge are first cycle in fully discharged Forced discharge are after 50 cycles ending in fully discharged No. Max. Temp.(°C) Other event No. Max. Temp.(°C) Other event O	Forced discharge are first cycle in fully discharged Forced discharge are after 50 cycles ending in fully discharged No. Max. Temp.(°C) Other event No. Max. Temp.(°C) Other event O	Forced discharge are first cycle in fully discharged Forced discharge are after 50 cycles ending in fully discharged No. Max. Temp.(°C) Other event No. Max. Temp.(°C) Other event O			_						
Forced discharge are first cycle in fully discharged Forced discharge are after 50 cycles ending in fully discharged No. Max. Temp.(°C) Other event No. Max. Temp.(°C) Other event 6 32.69 O 16 29.54 O 7 28.64 O 17 31.34 O 8 30.17 O 18 35.44 O 35.44 O 19 35.94 O 10 29.21 O 20 25.12 O 25.1	Forced discharge are first cycle in fully discharged Forced discharge are after 50 cycles ending in fully discharged No. Max. Temp.(°C) Other event No. Max. Temp.(°C) Other event 6 32.69 O 16 29.54 O 7 28.64 O 17 31.34 O 8 30.17 O 18 35.44 O 9 32.45 O 19 35.94 O 10 29.21 O 20 25.12 O 11 35.64 O 21 29.65 O 12 29.45 O 22 26.77 O 13 34.59 O 22 26.77 O 13 34.59 O 22 26.77 O 14 35.21 O 24 26.54 O 0 26.54 O 15 32.13 O 25 29.31 O O O O O O O O O	Forced discharge are first cycle in fully discharged Forced discharge are after 50 cycles ending in fully discharged No. Max. Temp.(°C) Other event No. Max. Temp.(°C) Other event 6 32.69 O 16 29.54 O 7 28.64 O 17 31.34 O 8 30.17 O 18 35.44 O 9 32.45 O 19 35.94 O 10 29.21 O 20 25.12 O 11 35.64 O 21 29.65 O 12 29.45 O 22 26.77 O 13 34.59 O 22 26.77 O 13 34.59 O 22 26.77 O 14 35.21 O 24 26.54 O 0 26.54 O 15 32.13 O 25 29.31 O O O O O O O O O			The	nacks nass th	ne test				
Raw Data 6 32.69 0 16 29.54 0 7 28.64 0 17 31.34 0 8 30.17 0 18 35.44 0 9 32.45 0 19 35.94 0 10 29.21 0 20 25.12 0 11 35.64 0 21 29.65 0 12 29.45 0 22 26.77 0 13 34.59 0 23 35.67 0 14 35.21 0 24 26.54 0 15 32.13 0 25 29.31 0	Raw Data 6	Raw Data 6									
Raw Data 7	Raw Data Table Ta	Raw Data Table Ta									
Raw Data 9 32.45 0 19 35.94 0	Raw Data 9 32.45 0 19 35.94 0	Raw Data 9 32.45 0 19 35.94 0			No.	Max. Temp.(°C)	Other event	No.	Max. Temp.(Other event
Raw Data 10 29.21 0 20 25.12 0 11 35.64 0 21 29.65 0 12 29.45 0 22 26.77 0 13 34.59 0 23 35.67 0 14 35.21 0 24 26.54 0 15 32.13 0 25 29.31 0	Raw Data 10 29.21 0 20 25.12 0 11 35.64 0 21 29.65 0 12 29.45 0 22 26.77 0 13 34.59 0 23 35.67 0 14 35.21 0 24 26.54 0 15 32.13 0 25 29.31 0	Raw Data 10 29.21 0 20 25.12 0 11 35.64 0 21 29.65 0 12 29.45 0 22 26.77 0 13 34.59 0 23 35.67 0 14 35.21 0 24 26.54 0 15 32.13 0 25 29.31 0			No.	Max. Temp.(°C) 32.69	Other event O	No. 16	Max. Temp.(29.54		Other event O
Raw Data 11 35.64 0 21 29.65 0	Raw Data 11 35.64 0 21 29.65 0	Raw Data 11 35.64 0 21 29.65 0			No. 6 7	Max. Temp.(°C) 32.69 28.64	Other event O O	No. 16 17	Max. Temp.(29.54 31.34		Other event O O
Raw Data 12 29.45 0 22 26.77 0 13 34.59 0 23 35.67 0 14 35.21 0 24 26.54 0 15 32.13 0 25 29.31 0	Raw Data 12 29.45 0 22 26.77 0 13 34.59 0 23 35.67 0 14 35.21 0 24 26.54 0 15 32.13 0 25 29.31 0	Raw Data 12 29.45 0 22 26.77 0 13 34.59 0 23 35.67 0 14 35.21 0 24 26.54 0 15 32.13 0 25 29.31 0			No. 6 7 8 9	Max. Temp.(°C) 32.69 28.64 30.17 32.45	Other event O O O O O	No. 16 17 18 19	Max. Temp.(29.54 31.34 35.44 35.94		Other event O O O O O
13 34.59 O 23 35.67 O 14 35.21 O 24 26.54 O 15 32.13 O 25 29.31 O	13 34.59 O 23 35.67 O 14 35.21 O 24 26.54 O 15 32.13 O 25 29.31 O	13 34.59 O 23 35.67 O 14 35.21 O 24 26.54 O 15 32.13 O 25 29.31 O			No. 6 7 8 9 10	Max. Temp.(°C) 32.69 28.64 30.17 32.45 29.21	Other event O O O O O O O O	No. 16 17 18 19 20	Max. Temp.(29.54 31.34 35.44 35.94 25.12		Other event O O O O O O O
14 35.21 O 24 26.54 O 15 32.13 O 25 29.31 O	14 35.21 O 24 26.54 O 15 32.13 O 25 29.31 O	14 35.21 O 24 26.54 O 15 32.13 O 25 29.31 O	Ra	w Data	No. 6 7 8 9 10 11	Max. Temp.(°C) 32.69 28.64 30.17 32.45 29.21 35.64	Other event O O O O O O O O O O O O O O O O O O O	No. 16 17 18 19 20 21	Max. Temp.(29.54 31.34 35.44 35.94 25.12 29.65		Other event O O O O O O O O O O O O
			Ra	w Data	No. 6 7 8 9 10 11 12	Max. Temp.(°C) 32.69 28.64 30.17 32.45 29.21 35.64 29.45	Other event	No. 16 17 18 19 20 21 22	Max. Temp.(29.54 31.34 35.44 35.94 25.12 29.65 26.77		Other event O O O O O O O O O O O O O O O O O O O
Note:D-Disassembly ; F-Fire / O-No Disassembly , No Fire	Note:D-Disassembly ; F-Fire / O-No Disassembly , No Fire	Note:D-Disassembly ; F-Fire / O-No Disassembly , No Fire	Ra	w Data	No. 6 7 8 9 10 11 12 13	Max. Temp.(°C) 32.69 28.64 30.17 32.45 29.21 35.64 29.45 34.59	Other event O O O O O O O O O O O O O O O O O O	No. 16 17 18 19 20 21 22 23	Max. Temp.(29.54 31.34 35.44 35.94 25.12 29.65 26.77 35.67		Other event O O O O O O O O O O O O O O O O O O O
			Ra	w Data	No. 6 7 8 9 10 11 12 13 14	Max. Temp.(°C) 32.69 28.64 30.17 32.45 29.21 35.64 29.45 34.59 35.21	Other event O O O O O O O O O O O O O O O O O O	No. 16 17 18 19 20 21 22 23 24	Max. Temp.(29.54 31.34 35.44 35.94 25.12 29.65 26.77 35.67 26.54		Other event O O O O O O O O O O O O O O O O O O O
			Ra	w Data	No. 6 7 8 9 10 11 12 13 14 15	Max. Temp.(°C) 32.69 28.64 30.17 32.45 29.21 35.64 29.45 34.59 35.21 32.13	Other event O O O O O O O O O O O O O O O O O O	No. 16 17 18 19 20 21 22 23 24 25	Max. Temp.(29.54 31.34 35.44 35.94 25.12 29.65 26.77 35.67 26.54		Other event
			Ra	w Data	No. 6 7 8 9 10 11 12 13 14 15	Max. Temp.(°C) 32.69 28.64 30.17 32.45 29.21 35.64 29.45 34.59 35.21 32.13	Other event O O O O O O O O O O O O O O O O O O	No. 16 17 18 19 20 21 22 23 24 25	Max. Temp.(29.54 31.34 35.44 35.94 25.12 29.65 26.77 35.67 26.54		Other event O O O O O O O O O O O O O O O O O O O
			Ra	w Data	No. 6 7 8 9 10 11 12 13 14 15	Max. Temp.(°C) 32.69 28.64 30.17 32.45 29.21 35.64 29.45 34.59 35.21 32.13	Other event O O O O O O O O O O O O O O O O O O	No. 16 17 18 19 20 21 22 23 24 25	Max. Temp.(29.54 31.34 35.44 35.94 25.12 29.65 26.77 35.67 26.54		Other event
			Ra	w Data	No. 6 7 8 9 10 11 12 13 14 15	Max. Temp.(°C) 32.69 28.64 30.17 32.45 29.21 35.64 29.45 34.59 35.21 32.13	Other event O O O O O O O O O O O O O O O O O O	No. 16 17 18 19 20 21 22 23 24 25	Max. Temp.(29.54 31.34 35.44 35.94 25.12 29.65 26.77 35.67 26.54		Other event O O O O O O O O O O O O O O O O O O O
			Ra	w Data	No. 6 7 8 9 10 11 12 13 14 15	Max. Temp.(°C) 32.69 28.64 30.17 32.45 29.21 35.64 29.45 34.59 35.21 32.13	Other event O O O O O O O O O O O O O O O O O O	No. 16 17 18 19 20 21 22 23 24 25	Max. Temp.(29.54 31.34 35.44 35.94 25.12 29.65 26.77 35.67 26.54		Other event O O O O O O O O O O O O O O O O O O O
			Ra	w Data	No. 6 7 8 9 10 11 12 13 14 15	Max. Temp.(°C) 32.69 28.64 30.17 32.45 29.21 35.64 29.45 34.59 35.21 32.13	Other event O O O O O O O O O O O O O O O O O O	No. 16 17 18 19 20 21 22 23 24 25	Max. Temp.(29.54 31.34 35.44 35.94 25.12 29.65 26.77 35.67 26.54		Other event O O O O O O O O O O O O O O O O O O O
			Ra	w Data	No. 6 7 8 9 10 11 12 13 14 15	Max. Temp.(°C) 32.69 28.64 30.17 32.45 29.21 35.64 29.45 34.59 35.21 32.13	Other event O O O O O O O O O O O O O O O O O O	No. 16 17 18 19 20 21 22 23 24 25	Max. Temp.(29.54 31.34 35.44 35.94 25.12 29.65 26.77 35.67 26.54		Other event O O O O O O O O O O O O O O O O O O O
			Ra	w Data	No. 6 7 8 9 10 11 12 13 14 15	Max. Temp.(°C) 32.69 28.64 30.17 32.45 29.21 35.64 29.45 34.59 35.21 32.13	Other event O O O O O O O O O O O O O O O O O O	No. 16 17 18 19 20 21 22 23 24 25	Max. Temp.(29.54 31.34 35.44 35.94 25.12 29.65 26.77 35.67 26.54		Other event