NAND FLASH Utility Manual



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1.Summary

This manual teaches user how to use NAND FLASH Image File System. There are 2 interfaces in this software.

<1> Group Define and Image :

Load different Image files $(\bar{}^*.bin)$ to software and then software generates a Group Define file (*.def) and a combined Image file (*.bin)

<2> Group Define :

This function is to edit and generate a Group Define file (*.def).

Software will automatically instruct to complete the mission step by step. When a necessary step is not completed, software will not go to the next step.

IP s	U-600/60	000 NAND FLA	SH AND GRO	OB DERINE O	TILITY -
	evice Set Select Di	Ma evice Typ	nufacturer SAM be Number K9F2	SUNG 2G08U0B(TS48)	
(1) Gr	oup Define Group Defi	and Image Gro	up Define		
	Number	Start Block	End Block	Process Size	Start Addr
	1	0	7	3	0x000000
	2	8	9	2	0x001000
	3	10	11	2	0x001400

1	.S	ur	n	m	а	ry
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- < 1 > In both interface it is necessary for user to select IC brand and part number at first step.
- < 2 > Software will record pervious IC brand, part number and settings

0 NAND FLASH AND GROUP DEFINE UTILITY _ _ X 1 Page_size 2048 Manufacturer Alphanetworks BlockCount 1024 12 Type Number H27U1G8F28TR(TS48) PageOfBlock 64 PageSpareSize 64 Group Define and Image Group Define Group Define and Image File Number Start BI Load INI File Pat ngth (Bytes) Manufacturer Aphanetworks HYNDX INTEL MICRON Numonyx PowerFlash Reattek format SAMSUNG ST TOSHIBA Unihan Manufacture Type Number Type Number H27U1G8F2BTFIT548) H727UF051624T548) K9F1608U06(0) K9F1608U06(T548) K9F1608U0C(1548) K9F2608U06(T548) MT28F2608A0[T548] MAND01632CN47548] NAND026W382DN6(T548) Unihan Use Group Wistron forma Wistron VOIF

This function is to generate a Group Define file (*.def) and a combined Image files (*.bin) after user loads different Image files and adjusts the setting of Block.

2.1 Operating procedure

< Step 1> Select IC brand & part number



< Step 2> Select | Group Define and Image | interface

Select Device	Manufacturer Alph Type Number H27	anetworks U1G8F2BTR(TS48	1	BlockCount 1024 PageD/Block 64	Page_size 2048 PageSpareSize 64	
oup Define and Image droup oreine and Imag	Group Define					
Number Start Block	田啓 重調①:	i peny			 ► © ☆ □-	×
	教務(近的5次件 ()) ()) ()) ()) ()) ()) ()) ()	PEKERNEL - PEPROGRAM Perry U-bootec	co Láco			
. (3)		檀名(10): 檔案類型(10):	"PEKERN Image File	EL ecc bin" "PEPROGRAM. (*BIN)	ecc.bin" • 開智(2) • 取消	
	select Device	Selec Device Type Number P27 Type P27 Type	Sete: Device Type Number +27U1G9720TR(IS4) avp Defre and Image Biographic statements File Sete: Device File Sete: Device Sete: Device	Select Device Type Namely 1422U1658/33176[1548] Tope Tamber 1422U1658/33176[1548] T	Select Device Type Number H2D/169728 TR(1540) Page08bool 64 op Define and Image Group Define Bigs Bigs Bigs water for Bigs File Bigs Bigs Control 1000 Control 10000 Control 10000 Cont	Select Device Type Number P22/LIG9/231R(1548) Page/D80x6/64 Page

< Step 3> Load 1 or more image files to software. Software automatically calculates Block value after loading.

< Step 4> Set the Block according to user's data. User can edit the columns that are marked with red line. Just click the column to do edit. User can hover Mouse cursor on the column that needs to be edited. Software has autocorrection function. When user changes the parameter in a column other related parameter automatically changes as well.

	Device 1	4anufacturer Al	phanetworks 27U1G8F2BTR(TS	548)	BlockCount 10 PageOfBlock 64	Pag	Page_size 2048 eSpareSize 64
oup Defin	e and Image i	Group Define				_	
Number	Start Block	End Block	Process Size	Start Address	End Address	File Length (Bytes)	File Path
1	0	23	2	0x00000000	0x002E0000	236544	D:\睿告\Order+NANDFLASH\Tes
2	24	87	27	0x00300000	0x00AE0000	3581952	D:\報告\Order+NANDFLASH\Tes
3	88	151	27	0x00B00000	0x012E0000	8581952	D:\報告\Order+NANDFLASH\Tes
4	152	215	27	0x01300000	0x01AE0000	8581952	D:\報告\Order+NANDFLASH\Tes
_	240	240	22	0.01000000	0.01500000	1000000	DARPH AGAIN MANDELACUST

User can select Block or Address to input the parameter because $\[\] Start Block \]$ corresponds to $\[\] Start Address \]$ and $\[\] End Block \]$ corresponds to $\[\] End Block \]$.

After inputting the parameter, user must press $~~{{{\mathbb F}}}{\rm Enter}{}_{{\mathbb J}}$. The software shows the following error message when user does not finish inupt.

Select D	levice T	lanufacturer Alp ype Number H2	hanetworks 7U1G8F2BTR(TS	548)	Blo Pag	ckCount 10 eOIBlock 64	24 Page	Page_size 2048 eSpareSize 64
oup Defin Group De	e and Image (fine and Image F	iroup Define	[n	100000	l.		In the second second	les pui
Number	Start BIOCK	End Block	Plocess Size	Start Address	En	id Address	File Length (Bytes)	File Path
1	0	23	2	0x00000000	0x	002E0000	236544	D:\報告\Order+NANDFLASH\Test
2	240	87	27	0x00300000	0×	0000 AA00	3581952	D:\報告\Order+NANDFLASH\Test
3	88	Warning				12E0000	3581952	D:\银告\Order+NANDFLASH\Text
4	152			11		1AE0000	3581952	D:\報告\Order+NANDFLASH\Test
5	216		Your Input Has N Please Remember	ot Been Complet to Push «Enter»	ed! !	1F00000	4333068	D:\報告\Order+NANDFLASH\Test

Besides, the parameter in <code>[Start Block]</code> and <code>[End Block]</code> column should be an integer and the parameter must not be larger than 4 digit number. The software automatically corrects the parameter when it is larger than 4 digit number. When filling <code>[Start Address]</code> and <code>[End Address]</code> column, the parameter should start with <code>[Ox]</code>. Otherwise, the software cannot tell the parameter. The maximum input digit of <code>[Start Address]</code> and <code>[End Address]</code> is 8 (not including <code>[Ox]</code>).

< Step 5> After filling all columns, press 「Make」 to generate a "Group Define file (*.def) and a combined Image file (*.bin). Software shows check sum after generating file. Software shows error message in 『Process Message』 when there's an error during generating file.

Select (Device .	Manufacturer A	phanetworks 27U1G8F2BTR(TS	548]	BlockCount 10 PageOfBlock 6	124 Page	Page_size 2048 s5pareSize 64
iup Defin àroup De	e and Image	Group Define File	In	In the second	In the second	The local distance	Incha
Number	Start Block	End Block	Process Size	Start Address	End Address	File Length (Bytes)	r le Palh
-	0	23	2	0.00000000	0.00150000	236044	D: WRYE YURGET+NANDFLASH \T est
2	24	87	27	0x00300000	0x00AE 0000	3581952	D:\WW告\Urder+NANDFLASH\Test
	88	151	27	0x00B00000	0x012E0000	3581952	D.\報告\Order+NANDFLASH\Test
4	152	215	27	0x01300000	0x01AE0000	3581952	D:\報告\Order+NANDFLASH\Test
5	216	248	33	0x01B00000	0x01F00000	4333068	D:\報告\Order+NANDFLASH\Text
			_				
<))))		1		OK			
 5) 	idd File	Delete	Clear Al	OK			

2.2 Additional instruction

< Additional instruction 1>

User can use Drag function on $\[$ Number $\]$ column. After dragging the block, parameter in the block will be automatically corrected.

Number	Start Block	End Block	Process Size	Start Address	End Address	File Length (Bytes)	File Path
1	p	23	2	0x00000000	0x002E0000	236544	D:\報告\Order+NANDFLASH\Test F
2	24	87	27	0x00300000	0x00AE0000	3581952	D:\報告\Order+NANDFLASH\Test F
3	38	151	27	0x00800000	0x012E0000	3581952	D:\锦告\Order+NANDFLASH\Test F
4	152	215	27	0x01300000	0x01AE0000	3581952	D:\裸告\Order+NANDFLASH\Test F
5	216	248	33	0x01800000	0x01F00000	4333068	D:\報告\Order+NANDFLASH\Test F

< Additional instruction 2>

Double click the column to change Image file when editing Image file.

6	roup Define	e and Image Gro	oup Define								
	Group Del	fine and Image File	e								
	Number	Start Block	End Block	Process Size	Start Address	End Address	File Length (B	lytes)	File Path		
	1	0	151	2	0x000000000	0x012E0000	236544		D:\報告\(order+NANDFLAS	H\Test F
(2	152	178	27	0x01300000	0x01640000	3581952		D:\報告\(order+NANDFLAS	H\Test F
ľ	3	179	205	27	0x01660000	0x019A0000	3581952	1	D:\報告\(Irder+NANDFLAS	H\Test F
	4	206	間略							? 🛛	H\Test F
	5	233	建立	ID: 🗀 peny	,		• +	- 🗈 (* 💷 -		H\Test F
	<	dd File	 	# PEKE PEPR peny beboot	RNEL soc JORAM.soc hecc						8
	Make Gro	up Define and Ima	a	檔名(凹) 檔案額型	(D: Image	RNEL ecc File(*.BIN)			•	開啓(2) 取消	
		0.	×				CANE D. 1. 11	CH C L			

 $<\! \text{Additional instruction 3} > \\ \text{User can press keyboard's lnsert to execute $$ Add File$ and press keyboard's $$ Delete key to execute $$ Delete$.$

< Additional instruction 4 >

This interface is able to load or store Project file (*.proj).

mper 55	art Block	EndBl	ock. Pr	ocess Si	ze Start Addres	ss End Address	File Length (Byte	s) File Path	
0		151	লাজ						20
15	2	178			100		1		-
17	9	205	3	218(I):	perry		1	+ 🖿 🚰	<u>.</u> *
20	6	232	2)					
23	3	265	我最近的	这件					
			ありが 現在がす 現在1日						
					權名(II):	PEKERNEL ecc	1	•	間啓(0)
		Del			檔案類型(D):	Project File (*.pa	(ioi	-	取消
		Del			檔案類型(1):	Project File (*. pa	roj)	•	

< Additional instruction 5>

User can load Group Define file (*.def) but software will not show Image file information after loading.

lumber	Start Block	End Block	Process Size	Start Address	End Address	File Length (Bytes)	File Path	
	0	26	2	0x00000000	0x002E0000	270336		
	24	87	27	0x00300000	0x004E0000	3649536		
	88	151	27	0x00800000	0x012E0000	3649536		
	152	215	27	0x01300000	0x01AE0000	3649536		
	216	248	33	0x01B00000	0x01F00000	4460544		
	216	248	33	0x01800000	0x01F00000	4460544		
	216	248	33	0x01800000	0401F00000	4460544		
an Ai	216 dd File	248 Delete	33	0x01B00000	CaOTFOUDDO	4450544		
Ai Ai	dd File	248 Delete	33	0x01B00000	GAOTFOUDDO	4460544 Project File		

<Additional instruction 6>

Add File: Added file is under the coloumn that Mouser cursor hovers. Example:

Mouse cursor hover the 2nd file.

Group Def	oup Define and Image Group Define									
Group Deline and Image File										
Number	Start Block	End Block	Process Size	Start Address	End Address	File Length (Bytes)	File Path			
1	0	1	2	0x00000000	0x00020000	236544	D:WANDFLASH合併系統檔案開發\Test File\peny\wboot.ecc.bin			
2			27	0x00040000	0x00380000	3581952	D:WANDFLASH合併系統檔案開發\Test File\peny\PEKERNEL.ecc.bin			
3	29	61	33	0x003A0000	0x007A0000	4333068	D:WANDFLASH合併系統檔案開發\Test File\peny\PEPROGRAM.ecc.bin			

After adding 『perry.bin, added file is under the 2nd column. (Refer to the photo below)

Group Define and Image | Group Define |

M

Group Deh	oup Define and image File								
Number	Start Block	End Block	Process Size	Start Address	End Address	File Length (Bytes)	File Path		
1	0	1	2	0x00000000	0x00020000	236544	D:\NANDFLASH合併系统檔案開發\Test File\peny\urboot.ecc.bin		
2	2	28	27	0x00040000	0x00380000	3581952	D:\NANDFLASH合併系統檔案開發\Test File\peny\PEKERNEL.ecc.bin		
3	29	308	280	0x003A0000	0x02680000	37847040	D:\NANDFLASH合併系統檔案開發\Test File\peny\peny.bin		
4	309	341	33	0x026A0000	0x02AA0000	4333068	D:\NANDFLASH合併系統檔案開發\Test File\peny\PEPRDGRAM.ecc.bin		

This function is simply to generate a "Group Define file" . No need to work with Image.

3.1 Operating procedure

Select IC manufacturer and P/N.



<Step 2> Add the quantity of column. Maximum quantity is 256 !

Please input the c	olumn quantity of Group I	Define.
	K Cancel	

<Step 3>User can hover Mouse cursor on the item that needs to be edited. The software has auto-correction function. When user change the parameter in a column other related parameter will be automatically changed as well. User can select Block or Address to input the parameter because 「Start Block」 corresponds to 「Start Address」 and 「End Block」 corresponds to 「Fle Length(Bytes)」. 「Process Size」 corresponds to 「Fle Length(Bytes)」.

Number	Start Bock	End Block	Process Size	Start Address	End Address	File Length (Bytes)
1	0	23	3	0x00000000	0x002FFFFF	405504
2	24	60	27	0x00300000	0x0079FFFF	3649536
3	61	171	27	0x007A0000	0x0157FFFF	3649536
4	172	206	27	0x01580000	0x019DFFFF	3649536
5	207	237	31	0x019E0000	0x01DBFFFF	4130208

Besides, the parameter in <code>[Start Block]</code> and <code>[End Block]</code> column should be an integer and the parameter must not be larger than 4 digit number. The software automatically corrects the parameter when it is larger than 4 digit number. When filling <code>[Start Address]</code> and <code>[End Address]</code> column, the parameter should start with <code>[Ox]</code>. Otherwise, the software cannot tell the parameter. The maximum input digit of <code>[Start Address]</code> and <code>[End Address]</code> and <code>[End Address]</code> is 8 (not including <code>[Ox]</code>).

<Step 4> After filling all columns, press 『Generate *.DEF』 to generate a "Group Define file (*.def)".

vice Set		-			_			Free contraction of the second	
Calast C) mine	Aanufacturer A	lphanetworks		BlockCount 10	324	Page_size	2048	
Select	levice 1	ype Number H	27U1G8F2BTR(T	548)	Page0fBlock 64	4 F	ageSpareSize	64	
oun Defin	e and Image	Course Dafaa							
Group De	fine File	choop benne [
Number	Start Block	End Block	Process Size	Start Address	End Address	File Length (Byte	(8)		
1	0	23	2	0x00000000	0x002E0000	270336			
2	24	87	27	0x00300000	0x004E0000	3649536			
3	88	114	27	0x00B00000	0x00E40000	3649536			
4	115	215	27	0x00E60000	0x01AE0000	3649536			
5	216	248	33	0x01B00000	0x01F00000	4460544			
	Add	Delete	Projecti Group Define Clear All	Make Sucess.					
Make Gro	up Define and I	mage File rocess Message			Load Group Defin	ne			

3.2 Additional Instruction

<Additional Instruction 1> User can use Drag function on 『Number』 column. After dragging the block, parameter in the block will be automatically corrected. Please note that Drag function is invalid when the column is empty.

Γ	litoup Deb	ne File						
	Number	Start Block	End Block	Process Size	Start Address	End Address	File Length (Bytes)	ſ
	1	D	21	2	0x00000000	0x002A0000	270336	
	2	22	87	27	0x002C0000	0x00AE0000	3649536	
	3	38	151	27	0x00B00000	0x012E0000	3649536	
	4	152	215	27	0x01300000	0x01AE 0000	3649536	
	5	216	248	33	0x01B00000	0x01F00000	4460544	

< Additional Instruction 2> User can load a "Group Define file " and then revise it.

	Add	Delete	Clear All	
Г	Generate Group Define	e File	****	Load Group Define
	🖌 Generate *.D	EF	eeugo	Load Group Define

< Additional Instruction 3> Add column: Added column is under the coloumn that Mouser cursor hovers.

				-	-			
Number	Start Block	End Block	Process Size	Start Address	End Address	File Length (Bytes)		
1	0	23	3	0x00000000	0x002FFFFF	405504		
2	24	60	27	0x00300000	0x0079FFFF	3649536		
3	61	171	27	0x007A0000	0x0157FFFF	3649536		
4	172	206	27	0x01580000	0x019DFFFF	3649536		
5	207	237	31	0x019E0000	0x01DBFFFF	4190208		
	-							
Please input the column quantity of Group Define.								
			ОК	Cancel				

Example: Mouse cursor hover the 2nd column.

Group Define File

After adding 3 columns, added columns is under the 2nd column. (Refer to the photo below)

Group De	aroup Define File									
Number	Start Block	End Block	Process Size	Start Address	End Address	File Length (Bytes)				
1	0	23	2	0x00000000	0x002E0000	270336				
2	24	87	27	0x00300000	0x00AE0000	3649536				
3	88			0x00800000						
4										
5										
6	88	151	27	0x00800000	0x012E0000	3649536				
7	152	215	27	0x01300000	0x01AE0000	3649536				
8	216	248	33	0x01B00000	0x01F00000	4460544				