

Lenovo B340/B540 Schematics

CONTENTS

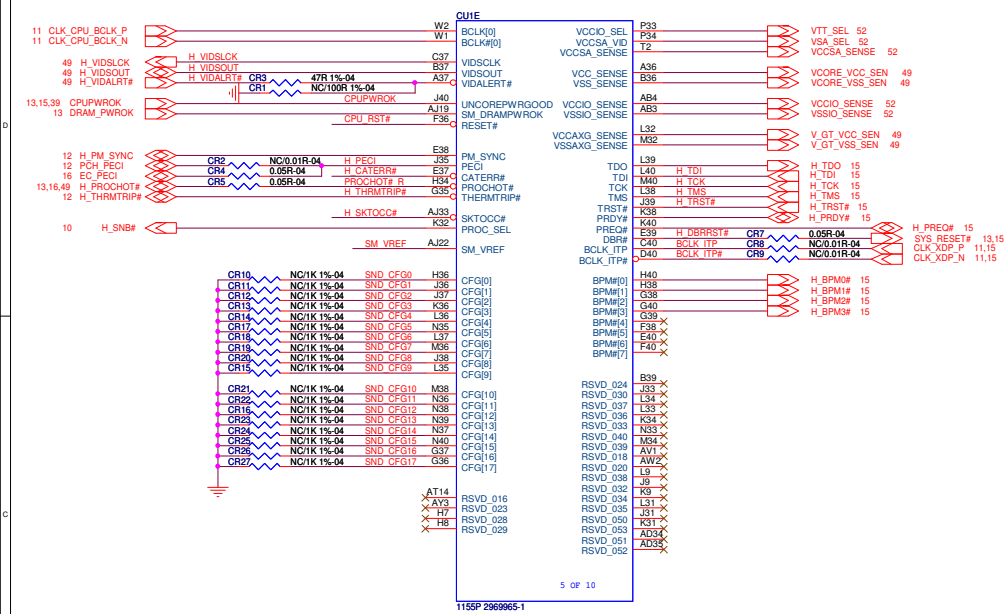
SCHEMATIC	SHEET
01 COVER SHEET	1
02 BLOCK DIAGRAM	2
03_LGA1155_DMI/FDI/PEG/CFG	3
04_LGA1155_DIMM A&B	4
05_LGA1155_Power	5
06_DDR3 DIMM MA-CH0 5.2mm	6
07_DDR3 DIMM MA-CH1 9.2mm	7
08_DDR3 DIMM MB-CH0 9.2mm	8
09_DDR3 DIMM MB-CH1 5.2mm	9
10_PCH_FDI, DMI,USB,PCIE,NVRAM	10
11_PCH_DP,CLK BUFFER	11
12_PCH_HOST,SATA,PCI	12
13_PCH_GPIO , CTRL,AUDIO	13
14_PCH_PWR,GND	14
15_XDP connect / FAN	15
16_EC (IT8519)	16
17_Card Reader (RTS5209)	17
18_Audio Codec (ALC272)	18
19_Audio AMP / SW	19
20_Audio Conn	20
21_Scalar Part 1	21
22_Scalar Part 2	22
23_GPU LVDS / DAC / DP	23
24_GPU Memory Interface	24
25_GPU Core / IO Power	25
26_GPU GND	26
27_GPU (DDR3 512MB BANK A)	27
28_GPU (DDR3 512MB BANK B)	28
29_GPU CTF	29
30_GPU PCI-E Interface	30

SCHEMATIC	SHEET
31_Webcam, BT, Touch Pad	31
32_USB CONNx2	32
33_SPI ROM SYS	33
34_Mini-PCI-Express x 2	34
35_DB, PC_ON, TK, FL	35
36_HW/TV_CONN	36
37_Screw	37
38_Controller 1	38
39_Controller 2, +5VDUAL	39
40_Sugar Bay-CPU 1/2	40
41_Sugar Bay-MOSFET 2/2	41
42_+5V, +V5S, +V3.3S, +3.3DUAL	42
43_CPU_VTT_1.05V, VCCSA_0.85V	43
44_+1.5VDIMM, +1.5VS, +0.75VTT	44
45_VCC1_05_PCH, ME, VCC1_8_PCH	45
46_+VDDC, +1.0V_REG	46
47_+V12S, OTHER SWITCH, ATX	47
48_Discharge Circuit	48
49_Power Map	49
50_Power Sequence	50
51_Block_Key and Audio Switch	51
52_Block_LVDS Diplay Diagram	52
53_HW/TV_Diagram	53
54_History	54
	55
	56
	57
	58
	59
	99



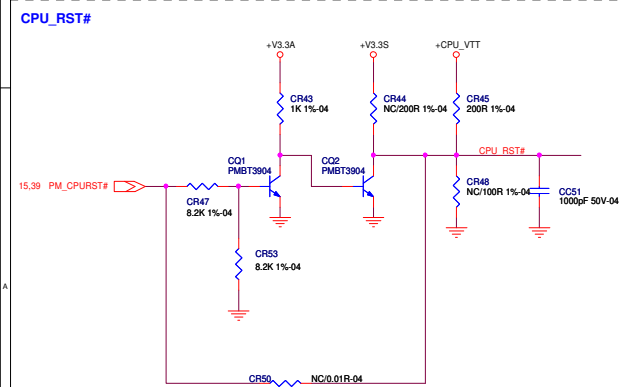
T & I		OEM MODEL	Lenovo B340/B540	Size	C
線路圖編號	6150A0003603	T&I MODEL	B340_B540	Rev	0.1
Key Component	COVER SHEET	PCB NAME	6150A0003603	備註 <備註>	
Date	Tuesday, February 07, 2012	Sheet	1 of 65		

H2_E

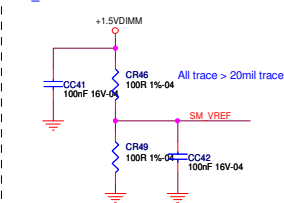


CFG	R	L	NOTE
0	RSVD	RSVD	RSVD
1	RSVD	RSVD	RSVD
2	NON	Reverse	LANE REVERSAL[0], x16
3	RSVD	RSVD	RSVD
4	RSVD	RSVD	RSVD
7	RSVD	RSVD	RSVD
8	RSVD	RSVD	RSVD
9	RSVD	RSVD	RSVD
10	RSVD	RSVD	RSVD
11	RSVD	RSVD	RSVD
12	RSVD	RSVD	RSVD
13	RSVD	RSVD	RSVD
14	RSVD	RSVD	RSVD
15	RSVD	RSVD	RSVD
16	RSVD	RSVD	RSVD
17	RSVD	RSVD	RSVD

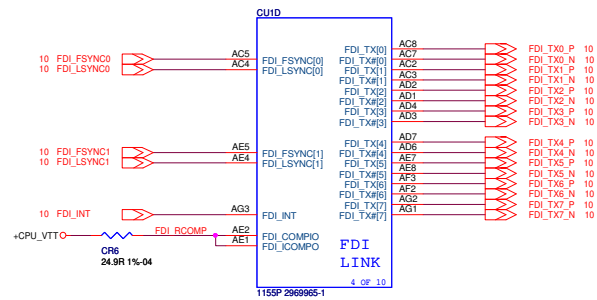
CFG 0-17 all internal PULL-UP



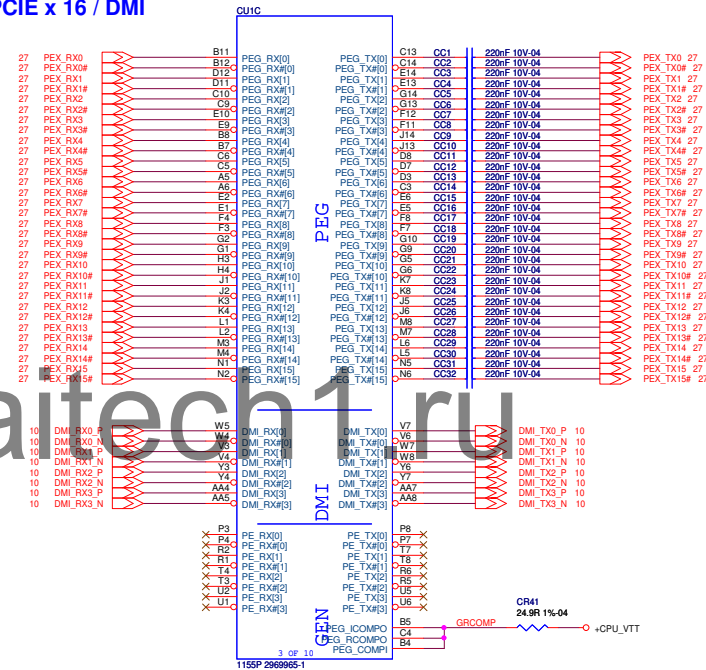
SM_VREF



FDI

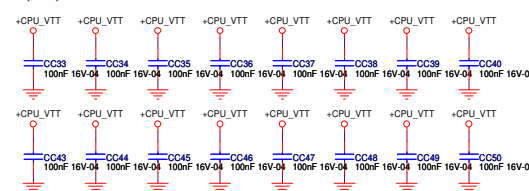


PCIE x 16 / DMI



(1) SHORT B4 & C4 TOGETHER, ROUTE AS A SINGLE 4 MIL TRACE TO 24.9 OHM
(2) ROUTE B5 TO 24.9 OHM AS A SEPERATE 10 MIL TRACE

Stitching caps for PCIe,DMI,FDI bus



T & I		OEM MODEL	Lenovo B340/B540	Size	C
產品圖編號	6150A00003603	T&I MODEL	B340_B540	Rev	0.1
Key Component	LGAI155_DMI/FD/PEG/CFG	PCB Name	6150A00003603	版註	<備註>
Date	Tuesday, February 07, 2012	Sheet	3 of 65		

0.6-1.35 / 112A

+VCCORE

CU1F

A12

A13

A14

A15

A16

A17

A18

A19

A20

A21

A22

A23

A24

A25

A26

A27

A28

A29

A30

A31

A32

A33

A34

A35

A36

A37

A38

A39

A40

A41

A42

A43

A44

A45

A46

A47

A48

A49

A50

A51

A52

A53

A54

A55

A56

A57

A58

A59

A60

A61

A62

A63

A64

A65

A66

A67

A68

A69

A70

A71

A72

A73

A74

A75

A76

A77

A78

A79

A80

A81

A82

A83

A84

A85

A86

A87

A88

A89

A90

A91

1.05V / 8.5A

+CPU_VTT

CU1G

A11

A12

A13

A14

A15

A16

A17

A18

A19

A20

A21

A22

A23

A24

A25

A26

A27

A28

A29

A30

A31

A32

A33

A34

A35

A36

A37

A38

A39

A40

A41

A42

A43

A44

A45

A46

A47

A48

A49

A50

A51

A52

A53

A54

A55

A56

A57

A58

A59

A60

A61

A62

A63

A64

A65

A66

A67

A68

A69

A70

A71

A72

A73

A74

A75

A76

A77

A78

A79

A80

A81

A82

A83

A84

A85

A86

A87

A88

A89

A90

1.05V / 35A

+CPU_VAGX

CU1H

A13

A14

A15

A16

A17

A18

A19

A20

A21

A22

A23

A24

A25

A26

A27

A28

A29

A30

A31

A32

A33

A34

A35

A36

A37

A38

A39

A40

A41

A42

A43

A44

A45

A46

A47

A48

A49

A50

A51

A52

A53

A54

A55

A56

A57

A58

A59

A60

A61

A62

A63

A64

A65

A66

A67

A68

A69

A70

A71

A72

A73

A74

A75

A76

A77

A78

A79

A80

A81

A82

A83

A84

A85

A86

A87

A88

A89

A90

A91

A92

CU1I

A17

A18

A19

A20

A21

A22

A23

A24

A25

A26

A27

A28

A29

A30

A31

A32

A33

A34

A35

A36

A37

A38

A39

A40

A41

A42

A43

A44

A45

A46

A47

A48

A49

A50

A51

A52

A53

A54

A55

A56

A57

A58

A59

A60

A61

A62

A63

A64

A65

A66

A67

A68

A69

A70

A71

A72

A73

A74

A75

A76

A77

A78

A79

A80

A81

A82

A83

A84

A85

A86

A87

A88

A89

A90

A91

A92

A93

A94

A95

A96

A97

CU1J

A11

A12

A13

A14

A15

A16

A17

A18

A19

A20

A21

A22

A23

A24

A25

A26

A27

A28

A29

A30

A31

A32

A33

A34

A35

A36

A37

A38

A39

A40

A41

A42

A43

A44

A45

A46

A47

A48

A49

A50

A51

A52

A53

A54

A55

A56

A57

A58

A59

A60

A61

A62

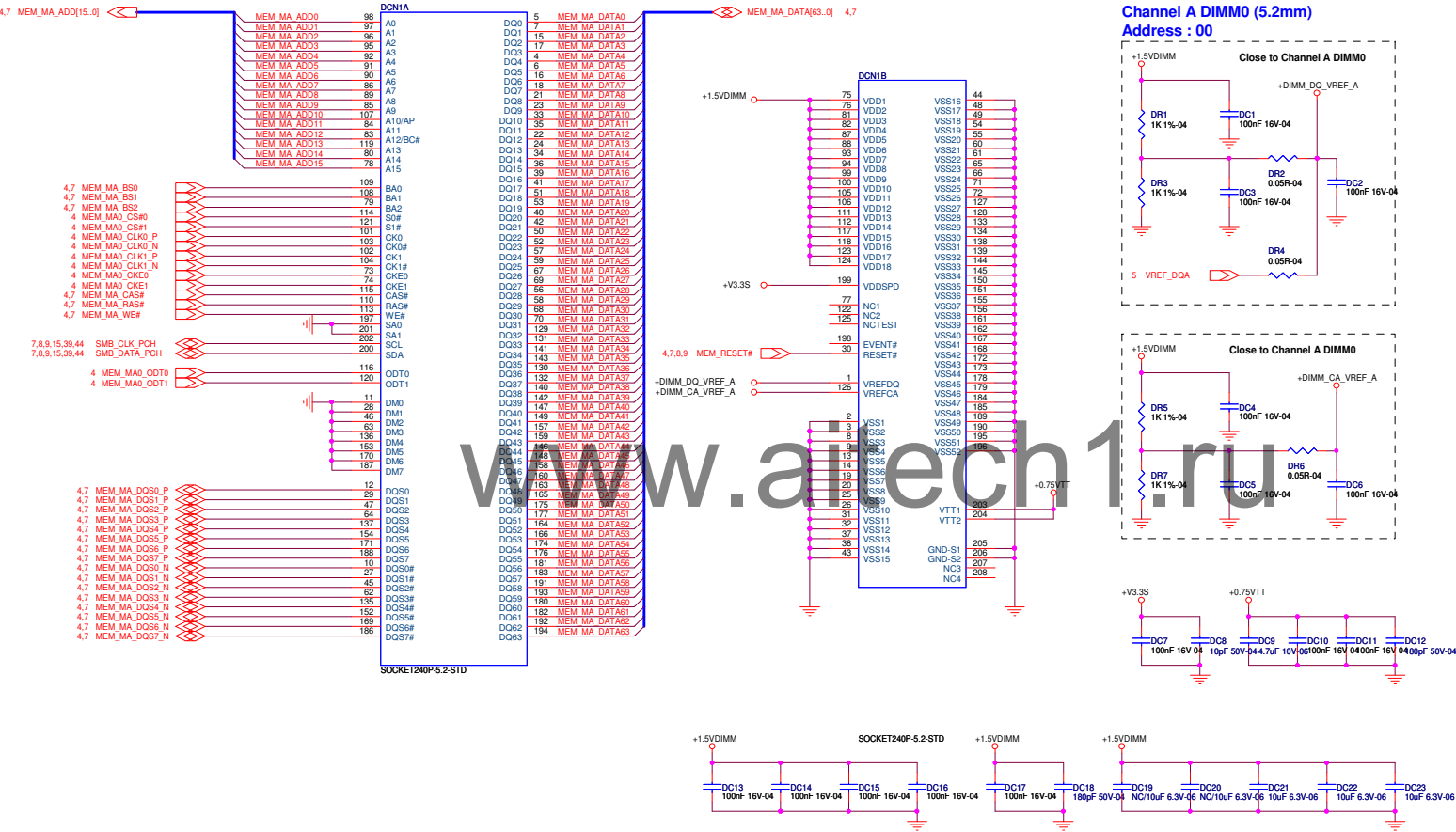
A63

A64

A65

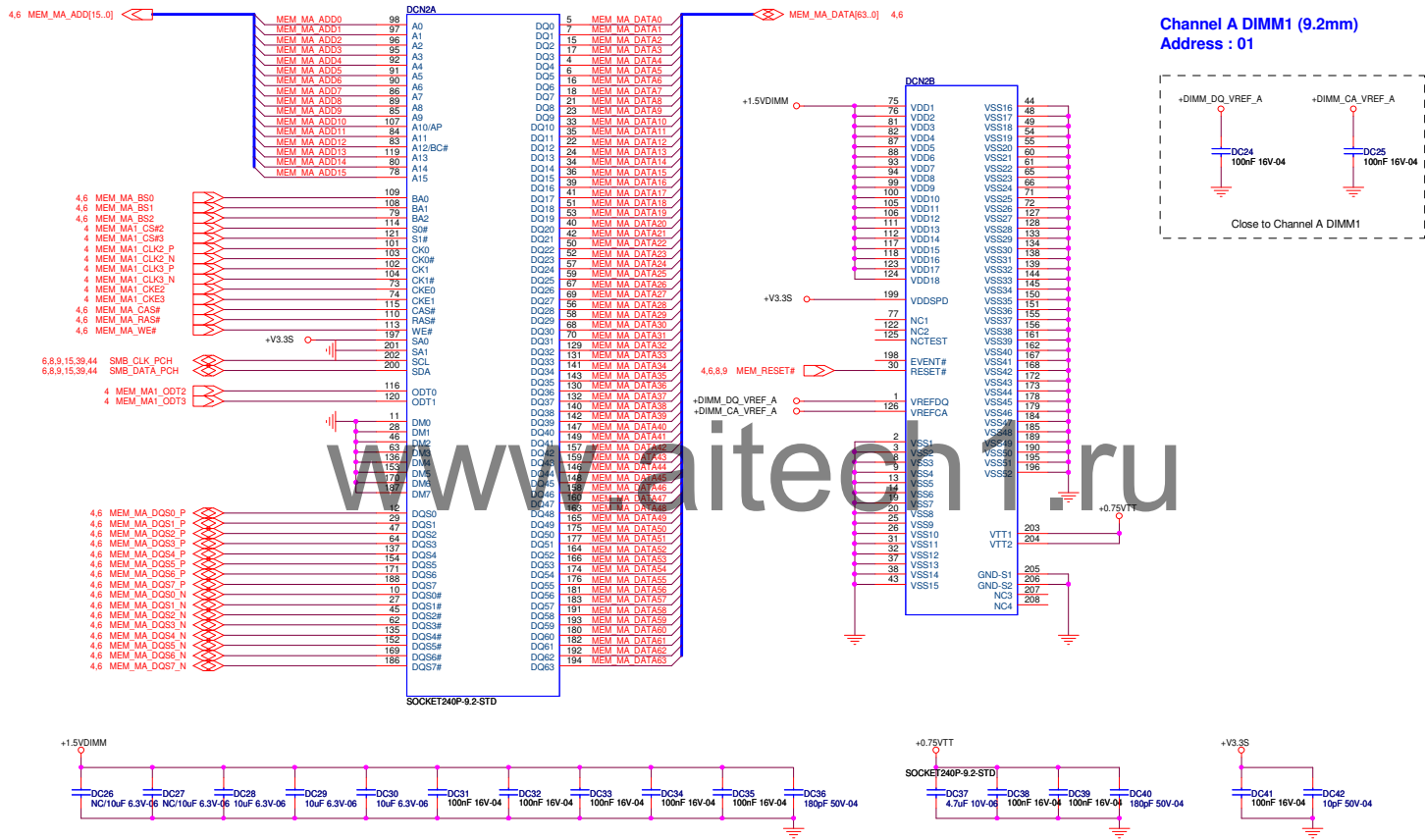
A66

BOM Option
H61 --> DCN1 stuff
H77 --> DCN1 stuff

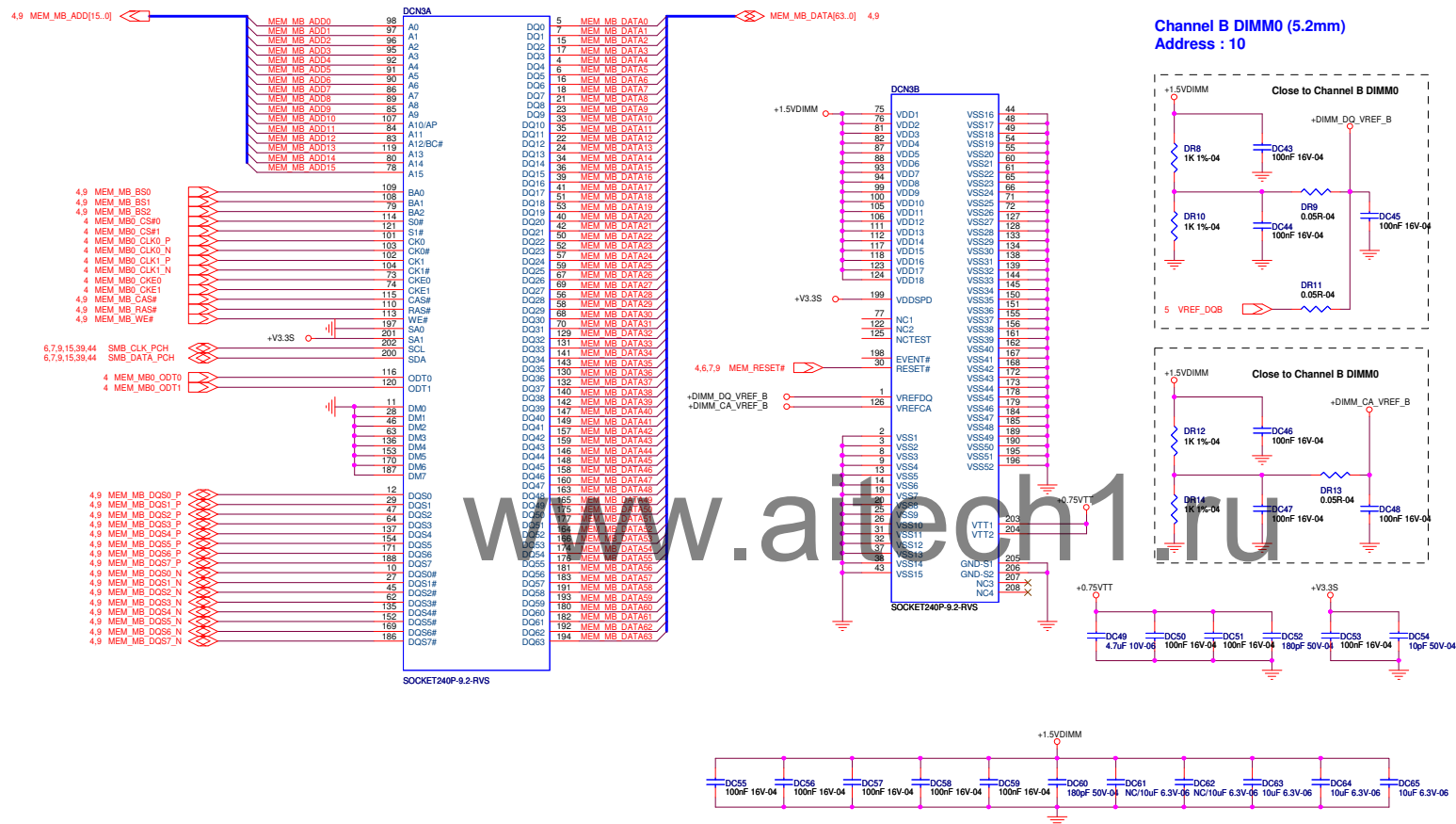


T & I	OEM MODEL	Lanovo B340/B540	Size	C
線路圖編號	T&I MODEL	B340_B540	Rev	0.1
Key Component	DDR3 DIMM MA-CHO 5.2mm	PCB NAME	6150A0003603	備註
Date	Tuesday, February 07, 2012	Sheet	6 of 65	<備註>

BOM Option
H61 -> DCN2 don't stuff
H77 -> DCN2 stuff



T & I		OEM MODEL	Lenovo B320	Size	C
零件圖編號	6150A0003603	T&I MODEL	B340_B340	Rev	0.1
Key Component	DDR3 DIMM MA-CH1 9.2mm	PCB NAME	6150A0003603	備註	<備註>
Date	Tuesday, February 07, 2012	Sheet	7 of 65		

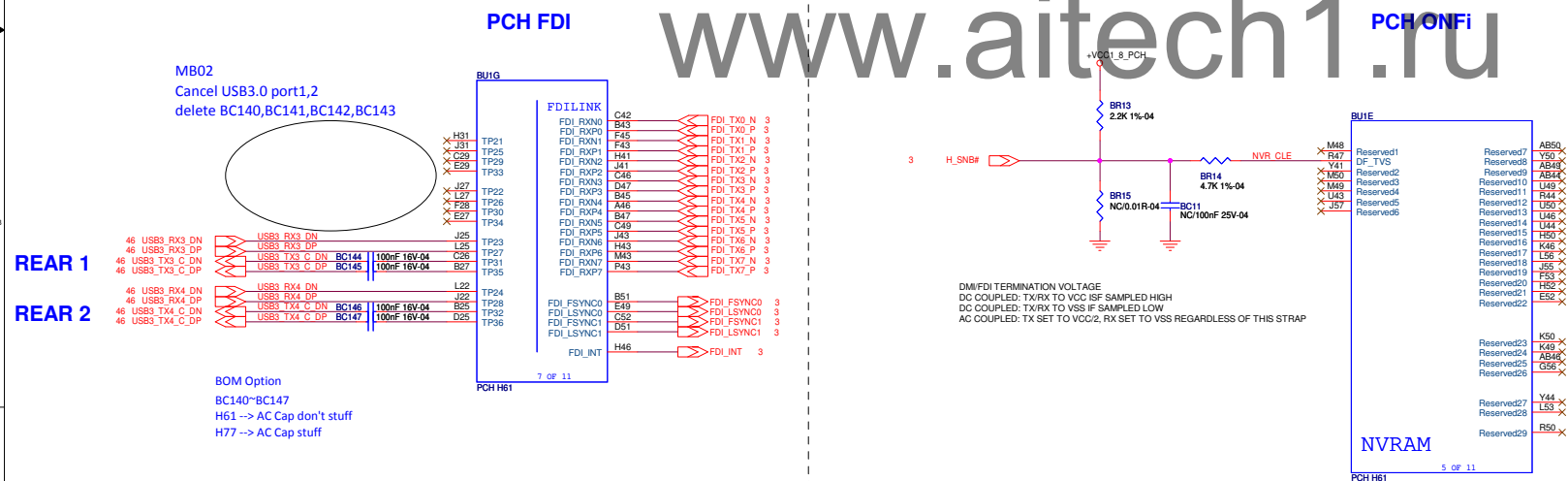
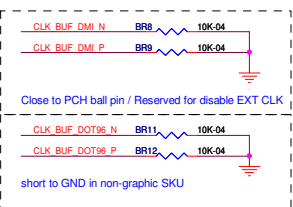
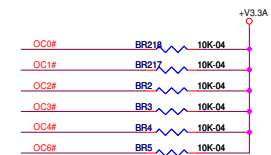
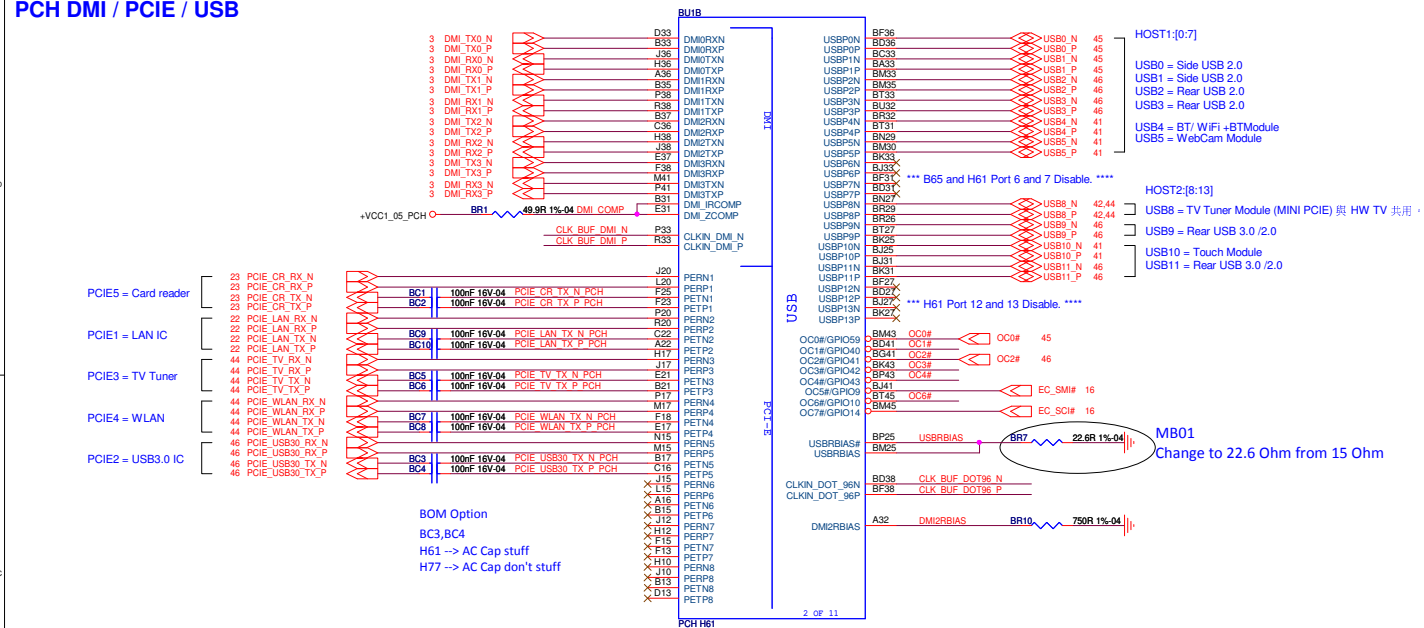


H61 --> DCN4 don't stuff
H77 --> DCN4 stuff

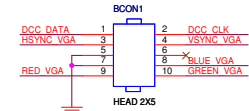
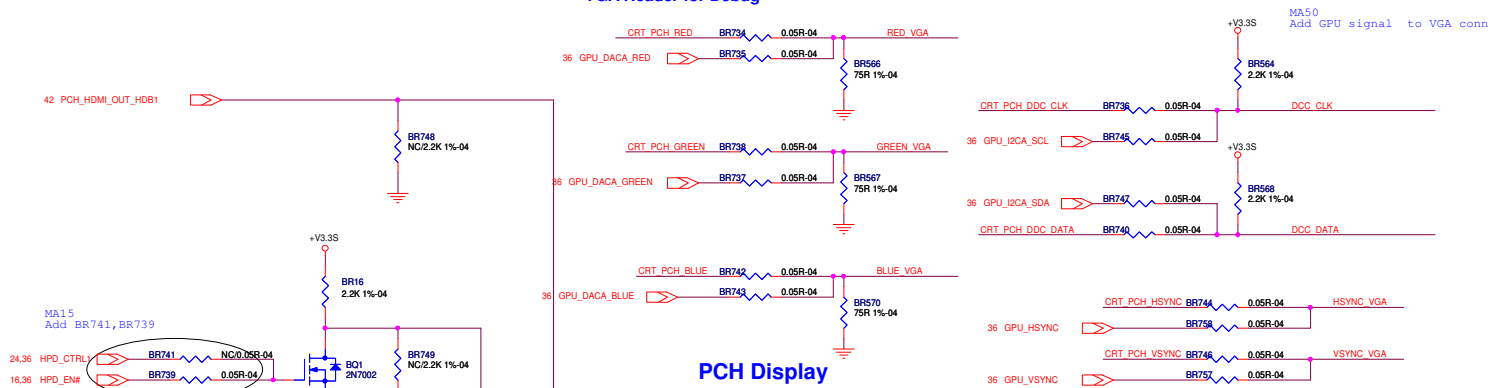


T & I	OEM MODEL	Lenovo B340/B540	Size	C
維修圖面號 6150A0003603	T&I MODEL	B340_B540	Rev	0.1
Key Component	DDR3 DIMM MB-CH1 9.2mm	PCB Name	6150A0003603	備註
Date	Tuesday, February 07, 2012	Sheet	9 of 65	<備註>

PCH DMI / PCIE / USB

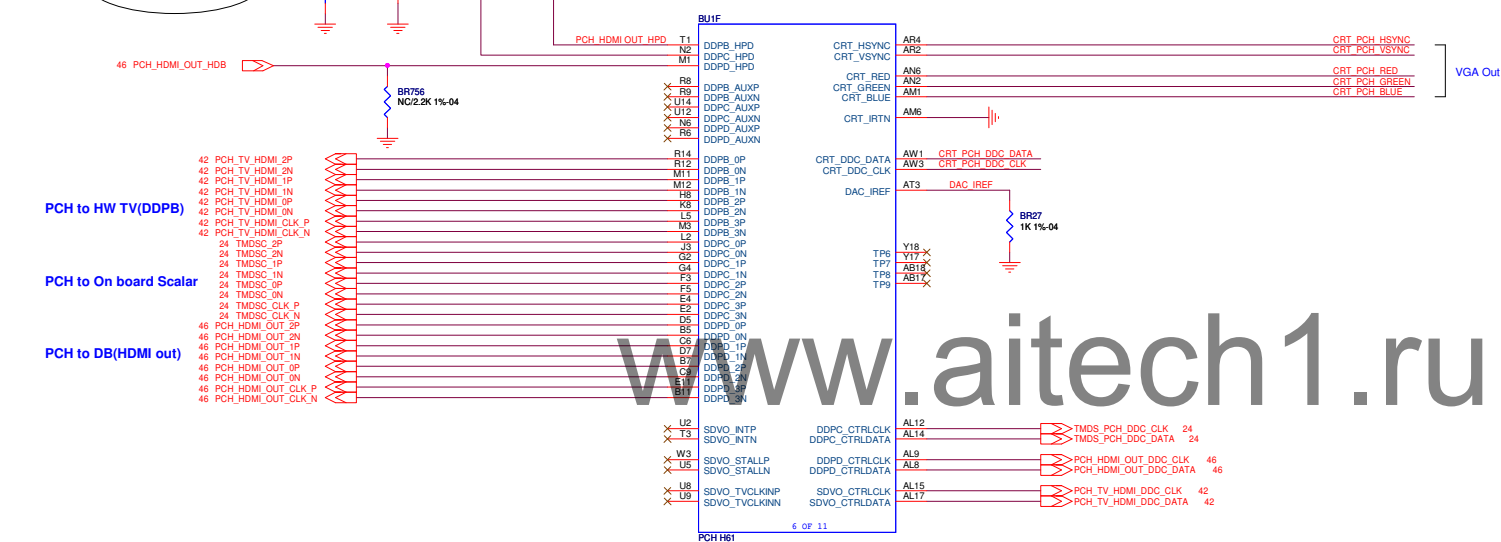


T & I		OEM MODEL	Lenovo B340/B540	Size	C
規格圖編號	6150A0003603	T&I MODEL	B340_B540	Rev	0.3
Key Component	POH_FDI,DMI,USB,PCIe,NVRAM	PCB NAME	6150A0003603	備註	<備註>
Date	Tuesday, February 07, 2012	Sheet	10 of 65		

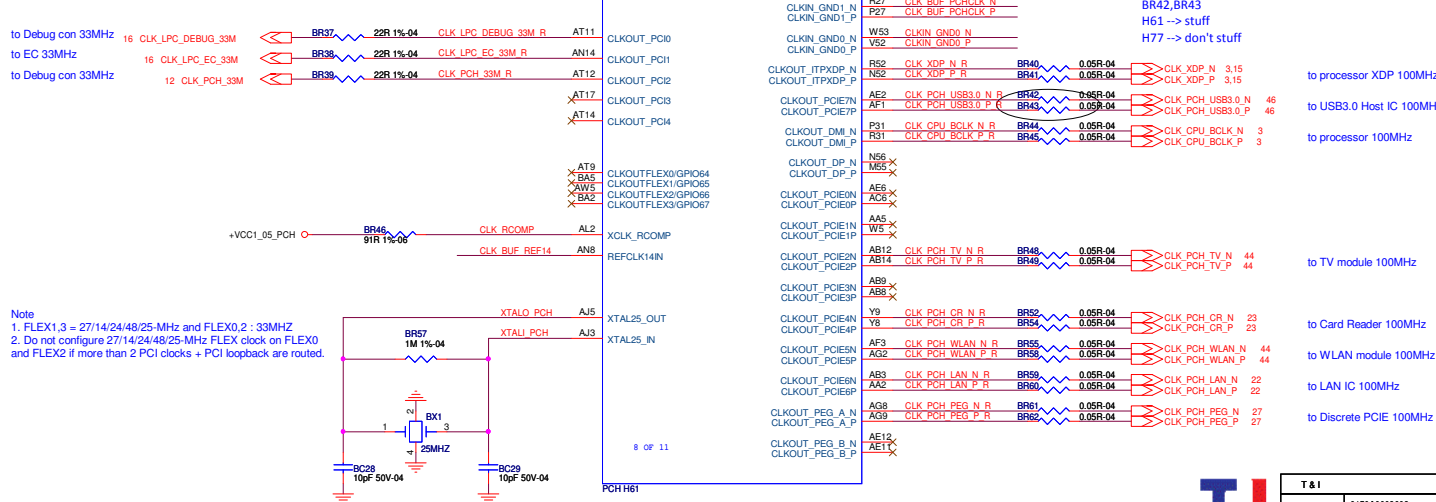


VGA Header for Debug--other page

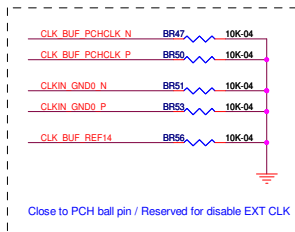
PCH Display



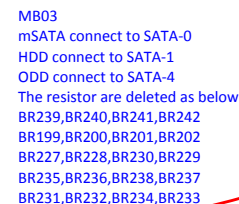
PCH Clock



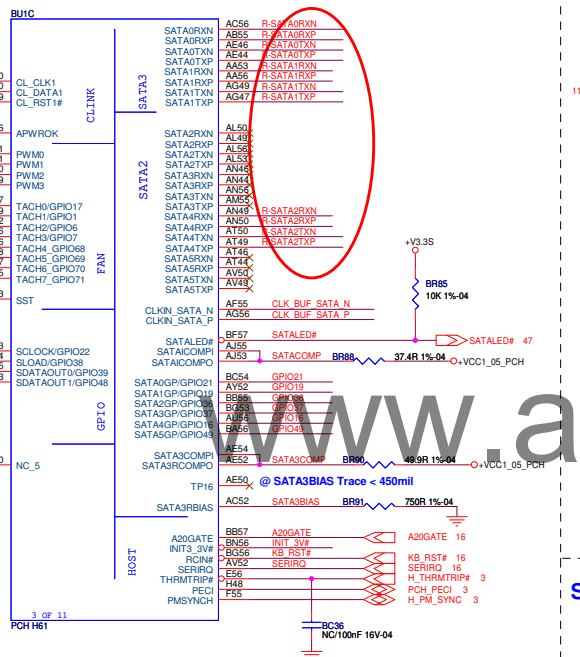
BOM Option
BR42,BR43
H61 --> stuff
H77 --> don't stuff



T & I		OEM MODEL		Lenovo B340/B540	Size	C
旅行 置 編號	6150A0003603	T&I MODEL	B340_B540		Rev	0.1
Key Component	PGH_DP, CLK BUFFER	PCB NAME	6150A0003603		備註	<備註>
Date	Tuesday, February 07, 2012	Sheet	11 of 65			

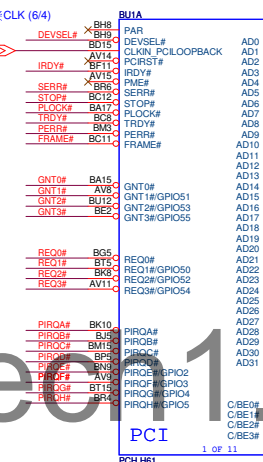


MB46
Delete BR63, Add BR64
to meet power on sequence

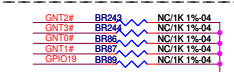
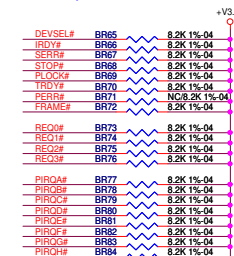


@ 不用PCN還是要接CLK (6/4)

DEVSEL $\times \frac{BH8}{BH0}$



+V3.

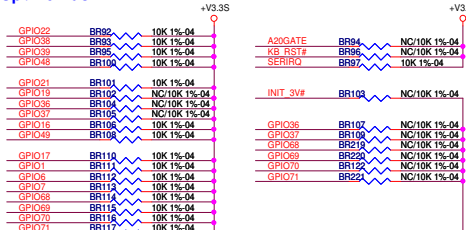
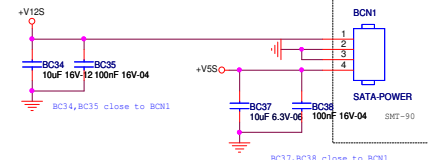


GNT1-	GNT0-/GPIO19	Boot device
0	0	LPC
1	0	PCI
1	1	SPI(Default)

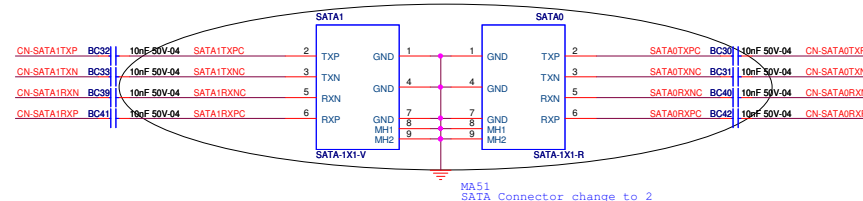
1 means floating / 0 means PD 1K

Default int pull up

1



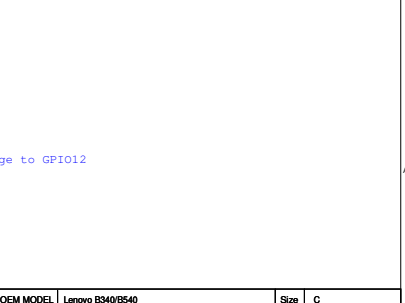
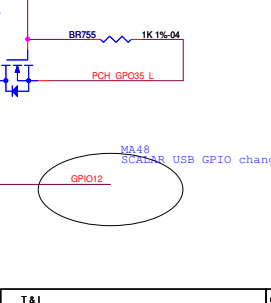
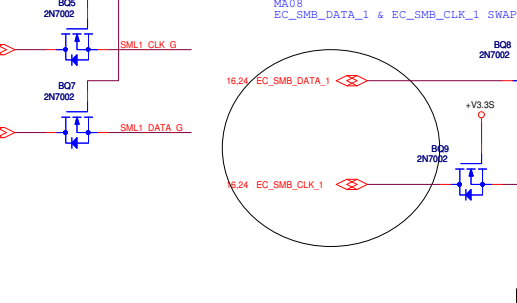
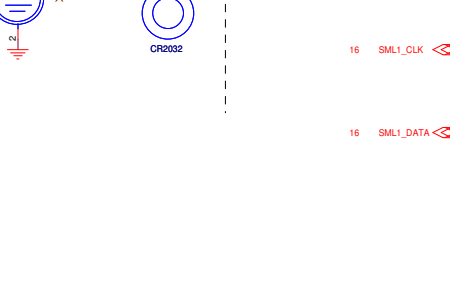
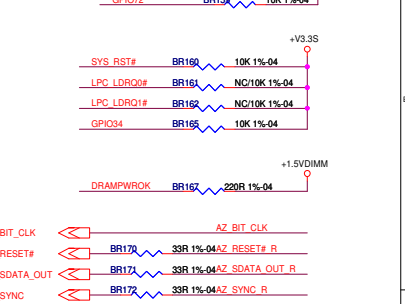
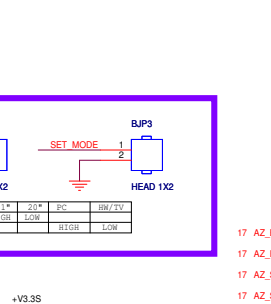
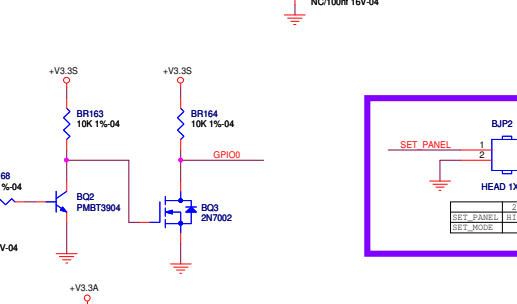
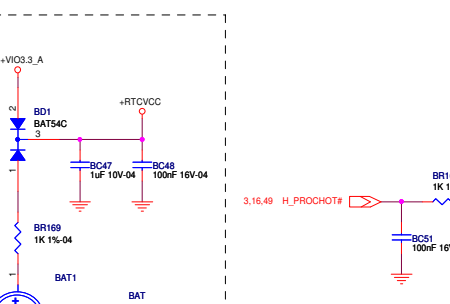
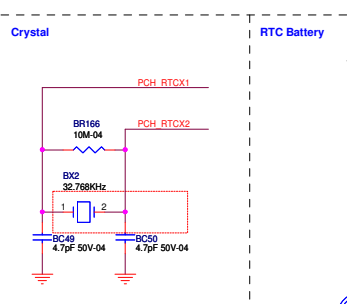
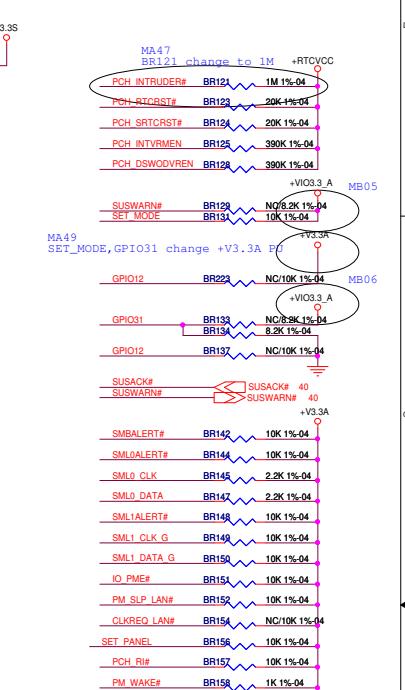
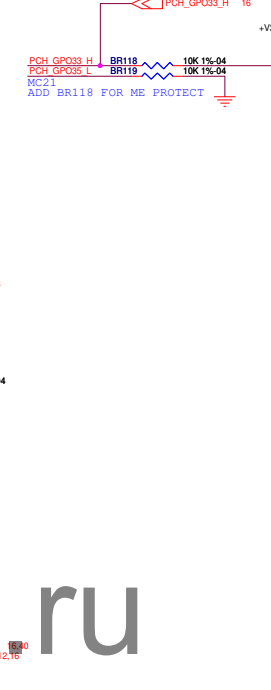
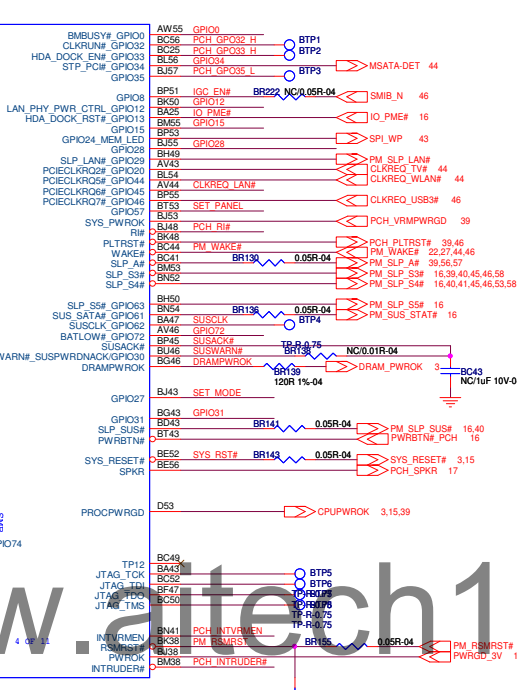
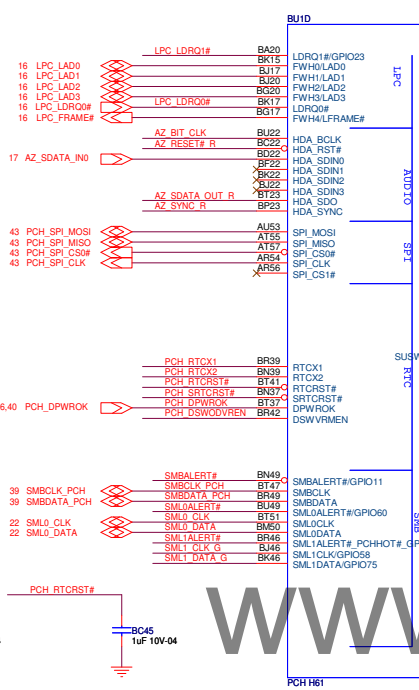
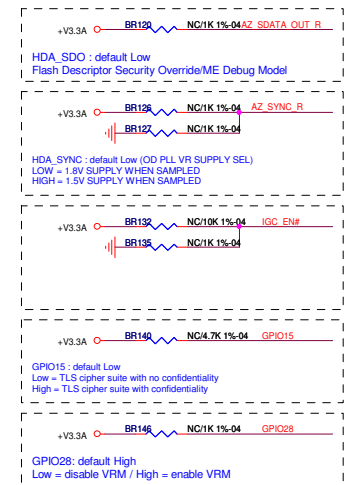
Note
Internal Pull-up = GPIO19
Internal Pull-down = GPIO36 / GPIO37



T & I		OEM MODEL	Lenovo B340/B540	Size	C
維修圖編號	6150A0003603	T&I MODEL	B340_B540	Rev	0.1
Key Component	PCH_HOST, SATA, PCI	PCB NAME	6150A00003603	備註	《備註》
Date	Tuesday, February 07, 2012	Sheet	12 of 65		

MB04
GPIO27,GPIO31 power well change to +VIO3.3_A

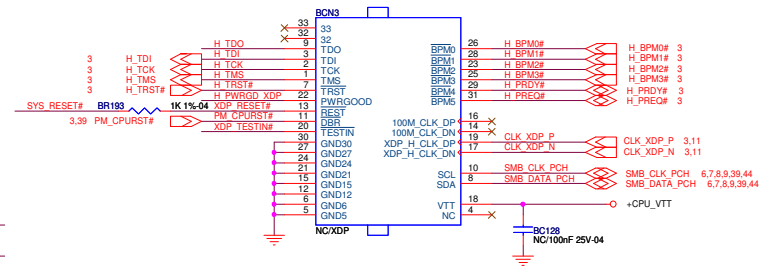
PCH HDA / SPI / LPC / MISC

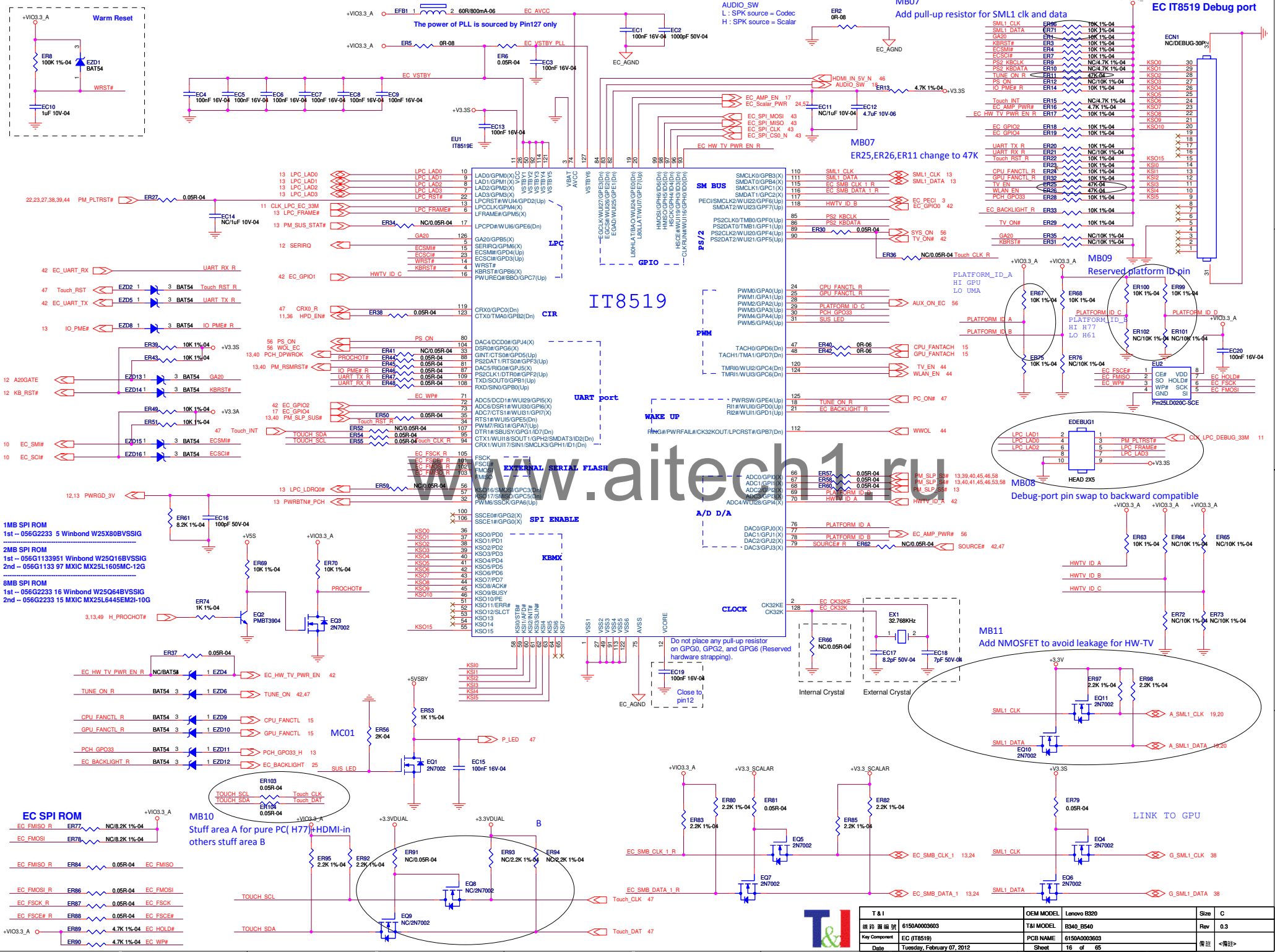




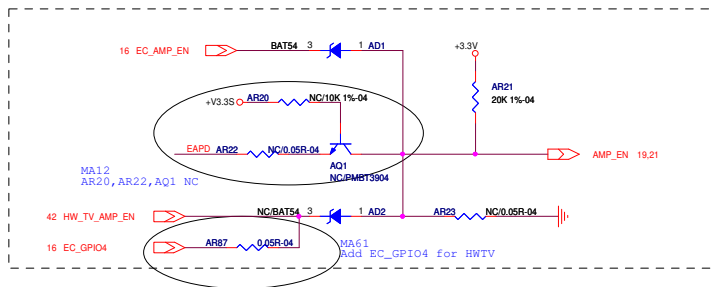
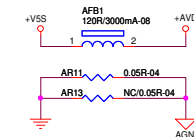
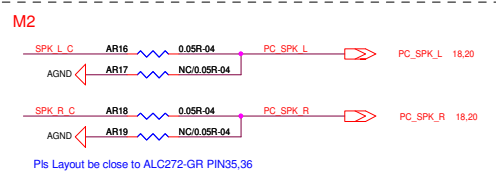
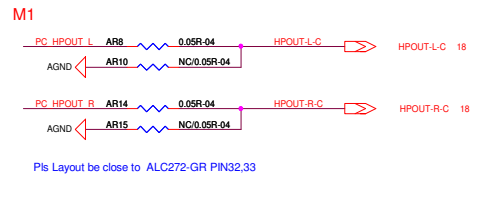
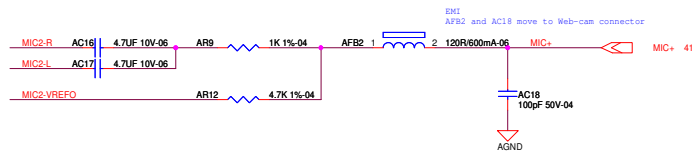
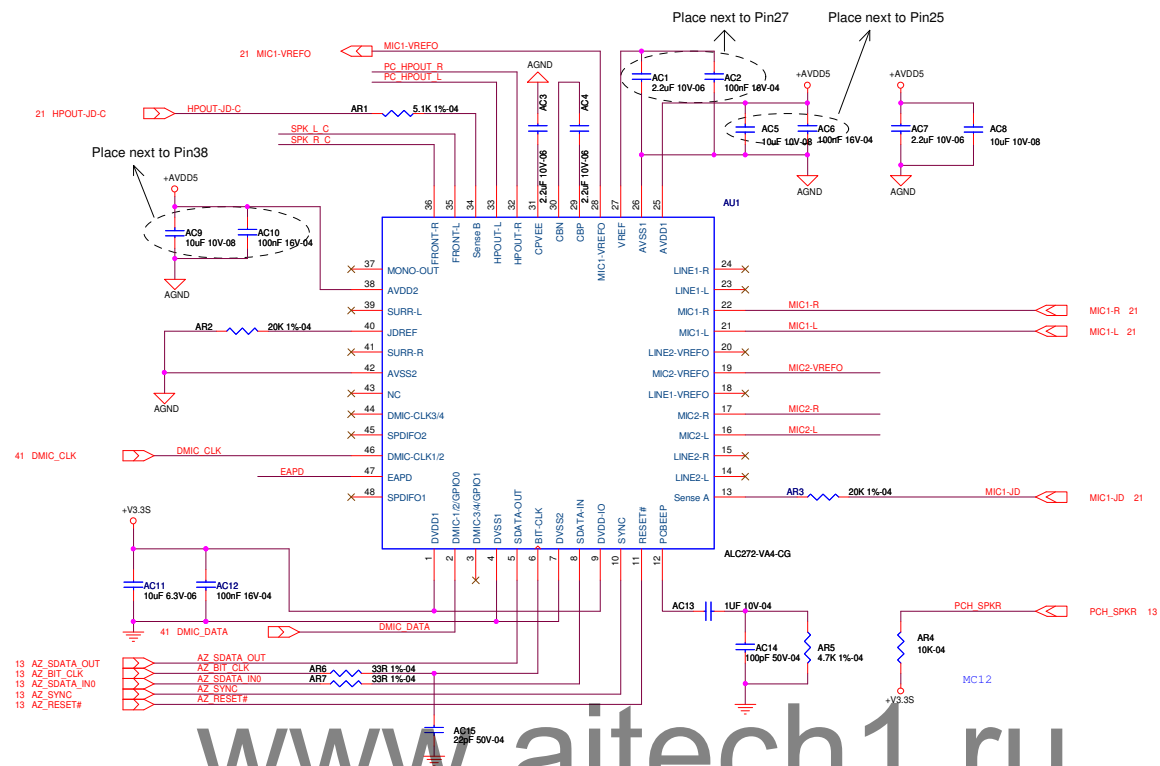
T & I		OEM MODEL	Lenovo B340/B540	Size	C
通路圖編號	6150A0003603	T&I MODEL	B340_B540	Rev	0.1
Key Component	PCH_PWR, GND	PCB NAME	6150A0003603		
Date	Tuesday, February 07, 2012	Sheet	14 of 65	備註	<備註>

Close to H2 Socket





T & I		OEM MODEL		Lenovo E320	Size	C
通路圖編號	6150A0003603	T&I MODEL		B340_B540	Rev	0.3
Key Component	EC (I78519)	PCB NAME		6150A00003603	備註	<備註>
Date	Tuesday, February 07, 2012	Sheet		16 of 65		



修改部分



T&I	OEM MODEL	Lenovo B340/B540	Size	C
Key Component	Audio Codec (ALC272)	PCB NAME	6150A0003603	Rev
Date	Tuesday, February 07, 2012	Sheet	17 of 65	备注 <備註>

BOM Option

H61 for ALC109 :

PC wo HDMI --> AU2,AU3 and all chanel R,C don't stuff. AR28,AR30,AR36,AR39 stuff

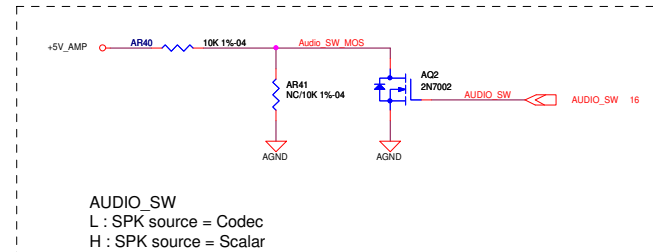
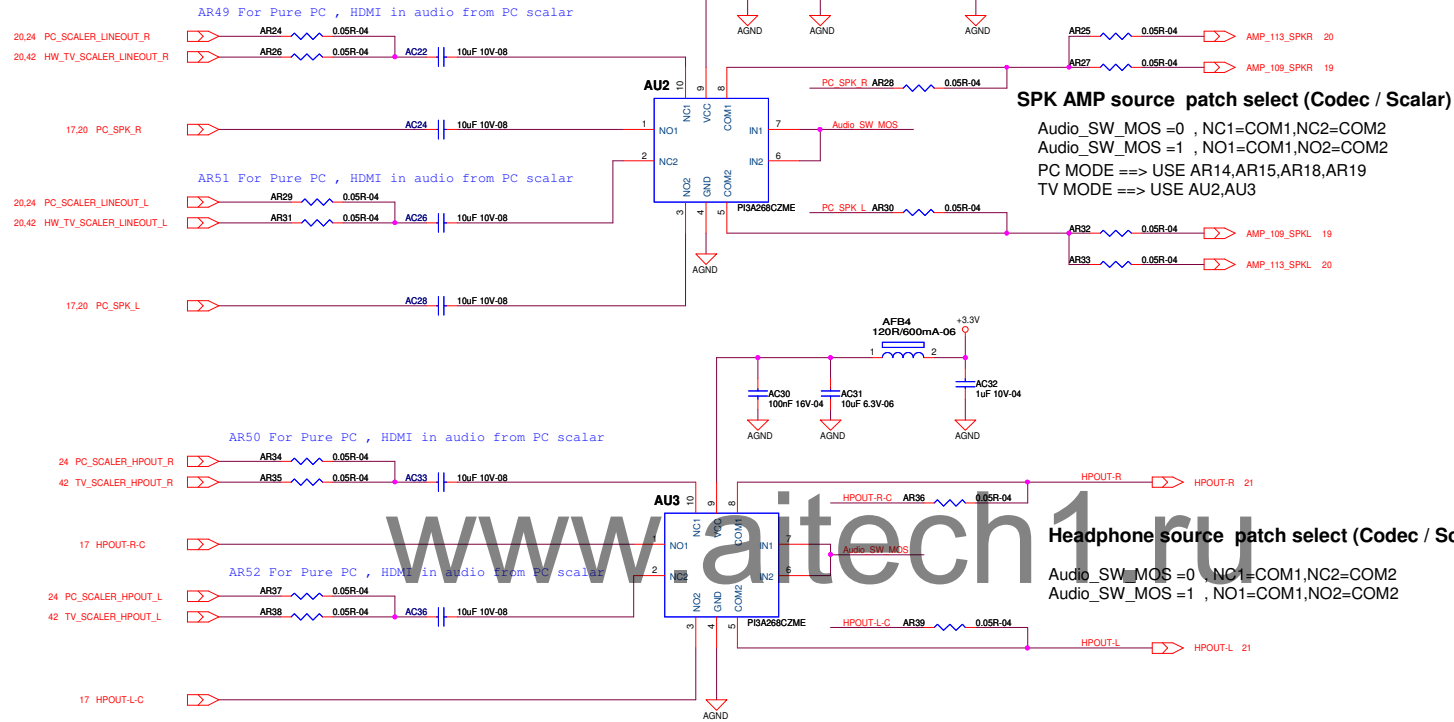
PC wt HDMI --> select PC, HDMI

TV wo HDMI --> select PC, TV

TV wt HDMI --> select PC, TV

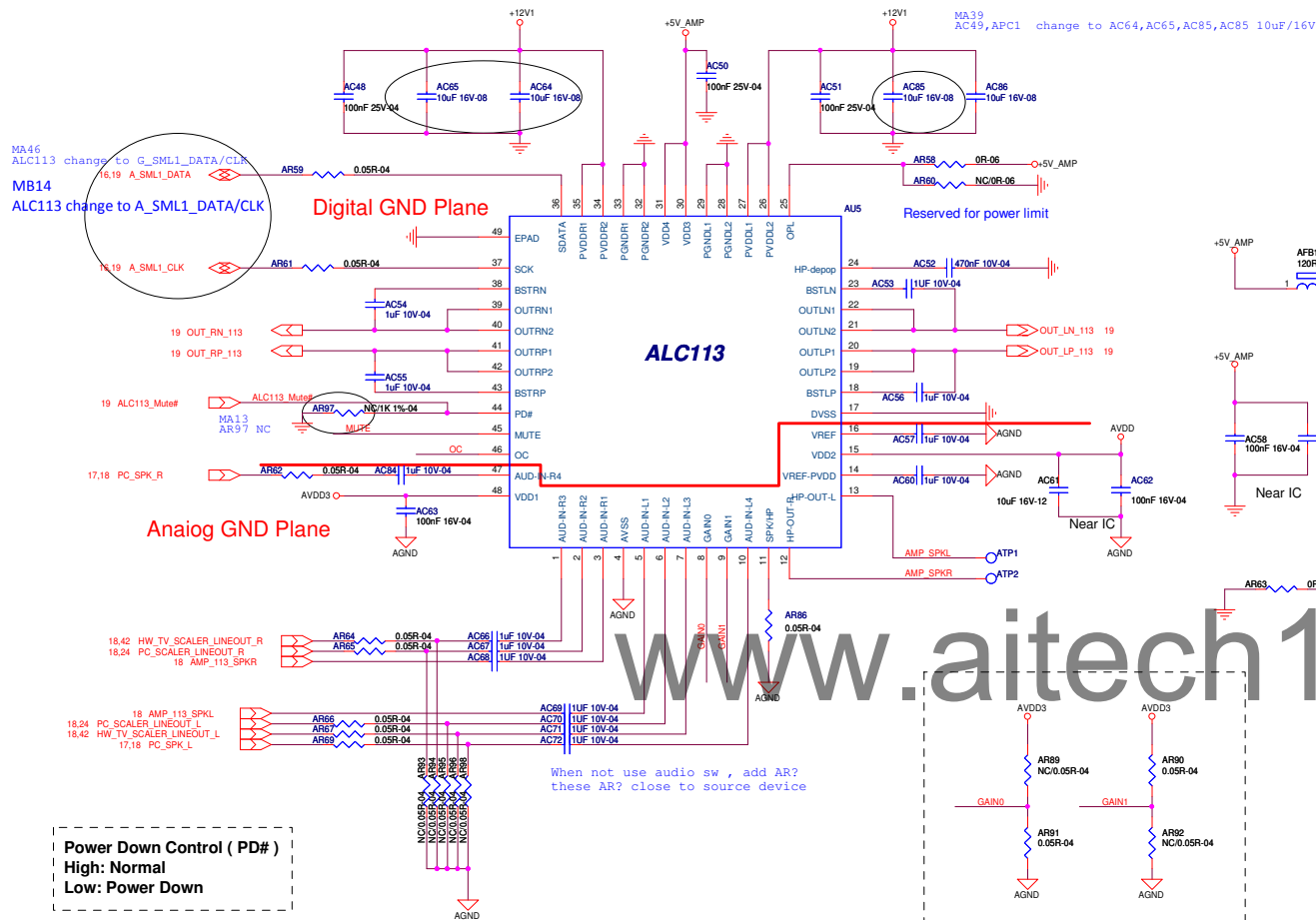
H77 for ALC113 :

AU2,AU3 and all chanel R,C don't stuff, AR28,AR30,AR36,AR39 stuff



T & I	OEM MODEL	Lenovo B340/B540	Size	C
據路圖編號	T&I MODEL	B340_B540	Rev	0.1
Key Component	Audio AMP / SW	6150A0003603	備註	<備註>
Date	Tuesday, February 07, 2012	Sheet	18 of 65	

BOM Option
ALC109 -> don't stuff
ALC113 -> stuff



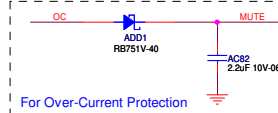
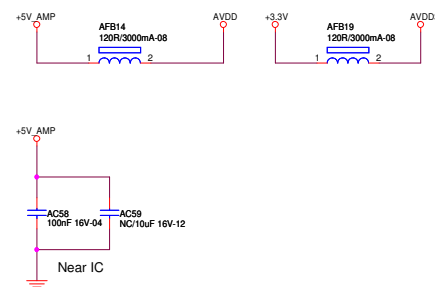
Power Down Control (PD#)
High: Normal
Low: Power Down

Mute Control (MUTE)
High: Mute
Low: Unmute

Over Current Flag
High: Over Current (OC)
Low: Normal

When not use audio sw, add AR?
these AR? close to source device

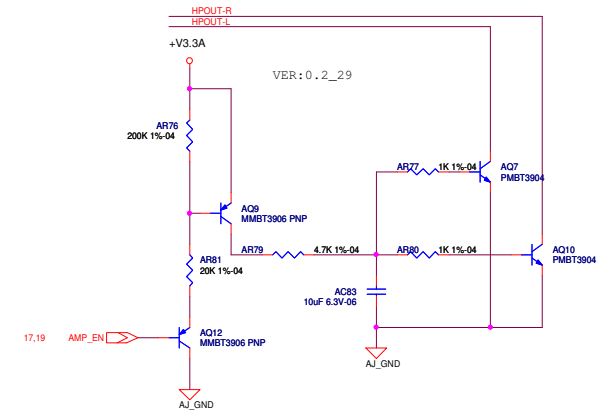
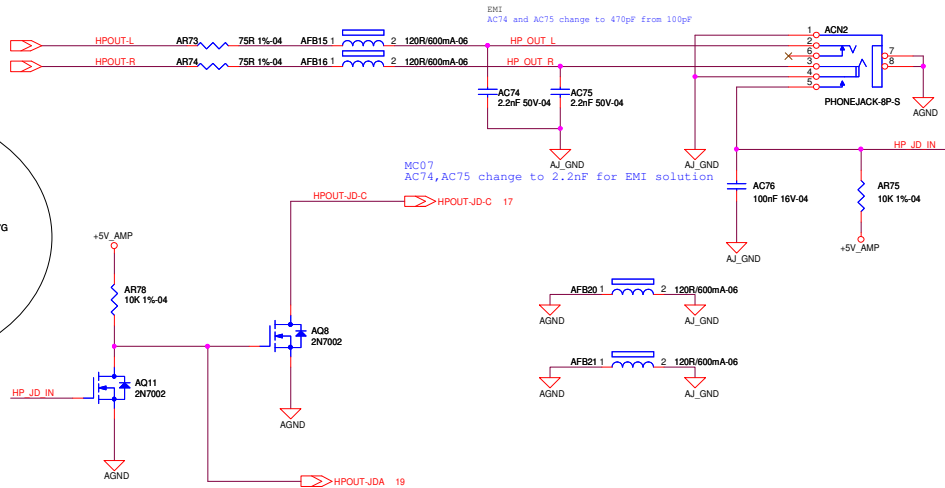
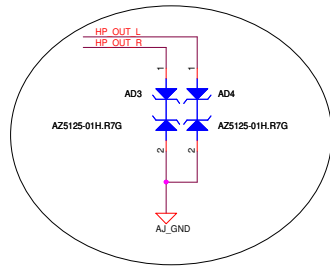
MC09
FOR ALC113 TABLE AR90 add 0 ohm, AR92 NC



T & I	OEM MODEL	Lenovo B340/B540	Size	C
總代理商	6150A0003603	T&I MODEL	B340_B540	Rev
Key Component	Audio AMP / SW	PCB NAME	6150A0003603	0.1
Date	Tuesday, February 07, 2012	Sheet	20 of 65	備註 <備註>

Audio Headphone Jack

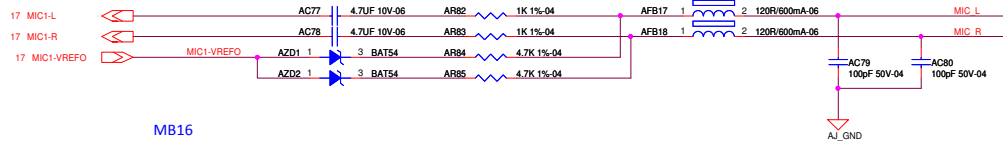
MB15
For EMI requirement



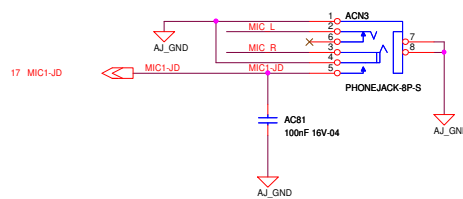
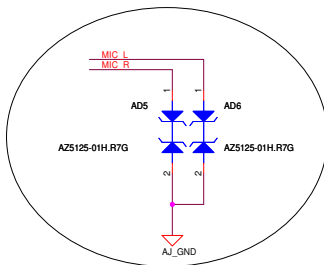
修改部分, 解 Pop Noise

www.aitech1.ru

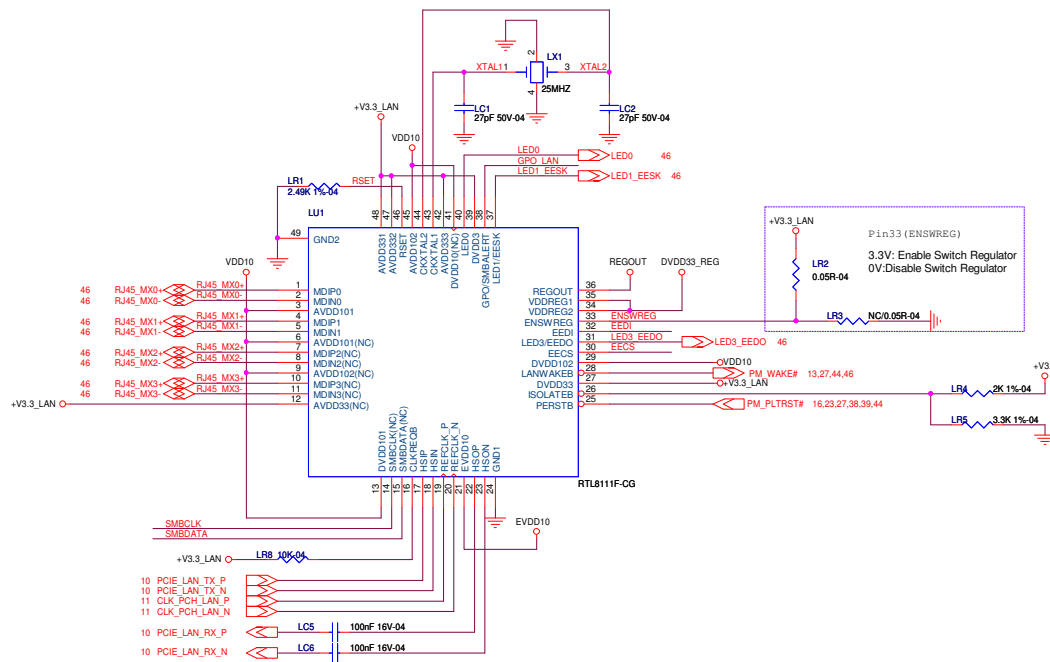
Audio Mic Jack



MB16
For EMI requirement

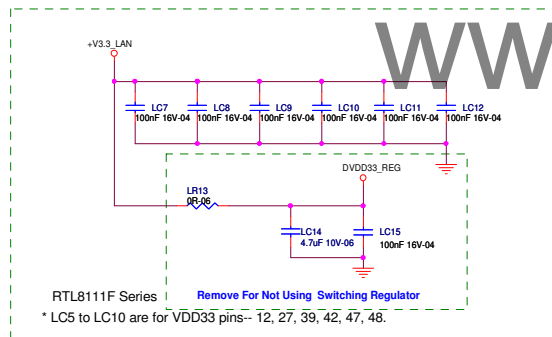


T & I	OEM MODEL	Size	C
線路圖編號	Lenovo B340/B540		
Key Component	B340_B540	Rev	0.1
Date	6150A0003603	Sheet	21 of 65
	Tuesday, February 07, 2012		備註 <備註>



G:100M O:1G

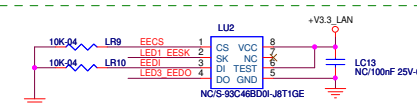
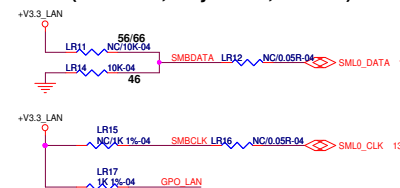
LED1-0	00	01	10	11
LED0	ACTall	ACTall/ LINKall	ACTall/ LINK10	ACT10/ LINK10
LED1	LINK100	LINK100	LINK100	ACT100/ LINK100
LED3	LINK1000	LINK1000	LINK1000	ACT1000/ LINK1000



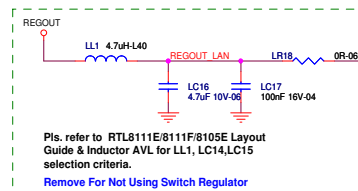
RTL8111F Series
* LC5 to LC10 are for VDD33 pins-- 12, 27, 39, 42, 47, 48.

*** RTL8111F Series EEPROM / ASF / Efuse Function (3 Option) ***

Function (EEPROM,Only Efuse,NO ASF)

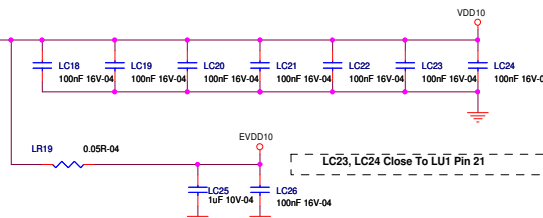


1. When using EEPROM only without ASF function.
Using LR9 For 93C56/66
Using LR12 For 93C46
Note: For RTL8111E-VL and RTL8111F,LR15 must be 1K.



Pls. refer to RTL8111E/8111F/8105E Layout Guide & Inductor AVL for LL1, LC14,LC15 selection criteria.

Remove For Not Using Switching Regulator



RTL8111F Series

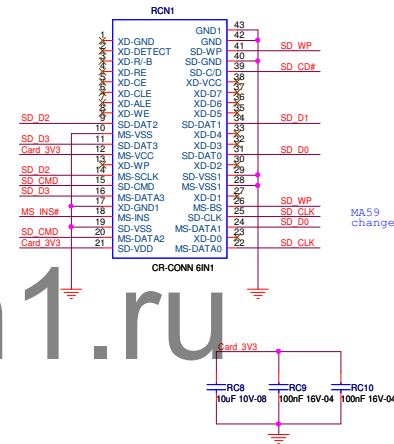
* LC16 to LC22 are for VDD10 pins-- 3, 6, 9, 13, 29, 41, 45.

LC23,LC24 are for EVDD10 pins--21.



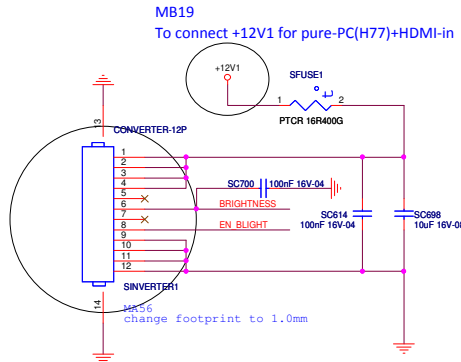
T & I	OEM MODEL	Size	C
線路圖編號	Lenovo B340/B540		
Key Component	B340_B540	Rev	0.1
Date	05 DB Cliga LAN (RTL8111E)	PCB NAME	6150A000001
	Tuesday, February 07, 2012	Sheet	22 of 65
		備註	<備註>

Share Pin

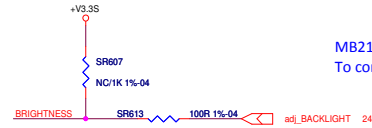
MA59
change RCN1 footprint



T & I		OEM MODEL	Lenovo B340/B540	Size	C
維修圖號	6150A0008001	T&I MODEL	B340_B540	Rev	0.1
Key Component	01 Scalar 1TSU0U88MDT3-LF-1(S)	PCB NAME	6150A0008001	備註	<備註>
Date	Tuesday, February 07, 2012	Sheet	24 of 65		

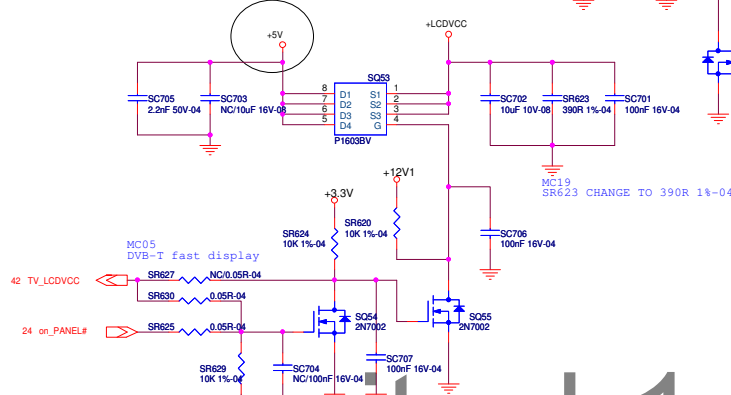


BRIGHTNESS CONTROL

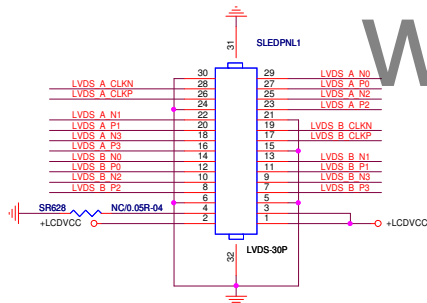
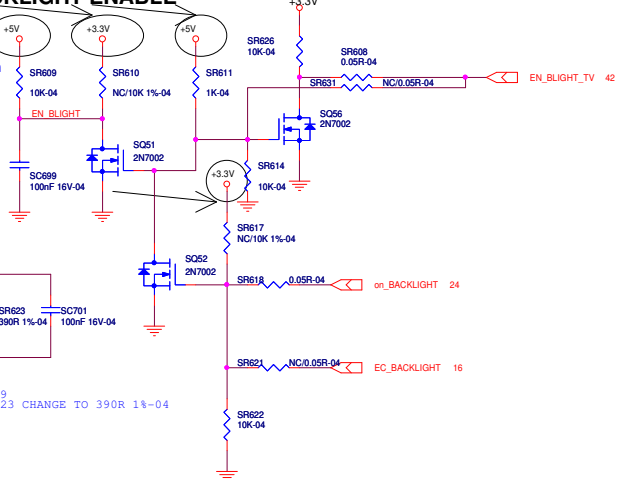


PANEL VCC CONTROL

MB20
To connect +5V for pure-PC(H77)+HDMI-in



BACKLIGHT ENABLE



BOM Option
PC-UMA
PC-GPU
TV-UMA
TV-GPU

LVDS A N0	SR41	0.05R-04	SCL LVDS A N0	24
LVDS A P0	SR42	0.05R-04	SCL LVDS A P0	24
LVDS A N1	SR43	0.05H-04	SCL LVDS A N1	24
LVDS A P1	SR44	0.05H-04	SCL LVDS A P1	24
LVDS A N2	SR45	0.05H-04	SCL LVDS A N2	24
LVDS A P2	SR46	0.05H-04	SCL LVDS A P2	24
LVDS A N3	SR47	0.05H-04	SCL LVDS A N3	24
LVDS A P3	SR48	0.05H-04	SCL LVDS A P3	24
LVDS A CLKN	SR78	0.05H-04	SCL LVDS A CLKN	24
LVDS A CLKP	SR79	0.05H-04	SCL LVDS A CLKP	24
LVDS B N0	SR68	0.05R-04	SCL LVDS B N0	24
LVDS B P0	SR71	0.05R-04	SCL LVDS B P0	24
LVDS B N1	SR72	0.05H-04	SCL LVDS B N1	24
LVDS B P1	SR73	0.05H-04	SCL LVDS B P1	24
LVDS B N2	SR74	0.05H-04	SCL LVDS B N2	24
LVDS B P2	SR75	0.05H-04	SCL LVDS B P2	24
LVDS B N3	SR76	0.05H-04	SCL LVDS B N3	24
LVDS B P3	SR77	0.05H-04	SCL LVDS B P3	24
LVDS B CLKN	SR81	0.05H-04	SCL LVDS B CLKN	24
LVDS B CLKP	SR80	0.05H-04	SCL LVDS B CLKP	24
LVDS TX00	SR83	0.05R-04	SCL LVDS B N0	24
LVDS TX00+	SR82	0.05R-04	SCL LVDS B P0	24
LVDS TX01	SR95	0.05R-04	SCL LVDS B N1	24
LVDS TX01+	SR94	0.05R-04	SCL LVDS B P1	24
LVDS TX02	SR97	0.05R-04	SCL LVDS B N2	24
LVDS TX02+	SR96	0.05R-04	SCL LVDS B P2	24
LVDS TX03	SR99	0.05R-04	SCL LVDS B N3	24
LVDS TX03+	SR98	0.05R-04	SCL LVDS B P3	24
LVDS TX0 CLK	SR101	0.05H-04	SCL LVDS B CLKN	24
LVDS TX0 CLK+	SR100	0.05H-04	SCL LVDS B CLKP	24



T & I	OEM MODEL	B320	Size	C
標路圖編號	T&I MODEL	B340_B340	Rev	0.1
Key Component	PCB NAME	715G4680-T0D-000-0060	備註	<備註>
Date	Tuesday, February 07, 2012	Sheet	25 of 65	

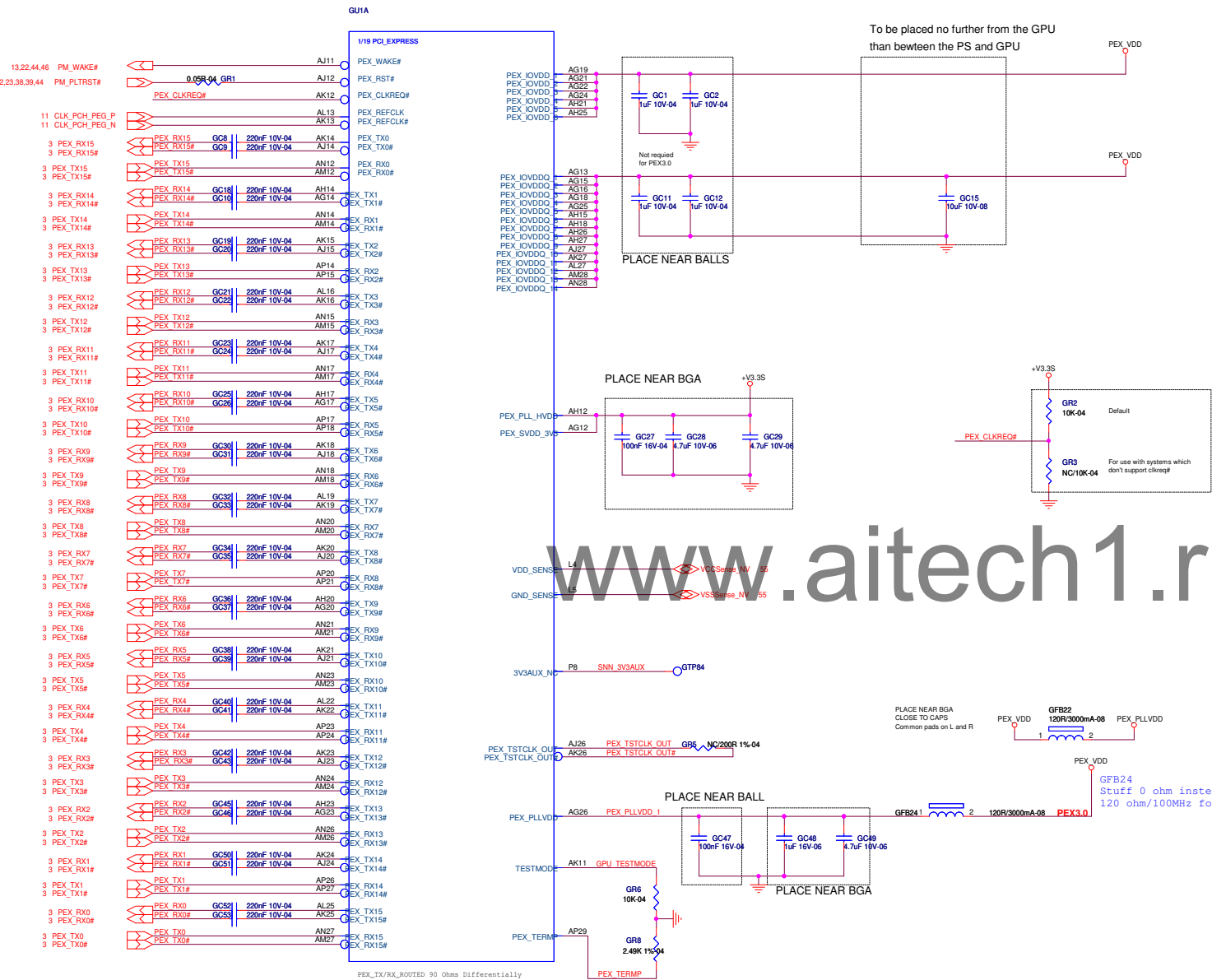
www.aitech1.ru



T & I		OEM MODEL	B320	Size	C
線路圖編號		T&I MODEL	B340_B340	Rev	0.4
Key Component	06 DB USB3.0	PCB NAME	715G4690-T0D-000-0060	備註 <備註>	
Date	Tuesday, February 07, 2012	Sheet	26 of 65		

PCI-Express Gen2 x16 Interface

BOM Option
UMA --> all don't stuff
GPU --> all stuff



www.aitech1.ru

T & I		OEM MODEL	Lenovo B340/B540	Size	C
機 器 型 號		6150A0003603	T&I MODEL	B340_B540	Rev 0.1
Key Component		LGA1155_DM/IDV/PEG/CFG	PCB NAME	6150A0003603	備註 <備註>
Date		Tuesday, February 07, 2012	Sheet	27 of 65	

Frame Buffer Partitions A/B

BOM Option
UMA --> don't stuff
GPU --> all stuff

GUIB

2/19 FBA

FBA D0 L28

FBA D1 M28

FBA D2 L29

FBA D3 M29

FBA D4 M30

FBA D5 M31

FBA D6 M32

FBA D7 M33

FBA D8 M34

FBA D9 M35

FBA D10 M36

FBA D11 M37

FBA D12 M38

FBA D13 M39

FBA D14 M40

FBA D15 M41

FBA D16 M42

FBA D17 M43

FBA D18 M44

FBA D19 M45

FBA D20 M46

FBA D21 M47

FBA D22 M48

FBA D23 M49

FBA D24 M50

FBA D25 M51

FBA D26 M52

FBA D27 M53

FBA D28 M54

FBA D29 M55

FBA D30 M56

FBA D31 M57

FBA D32 M58

FBA D33 M59

FBA D34 M60

FBA D35 M61

FBA D36 M62

FBA D37 M63

FBA D38 M64

FBA D39 M65

FBA D40 M66

FBA D41 M67

FBA D42 M68

FBA D43 M69

FBA D44 M70

FBA D45 M71

FBA D46 M72

FBA D47 M73

FBA D48 M74

FBA D49 M75

FBA D50 M76

FBA D51 M77

FBA D52 M78

FBA D53 M79

FBA D54 M80

FBA D55 M81

FBA D56 M82

FBA D57 M83

FBA D58 M84

FBA D59 M85

FBA D60 M86

FBA D61 M87

FBA D62 M88

FBA D63 M89

FBA D64 M90

FBA D65 M91

FBA D66 M92

FBA D67 M93

FBA D68 M94

FBA D69 M95

FBA D70 M96

FBA D71 M97

FBA D72 M98

FBA D73 M99

FBA D74 M100

FBA D75 M101

FBA D76 M102

FBA D77 M103

FBA D78 M104

FBA D79 M105

FBA D80 M106

FBA D81 M107

FBA D82 M108

FBA D83 M109

FBA D84 M110

FBA D85 M111

FBA D86 M112

FBA D87 M113

FBA D88 M114

FBA D89 M115

FBA D90 M116

FBA D91 M117

FBA D92 M118

FBA D93 M119

FBA D94 M120

FBA D95 M121

FBA D96 M122

FBA D97 M123

FBA D98 M124

FBA D99 M125

FBA D100 M126

FBA D101 M127

FBA D102 M128

FBA D103 M129

FBA D104 M130

FBA D105 M131

FBA D106 M132

FBA D107 M133

FBA D108 M134

FBA D109 M135

FBA D110 M136

FBA D111 M137

FBA D112 M138

FBA D113 M139

FBA D114 M140

FBA D115 M141

FBA D116 M142

FBA D117 M143

FBA D118 M144

FBA D119 M145

FBA D120 M146

FBA D121 M147

FBA D122 M148

FBA D123 M149

FBA D124 M150

FBA D125 M151

FBA D126 M152

FBA D127 M153

FBA D128 M154

FBA D129 M155

FBA D130 M156

FBA D131 M157

FBA D132 M158

FBA D133 M159

FBA D134 M160

FBA D135 M161

FBA D136 M162

FBA D137 M163

FBA D138 M164

FBA D139 M165

FBA D140 M166

FBA D141 M167

FBA D142 M168

FBA D143 M169

FBA D144 M170

FBA D145 M171

FBA D146 M172

FBA D147 M173

FBA D148 M174

FBA D149 M175

FBA D150 M176

FBA D151 M177

FBA D152 M178

FBA D153 M179

FBA D154 M180

FBA D155 M181

FBA D156 M182

FBA D157 M183

FBA D158 M184

FBA D159 M185

FBA D160 M186

FBA D161 M187

FBA D162 M188

FBA D163 M189

FBA D164 M190

FBA D165 M191

FBA D166 M192

FBA D167 M193

FBA D168 M194

FBA D169 M195

FBA D170 M196

FBA D171 M197

FBA D172 M198

FBA D173 M199

FBA D174 M200

FBA D175 M201

FBA D176 M202

FBA D177 M203

FBA D178 M204

FBA D179 M205

FBA D180 M206

FBA D181 M207

FBA D182 M208

FBA D183 M209

FBA D184 M210

FBA D185 M211

FBA D186 M212

FBA D187 M213

FBA D188 M214

FBA D189 M215

FBA D190 M216

FBA D191 M217

FBA D192 M218

FBA D193 M219

FBA D194 M220

FBA D195 M221

FBA D196 M222

FBA D197 M223

FBA D198 M224

FBA D199 M225

FBA D200 M226

FBA D201 M227

FBA D202 M228

FBA D203 M229

FBA D204 M230

FBA D205 M231

FBA D206 M232

FBA D207 M233

FBA D208 M234

FBA D209 M235

FBA D210 M236

FBA D211 M237

FBA D212 M238

FBA D213 M239

FBA D214 M240

FBA D215 M241

FBA D216 M242

FBA D217 M243

FBA D218 M244

FBA D219 M245

FBA D220 M246

FBA D221 M247

FBA D222 M248

FBA D223 M249

FBA D224 M250

FBA D225 M251

FBA D226 M252

FBA D227 M253

FBA D228 M254

FBA D229 M255

FBA D230 M256

FBA D231 M257

FBA D232 M258

FBA D233 M259

FBA D234 M260

FBA D235 M261

FBA D236 M262

FBA D237 M263

FBA D238 M264

FBA D239 M265

FBA D240 M266

FBA D241 M267

FBA D242 M268

FBA D243 M269

FBA D244 M270

FBA D245 M271

FBA D246 M272

FBA D247 M273

FBA D248 M274

FBA D249 M275

FBA D250 M276

FBA D251 M277

FBA D252 M278

FBA D253 M279

FBA D254 M280

FBA D255 M281

FBA D256 M282

FBA D257 M283

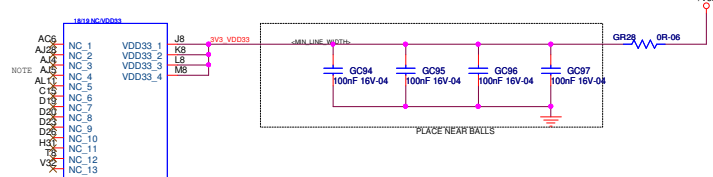
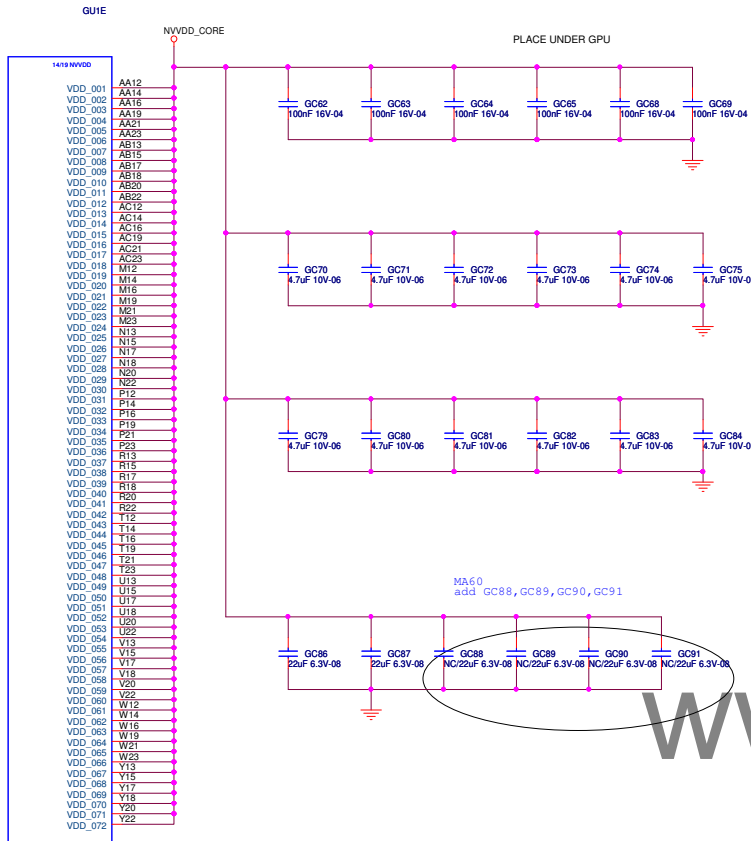
FBA D258 M284

FBA D259 M285

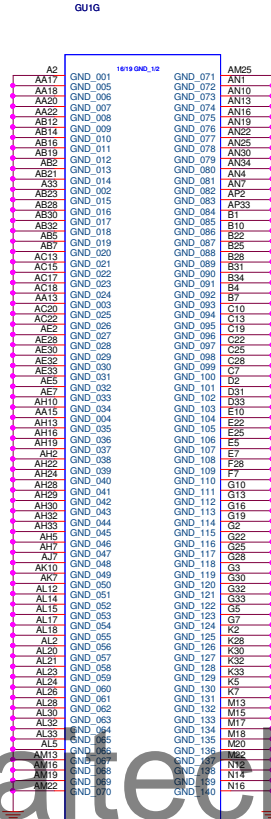
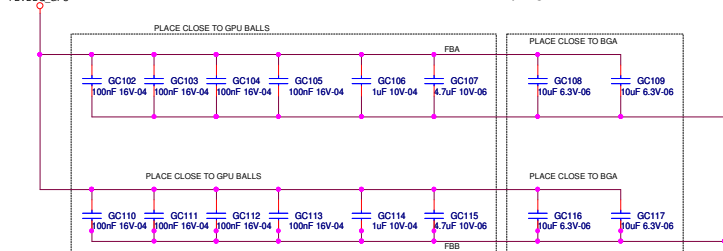
FBA D260 M286

FBA D261 M287</

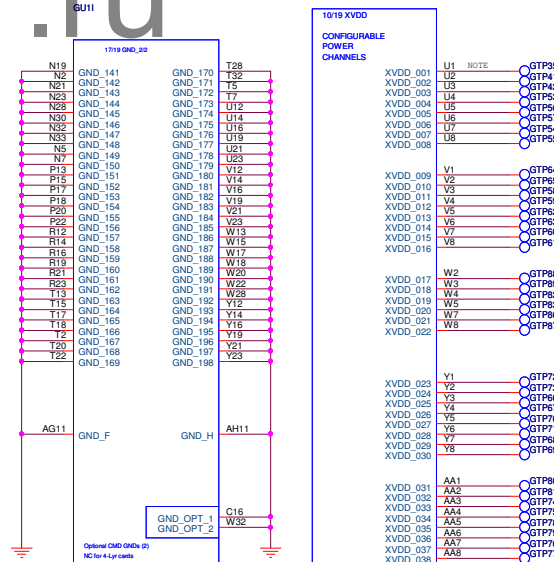
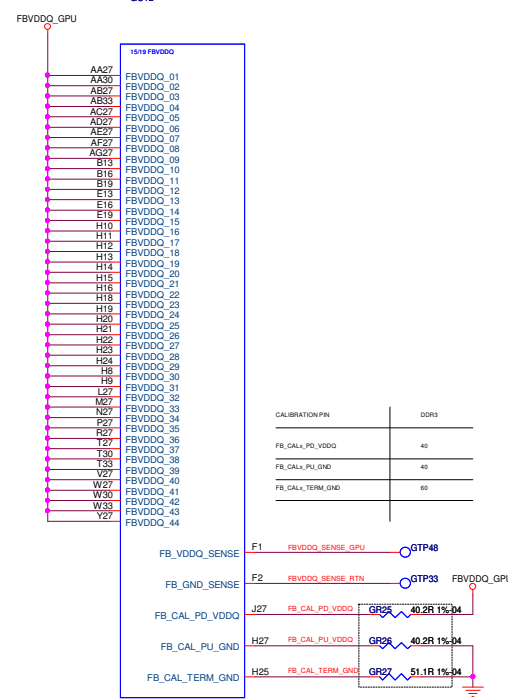
Power/Decoupling: NVVDD,3V3 NV,GRND,and Optional



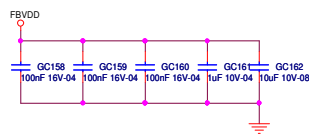
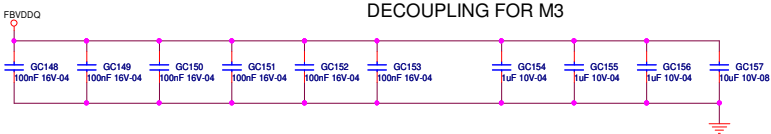
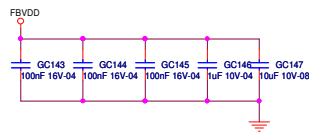
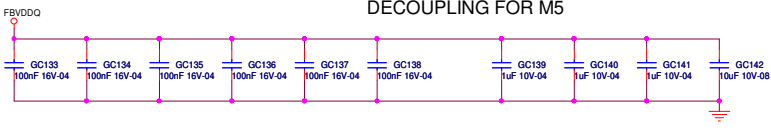
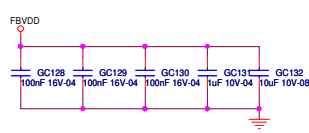
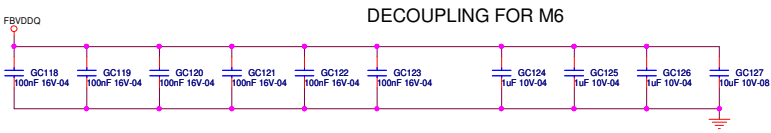
GPU FBVDDQ Decouplin



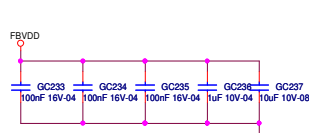
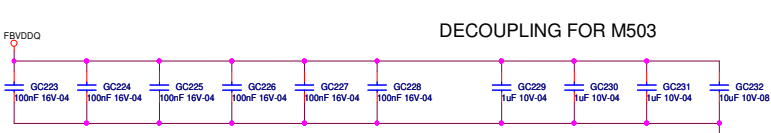
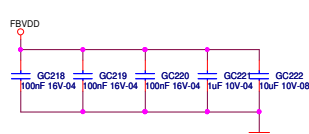
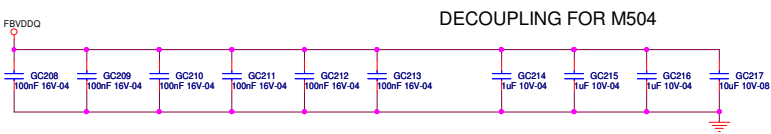
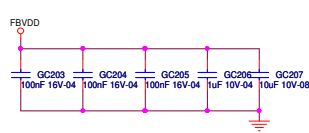
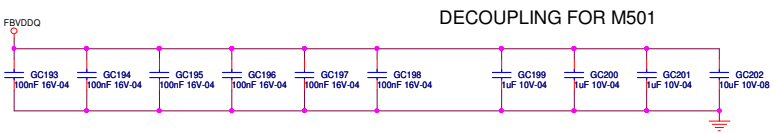
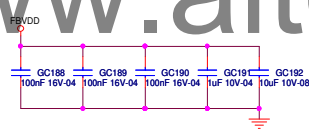
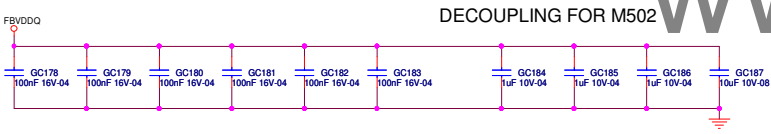
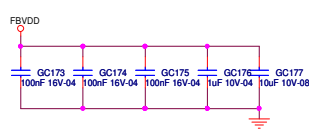
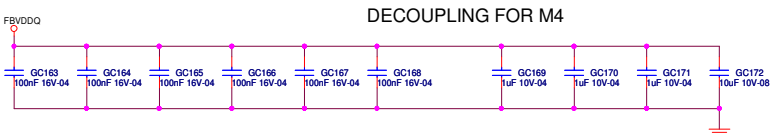
BOM Option
UMA --> all don't stuff
GPU --> all stuff



T & I	OEM MODEL	Lenovo B340/B540	Size	C
機殼圖編號	T&I MODEL	B340_B540	Rev	0.1
Key Component	LGA1155_DMI/FDI/PEG/CFG	PCB NAME	6150A00006603	備註



BOM Option
UMA --> all don't stuff
GPU --> all stuff

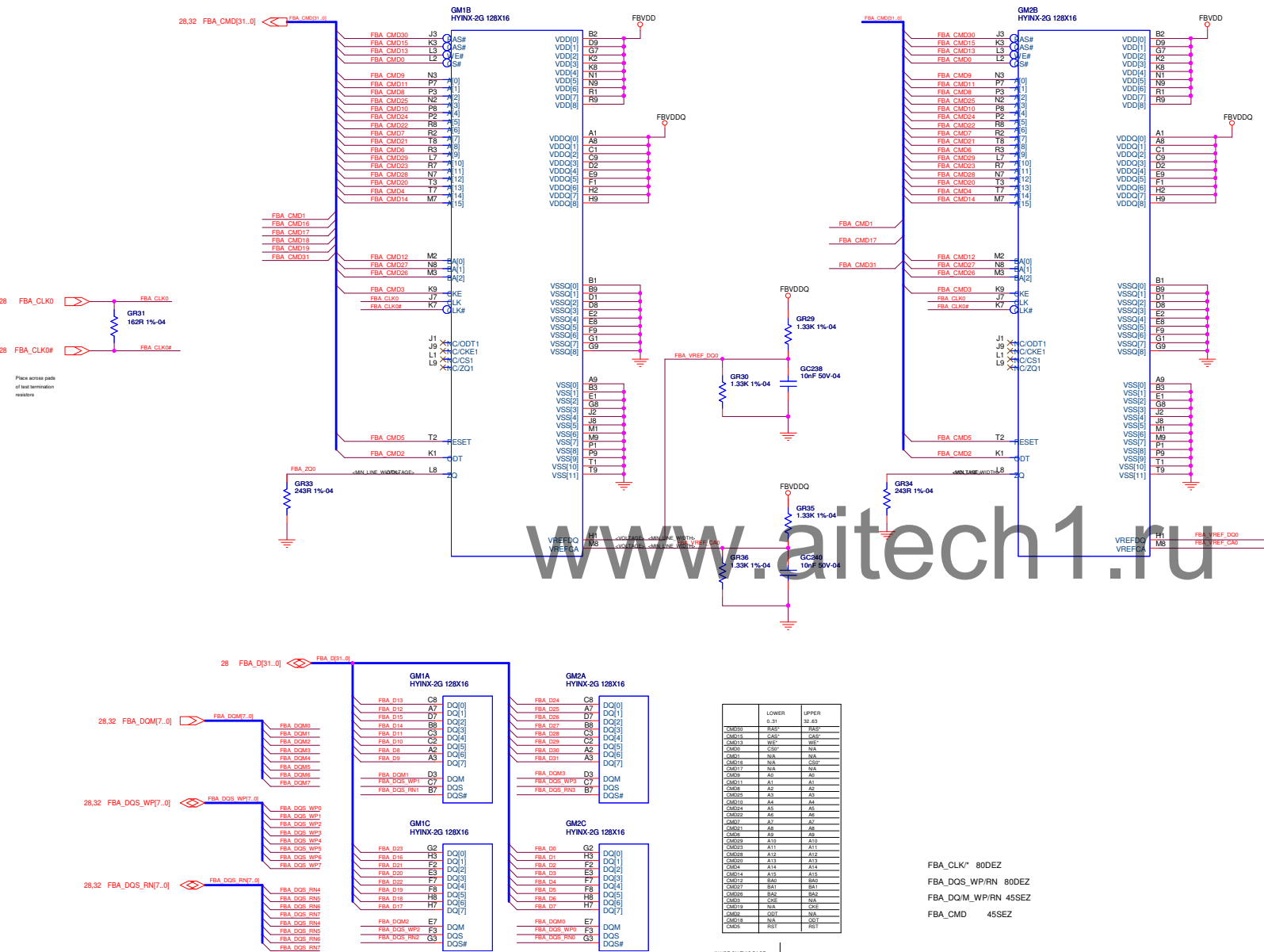


www.aitech1.ru



T & I		OEM MODEL	Lenovo B340/B540	Size	C
线路图编号	6150A0003603	T&I MODEL	B340_B540	Rev	0.1
Key Component	LGA1155_DMI/FDVP/PEG/CFG	PCB NAME	6150A0003603	备注	<備註>
Date	Tuesday, February 07, 2012	Sheet	30 of 65		

Memory Lower Partition A



BOM Option

UMA --> all don't stuff

GPU --> N13M-GE2 512MB , 16Mbx16 x4

GPU --> N13M-GE2 1GB , 16Mbx16 x8

GPU --> N13P-GT 1GB , 16Mbx16 x8

GPU --> N13P-GT 2GB , 128Mbx16 x8

	LOWER	UPPER
	0.31	36.63
CM055	W5E ⁺	W5E ⁺
CM056	W5E ⁺	W5E ⁺
CM059	WE ⁺	WE ⁺
CM060	C5E ⁺	W5E ⁺
CM061	NA	NA
CM062	NA	COV
CM063	A1	A1
CM069	A0	A1
CM071	A1	A1
CM076	A2	A2
CM075	A3	A2
CM076	A4	A4
CM074	A5	A5
CM075	A6	A6
CM067	A7	A7
CM061	A8	A8
CM062	A8	A8
CM069	A9	A9
CM069	A10	A10
CM075	A11	A11
CM068	A12	A12
CM060	A13	A13
CM064	A14	A14
CM074	A15	A15
CM072	BA0	BA0
CM073	BA1	BA1
CM070	BA2	BA2
CM063	C5E	NA
CM079	NA	C5E
CM069	COV	NA
CM078	NA	COV
CM078	REG	REG

FBA_CLK/* 80DEZ

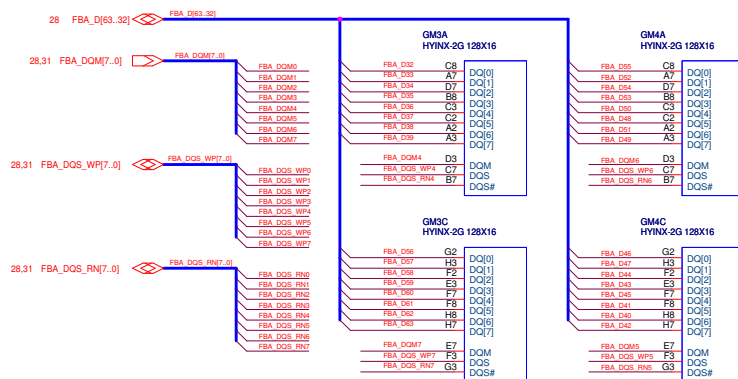
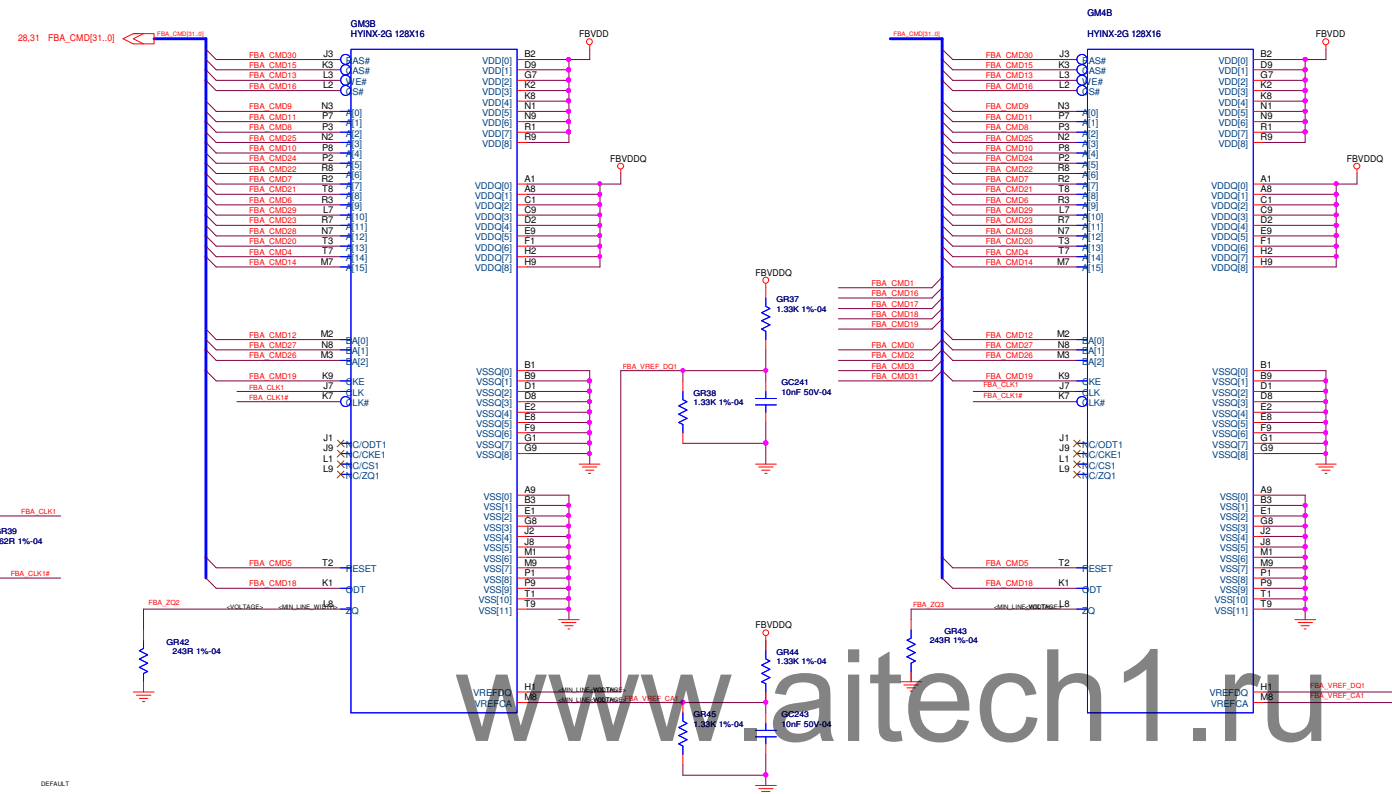
FBA_DQS_WP/RN 80DEZ

FBA_DQ/M_WP/RN 45SEZ

FBA_CMD 45SEZ

T & I		OEM MODEL	Lenovo B340/B540	Size	C
條路置編號	6150A0003603	T&I MODEL	B340_B540	Rev	0.1
Key Component	LGAI155_DMI/FDI/PEG/CFG	PCB NAME	6150A0A003603	備註	<備註>
Date	Tuesday, February 07, 2012	Sheet	31 of 66		

Memory Upper Partition A



	LOWER	UPPER
	5.31	32.40
MD00	BASE	BASE
MD05	CAS?	CAS?
MD13	WE?	WE?
MD14	CO?	CO?
MD1	N/A	N/A
MD2	CO?	CO?
MD7	N/A	N/A
MD9	A0	A0
MD11	A1	A1
MD8	A2	A2
MD05	A3	A3
MD10	A4	A4
MD04	A5	A5
MD5	A6	A6
MD7	A7	A7
MD11	A8	A8
MD9	A9	A9
MD09	A10	A10
MD02	A11	A11
MD12	A12	A12
MD20	A13	A13
MD14	A14	A14
MD14	A15	A15
MD02	BA0	BA0
MD1	BA1	BA1
MD05	BA2	BA2
MD2	CO?	CO?
MD19	N/A	ONE
MD0	CO?	N/A
MD19	N/A	CO?
MD05	R1ST	R1ST

IN USE ON	THIS PAGE
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

T & I		OEM MODEL		Lenovo B340/B540	Size	C
條路圖編號	6150A0003603	T&I MODEL	B340_B540		Rev	0.1
Key Component	LGA1155_DMI/FDI/PEG/CFG	PCB NAME	6150A0003603		備註	<備註>
Date	Tuesday, February 07, 2012	Sheet	32 of 65			

BOM Option

UMA --> all don't stuff

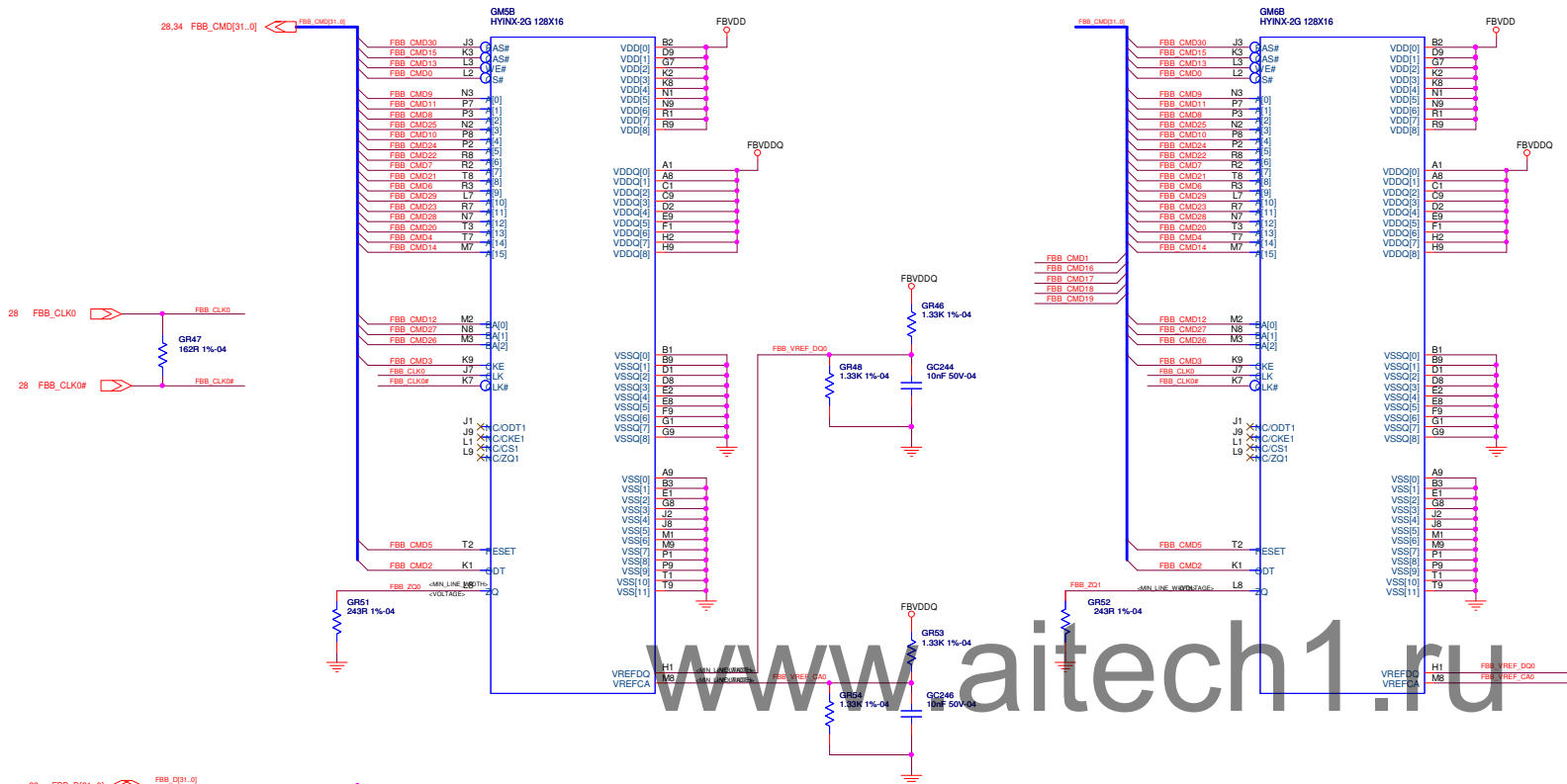
GPU --> N13M-GE2 512MB , 16Mbx16 x4

GPU --> N13M-GE2 1GB , 16Mbx16 x8

GPU --> N13P-GT 1GB , 16Mbx16 x8

GPU --> N13P-GT 2GB , 128Mbx16 x8

Memory Lower Partition B



BOM Option

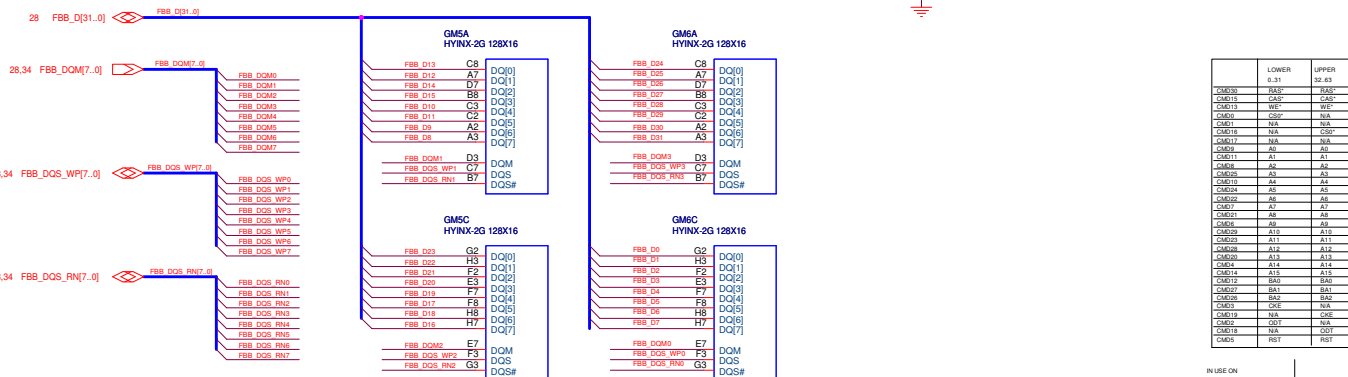
UMA --> all don't stuff

GPU --> N13M-GE2 512MB , 16Mbx16 x4

GPU --> N13M-GE2 1GB, 16Mbx16 x8

GPU --> N13P-GT 1GB , 16Mbx16 x8

GPU --> N13P-GT 2GB , 128Mbx16 x8



	LOWER	UPPER
	0.31	32.63
CM05	BA5	BA5
CM06	GA5	GA5
CM07	KC5	KC5
CM08	CG2	N/A
CM01	N/A	N/A
CM16	N/A	CB9
CM17	N/A	N/A
CM18	N/A	N/A
CM11	A1	A1
CM12	A2	A2
CM13	A3	A3
CM10	A4	A4
CM24	A5	A5
CM04	A6	A6
CM07	A7	A7
CM08	A8	A8
CM15	A9	A9
CM09	A10	A10
CM11	A11	A11
CM08	A12	A12
CM20	A13	A13
CM14	A14	A14
CM14	A15	A15
CM15	A16	A16
CM07	BA1	BA1
CM26	BA2	BA2
CM11	CB2	CB2
CM19	N/A	CB2
CM25	CD1	N/A
CM19	N/A	CD1
CM05	RST	RST

FBA_CLK/* 80DEZ

FBA_DQS_WP/RN 80DEZ

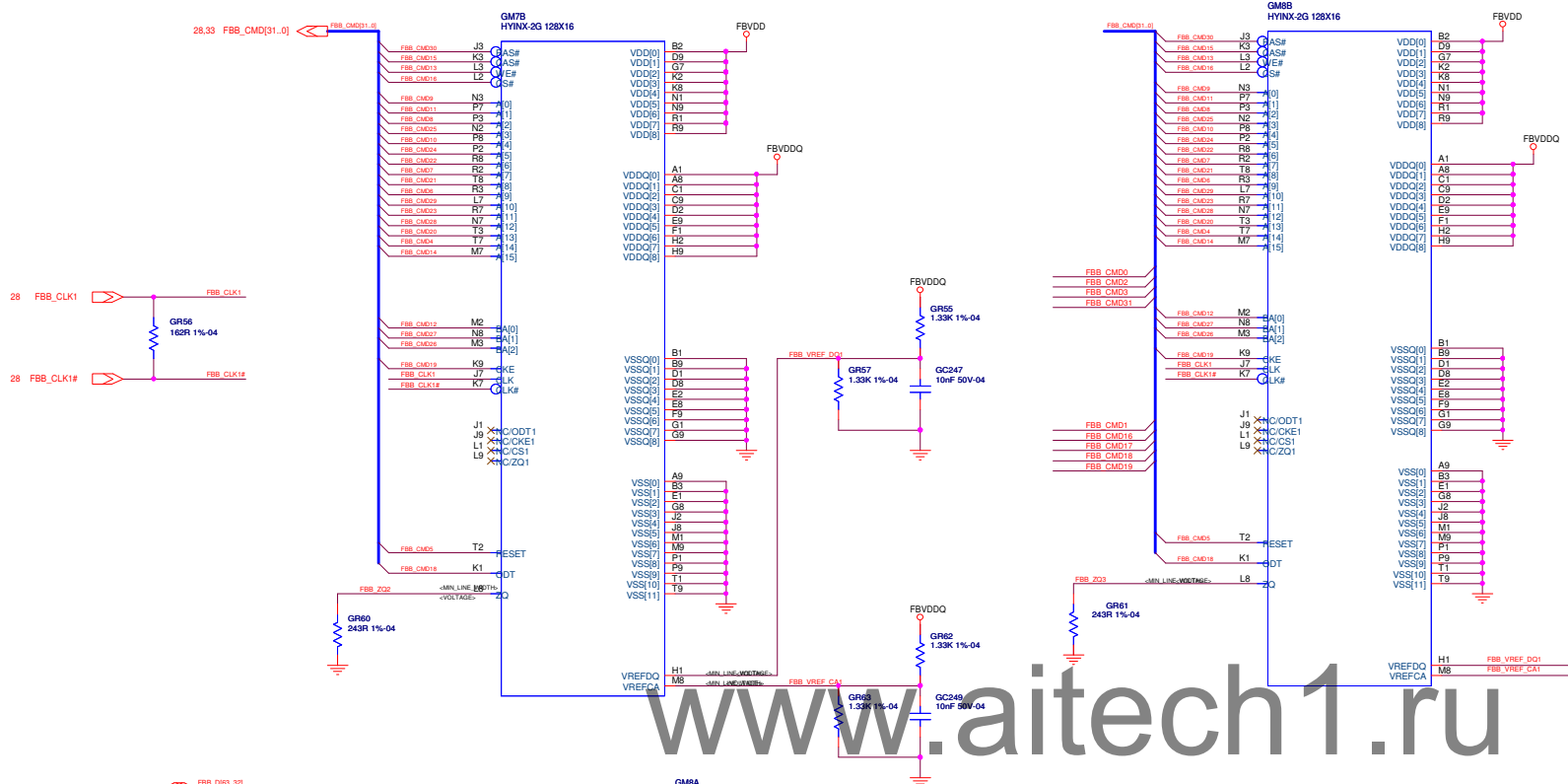
FBA_DQ/M_WP/RN 45SEZ

FBA_CMD 45SEZ

IN USE ON
THIS PAGE

T & I		OEM MODEL	Lenovo B340/B540	Size	C
線路圖編號	6150A0003603	T&I MODEL	B340_B540	Rev	0.1
Key Component	LGAI155_DM/IFI/PEG/CFG	PCB Name	6150A0003603	單位	<備註>
Date	Tuesday, September 07, 2016	Client	99.00.00.00		

Memory Upper Partition B



BOM Option

UMA --> all don't stuff

GPU --> N13M-GE2 512MB , 16Mbx16 x4

GPU --> N13M-GE2 1GB , 16Mbx16 x8

GPU --> N13P-GT 1GB , 16Mbx16 x8

GPU --> N13P-GT 2GB , 128Mbx16 x8

	LOWER	UPPER
CM001	TRANS	TRANS
CM016	CAS	CAS*
CM019	WE	WE
CM020	WE	WE
CM021	NA	NA
CM022	WE	WE*
CM027	NA	NA
CM029	A0	A0
CM030	A1	A1
CM036	A2	A2
CM039	A3	A3
CM040	A4	A4
CM041	A5	A5
CM042	A6	A6
CM043	A7	A7
CM048	A8	A8
CM049	A9	A9
CM050	A10	A10
CM051	A11	A11
CM052	A12	A12
CM053	A13	A13
CM054	A14	A14
CM055	A15	A15
CM072	BA0	BA0
CM073	BA1	BA1
CM074	BA2	BA2
CM083	OE	OE
CM089	NA	OE
CM092	CO0	NA
CM098	NA	CO1
CM099	CO1	CO1

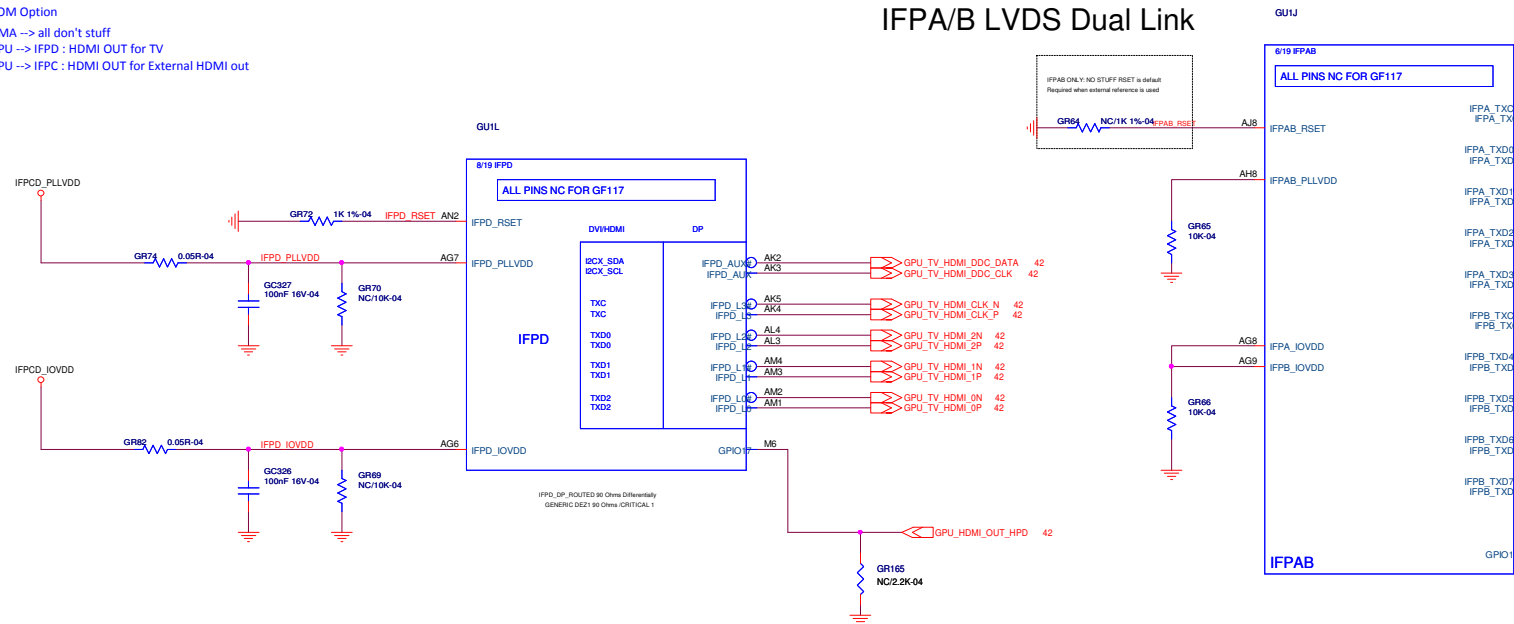
IN USE ON
THIS PAGE



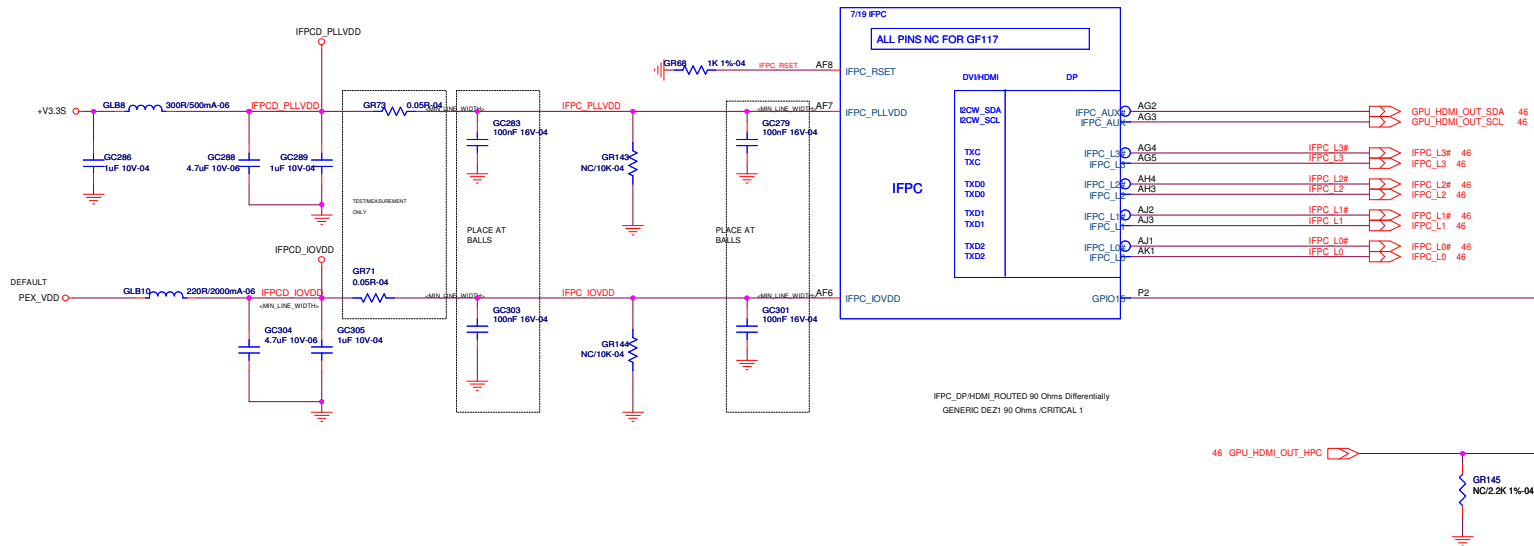
T & I		OEM MODEL	Lenovo B340/B540	Size	C
線路圖編號	6150A0003603	T&I MODEL	B340_B540	Rev	0.1
Key Component	LGAI155_DM/IFI/PEG/CFG	PCB Name	6150A0003603		
Date	Tuesday, September 07, 2010	Client	94. of 65	備註	<備註>

UMA --> all don't stuff
GPU --> IFPD : HDMI OUT for TV
GPU --> IFPC : HDMI OUT for External HDMI out

IFPA/B LVDS Dual Link



www.aitech1.ru



T & I		OEM MODEL	Lenovo B340/B540	Size	C
維修單編號	6150A0003603	T&I MODEL	B340_B540	Rev	0.1
Key Component	LGAI155_DM/IFD/PEG/CFG	PCB NAME	6150A0003603	備註	<備註>
Date	Tuesday, February 07, 2012	Sheet	95 of 95		

The schematic diagram illustrates the electrical connections for the I/F board. Key components and their connections include:

- IFPF**: A central component connected to TXD4, TXD1, TXD0, TXD2, TXD6, and TXD8.
- GR19**: Connected to NC/TX0-04.
- AF5**: Connected to IFPF L and AF4.
- AF4**: Connected to IFPF L and AF5.
- GTP96**: Connected to AF5.
- GTP93**: Connected to AF4.
- AF4**: Connected to IFPF L and AF5.
- AF5**: Connected to IFPF L and AF4.
- GTP104**: Connected to AF4.
- GTP103**: Connected to AF5.
- P3**: Connected to GR77 and NC/2BK-04.
- GR77**: Connected to P3 and NC/2BK-04.
- NC/2BK-04**: Connected to GR77 and P3.
- V3.3S**: A power supply connection point.
- PPD.F**: A component at the bottom left.
- GRQ1**: A component at the bottom left.

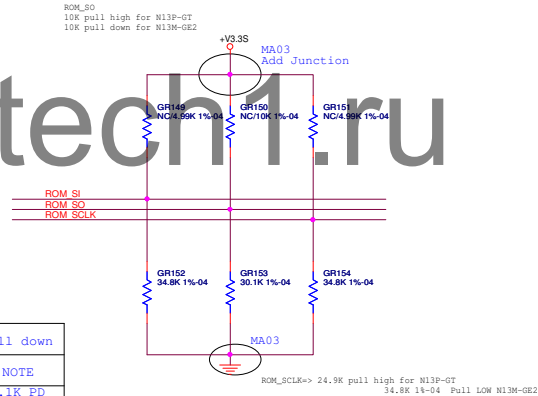
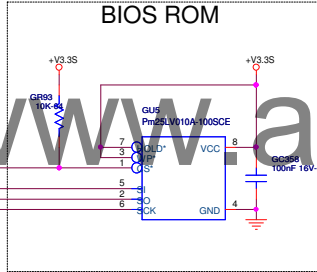


IF NO use DAC ,
GC344 change to 10 k, other parts NC



4/19 DACA		GF108/GKx	
GF108/GKx	GF117	GF117	GF108/GKx
DACA_VDD	NC	NC	I2CA_SCL I2CA_SDA
DACA_VREF	TSEN_VREF	NC	DACA_HSYNC DACA_VSYNC
DACA_RSET	NC	NC	DACA_RED
		NC	DACA_GREEN
		NC	DACA_BLUE

T & I		OEM MODEL	Lenovo B340/B540	Size	C
機 型 圖 像 號	6150A0003603	T&I MODEL	B340_B540	Rev	0.1
Key Component	LGA1155_DMM/FDI/PEG/CFG	PCB NAME	6150A0003603		
Date	Tuesday, February 07, 2012	Sheet	36 of 65	備註	<備註>



```
NOTE N13P-GT/GS
128X16 DDR3 samsung OX7 K4W2G1646C-HC11
PD 45.3K
64X16 DDR3 samsung OX3 K4W1G1646G-BC11
PD 20K

128X16 DDR3 Hynix OX6 H5TQ2G63BFR-11C
PD 34.8K
64x16 DDR3 Hynix OX2 H5TQ1G63DFR-11C
PD 15K
```

```
NOTE N13M-GE2
128X16 DDR3 samsung OX7 K4W2G1646C-HC11
PD 45.3K
64X16 DDR3 samsung OX3 K4W1G1646G-BC11
PD 20K

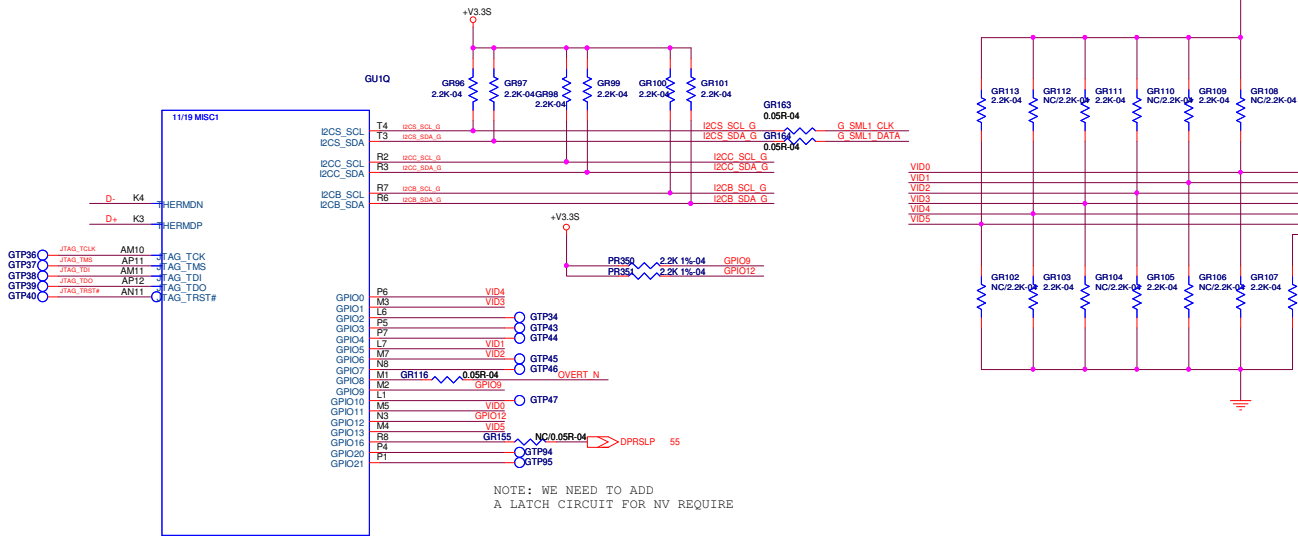
128X16 DDR3 Hynix OX6 H5TQ2G63BFR-11C
PD 34.8K
64x16 DDR3 Hynix OX2 H5TQ1G63DFR-11C
PD 15K
```

GF117/GK10X STRAPPING MODE TABLE			
PIN NAME	MULTI-LEVEL	BINARY PRODUCTION	BINARY BRINGUP
MULTI_STRAP_REF_GND	40.2K TO GND	NOT SUPPORTED	NO STUFF

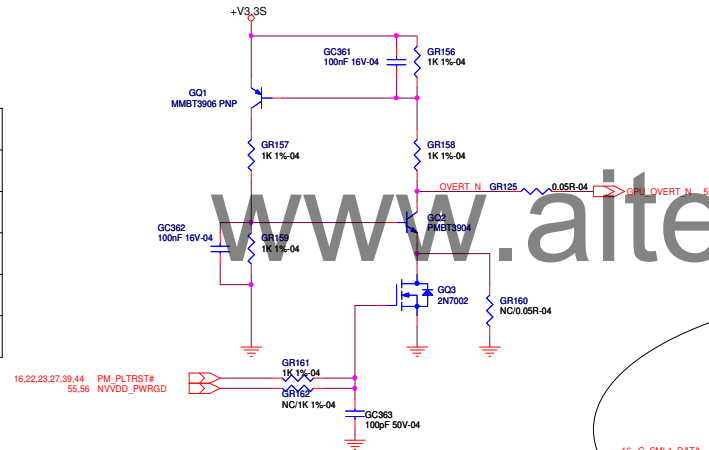
T & I		OEM MODEL	Lenovo B340/B540	Size	C
機路圖編號	6150A0003603	T&I MODEL	B340_B540	Rev	0.1
Key Component	LGA1155_DM/FDI/PEG/CFG	PCB NAME	6150A0003603	備註	<備註>
Date	Tuesday, February 07 2012	Sheet	07 of 65		



GPIOs, Thermal Sensor, I2C/GPIO Expanders



	pull up	pull down
STARP0	GR133 PU 45.3K	
STARP1		GR139 PD 34.8K
STARP2	GR135 15k PU N13M-GE2	GR140 10k PD N13P-GT
STARP3	GR136 PU 34.8K 1110	
STARP4		GR142 PD GR142 NC N13P-GT N13M-GE2

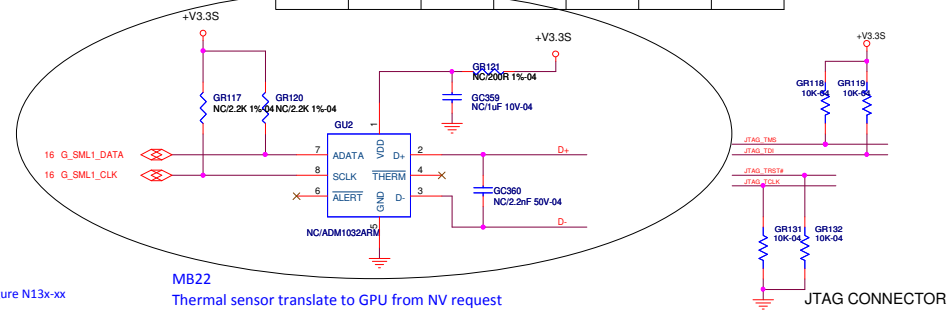
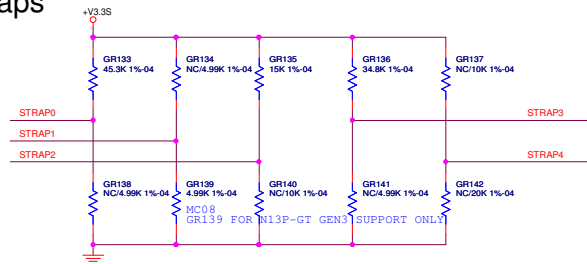


VID6	VID5	VID4	VID3	VID2	VID1	VID0
0	1	0	1	0	1	0
0	1	0	1	1	0	0

0,975V	N13P-GT	DEFAULT
--------	---------	---------

0,95V	N13M-GE2
-------	----------

Straps



MB22 Thermal sensor translate to GPU from NV request

GF117/GK10X STRAP PIN MODE TABLE

PIN NAME	MULTI-LEVEL bit [3:0]	BINARY PRODUCTION	BINARY BRINGUP
STRAP0	USER[3:0]		3GIO_PADCFG_LUT_ADR0
STRAP1	3GIO_PADCFG_ADR[3:0]		3GIO_PADCFG_LUT_ADR1
STRAP2	PCI_DEVID[3:0]		3GIO_PADCFG_LUT_ADR2
STRAP3	SOR[3:0]_EXPOSED		3GIO_PADCFG_LUT_ADR3
STRAP4	RSV, RSV, PCIE_MAX_SPEED, DP_PLL_VDD33V		PCIE_MAX_SPEED
ROM_SCLK	DEVID[4], SUB_VENDOR, DEVID[5], PEX_PLL_EN_TERM		SMB_ALT_ADDR
ROM_SI	RAMCFG[3:0]		SUB_VENDOR
ROM_SO	FB[1]_BAR_SIZE, FB[0]_BS, SMB_ALT_ADDR, VGA_DEVICE		VGA_DEVICE

GF108 STRAP PIN MODE TABLE

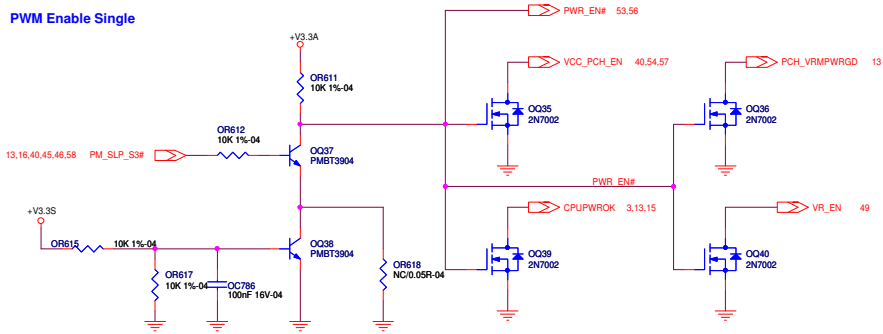
PIN NAME	MULTI-LEVEL bit [3:0]	BINARY PRODUCTION	BINARY BRINGUP
STRAP0	USER[3:0]	RAMCFG0	
STRAP1	3GIO_PADCFG_ADR[3:0]	RAMCFG1	
STRAP2	PCI_DEVID[3:0]	RAMCFG2	
ROM_SCLK	PCIDEVID[4], SUB_VENDOR, SLOT_CLK, PEX_PLL_EN_TERM	PCI_DEVID3	
ROM_SI	RAMCFG[3:0]	PCI_DEVID_EXT	
ROM_SO	XCLK_417, FB0_BAR_SIZE, SMB_ALT_ADDR, VGA_DEVICE	XCLK_417	

NOTE 2: See table 1 for the correct value/location of the strap resistor for the desired modes

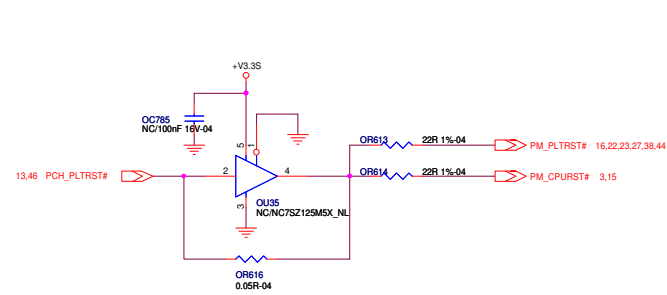
NOTE 3: Bring-up SKU(s) have jumper configurable subvendor and DEVID_4 settings see the ROM_SCLK STRAP

T & I		OEM MODEL	Lenovo B340/B540	Size	C
維修圖編號	6150A0003603	T&I MODEL	B340_B540	Rev	0.1
Key Component	LGAI155_DM/VDI/PEG/CFG	PCB Name	6150A0003603	備註	<備註>
Date	Tuesday, February 07, 2012	Sheet	38 of 65		

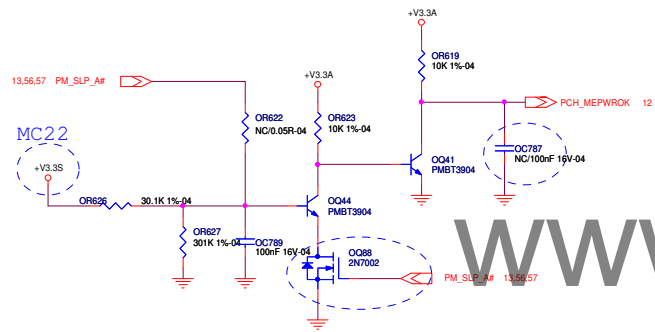
PWM Enable Single



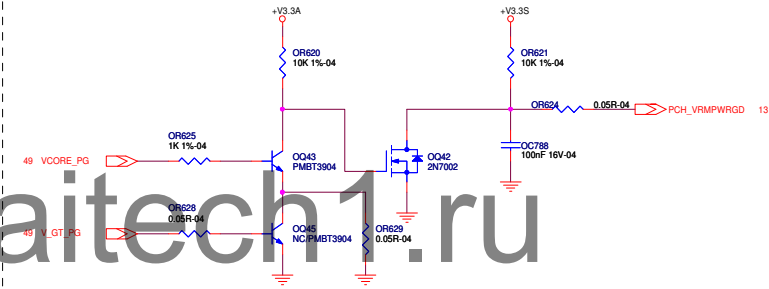
Reset Single



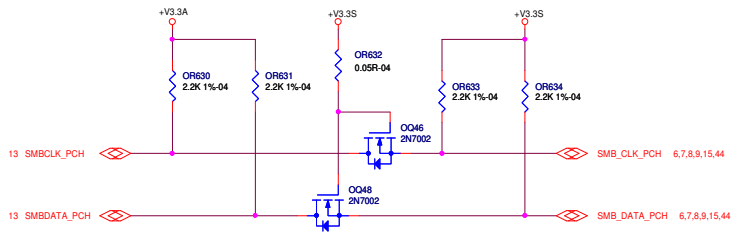
PCH_MEPWROK



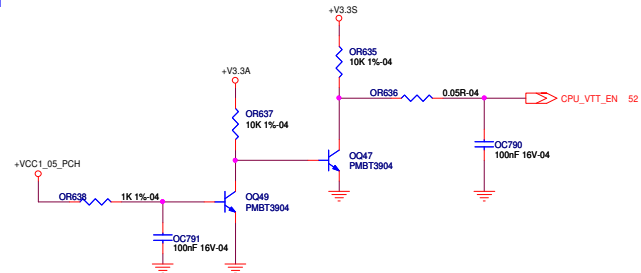
PCH_VRMPPWRGD (VR_READY)



SM BUS



CPU_VTT_EN

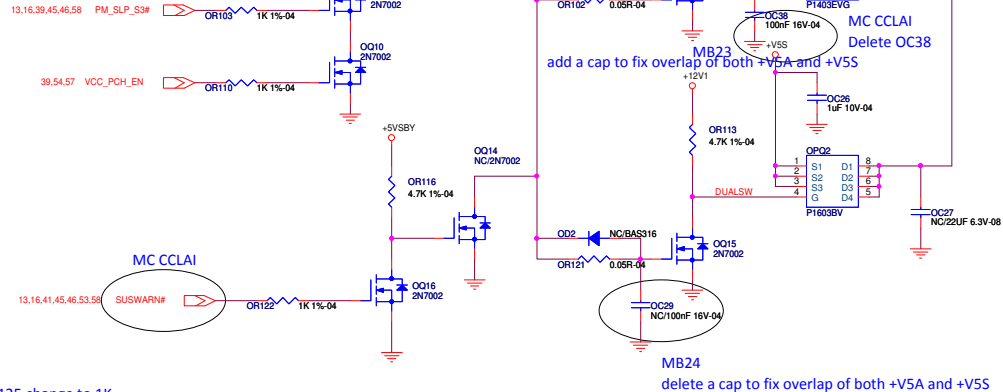
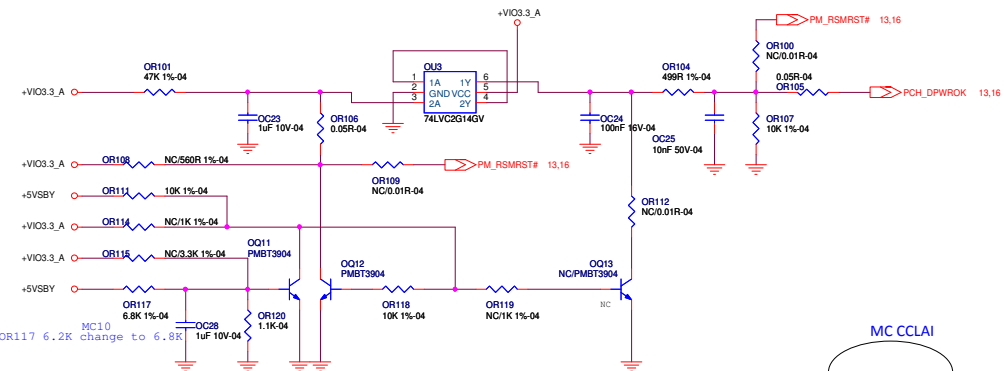


T & I	OEM MODEL	Lenovo B320	Size	C
線路圖編號	6150A0003603	T&I MODEL	B320	Rev
Key Component	Controller 1	PCB NAME	6150A0003603	0.3
Date	Tuesday, February 07, 2012	Sheet	39 of 65	備註 <備註>

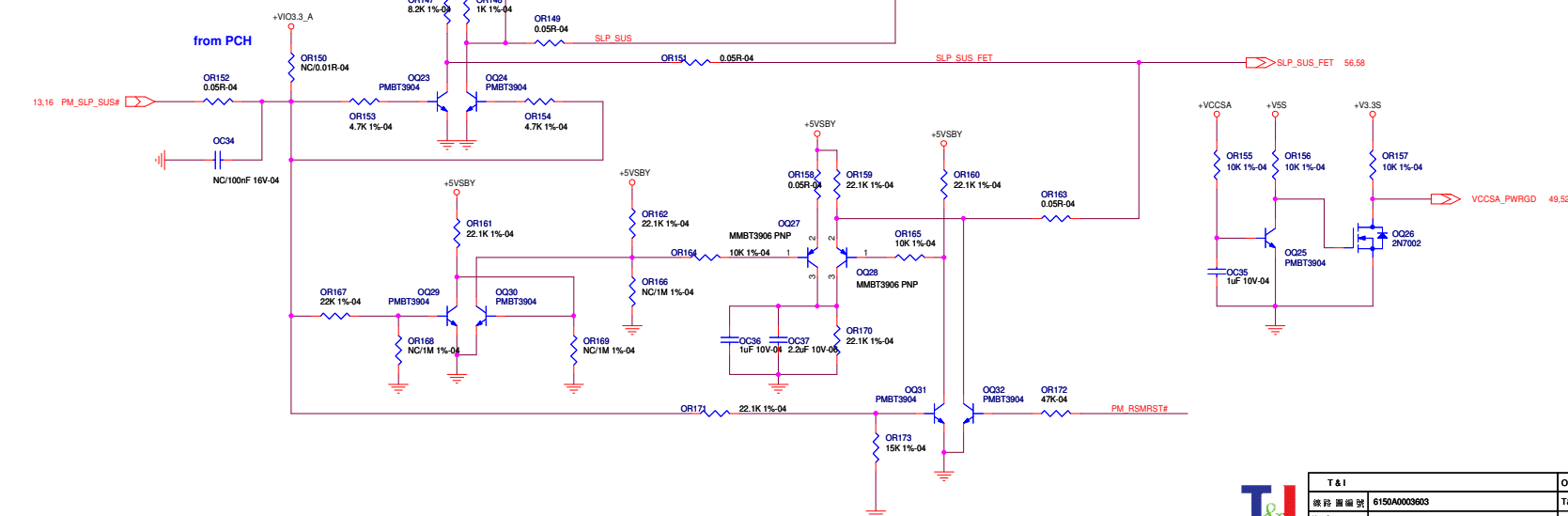
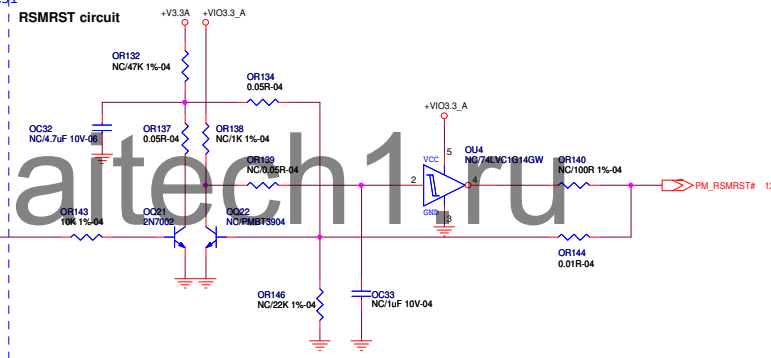
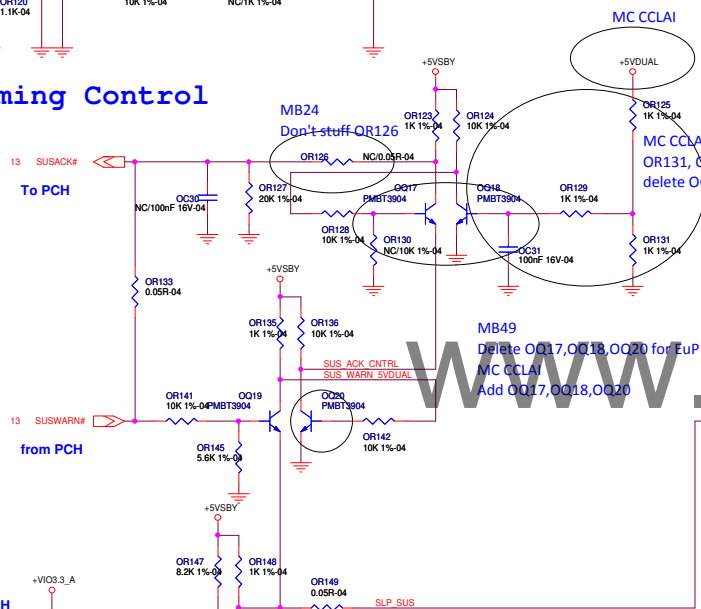
PCH_DPWROK

This is an input signal to the PCH from power monitoring circuit to indicate that all deep sleep power rail, VccDSW3_3 is stable on the platform. Connect to VccDSW3_3 power rail monitoring circuit on mother board. For platform not supporting deep sleep connect directly to RSMRST#. The DSW rails must be stable for at least 10 ms before DPWROK is asserted to PCH.

+5VDUAL



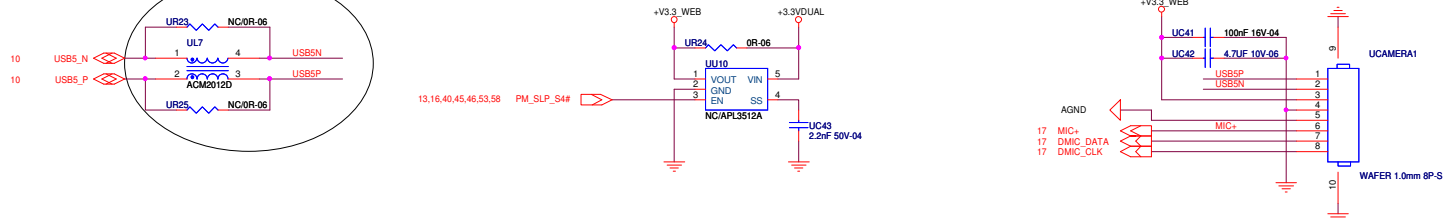
Deep Sleep Timing Control



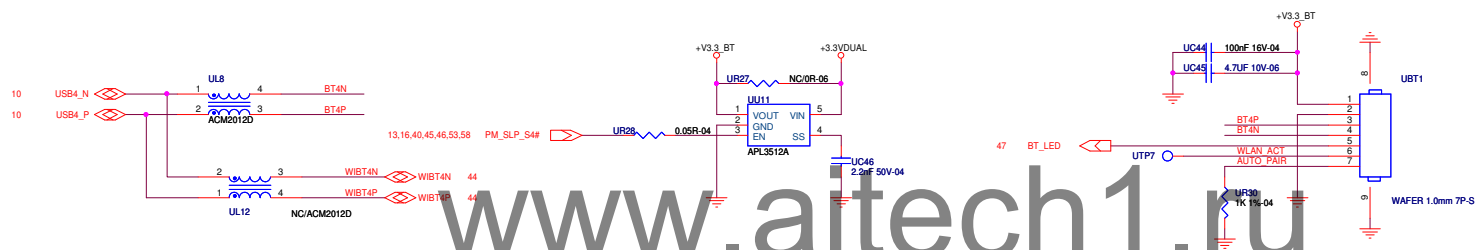
T & I	OEM MODEL	Lenovo B320	Size	C
機路圖圖號	6150A0003603	T&I MODEL	B320	Rev
Key Component	Controller 2, +5VDUAL	PCB NAME	6150A0003603	40 of 65
Date	Tuesday, February 07, 2012	Sheet	40 of 65	備註 <備註>

MB25
For EMI requirement

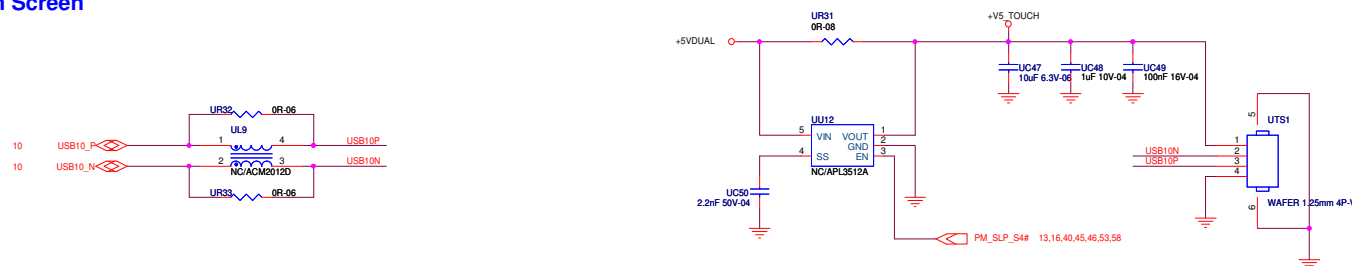
Camera + Mic



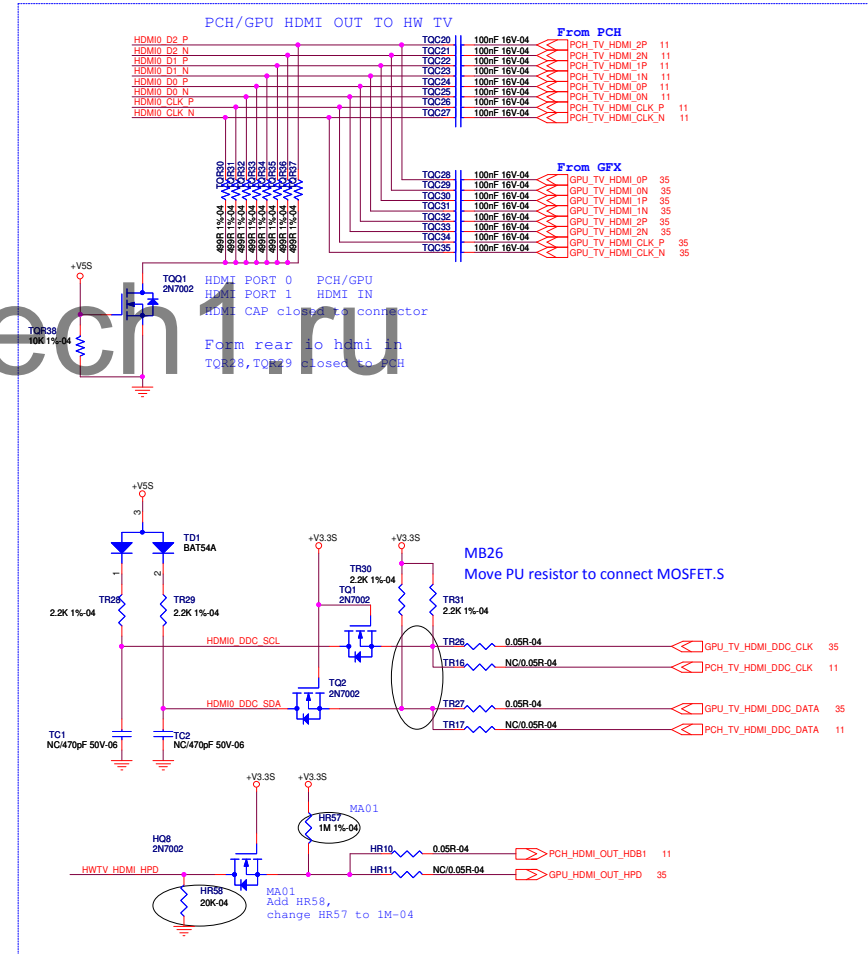
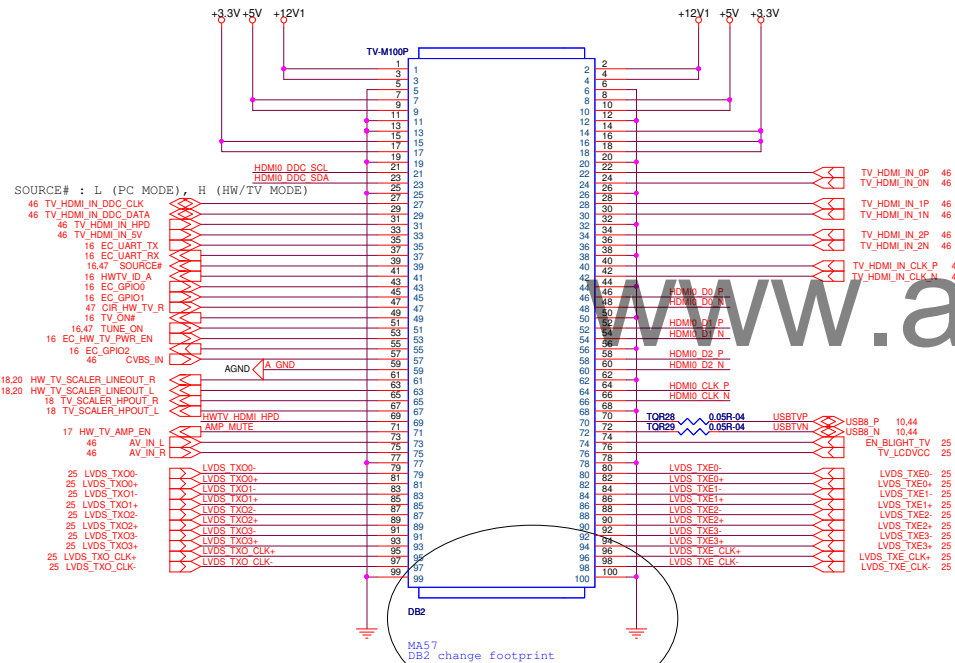
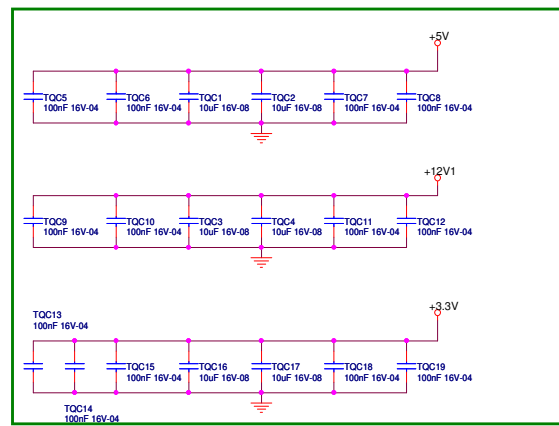
BT



Touch Screen

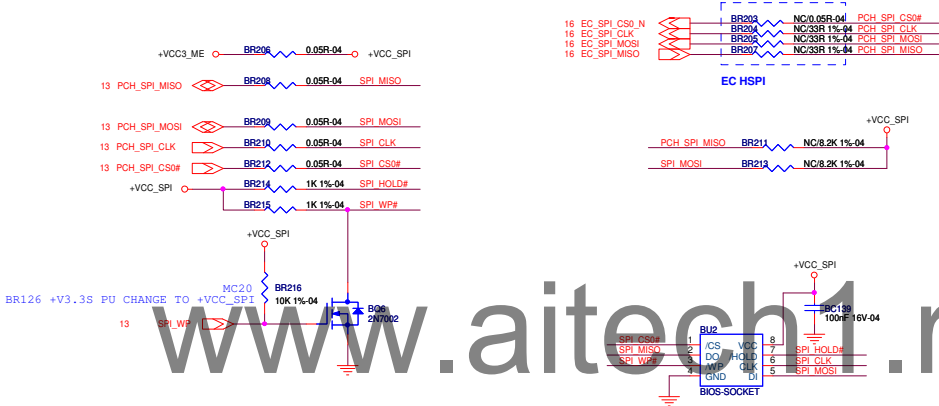


T & I	OEM MODEL	Lenovo B340/B540	Size	C
線路圖編號	T&I MODEL	B340_B540	Rev	0.1
Key Component	Webcam, BT, Touch Pad	PCB NAME	6150A0003603	備註
Date	Tuesday, February 07, 2012	Sheet	41 of 65	<備註>



T & I	OEM MODEL	Lenovo B340/B540	Size	C
圖路圖編號	6150A0003603	T&I MODEL	B340_B540	Rev
Key Component	HW/TV_CONN	PCB NAME	6150A0003603	0.1
Date	Tuesday, February 07, 2012	Sheet	42 of 65	備註 <備註>

BIOS SPI ROM

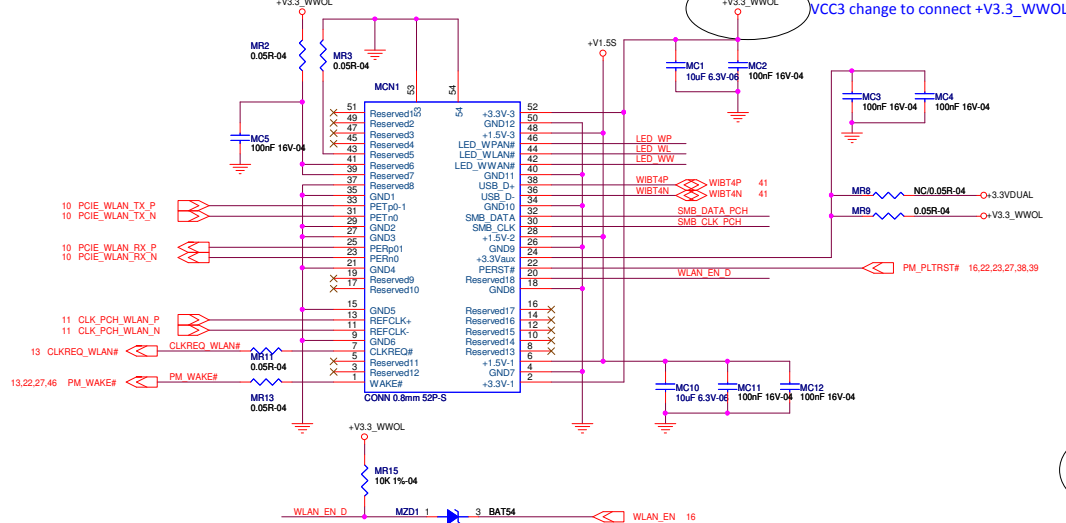


- 1MB SPI ROM
1st -- 056G2233 5 Winbond W25X80BVSSIG
- 2MB SPI ROM
1st -- 056G1133951 Winbond W25Q16BVSSIG
2nd -- 056G1133 97 MXIC MX25L1605MC-12G
- 8MB SPI ROM
1st -- 056G2233 16 Winbond W25Q64BVSSIG
2nd -- 056G2233 15 MXIC MX25L6445EM2I-10G



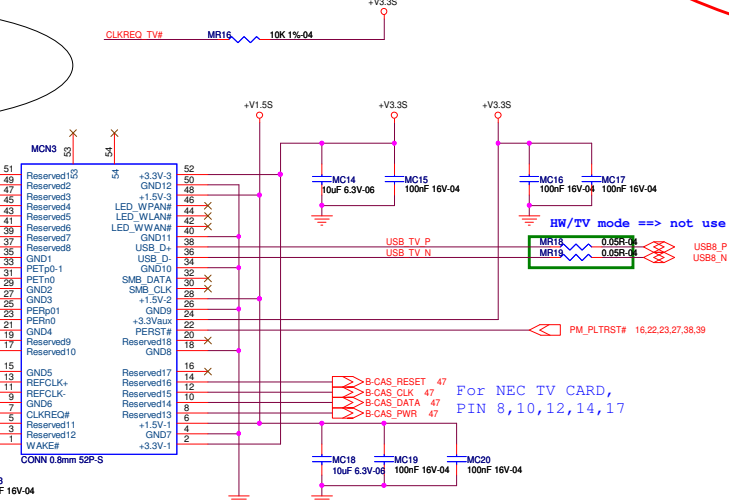
T & I		OEM MODEL	Lanovo B340/B540	Size	C
據路圖編號	6150A0003603	T&I MODEL	B340_B540	Rev	0.1
Key Component	SPI ROM SYS	PCB NAME	6150A0003603	備註 <備註>	
Date	Tuesday, February 07, 2012	Sheet	43 of 65		

Mini PCI-e Card for WLAN

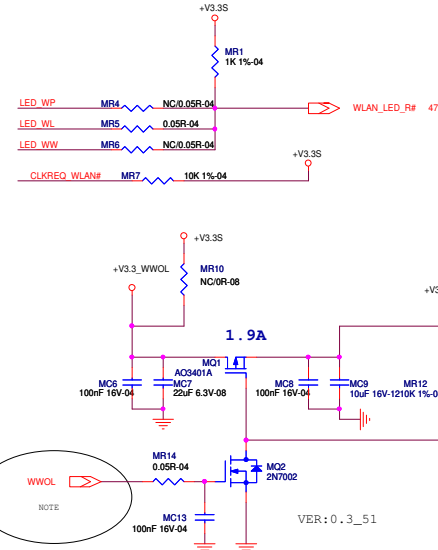


BOM Option
H61 --> MCN2 don't stuff
H77 --> MCN2 stuff

Mini PCI-e Card for TV Tuner



For NEC TV CARD,
PIN 8,10,12,14,17



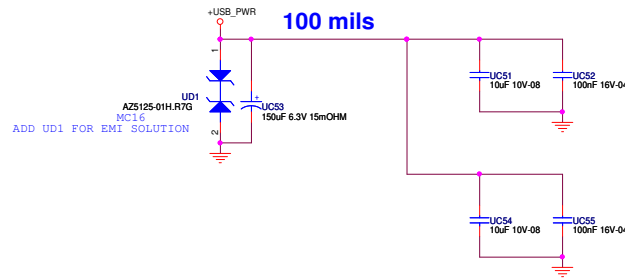
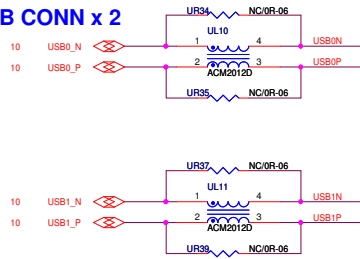
MB29
SW-TV connector pin 20 is NC
delete MR17,MZD2

MB43
To support NEC TV card
add +12V, +5V at reserved pin



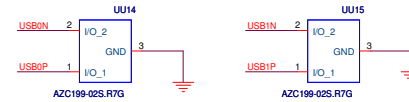
T & I	OEM MODEL	Lenovo B340/B540	Size	C
總代理商	6150A0003603	T&I MODEL	B340_B540	Rev
Key Component	Mini-PCI-Express x 2	PCB NAME	6150A0003603	0.1
Date	Tuesday, February 07, 2012	Sheet	44 of 65	備註

USB CONN x 2



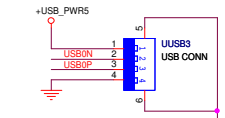
MB32

USB3.0 change to USB2.0 for side IO
delete common-mode-choke
UL13,UL14,UL15,UL16

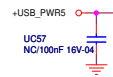


www.aitech1.ru

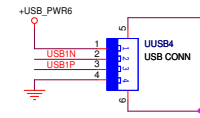
MA05
USB3.0 TX / RX SWAP



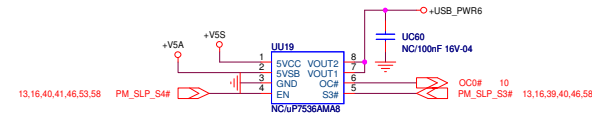
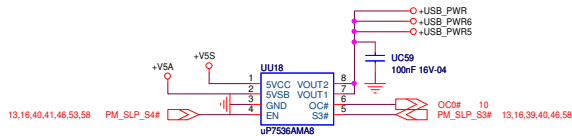
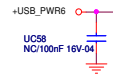
MB30
USB3.0 change to USB2.0 for side IO



MB33
USB3.0 change to USB2.0 for side IO
delete UU16,UU17



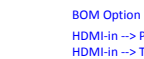
MB31
USB3.0 change to USB2.0 for side IO



T & I	OEM MODEL	Lenovo B340/B540	Size	C
圖路圖號	T&I MODEL	B340_B540	Rev	0.1
Key Component	USB CONN x2	PCB NAME	6150A0003603	備註
Date	Tuesday, February 07, 2012	Sheet	45 of 65	<備註>

EMI
Add decouple cap to close BTB connector

REAR-M120P



REAR IO HDMI OUT

11
11 PCH

GPU

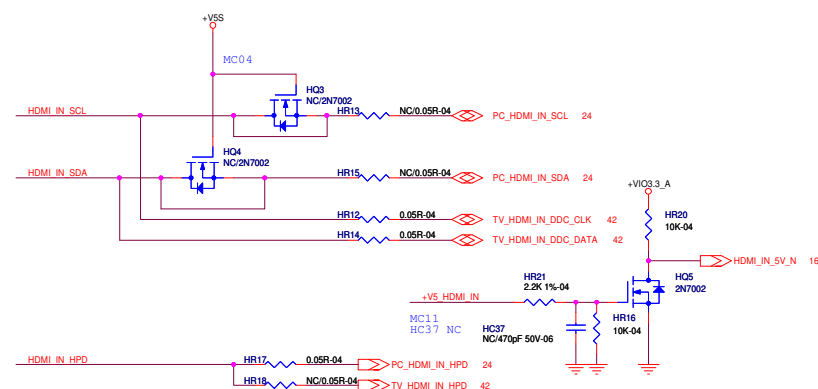
MB35

Move PU resistor to connect MOSFET.S

REAR IO HDMI IN

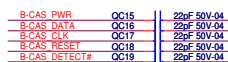
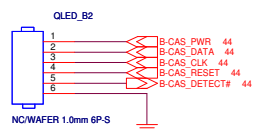
HW TV

24 ON BOARD SCALAR



T & I		OEM MODEL	Lenovo B340/B540	Size	C
維修圖編號	6150A0003603	T&I MODEL	B340_B540	Rev	0.1
Key Component	DB, PC_ON, TK, FL	PCB NAME	6150A0003603	備註	<備註>
Date	Tuesday, February 07, 2012	Sheet	46 of 65		

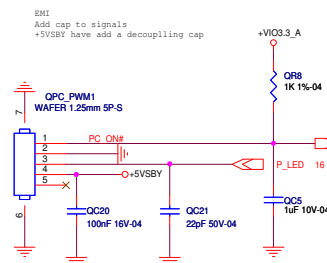
NEC-B CAS



EMI
Add cap to signals
Smart-card clock have add serial terminator and C to clock

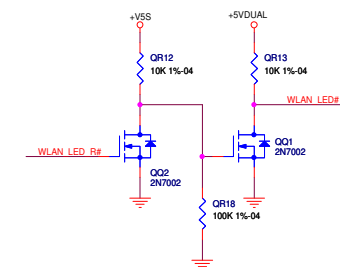
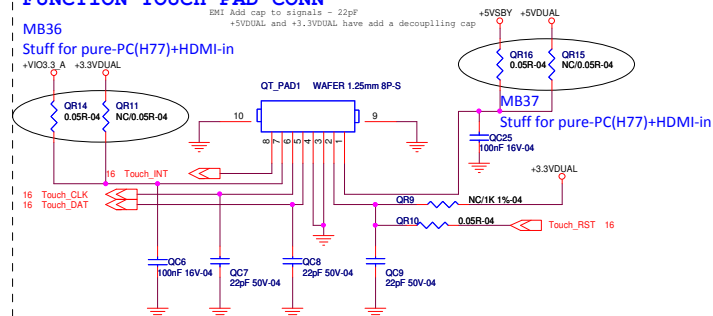
CC Lai
This symbol pin sequence have error
and change pin sequence to 123456

PC PWR CONN

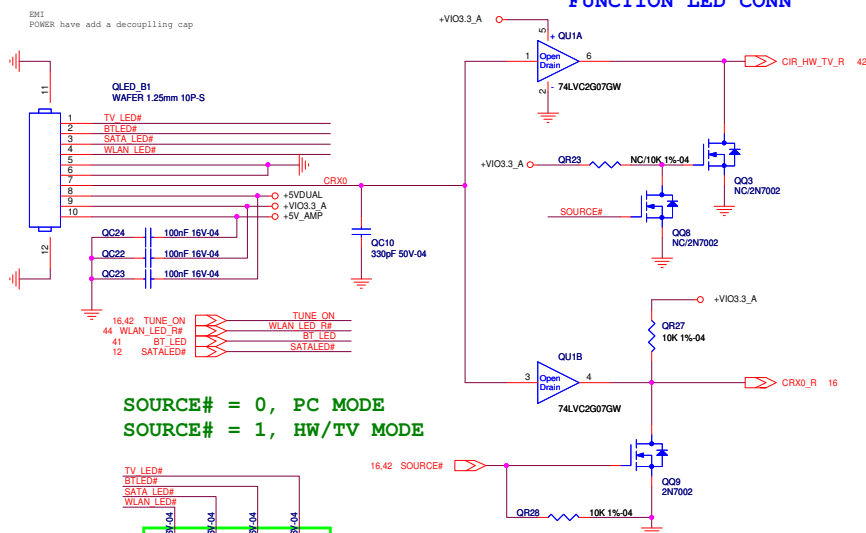


FUNCTION TOUCH PAD CONN

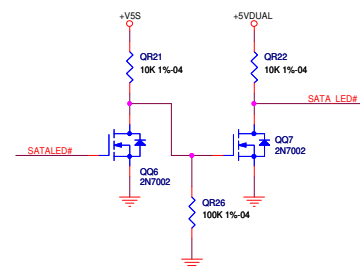
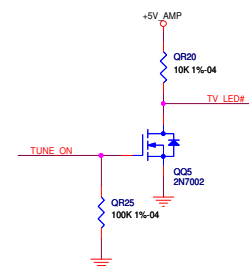
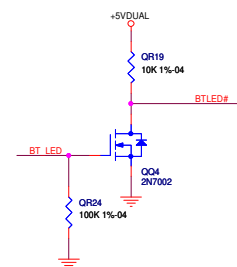
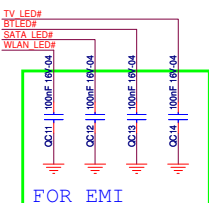
MB36
Stuff for pure-PC(H77)+HDMI-in



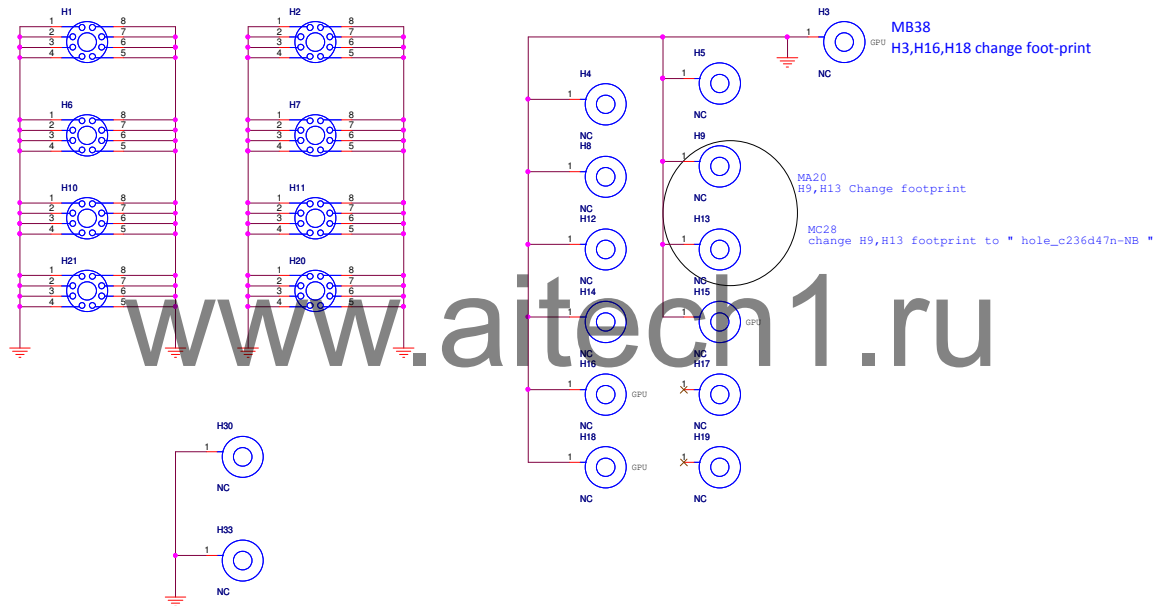
FUNCTION LED CONN



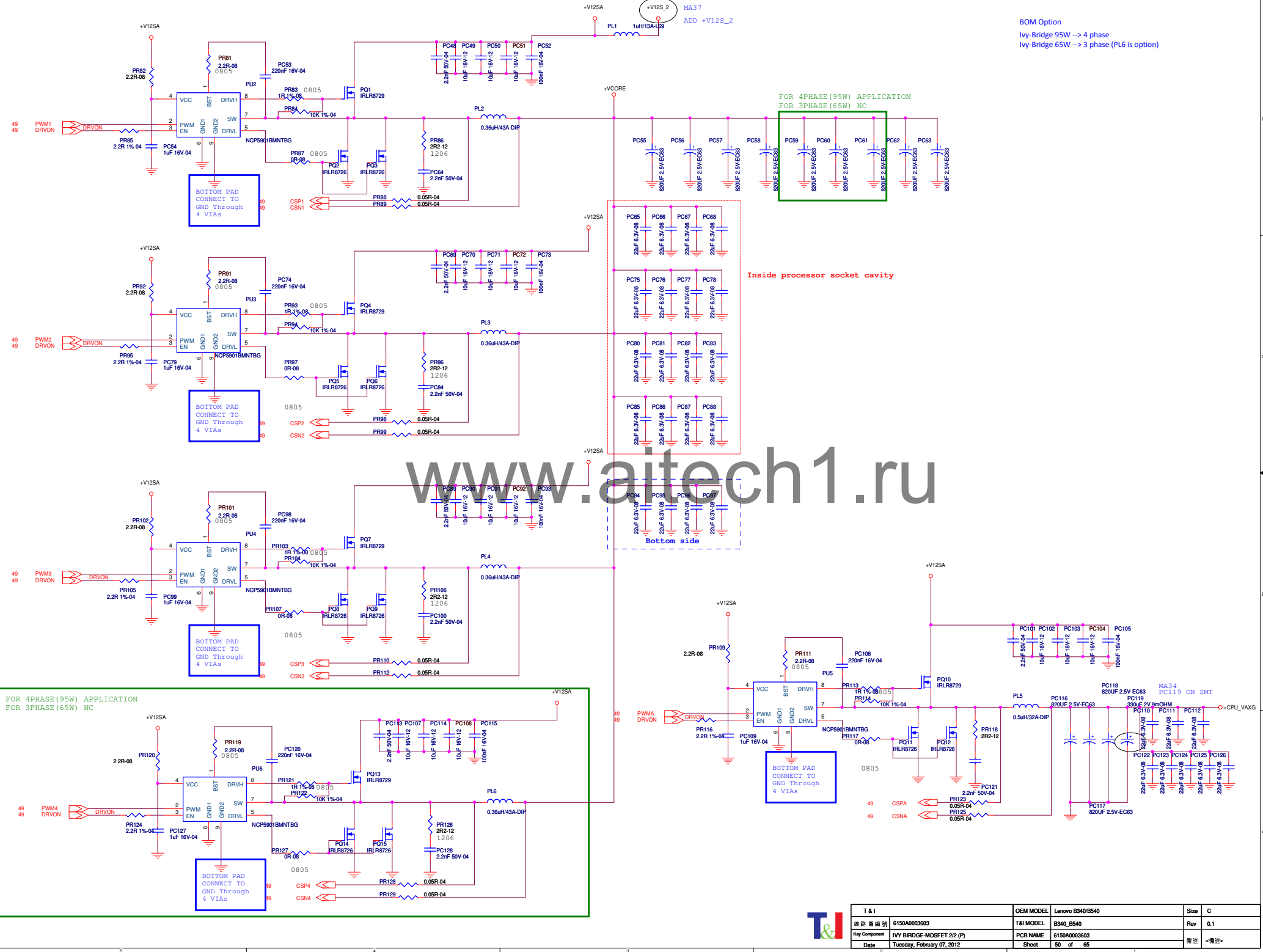
SOURCE# = 0, PC MODE
SOURCE# = 1, HW/TV MODE



T & I	OEM MODEL	Lanovo B340/B540	Size	C
標路圖編號	T&I MODEL	B340_B540	Rev	0.1
Key Component	PCB NAME	6150A0003603	Sheet	47 of 65
Date	Tuesday, February 07, 2012			備註 <備註>

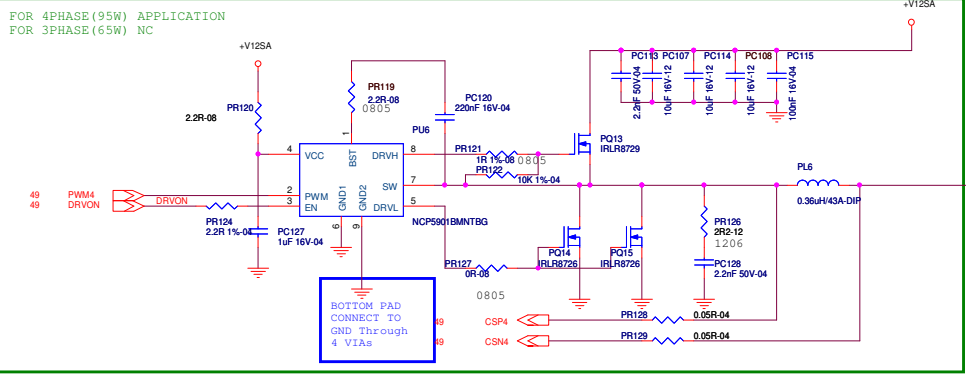


T & I		OEM MODEL	Lenovo B340/B540	Size	C
線路圖編號	6150A0003603	T&I MODEL	B340_B540	Rev	0.1
Key Component	Screw	PCB NAME	6150A0003603	備註	<備註>
Date	Tuesday, February 07, 2012	Sheet	48 of 65		

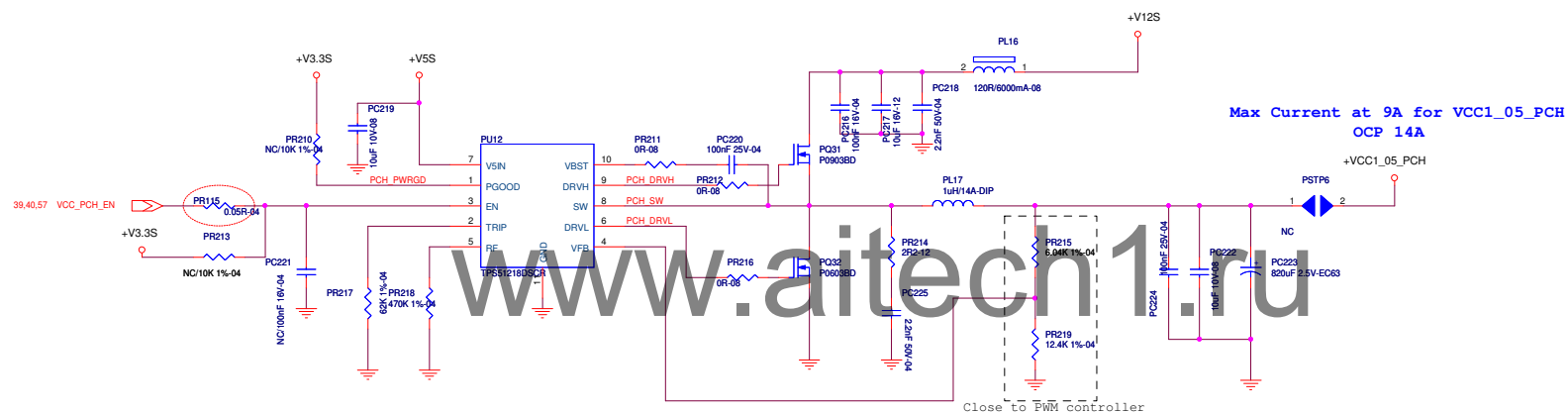


BOM Option
Ivy-Bridge 95W --> 4 phase
Ivy-Bridge 65W --> 3 phase (PL6 is option)

Inside processor socket cavity



T & I	OEM MODEL	Size
6150A0003603	Lenovo B340/B540	C
Key Component	T&I MODEL	Rev
IVY BRIDGE-MOSFET 2/2 (P)	B340_B540	0.1
Date	PCB NAME	備註
Tuesday, February 07, 2012	6150A0003603	<備註>
	Sheet	
	50 of 65	

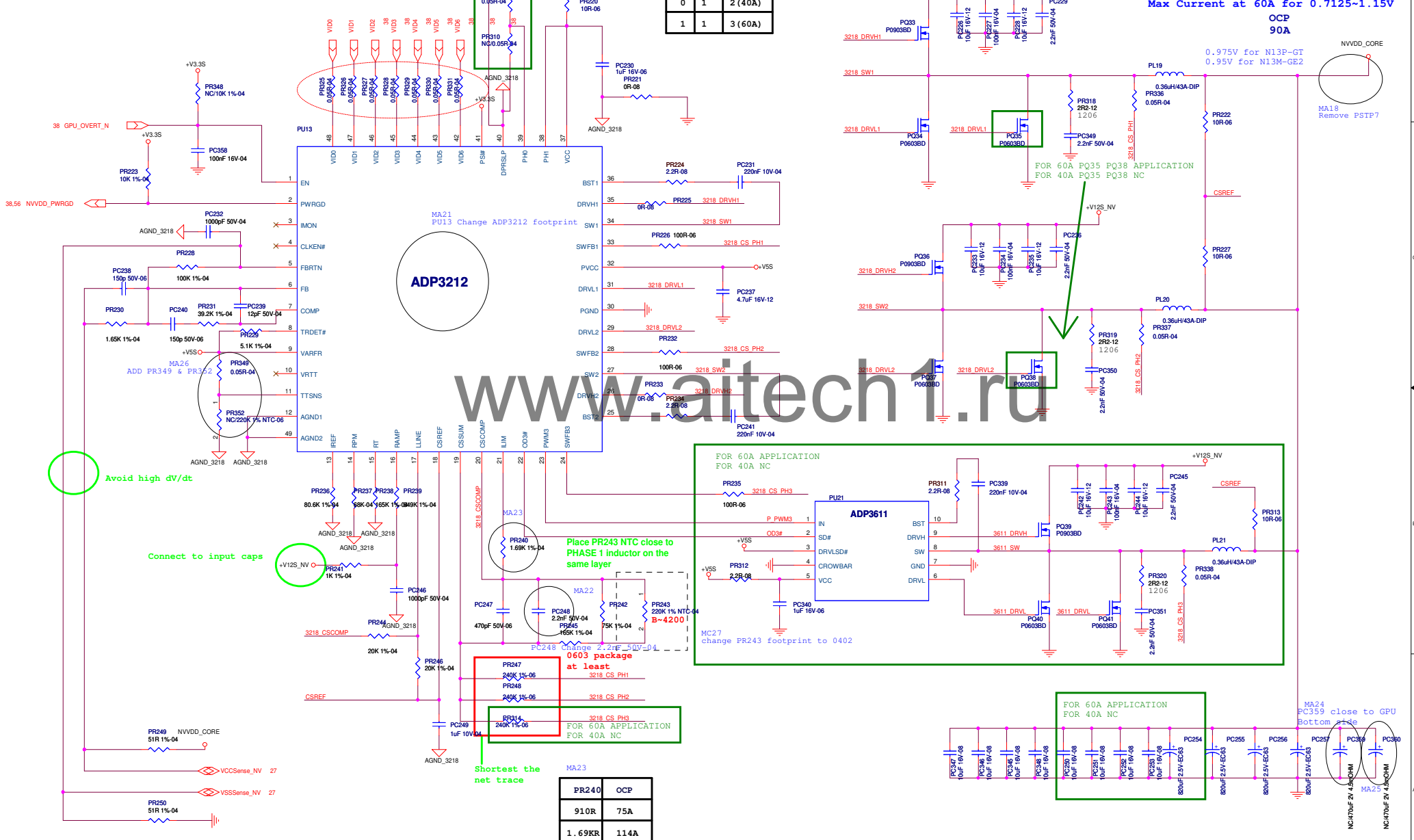


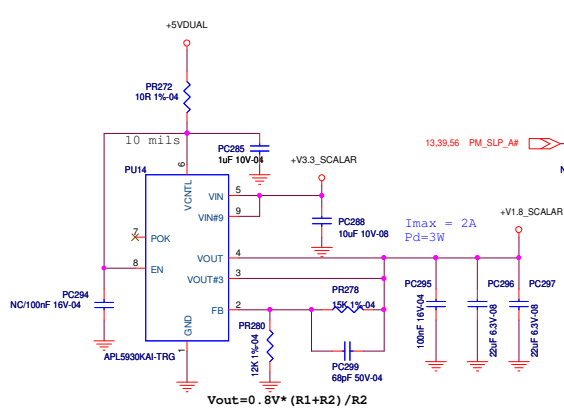
T & I		OEM MODEL		Lenovo B340/B540	Size	C
線路圖編號	6150A0003603	T&I MODEL		B340_B540	Rev	0.1
Key Component	VCC1_05_PCH(P)	PCB NAME		6150A0003603	備註	
Date	Tuesday, February 07, 2012	Sheet		54 of 65	<備註>	

UMA : All component can be deleted
GPU - N13M-GE2 : 40A , Please see description
GPU - N13M-GT : 60A , Please see description

PH0	PH1	# of PH
0	1	2 (40A)
1	1	3 (60A)

NOTE





13.39.56 PM_SLP_A#

Imax = 2A
Pd=3W

+V1.8_SCALAR

PC295 100nF 16V-04

PC296 22uF 6.3V-08

PC297 22uF 6.3V-08

PC298 68pF 50V-04

PC299 68pF 50V-04

PC300 100nF 16V-04

PC301 22uF 6.3V-08

PC302 22uF 6.3V-08

PC303 68pF 50V-04

PC304 100nF 16V-04

PC305 100nF 16V-04

PC306 22uF 6.3V-08

PC307 22uF 6.3V-08

PC308 22uF 6.3V-08

PC309 22uF 6.3V-08

PC310 22uF 6.3V-08

PC311 22uF 6.3V-08

PC312 22uF 6.3V-08

PC313 22uF 6.3V-08

PC314 22uF 6.3V-08

PC315 22uF 6.3V-08

PC316 22uF 6.3V-08

PC317 22uF 6.3V-08

PC318 22uF 6.3V-08

PC319 22uF 6.3V-08

PC320 22uF 6.3V-08

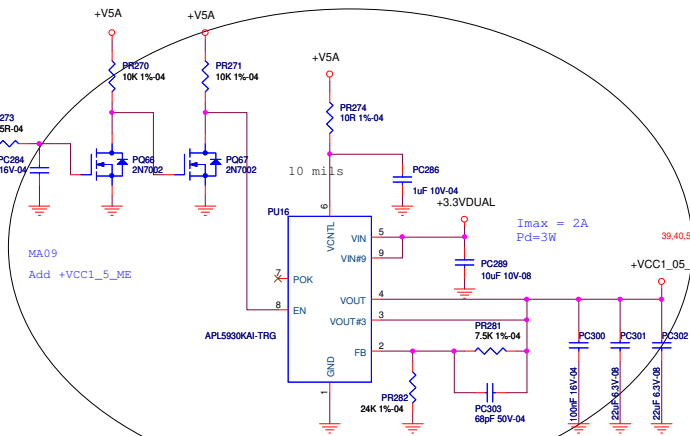
PC321 22uF 6.3V-08

PC322 22uF 6.3V-08

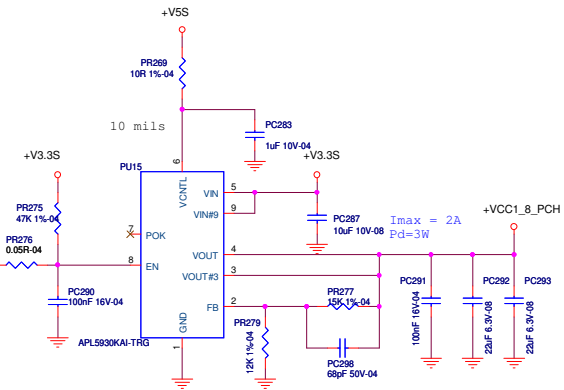
PC323 22uF 6.3V-08

PC324 22uF 6.3V-08

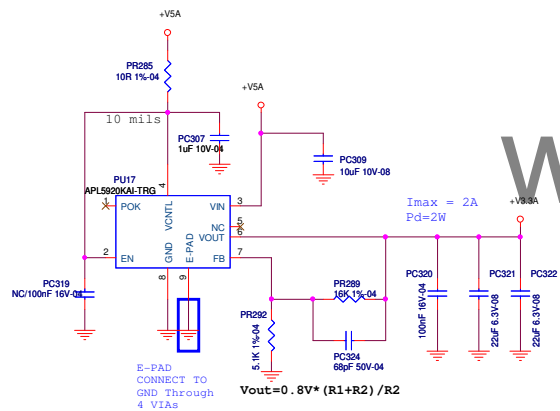
PC325 22uF 6.3V-08



$$V_{out} = 0.8V * (R1+R2) / R2$$

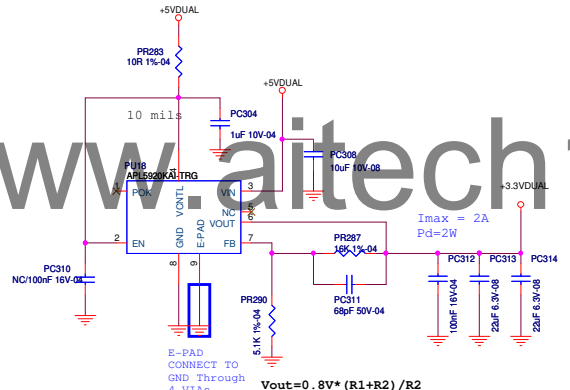


$$V_{out} = 0.8V * (R1+R2) / R2$$



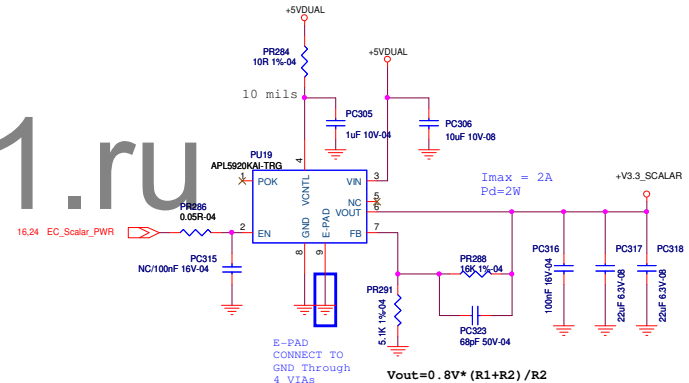
$$V_{out} = 0.8V * (R1+R2) / R2$$

E-PAD CONNECT TO GND Through 4 VIAs



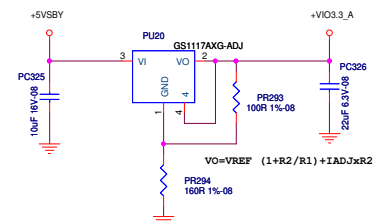
$$V_{out} = 0.8V * (R1+R2) / R2$$

E-PAD CONNECT TO GND Through 4 VIAs

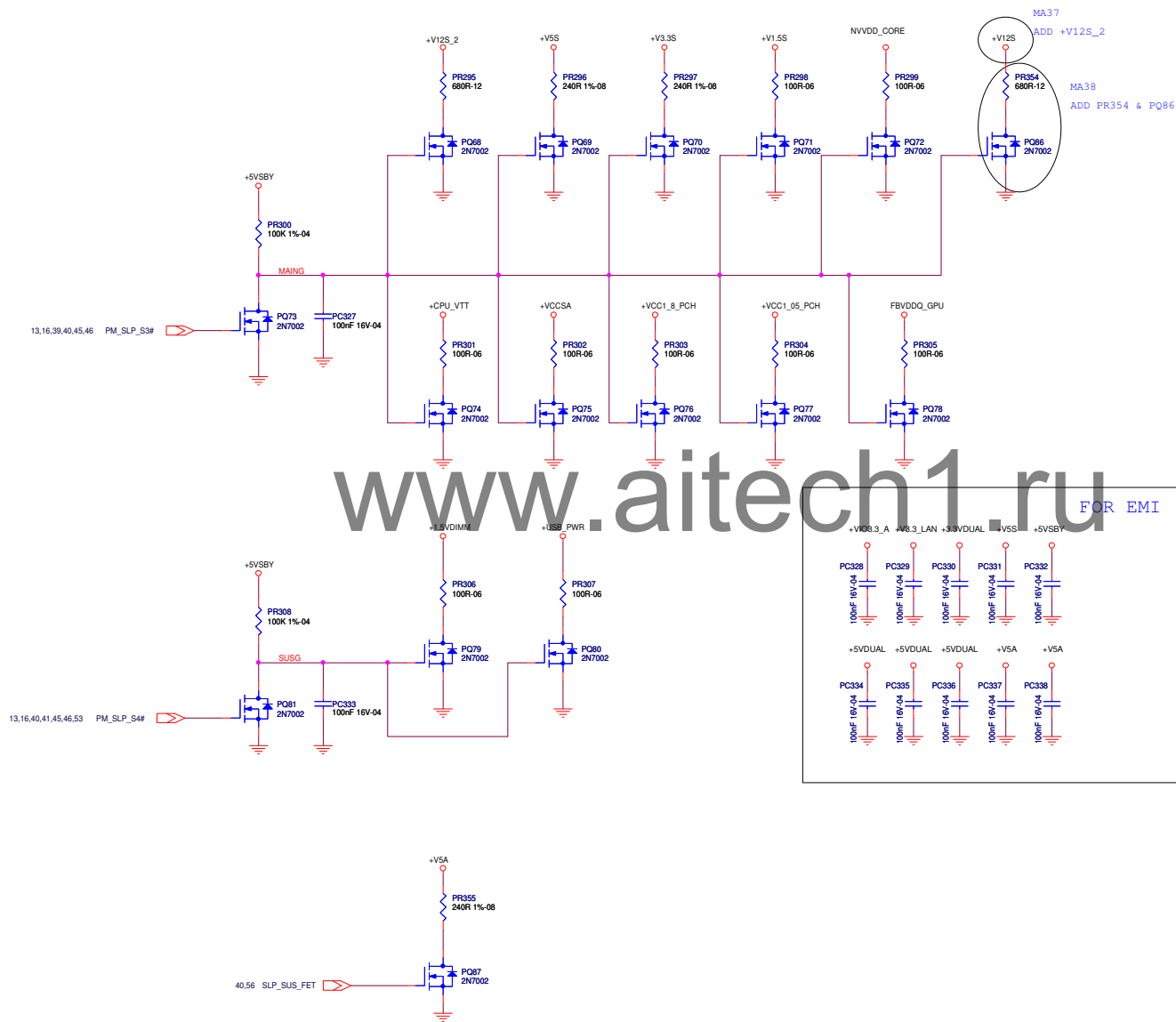


$$V_{out} = 0.8V * (R1+R2) / R2$$

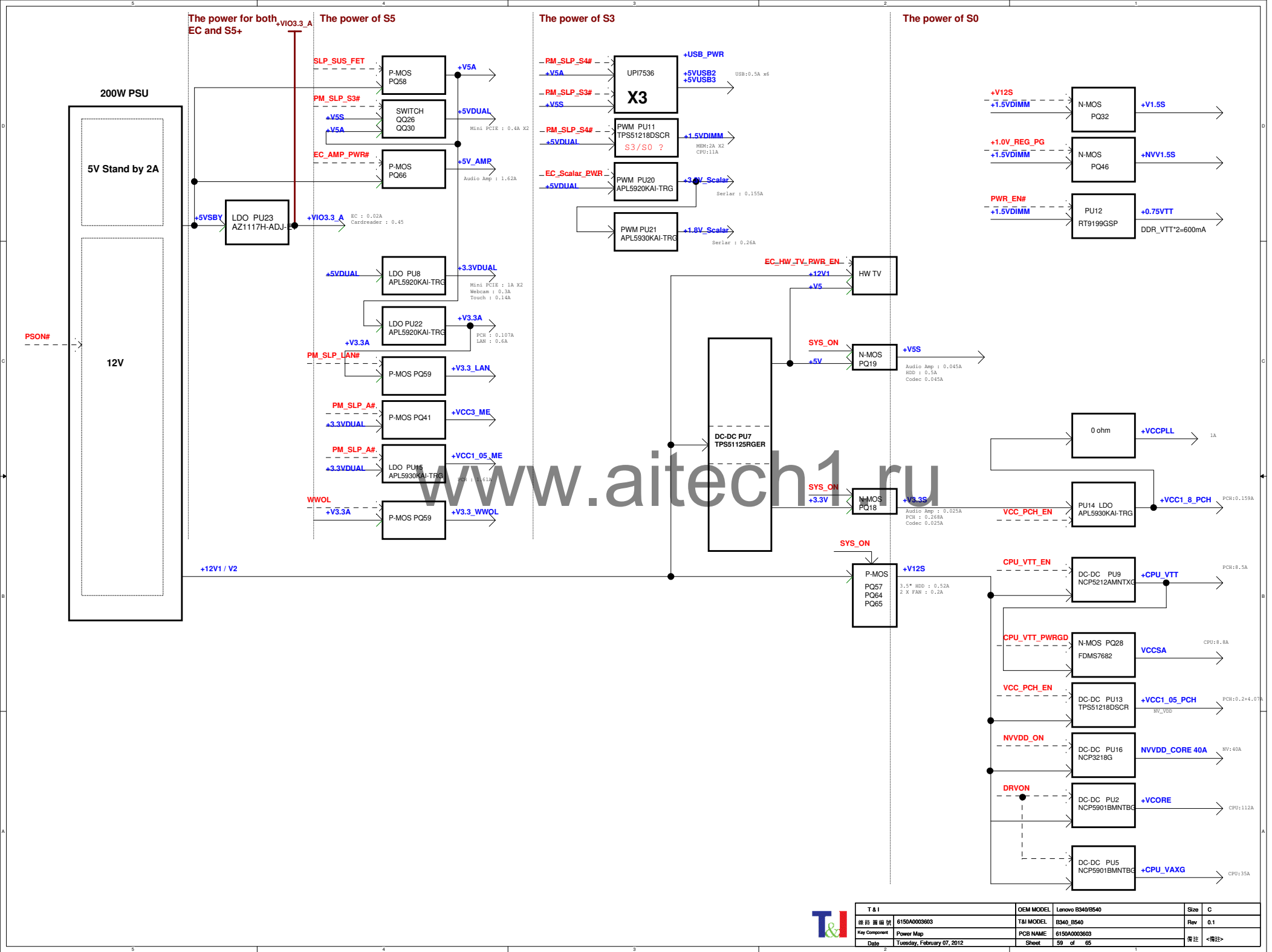
E-PAD CONNECT TO GND Through 4 VIAs



T & I	OEM MODEL	Lenovo B340/B540	Size	C
據路圖編號	6150A0003603	T&I MODEL	B340_B540	Rev
Key Component	Other LDO POWER(P)	PCB NAME	6150A0003603	備註
Date	Tuesday, February 07, 2012	Sheet	57 of 65	<備註>

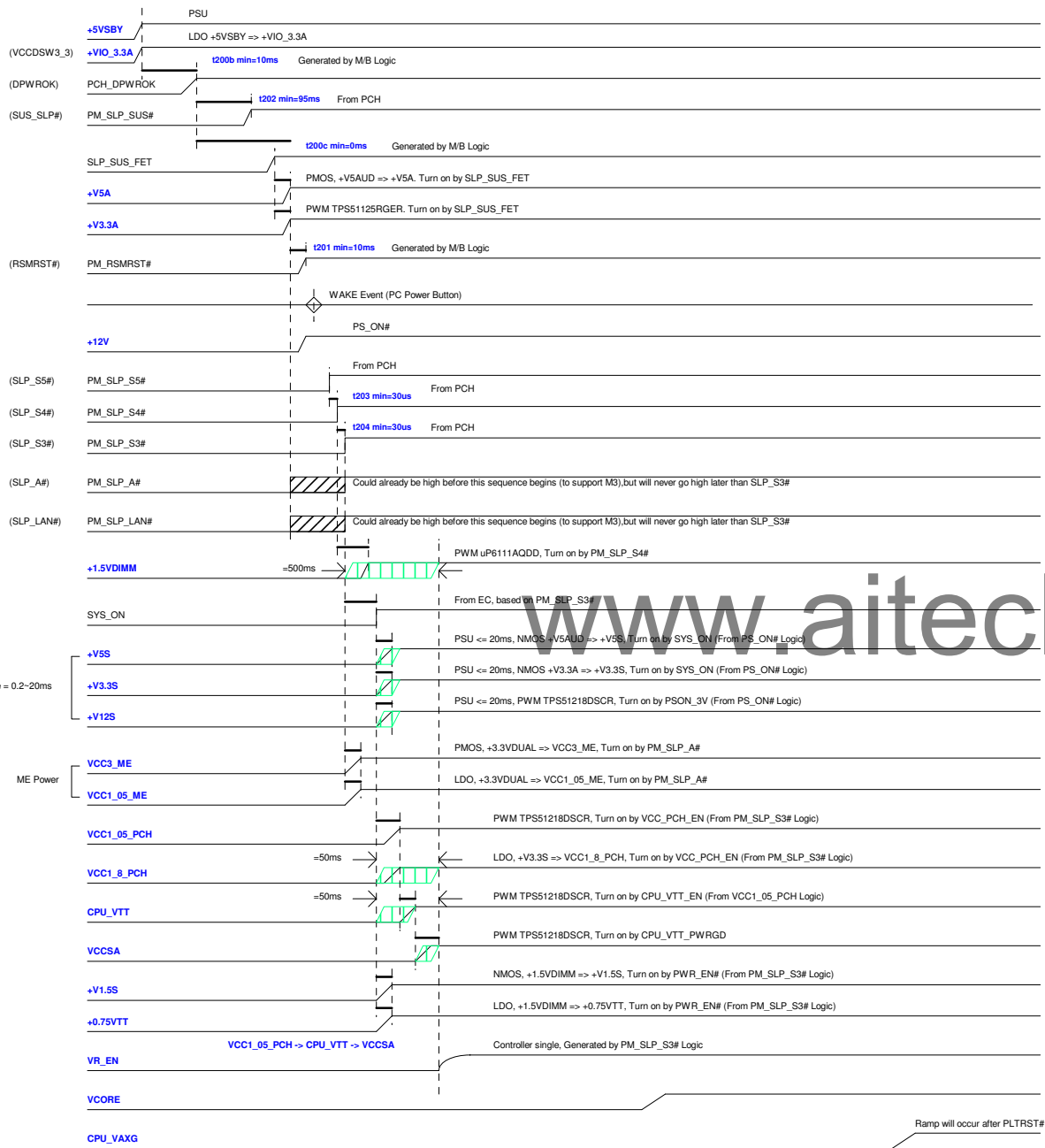


T & I	OEM MODEL	Lenovo B340/B540	Size	C
機 器 圖 庫 號	T&I MODEL	B340_B540	Rev	0.1
Key Component	Discharge Circuit(P)	PCB NAME	6150A0003603	備 註
Date	Tuesday, February 07, 2012	Sheet	58 of 65	<備註>

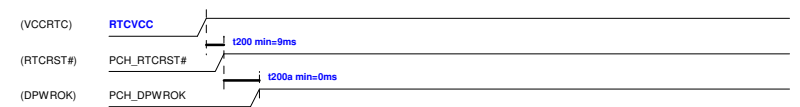


T&I	OEM MODEL	Lenovo B340/B540	Size	C
機路圖編號	T&I MODEL	B340_B540	Rev	0.1
Key Component	Power Map	PCB NAME	6150A0003603	備註
Date	Tuesday, February 07, 2012	Sheet	59 of 65	<備註>

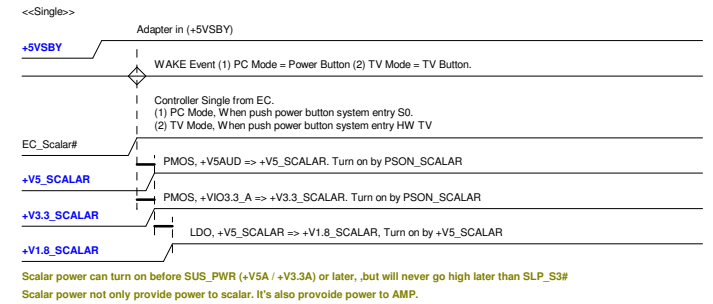
System Power



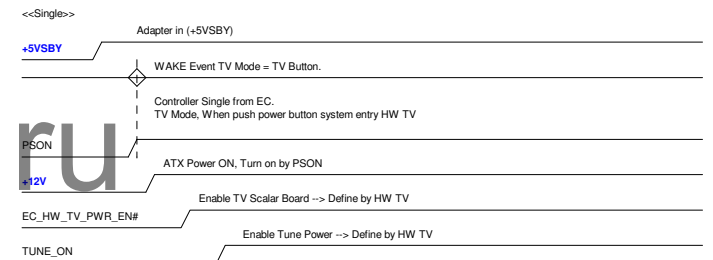
RTC Power



Scalar Power

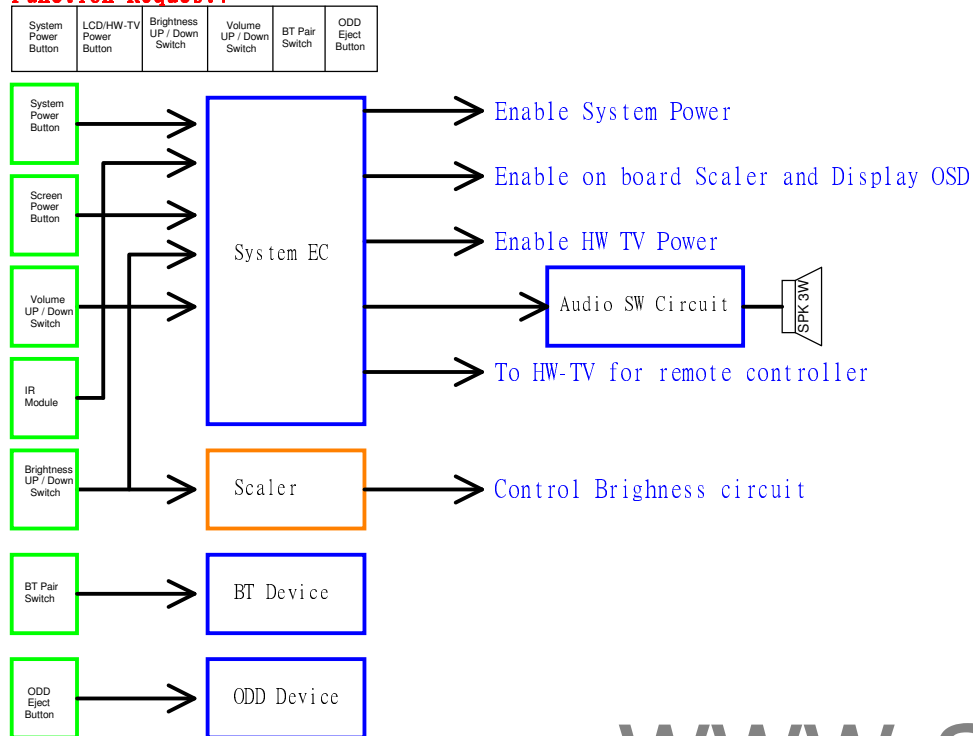


TV Power

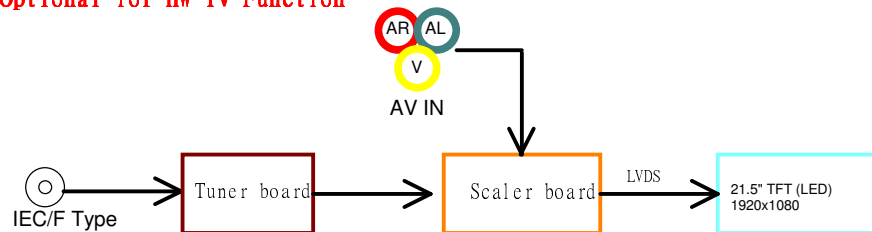


T & I	6150A0003603	OEM MODEL	Lenovo B340/B540	Size	Custom
送 送 送 送 送	6150A0003603	TAI MODEL	B340_B540	Rev	0.1
Key Component	Power Sequence	PCB NAME	6150A0003603	備註	<備註>
Date	Tuesday, February 07, 2012	Sheet	60	of	65

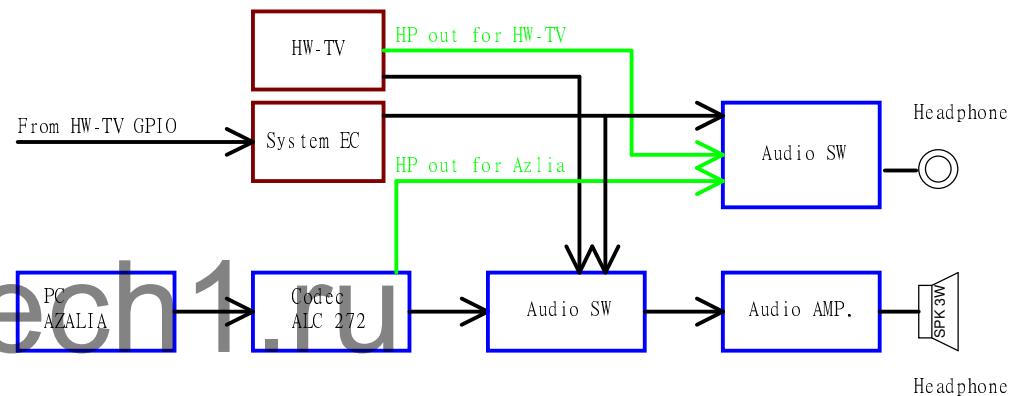
Function Request.



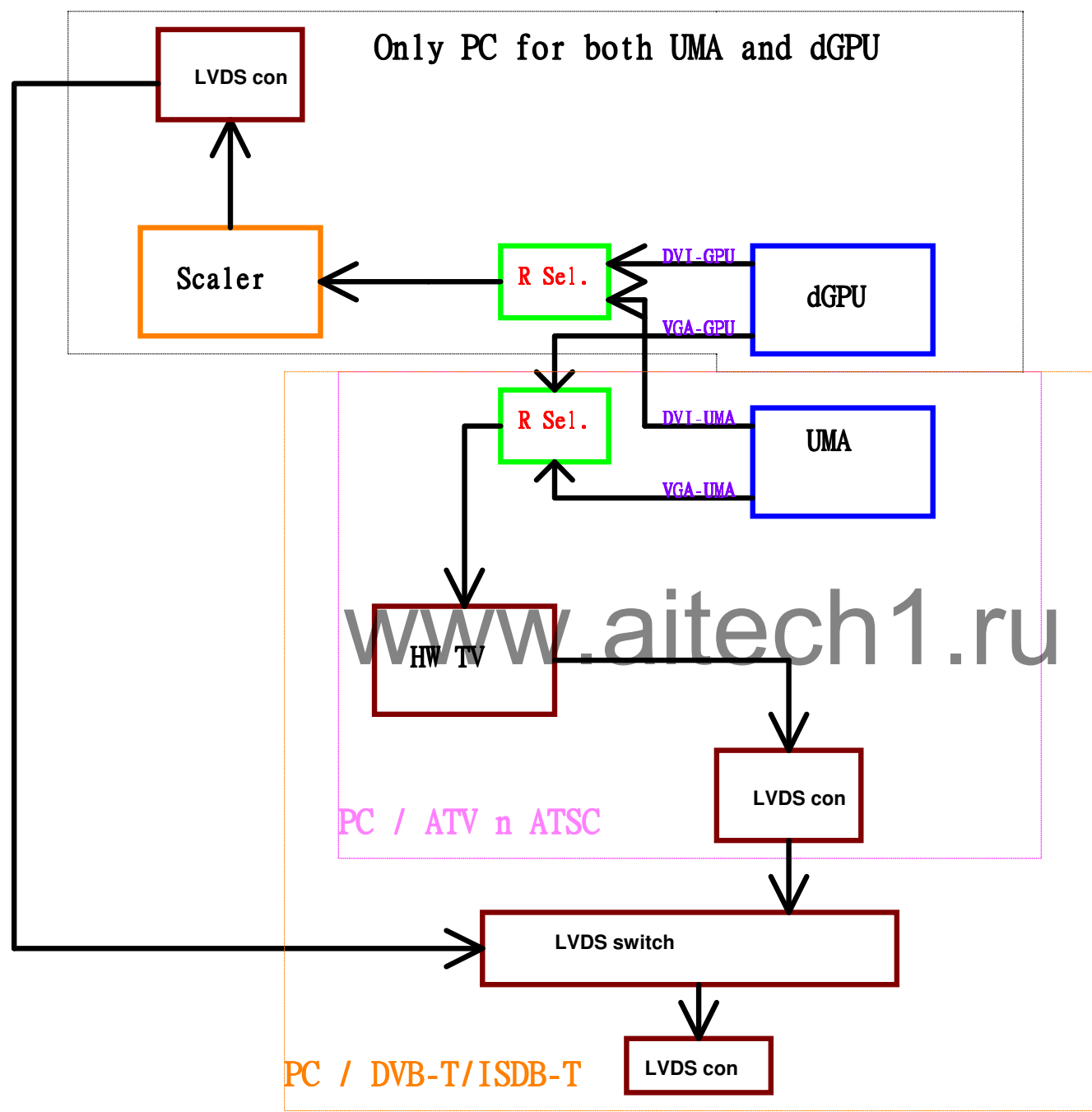
Optional for HW TV Function



Audio SW Circuit



T & I		OEM MODEL	Lenovo B340/B540	Size	Custom
線路圖編號	6150A0003603	T&I MODEL	B340_B540	Rev	0.1
Key Component	Block_Key and Audio Switch	PCB NAME	6150A0003603	備註	<備註>
Date	Tuesday, February 07, 2012	Sheet	61 of 65		

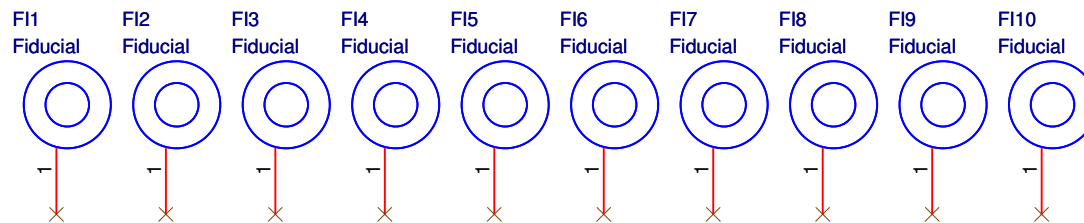


T & I		OEM MODEL	Lenovo B340/B540	Size	A
線路圖編號	6150A0003603	T&I MODEL	B340_B540	Rev	0.1
Key Component	Block_LVDS Diplay Diagram	PCB NAME	6150A0003603	備註	<備註>
Date	Tuesday, February 07, 2012	Sheet	62 of 65		

www.aitech1.ru



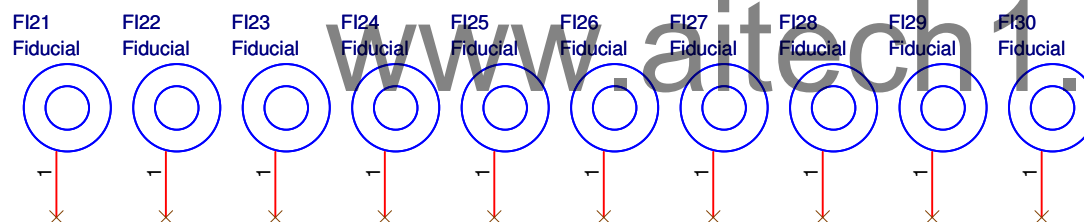
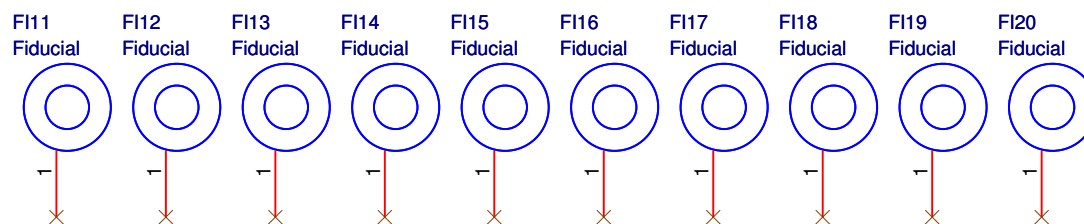
T & I		OEM MODEL	Lenovo B340/B540	Size	Custom
線路圖編號	6150A0003603	T&I MODEL	B340_B540	Rev	0.1
Key Component	HW/TV_Diagram	PCB NAME	6150A0003603	備註	<備註>
Date	Tuesday, February 07, 2012	Sheet	63 of 65		



B340 PCB1



B34X-B54X-6-PCB



T & I		OEM MODEL	Lenovo B340/B540	Size	A
線 路 圖 編 號	<線路圖編號>	T&I MODEL	B340_B540	Rev	0.1
Key Component	<Key Component>	PCB NAME	<PCB name>	備註	<備註>
Date	Tuesday, February 07, 2012	Sheet	64 of 65		

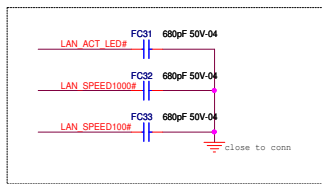
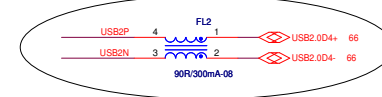
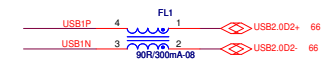
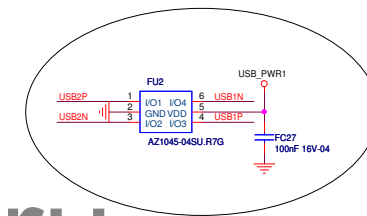
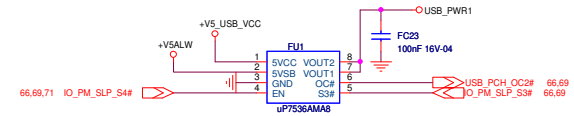
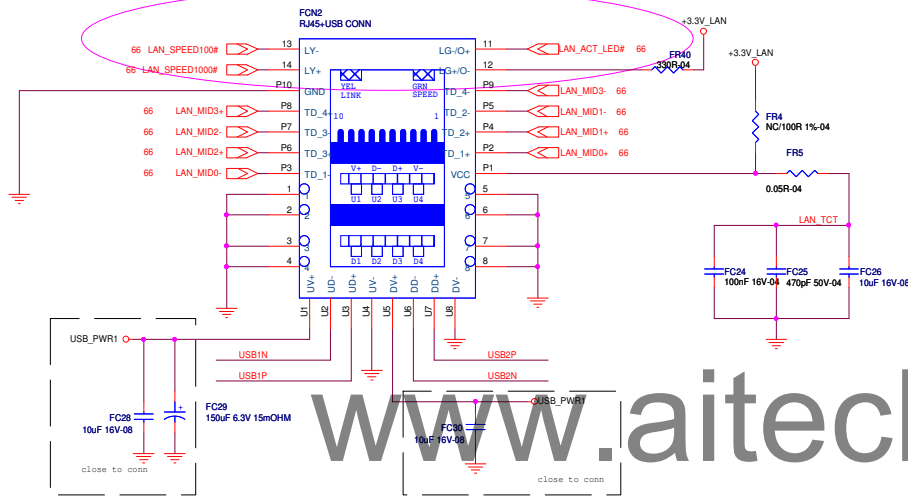
Symbol	Description	Reason	Page	Note
--------	-------------	--------	------	------

Symbol	Description	Reason	Page	Note
--------	-------------	--------	------	------

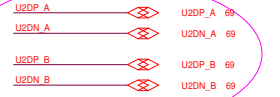
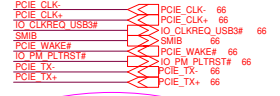
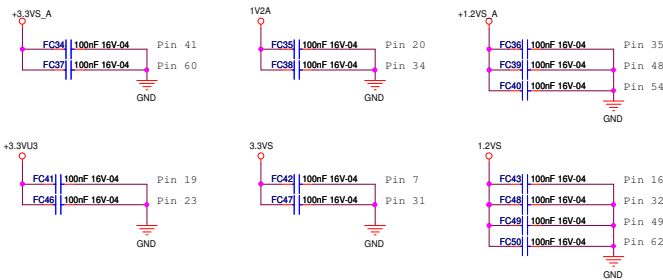
www.aitech1.ru

RJ-45 CONNECTOR

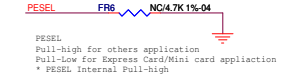
Note3



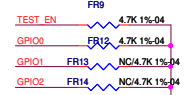
T & I	OEM MODEL	B540/B340	Size	C
機路圖編號	T&I MODEL	B540/B340	Rev	1.0
Key Component	PCB NAME	715G4690-T0D-000-0060	備註	<備註>
Date	Tuesday, February 07, 2012	Sheet	67 of 72	



Note4

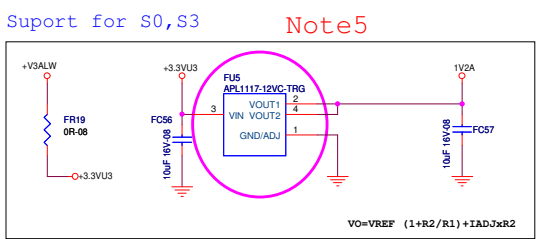
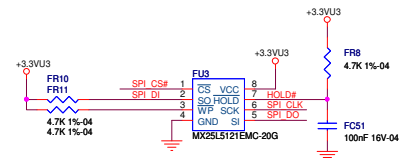


Connect to chipset GPIO Pin must have SMI function.
SMI is open-drain or push-pull by FW control
open-drain pull to SMI pin I/O power
Need BIOS setting USB legacy mode support



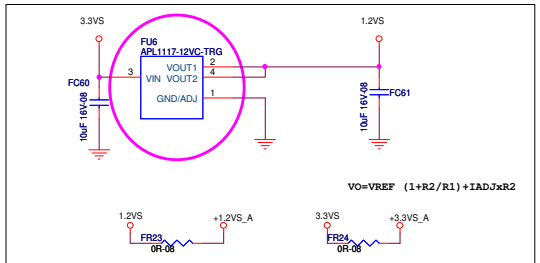
GPIO0	GPIO1	GPIO2	Function
1	1	0	Asynchronous Mode (default)
0	0	x	Debug/Test Mode

* GPIO0 GPIO1 GPIO2 Internal Pull-high

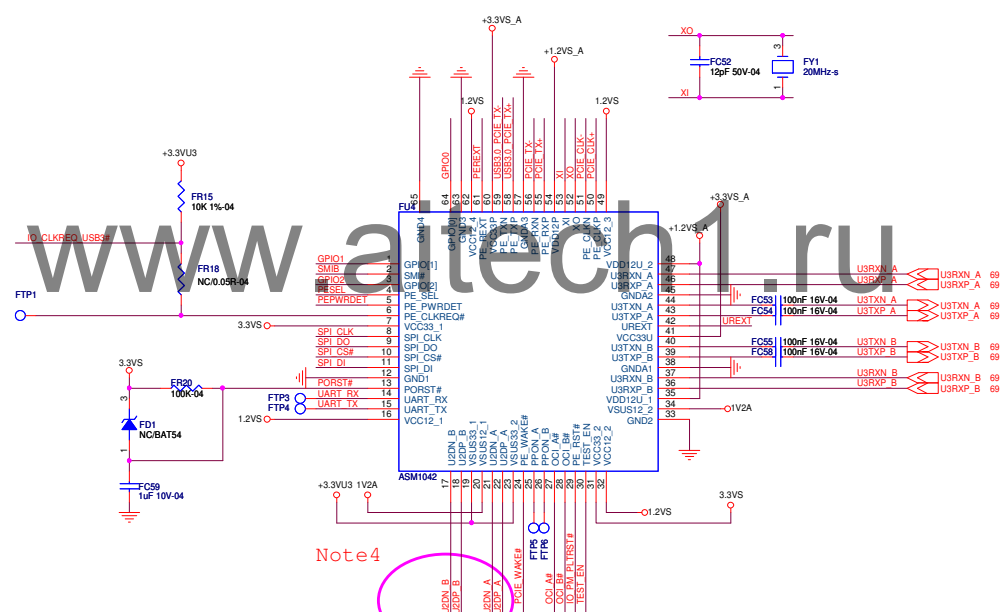


Support for S0,S3

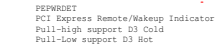
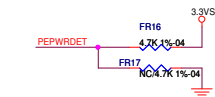
Note5



Support for S0,S1



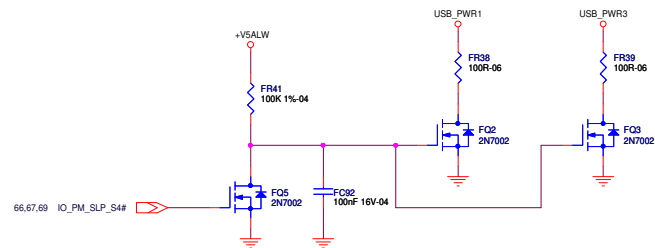
Note4



PESEL
Pull-high for others application
Pull-Low for Express Card/Mini card application
* PESEL Internal Pull-high



T & I	OEM MODEL	B540/B340	Size	C
機 器 編 號	T&I MODEL	B540/B340	Rev	1.0
Key Component	01 DB Conn / BT / AV IN	PCB NAME	715G4690-T00-000-0060	備註 <備註>
Date	Tuesday, February 07, 2012	Sheet	68 of 72	



www.aitech1.ru



T & I		OEM MODEL	B540/E340	Size	C
線路圖編號		T&I MODEL	B540/E340	Rev	1.0
Key Component	01 DB Conn / BT / AV IN	PCB NAME	715G4690-T0D-000-0060	備註	<備註>
Date	Tuesday, February 07, 2012	Sheet	71 of 72		

Symbol	Description	Reason	Page	Note
Note1	C FDB1 PIN 110 GND (LAYOUT)			
Note2	C FH1,FH2 footprint (LAYOUT)			
Note3	C SWAP FCN2 PIN11,12,13,14 (LAYOUT)			
Note4	A ASMedia USB2.0			
Note5	C FU5 FU6 APL1117-12VC-TRG			
Note6	A FL17 FL18			

www.aitech1.ru



T & I		OEM MODEL	B540/E340	Size	C
線路圖編號		T&I MODEL	B540/E340	Rev	1.0
Key Component	01 DB Conn / BT / AV IN	PCB NAME	715G4690-T0D-000-0060	備註	<備註>
Date	Tuesday, February 07, 2012	Sheet	72 of 72		