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Arrandale
(Socket-rPGA989)

DDR3 SO-DIMM 1
P22

DDR3 SO-DIMM 2
P23

Discrete Graphic
ATI PARK
P49~54

DDR III
VRAM
64M X 16

DDR III
VRAM
64M X 16

DDR III
VRAM
64M X 16

DDR III
VRAM
64M X 16

PCH

USB 0
ESATA+USB
P44

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Card Reader
ALCOR_AU6437
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ITE IT8502E
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Keyboard
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P42 **SPKR**
P43 **HP JACK**
P43 **MIC JACK**
P36 **int DMIC**

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P14

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SMSC EMC1412
P51

WLAN + BT
minicard
P45

RTL8111DL
GLAN
P39

RJ-45
P40

MUX
TS3L4892
SN74CBT3125C
CBTD3306

MUX
MAX4885A

CRT
P35

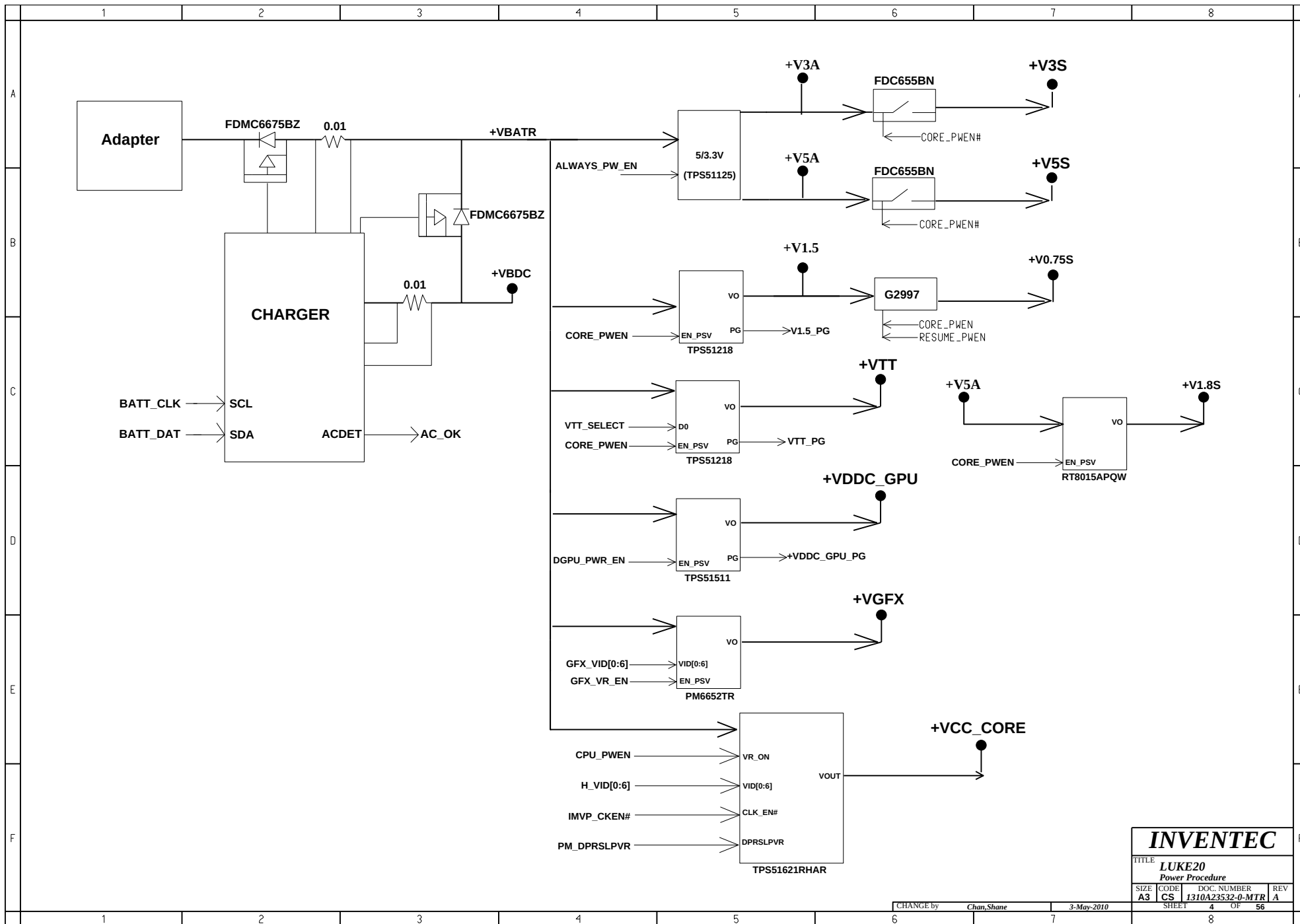
HDMI
P37

LCM
P36

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TITLE			
LUKE20			
Block Diagram			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23532-0-MTR	A
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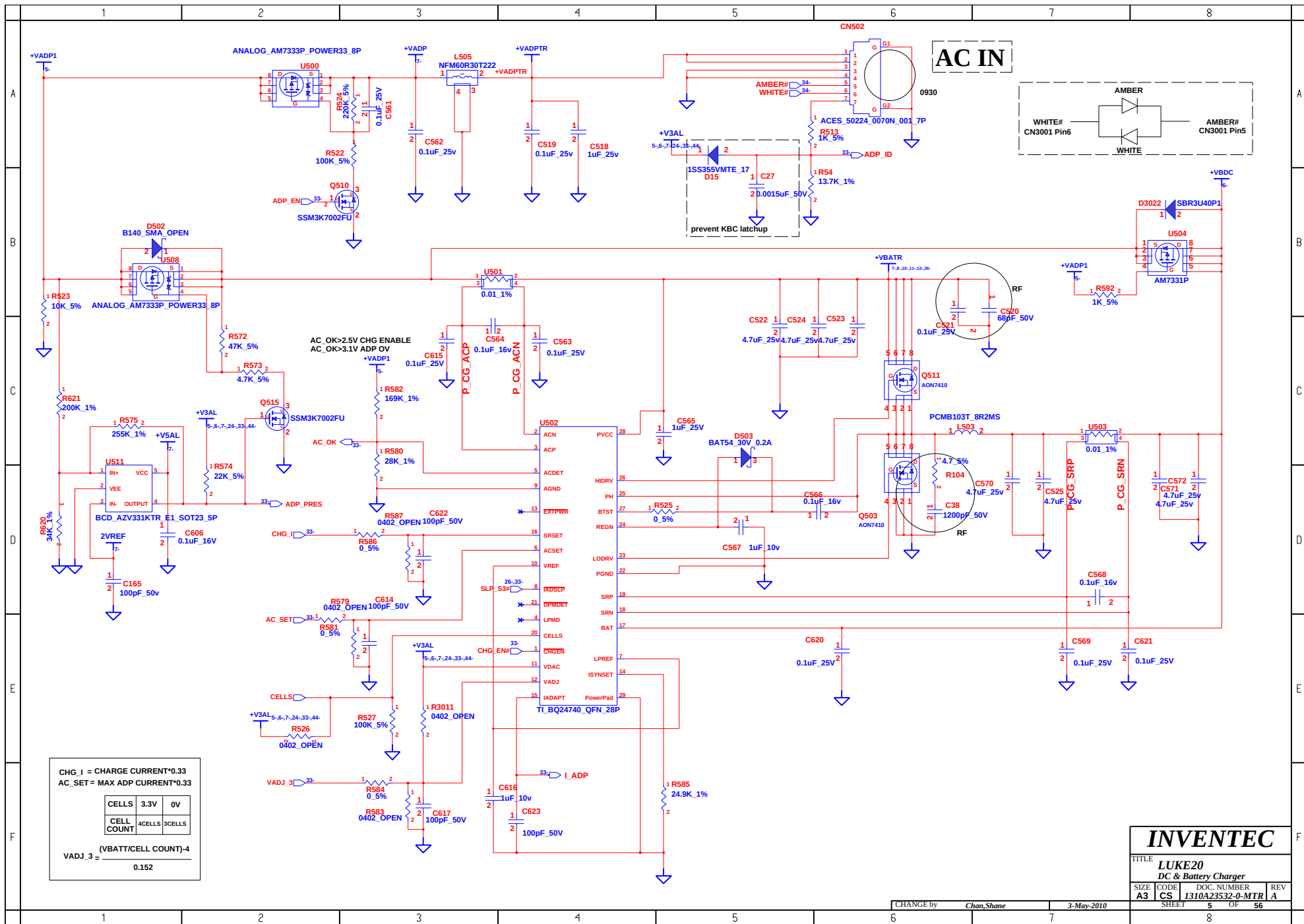
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TITLE
LUKE20
Power Procedure

SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23532-0-MTR	A

CHANGE by **Chan,Shane** 3-May-2010

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CHG_I = CHARGE CURRENT*0.33
AC_SET = MAX ADP CURRENT*0.33

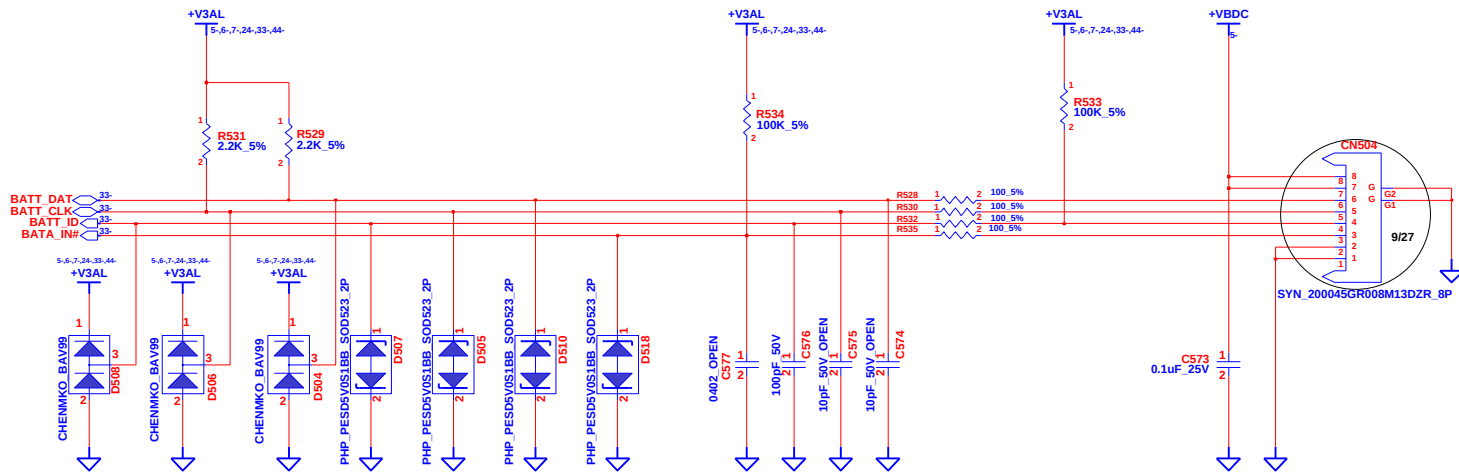
CELLS	3.3V	0V
CELL COUNT	4CELLS	3CELLS

(VBATT/CELL COUNT)*4
VADJ_3 = 0.152

INVENTEC

TITLE			
LUKE20			
DC & Battery Charger			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23532-0-MTR	A
SHEET		5	OF 56

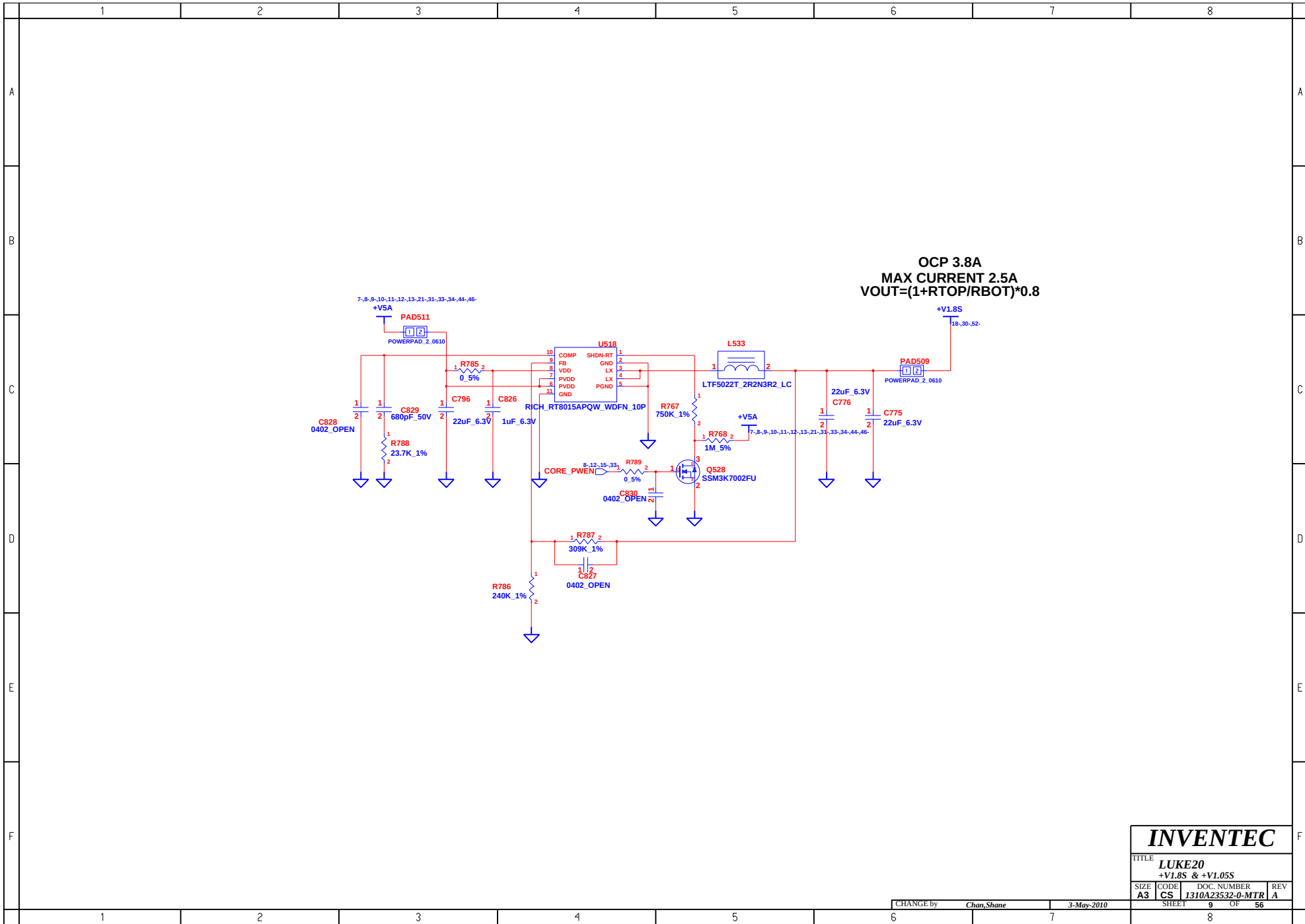
CHANGE by Chan,Shane 3-May-2010



INVENTEC

TITLE LUKE20 Battery CONN			
SIZE A3	CODE CS	DOC. NUMBER 1310A23532-0-MTR	REV A
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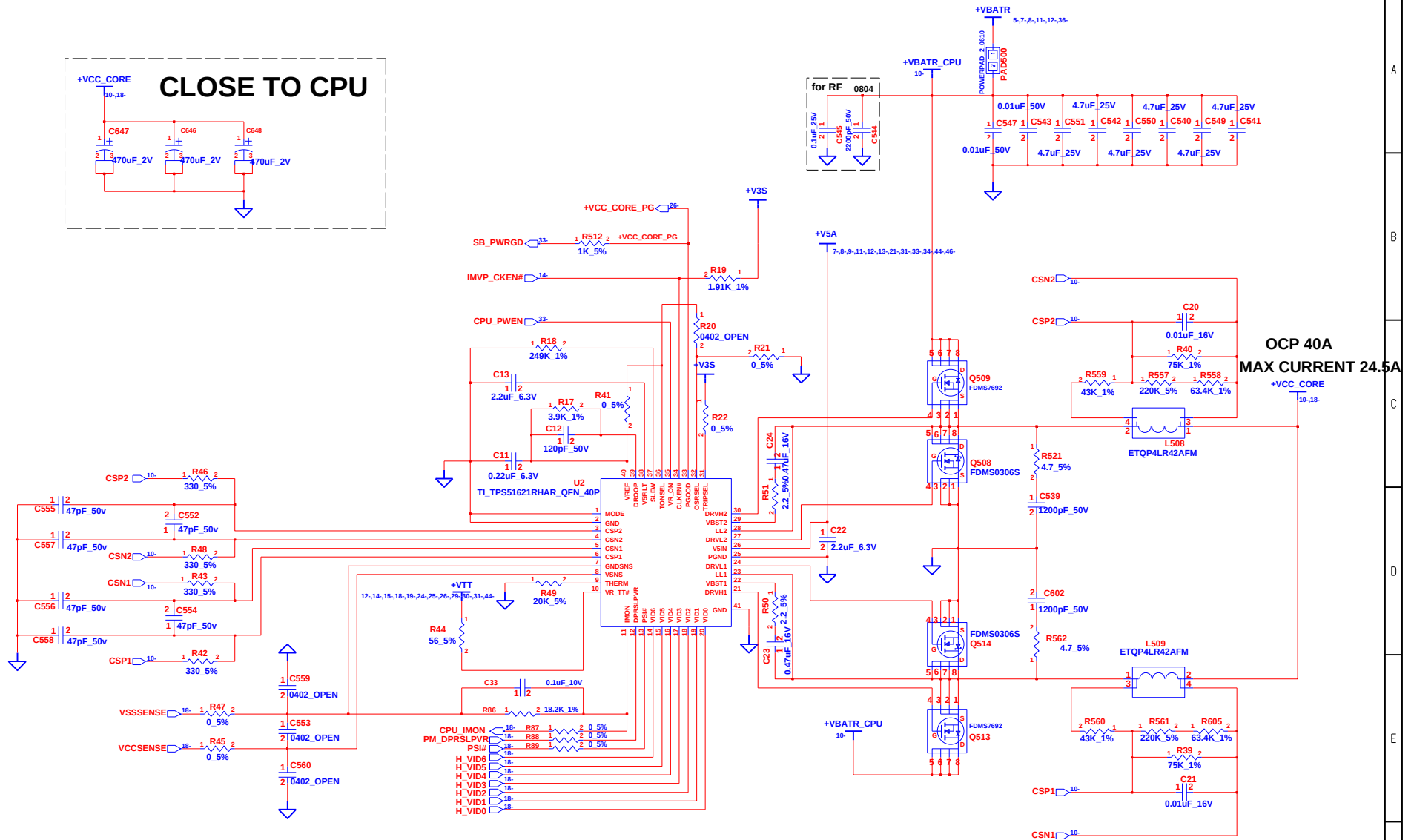
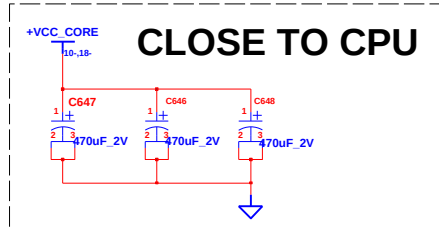
CHANGE by *Chan,Shane* 3-May-2010



INVENTEC

TITLE			
LUKE20			
+V1.8S & +V1.05S			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23532-0-MTR	A
SHEET		9	OF 56

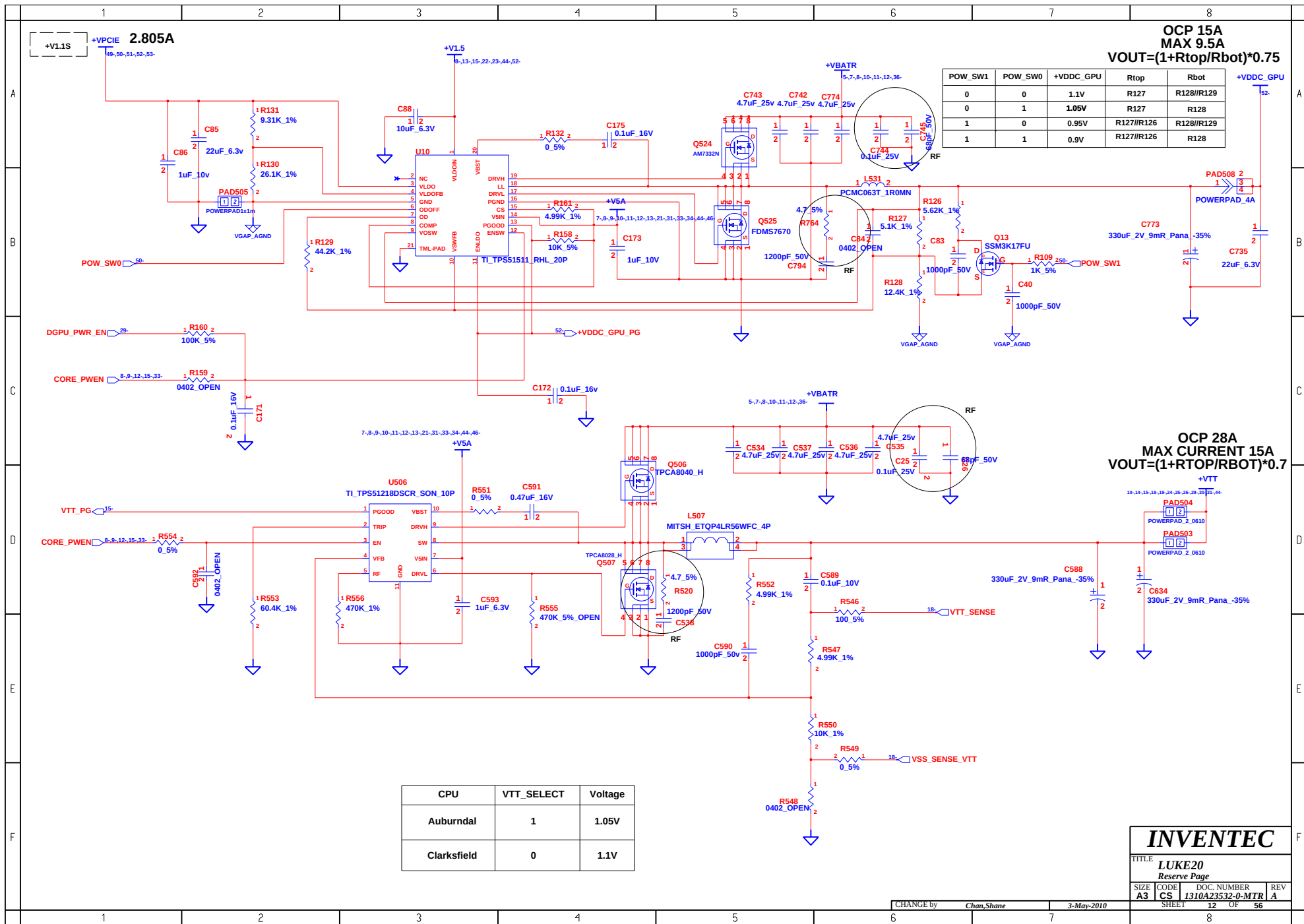
CHANGE by Chan,Shane 3-May-2010

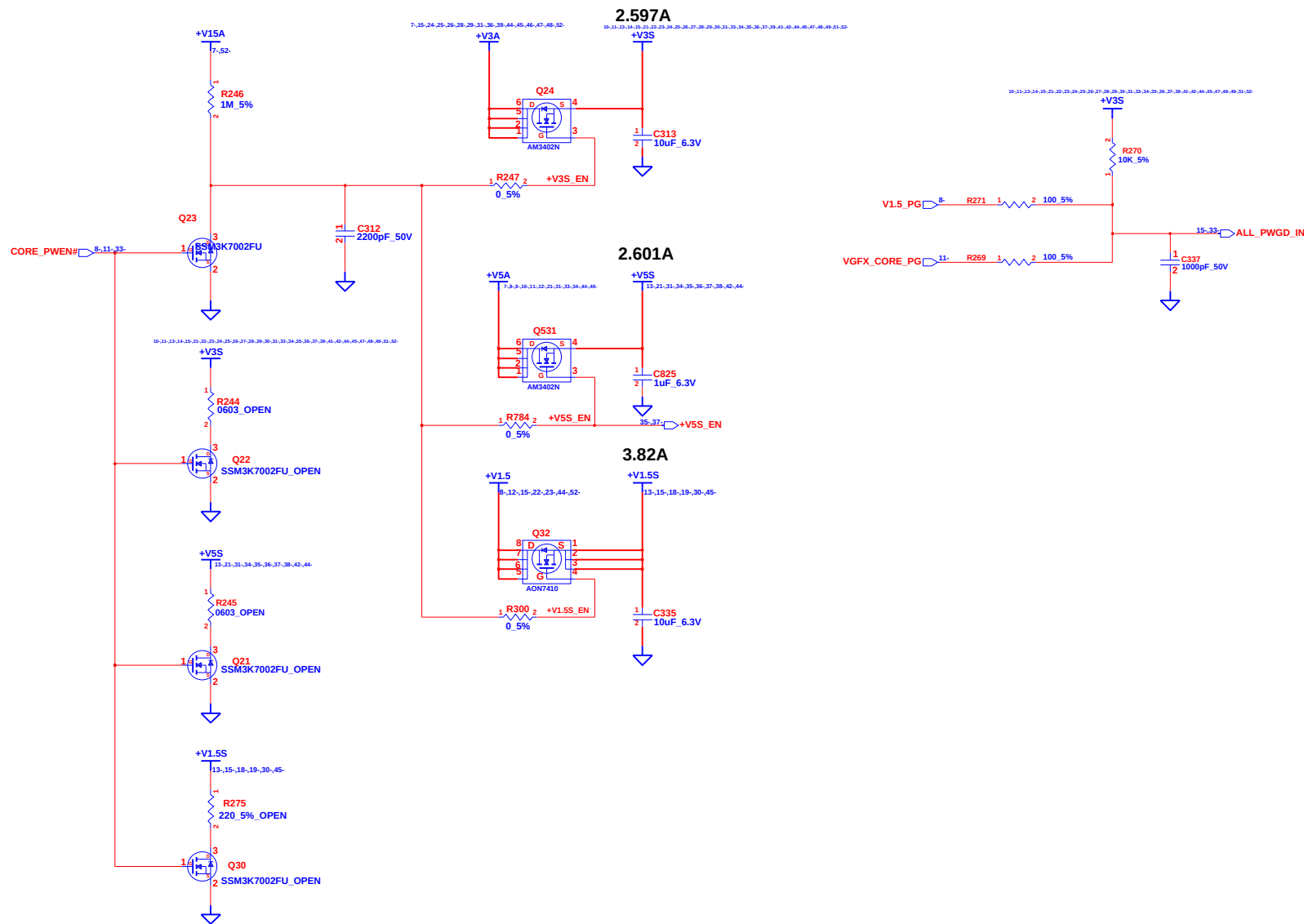


INVENTEC

TITLE LUKE20 +VCC_CORE			
SIZE A3	CODE CS	DOC. NUMBER 1310A23532-0-MTR	REV A
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CHANGE by *Chan,Shane* 3-May-2010

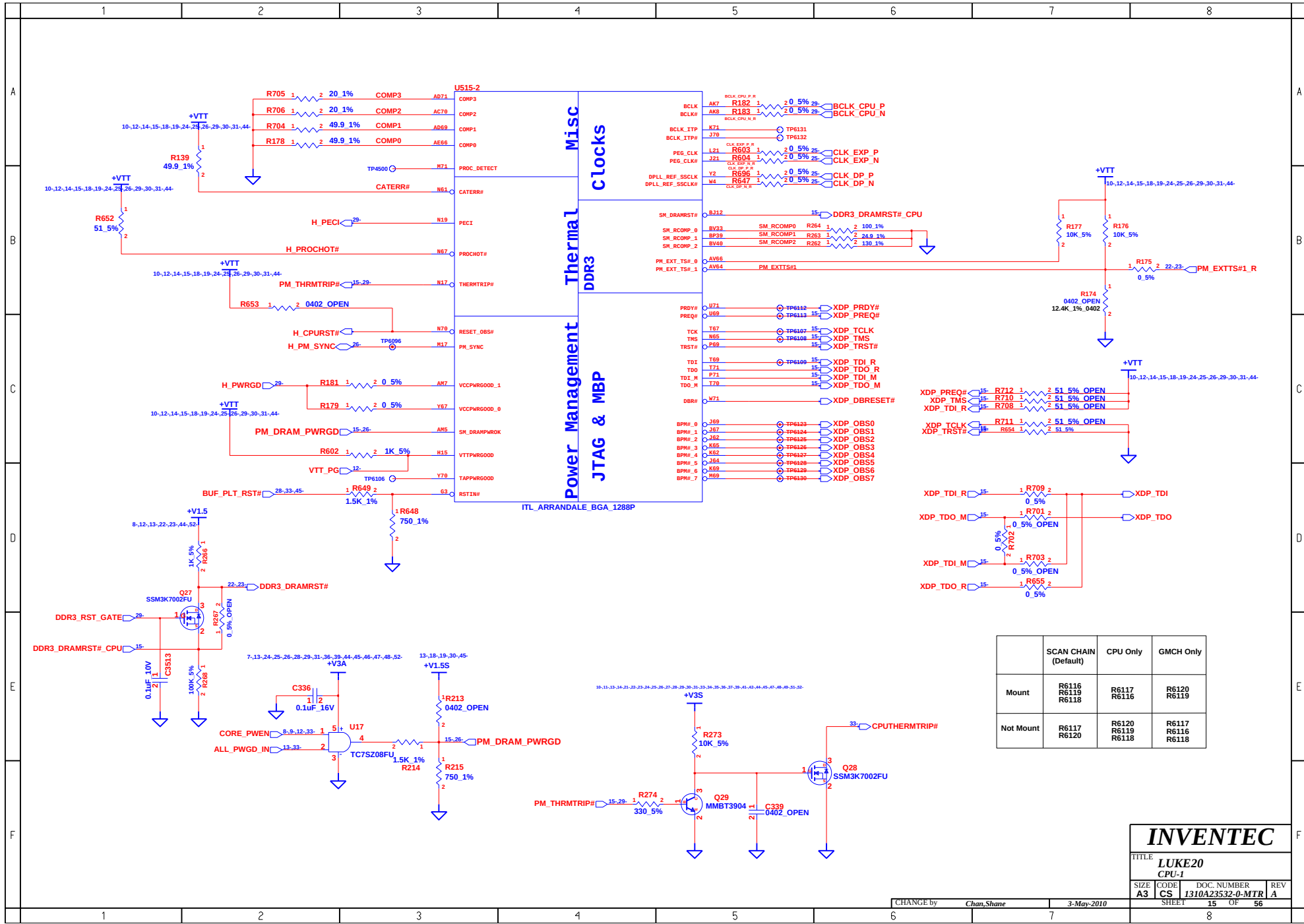




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TITLE LUKE20 +V5S & +V3S			
SIZE A3	CODE CS	DOC. NUMBER 1310A23532-0-MTR	REV A
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CHANGE by **Chan,Shane** 3-May-2010

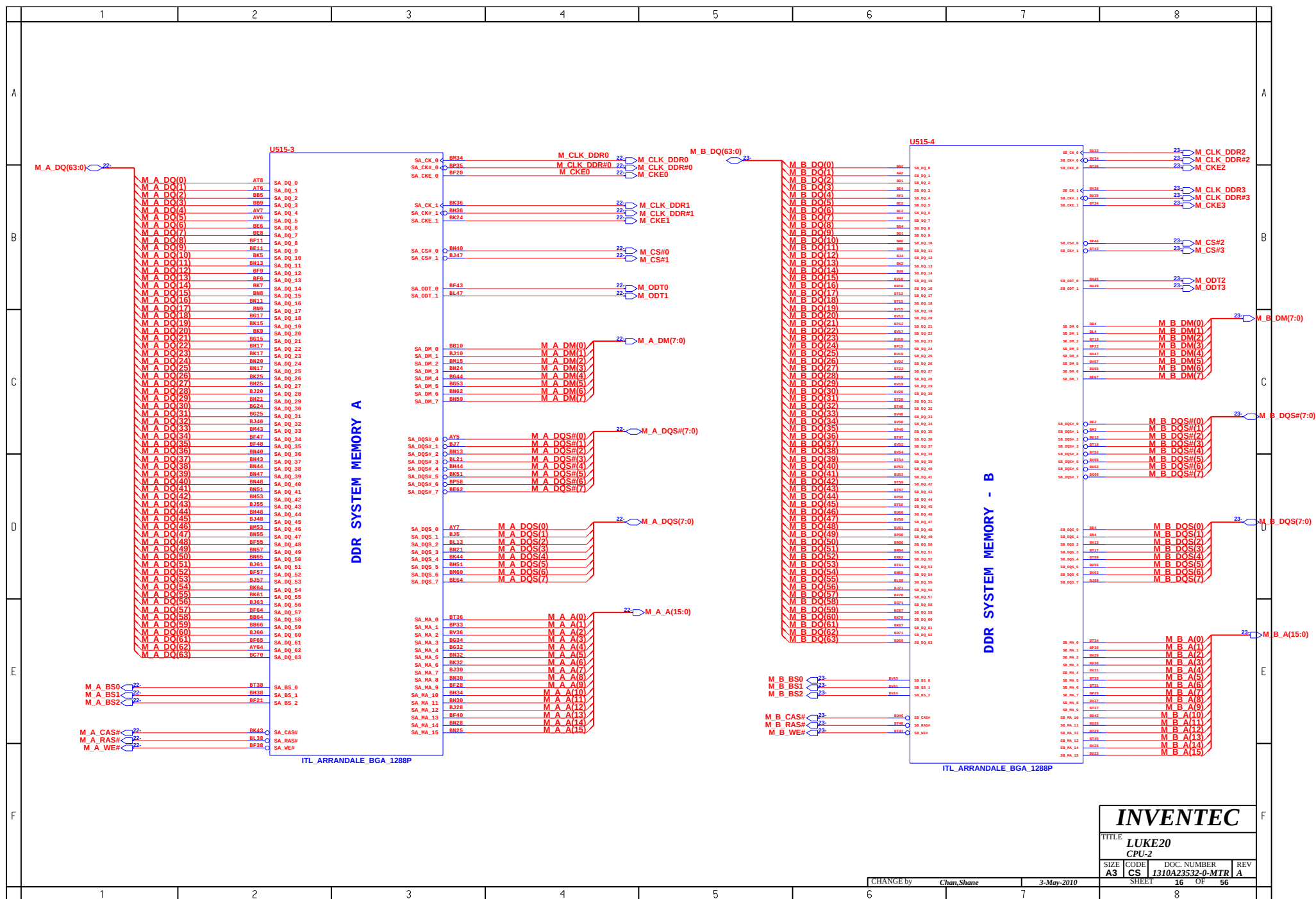


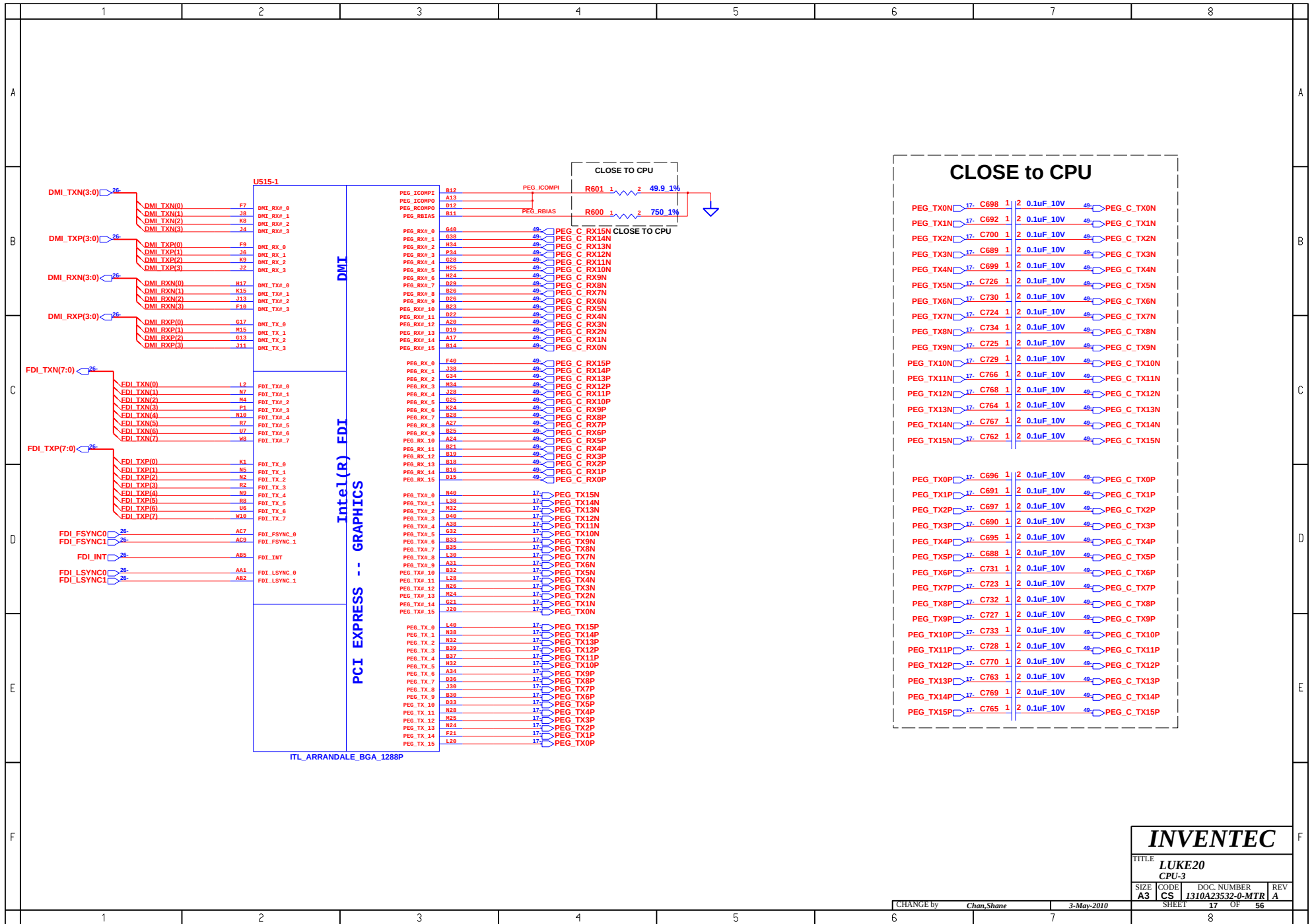
	SCAN CHAIN (Default)	CPU Only	GMCH Only
Mount	R6116 R6119 R6118	R6117 R6116	R6120 R6119
Not Mount	R6117 R6120	R6120 R6119 R6118	R6117 R6116 R6118

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TITLE LUKE20 CPU-1			
SIZE A3	CODE CS	DOC. NUMBER 1310A23532-0-MTR	REV A
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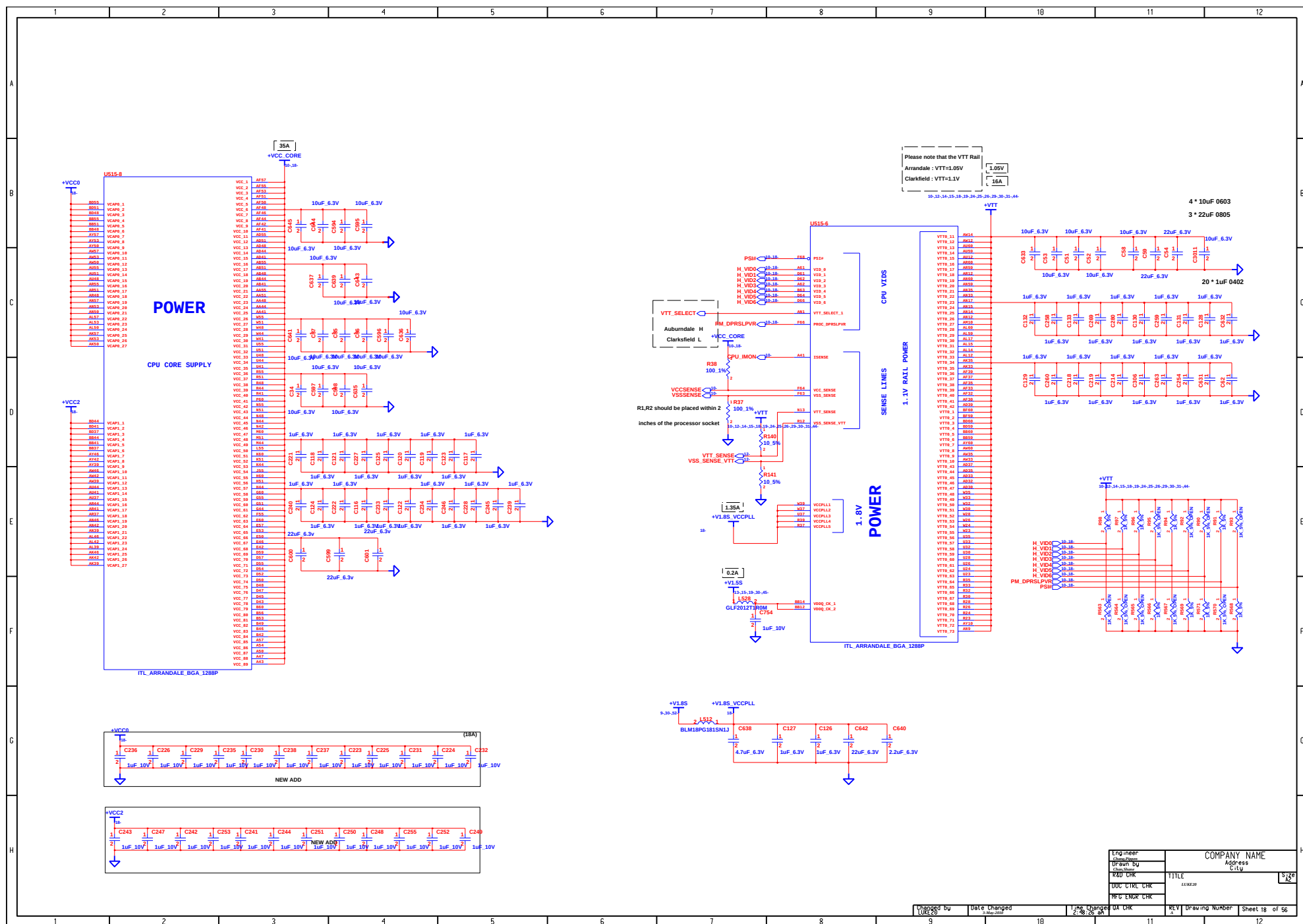


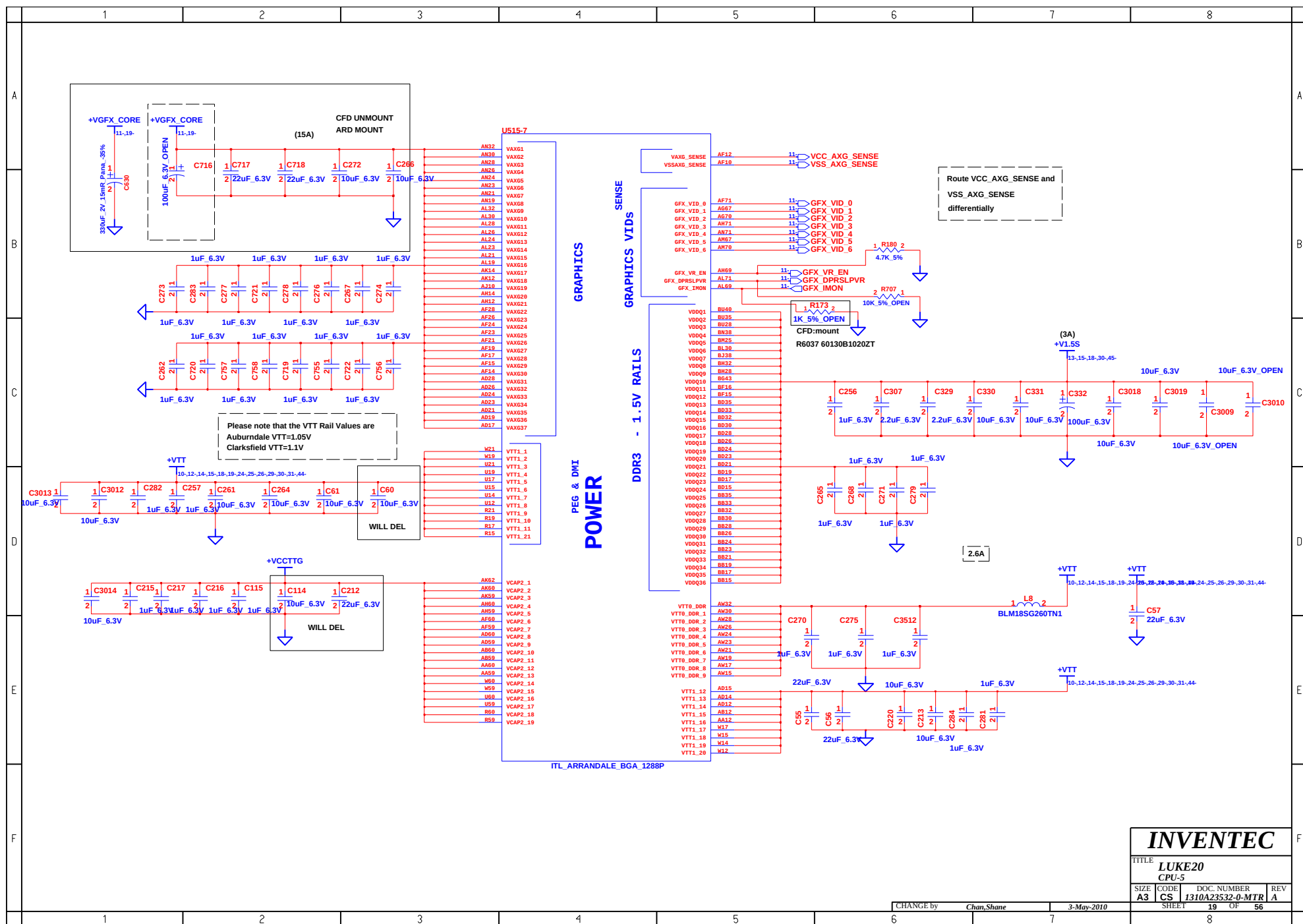


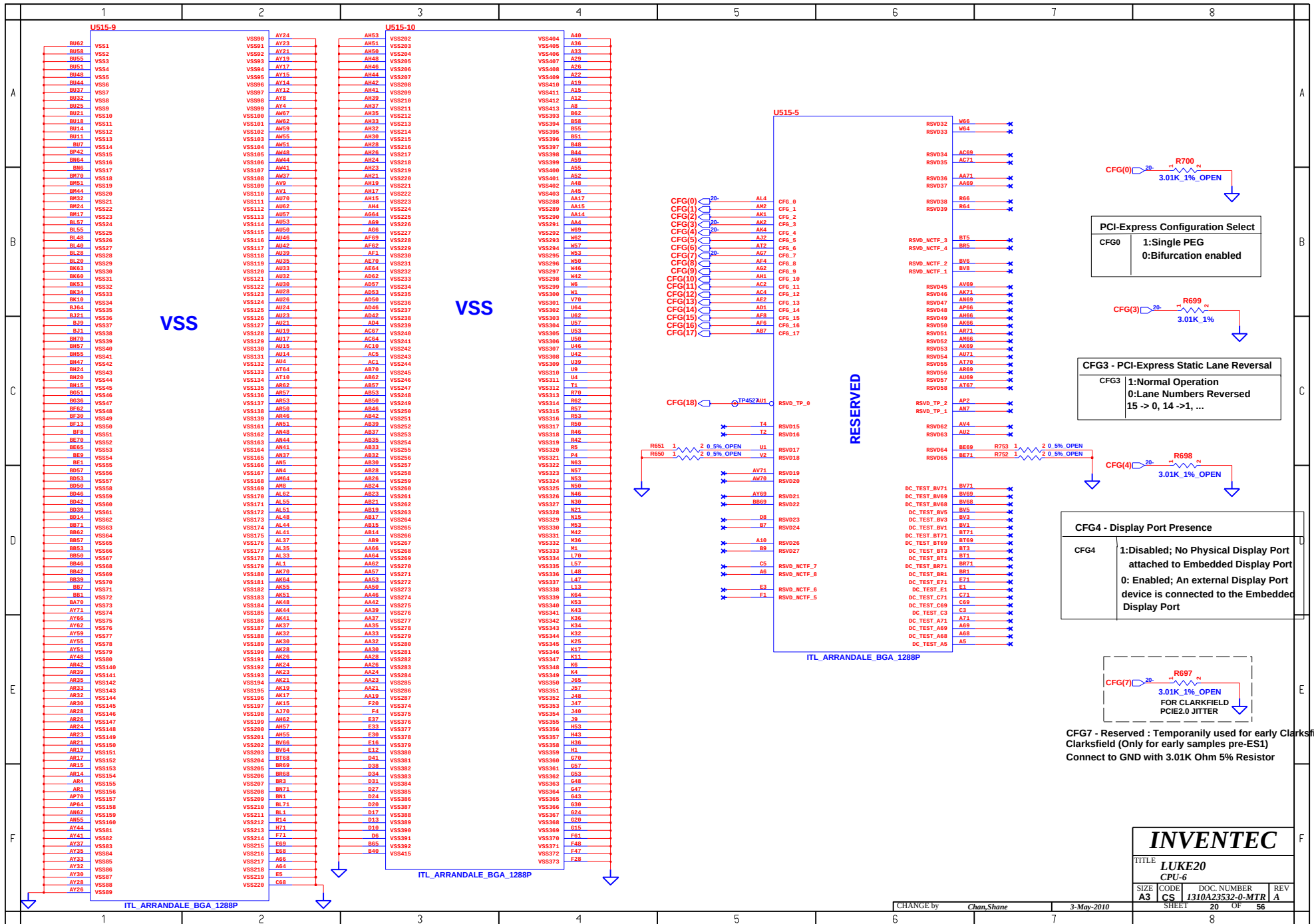
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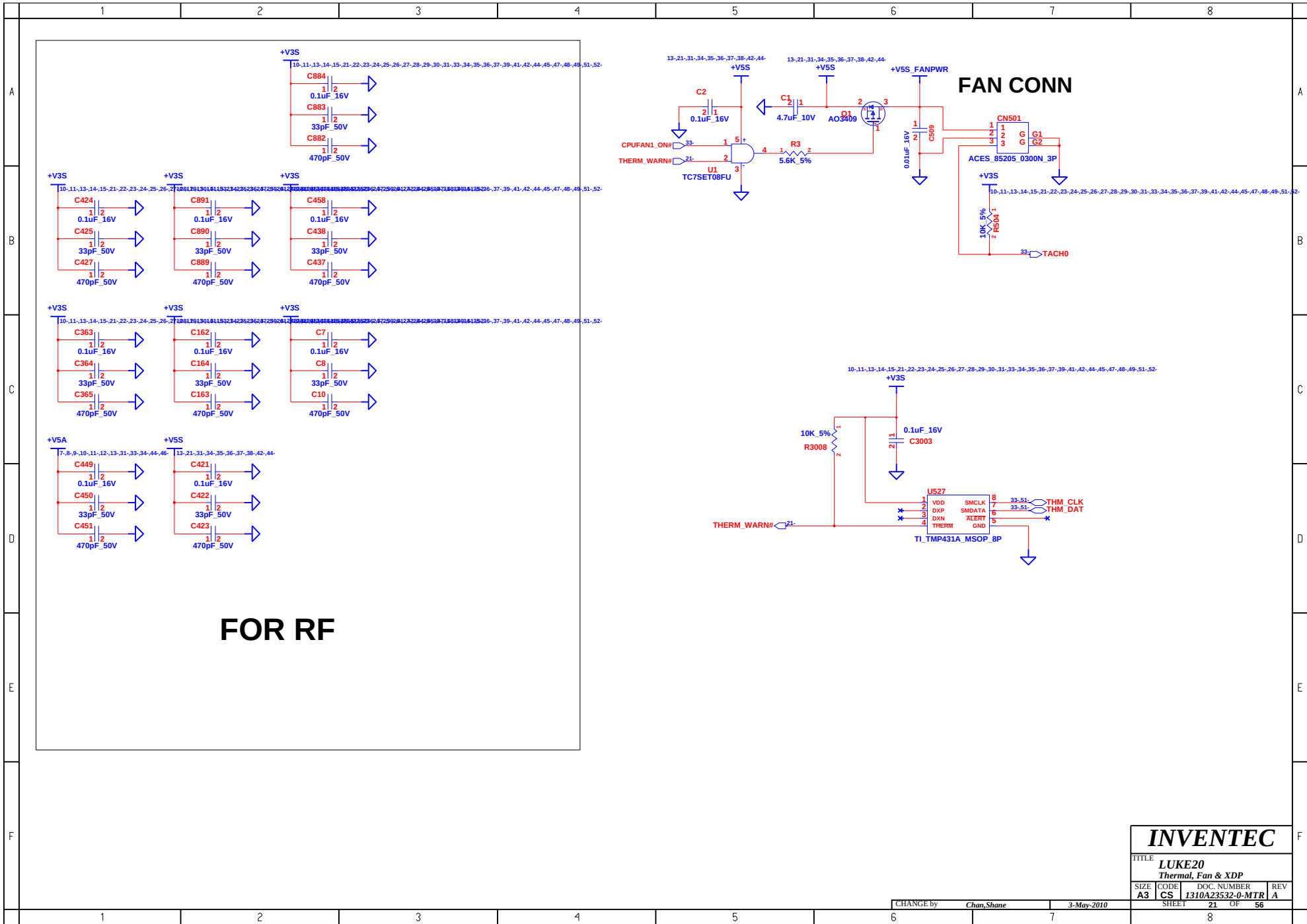
TITLE			
LUKE20			
CPU-3			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23532-0-MTR	A
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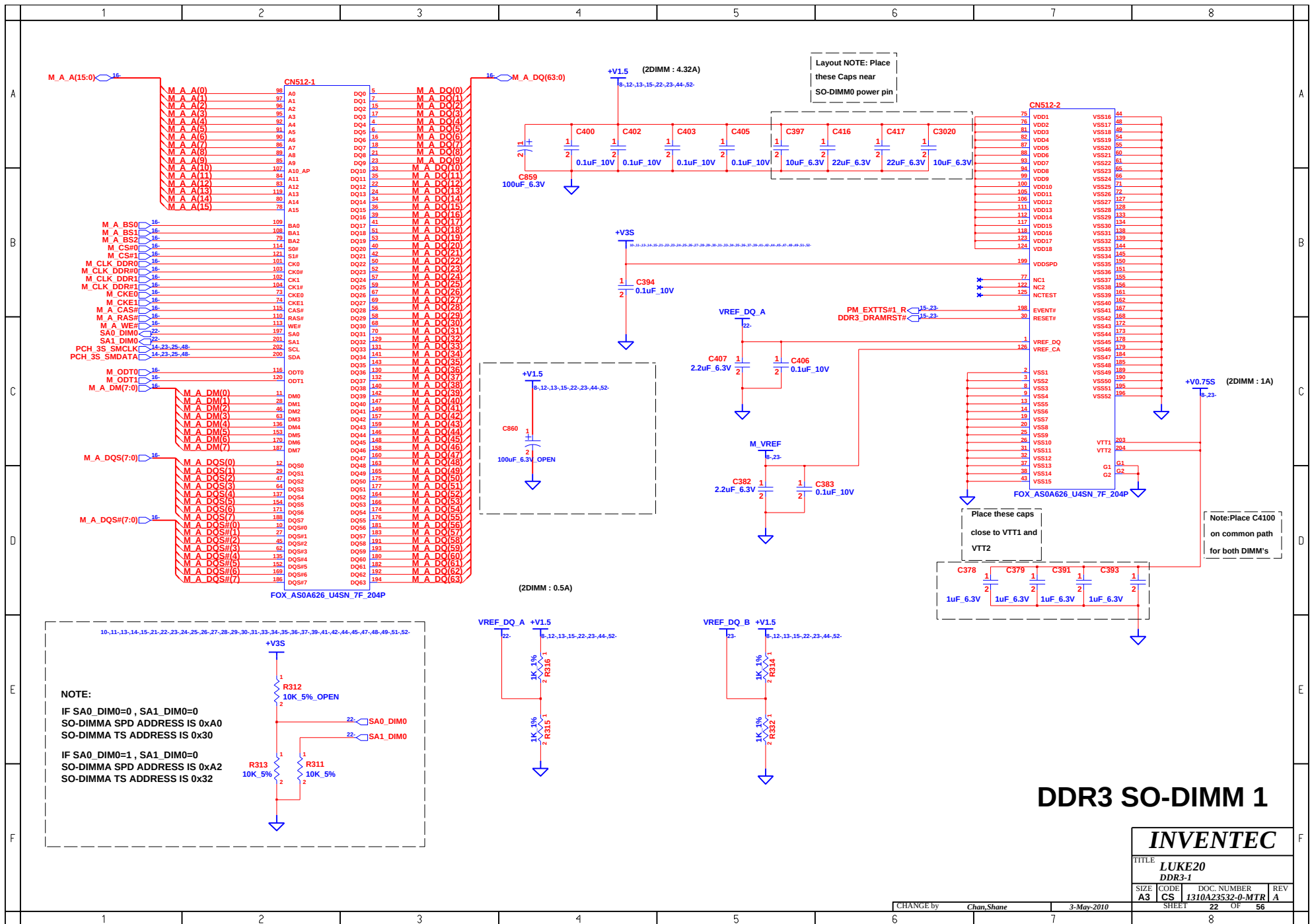


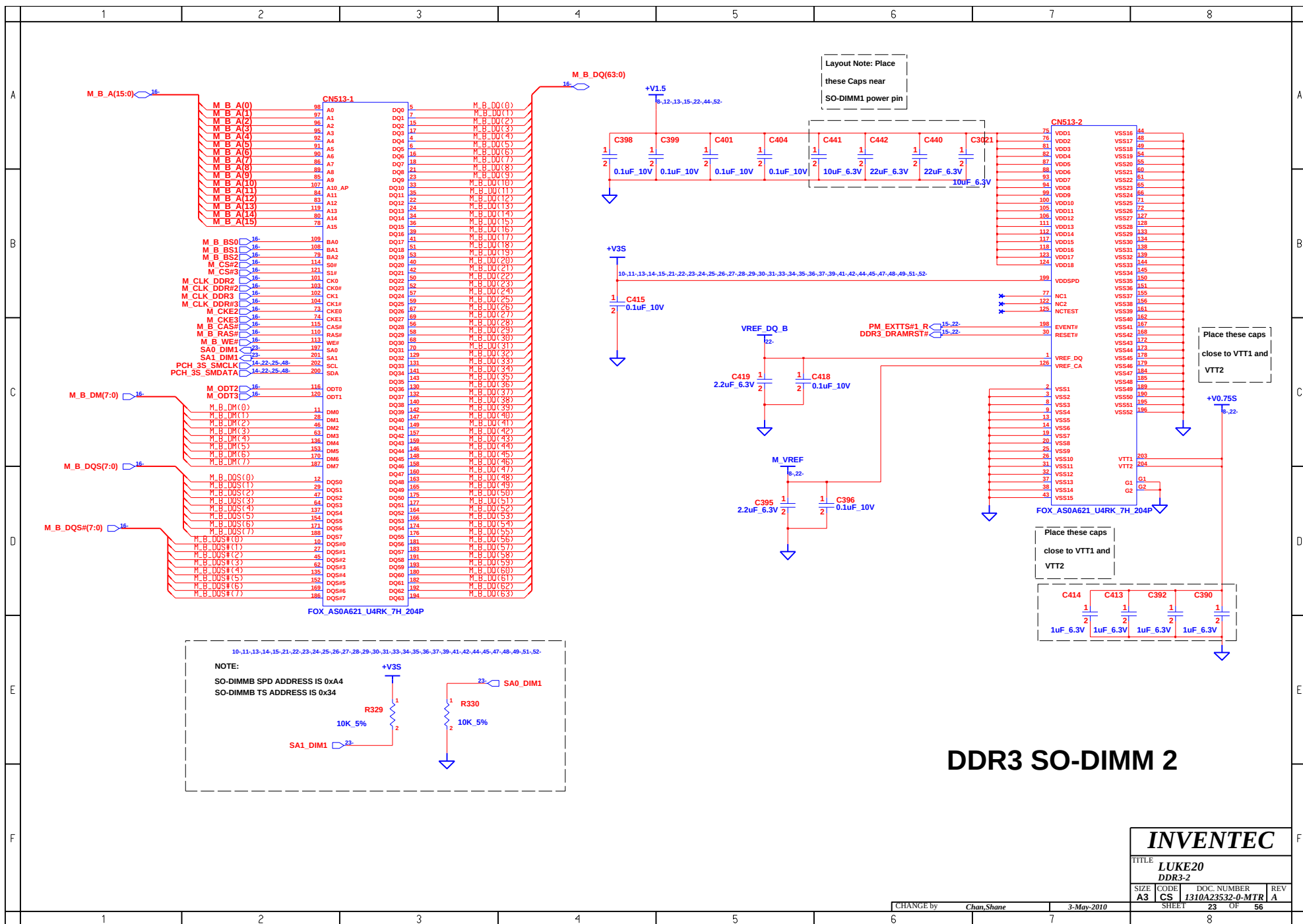


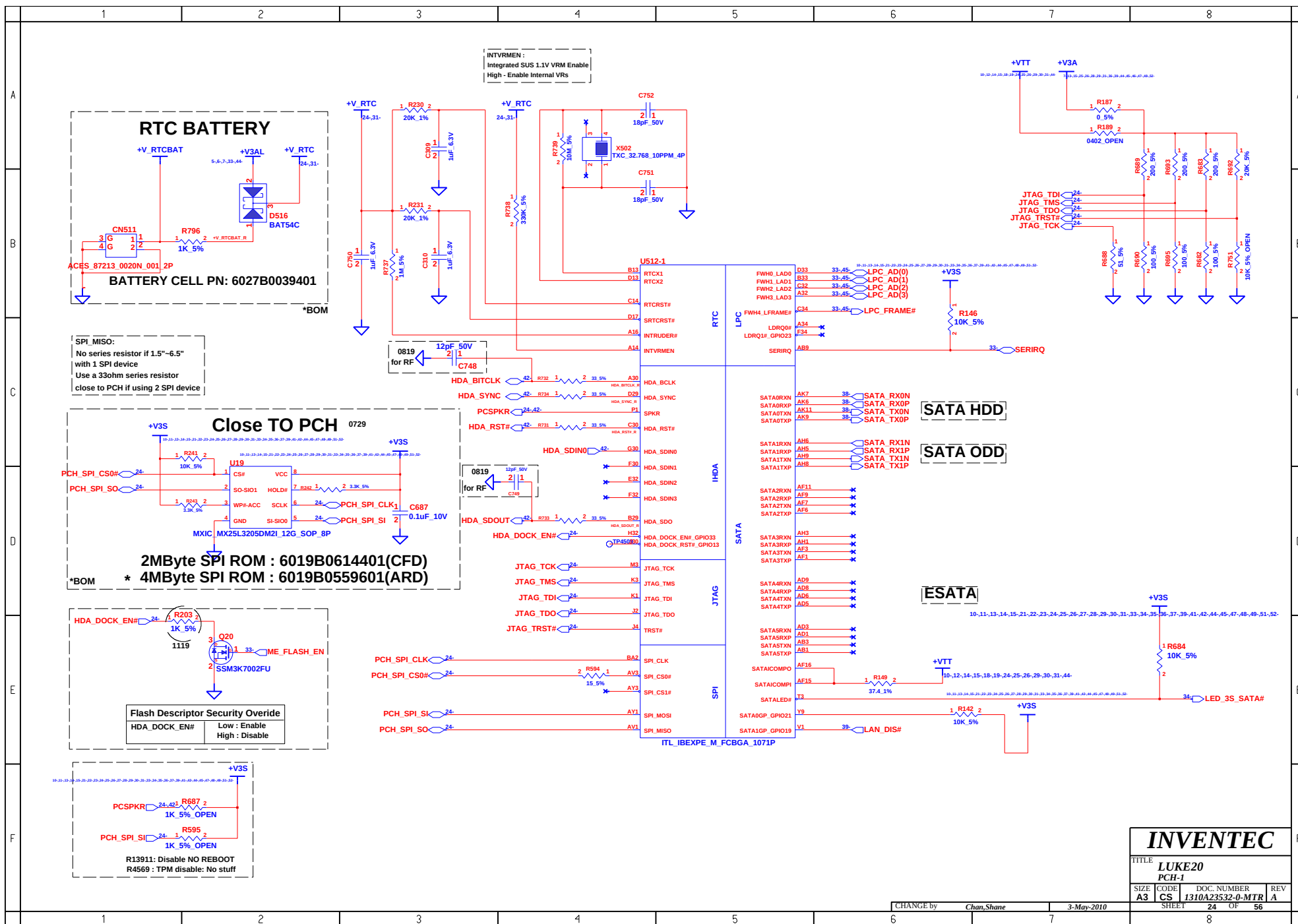


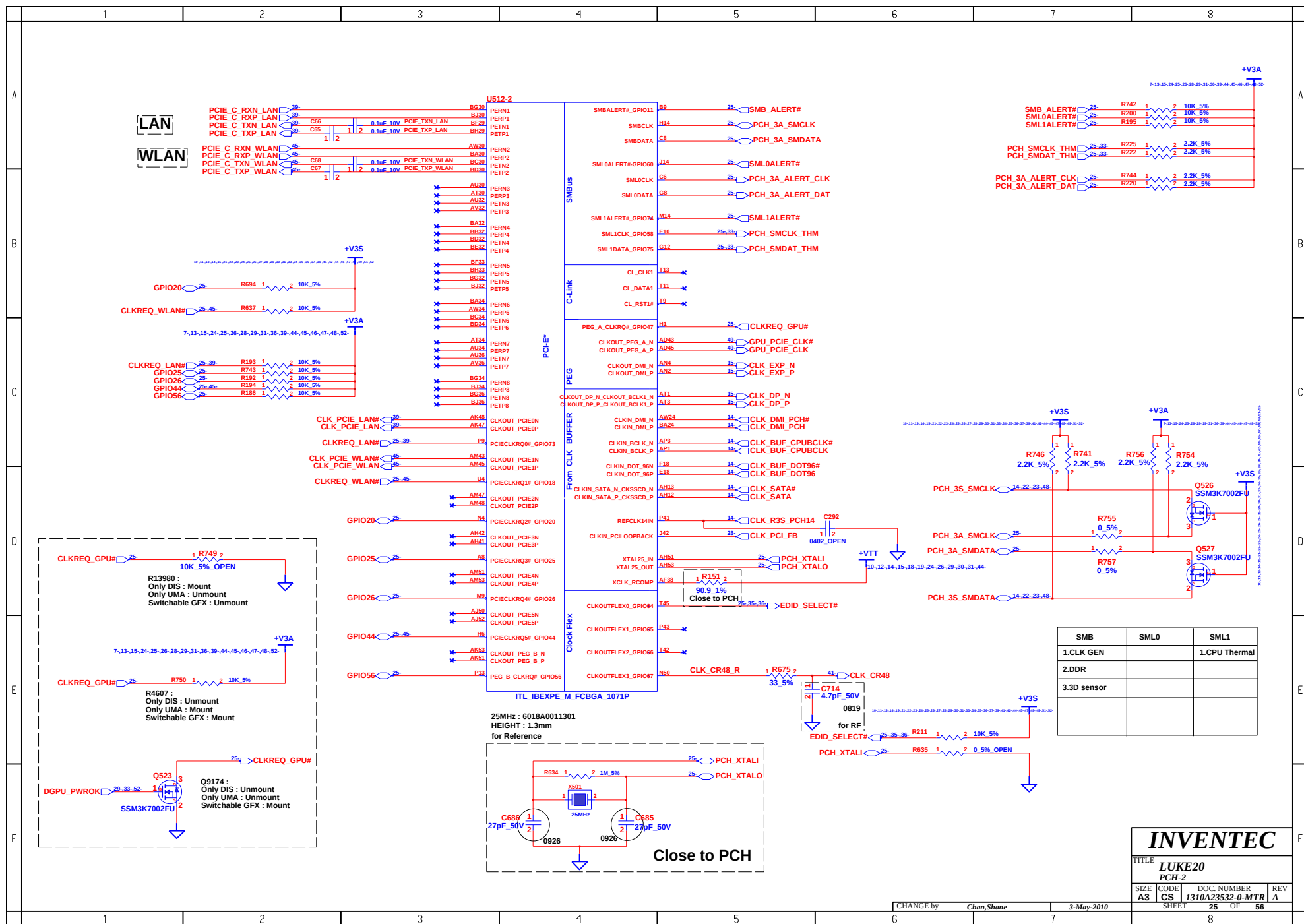
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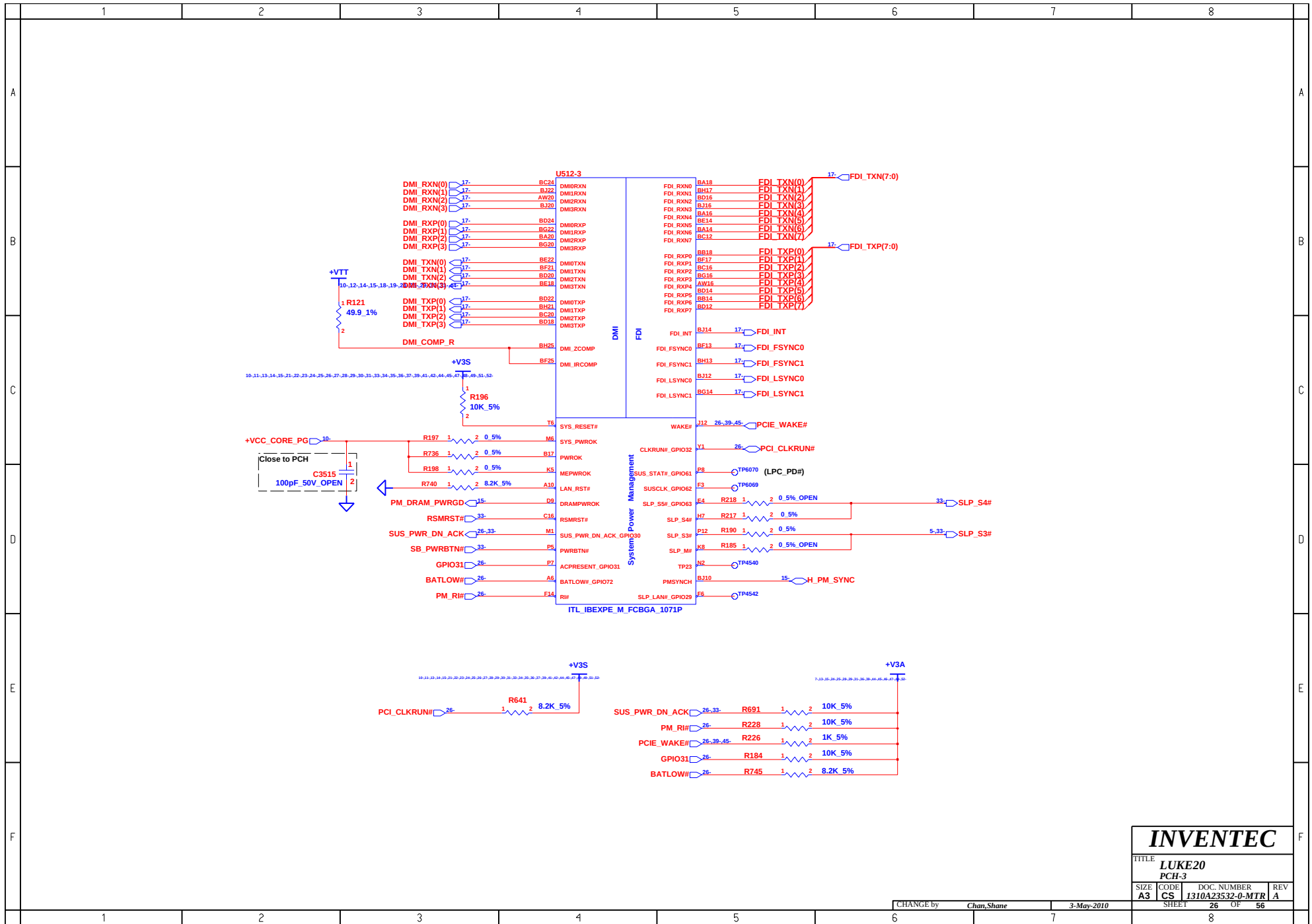
TITLE			
LUKE20			
Thermal, Fan & XDP			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23532-0-MTR	A
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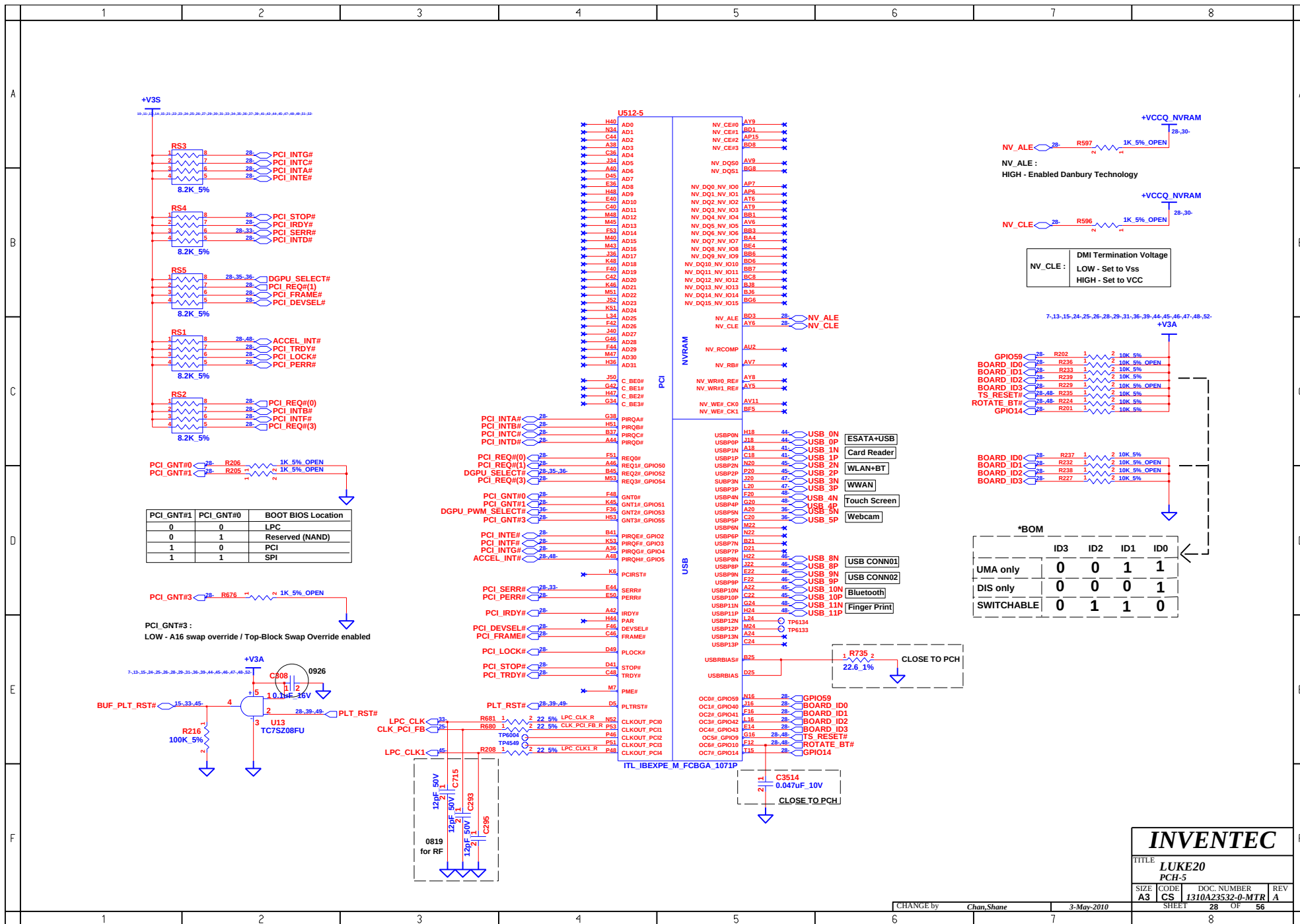


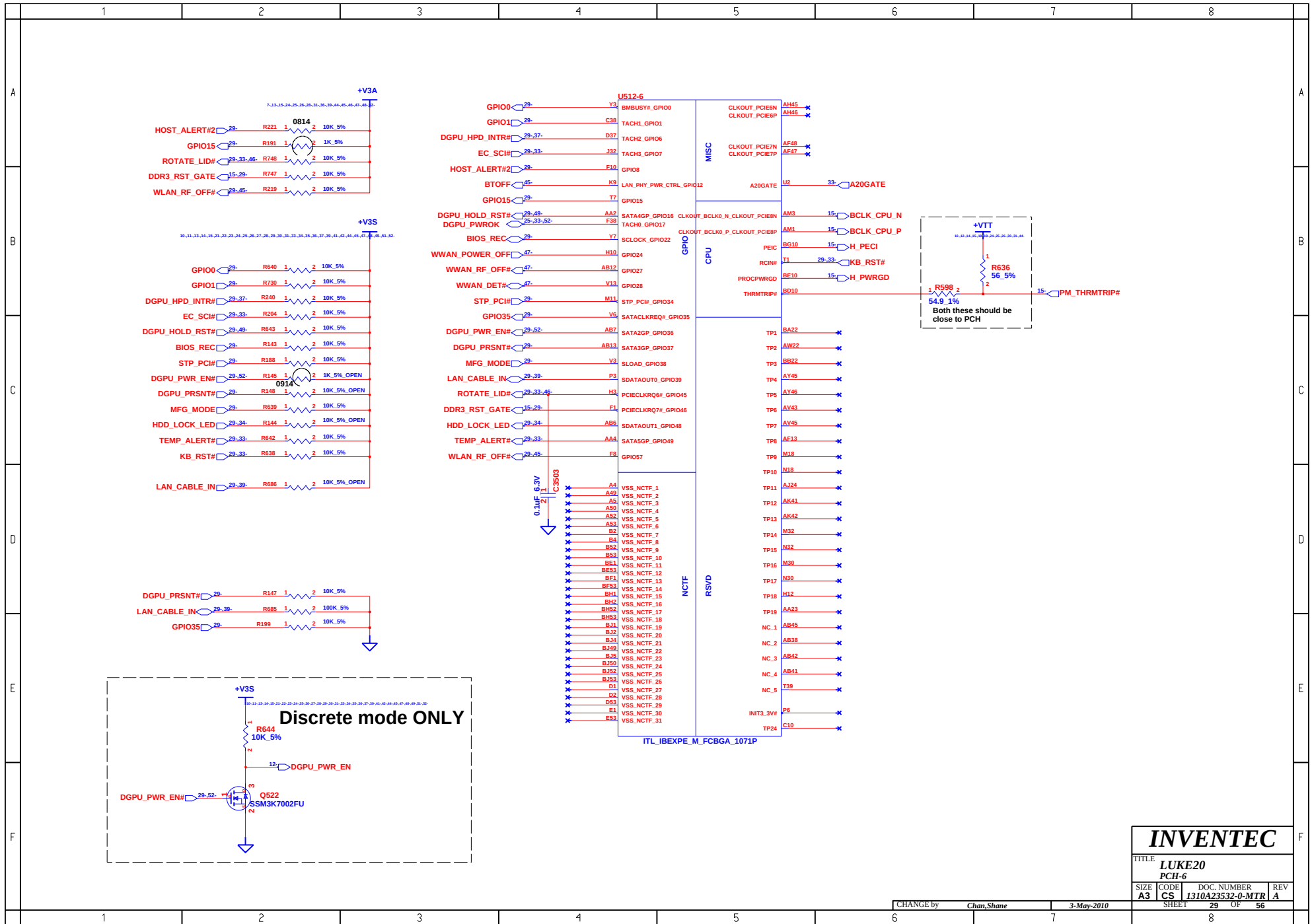


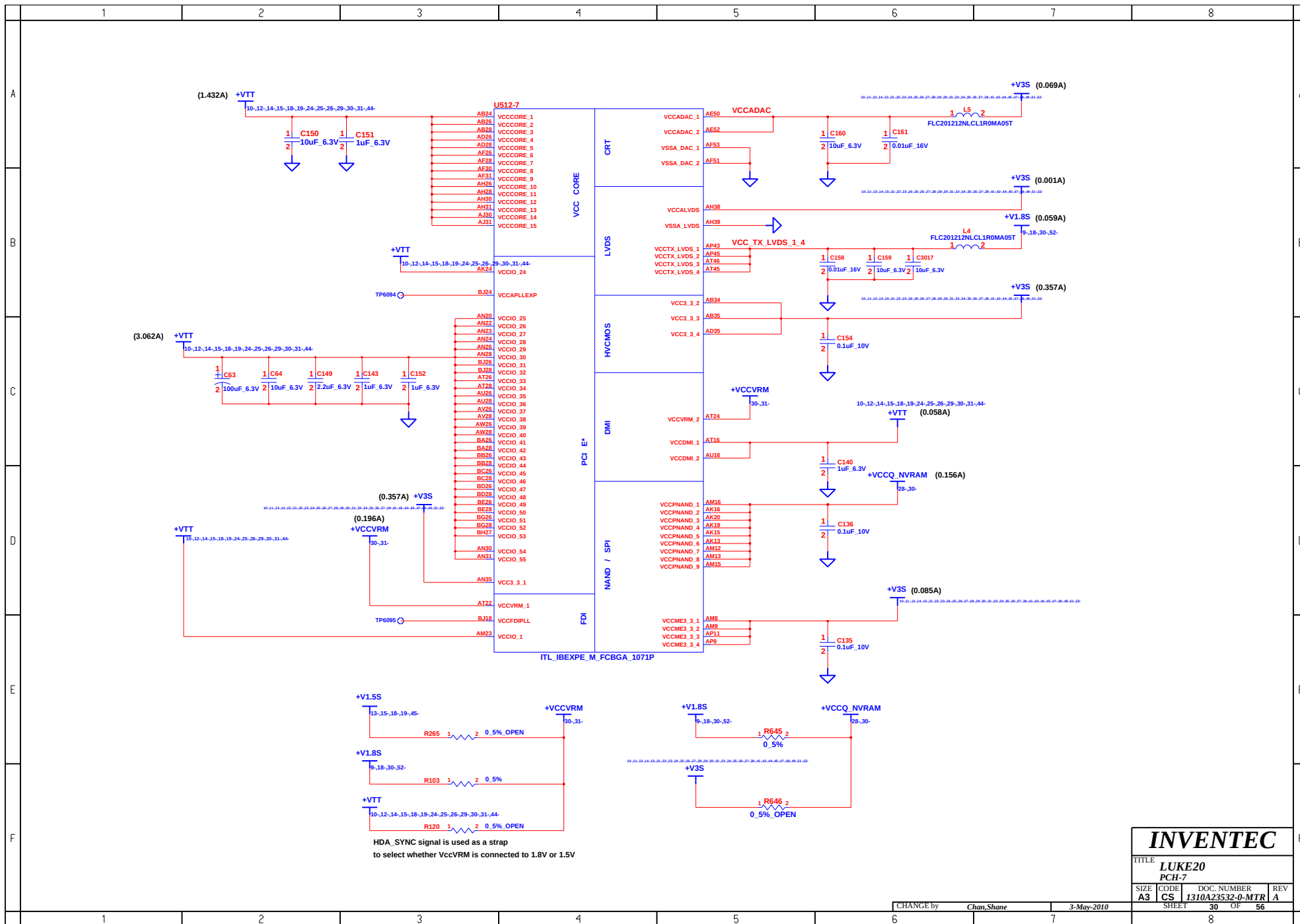


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TITLE LUKE20 PCH-3			
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CHANGE by Chan,Shane		3-May-2010	
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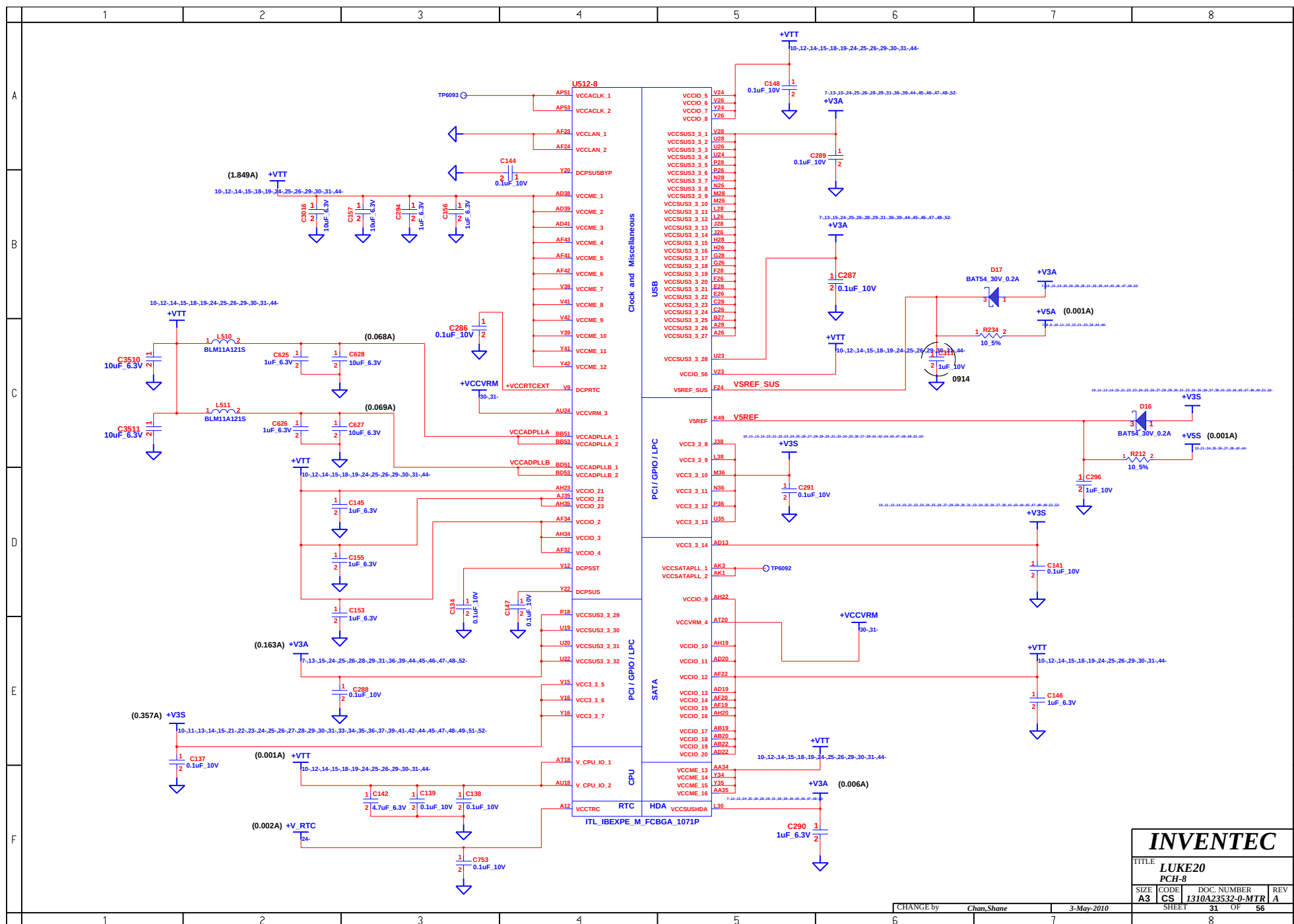




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TITLE LUKE20 PCH-7			
SIZE A3	CODE CS	DOC. NUMBER 1310A23532-0-MTR	REV A
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CHANGE by Chan,Shane 3-May-2010



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A								
B								
C								
D								
E								
F								

U512-9		U512-10	
AB16	VSS 0	AY7	VSS 159
AA19	VSS 1	B11	VSS 160
AA20	VSS 2	B19	VSS 161
AA22	VSS 3	B19	VSS 162
AA19	VSS 4	B23	VSS 163
AA24	VSS 5	B31	VSS 164
AA26	VSS 6	B39	VSS 165
AA28	VSS 7	B43	VSS 166
AA30	VSS 8	B47	VSS 167
AA31	VSS 9	B7	VSS 168
AA32	VSS 10	BG12	VSS 169
AB11	VSS 11	BB12	VSS 170
AB15	VSS 12	B12	VSS 171
AB23	VSS 13	BB16	VSS 172
AB30	VSS 14	BB20	VSS 173
AB31	VSS 15	BB24	VSS 174
AB32	VSS 16	BB30	VSS 175
AB39	VSS 17	BB34	VSS 176
AB43	VSS 18	BB38	VSS 177
AB47	VSS 19	BB42	VSS 178
AB5	VSS 20	BB49	VSS 179
AB8	VSS 21	BB5	VSS 180
AC2	VSS 22	BC10	VSS 181
AC24	VSS 23	BC14	VSS 182
AD011	VSS 24	BC18	VSS 183
AD12	VSS 25	BC2	VSS 184
AD16	VSS 26	BC22	VSS 185
AD24	VSS 27	BC2	VSS 186
AD30	VSS 28	BC32	VSS 187
AD31	VSS 29	BC40	VSS 188
AD32	VSS 30	BC44	VSS 189
AD34	VSS 31	BC52	VSS 190
AD42	VSS 32	BH9	VSS 191
AD46	VSS 33	BH49	VSS 192
AD49	VSS 34	BH49	VSS 193
AD7	VSS 35	BH49	VSS 194
AE2	VSS 36	BE12	VSS 195
AE4	VSS 37	BE14	VSS 196
AF12	VSS 38	BE20	VSS 197
Y13	VSS 39	BE24	VSS 198
AH49	VSS 40	BE30	VSS 199
AH4	VSS 41	BE34	VSS 200
AF26	VSS 42	BE38	VSS 201
AF13	VSS 43	BE42	VSS 202
AN34	VSS 44	BE46	VSS 203
AF45	VSS 45	BE48	VSS 204
AF46	VSS 46	BE50	VSS 205
AF49	VSS 47	BE5	VSS 206
AF5	VSS 48	BE9	VSS 207
AG2	VSS 49	BE23	VSS 208
AG52	VSS 50	BE59	VSS 209
AH11	VSS 51	BF51	VSS 210
AH13	VSS 52	BG18	VSS 211
AH16	VSS 53	BG14	VSS 212
AH24	VSS 54	BG4	VSS 213
AH32	VSS 55	BG50	VSS 214
AH38	VSS 56	BH11	VSS 215
AH43	VSS 57	BH15	VSS 216
AH47	VSS 58	BH19	VSS 217
AH7	VSS 59	BH23	VSS 218
AJ18	VSS 60	BH24	VSS 219
AJ2	VSS 61	BH34	VSS 220
AJ20	VSS 62	BH35	VSS 221
AJ22	VSS 63	BH43	VSS 222
AJ24	VSS 64	BH47	VSS 223
AJ26	VSS 65	BH7	VSS 224
AJ28	VSS 66	C12	VSS 225
AJ32	VSS 67	C50	VSS 226
AJ34	VSS 68	D91	VSS 227
AT5	VSS 69	E12	VSS 228
AJ4	VSS 70	E16	VSS 229
AK12	VSS 71	E20	VSS 230
AK14	VSS 72	E24	VSS 231
AK16	VSS 73	E30	VSS 232
AK18	VSS 74	E34	VSS 233
AK20	VSS 75	E38	VSS 234
AK22	VSS 76	E42	VSS 235
AK24	VSS 77	E46	VSS 236
AK26	VSS 78	E49	VSS 237
AK28	VSS 79	E9	VSS 238
AK30	VSS 80	E8	VSS 239
AK31	VSS 81	F49	VSS 240
AK32	VSS 82	F5	VSS 241
AK33	VSS 83	G10	VSS 242
AK34	VSS 84	G14	VSS 243
AK35	VSS 85	G18	VSS 244
AK36	VSS 86	G2	VSS 245
AK37	VSS 87	G22	VSS 246
AK38	VSS 88	G26	VSS 247
AK39	VSS 89	G30	VSS 248
AK40	VSS 90	G34	VSS 249
AK41	VSS 91	G38	VSS 250
AK42	VSS 92	G42	VSS 251
AK43	VSS 93	G46	VSS 252
AK44	VSS 94	G50	VSS 253
AK45	VSS 95	H16	VSS 254
AK46	VSS 96	H20	VSS 255
AK47	VSS 97	H24	VSS 256
AK48	VSS 98	H28	VSS 257
AK49	VSS 99	H32	VSS 258

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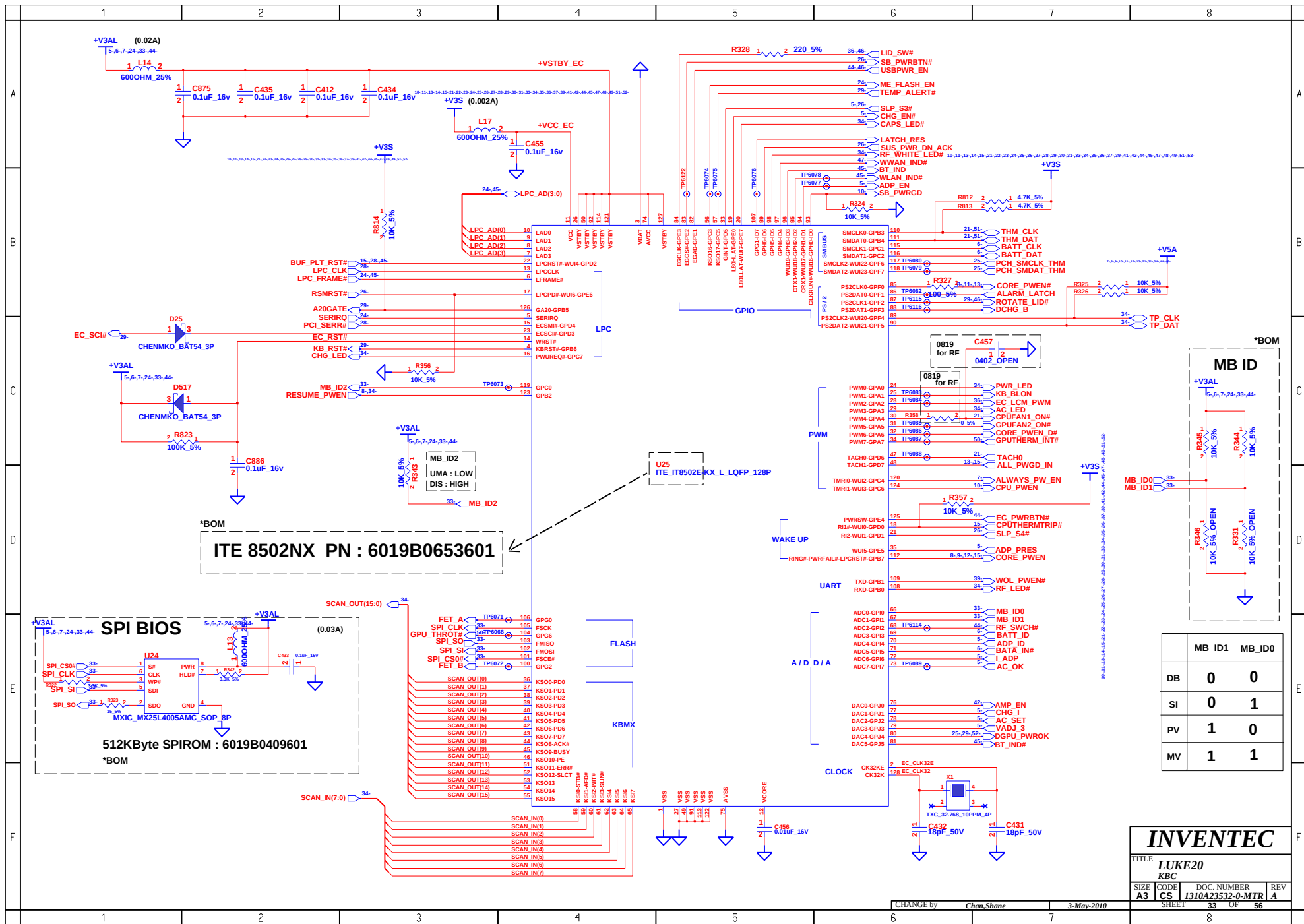
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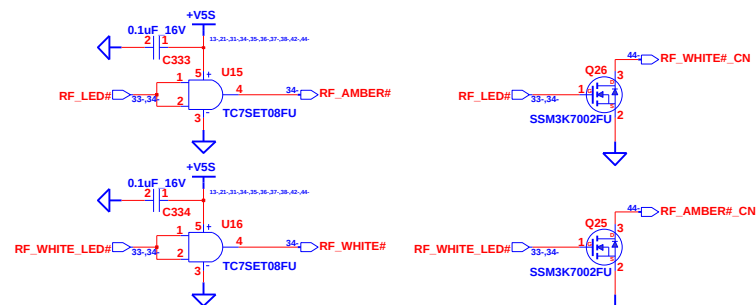
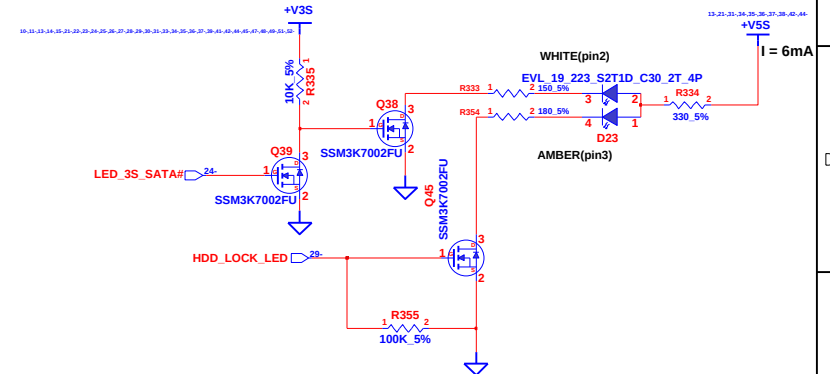
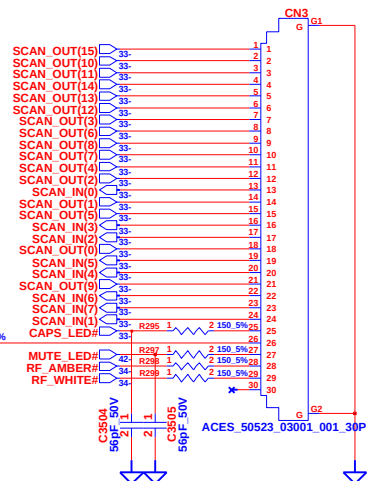
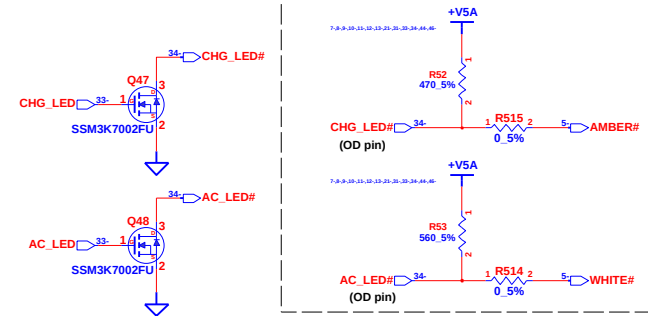
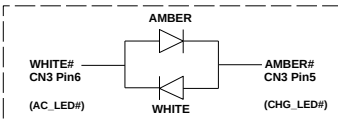
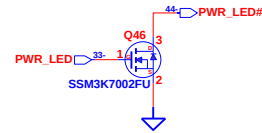
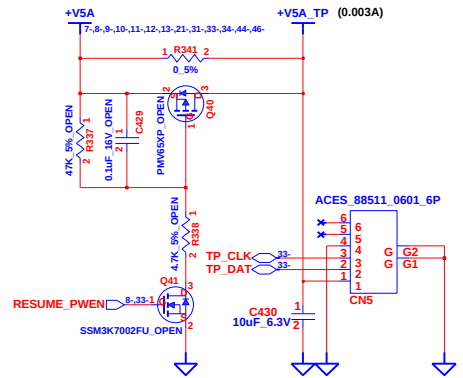
INVENTEC

LUKE20

PCH-9



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DB	0	0
SI	0	1
PV	1	0
MV	1	1

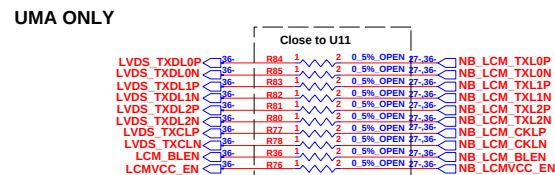
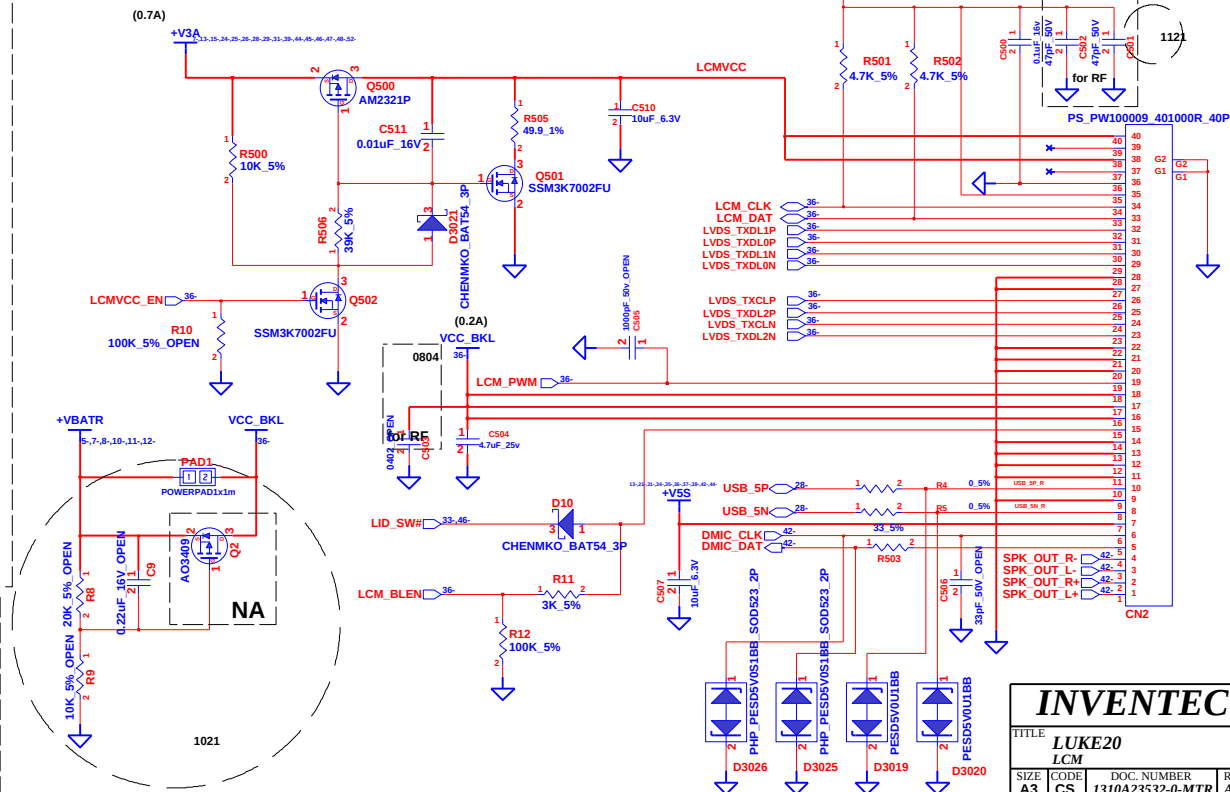
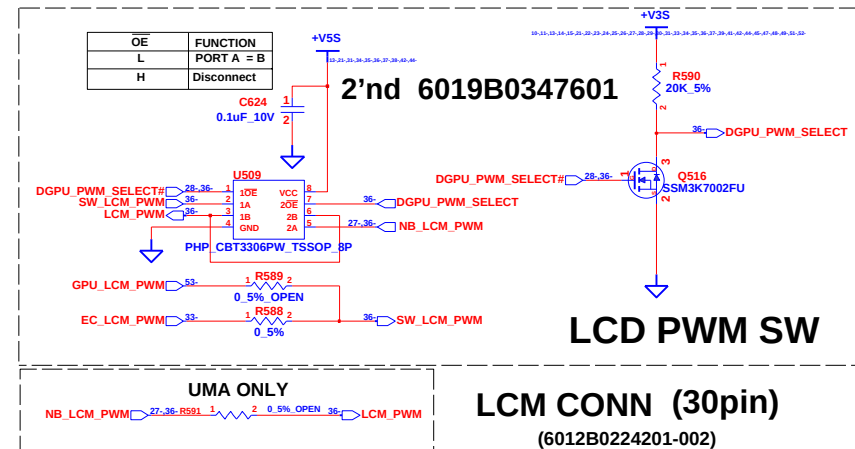


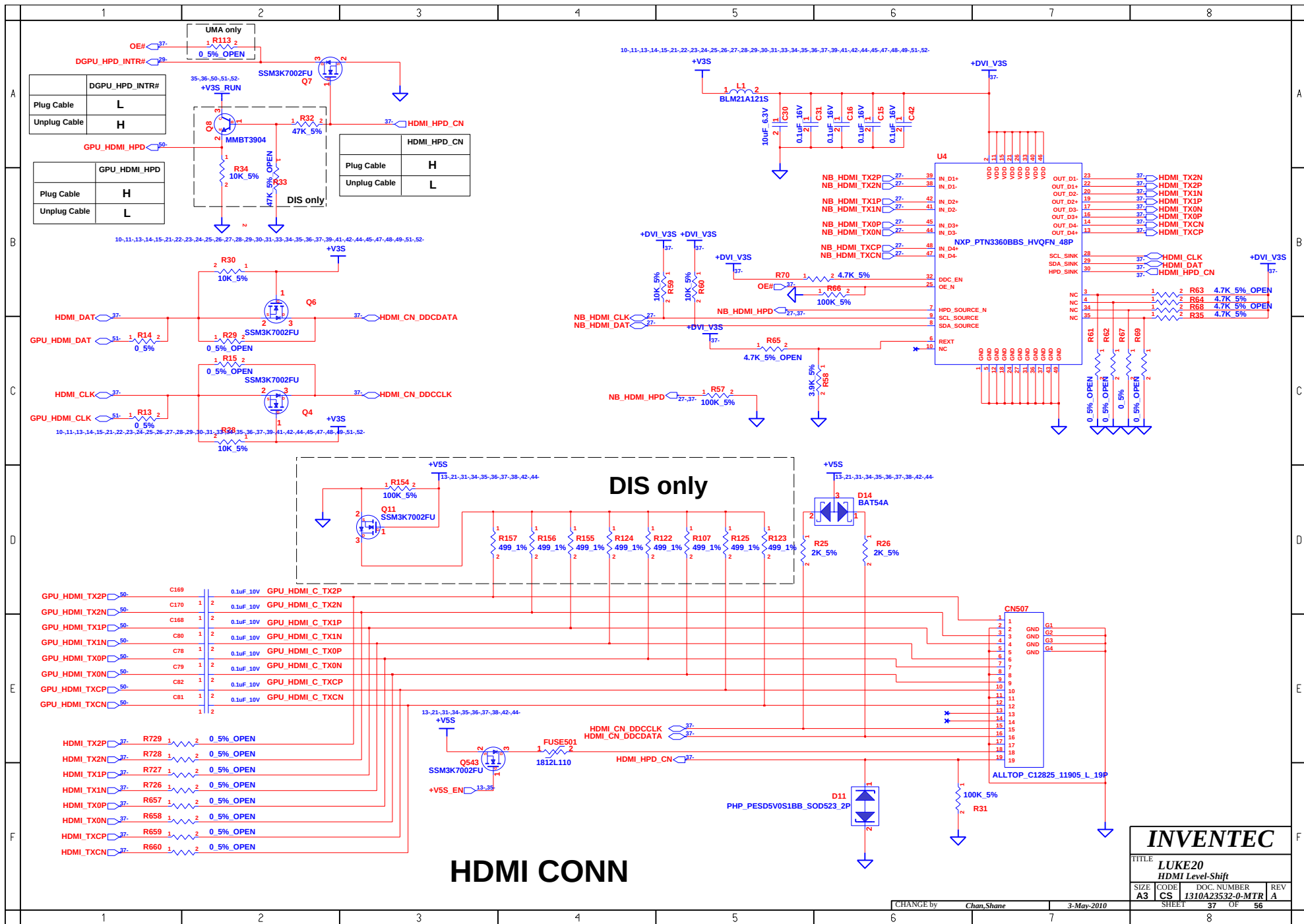
CHANGE by	Chan,Shane	3-May-2010
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A

B

--	--

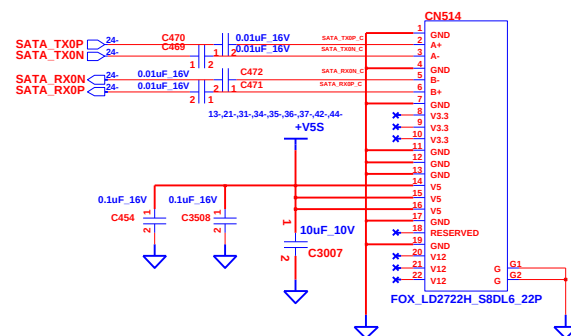




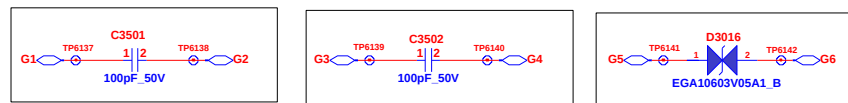
INVENTEC				
TITLE LUKE20 HDMI Level-Shift				
SIZE A3	CODE CS	DOC. NUMBER 1310A23532-0-MTR	REV A	
CHANGE by Chan,Shane		3-May-2010		
SHEET 37		OF 56		

HDD Board

HDD CONN



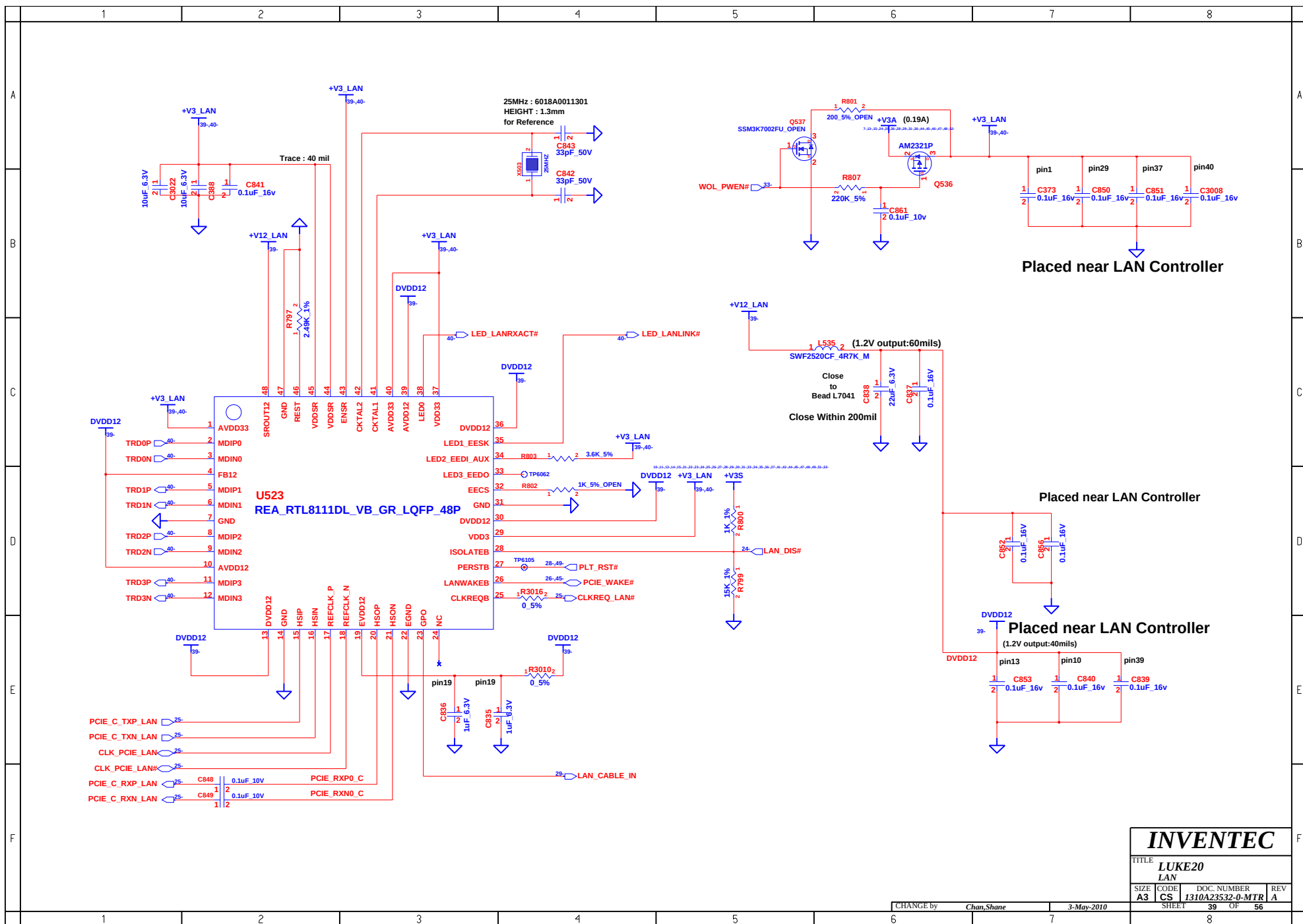
ESD DAUGHTER Board

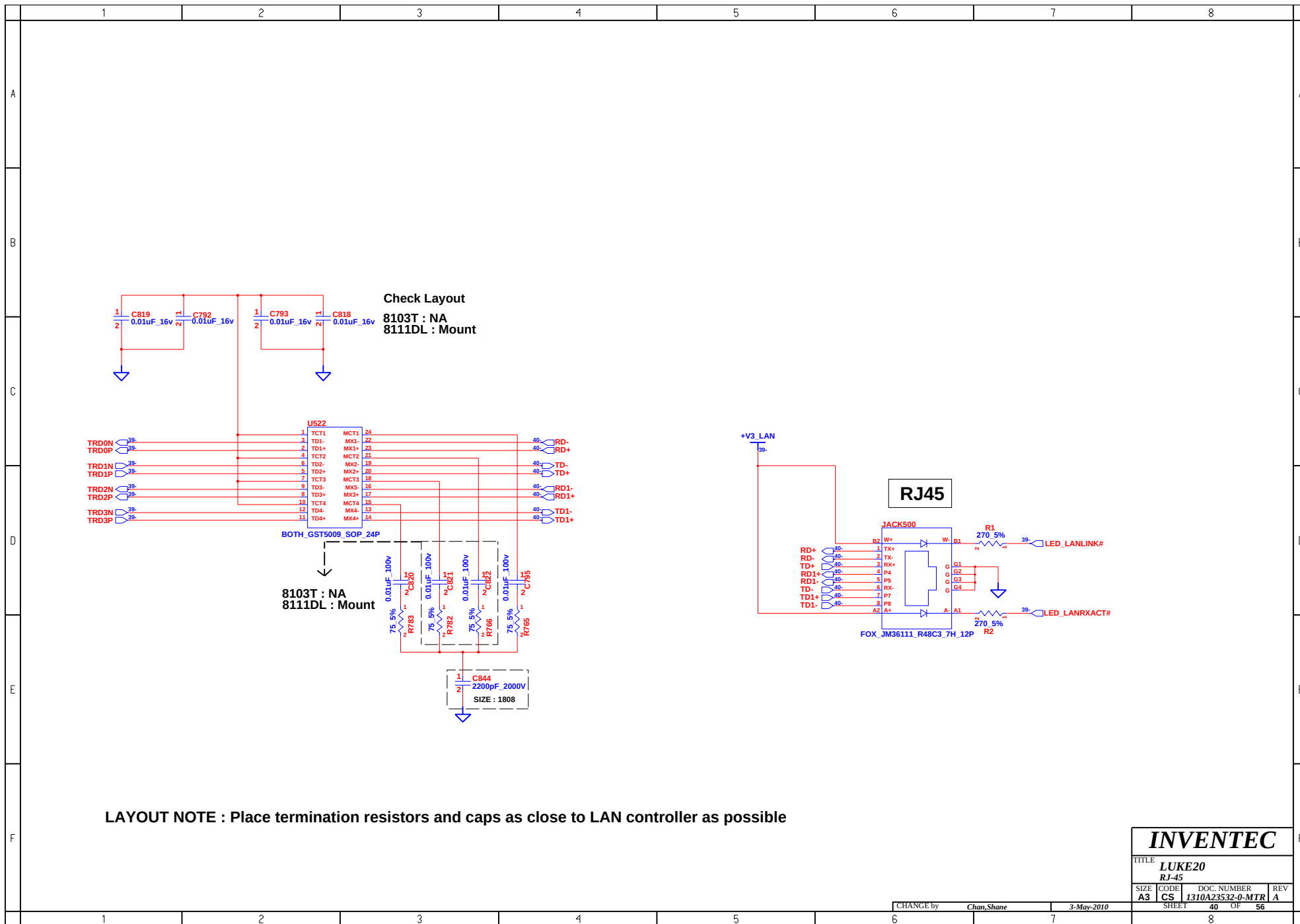


INVENTEC

TITLE			
LUKE20			
SATA HDD & ODD			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23532-0-MTR	A
SHEET		38	OF 56

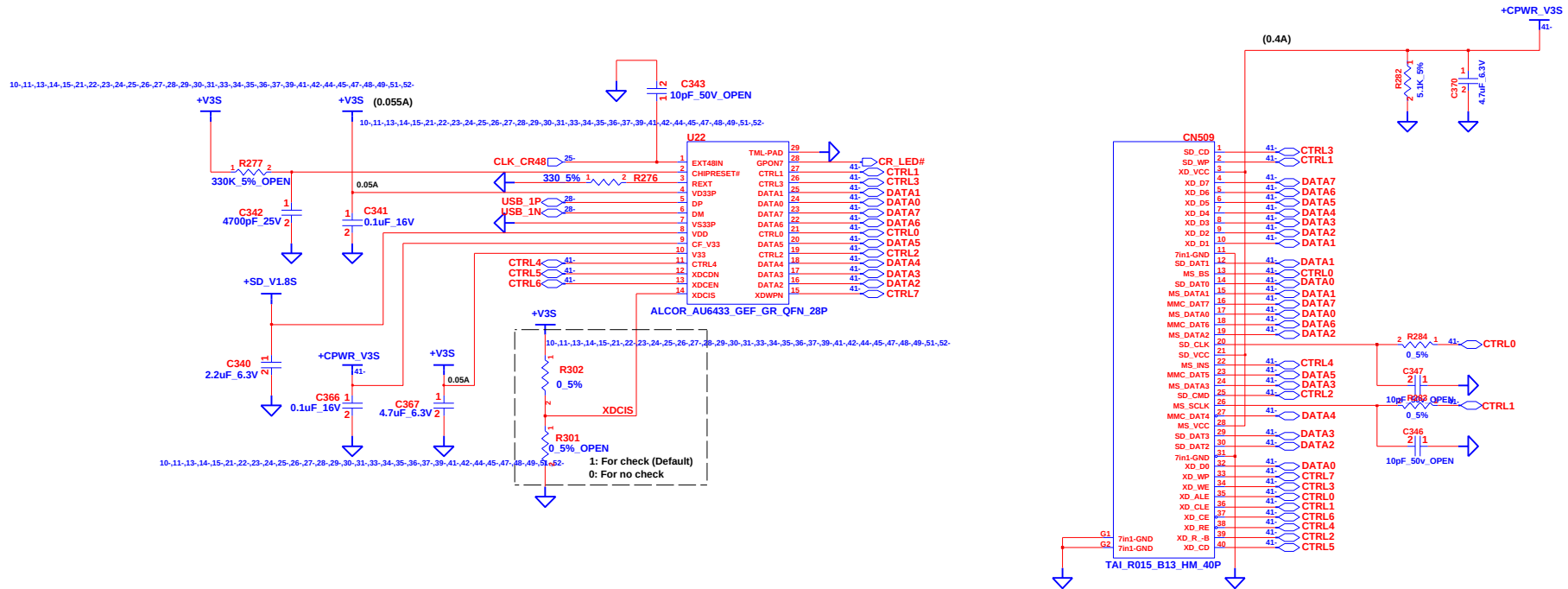
CHANGE by Chan,Shane 3-May-2010





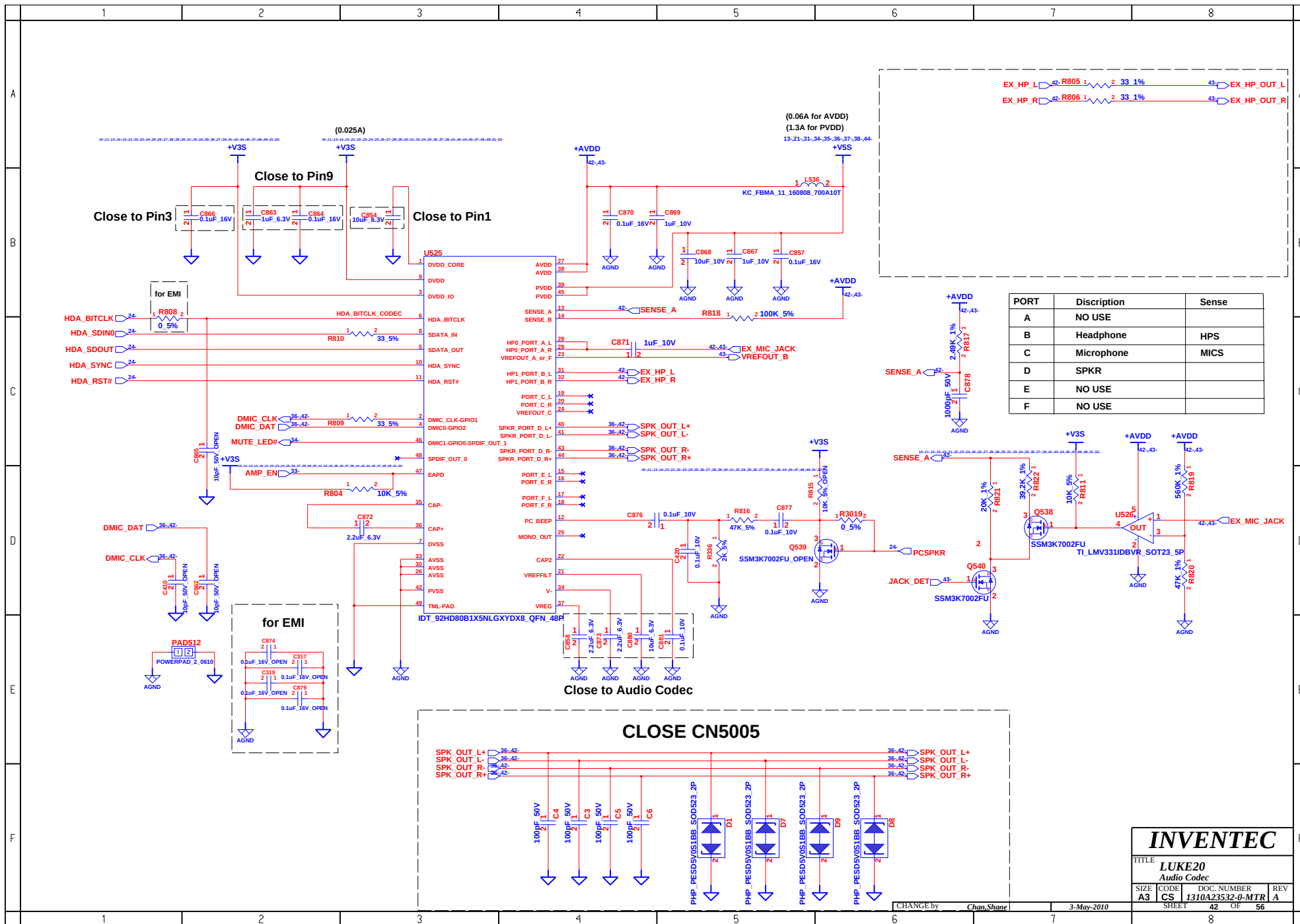
INVENTEC			
TITLE LUKE20 RJ-45			
SIZE A3	CODE CS	DOC. NUMBER 1310A23532-0-MTR	REV A
CHANGE by Chan,Shane		3-May-2010	
SHEET 40		OF 56	

Card Reader CONN



INVENTEC

TITLE LUKE20 Card Reader			
SIZE A3	CODE CS	DOC. NUMBER 1310A23532-0-MTR	REV A
CHANGE by Chan,Shane		3-May-2010	
SHEET 41		OF 56	

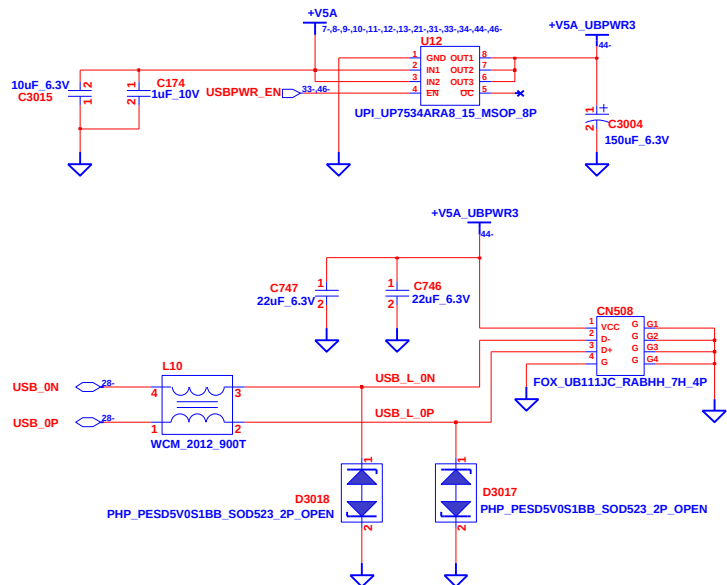




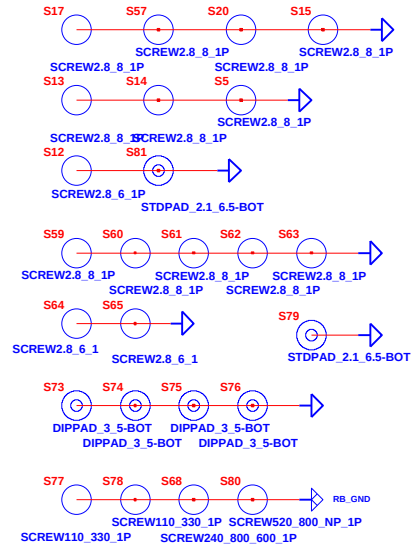
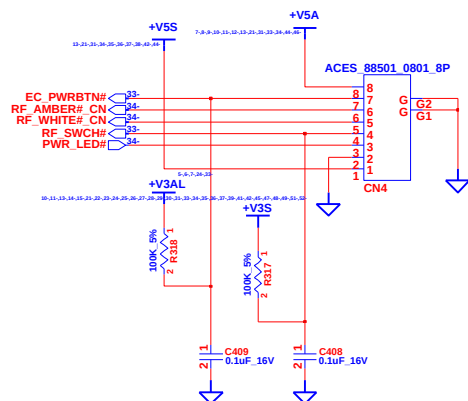
TITLE			
LUKE20 HP JACK & MIC JACK			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23532-0-MTR	A
SHEET		43	OF 56

CHANGE by	Chan,Shane	3-May-2010
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SHEET 43 OF 56



SWITCH BOARD Conn ON MB



EMI CAPS

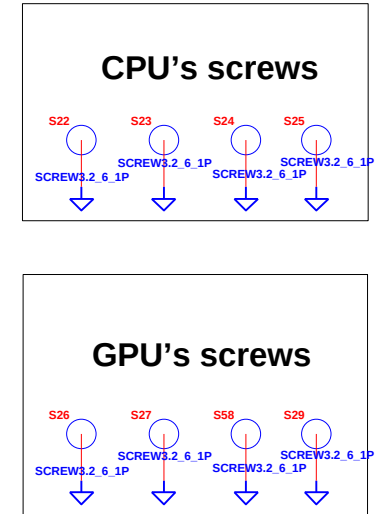
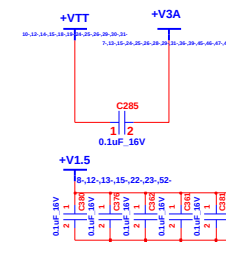
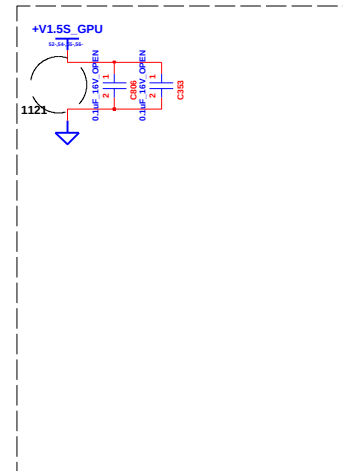


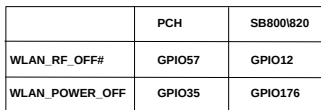
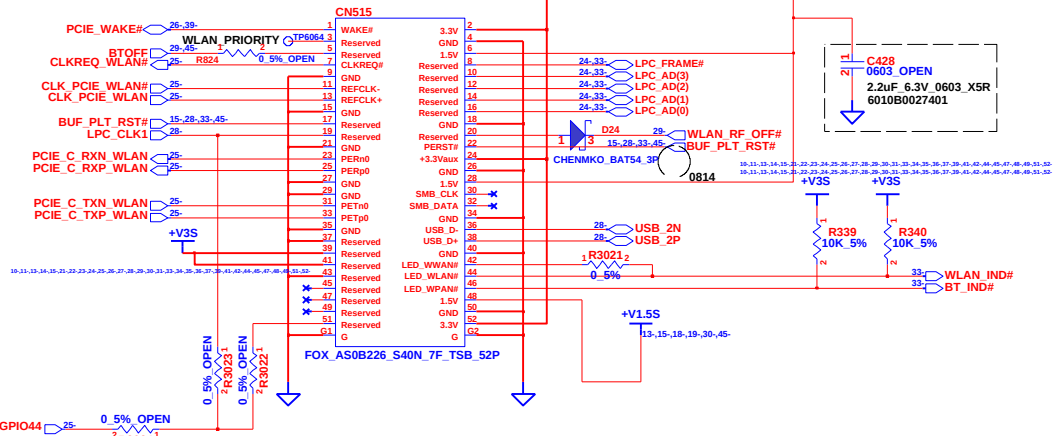
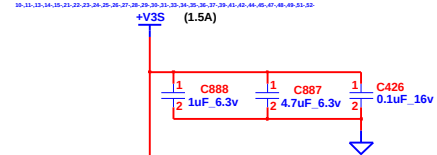
Diagram illustrating the mapping of FIX fields to a mask:

FIX1	FIX2	FIX3	FIX4	FIX5	FIX6
FIX MASK	FIX MASK	FIX MASK	FIX MASK	FIX MASK	FIX MASK
*	*	*	*	*	*

INVENTEC			
TITLE LUKE20 ESATA, SCREW & LID			
SIZE A3	CODE CS	DOC. NUMBER 1310A23532-0-MTR	REV A
SHEET 44		OF 56	

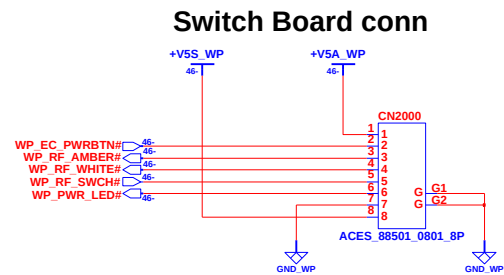
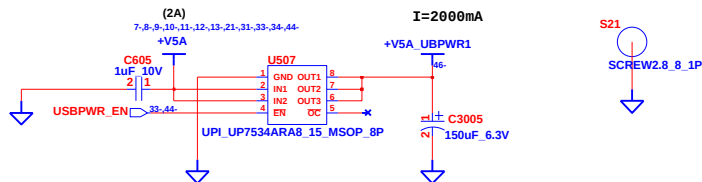
CHANGE by	Chan,Shane	3-May-2010
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WLAN CONN (MINICARD)

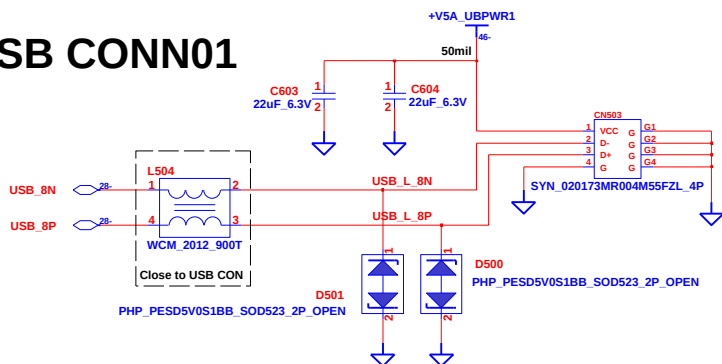


TITLE			
LUKE20 WLAN, BT & WebCAM			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23532-0-MTR	A
SHEET		45 OF	56

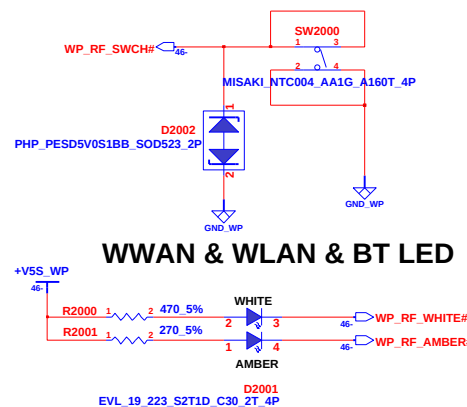
CS	1310A23532-0-M1R		
SHEET	45	OF	56



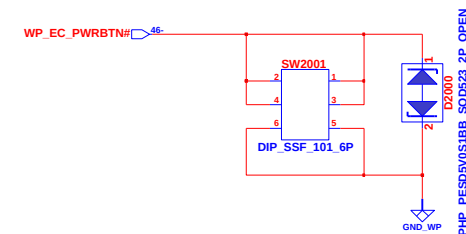
USB CONN01



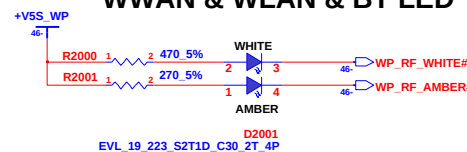
WLAN Button



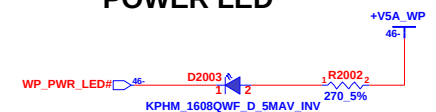
POWER SWITCH



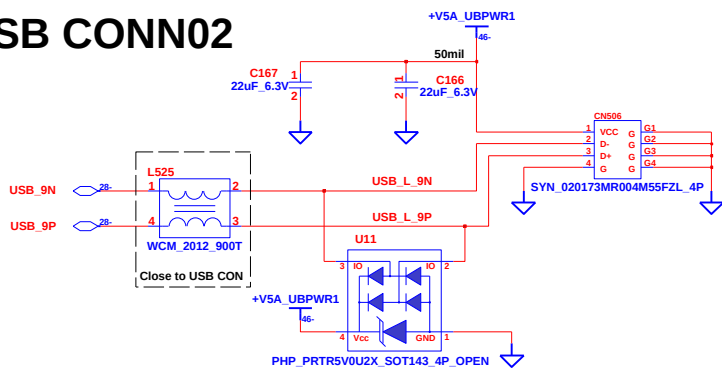
WWAN & WLAN & BT LED



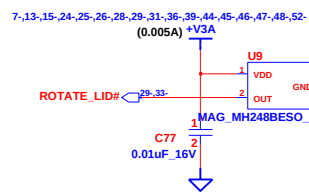
POWER LED



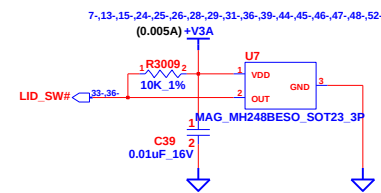
USB CONN02



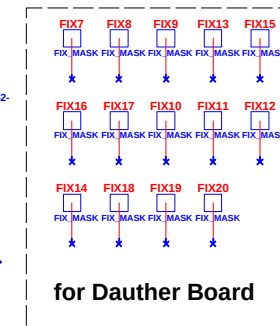
LID SWITCH



BETWEEN 2*USB



AT 1*USB SIDE



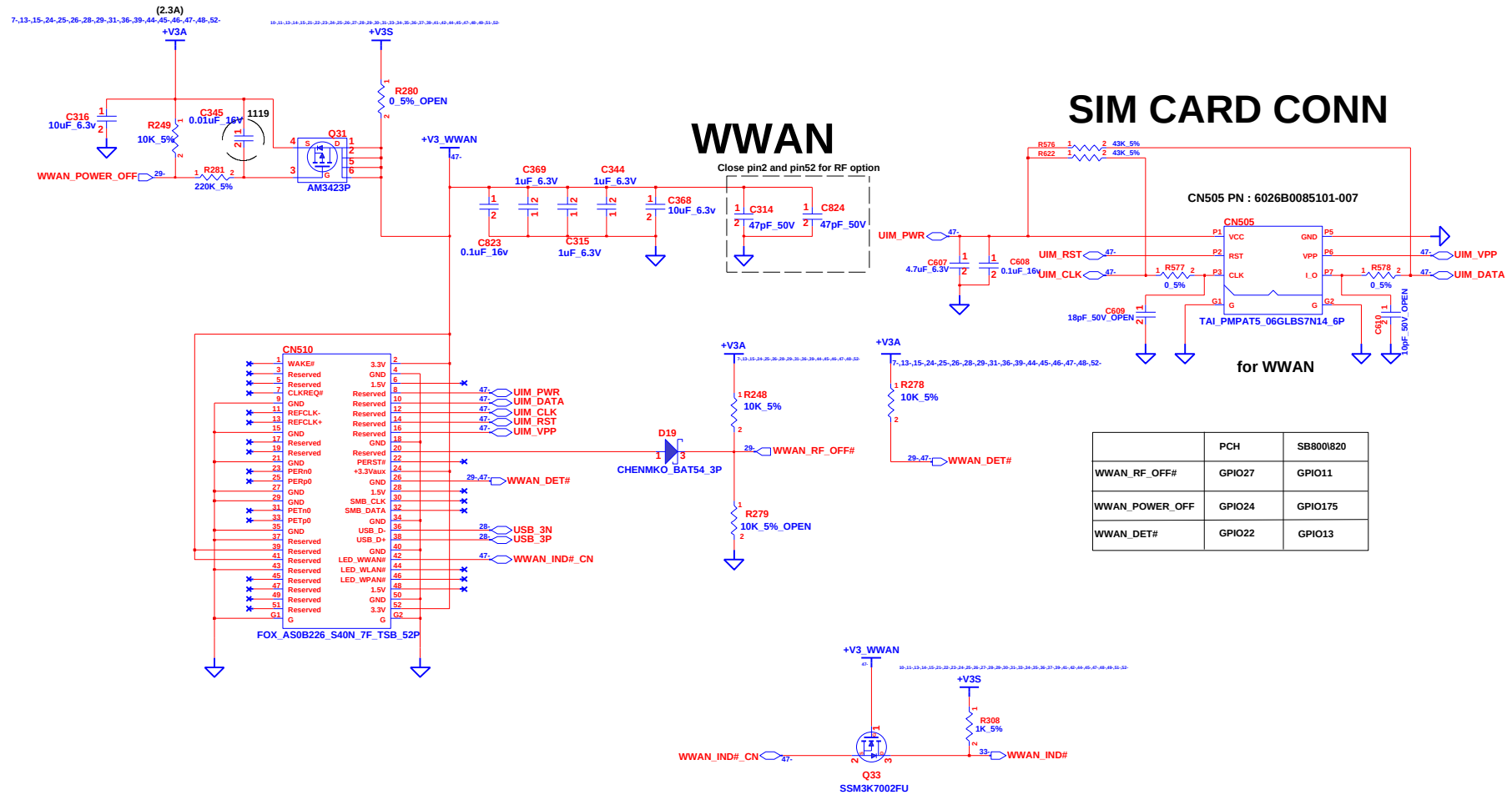
for Daughter Board

INVENTEC

TITLE LUKE20			
USB, PowerButton (DB)			
SIZE A3	CODE CS	DOC. NUMBER 1310A23532-0-MTR	REV A
SHEET 46		OF 56	

CHANGE by Chan,Shane 3-May-2010

OPTION PART



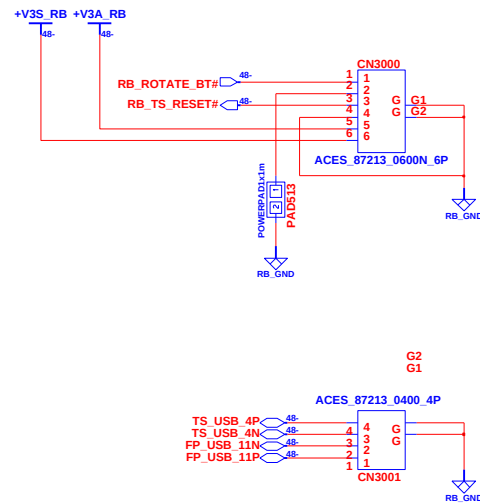
INVENTEC

TITLE			
LUKE20			
WWAN(Optional)			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23532-0-MTR	A
SHEET		47	OF 56

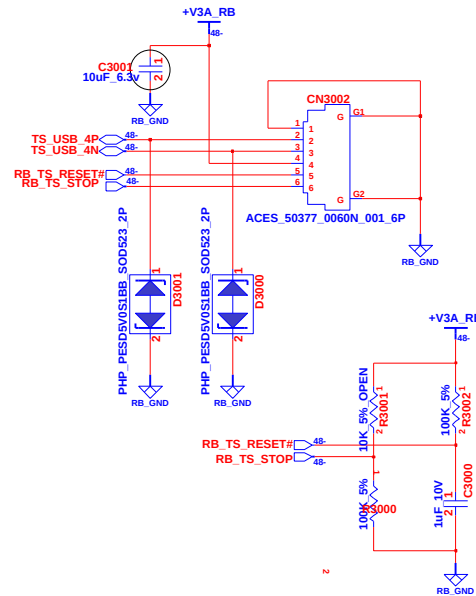
CHANGE by Chan,Shane 3-May-2010

Rotate Button board

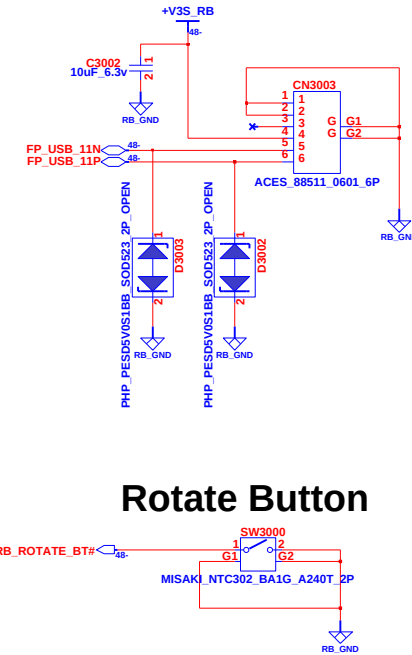
Rotate Button board conn



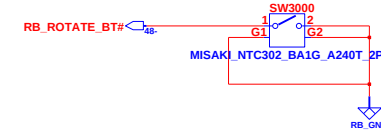
TOUCH SCREEN



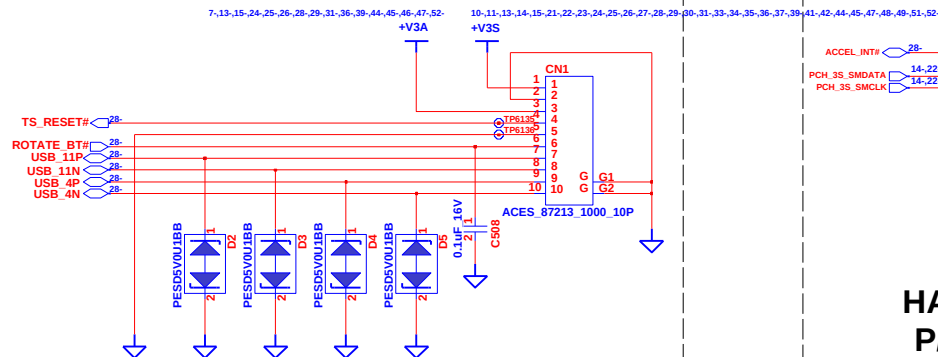
FINGER PRINT



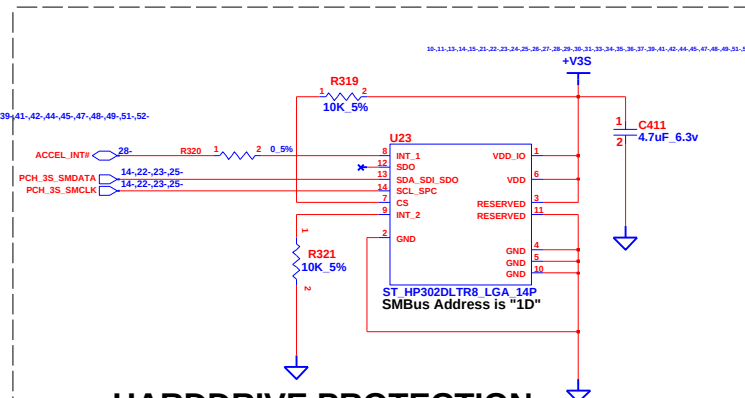
Rotate Button



Rotate Button board conn ON MB



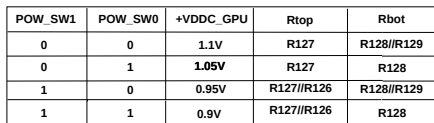
HARDDRIVE PROTECTION P/N = 6019B0505201



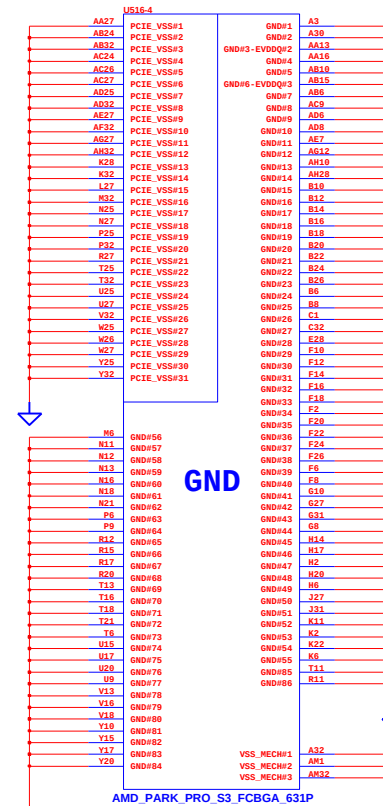
INVENTEC			
TITLE LUKE20 Touchscreen, FP & HD LOCK(Option)			
SIZE A3	CODE CS	DOC. NUMBER 1310A23532-0-MTR	REV A
SHEET 48		OF 56	

CHANGE by Chan,Shane 3-May-2010

If GPIO_22_EN = 0 , then GPIO[13:11] defines the primary memory aperture size.			
GPIO_13	GPIO_12	GPIO_11	Memory aperture size
0	0	1	512MB / 256MB (Default)
1	1	0	reserved



INVENTEC			
TITLE LUKE20			
SIZE A3	CODE CS	DOC. NUMBER 1310A23532-0-MTR	REV A
SHEET		50 OF	56



GPU_THERMDA 5V

GPU_THERMDC 5V

Q541

Q542

1 3

R3004 0 5V_OPEN

2 MMBT3904_OPEN

UMA only

SIZE A3	CODE CS	DOC. NUMBER 1310A23532-0-MTR	REV A
SHEET		51	OF 56

