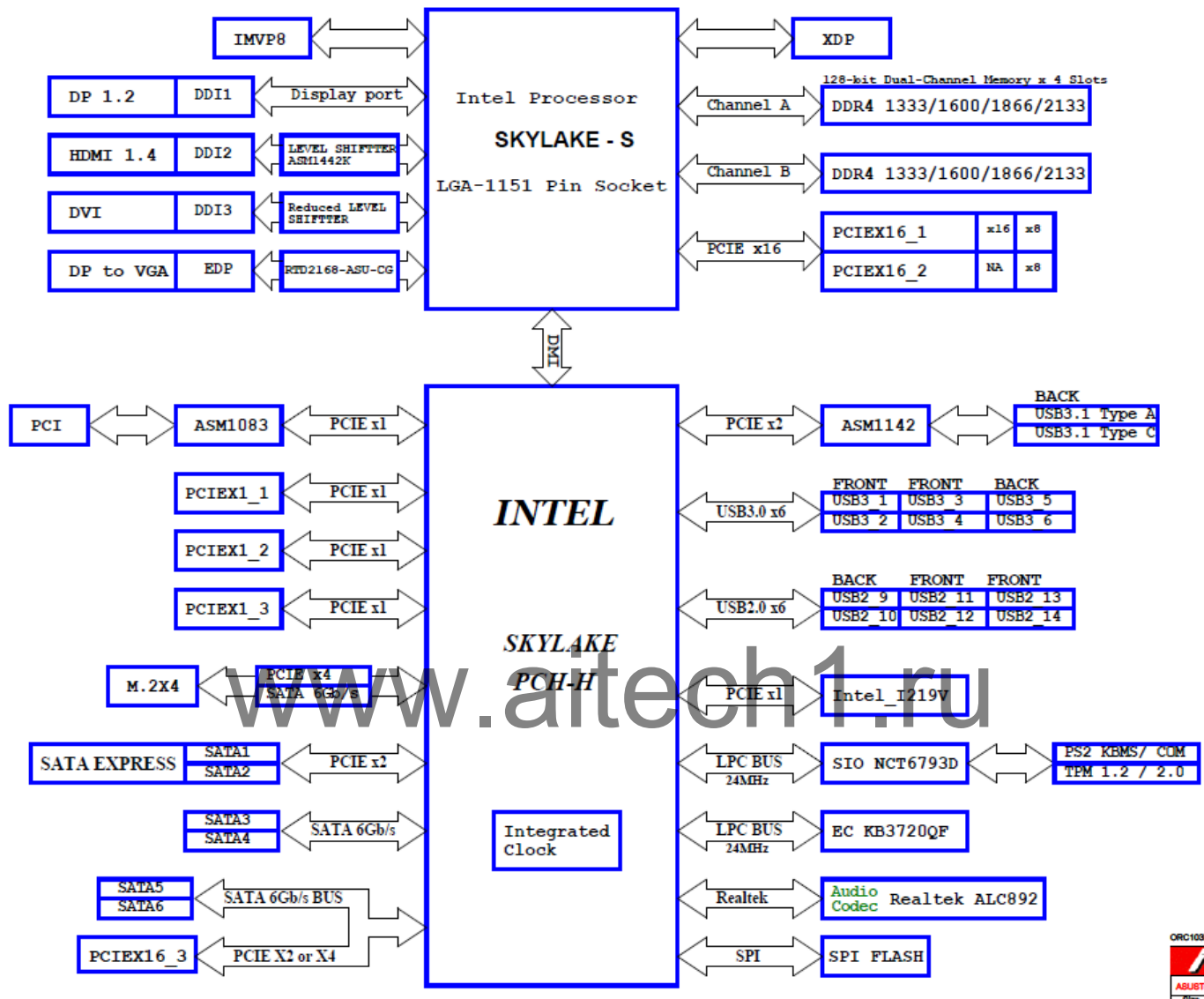
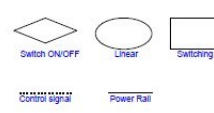


1. BLOCK DIAGRAM

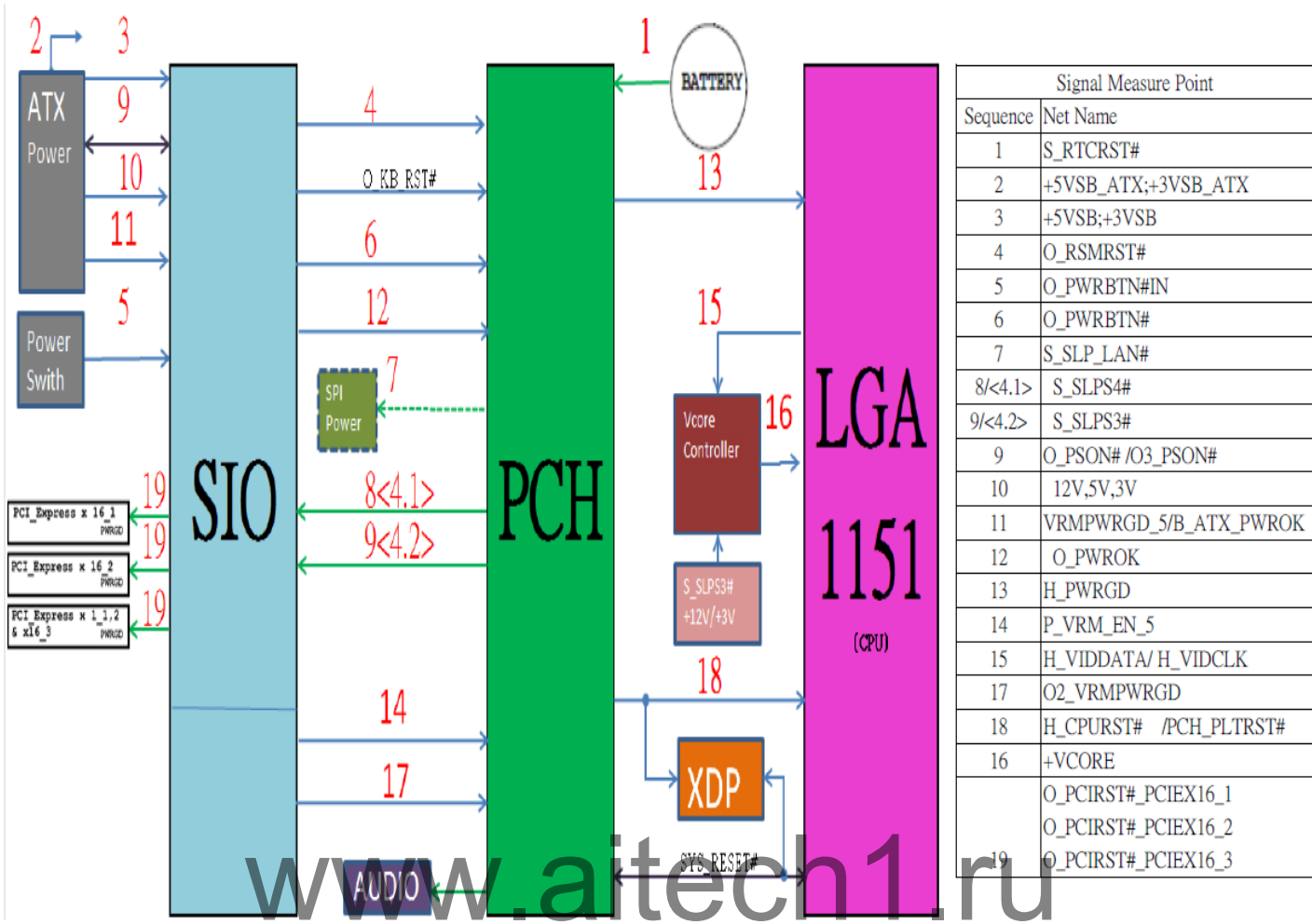


2. POWER FLOW



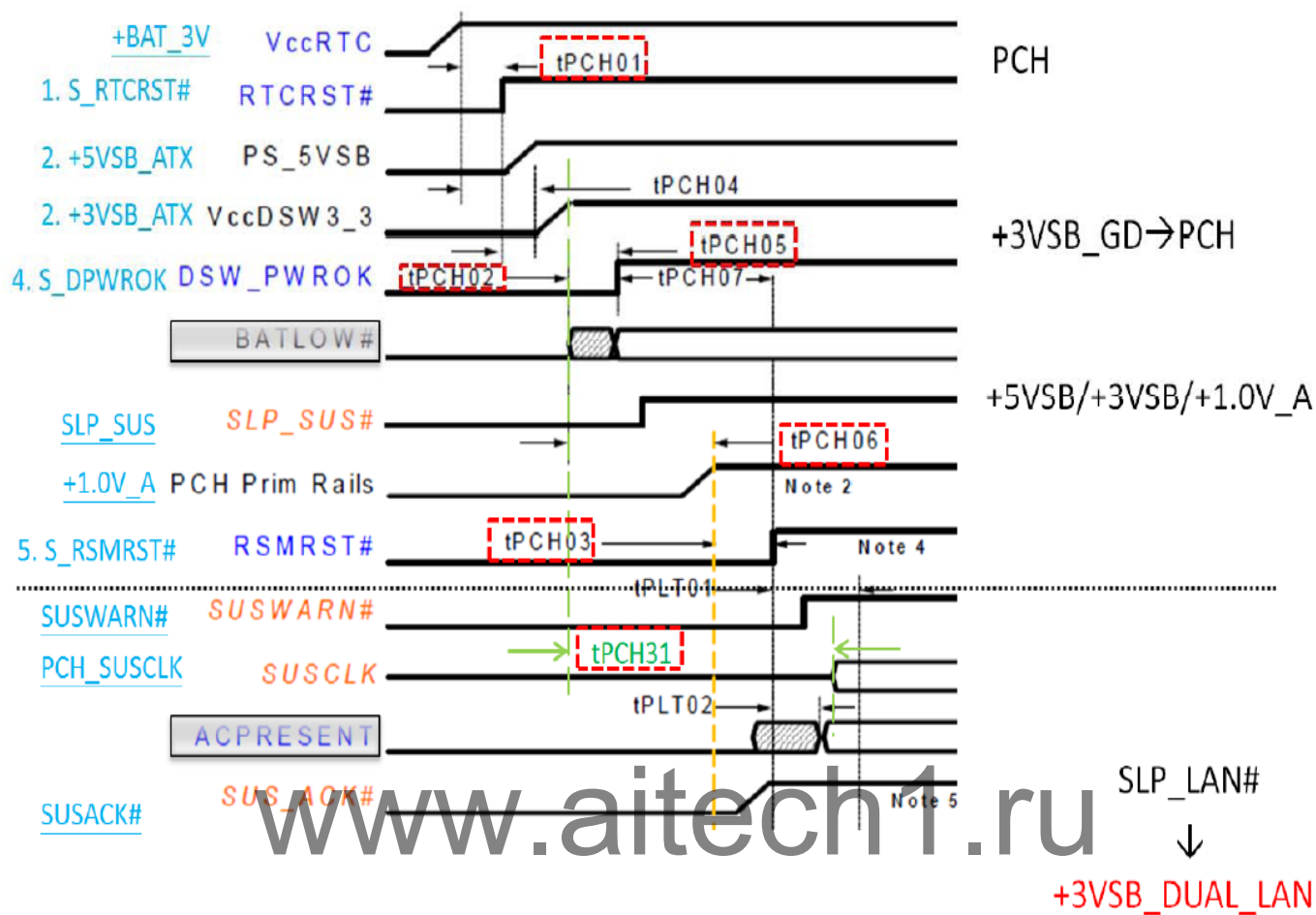
Title C100	
Site A2	Document Number C100 Deluxe

3. POWER ON SEQUENCE



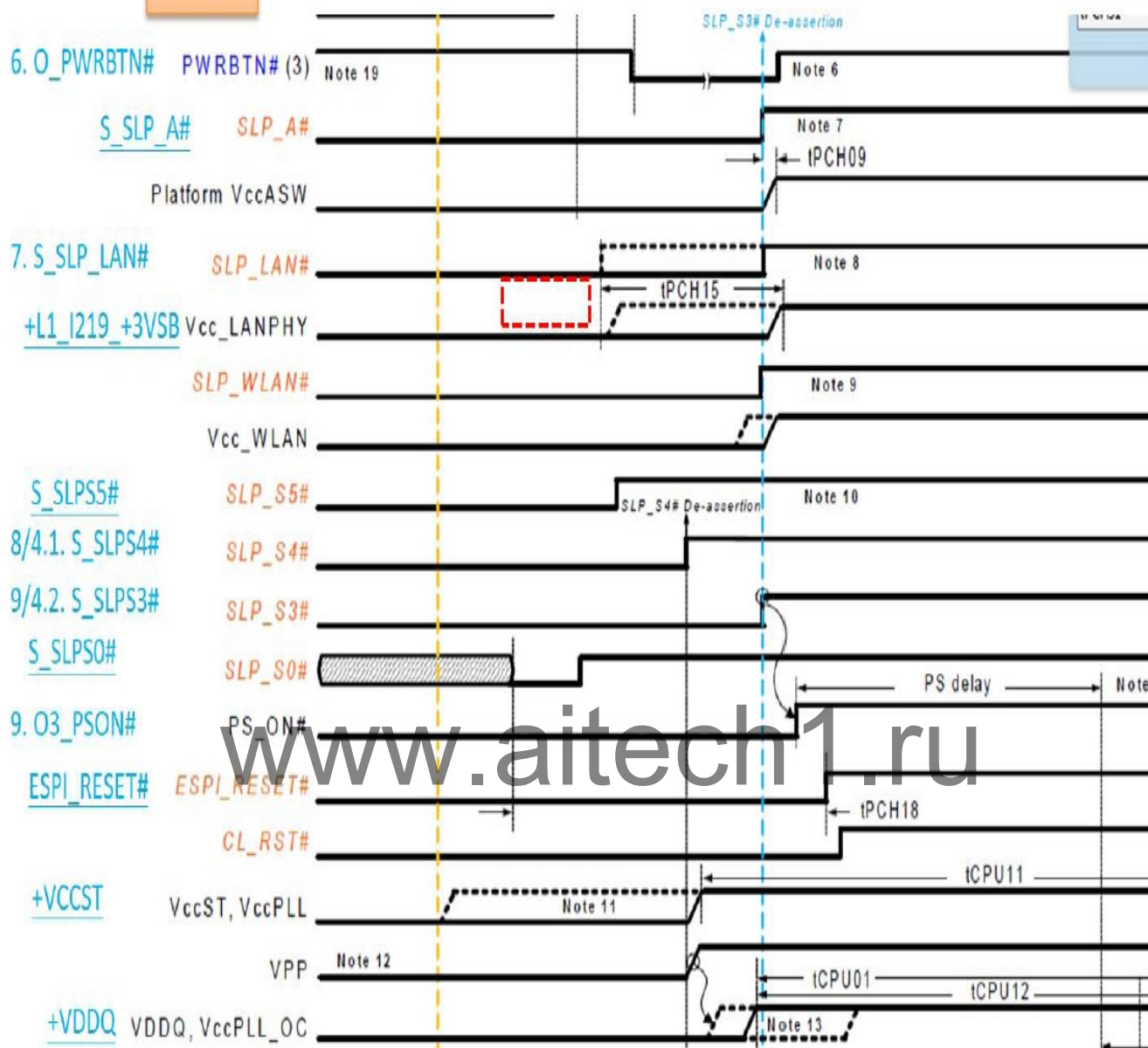
4. Timing Diagram for G3 to S5

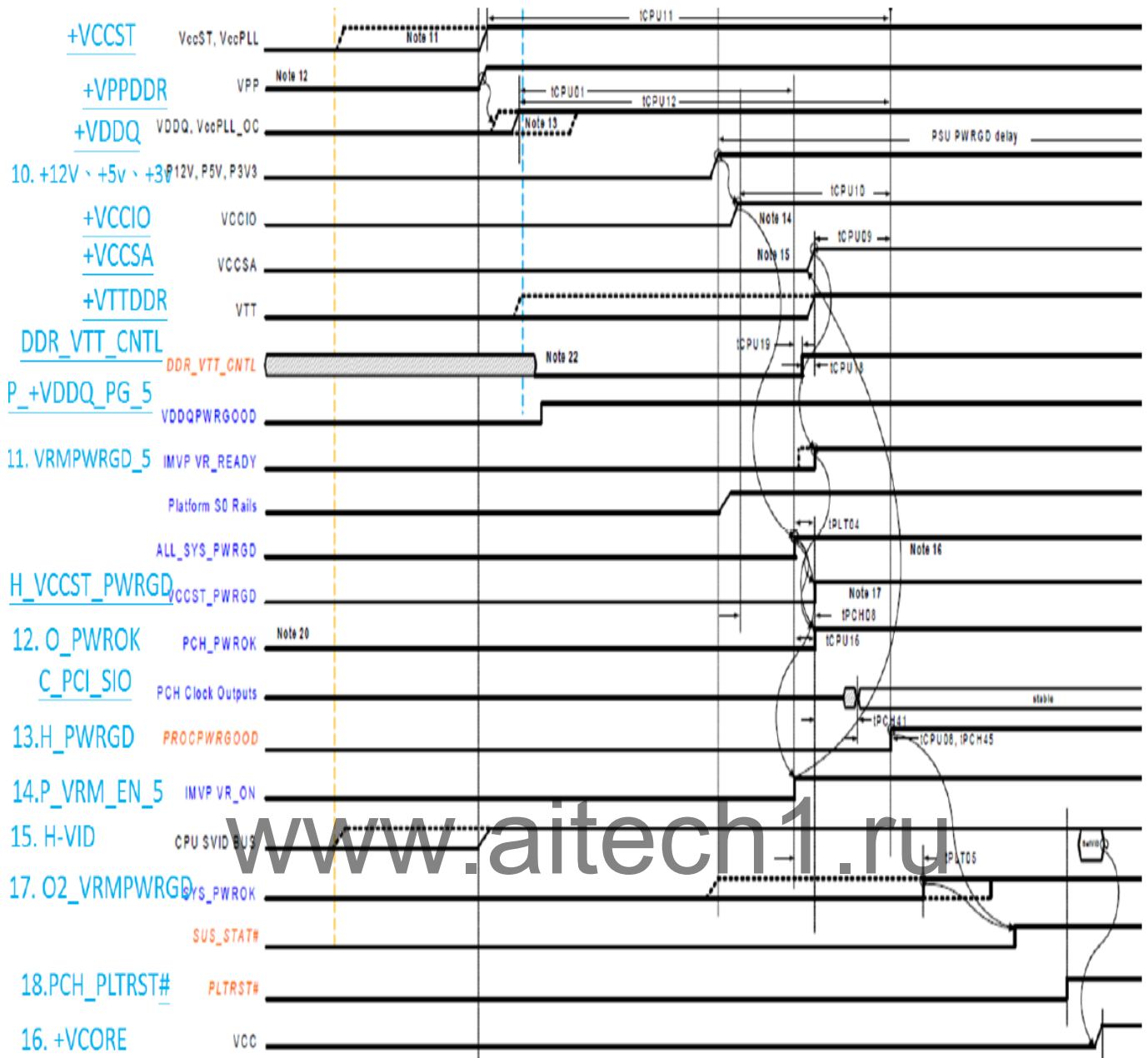
G3→S5



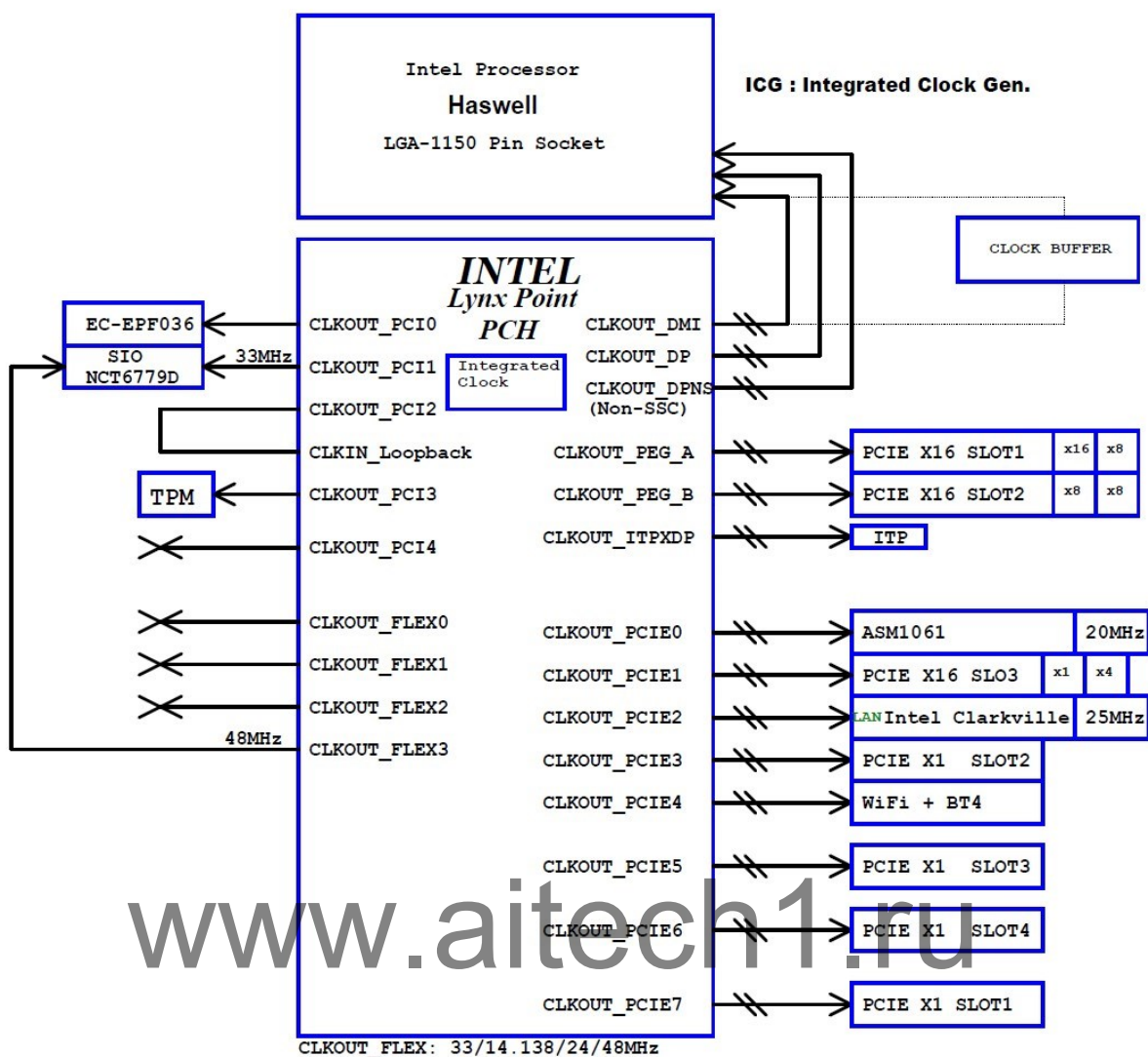
Timing Diagram for S5 to S0/M0

S5→S0





5. Frequency Flow



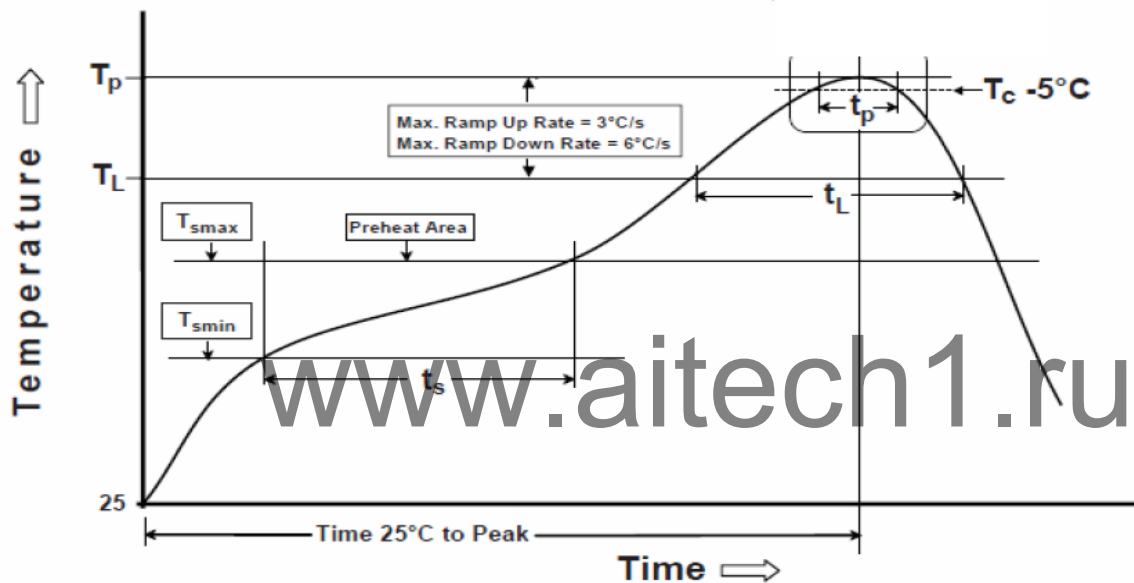
6. Socket reflow profile

Profile Feature	SMD Pb-Free Assembly	DIP Pb-Free Assembly	SMT Component Vendor Spec	DIP Component Vendor Spec
Preheat/Soak				
Temperature Min (T _{min})	150 °C	80 °C	150 °C	135 °C
Temperature Max (T _{max})	200 °C	135 °C	200 °C	need endure 80 seconds
Time (t _s) from (T _{min} to T _{max})	120 seconds	120 seconds	need endure 120 seconds	
Ramp-up rate (TL to Tp)	3 °C/second max.	3 °C/second max.	need endure 3 °C/second max.	need endure 3 °C/second max.
Liquidous temperature (TL)	217 °C	NA	217 °C	NA
Time (t _L) maintained above TL	90 seconds		need endure 90 seconds	
Peak package body temperature (Tp)	260 °C	270 °C	260 °C	270 °C
Time (t _p)* within 5 °C of the specified classification temperature (Tc), see Figure 1-1.	10* seconds	6* seconds	need endure 10* seconds	need endure 6* seconds
Ramp-down rate (Tp to TL)	6 °C/second max.	6 °C/second max.	need endure 6 °C/second max.	need endure 6 °C/second max.
Time 25 °C to peak temperature	8 minutes max.	8 minutes max.	8 minutes max.	8 minutes max.

Note 1: All temperatures refer to the center of the package, measured on the package body surface that is facing up during assembly reflow (e.g., live-bug). If parts are reflowed in other than the normal live-bug assembly reflow orientation (i.e., dead-bug), Tp shall be within ± 2 °C of the live-bug Tp and still meet the Tc requirements, otherwise, the profile shall be adjusted to achieve the latter. To accurately measure actual peak package body temperatures refer to JEP140 for recommended thermocouple use.

2. DIP Plastic heat resistance capability :

- (1) Direct contact 270°C, 6 seconds
- (2) In-direct contact 230°C, 5 seconds
- (3) no contact 130°C, 5 seconds



7. Lead-Free Rework Thermo profile Graphic for BGA & Chipset



Except for body temp, all temperatures are measured with thermo couples inside solder joints, for better accuracy

Primary Factors for Successful Rework:

- Flux formulation and solder paste formulation and volume
- A capable thermal reflow profile
- Proper PCB pad solder preparation/wicking (clean-up of the residual solder

from the PCB pads)

Caution: Always remove batteries and thermal solutions following the system design disassembly process steps prior to BGA rework to avoid damaging the BGA.

View this Intel®BGA / Socket Rework Video (10 minutes in length):

<http://link.brightcove.com/services/player/bcpid1409165005001?bckey=AQ~~,AAAQwZd9wk~,X1Exj3sUi-03b71FGkEmVWbi4T4yGcor&bctid=1519232885001>

8. MB Baking Time: 120 °C, 8 hours

BGA Baking Time:

5.2 Floor Life The floor life of SMDs per Table 5-1 will be modified by environmental conditions other than 30 °C/60% RH. Refer to Clause 7 to determine maximum allowable time before rebake would be necessary. If partial lots are used, the remaining SMD packages must be resealed or placed in safe storage within one hour of bag opening (see 5.3). If one hour exposure is exceeded, refer to 4.1.

Table 5-1 Moisture Classification Level and Floor Life per J-STD-020

Level	Floor Life (out of bag) at factory ambient $\pm 30^{\circ}\text{C}/60\%$ RH or as stated
1	Unlimited at $\pm 30^{\circ}\text{C}/85\%$ RH
2	1 year
2a	4 weeks
3	168 hours
4	72 hours
5	48 hours
5a	24 hours
6	Mandatory bake before use. After bake, must be reflowed within the time limit specified on the label

Supplier Bake: Default Baking Times Used Prior to Dry-Pack that were Exposed to Conditions $\pm 60\%$ RH (“MET” = 24 h)

Package Body Thickness	Level	Bake @ $125^{\circ}\text{C} +10/-0^{\circ}\text{C}$	Bake @ $150^{\circ}\text{C} +10/-0^{\circ}\text{C}$
$\leq 1.4\text{ mm}$	2	7 hours	3 hours
	2a	8 hours	4 hours
	3	16 hours	8 hours
	4	21 hours	10 hours
	5	24 hours	12 hours
	5a	28 hours	14 hours
$> 1.4\text{ mm}$ $\leq 2.0\text{ mm}$	2	18 hours	9 hours
	2a	23 hours	11 hours
	3	43 hours	21 hours
	4	48 hours	24 hours
	5	48 hours	24 hours
$> 2.0\text{ mm}$ $\leq 4.5\text{ mm}$	5a	48 hours	24 hours
	2	48 hours	24 hours
	2a	48 hours	24 hours
	3	48 hours	24 hours
	4	48 hours	24 hours
	5	48 hours	24 hours
	5a	48 hours	24 hours

Note 1: If baking of packages $> 4.5\text{ mm}$ thick is required see appendix B.

Note 2: The bake times specified are conservative for packages without blocking planes or stacked die. For a stacked die or BGA package with internal planes that impede moisture diffusion the actual bake time may be longer than that required in Table 4-2 if packages have had extended exposure to factory ambient before bake. Also the actual bake time may be reduced if technically justified. The increase or decrease in bake time **shall** be determined using the procedure in JEDEC JESD22-A120 (i.e., $< 0.002\%$ weight loss between successive readouts) or per critical interface concentration calculations.

9. Voltage Measure Point

Voltage Measure Point		
Station	Net Name	Diode resistance
PU300	+3VSB_ATX	278
PQ301	+5VSB	449
PC224	+VCCGT	445
PL401	+VCCSA	496
EATX12V	12V_CPU	548
TPM	+3VSB	297
PQ605	+5V_DUAL_USBKB	476
PC1225	+VTTDDR	432
EATXPWR	+5VSB_ATX	574
PQ602	+5VDUAL	524
EATXPWR	+12V	535
EATXPWR	+5V	424
EATXPWR	+3V	202

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10.Signal Measure Point

		Signal Measure Point	
Station	Sequence	Net Name	Diode resistance
SR123	1	S_RTCRST#	776
SR121		S_SRTCST#	777
NA	2	AC Power Switch ON	NA
PQ301	3	+5VSB	449
TPM		+3VSB	297
SR142	3.1	S_DPWRCK	17
SR142	4	O_RSMRST#	17
PANEL	5	O_PWRBTN#IN	559
SC29	6	O_PWRBTN#	457
SD5	7/4.2	S_SLPS3#	500
NA	7	S_SLP_A#	NA
NA	7.1	S_SLP_LAN#	NA
PQ3011	8/4.1	S_SLPS4#	505
OR211	9	O_PSON#	550
EATXPWR	10	12V	535
EATXPWR		5V	424
EATXPWR		3V	202
EATXPWR	11	B_ATX_PWRCK	571
SQ40	12	O_PWRCK	587
SR75	13	H_PWRGD	436
HR210	14	H_VIDDATA	341
PR109		H_VIDCLK	335
PC177	15	+VCORE	414
SD5	16	O2_VRMPPWRGD	504
SQ42	17	S_PLTRST#	432
HQ8	18	H_CPURST#	363
XC71	19	O_PCIRST#_PCIEX16_1	552
XC79		O_PCIRST#_PCIEX16_2	550
TPM		O_PCIRST#_PCIEX16_3	549