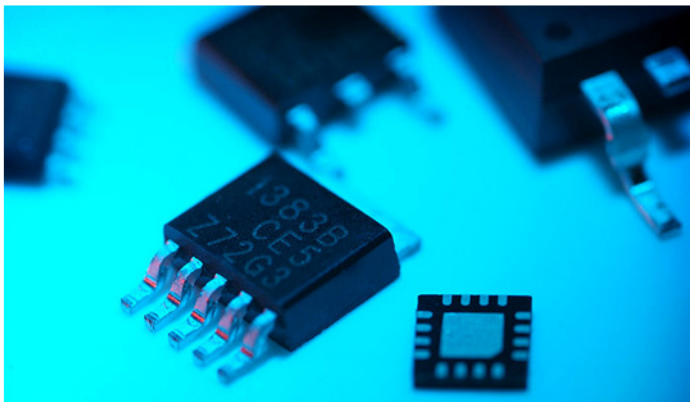




AIC Products for TV/STB/Networking



*2013 Q3
By Enrique Lee
Marketing Dept.*

Agenda

- ***Target application segment***
- ***AIC products for TV/STB/Networking***
- ***Power blocks for TV/STB/Networking***

Smart Home entertainment



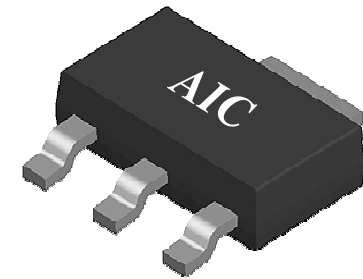
(Smart TV/Set-top-box/Wireless AP, Router)



AIC product for TV/STB/Networking



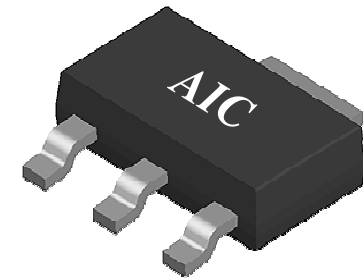
- **LDO**
- **Step down DC/DC**
- **USB**
- **Reset**
- **DDR Regulator**



AIC product for TV/STB/Networking



- **LDO**
- Step down DC/DC
- USB
- Reset
- DDR Regulator



LDO Series

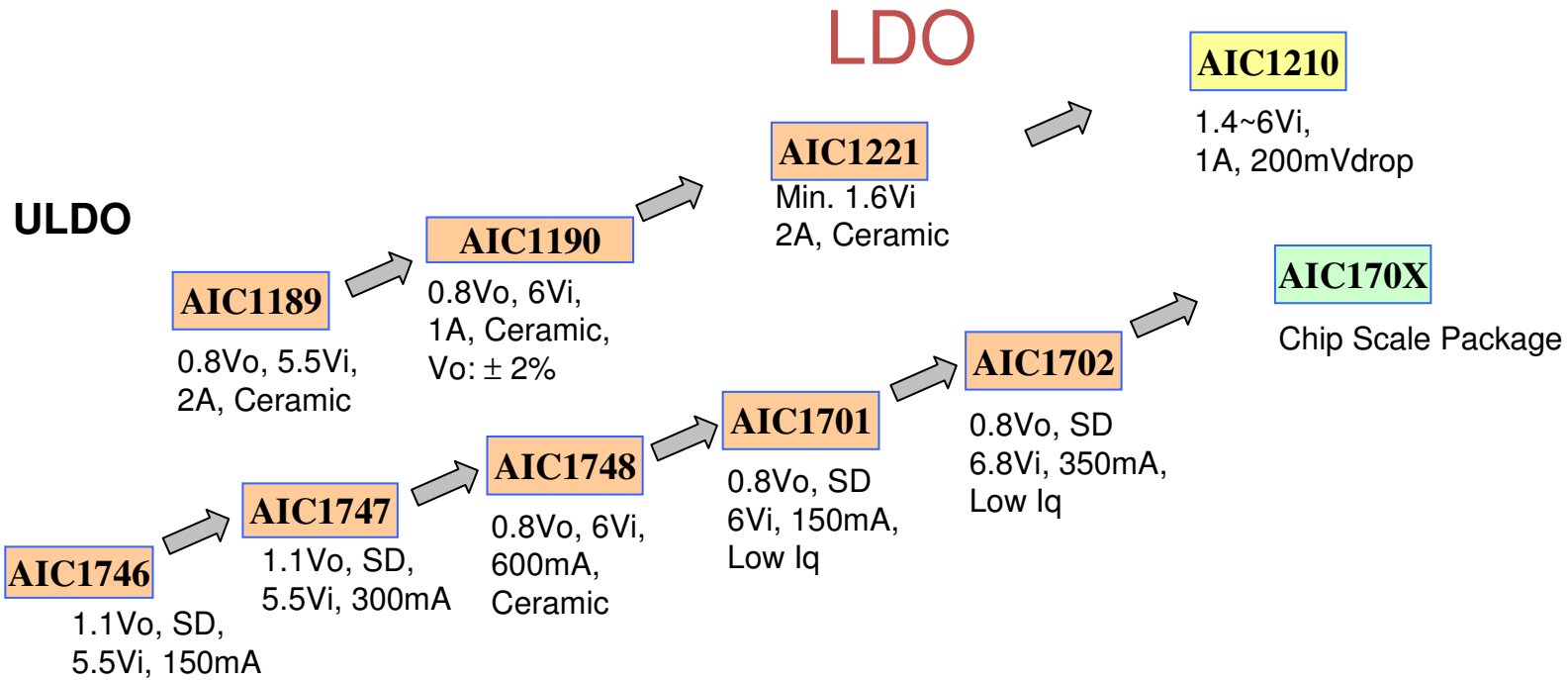


P/N	AIC1084	AIC1085	AIC1086	AIC1117A	AIC1117	AIC1735	AIC1734	AIC1731	AIC1722A
Output Current	5A	3A	1.5A	1A	0.8A	0.5A	0.3A	0.3A	0.3A
Maximum Input Voltage (V)	7	7	7	7	7	12	12	12	8
Minimum Output Voltage (V)	1.5	1.5	1.8	1.8	1.8	1.8	1.8	1.3	1.5
Current Limit (A)	6	4	2	1A min	0.85A min	0.5A min	0.3A min	0.45A	0.3A min
Quiescent Current (uA)	11,500	11,500	10,000	10,000	10,000	65	55	30	55
Reference Voltage (V)	1.25	1.25	1.25	1.25	1.25	-	-	1.23	1.235
Dropout Output Voltage	1400mV @ Vo=3.3V, Io=5A	1300mV @ Vo=3.3V, Io=3A	1300mV @ Vo=3.3V, Io=1.5A	1300mV @ Vo=3.3V, Io=1A	1200mV @ Vo=3.3V, Io=0.8A	650mV @ Vo=3.3V, Io=0.5A	470mV @ Vo=3.3V, Io=0.3A	470mV @ Vo=3.3V, Io=0.3A	470mV @ Vo=3.3V, Io=0.3A
Enable	-	-	-	-	-	-	-	V	-
PSRR									
Output Capacitor	10uF	10uF	10uF	10uF	10uF	4.7uF	1uF	1uF	1uF
Package	TO-220-3, TO-263-3, TO-252-3	TO-220-3, TO-263-3, TO-252-3	TO-252-3, TO-263-3, TO-220-3, SOT-223	SOT-223, TO-252-3, TO-263-3, TO-220-3	SOT-223, TO-252-3, TO-263-3, TO-220-3	SOT-23-3, SOT-89-3, SOT-223, TO-252-3	SOT-23-3, SOT-89-3, TO-92-3	SOT-23-5, SOT-89-5	SOT-23-3, SOT-89-3, TO-92-3

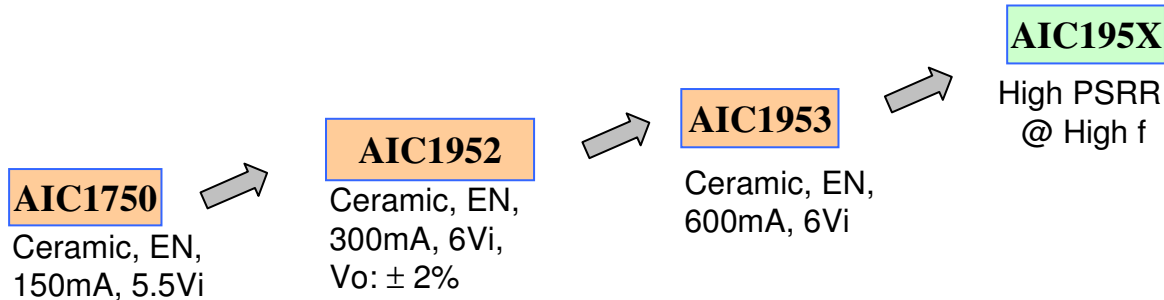
Ceramic Compatible LDO Series

P/N	AIC1221	AIC1190	AIC1748	AIC1747	AIC1702	AIC1701	AIC1953	AIC1952
Output Current	2A	1A	0.6A	0.3A	0.35A	0.15A	dual 0.6A	dual 0.3A
Input Voltage (V)	1.8~6	2.3~6	2.3~6	2~5.5	2~6.8	2~6	1.6~6	1.6~6
Output Voltage (V)	0.8~5.5	0.8~4.5	0.8~4.5	1.1~4.2	0.8~5	0.8~5	0.8~3.8	0.8~3.8
Current Limit (A)	3	1.7	0.95	0.45	0.4	0.25	0.95	0.45
Quiescent Current (uA)	30	80	75	80	3	3	50	50
Reference Voltage (V)	0.7	0.8	0.8	-	-	-	-	-
Dropout Output Voltage	550mV @ Vo=3.3V, Io=2A	440mV @ Vo=3.3V, Io=1A	350mV @ Vo=3.3V, Io=0.6A	270mV @ Vo=3.3V, Io=0.3A	550mV @ Vo=3.3V, Io=0.35A	200mV @ Vo=3.3V, Io=0.1A	470mV @ Vo=3.3V, Io=0.6A	200mV @ Vo=3.3V, Io=0.3A
Enable	V	V	V	V	V	V	V	V
PSRR	70dB@1KHz	70dB@1KHz	65dB@1KHz	60dB@1KHz	40dB@1KHz	40dB@1KHz	70dB@1KHz	70dB@1KHz
Output Capacitor	4.7uF (Ceramic)	2.2uF (Ceramic)	1uF (Ceramic)	1uF (Ceramic)	1uF (Ceramic)	1uF (Ceramic)	1uF (Ceramic)	1uF (Ceramic)
Package	SOT-223, TO-252-3, TO-263-3, TO-220-3, TO-252-5, TO-263-5, SOP8	SOT-223, TO-252-3, TO-263-3, TO-220-3, TO-252-5, TO-263-5, SOP8	SOT-23-3, SOT-89-3, SOT-223, TO-252-3, SOT-23-5, SOT-89-5, TO-252-5	SOT-23-3, TSOT-23-3, SOT-89-3, SC70-3, SOT-23-5, TSOT-23-5, SOT-89-5, DFN6 2*2, SC70-5	SOT-23, SOT89, SOT-23-5, DFN6 2*2	SOT-23, SOT89, SOT-23-5, DFN6 2*2	SOT-23-6, SOP8	SOT-23-6, TSOT-23-6, DFN6 2*2

Product Roadmap



Dual LDO

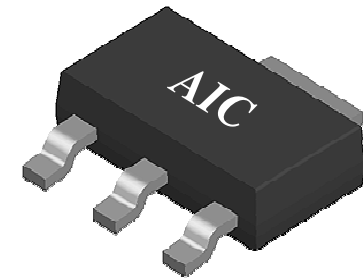


 Available
 Under Developing
 New Idea

AIC product for TV/STB/Networking



- LDO
- **Step down DC/DC**
- USB
- Reset
- DDR Regulator



AIC HV Buck Solution



Syn / Asyn	Item	Output Current	Topology	Vin	Vout	Frequency	Ron (Ohm)	Package
Syn	AIC2857	2A	PWM	4.75~23V	0.925V~12V	340KHz	N:0.13, N:0.13	SOP8 & SOP8 W/ EXP
	AIC2858	3A	PWM	4.75~23V	0.925V~12V	340KHz	N:0.1, N:0.1	SOP8 W/ EXP
	AIC2822	2A	PWM	4.75~23V	0.925V~12V	550KHz	N:0.14, N:0.12	SOP8 W/ EXP
	AIC2823	3A	PWM	4.75~23V	0.925V~12V	550KHz	N:0.1, N:0.085	SOP8 W/ EXP
	AIC2862	2A	PWM / PSM	4.75~23V	0.925V~12V	-3:340KHz -5:550KHz	N:0.13, N:0.13	SOP8 W/ EXP
	AIC2863	3A	PWM / PSM	4.75~23V	0.925V~12V	-3:340KHz -5:550KHz	N:0.1, N:0.1	SOP8 W/ EXP
Asyn	AIC2565	3A	PWM	4.75~23V	1.22V~16V	385KHz	N:0.1	SOP8 W/ EXP
	AIC2566	3A	PWM	4.75~23V	0.92V~16V	385KHz	N:0.1	SOP8 W/ EXP

HV Syn Step Down Converter



Part Number	AIC2858	AIC2857	AIC2863	AIC2862
Input Voltage (V)	4.75V - 23V	4.75V - 23V	4.75V - 23V	4.75V - 23V
Output Voltage (V)	0.925V - 12V	0.925V - 12V	0.925V - 12V	0.925V - 12V
Output Current (A)	Up to 3A	Up to 2A	Up to 3A	Up to 2A
Switching Frequency (KHz)	340	340	-3: 340 -5: 550	-3: 340 -5: 550
Short Circuit Frequency (KHz)	110	110	110	110
Efficiency	12V to 5V @ 1A 92.5% 12V to 5V @ 3A 87%	12V to 5V @ 1A 92.5% 12V to 5V @ 2A 90%	12V to 3.3V @ 2A 88% 12V to 3.3V @ 0.02A 82%	12V to 3.3V @ 2A 88% 12V to 3.3V @ 0.02A 82%
Thermal Shutdown / Hysteresis	160	160	160	160
Maximum / Minimum Duty	90% / 220nS	90% / 220nS	90% / 220nS	90% / 220nS
UVLO / hysteresis (V)	4.1 / 0.21	4.1 / 0.21	4.05 / 0.21	4.05 / 0.21
Operating / Shutdown Current	1.3mA / 0.3uA	1.3mA / 0.3uA	0.7mA / 0.3uA	0.7mA / 0.3uA
Feedback Voltage (V)	0.925	0.925	0.925	0.925
Current Limit (A)	5.8A	3.4A	5.4A	3.4A
H-side Ron / L-side Ron	0.1Ω / 0.1Ω	0.13Ω / 0.13Ω	0.1Ω / 0.1Ω	0.14Ω / 0.12Ω
Structure	Synchronous current-mode bootstrap PWM step down convertor	Synchronous current-mode bootstrap PWM step down convertor	Synchronous high light load efficiency current-mode bootstrap step down convertor	Synchronous high light load efficiency current-mode bootstrap step down convertor
Package	SOP-8 with exposed pad	SOP-8 with exposed pad	SOP-8 with exposed pad	SOP-8 with exposed pad
External Components	2*Cin (10uF)	1*Cin (10uF)	1*Cin (10uF)	1*Cin (10uF)
	2*Cout (22uF)	2*Cout (22uF)	2*Cout (10uF)	2*Cout (22uF)
	1*L (10uH)	1*L (10uH)	1*L (10uH)	1*L (15uH)
	2*Rfb	2*Rfb	2*Rfb	2*Rfb
	1*Cbst	1*Cbst	1*Cbst	1*Cbst
	1*Rcomp, 1*Ccomp	1*Rcomp, 1*Ccomp	1*Rcomp, 1*Ccomp	1*Rcomp, 1*Ccomp
	1*Css	1*Css	1*Css	1*Css
	Total:11	Total:10	Total:10	Total:10

AIC2862

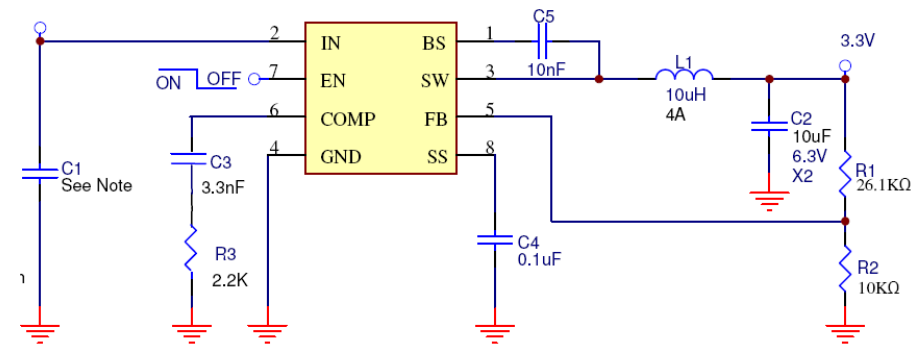


2A/23V 340/550KHz Synchronous Step Down Converter

Feature

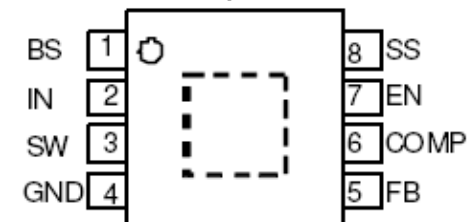
- 2A Continuous Output Current
- Wide 4.75 to 23V Operating Input Range
- Output Adjustable from 0.925V to 12V
- Up to **88%** Efficiency for Heavy Load
($V_{in}=12V$, $V_{out}=3.3V$, $I_{out}=2.0A$)
- Up to **85%** Efficiency for Moderate Load
($V_{in}=12V$, $V_{out}=3.3V$, $I_{out}=200mA$)
- Up to **82%** Efficiency for Light Load
($V_{in}=12V$, $V_{out}=3.3V$, $I_{out}=20mA$)
- Low $R_{ds(on)}$ Internal Switches: $150m\Omega$ and $120m\Omega$
- **$<3\mu A$** Supply Current in Shutdown Mode
- Fixed **340K/550KHz** Frequency
- **Programmable Soft Start**
- Thermal Shutdown
- Cycle by Cycle Over Current Protection
- Under Voltage Lockout
- Short Circuit Protection
- Over Voltage Protection

Application Circuit



Package Type

SOP-8 Exposed Pad



AIC2863

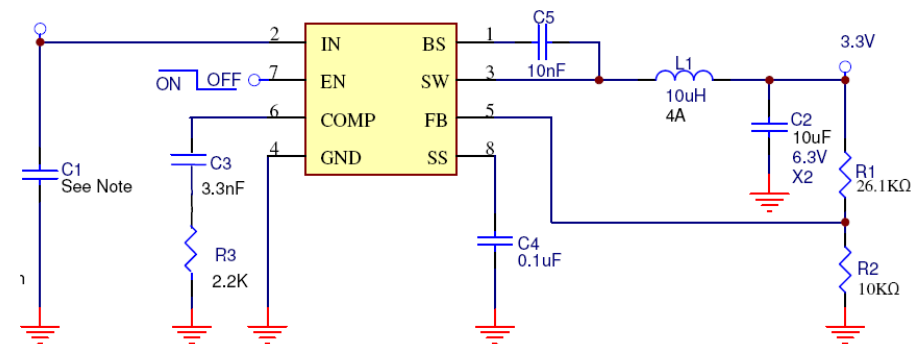


3A/23V 340/550KHz Synchronous Step Down Converter

Feature

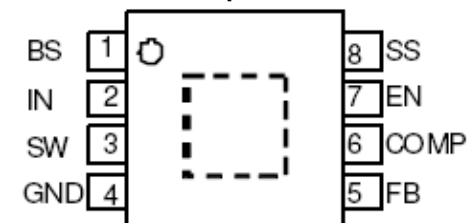
- 3A Continuous Output Current
- Wide 4.75 to 23V Operating Input Range
- Output Adjustable from 0.925V to 12V
- Up to **88%** Efficiency for Heavy Load
($V_{in}=12V$, $V_{out}=3.3V$, $I_{out}=2.0A$)
- Up to **85%** Efficiency for Moderate Load
($V_{in}=12V$, $V_{out}=3.3V$, $I_{out}=200mA$)
- Up to **82%** Efficiency for Light Load
($V_{in}=12V$, $V_{out}=3.3V$, $I_{out}=20mA$)
- Low $R_{ds(on)}$ Internal Switches: $110m\Omega$ and $80m\Omega$
- **$<3\mu A$** Supply Current in Shutdown Mode
- Fixed **340K/550KHz** Frequency
- **Programmable Soft Start**
- Thermal Shutdown
- Cycle by Cycle Over Current Protection
- Under Voltage Lockout
- Short Circuit Protection
- Over Voltage Protection

Application Circuit



Package Type

SOP-8 Exposed Pad



Product Roadmap

HV Buck Converter



AIC2858F

4.75~23Vi, Sync
3A, 340KHz, SO8_EP

AIC2863

4.75~23Vi, 3A,
340/550KHz, HLLE
SO8_EP

AIC2823

4.75~23Vi, 3A,
PWM
550KHz

AIC2862

4.75~23Vi, 2A,
340/550KHz, HLLE,
SO8_EP

AIC2857F

4.75~23Vi, Sync
2A, 340KHz, SO8/
SO8_EP

AIC2822

4.75~23Vi, 2A,
PWM
550KHz

AIC2865

4.5~16Vi, 5A,
700KHz, AOT,
HLLE, SO8_EP

AIC2883

4.5~16Vi, 3A,
340/550KHz, HLLE,
SO8_EP

AIC2882

4.5~16Vi, 2A,
340/550KHz, HLLE,
SO8_EP

AIC2852

4.5~16Vi, 2A,
500/700KHz, HLLE,
SOT23-6

AIC2851

4.5~16Vi, 1.5A,
500/700KHz, HLLE,
SOT23-6

AIC2868

4.5~18Vi, **8A**,
700KHz, AOT,
HLLE, SOP8 EP

AIC2866

4.5~18Vi, **6A**,
700KHz, AOT,
HLLE, SOP8 EP

AIC2854

4.5~16Vi, 4A,
500/700KHz,
HLLE, **SOT23-6**

AIC2853

4.5~16Vi, 3A,
500/700KHz,
HLLE, **SOT23-6**

Available Parts

2013 Q4

2014

Available Under Developing New Idea

AIC LV Buck Solution



Item	Output Current	Topology	Vin	Vout	Frequency	Ron (Ohm)	Package
AIC2350	0.4A	PWM / PSM	2.5V~5.5V	0.6V~Vin-0.3V	1.5MHz	P:0.28, N:0.25	SOT23-5
AIC2352	0.7A	PWM / PSM	2.5V~5.5V	0.6V~Vin-0.3V	1.5MHz	P:0.28, N:0.25	SOT23-5
AIC2354	1A	PWM / PSM	2.5V~5.5V	0.6V~Vin-0.3V	1.5MHz	P:0.28, N:0.25	SOT23-5 / DFN6
AIC2300	0.4A	PWM	2.5V~5.5V	0.6V~Vin-0.3V	1.5MHz	P:0.28, N:0.25	SOT23-5
AIC2302	0.7A	PWM	2.5V~5.5V	0.6V~Vin-0.3V	1.5MHz	P:0.28, N:0.25	SOT23-5
AIC2304	1A	PWM	2.5V~5.5V	0.6V~Vin-0.3V	1.5MHz	P:0.28, N:0.25	SOT23-5 / DFN6
AIC2309	1A / 1A	PWM	2.5V~5.5V	0.6V~Vin-0.3V	1.5MHz	P:0.28, N:0.25	DFN12 3*3
AIC2359	1A / 1A	PWM / PSM	2.5V~5.5V	0.6V~Vin-0.3V	1.5MHz	P:0.28, N:0.25	DFN12 3*3
AIC2362	2A	PWM / PSM	2.5V~6V	0.8V~Vin	A: 1.1MHz B: 550KHz	P:0.11, N:0.08	SOP8
AIC2363	3.2A	PWM / PSM	2.5V~6V	0.8V~Vin	A: 1.1MHz B: 550KHz	P:0.11, N:0.08	SOP8 / DFN10 3*3
AIC2364	4A	PWM / PSM	2.5V~6V	0.8V~Vin-0.5	A: 1.2MHz B: 550KHz	P:0.07, N:0.07	SOP8 / DFN12 3*3
AIC2322	2A	PWM	2.5V~6V	0.8V~Vin	A: 1.1MHz B: 550KHz	P:0.11, N:0.08	SOP8
AIC2323	3.2A	PWM	2.5V~6V	0.8V~Vin	A: 1.1MHz B: 550KHz	P:0.11, N:0.08	SOP8 / DFN10 3*3
AIC2324	4A	PWM	2.5V~6V	0.8V~Vin-0.5	A: 1.2MHz B: 550KHz	P:0.07, N:0.07	SOP8 / DFN12 3*3

AIC2362

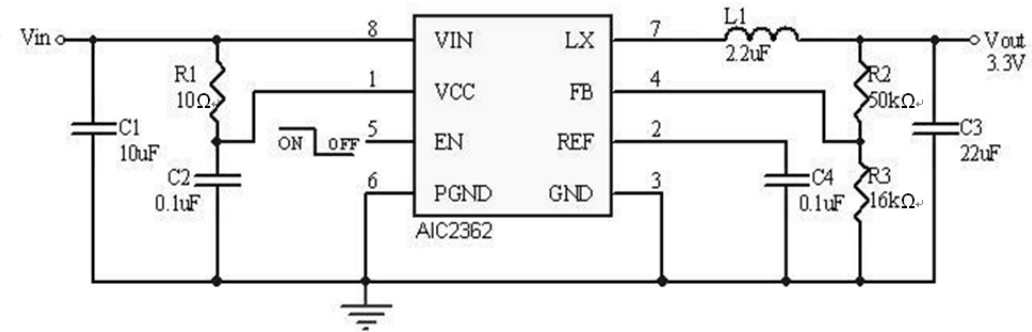


2A 550K/1.1MHz Synchronous PWM/PSM Step-Down Converter with Light Load Efficiency

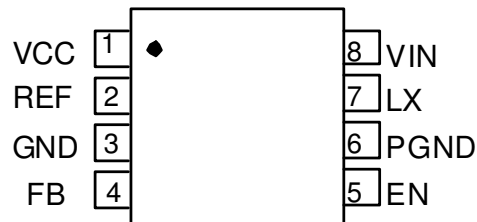
Key Features

- 2.5V to 6V Input Voltage Range
- Adjustable Output Voltage from 0.8V to V_{in}
- 2.0A Guaranteed Output Current
- 94% Efficiency at Heavy Load
- ($V_{in}=5V$, $V_{out}=3.3V$, $I_{out}=2.0A$)
- 96% Efficiency at Moderate Load
- ($V_{in}=5V$, $V_{out}=3.3V$, $I_{out}=300mA$)
- 90% Efficiency at Light Load
- ($V_{in}=5V$, $V_{out}=3.3V$, $I_{out}=20mA$)
- Low RDS(ON) Internal Switches: $110m\Omega$
- No Schottky Diode Required
- 100% Duty Cycle in Low Dropout Operation
- Optional 550KHz/1.1MHz Operating Frequency
- Optional Soft-Start Internal Fixed 1ms Soft-Start

Typical Application Circuit



Pin Configuration



AIC2363

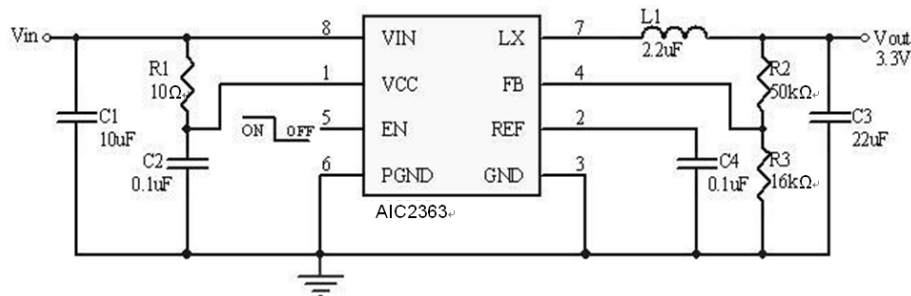


3.2A 550K/1.1MHz Synchronous PWM/PSM Step-Down Converter with Light Load Efficiency

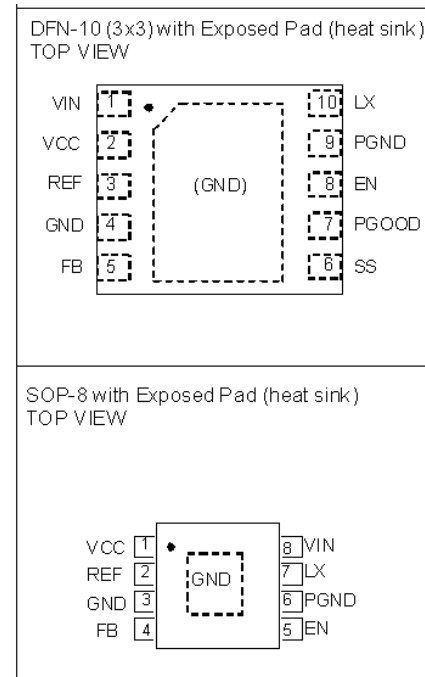
Key Features

- 2.5V to 6V Input Voltage Range
- Adjustable Output Voltage from 0.8V to V_{in}
- 3.2A Guaranteed Output Current
- 88% Efficiency at Heavy Load
- (Vin=5V, Vout=3.3V, Iout=3.2A)
- 94% Efficiency at Moderate Load
- (Vin=5V, Vout=3.3V, Iout=1.6A)
- 91% Efficiency at Light Load
- (Vin=5V, Vout=3.3V, Iout=50mA)
- Low RDS(ON) Internal Switches: 110m Ω
- No Schottky Diode Required
- 100% Duty Cycle in Low Dropout Operation
- Optional 550KHz/1.1MHz Operating Frequency
- Optional Soft-Start Internal Fixed 1ms Soft-Start

Typical Application Circuit



Pin Configuration



AIC2364



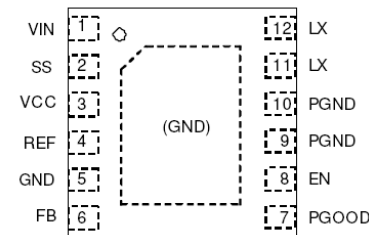
4A 550K/1.1MHz Synchronous PWM/PSM Step-Down Converter with Light Load Efficiency

Key Features

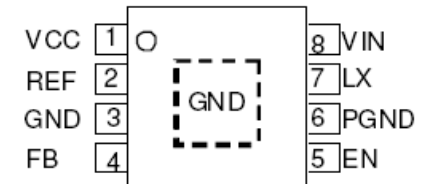
- 2.5V to 6V Input Voltage Range
- Adjustable Output Voltage from 0.8V to $V_{in}-0.5V$
- 4A Guaranteed Output Current
- Low RDS(ON) Internal Switches: $70m\Omega$
- 100% Duty Cycle in Low Dropout Operation
- Optional 550KHz/1.2MHz Operating Frequency
- Internal Fixed 1ms Soft- Start (in SOP-8)
- Optional Programmable Soft-Start (in DFN-12)
- Optional Power Good Monitor (Only in DFN-12 Package)
- SCP/OTP/OVP

Pin Configuration

DFN-12 (3x3) with Exposed Pad (heat sink)
TOP VIEW



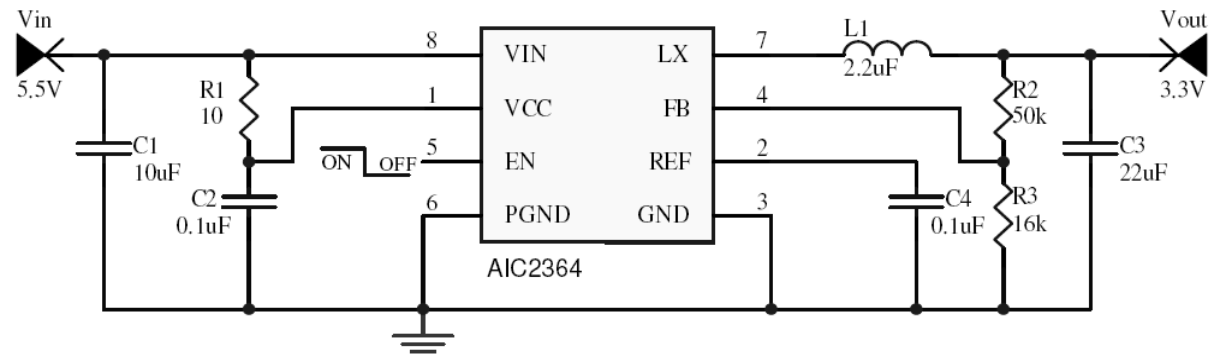
SOP-8 Exposed Pad (Heat Sink)
TOP VIEW



Note:

The exposed pad must be connected with GND pin.

Typical Application Circuit

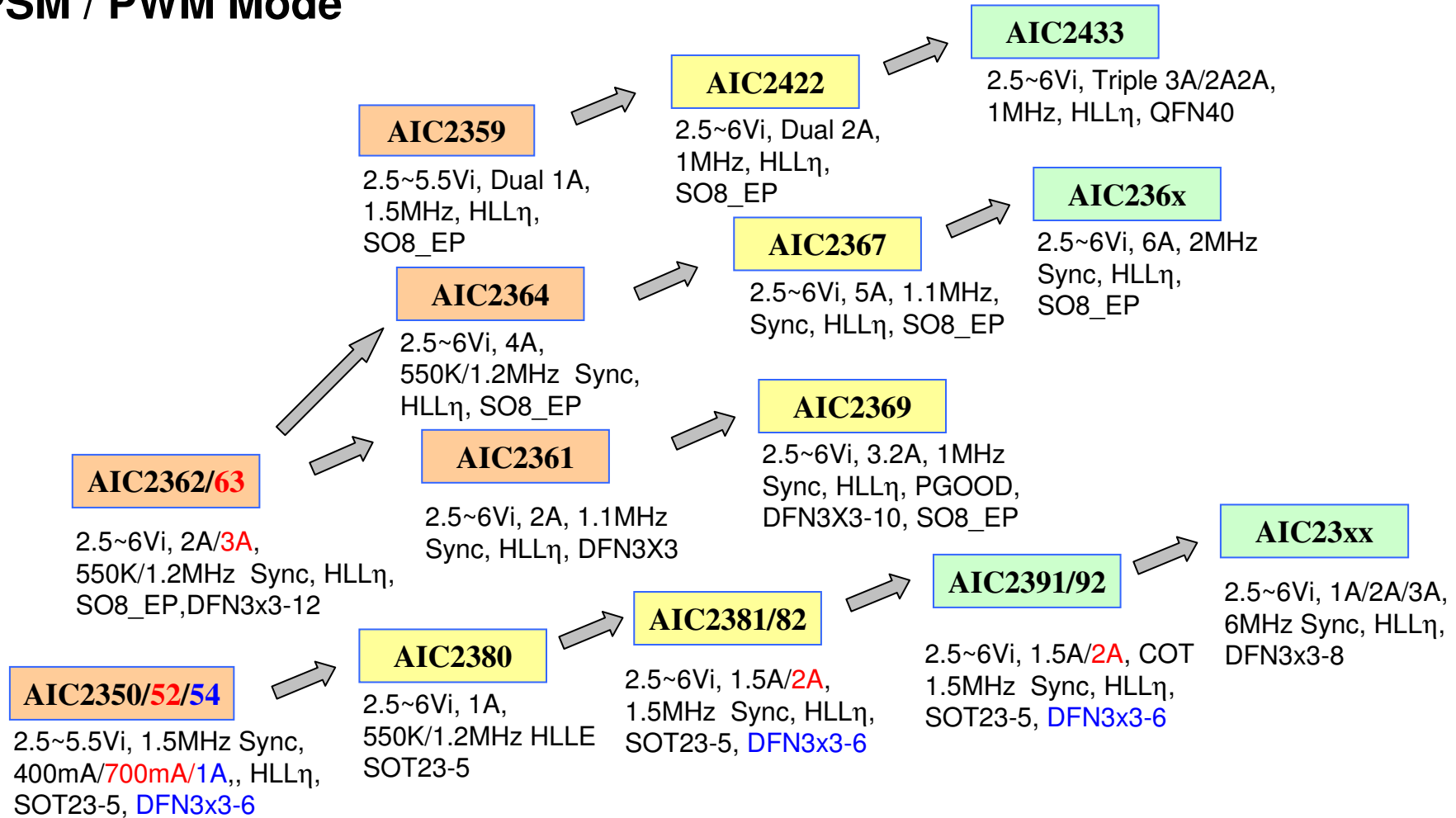


Product Roadmap

LV Buck Converter



PSM / PWM Mode

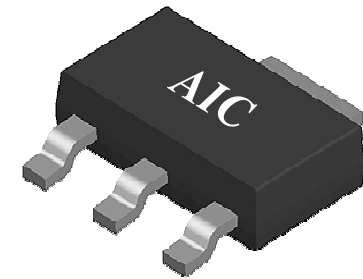


Available
 Under Developing
 New Idea

AIC product for TV/STB/Networking



- LDO
- Step down DC/DC
- **USB Switch**
- Reset
- DDR Regulator



AIC USB Series



P/N	Marking	Current limit			Delay Time		Enable	R _{DS ON}	Package
		Min.	Typ.	Max.	Function	mSec			
Dual USB power switch									
AIC6176	AIC6176D	0.6	1	1.25	V	9	V	90mΩ	SOP8, MSOP8
	AIC6176N	0.6	1	1.25	X	-			
AIC6178	AIC6178D	1	1.5	2	V	9	V	90mΩ	SOP8, MSOP8
	AIC6178N	1	1.5	2	X	-			
AIC6186	AIC6186D	0.52	0.65	0.8	V	9	V	85mΩ	SOP8, MSOP8
	AIC6186N	0.52	0.65	0.8	X	-			
AIC6188	AIC6188D	1.05	1.3	1.55	V	9	V	85mΩ	SOP8, MSOP8
	AIC6188N	1.05	1.3	1.55	X	-			
AIC6196	AIC6196-GV5	0.55	0.8	1	X	-	X	170mΩ	SOT-23-5
AIC6198	AIC6198-GV5	1.05	1.45	1.8	X	-	X	170mΩ	SOT-23-5
Single USB power switch									
AIC6161	AIC6161-xGx	0.55	0.8	1	V	9	V	85mΩ	SOT-23-5
AIC6162	AIC6162-xGx	0.85	1	1.4	V	9	V	85mΩ	SOT-23-5
AIC6163	AIC6163-xGx	1.1	1.5	2	V	9	V	85mΩ	SOT-23-5
AIC6164	AIC6164-xGx	1.6	2.5	3.2	V	9	V	85mΩ	SOT-23-5
AIC6191	AIC6191GU3	0.55	0.8	1	X	-	X	170mΩ	SOT-23
AIC6193	AIC6193GU3	1.05	1.4	1.8	X	-	X	170mΩ	SOT-23
AIC6166	AIC6166D-xxxGx	0.5	0.62	0.75	V	8	V	110mΩ	SOP8, DFN8 3*3
		1	1.25	1.5	V	8			
	AIC6166N-xxxGx	0.5	0.62	0.75	X	-			
		1	1.25	1.5	X	-			

AIC6176

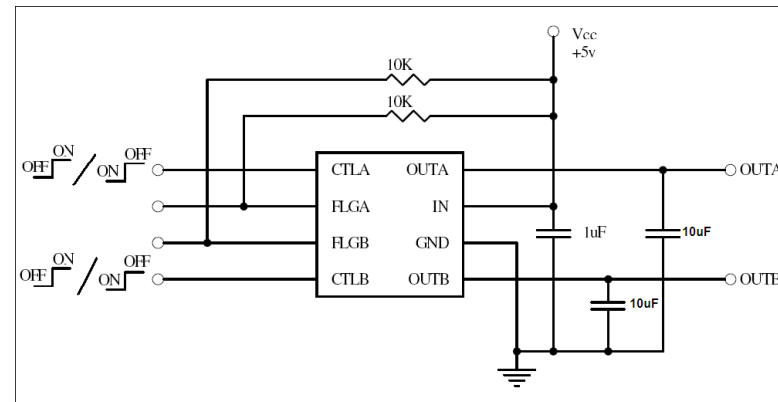
0.5A Dual USB High-Side Power Switch



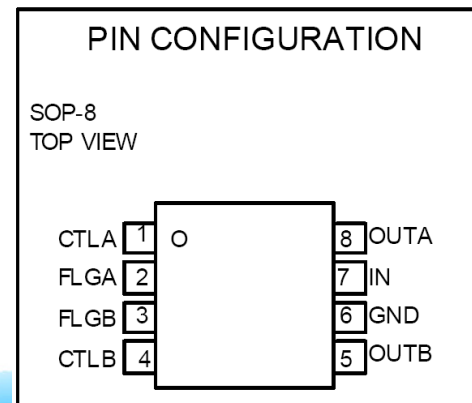
Feature

- 2.7V to 6.5V Input Voltage Range
- 0.5A Dual Continuous Load Current
- 90mΩ High-Side P-MOSFET Switch
- 20Ω Open-Drain Over-Current Flag Output
- 80uA Quiescent Supply Current
- 150°C Thermal Shutdown Protection
- Short Circuit Current Fold-back Protection
- 2.3V Under Voltage Lockout
- Soft Start prevents large Inrush Current
- 9ms Error Flag Delay Time (AIC6176D)
- Reverse Current Blocking
- Enable Active-High or Active-Low Version
- 8KV/15KV Contact/Air ESD Capable

Application Circuit



Package Type



AIC6178

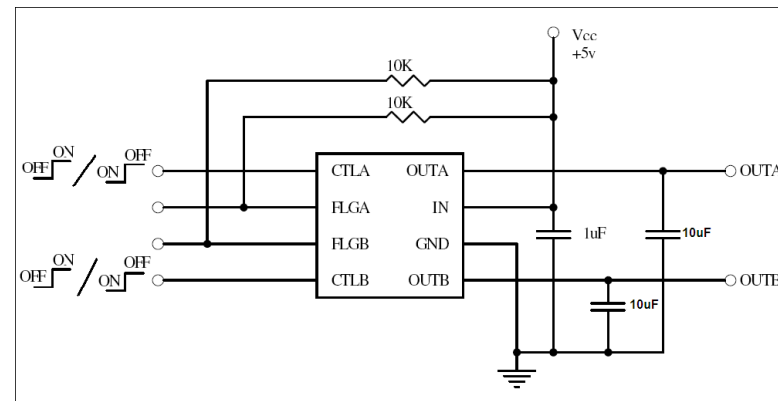
1.0A Dual USB High-Side Power Switch



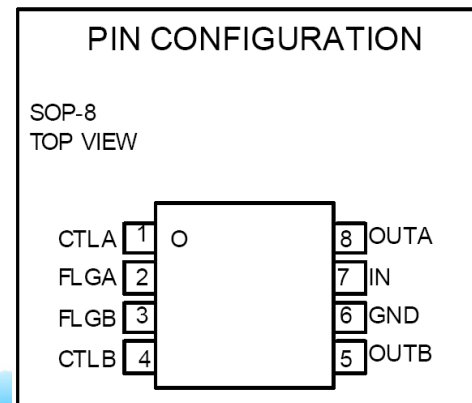
Feature

- 2.7V to 6.5V Input Voltage Range
- 1.0A Dual Continuous Load Current
- 90mΩ High-Side P-MOSFET Switch
- 20Ω Open-Drain Over-Current Flag Output
- 80uA Quiescent Supply Current
- 150°C Thermal Shutdown Protection
- Short Circuit Current Fold-back Protection
- 2.3V Under Voltage Lockout
- Soft Start prevents large Inrush Current
- 9ms Error Flag Delay Time (AIC6176D)
- Reverse Current Blocking
- Enable Active-High or Active-Low Version
- 8KV/15KV Contact/Air ESD Capable

Application Circuit



Package Type



AIC6163

Single Channel USB Switch (1A)



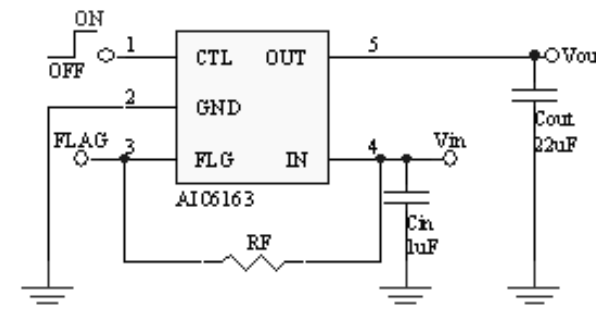
Key Features

- 85m Ω High-Side MOSFET Switch.
- 1A Continuous Load Current.
- 40 μ A Quiescent Supply Current.
- 1 μ A Maximum Shutdown Supply Current.
- 2.5V to 6.5V Input Voltage Range.
- Deglitched Open-Drain Over-Current Flag Output.
- Under-Voltage Lockout.
- Current-Limit / Short Circuit Protection.
- Thermal Shutdown Protection under Over Current Condition.
- Under Voltage Lockout Ensures that Switch is off at Start Up.
- Soft Start prevents large Inrush Current.
- No Reverse Current when Power off.
- Enable Active-High or Active-Low Version.
- Available in SOT-23-5 and TSOT-23-5 Packages.

Pin Configuration

Package Type	5 Pin Configuration
V5 (SOT-23-5)	<p>FRONT VIEW</p> <p>OUT 5 IN 4</p> <p>AIC6163</p> <p>1 2 3</p> <p>CTL GND FLG</p>
K5 (TSOT-23-5)	

Typical Application

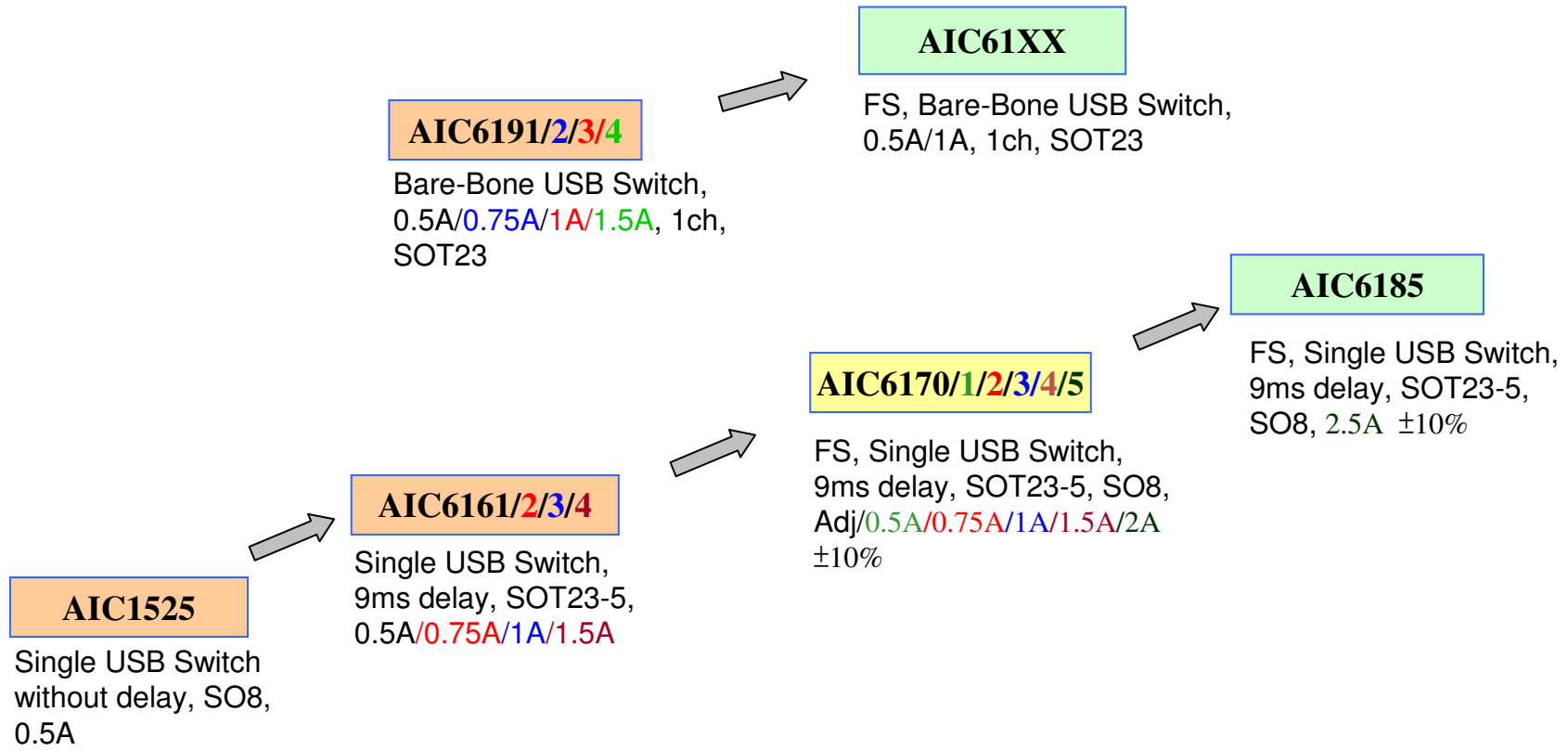


Product Roadmap

USB Switch



Single USB Solution



Available Parts

2013

2014

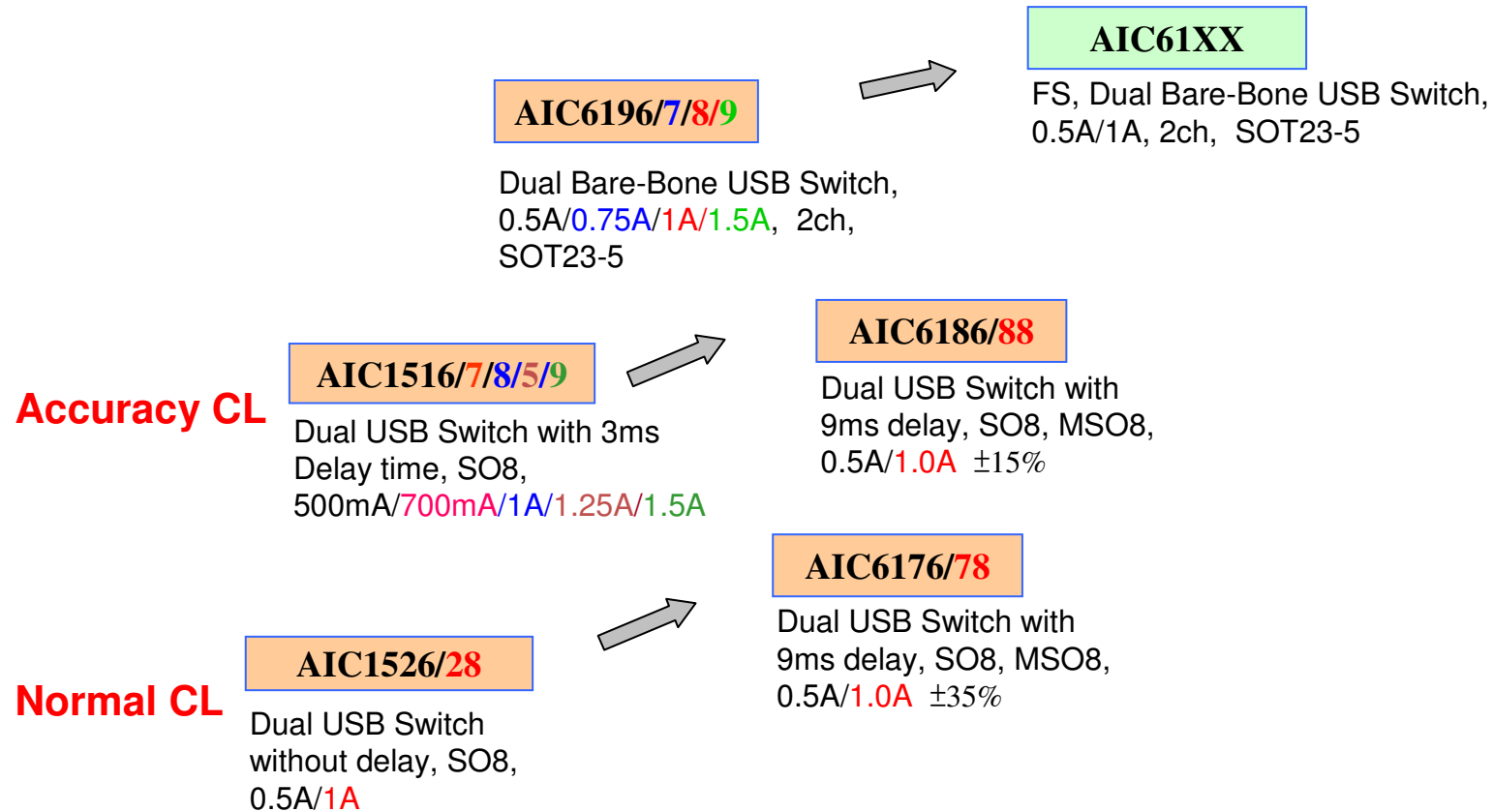
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Product Roadmap

USB Switch



Dual USB Solution



Available Parts

2013

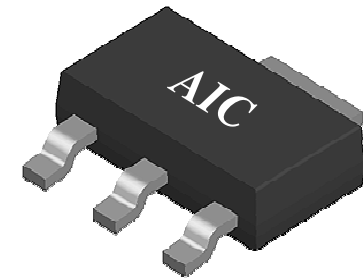
2014

Available Under Developing New Idea

AIC product for TV/STB/Networking



- LDO
- Step down DC/DC
- USB
- **Reset**
- DDR Regulator



AIC Reset IC



Item	Active Low (Push-Pull)	Active High (Push-Pull)	Active Low (N-MOS)	Active Low (P-MOS)	Manual Reset Input	Reset Voltage	Package
AIC809	V					2.3V, 2.6V, 2.9V, 3.1V, 4.0V, 4.2V, 4.4V, 4.6V	SOT-23
AIC809N			V			2.3V, 2.6V, 2.9V, 3.1V, 4.0V, 4.2V, 4.4V, 4.6V	SOT-23
AIC810		V				2.3V, 2.6V, 2.9V, 3.1V, 4.0V, 4.2V, 4.4V, 4.6V	SOT-23
AIC811	V				V	2.3V, 2.6V, 2.9V, 3.1V, 4.0V, 4.2V, 4.4V, 4.6V	SOT-23-5, SOT-23-6, SOT-143
AIC812		V			V	2.3V, 2.6V, 2.9V, 3.1V, 4.0V, 4.2V, 4.4V, 4.6V	SOT-23-5, SOT-23-6, SOT-143
AIC1680	V		V	V		1.6V-6.0V (0.1V step)	SOT-23, SOT-89, TO-92, SOT-23-5

AIC809

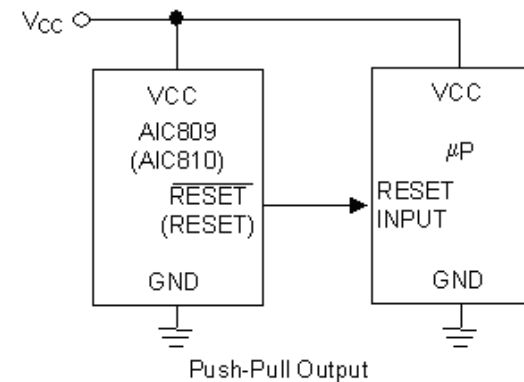


3-Pin Microprocessor Reset Circuits

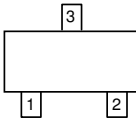
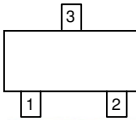
Key Features

- Ultra Low Supply Current 1 μ A(typ.)
- Guaranteed Reset Valid to Vcc=0.9V
- Available in Three Output Type: Open-Drain Active Low (AIC809N), Push-Pull Active Low (AIC809), Push-Pull Active High (AIC810)
- 140ms Min. Power-On Reset Pulse Width
- Internally Fixed Threshold 2.3V, 2.6V, 2.9V, 3.1V, 4.0V, 4.2V, 4.4V, 4.6V
- Tight Voltage Threshold Tolerance: 1.5%
- Tiny Package in SOT-23

Typical Application Circuit



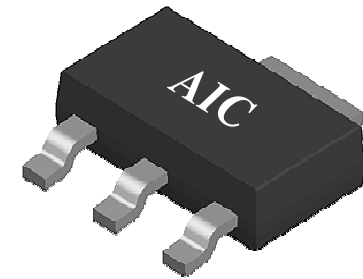
Pin Assignment

PIN CONFIGURATION	
SOT-23 (U) TOP VIEW	
1: GND	
2: RESET (RESET)	
3: VCC	
SOT-23 (UA) TOP VIEW	
1: RESET (RESET)	
2: GND	
3: VCC	

AIC product for TV/STB/Networking



- LDO
- Step down DC/DC
- USB
- Reset
- **DDR Regulator**



AIC DDR Regulator



	AIC1385	AIC1387	AIC1386	AIC1388
Support DDR	DDR1/2/3	DDR1/2/3	DDR1/2/3	DDR1/2/3
Input Voltage (V)	Vin: 1.1V~5.5V Vcntl: 2.375V~5.5V	Vin: 1.1V~5.5V Vcntl: 2.375V~5.5V	AVIN: 2.375V~5.5V PVIN: 1.1V~AVIN	AVIN: 2.375V~5.5V PVIN: 1.1V~AVIN
Output Current (Source & Sink)	Continuous 2A	Continuous 2A, Peak up to 3A	2A Source and Sink	3A Source and Sink
Output Voltage Offset	+20mV	+20mV	+20mV	+20mV
Output Voltage Regulation	0.1mA~+2A-->+20mV	0.1mA~+2A-->+20mV	0.1mA~+2A-->+20mV	0.1mA~+2A-->+20mV
Operating Current	I _{CTRL} : 1mA	I _{CTRL} : 1mA	I _{AVIN} : 1mA	I _{AVIN} : 1mA
Current Limit	3A typ	4.2A typ	3A typ	3A typ
Package	SOP8 with exposed pad	SOP8 with exposed pad	SOP8 with exposed pad	SOP8 with exposed pad
External Components	C _{in} *1: 47uF	C _{in} *1: 47uF	C _{in} *1: 10uF	C _{in} *1: 10uF
	C _{out} *1: 22uF	C _{out} *1: 22uF	C _{out} *1: 22uF	C _{out} *1: 22uF
	C _{ref} *1: 1uF	C _{ref} *1: 1uF	C _{ref} *1: 100nF	C _{ref} *1: 100nF
	C _{cntl} *1: 47uF	C _{cntl} *1: 47uF		
	R*2	R*2		
Application Circuit				

AIC1387

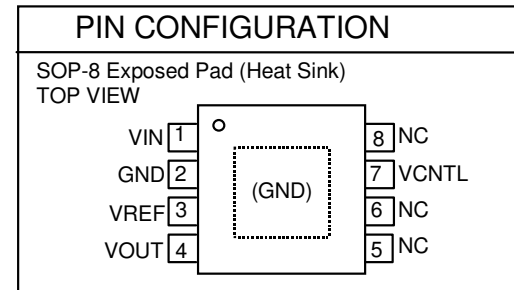
Peak 3A DDR Termination Regulator



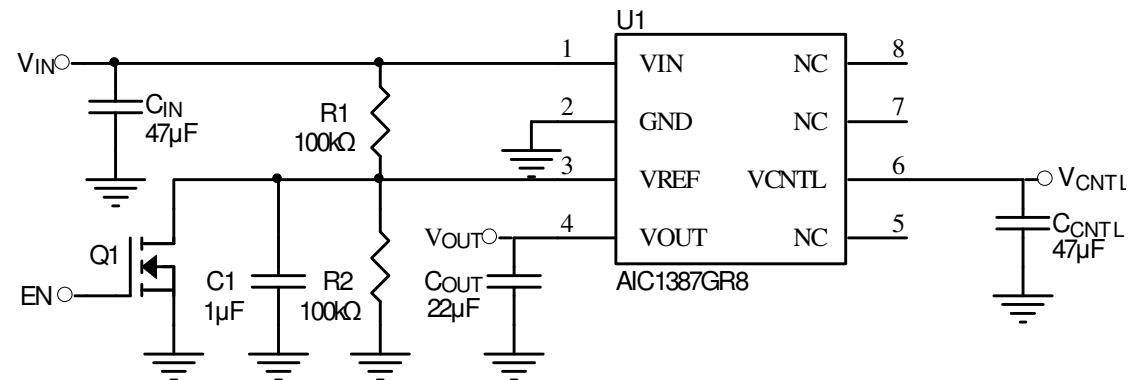
Key Features

- VCNTL Input Voltage Range: 2.375V to 5.5V
- VIN Input Voltage Range: 1.1V to 5.5V
- Continuous 2A Source and Sink Current
- **Peak Current Up to 3A**
- Support DDR / DDRII / DDRIII Requirements
- Low Output Voltage Offset, $\pm 20\text{mV}$
- High Accuracy Output Voltage at Full-Load
- Adjustable V_{OUT} by External Resistor
- Stable with $22\ \mu\text{F}$ Ceramic Output Capacitor
- Low External Component Count
- Built in Soft Start, UVLO and OCP Protection
- Thermal Shutdown Protection
- SOP-8 Exposed Pad Packages
- RoHS Compliant and Green Package

Pin Configuration



Typical Application Circuit



AIC1386

DDR Termination Regulator



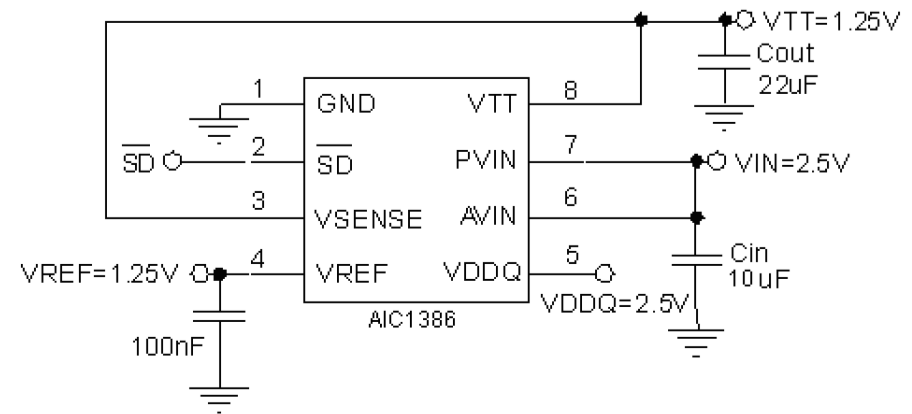
Key Features

- AVIN Input Voltage Range: 2.375V to 5.5V
- PVIN Input Voltage Range: 1.1V to AVIN
- **2A** Source and Sink Current Capability
- Support DDR / DDRII / DDRIII/ Low Power DDRIII / DDRIV Requirements
- Low Output Voltage Offset, $\pm 20\text{mV}$
- High Accuracy Output Voltage at Full-Load
- Stable with $22\ \mu\text{F}$ Ceramic Output Capacitor
- Low External Component Count
- No External Resistor Required
- Built in Soft Start, UVLO and OCP Protection
- Thermal Shutdown Protection
- SOP-8 Exposed Pad Package
- RoHS Compliant and Green Package

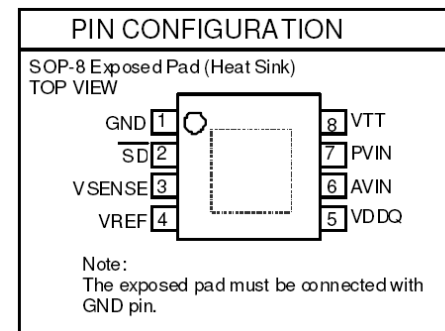
Applications

- Desktop PCs, Notebooks and Workstations
- Graphic Cards
- Set Top Boxes, Digital TVs, Printers
- DDR/II/III Termination Voltage Supply

Typical Application



Pin Assignment



AIC1388

DDR Termination Regulator



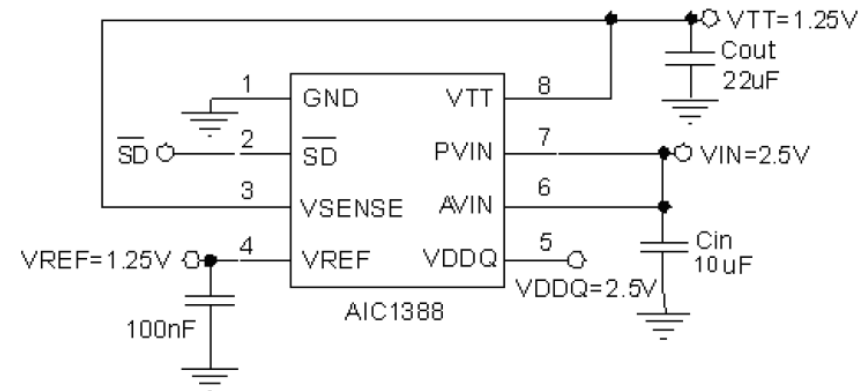
Key Features

- AVIN Input Voltage Range: 2.375V to 5.5V
- PVIN Input Voltage Range: 1.1V to AVIN
- **3A** Source and Sink Current Capability
- Support DDR / DDRII / DDRIII/ Low Power DDRIII / DDRIV Requirements
- Low Output Voltage Offset, $\pm 20\text{mV}$
- High Accuracy Output Voltage at Full-Load
- Stable with $22\ \mu\text{F}$ Ceramic Output Capacitor
- Low External Component Count
- No External Resistor Required
- Built in Soft Start, UVLO and OCP Protection
- Thermal Shutdown Protection
- SOP-8 Exposed Pad Package
- RoHS Compliant and Green Package

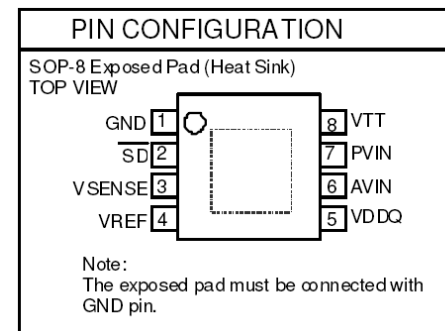
Applications

- Desktop PCs, Notebooks and Workstations
- Graphic Cards
- Set Top Boxes, Digital TVs, Printers
- DDR/II/III Termination Voltage Supply

Typical Application



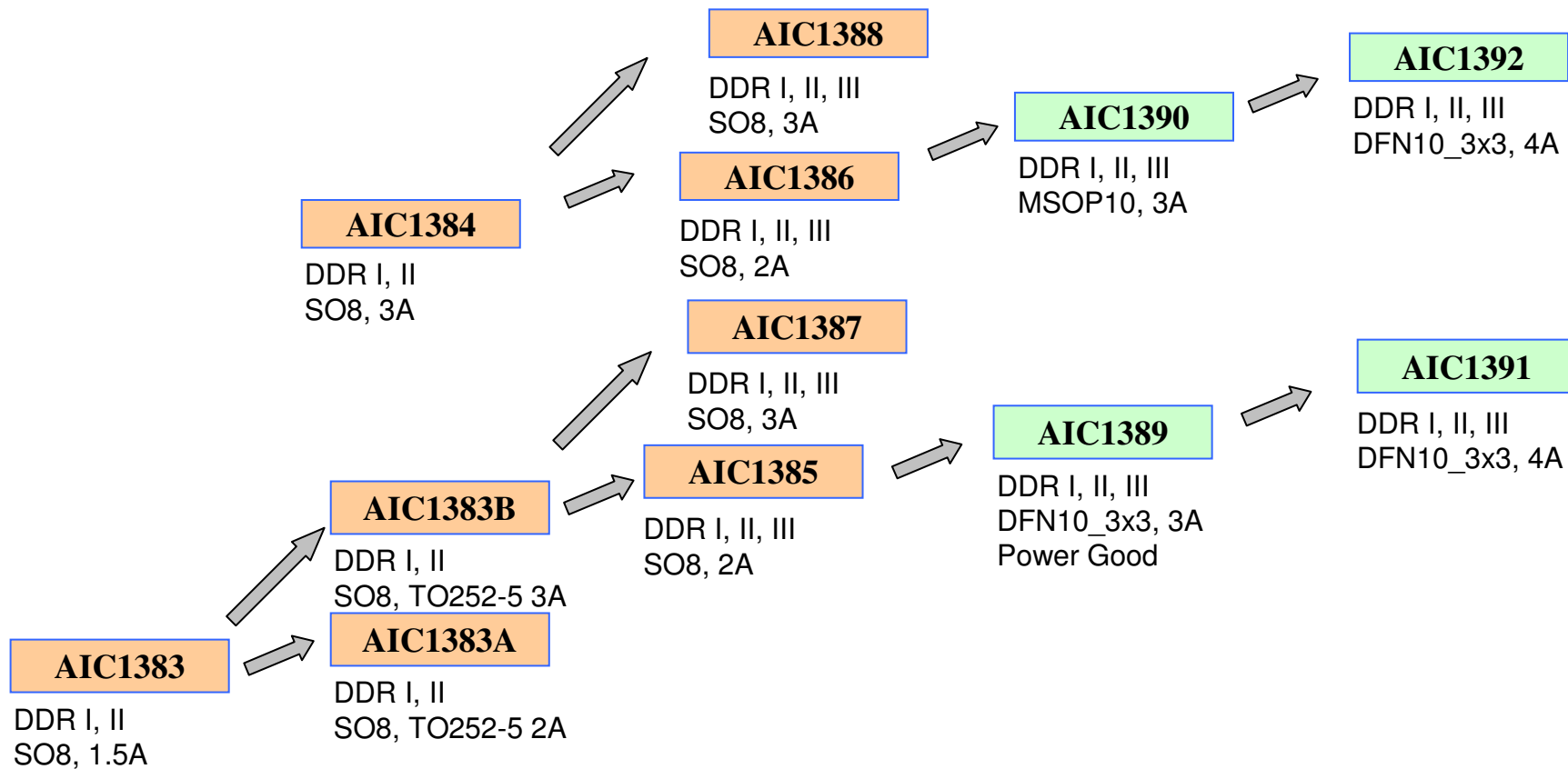
Pin Assignment



Product Roadmap



DDR Regulator



Available Parts

2013

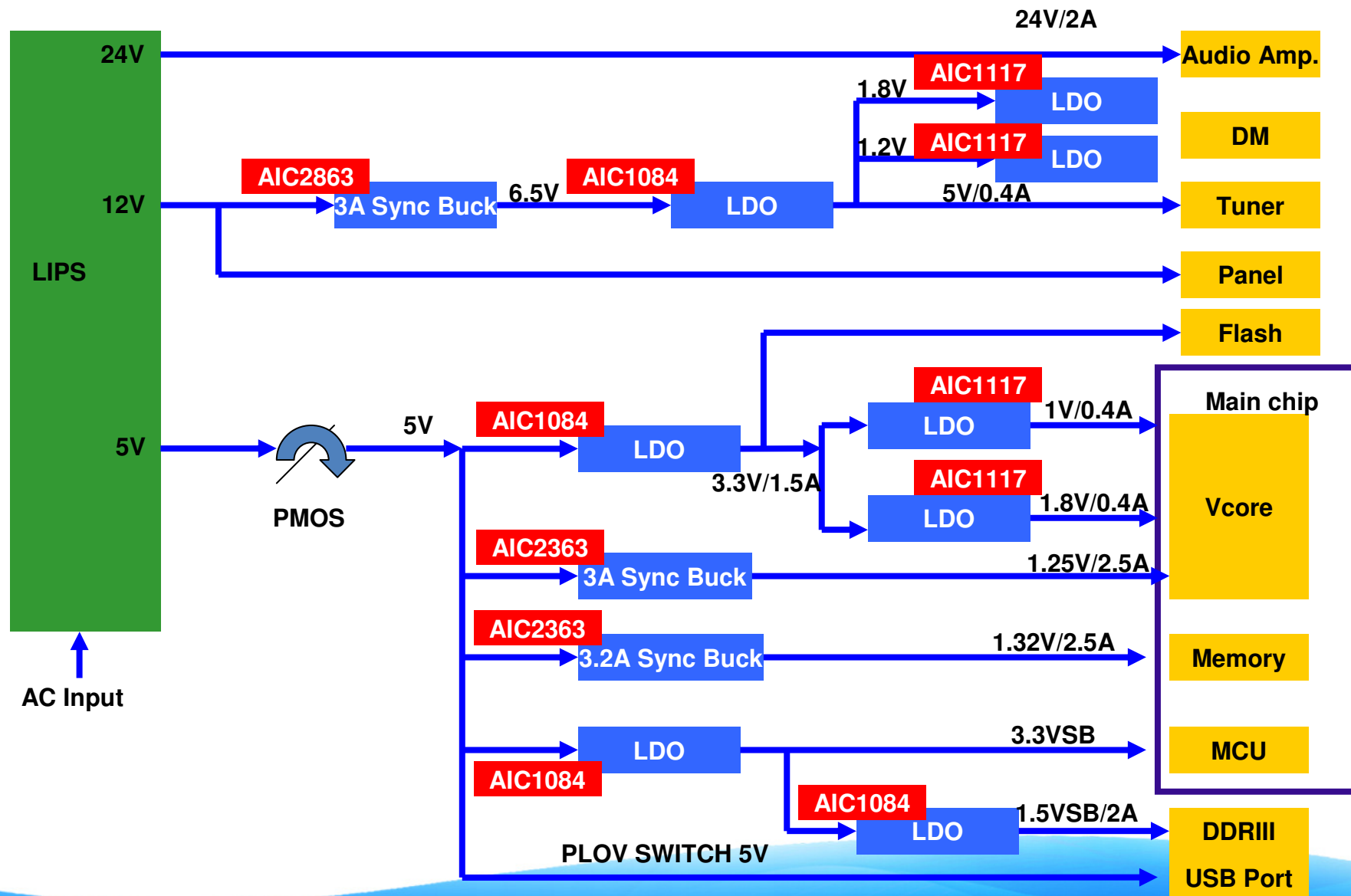
2014

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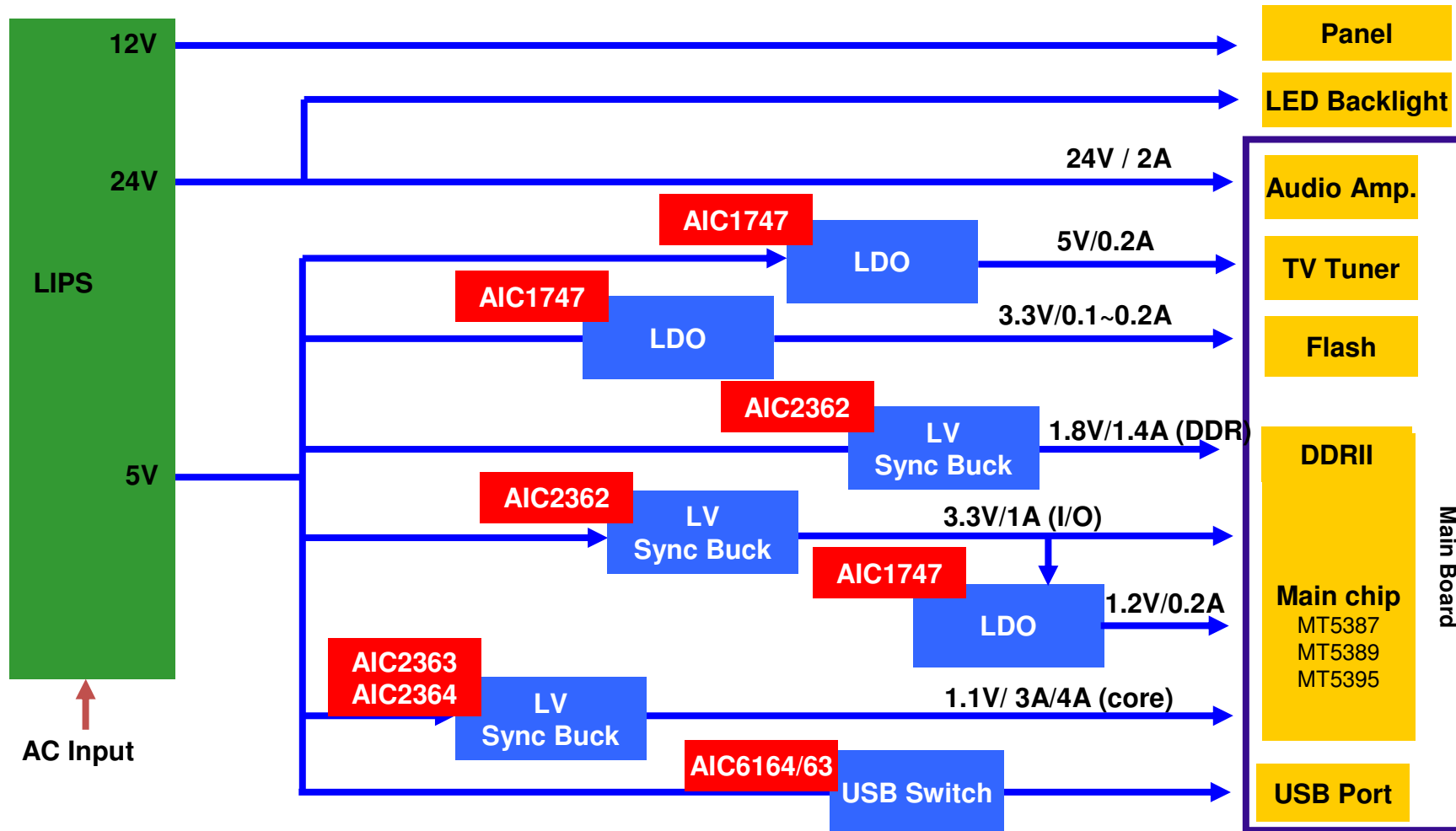
Agenda

- *Target application segment*
- *AIC products for TV/STB/Networking*
- ***Power blocks for TV/STB/Networking***

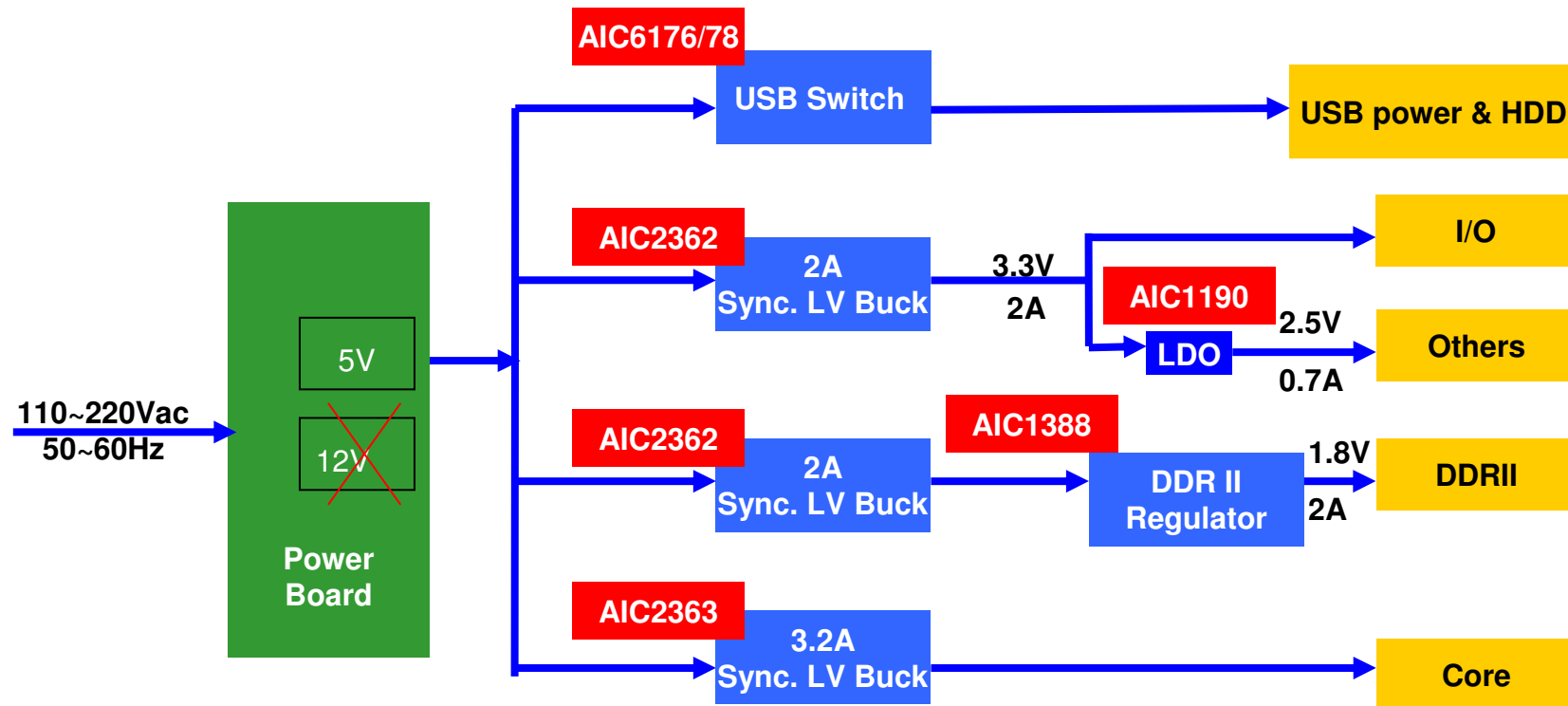
Smart TV Power Block



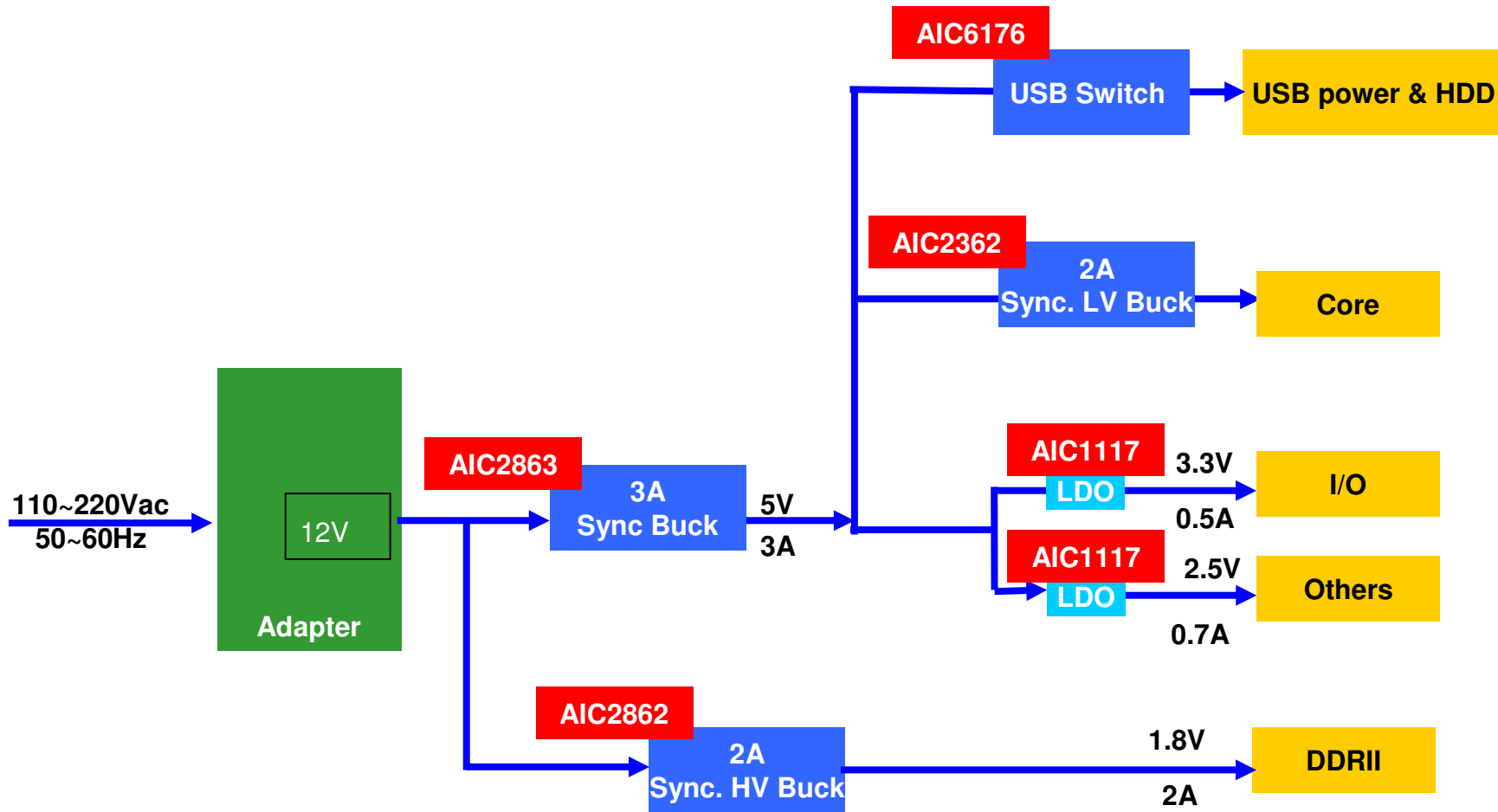
TV Power Block



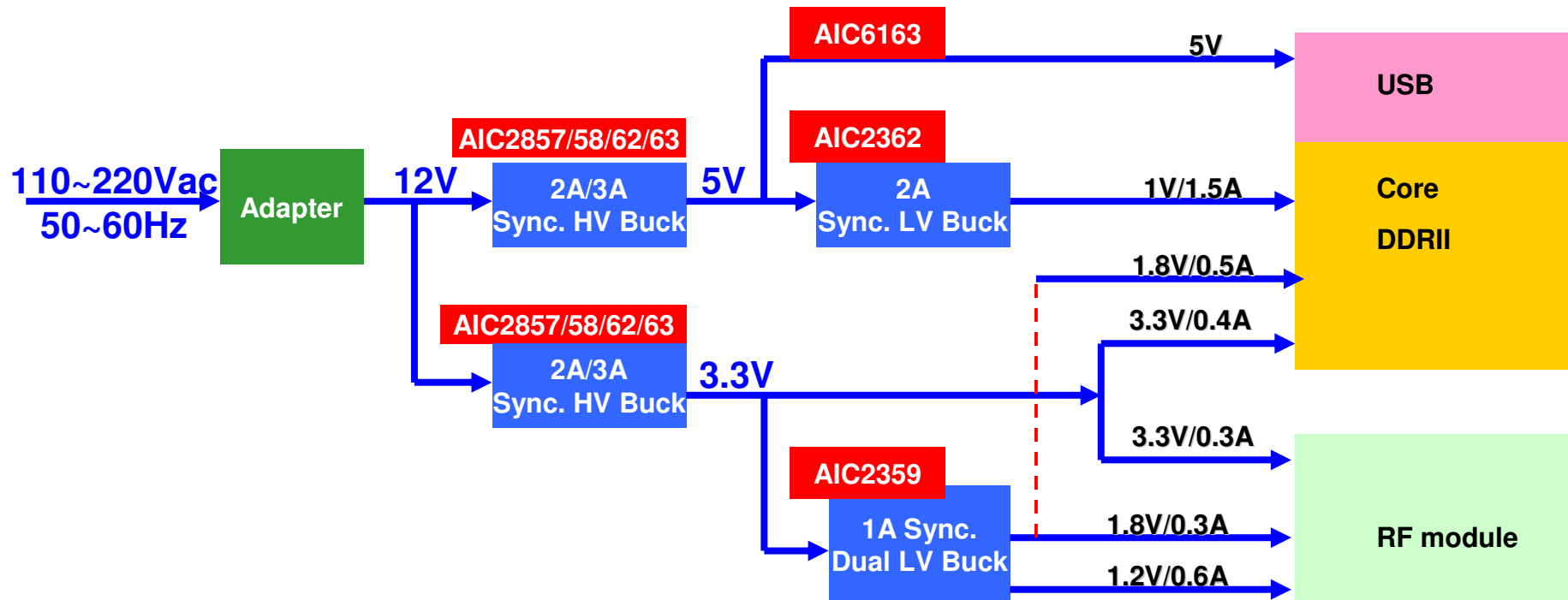
STB



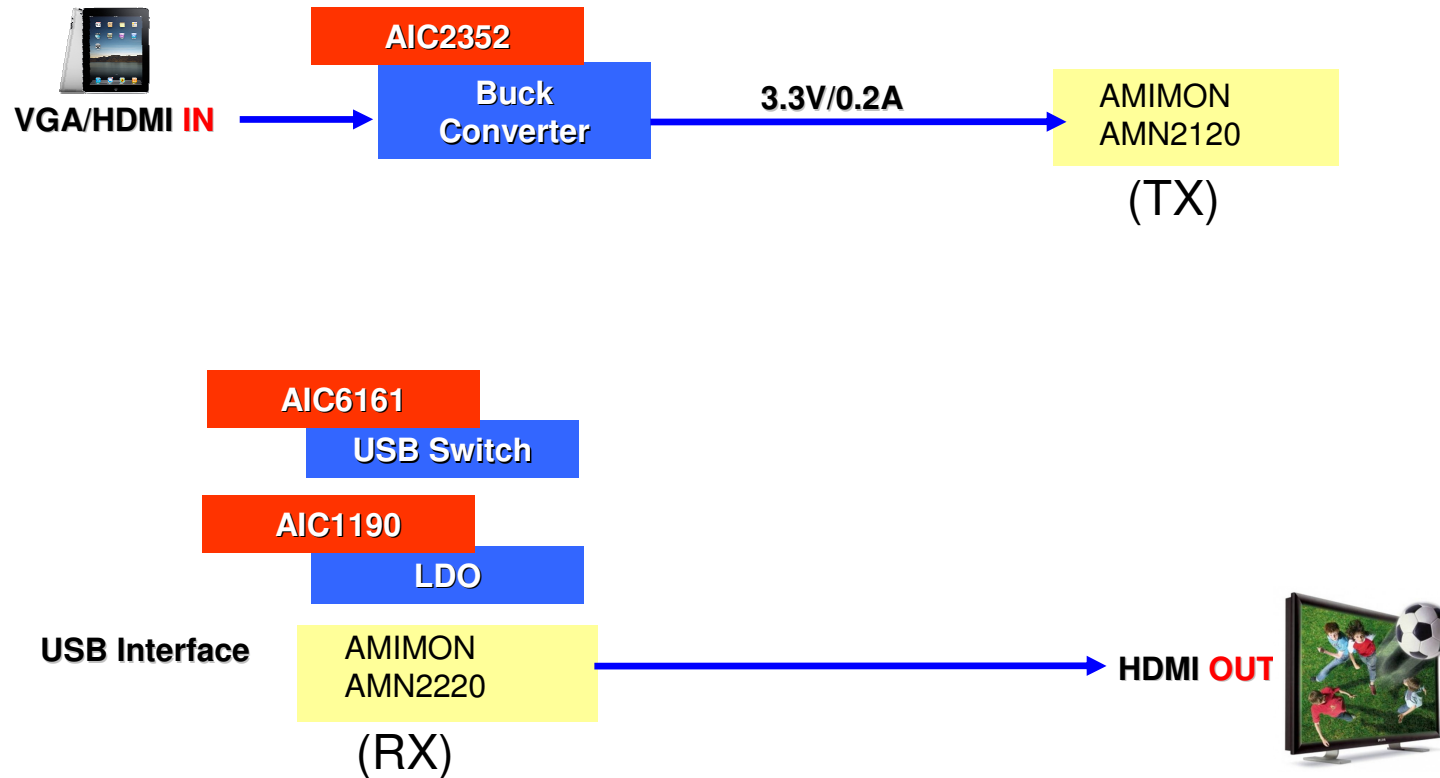
STB



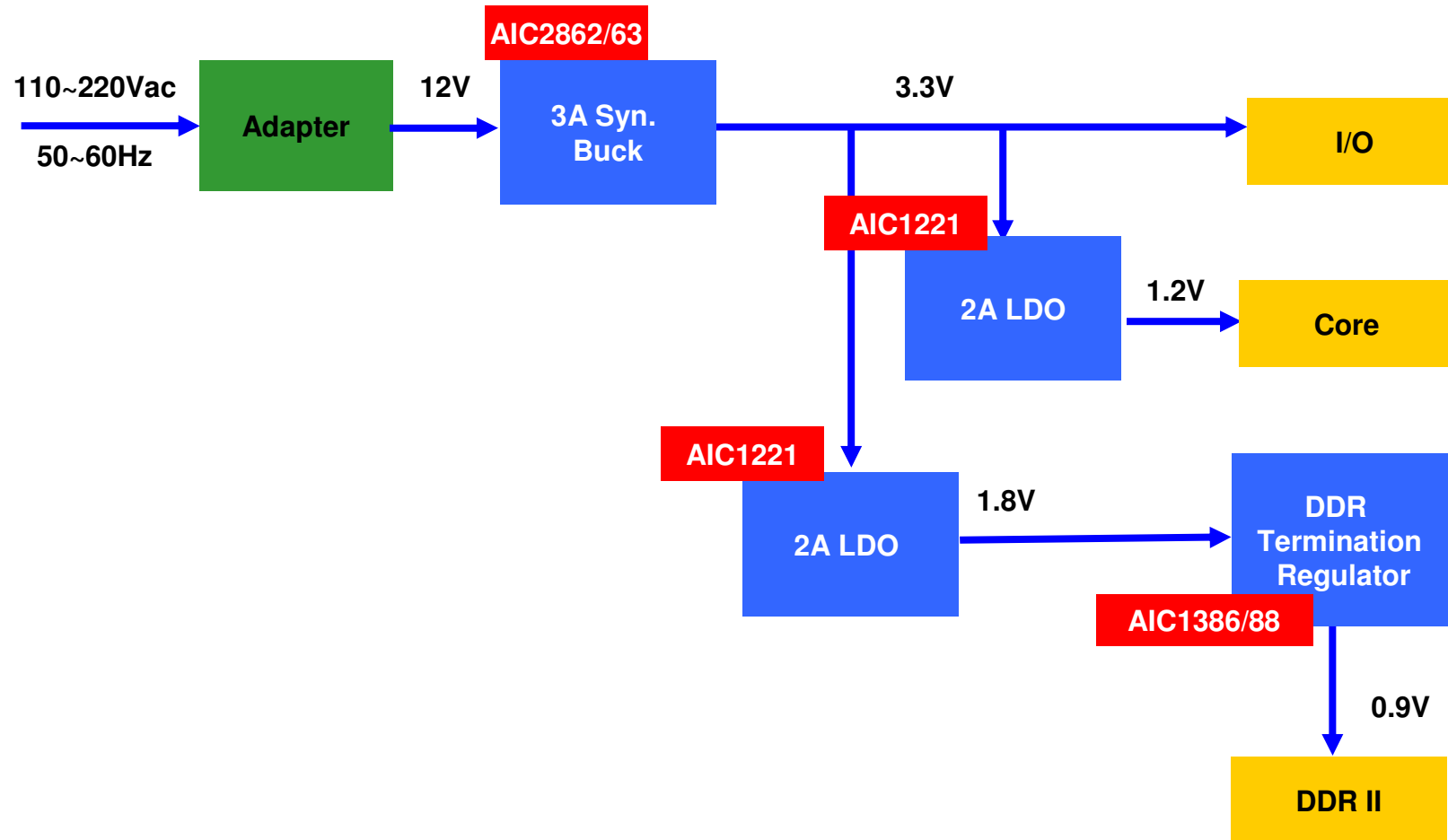
Networking General



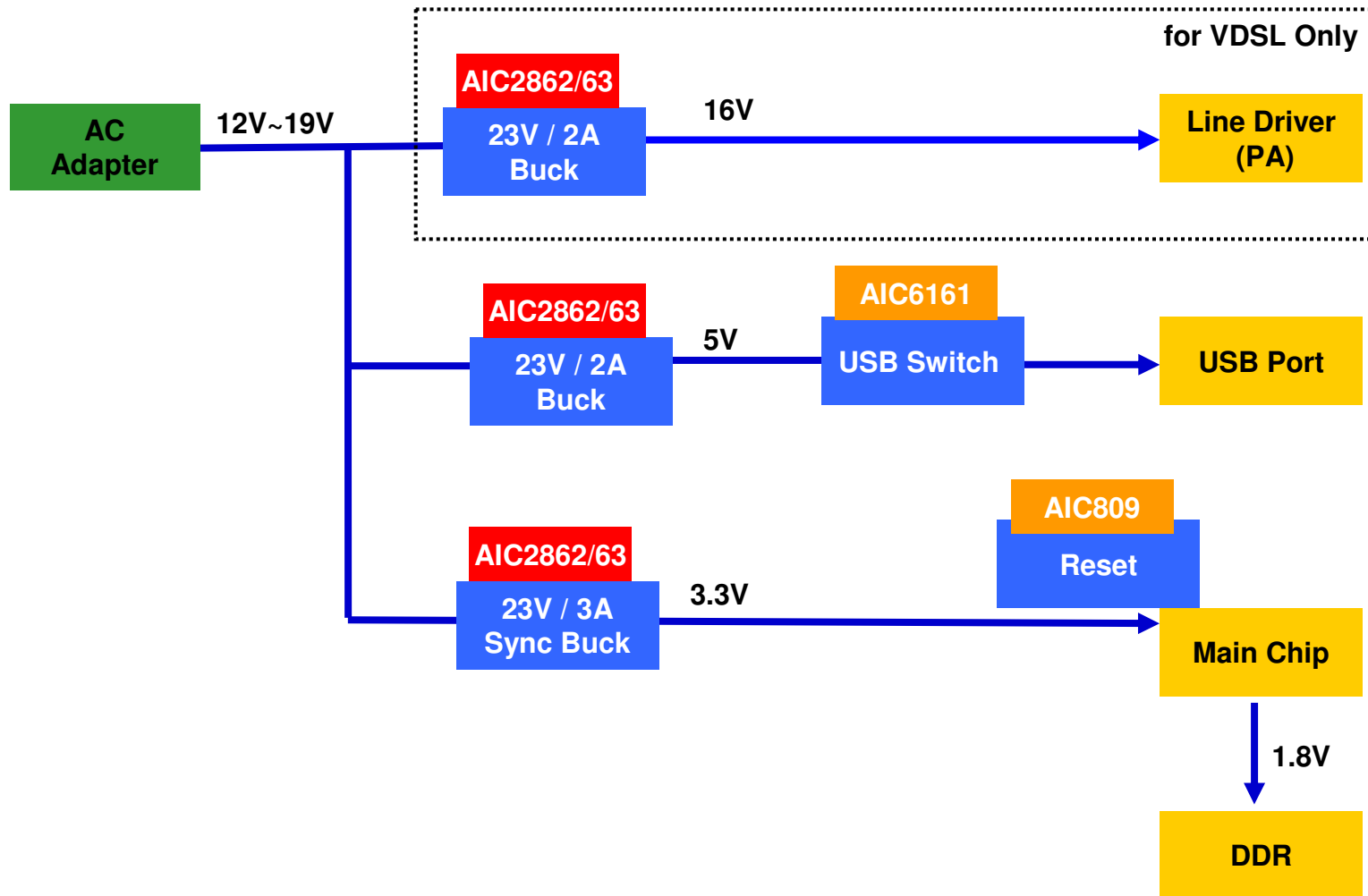
WHDI Power Block



Router



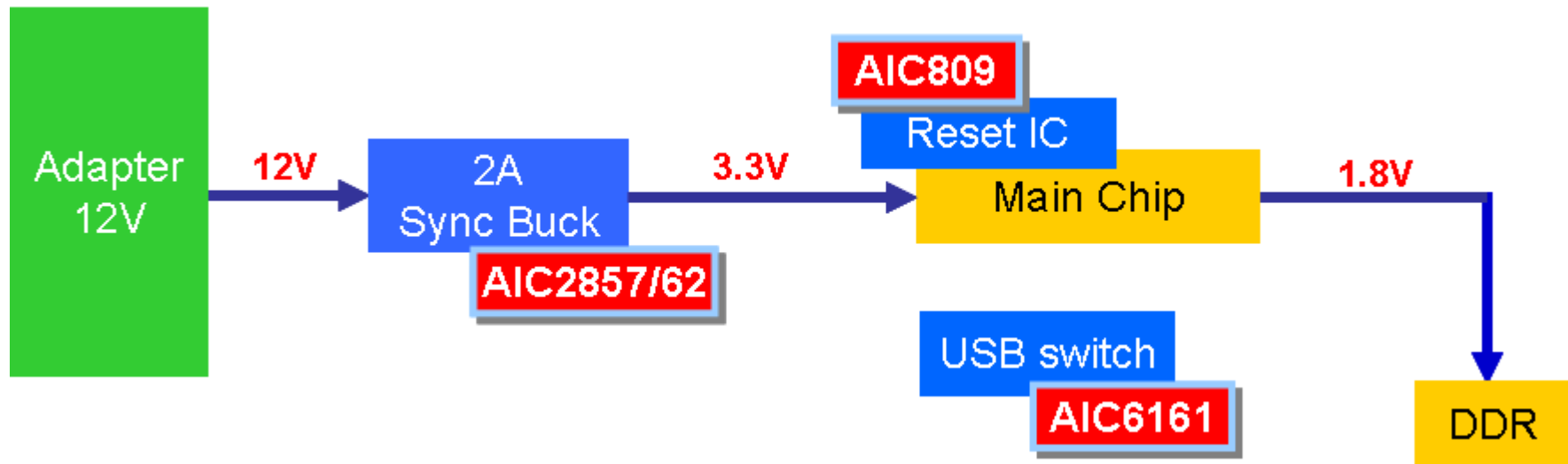
ADSL/ VDSL



Power Block



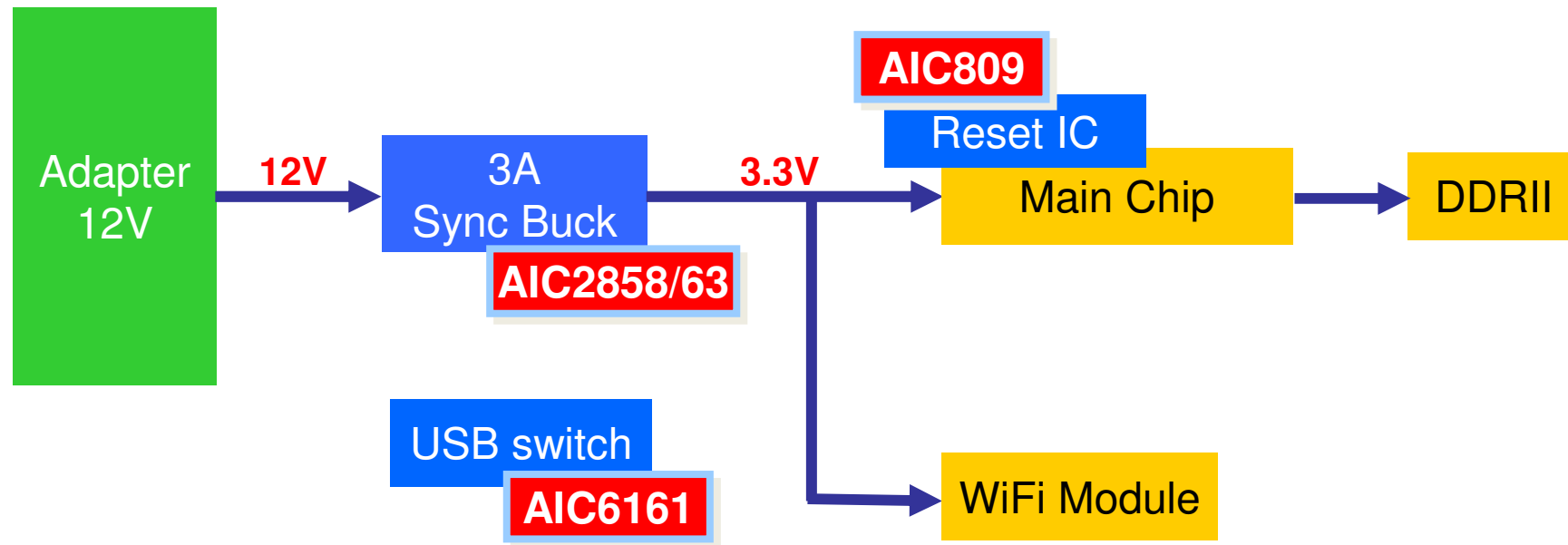
Router



Power Block



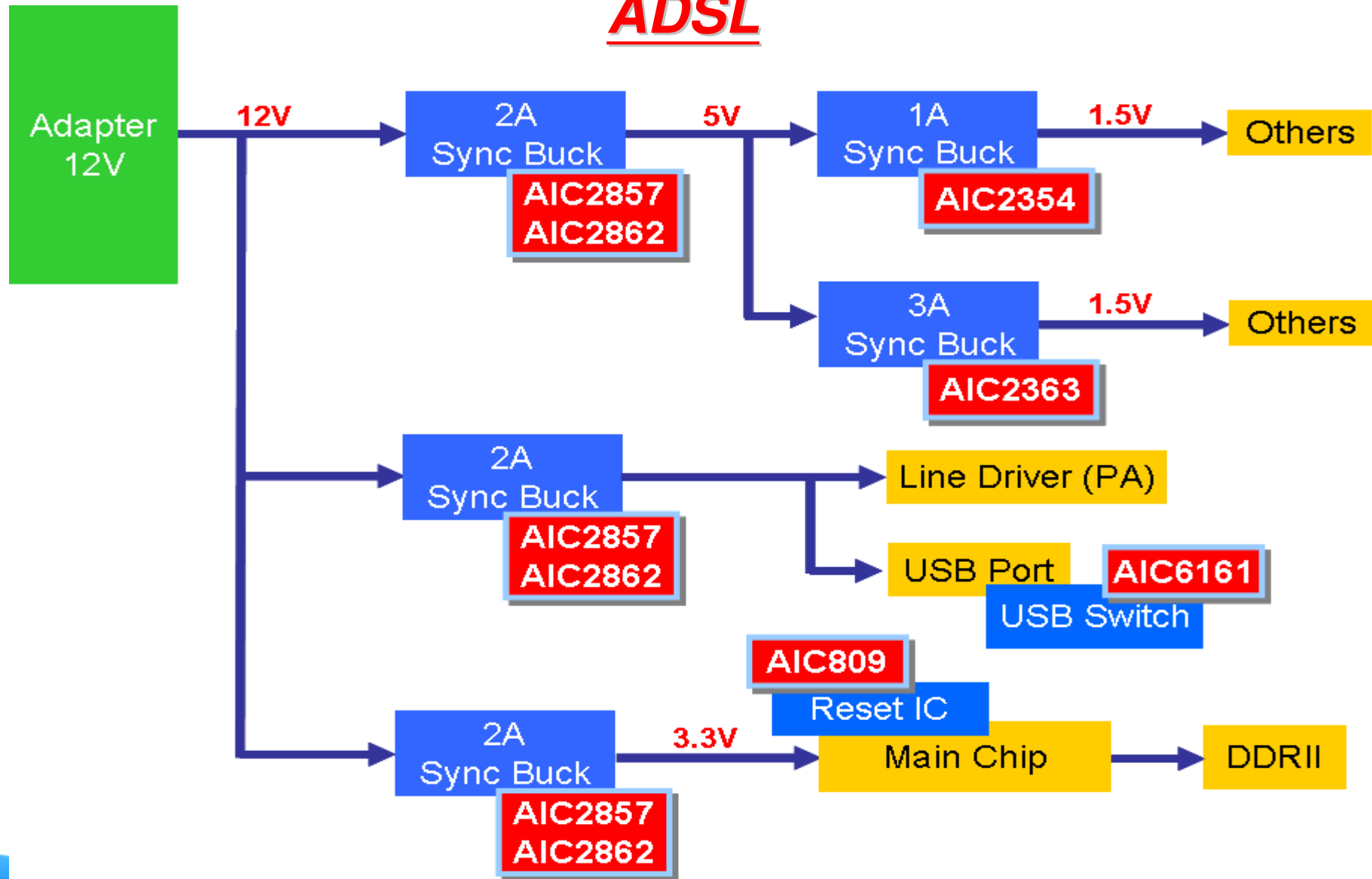
Wireless Router



Power Block



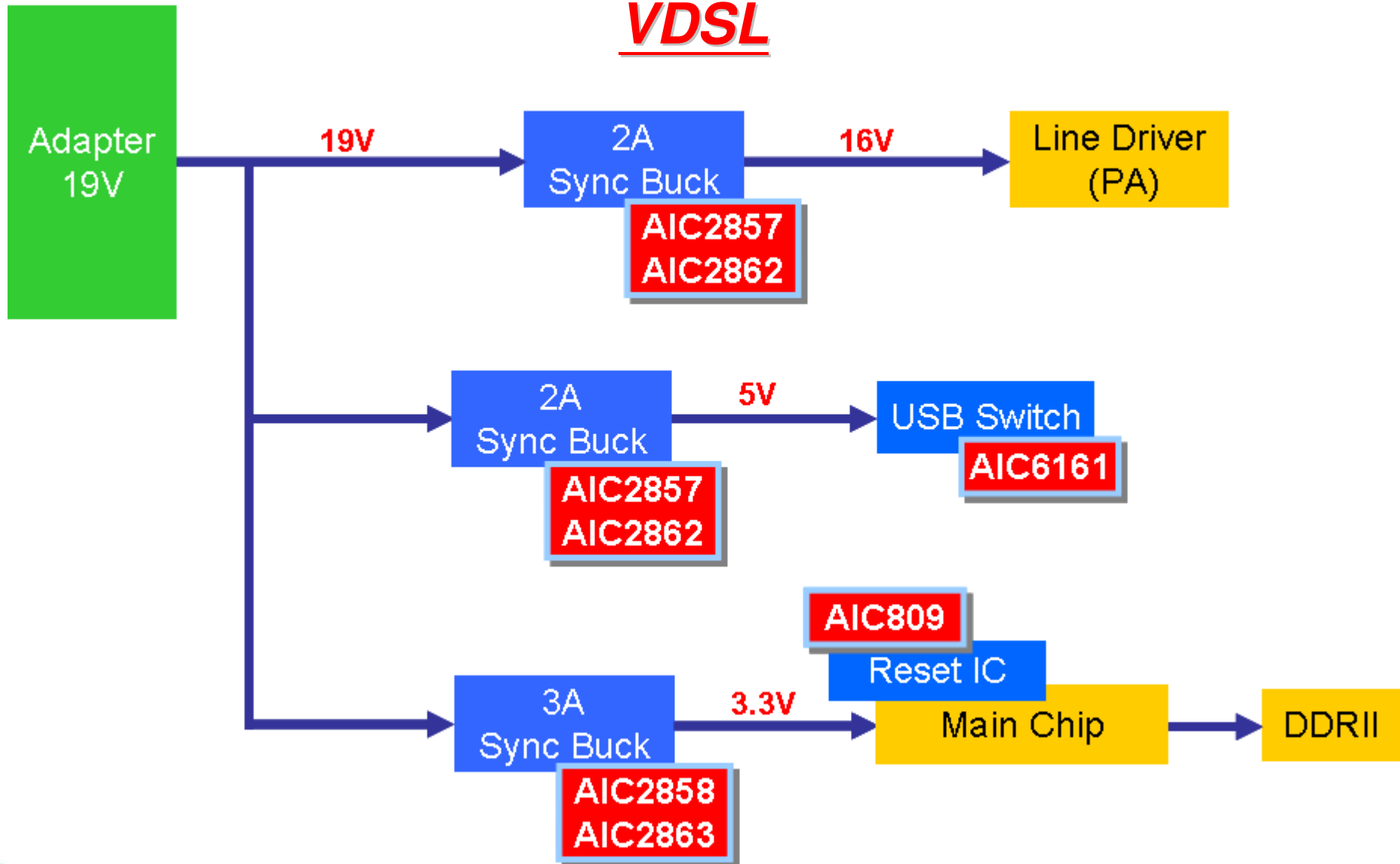
ADSL



Power Block



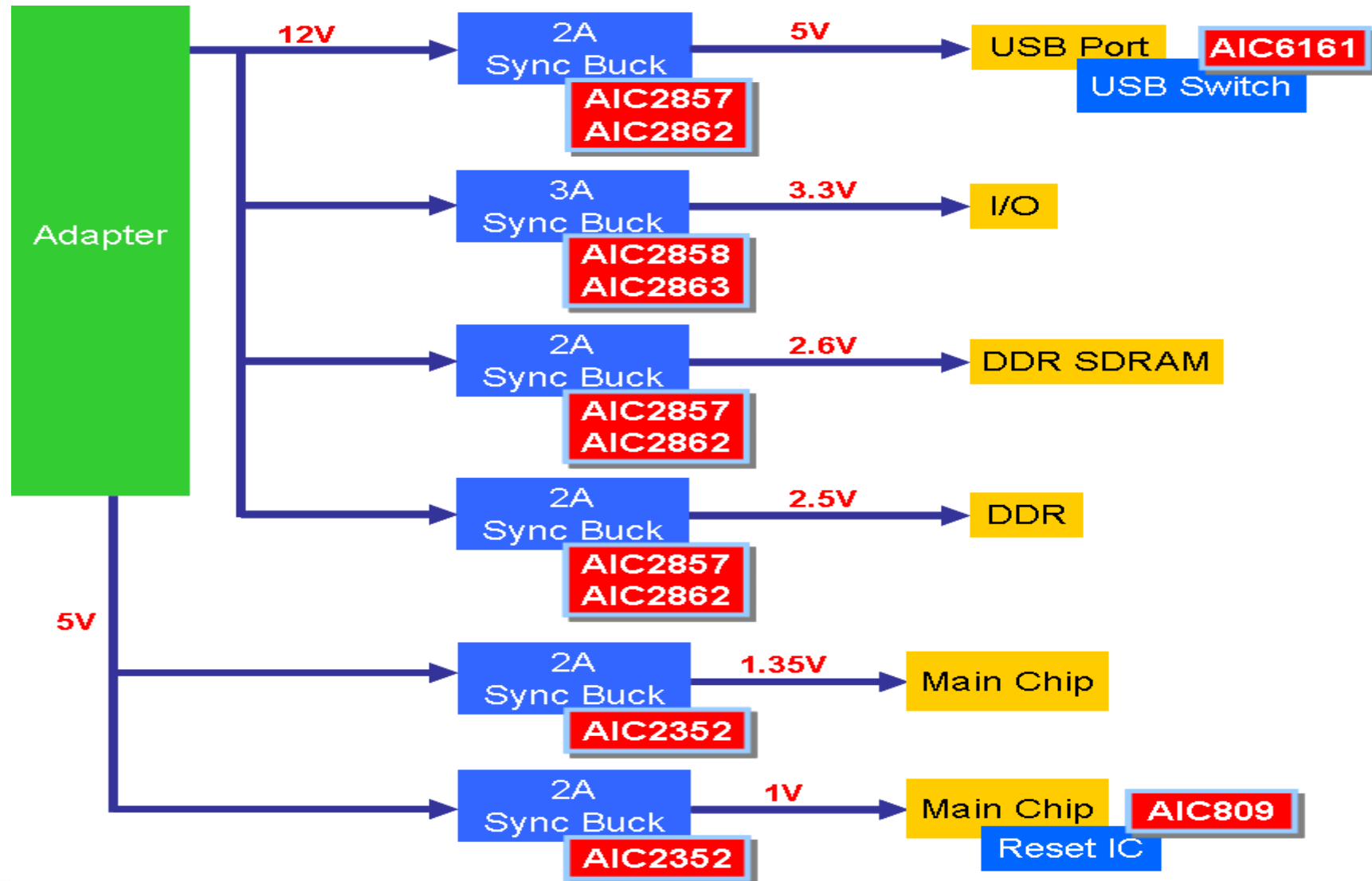
VDSL



Power Block



IAD



Thank You!!