19.5V to 7.2V 6A Buck IC							
Chip Model	Output Current Headroom (Weight: 5)	Soldering Difficulty (Weight: 5)	Circuit Simplicity (Weight: 5)	Thermal Mgmt. Risk (Weight: 5)	Efficiency (Weight: 3)	System Cost (Weight: 3)	Total Score
XL4016	5 (8A, Safe)	5 (Easy, TO-220)	4 (Simple)	5 (Alum. Heatsink)	1 (~90%)	3 ($1.0 IC + $0.5 20A Schottky Diode)	23
LM25116	5 (>10A, Huge)	3 (Hard, HTSSOP)	3 (Complex)	2 (Thermal Vias)	3 (~96%)	0 ($4.5 IC + 2X $1.5 External MOSFETs + complex compensation network)	16
SCT2460	3 (6A, Tight)	2 (Tricky, ESOP-8)	5 (Simplest)	1 (Thermal Vias)	2 (~95%)	3 ($1.8 IC + passive only)	16

19.5V to 9V Low Ripple Buck IC							
Chip Model	Output Ripple (Weight: 5)	Soldering Difficulty (Weight: 5)	Circuit Simplicity (Weight: 5)	Thermal Mgmt. Risk (Weight: 5)	Efficiency (Weight: 3)	System Cost (Weight: 3)	Total Score
XL7015	4 (w/LC, 10 ~ 20 mV)	5 (Easy, TO-252)	4 (Simple)	5 (Low Risk @ 0.2A)	2 (~83%)	3 ($0.45 IC + $0.4 periperals)	23
MP2359	5 (High Frequency, <5mV)	2 (Hard, SOT-23)	5 (Minimal Parts)	5 (Cool Runing)	3 (~90%)	3 ($0.55 IC + $0.3 periperals)	23
LM2596	3 (Based on the ESR of cap., typical 30 ~ 100mV)	5 (Easy, TO-220)	3 (Big Parts)	5 (Heatsink easy)	1 (~77%)	0 ($1.8 IC + $0.5 Inductor + $0.2 Diode)	17

Li Po Battery Charging IC								
Chip Model	Input Over-Voltage Protection (Weight: 5)	Battery Thermal Mgmt. (Weight: 5)	IC Termal Mgmt. (Weight: 4)	Charging Accuracy (Weight: 4)	Charge Current Capacity (Weight: 3)	Current Limit Control (Weight: 3)	System Cost (Weight: 3)	Total Score
BQ24092	5 (OVP @ 6.6V, 30V Max)	5 (JEITA Smart Control)	4 ~52°C/W with Thermal Vias, Limit Current @ 125°C, 150°C OFF	3 ±1.0% (4.158V ~ 4.242V)	3 (1000mA Max)	3 ISET2 Pin: Float = 1000mA High = 500mA Low = 100mA	1 (~$1.2)	24
MCP73831	1 (No OVP, 6V Max)	0 (No Temp. Control)	1 ~230°C/W, Limit Current @ 150°C, 160°C OFF	4 ±0.75% (4.168V ~ 4.232V)	1 (500mA Max)	1 (Fix Resistor)	2 (~$0.9)	10
TP4056	3 (No OVP, 8V Max)	3 (Simple Cut-off)	2 ~150°C/W, Limit Current @ 145°C, 160°C OFF	2 ±1.5% (4.137V ~ 4.263V)	3 (1000mA Max)	1 (Fix Resistor)	3 (~$0.3)	17

3.5~4.2V in, 3.3V out LDO IC								
Chip Model	Dropout Voltage @ 300mA (Weight: 5)	Low Voltage (3.4V) Operation (Weight: 5)	PSRR (Ripple Rejection) @ 1KHz (Weight: 4)	Transient Response (Weight: 4)	Max Output Current (Weight: 3)	Quiescent Current (No Load) (Weight: 3)	System Cost (Weight: 3)	Total Score
XC6220B331MR	5 (~50mV! Ultra Low)	5 (Solid 3.3V)	4 (60dB)	4 From 1mA jump to 300mA: Vdrop: ~40mV Trecovery: < 10µs	3 (1000mA)	3 (8µA @ Green Mode)	1 (~$0.95)	25
TLV75733PDBVR	4 (~125mV)	3 (Risk of Drop)	3 (52dB)	4 From 1mA jump to 1000mA: Vdrop: ~100mV Trecovery: ~ 15µs	3 (1000mA)	2 (25µA Fix)	2 (~$0.6)	21
RT9013	3 (~160mV)	1 (Drop to ~3.24V)	2 (50dB)	1 From 1mA jump to 300mA: Vdrop: ~120mV Trecovery: ~ 50µs	1 (500mA)	2 (25µA Fix)	3 (~$0.35)	13