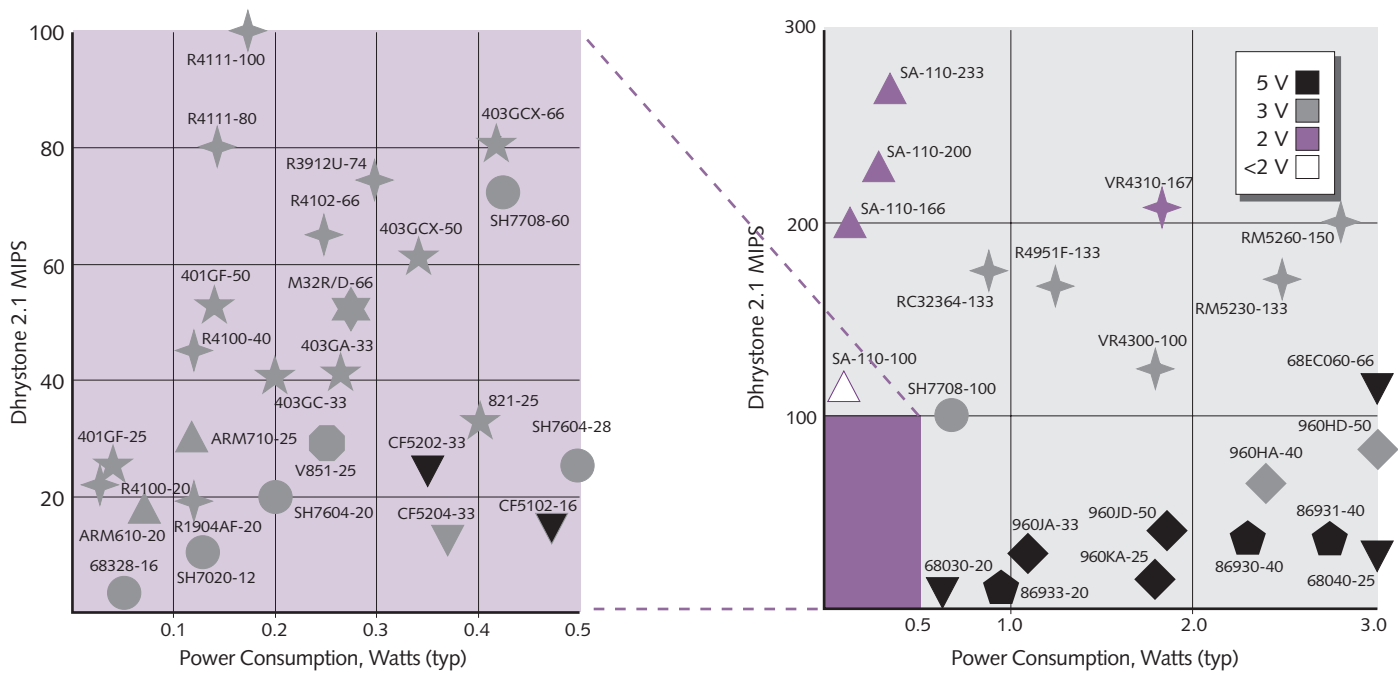
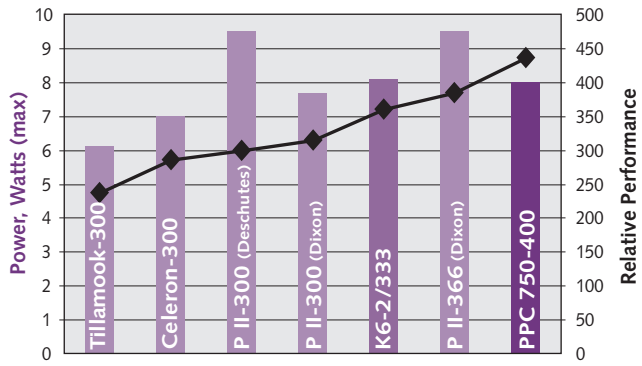


CHART WATCH: MOBILE PROCESSORS



This Chart Watch covers low-power processors for portable and battery-powered systems. The table and the chart in the upper right show the performance/power ratio for a number of embedded CPUs and notebook processors; the chart above is an inset for those that consume the least power.

The chart on the right compares x86 and PowerPC processors for notebooks, including relative performance (diamonds) and maximum (TDP) power consumption (bars).



	SA-110	ARM710	SH7708	401GF	403GX	VR4121	M32R/D	CF5202	V851
Vendor	Intel	VLSI	Hitachi	IBM	IBM	NEC	Mitsubishi	Motorola	NEC
Clock Rate	233MHz	25MHz	60MHz	50MHz	66MHz	131MHz	66MHz	33MHz	25MHz
I/D Cache	16K/16K	8K	8K	2K/1K	16K/8K	16K/8K	4K	2K	None
FPU?	No	No	No	No	No	No	No	No	None
MMU?	Yes	Yes	Yes	No	Yes	Yes	No	No	None
Bus Width	32 bits	32 bits	32 bits	32 bits	32 bits	32 bits	16 bits	32 bits	32 bits
Bus Frequency	66MHz	25MHz	60MHz	25MHz	33MHz	66MHz	16MHz	33MHz	25MHz
Dhystone MIPS	268 mips	30 mips	72 mips	52 mips	81 mips	174 mips	52 mips	25 mips	29 mips
Voltage†	2.0/3.3V	3.3V	3.3V	3.3V	3.3V	2.5/3.3V	3.3V	5V	3.3V
Power (typ)	360mW	120mW	420mW	140mW	420mW	300mW	275mW	348mW	250mW
Mips/Watt	745	250	171	371	194	580	189	72	116
Mips/mm²	5.4	0.75	n/a	2.36	1.35*	4.14	0.34	0.76*	0.69
Transistors	2,100,000	341,000	800,000	345,000	1,820,000	n/a	7,000,000	n/a	n/a
IC Process	0.35µm 3M	0.8µm 2M	0.35µm 3M	0.5µm 3M	0.5µm 3M	0.25µm 3M	0.42µm 2M	0.65µm 3M	0.8µm 2M
Die Size	50mm²	40mm²	n/a	22mm²	60mm²	42mm²	154mm²	33mm²	42mm²
Est Mfg Cost*	\$18	\$9	n/a	\$4	\$14	\$14	\$65	\$4	\$14
Availability	Now	Now	Now	Now	Now	Now	Now	Now	Now
Price (10K)	\$30.60	\$30	\$13.50	\$6.50	\$17.10	\$25	\$80	\$7.30	\$19

†core/bus voltage

n/a: information not available

(Source: vendors, except *MDR estimates)