

ACTT ultra low power IP platform can support 22nm/40nm/55nm/90nm/110nm/130nm/180nm

Type	IP Brief Spec
POR/BOR/PVD	Customization basing on customer requirement
Ultra low power Bandgap	Low to 60nA power consumption; provide ref. voltage for AON domain
High performance Bandgap	Low noise and high PSRR bandgap
Ultra low power cap-less LDO	Support capacitor-free;100nA(exclude Bandgap) power consumption with 1mA driving ability
Ultra low power LDO	60nA power consumption
low power LDO	200nA~5uA customized static current; 0.4V~3.0V customized output voltage; 1mA~200mA customized driver ability
Low power cap-less LDO	Supports low to 5uA static current at low power mode ; Also supports high performance mode
Low power Buck DC-DC	Scalable to 30uA static current; 300mA driving ability; Suitable for Li-ion battery applications
High Performance Buck DC-DC	300mA driving ability; 50uA static current; The ripple voltage is low to 2mV or below Fast transient response; Supports to be directly used by RF modules
ADC	12bit 1Msps SARADC; ENOB=11bit @1Msps; Ultra low power: <1uA @1Ksps
DAC	12bit R2R DAC Supports 10Ksps~1Msps sampling rate
Low power PLL	50MHz~500MHz output clock, Operating current low to 0.8uW/MHz
High performance Delta-sigma PLL	Advanced 3-order delta-sigma fractional divider; Low jitter design: RMS jitter<1.5ps@1.2GHz
OSC	Ultra Low Power 32KHz RC OSC
	Low Power OSC, 1MHz~64MHz wide frequency output range
32K X'TAL driver	Suitable for RTC application
Interface	Crystal-less/Basic USB2.0 PHY; USB2.0 OTG
	Total solution/Crystal-less/Basic USB1.1 PHY
	MIPI D-PHY DSI-2/CSI-2
	PCIE3.0
Sensor	Temperature sensor/ Temperature detector
I/O	Support core power supply is power-off for power saving Support external status latch for external wakeup; Ultra low leakage
CODEC	16bit/24bit Audio CODEC
Memory	LogicFlash [®] , MTP solution based on logic process
	LogicEE [®] , embedded EEPROM solution based on logic process
	LogicFlash Pro [™] , innovative embedded flash solution
RF	BLE4.2 RF solution, BLE5.2 RF solution
	NB-IoT RF solution
	GPS/Beidou RF solution

LogicFlash on SMIC

Technology	Process	IP	Metal stack	Density
110nm	Logic	XRS011LGCMT_1X88A	4M	1 x 88
		XRS011LGCMT_1X288A	4M	1 x 288
		XRS011LGCMT_128X8A	4M	128 x 8
		XRS011LGCMT_1K16C	4M	1K x 16
		XRS011LGCMT_16K16A	4M	16K x 16
130nm	logic	XRS013LGCMT_16K16A	4M	16K x 16
180nm	BCD	XRS018BCDMTP_4K8	4M	4K x 8
		XRS018BCDMTP_8KX8A	4M	8K x 8
		XRS018BCDMTP_128X8A	4M	128 x 8
		XRS018BCDMTP_128X8B	4M	128 x 8
		XRS018BCDMTP_64x16A	4M	64 x 16

LogicFlash on Siltrerra

Technology	Process	IP	Metal stack	Density
110nm	Logic	XRX011LGCMT_4K32C	4M	4K x 32
		XRX011LGCMT_16K8A	4M	16K x 8
		XRX011LGCMT_256X16A	4M	256 x 16
	ULL	XRX011ULLMTP_16K32B	4M	16K x 32
130nm	HV	XRX013HVPMT_2K128A	4M	2K x 128
		XRX013HVPMT_256X8A	4M	256 x 8
		XRX013HVPMT_4K32A	4M	4K x 32
		XRX013HVPMT_8K8A	4M	8K x 8
153nm	logic	XRX015LGCMT_16K16A	4M	16K x 16

Technology	Process	IP	Metal stack	Density	
180nm	logic	XRX018ULLMTP_8K16A	4M	8K x 16	
	ULL	XRX018ULLMTP_8K16A	4M	8K x 16	
	BCD		XRX018BCDMTP_16K8A	6M	16K x 8
			XRX018BCDMTP_16K8B1	4M	16K x 8
			XRX018BCDMTP_4K32A	3M	4K x 32
			XRX018BCDMTPGN2_128X8A	3M	128 x 8
			XRX018BCDMTPGN2_64X16A	3M	64 x 16
			XRX018BG4MTP_8K32A	3M	8K x 32
			XRX018B5VMTPGN2_4K8A	3M	4K x 8
			XRX018B5VMTPGN2_64X8A	3M	64 x 8
			XRX018B5VMTP_8K32A	3M	8K x 32

LogicFlash on GlobalFoundry

Technology	Process	IP	Metal stack	Density
110nm	Logic	XRF011LGCMTTP_8K32A	4M	8K x 32
180nm	BCD	XRF018BCDMTP_16K8A1	4M	16K x 8
		XRF018BCDMTP_32K8A	4M	32K x 8
		XRF018BCDMTP_8K32B	4M	8K x 32
		XRF018BCDMTP_1KX1C	4M	1K x 1
		XRF018BCDMTP_6K8A	4M	6K x 8

LogicFlash on UMC/HeJian

Technology	Process	IP	Metal stack	Density
110nm	Logic	XRH011LLPMTMTP_16K16A	4M	16K x 16
180nm	BCD	XRU018BCDMTP_16K8A	4M	16K x 8

LogicFlash on HHGrace

Technology	Process	IP	Metal stack	Density
180nm	BCD	XRG018BCDMTP_16K8B	4M	16K x 8
		XRG018B5VMTP_32K8A	4M	32K x 8
90nm	BCD	XRG90NBCDMTP_8K32B	4M	8K x 32

LogicFlash on CSMC

Technology	Process	IP	Metal stack	Density	
153nm	EN	XRC015P5VMTP_16K8B	3M	16K x 8	
		XRC015P5VMTP_2K8A	3M	2K x 8	
		XRC015P5VMTPGN2_512X2A	3M	512 x 8	
180nm	G	XRC015LGCMTMTP_4K16A	4M	4K x 16	
	Logic	XRC018LGCMTMTP_16K16	4M	16K x 16	
		BCD	XRC018P5VMTP_16K8D	3M	16K x 8
			XRC018B5VMTPGN2_10K8EE320X8A	3M	10K x 8 MTP + 320x8 EE
			XRC018P5VMTP_128X8A	3M	128 x 8