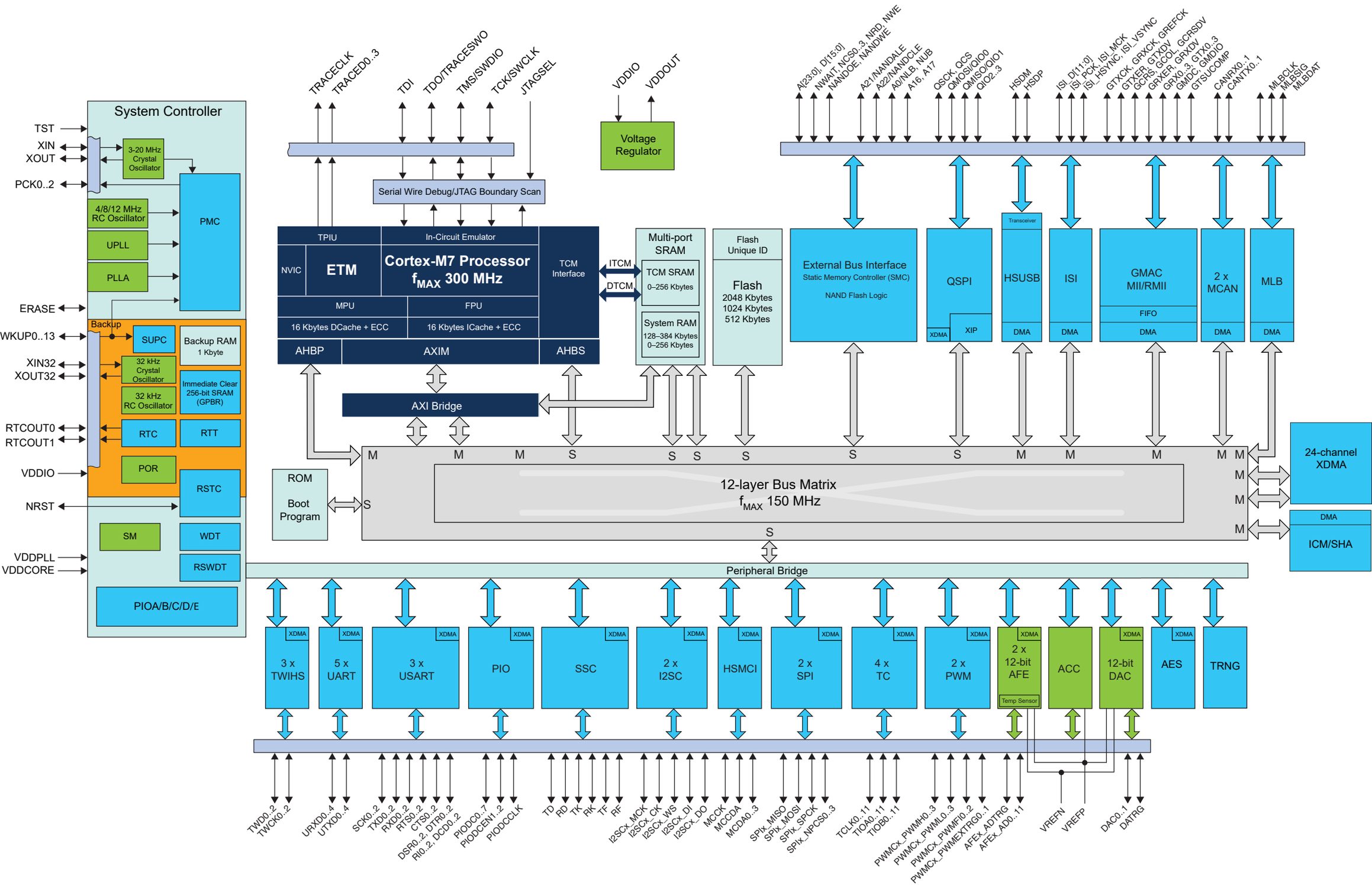
System Controller
TST
XIN
XOUT
PCK0..2
3-20 MHz Crystal Oscillator
4/8/12 MHz RC Oscillator
UPLL
PLLA
PMC
ERASE
Backup
WKUP0..13
SUPC
Backup RAM 1 Kbyte
XIN32
XOUT32
32 kHz Crystal Oscillator
32 kHz RC Oscillator
Immediate Clear 256-bit SRAM (GPBR)
RTCOUT0
RTCOUT1
RTC
RTT
VDDIO
POR
RSTC
NRST
SM
WDT
VDDPLL
VDDCORE
RSWDT
PIOA/B/C/D/E
TRACECLK
TRACED0..3
TDI
TDO/TRACESWO
TMS/SWDIO
TCK/SWCLK
JTAGSEL
Serial Wire Debug/JTAG Boundary Scan
VDDIO
VDDOUT
Voltage Regulator
TPIU
In-Circuit Emulator
NVIC
ETM
Cortex-M7 Processor
f_{MAX} 300 MHz
TCM Interface
MPU
FPU
16 Kbytes DCache + ECC
16 Kbytes ICache + ECC
AHBP
AXIM
AHBS
ITCM
DTCM
Multi-port SRAM
TCM SRAM
0–256 Kbytes
System RAM
128–384 Kbytes
0–256 Kbytes
Flash Unique ID
Flash
2048 Kbytes
1024 Kbytes
512 Kbytes
AXI Bridge
ROM
Boot Program
12-layer Bus Matrix
f_{MAX} 150 MHz
A[23:0], D[15:0]
NWAIT, NCS0..3, NRD, NWE
NANDOE, NANDWE
A21/NANDALE
A22/NANDCLE
A0/NLB, NUB
A16, A17
External Bus Interface
Static Memory Controller (SMC)
NAND Flash Logic
QSCK, QCS
QMOSI/QIO0
QMISO/QIO1
QIO2..3
QSPI
XDMA
XIP
HSDM
HSDP
Transceiver
HSUSB
DMA
ISI_D[11:0]
ISI_PCK, ISI_MCK
ISI_HSYNC, ISI_VSYNC
ISI
DMA
GTXCK, GRXCK, GREFCK
GTXER, GTXDV
GCRS, GCOL, GCRSDV
GRXER, GRXDV
GRX0..3, GTX0..3
GMDC, GMDIO
GTSUCOMP
GMAC MII/RMII
FIFO
DMA
CANRX0..1
CANTX0..1
2 x MCAN
DMA
MLBCLK
MLBSIG
MLBDAT
MLB
DMA
24-channel XDMA
DMA
ICM/SHA
Peripheral Bridge
3 x TWIHS
5 x UART
3 x USART
PIO
SSC
2 x I2SC
HSMCI
2 x SPI
4 x TC
2 x PWM
2 x 12-bit AFE
Temp Sensor
ACC
12-bit DAC
AES
TRNG
TWD0..2
TWCK0..2
URXD0..4
UTXD0..4
SCK0..2
TXD0..2
RXD0..2
RTS0..2
CTS0..2
DSR0..2, DTR0..2
RI0..2, DCD0..2
PIODC0..7
PIODCEN1..2
PIODCCLK
TD
RD
TK
RK
TF
RF
I2SCx_MCK
I2SCx_CK
I2SCx_WS
I2SCx_DI
I2SCx_DO
MCCK
MCCDA
MCDA0..3
SPIx_MISO
SPIx_MOSI
SPIx_SPCK
SPIx_NPCS0..3
TCLK0..11
TIOA0..11
TIOB0..11
PWMCx_PWMH0..3
PWMCx_PWML0..3
PWMCx_PWMFI0..2
PWMCx_PWMEXTRG0..1
AFEx_ADTRG
AFEx_AD0..11
VREFN
VREFP
DAC0..1
DATRG