

BSEC Binary Size Information

1. Platform Supported Currently

| Platform | Compiler | TYPE |
|----------------|---|---|
| Cortex-ARM | ARMCC | Cortex-M0, M0+, M3, M4, M4_FPU, M7 |
| Cortex-ARM | GCC | Cortex-M0, M0+, M3, M4, M4_FPU, M7 |
| Cortex-A* | GCC | Cortex-A7 |
| AVR_8bit | AVR-GCC | MegaAVR, XMEGA |
| AVR_32bit | AVR-GCC | 32-bit AVR UC3 |
| ESP | xtensa-lx106-elf-gcc / xtensa-esp32-elf-gcc | ESP8266/ESP32 |
| MSP430 | msp430-elf-gcc | MSP430 |
| Android system | gcc | x86, x86_64, arm, arm64 |
| Mikroe | MikroC-PIC/STM | PIC32MX, PIC32MZ, Cortex M0, M3, M4, M7 |
| IAR | IAR compiler | Cortex-M0, M0+, M3, M4, M4_FPU, M7 |
| Raspberry pi | Arm-linux-gnueabi-hf-gcc | Pi0-armv6 32bits, pi3-armv8-a 64bits |

2. Binary Size on different platform

The BSEC lite version is an abbreviated version of BSEC with reduced code size & memory requirements. It does not include functions to save the state of BSEC, if the device powers down.

| Platform Type | Compiler | Size in bytes (normal version / lite version) | | |
|-----------------|----------|---|-----------------|------------|
| | | ROM(.text) | RAM(.data+.bss) | File Size* |
| Cortex-M0 | ARMCC | 19860/ 12325 | 1120/ 1088 | 193k/ 115k |
| Cortex-M0+ | | 19860/ 12325 | 1120/ 1088 | 193k/ 115k |
| Cortex-M3 | | 19064/ 11821 | 1120/ 1088 | 189k/ 113k |
| Cortex-M4 | | 19064/ 11821 | 1120/ 1088 | 190k/ 114k |
| Cortex-M4_FPU | | 19954/ 12557 | 1120/ 1088 | 195k/ 115k |
| Cortex-M7 | | 19080/ 11837 | 1120/ 1088 | 190k/ 114k |
| Cortex-M0 | GCC | 23221/ 13621 | 1120/ 1088 | 85k/ 53k |
| Cortex-M0+ | | 23221/ 13621 | 1120/ 1088 | 85k/ 53k |
| Cortex-M3 | | 21073/ 12125 | 1120/ 1088 | 81k/ 51k |
| Cortex-M4 | | 21161/ 12177 | 1120/ 1088 | 81k/ 51k |
| Cortex-M4_FPU | | 21161/ 12177 | 1120/ 1088 | 81k/ 51k |
| Cortex-M7 | | 21233/ 12089 | 1120/ 1088 | 77k/ 46k |
| Cortex-A7 | | 21761/ 12677 | 1120/ 1088 | 81k/ 51k |
| AVR8bit-MegaAVR | AVR-GCC | 43068/ 25127 | 1064/ 1048 | 135k/ 79k |
| AVR8bit-XMEGA | | 42292/ 24933 | 1064/ 1048 | 134k/ 79k |

| | | | | |
|----------------|--------------------------|--------------|------------|------------|
| AVR 32bit | | 24068/ 13450 | 1460/ 1428 | 131k/ 72k |
| ESP 8266 | xtensa-lx106-elf-gcc | 28135/ 16608 | 1120/ 1088 | 188k/ 106k |
| ESP32 | xtensa-esp32-elf-gcc | 23795/ 13827 | 1120/ 1088 | 178k/ 95k |
| Msp430 | msp430-elf-gcc | 34187/ 20355 | 1070/ 1054 | 120k/ 73k |
| Android-x86 | gcc | 49176/ 26068 | 1100/ 1072 | 486k/ 282k |
| Android-x86_64 | | 39628/21974 | 1120/1088 | 758k/ 429k |
| Android-arm | | 20974/ 12378 | 1120/ 1088 | 491k/ 271k |
| Android-arm64 | | 37932/18732 | 1120/1088 | 783k/ 434k |
| Cortex-M0 | IAR | 20924/ 12342 | 1120/ 1088 | 148k/ 92k |
| Cortex-M0+ | | 20924/ 12342 | 1120/ 1088 | 148k/ 92k |
| Cortex-M3 | | 20156/ 11506 | 1120/ 1088 | 145k/ 89k |
| Cortex-M4 | | 20156/ 11506 | 1120/ 1088 | 145k/ 89k |
| Cortex-M4_FPU | | 20544/ 11868 | 1120/ 1088 | 148k/ 88k |
| Cortex-M7 | | 20192/ 11542 | 1120/ 1088 | 145k/ 89k |
| Raspberry-pi0 | Arm-linux-gnueabi-hf-gcc | 71016/ 56136 | 1120/ 1088 | 137k/ 111k |
| Raspberry-pi3 | | 71564/ 56576 | 1120/ 1088 | 135k/ 110k |

*Note: ROM/RAM size is basic requirement of BSEC. File size doesn't count.