Test BC-HLR-4

" O módulo B/C será implementado para rodar na plataforma-alvo ESP32 NodeMCU."

Procedimento realizado

1. Seguindo as Configurações BC para conseguir rodar o projeto;
2. Para validar o requisito, deve-se rodar o projeto conectando o ESP32 e fazendo Build, Flash and Monitor e verificar resultados em logs no terminal.

Resultados obtidos

Log após escrita e flash do arquivo no ESP32:

```
esptool.py v4.8.1
Serial port COM8
Connecting.......
Chip is ESP32-D0WD-V3 (revision v3.1)
Features: WiFi, BT, Dual Core, 240MHz, VRef calibration in efuse, Coding Scheme None
Crystal is 40MHz
MAC: 28:56:2f:4b:47:d4
Uploading stub...
Running stub...
Stub running...
Changing baud rate to 460800
Changed.
Configuring flash size...
Flash will be erased from 0x00001000 to 0x00007fff...
Flash will be erased from 0x00010000 to 0x000dcfff...
Flash will be erased from 0x00008000 to 0x00008fff...
SHA digest in image updated
Compressed 26752 bytes to 16360...
Wrote 26752 bytes (16360 compressed) at 0x00001000 in 0.8 seconds (effective 278.4 kbit/s)...
Hash of data verified.
Compressed 835616 bytes to 527925...
Wrote 835616 bytes (527925 compressed) at 0x00010000 in 12.1 seconds (effective 554.5 kbit/s)...
Hash of data verified.
Compressed 3072 bytes to 134...
Wrote 3072 bytes (134 compressed) at 0x00008000 in 0.1 seconds (effective 439.2 kbit/s)...
Hash of data verified.
```

Tamanho do arquivo em Flash:

Memory Type Usage Summary

Memory Type/Section	Used [bytes]	Used [%]	Remain [bytes]	Total [bytes]
Flash Code	580566	17.37	2761738	3342304
.text	580566	17.37		
Flash Data	143724	3.43	4050548	4194272
.rodata	143468	3.42		
.appdesc	256	0.01		
IRAM	95051	72.52	36021	131072
.text	94023	71.73		
.vectors	1027	0.78		
DRAM	34360	19.01	146376	180736
.bss	18192	10.07		
.data	16168	8.95		
RTC SLOW	24	0.29	8168	8192
.rtc_slow_reserved	24	0.29		

Total image size: 835508 bytes (.bin may be padded larger)

Código rodando visto no monitor serial:

```
I (489) heap_init: Initializing. RAM available for dynamic allocation:
I (496) heap_init: At 3FFAE6E0 len 00001920 (6 KiB): DRAM
I (502) heap_init: At 3FFB8638 len 000279C8 (158 KiB): DRAM
I (508) heap_init: At 3FFE0440 len 00003AE0 (14 KiB): D/IRAM
I (514) heap_init: At 3FFE4350 len 0001BCB0 (111 KiB): D/IRAM
I (521) heap_init: At 4009734C len 00008CB4 (35 KiB): IRAM
I (528) spi_flash: detected chip: generic
I (532) spi_flash: flash io: dio
I (537) main_task: Started on CPU0
I (547) main_task: Calling app_main()
I (547) APP_MAIN: Iniciando aplicação B/C
I (547) APP_MAIN: Iniciando máquina de estados
I (547) BC_FSM: Criando task da máquina de estados
I (557) BC_FSM: Iniciando máquina de estados B/C
I (557) STATE_INIT: ENTER ST_INIT
I (567) STATE_INIT: RUN ST_INIT
I (587) storage: Mounting SPIFFS partition firmware at /firmware
I (797) storage: Partition size: total: 2748701, used: 1032614
I (797) storage: Mounting SPIFFS partition keys at /keys
I (807) storage: Partition size: total: 52961, used: 1004
I (807) STATE_INIT: Partições SPIFFS montadas com sucesso
I (807) auth: Escrevendo chaves estáticas na partição
I (817) BC_FSM: Task da FSM criada com sucesso
I (837) auth: Chaves estáticas escritas com sucesso
I (837) STATE_INIT: Inicialização completa - transição para ST_OPERATIONAL
I (837) STATE_INIT: EXIT ST_INIT
I (847) STATE_OPERATIONAL: INIT ST_OPERATIONAL
I (847) gpio: GPIO[0]| InputEn: 1| OutputEn: 0| OpenDrain: 0| Pullup: 1| Pulldown: 0| Intr:0
I (857) BUTTON_HANDLER: Botão inicializado no GPIO0 (active_low=true)
I (867) STATE_OPERATIONAL: Botão de manutenção configurado - pressione para entrar no modo manutenção
I (877) main_task: Returned from app_main()
I (927) STATE_OPERATIONAL: RUNNING ST_OPERATIONAL
```