

Performance Tests JesFs V1.5 -- <https://joembedded.de>

Platform:	CC1310 with 48MHz (TI) SPI: 12 MHz MX25R8035F - 1MByte Maximum Transfer (Bursts): 1.5MByte/sec Build: Release	nRF52840 with 64MHz (Nordic) SPI: 32 MHz (SPIM) MX648035F - 8MByte Maximum Transfer (Bursts): 4MByte/sec Build: Release
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Cmd	Runtime (msec)	Speed (kB/sec)	Runtime (msec)	Speed (kB/sec)	Remark
F 1	14873		82402		Format HARD ("Chip Erase")
F 2	1858		6113		Format SOFT, Flash empty
F2	13659		112550		Format SOFT, Flash 90% full
i	11		37		Start/Wake Filesystem FS_START_FAST (*)
l	18		42		Start/Wake Filesystem FS_START_NORMAL (*)
W 943718	16669	56,6	17548	53,8	Write 921kB File WITH CRC on empty Flash (all Sectors empty/erased)
W 943718	29045	32,5	32058	29,4	Write 921kB File WITH CRC on empty Flash (all Sectors marked TODELETE)
W 943718	15047	62,7	15961	59,1	Write 921kB File CRC DISABLED on empty Flash
R 943718	2379	396,7	1842	512,3	Read 921kB File WITH CRC
R 943718	886	1065,1	253	3730,1	Read 921kB File CRC DISABLED
R 943718	10	94371,8	9	104857,6	Find EOF, SILENT READ (equals a Scanning Speed of ca. 100 MB/sec(!))
d	278	3394,7	250	3774,9	Delete 921kB File (mark Sector as TODELETE)

Conclusion:

- 1.) It makes sense to use „F 2“ (Soft Erase) if the flash is more full or used than ca. 70%-80%.
- 2.) The writing speed depends on the availability of erased sectors and is in the range of the technical specs of serial NOR Flash. Using CRC for writing has not to much effect.
- 3.) Reading the Flash is dependant of using CRC or not. If not using CRC for reading, the maximum reading speed is in the range of the technical limits of the SPI Interface.
- 4.) Finding the EOF (= length) of an JesFs-“Unclosed-File“ is VERY fast (ca. 100 MB/sec).

(*): Remark: With the flag FS_START_RESTART a simple WAKEUP from DEEP_SLEEP is < 0.1 msec.