

AR#00001 - NVMe M2 SSD support on U+ Zynq modules

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Issue: NVME drivers does not work with all M2 NVMe memory cards

- very long boot time (initialisation of M2 card): nvme nvme0: I/O 4 QID 0 timeout, completion polled
- Timeout on RW access: nvme nvme0: I/O 866 QID 2 timeout, completion polled

Conditions:

- Used Vivado/Petalinux Version:
 - 2019.2
- NVME setup:
 - CONFIG_NVME_CORE=y
 - CONFIG_BLK_DEV_NVME=y
 - # CONFIG_NVME_MULTIPATH is not set
 - CONFIG_NVME_TARGET=y
 - # CONFIG_NVME_TARGET_LOOP is not set
 - # CONFIG_NVME_TARGET_FC is not set
 - CONFIG_NVM=y
 - CONFIG_NVM_PBLK=y
 - CONFIG_NVM_PBLK_DEBUG=y
- RW Test:
 - time dd if=/dev/nvme0n1 of=/dev/null bs=1048576 count=1024
- Tested Modules+Boards:
 - TE0808 (with TEBF0808 and PCIe X1 M2 Adapter)
 - TE0802
 - TEB0911
 - TEB0912

Related Links:

- ...

Tested Cards:

M2 SSD	Status
https://business.kioxia.com/en-emea/ssd/client-ssd/bg4.html blocked URL very short, only tested on TEB0912	✓
Corsair Force MP510 240 GB	✓
Crucial P1 CT500P1SSD8 500 GB	✓
Crucial P2 CT250P2SSD8 250 GB	✓

Samsung V-Nand SSD 950 Pro 256 GB	✓
Samsung 970 EVO Plus NVMe M.2 disk 500 GB	✓
WD BLUE SN550 (500GB, PCIe Gen3)	✗
WD BLUE SN500 (500GB, PCIe Gen2)	✗
WD PC SN720 NVMe SSD 256 GB	✗