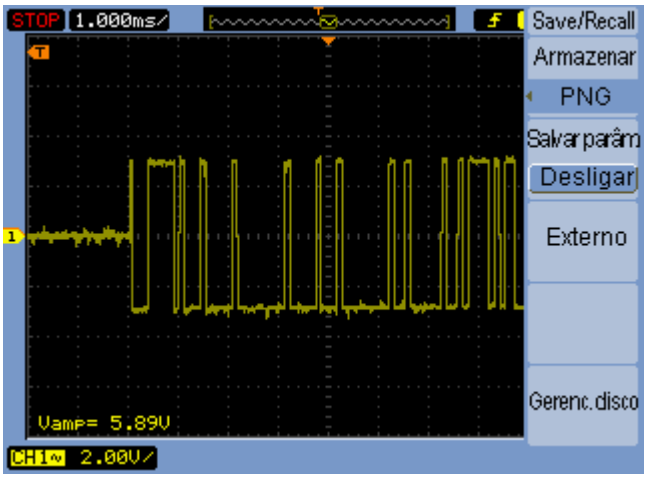
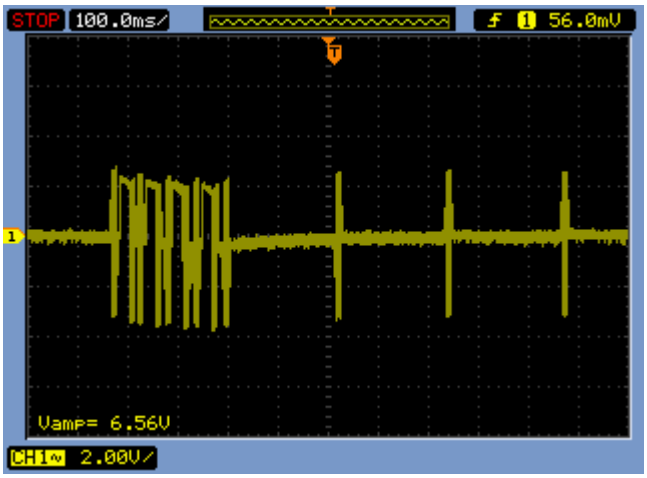


Here we have the waveform from our device, which uses the SN65HVD3085E as a transceiver, with a correct supply source of +5V.

On the image, we can see a request packet on the 485 bus. On this case, there was not any device as slave on the bus to answer to the master.

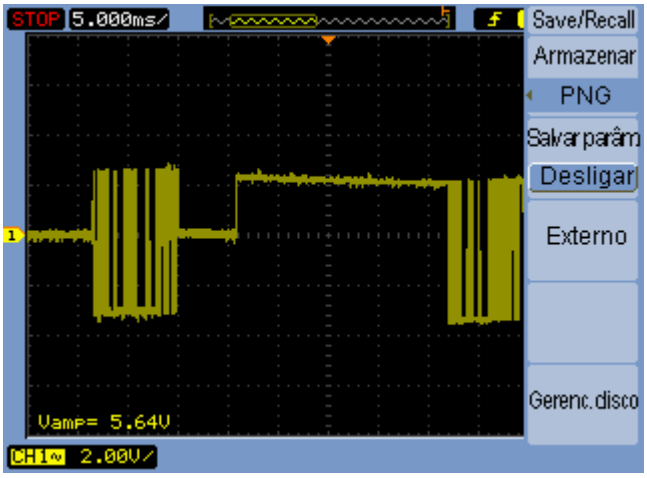
Differential voltage: 5.89V



On this image, the SN65HVD3085E send two different packets to the 485 bus data, one of then was answered by the respective slave, the others was not, because we just have one slave at the bus. On this case, the slave has a DS485TM chip as a transceiver.

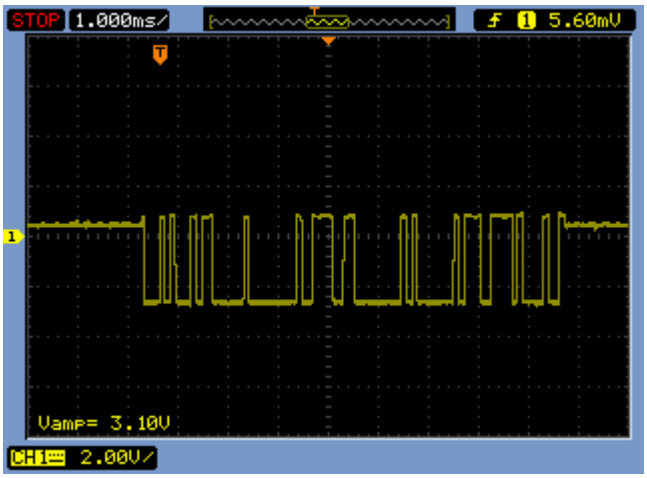
Differential voltage: 5.89V

ComMI como MASTER



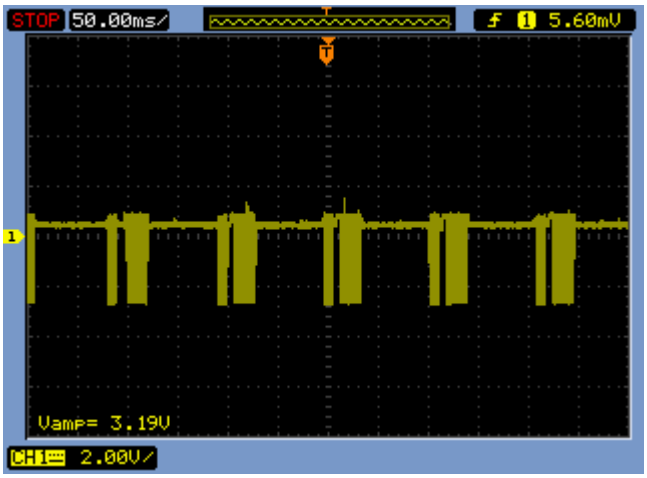
This image is just a zoom on the image above.

Differential voltage: 5.64V



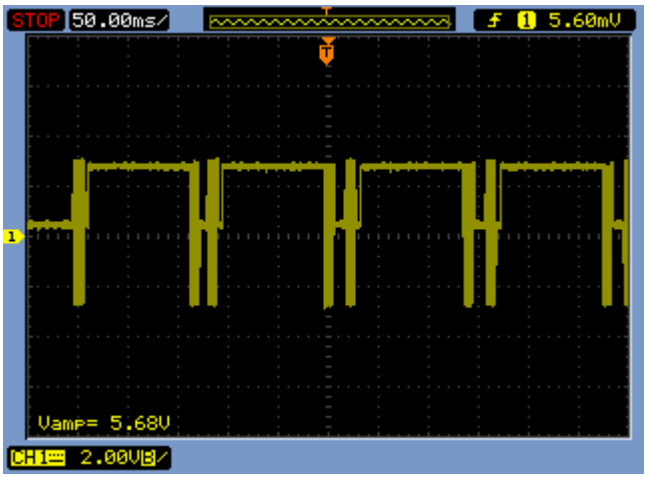
At this image, we insert another slave on the bus, which uses the MAX483 as a transceiver with 12V of supply source. We keep the original slave on the bus too, which uses the DS485TM. We can see that the differential voltage has decreased a lot, and we think that is not normal. However, despite of it, the master (SN65HVD3085E) can correctly communicate with both slaves (MAX483 and DS485TM)

Differential voltage: 3.10V



This is the same image as above, just showing more packets being correctly answered by both slaves (MAX483 and DS485TM) to the master (SN65HVD3085E).

Differential voltage: 3.19V



Just to test, we experiment two slaves using the same transceiver, the DS485TM, and the result was that there was not a decreased on the differential voltage. At this point was cleared that the MAX483 causes a decreased on the differential voltage. Maybe not the chip itself, but the fact of its source supply at 12V or the others components used as filters and protection.

Differential voltage: 5.68V

Using others transceivers as masters (As simple 485 to USB converters) and some appropriate software, we saw that the differential voltage at almost every master converter we used was higher, some casas 8V, other cases 9.2V of differential voltage. Yet, the differential voltage was decreased a lot when a slave device using the MAX483 was inserted on the bus.

On all of these experimental cases, the master always did a complete communication cycle, asking and being answered by the slave.