Extended SMBus Commands

• Just read these like Standard Commands. We will use the State-of-Health as an example. Its command code is 2e/2f.

• Use the Read I2C Data Block section to read the flash.

I2C Command 2e, Read Data Size 02

This is the data that is returned. You have to byte swap it and convert it to decimal. 005F is 95% SOH.

Control Subcommands

Example 1:

DEVICE_TYPE Control() Subcommand 0001 and the correct answer is 0100 for the bq34z100.

Using "Write I2C Data Block"

enter   I2CCommand 00 Data Block 0100   press   Write Data button
(The scope waveforms occur in this order. AA, 00, 01, 00)

Using "Read I2C Data Block"

enter   I2CCommand 00 Read Data Size 2   press   Read Data button
(The scope waveforms occur in this order. AA, 00, AB, 00, 01)

The GUI returns 0001, which is Little Endian for 0100. This is the DEVICE_TYPE for the bq34z100.

Using "Read/Write I2C Byte"

enter   I2CCommand 00 Byte 01   press   Write Byte button
(The scope waveforms occur in this order. AA, 00, 01)

enter   I2CCommand 01 Byte 00   press   Write Byte button
(The scope waveforms occur in this order. AA, 01, 00)

enter   I2CCommand 00   press   Read Byte button; GUI returns a 00
(The scope waveforms occur in this order. AA, 00, AB, 00)

enter   I2CCommand 01   press   Read Byte button; GUI returns a 01
(The scope waveforms occur in this order. AA, 01, AB, 01)

The correlates to 0001, which is Little Endian for 0100.

Example 2:

CHEM_ID Control() Subcommand 0008 and the correct answer is 0107 for the default bq34z100.ChemID.

Using "Write I2C Data Block"

enter   I2CCommand 00 Data Block 0800   press   Write Data button
(The scope waveforms occur in this order. AA, 00, 08, 00)

Using "Read I2C Data Block"

enter   I2CCommand 00 Read Data Size 2   press   Read Data button
(The scope waveforms occur in this order. AA, 00, AB, 07, 01)

The GUI returns 0701, which is Little Endian for 0107. This is the default ChemID for the bq34z100.

Using "Read/Write I2C Byte"

enter   I2CCommand 00 Byte 08   press   Write Byte button
(The scope waveforms occur in this order. AA, 00, 08)

enter   I2CCommand 01 Byte 00   press   Write Byte button
(The scope waveforms occur in this order. AA, 01, 00)

enter   I2CCommand 00   press   Read Byte button; GUI returns a 07
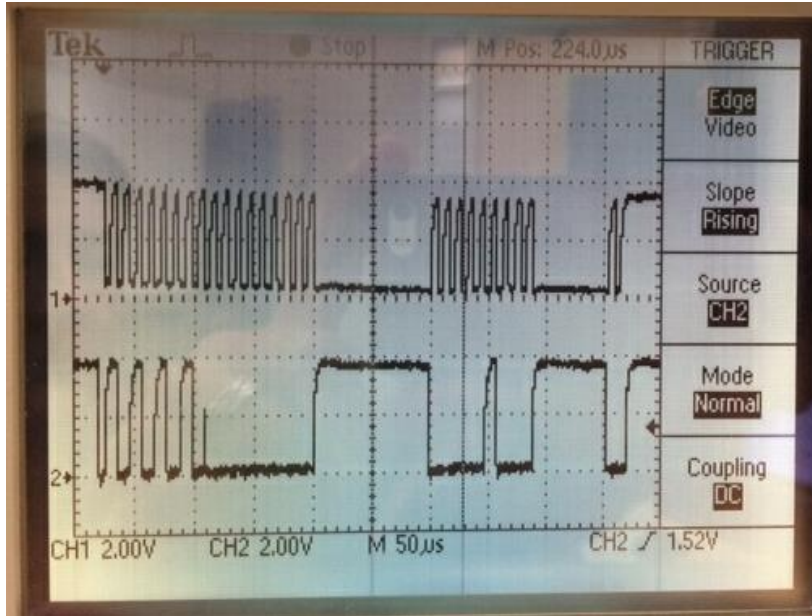(The scope waveforms occur in this order. AA, 00, AB, 07)

enter   I2CCommand 01   press   Read Byte button; GUI returns a 01
(The scope waveforms occur in this order. AA, 01, AB, 01)

The correlates to 0701, which is Little Endian for 0107.

CHEM_ID Control() Subcommand 0008 and the correct answer is 0804 for the
default bq34z110 ChemID.

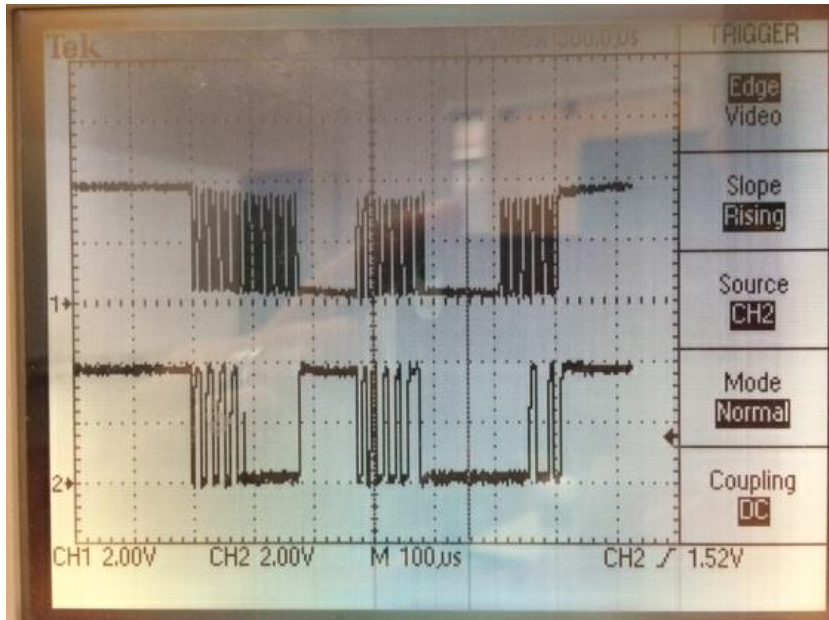Using "Read/Write I2C Byte"

enter   I2CCommand 00 Byte 08   press   Write Byte button
(The scope waveforms occur in this order. AA, 00, 08)
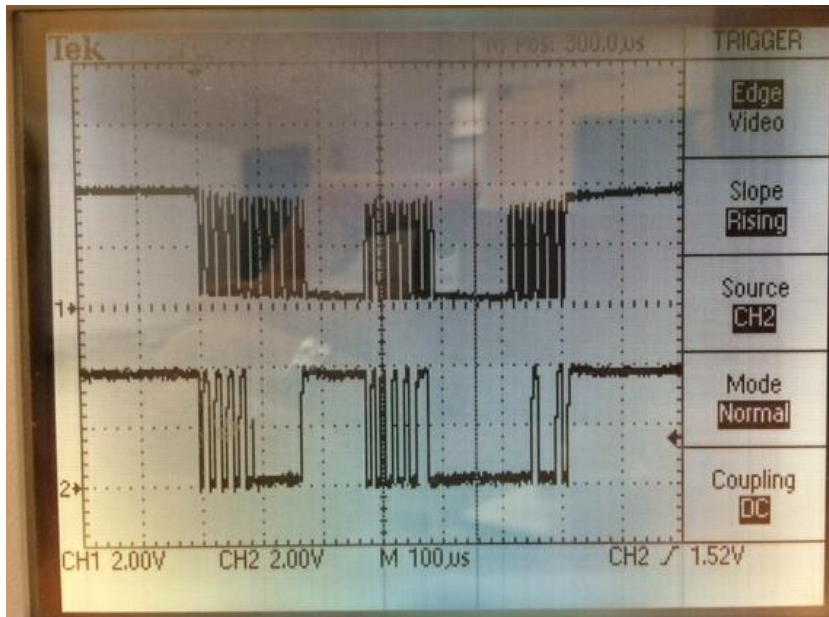

enter   I2CCommand 01 Byte 00   press   Write Byte button
(The scope waveforms occur in this order. AA, 01, 00)
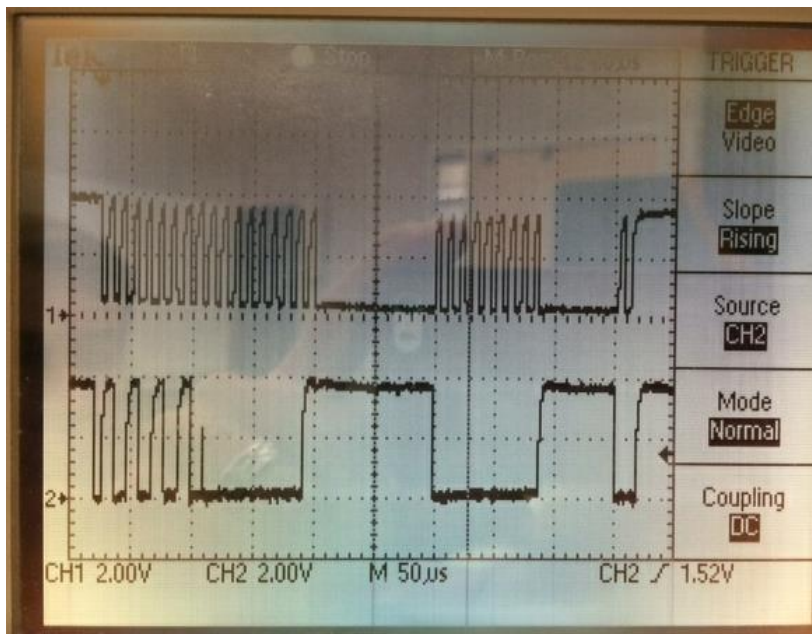
enter   I2CCommand 00   press   Read Byte button; GUI returns a 04
(The scope waveforms occur in this order. AA, 00, AB, 04)

enter   I2CCommand 01   press   Read Byte button; GUI returns a 08
(The scope waveforms occur in this order. AA, 01, AB, 08)

The correlates to 0408, which is Little Endian for 0804.

Data Flash Access

•   Find the SubClass and Offset for the data that you want to read. We will use Serial Number for this example. SubClass 48, Offset 15 and it occupies 2 bytes.

•   Convert the SubClass HEX. 48 = 30H

•   Use the Write I2C Byte section of the I2C Pro.

   I2C Command 61, Byte 00 (Enable Flash x'fer command)

   I2C Command 3E, Byte 30 (SubClass address)

   I2C Command 3F, Byte 00 (Enable General Purpose Block)

•   Use the Read I2C Data Block section to read the flash.

   I2C Command 40, Read Data Size 20

This is the data that was returned. The Serial number starts in the 16th byte. (0 is the first byte)

To read offset greater than 31, you will have to go to the next page.

e.g. I2C Command 3F, Byte 01