Pages 100-102 in the BNO-055 datasheet are good source of information for the I2C protocol:

- Each I2C read must come after an I2C write, where the write phase addresses the peripheral and sends the register address to be read.
- The write phase of the I2C read must begin with a start condition and then release the bus to wait for data to be read.
- The read phase must send a restart condition and end with a stop condition.

Examples of the "Option" parameter include:

- &H02 = Start with no stop at the end
- &H03 = Start, then Stop at the end
- &H05 = Restart, then Stop at the end

Type: Constant

- Reading more bytes than the number available in the starting register automatically moves on to reading data from the next register sequentially.

Because the register and data variables are data type Long (4 bytes):

- The register/address must be the first (MSB) of 4 bytes for each register variable. The data to be written follows from this starting at the second byte. E.g. the following writes 0x81 to the UNIT_SEL register at 0x3B:

```
Public UNIT_SEL_reg As Long = &H3B810000  'Write 0x81 (10000001) to register 0x3B (UNIT_SEL)
Public UNIT_SEL As Long  'For confirming UNIT_SEL, should be 129
```

- The data being read fills in MSB to LSB. So, for single byte reads, shifting by 3 bytes to the right will return the expected value:

```
I2CWrite (C1,PERIPHERAL_reg,UNIT_SEL_reg,2,&H02)
I2CRead (C1,PERIPHERAL_reg,tmp,1,&H05)
MoveBytes (UNIT_SEL,3,tmp,0,1)
```