

Dear valued customers,

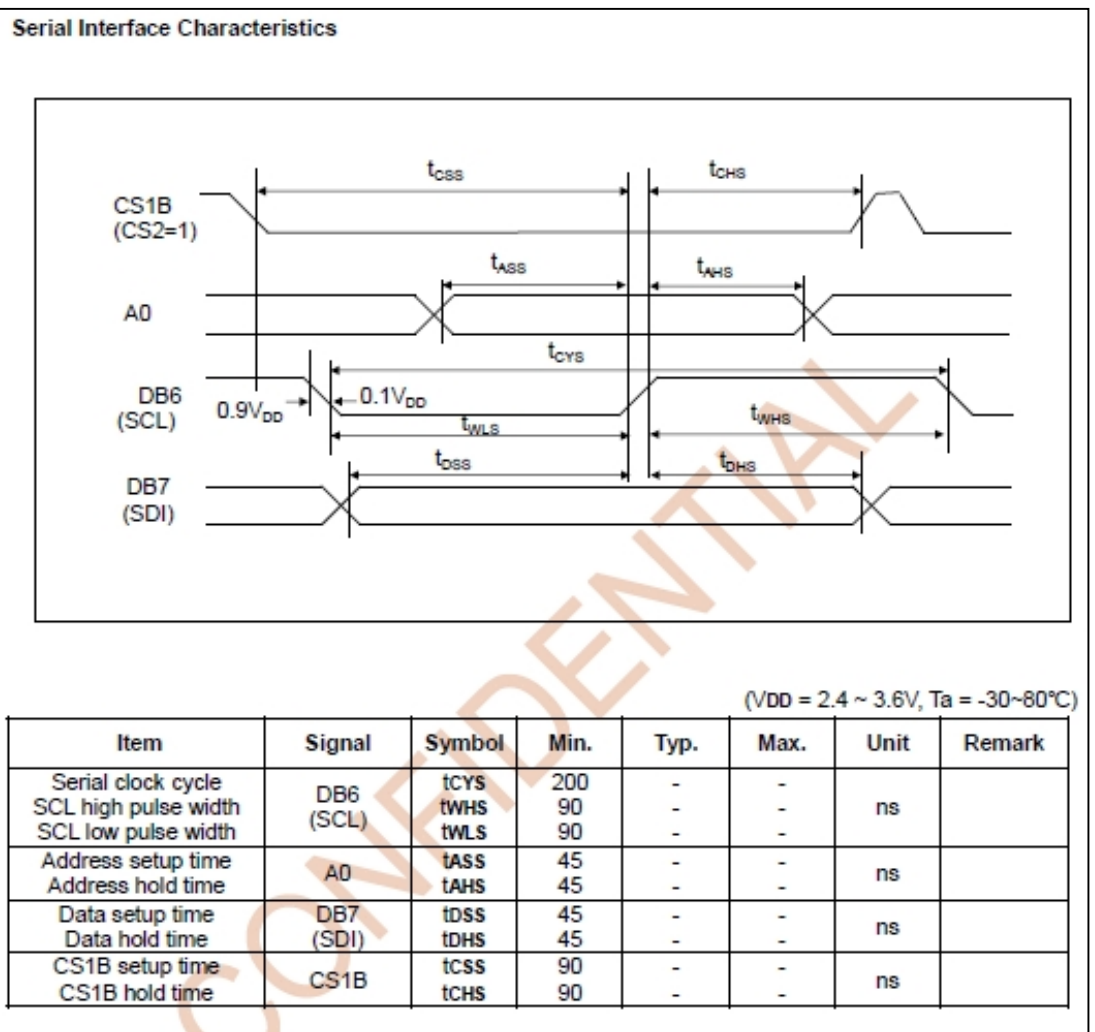
due to some claims of customers using the SPI Interface and previously modules with we herewith inform as follows:

In many cases customers using SPI Interface the timing needs to have special attention.

It is important to understand that the command/data signal (A0) needs to be set only after the chip select (CS) is set.

The previous IC was faster and not that sensitive to this issue and allowed the A0 to be set before the CS.

Here again the table of the IST3004-TX SPI Timing as per Spec. Ver.003:



We recommend the following INT-CODE proposal for the SPI-Interface:

```

void data_trans(unsigned char tdata)
{
    uchar i;
    CS=0; //The CS must be before the A0
    A0=1;
    SCL=0;

    for(i=0;i<8;i++)
    {
        SI=((tdata&0x80)==0x80);
        SCL=0;
        NOP;
        SCL=1;
        tdata<<=1;
    }
    CS=1;
}

void ins_trans(unsigned char tcom)
{
    uchar i;
    CS=0; //The CS must be before the A0
    A0=0;
    SCL=0;

    for(i=0;i<8;i++)
    {
        SI=((tcom&0x80)==0x80);
        SCL=0;
        NOP;
        SCL=1;
        tcom<<=1;
    }
    CS=1;
}
    
```