TWEN It must be set to enable TWI interface, TWEA It must be set to cause the host address (slave address or a broadcast call) to return it to his profile ACK . TWSTA with TWSTO It must be cleared.

initialization TWAR with TWCR after that, TWI Interface waits until its slave address (or a broadcast address) to be addressed. When followed by the data direction bit slave address is "0" When (Write operations), TWI Into the slave receive mode. When the data direction bit "1" When the (read operation shown) TWI In slave transmit mode. After receiving its own slave address and read flag, TWINT Flag bit is set, the status code is also effective to update TWSR in. In response to each state will be described in detail in the appropriate code status code table. Note that, when the host mode TWI After arbitration loss can enter from the transmitter mode (see Status Code 0xB0).

If during transmission TWEA Bit is reset, TWI It will switch to not addressed slave mode after sending the last byte. The receiver gives to the host the last byte of the transfer NACK or ACK Rear, TWSR Register will be updated as the status code 0xC0 or 0xC8 . If the master receiver continues to operate the transmission, the slave does not send a response, the host will receive the full "1" Data (ie, 0xFF). When the last byte of data has been transmitted from the machine (TWEA It is cleared) and expect NACK In response, the host wants to receive more data transmission ACK As a response, TWSR Will be updated 0xC8 .

when TWEA Bit "0" Time, TWI It will not respond to its own slave address. but TWI We will continue to monitor the bus, once TWEA Is set, it can recognize and respond to the address recover. In other words, you can use TWEA Temporarily TWI Isolated from the bus interfaces.

In the sleep modes except the idle mode, TWI Clock interface can be turned off. If the slave can receive mode, the interface will continue to respond with a bus clock slave address or a broadcast address. Will then wake MCU . During the wake, TWI Interface will remain SCL Low until TWINT Flag is cleared. when TWI After normal interface clock may receive more data.

From the state machine code transmission mode shown in the following table:

State machine transmission mode code table

status code	Bus and hard Member state	Response application software					Hardware next move
		Read / Write TWDR	Correct TWCR Operations				
			STA	STO	TWINT	TWEA	
0xA8	SLA + R Received; ACK Has been sent	Download Data x		0	1	0	The last number will be sent According; expect to receive NACK
		Download Data x		0	1	1	Transmitting data; The reception ACK
0xB0 send	SLA + R / W When arbitration failed; SLA + R Received; ACK Has been sent	Download Data x		0	1	0	The last number will be sent According; expect to receive NACK
		Download Data x		0	1	1	Transmitting data; The reception ACK