1.0 INTRODUCTION

This user's manual is for the XR16M781 evaluation board. Since it can be used for XR16M781, XR16M681 and XR16M581, this user's manual will describe the hardware setup required to operate the different parts.

2.0 OVERVIEW

The XR16M781 evaluation board includes three packages on it: 32-QFN, 25-BGA and 24-QFN. The **Figure 1** shows a top view of XR16M781 evaluation board layout.

FIGURE 1. TOP VIEW OF XR16M781 EVALUATION BOARD LAYOUT

There are four 24-pin jumpers on both left and right sides of XR16M781 evaluation board. Jumper 11 in the upper left side of figure 1 includes data lines, address lines , chip selects and other control signals of UART. Jumper 10 in the bottom right side of figure 1 includes TXD, RXD and other modem control signals to and from UART.

2.1 Evaluation Board Components

The XR16M781 evaluation board is designed for three different packages. Some componets are required to install. Some are optional and some are not installed. **Table 1** shows the components:

TABLE 1: COMPONENTS OF THE XR16M781 EVALUATION BOARD

UNIT	PART	FUNCTION
U5/U6	32-QFN part	Option. XR16Mx81 32-QFN part.
U3	25-BGA part	Option. XR16Mx81 25-BGA part.
U1/U2	24-QFN part	Option. XR16Mx81 24-QFN part.

2.2   Jumper Settings

2.2.1   Common jumpers

Common jumpers are those jumpers which should be set the same on the different evaluation boards, no matter which parts and packages. The **Table 2** shows the common jumpers setting on the evaluation board:

<p align="center">TABLE 2: COMMON JUMPERS SETTINGS</p>

JUMPERS	FUNCTIONS	COMMENTS
J10	I/O Interface with mother board	Installed. Necessary to connect UART signals mother board.
J11	I/O Interface with mother board	Installed. Necessary to connect UART signals with mother board.
J9	I/O Interface with mother board	Option. Not necessary for single channel UART..
J12	I/O Interface with mother board	Option. Not necessary for single channel UART.

2.2.2   32-QFN package jumper

The following **Table 3** jumper settings apply to the 32-QFN package:

<p align="center">TABLE 3: JUMPER SETTINGS FOR 32-QFN PACKAGE</p>

JUMPERS	FUNCTIONS	COMMENTS
J6	Power supply to UART	Trace between 1 & 2
J8	Selects POWERSAVE mode	Jumper in 1&2 enables POWERSAVE mode Jumper out 1&2 disables POWERSAVE mode
JP1	Selects crystal or external clock	Jumper in 1&2 and 4& 5 selects crystal ■ Trace between 1 & 2 ■ Trace between 4 & 5 Jumper out and pin 3 selects external clock

2.2.3   25-BGA package

The following **Table 4** jumper setting applies to the 25-BGA package:

<p align="center">TABLE 4: JUMPER SETTINGS FOR 25-BGA PACKAGE</p>

JUMPERS	FUNCTIONS	COMMENTS
J4	Power supply to UART	Trace between 1 & 2
JP2	Selects crystal or external clock	Jumper in 1&2 and 4& 5 selects crystal ■ Trace between 1 & 2 ■ Trace between 4 & 5 Jumper out and pin 3 selects external clock
J8	Selects POWERSAVE mode	Jumper in 1&2 enables POWERSAVE mode Jumper out 1&2 disables POWERSAVE mode
J5	Selects external loopback on UART side	Jumper in 1&2 selects external loopback on UART side Jumper out 1&2 deselects external loopback on UART side

2.2.4   24-QFN package

The following **Table 5** jumper setting applies to the 24-QFN package:

TABLE 5: JUMPER SETTINGS FOR 24-QFN PACKAGE

JUMPERS	FUNCTIONS	COMMENTS
J1	Power supply to UART	Trace between 1 & 2
J3	Selects different type of clocks	Jumper in 1&2 selects crystal Jumper in 2&3 selects external clock ■ Trace between 2 & 3
JP3	Selects crystal or external clock	Jumper in 1&2 and 4& 5 selects crystal ■ Trace between 1 & 2 ■ Trace between 4 & 5 Jumper out and pin 3 selects external clock
J8	Selects POWERSAVE mode	Jumper in 1&2 enables POWERSAVE mode Jumper out 1&2 disables POWERSAVE mode

3.0   DRIVERS

It is recommended that you contact uarttechsupport@exar.com to inquiry and request drivers.

4.0   SAMPLE INITIALIZATION ROUTINE AND SUPPORT

For a sample initialization routine or if there are any questions, send an e-mail to uarttechsupport@exar.com.

NOTICE