WLR089 XPLAINED PRO EVALUATION KIT
(EV23M25A)

QUICK START GUIDE

1 Hardware Setup

- WLR089 Xplained Pro Evaluation Kit (EV23M25A)
- Micro USB cable
- LoRaWAN® gateway

Software Setup
- TeraTerm (terminal emulator)
- Network Server with gateway and end device registered
- LoRaWAN gateway connected to Network Server

2 Plug In

Connect your board (EDBG USB) to your PC with a micro USB cable. Your personal computer will recognize the board as a Virtual COM port. Open the virtual COM port in a terminal emulator running on the PC and send/receive the data.

3 Link Up

Connect to Network Server Using Pre-Programmed Serial Network Provision Application

1. Open TeraTerm. Choose the EDBG Virtual COM port and enable local echo.

2. The default settings for the UART interface are 115200 bps, 8-bits, no parity, one Stop bit and no flow control.

3. A menu with two types of join options will appear on TeraTerm. Choose the appropriate join mechanism based on the join mechanism (OTAA/ABP) chosen while registering the end device.

4. Enter the appropriate EUI/Address/Keys (LoRaWAN Network Provisioning Information) based on the join mechanism chosen. Provisioning information can be either uppercase 0-F or lower case 0-f values without spaces or special characters in between subsequent values.

5. Once all the network parameters for the expected join type are entered, confirm the network parameters entered.

6. Choose the demo application by selecting the appropriate band based on the region of operation.
   - The preprogrammed end device application supports 7 bands of LoRaWAN regional specification, AU915, AS923, EU868, IND865, JPN923, KR920, NA915.
   - After choosing the band, join request is sent to the Gateway-network server/join server.

MICROCHIP

Next Steps

4 Dive In

You will be immediately able to view the temperature data from the built-in temperature sensor of the WLR089U0.

5 Example

Last reset cause: External Reset

Microchip LoRaWAN Stack MLS_SDK_1_0_P_5

Init-Successful

Join Type Selection

1. Over The Air Activation (OTAA)

2. Activation By Personalization (ABP)
   Enter your choice: 1

Key Selection

1. Enter device EUI (hex 0-F):
   0123456789ABCDEF

2. Enter application EUI (hex 0-F):
   0123456789ABCDEF

3. Enter application key (hex 0-F):
   0123456789ABCDEF0123456789ABCDEF

Configuration Selected

- Activation type: Over The Air Activation (OTAA)

- Device EUI:
  0x0123456789abcdef

- Application EUI:
  0x0123456789abcdef

- Application key:
  0x0123456789abcdef0123456789abcdef

1. Confirm app configuration selection

2. Modify configuration
   - Enter your choice: 1

Choose Application Type

1. Demo application

2. Certification application
   - Select application: 1

Sub-band Selection

- Please select one of the band given below

1. EU868	4. AS923	7. IND865
2. NA915	5. JPN923	8. Clear PDS
3. AU915	6. KR920	9. Reset board

- Select regional band: 2
- Enter SUBBAND(1-8): 2

For US and AU regions 8 sub-bands are available to choose from. Gateway manufacturers typically have only one sub-band available for use. Refer to gateway manufacturer documentation to find the sub-band the gateway is listening on.

- Join request sent for NA915
- Joining successful
- DevAddr: 0x01234567

Application Configuration

- DevType: CLASS A
- ActivationType: OTAA
- Transmission type - unconfirmed
- FPort - 1
- Send join request

1. Send data

2. Sleep

3. Select band

4. Enter your choice: 2

- Temperature: 36.0℃/96.8℉
- Tx data sent
- Transmission success

MICROCHIP