

# WiMOD LR Base Firmware

Feature Specification Version 1.1

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## Document Information

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## Revision History

Version	Note
0.1	Created, Initial Version
0.2	Draft Version Created For Review
0.3	Preliminary Version
1.0	First Release
1.1	Update for iM880B / iU880B

## Aim of this Document

This document outlines the WiMOD LR Base firmware features. This firmware is designed for the WiMOD LR radio module family (e.g. iM880A-L, iU880A, iM880B, iU880B).

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# 1. Overview

The WiMOD LR Base firmware provides the following features:

- Modem Service with confirmed & unconfirmed packet exchange
- Host Controller Interface (HCI) provides access to radio functions & parameters (see [1])
- Radio Link Test
- Sensor Application & Remote Control Application
- Device Management for configuration of multiple radio settings: LoRa & FSK modulation, Frequency, Spreading Factor, Bandwidth, Error Coding, etc.
- Optional AES Encryption for secured packet exchange
- Media Access with Listen Before Talk (LBT)
- Multitasking Operating System WiMOD-OS with Automatic Power Saving (APS)
- Production & Test Support

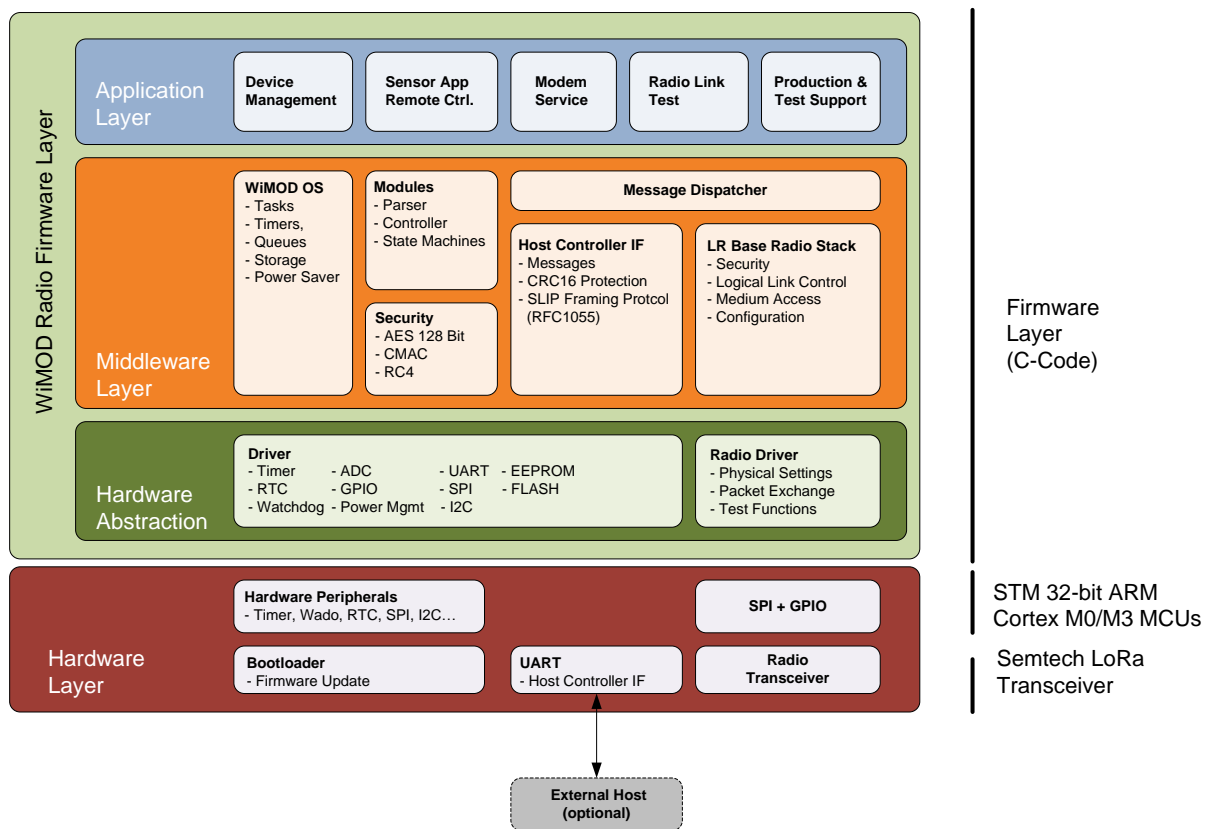


Fig. 1-1: WiMOD LR Base Firmware Architecture

## 2. Appendix

### 2.1 List of Abbreviations

APS	Automatic Power Saving
FW	Firmware
HCI	Host Controller Interface
HW	Hardware
LBT	Listen before Talk
LR	Long Range
LoRa	Long Range
RTC	Real Time Clock
SW	Software
UART	Universal Asynchronous Receiver/Transmitter
WiMOD	Wireless Module by IMST

### 2.2 List of References

[1] WiMOD\_LR\_Base\_HCI\_Spec.pdf

### 2.3 List of Figures

Fig. 1-1: WiMOD LR Base Firmware Architecture

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### 3. Regulatory Compliance Information

The use of radio frequencies is limited by national regulations. The radio module has been designed to comply with the European Union's R&TTE (Radio & Telecommunications Terminal Equipment) directive 1999/5/EC and can be used free of charge within the European Union. Nevertheless, restrictions in terms of maximum allowed RF power or duty cycle may apply.

The radio module has been designed to be embedded into other products (referred as "final products"). According to the R&TTE directive, the declaration of compliance with essential requirements of the R&TTE directive is within the responsibility of the manufacturer of the final product. A declaration of conformity for the radio module is available from IMST GmbH on request.

The applicable regulation requirements are subject to change. IMST GmbH does not take any responsibility for the correctness and accuracy of the aforementioned information. National laws and regulations, as well as their interpretation can vary with the country. In case of uncertainty, it is recommended to contact either IMST's accredited Test Center or to consult the local authorities of the relevant countries.

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