Specification – Eval mioty Stack for STM32WL3x
Date 17.11.2025

The demo and evaluation software for the STM NUCLEO_WL33CC1 evaluation platform (Eval mioty Stack for STM32WL3x) implements the mioty technology according to the ETSI specification TS 103 357 v1.1.1, Chapter 6 "TS-UNB Family," and the revision TS 103 357-2 V2.1.1. The radio protocol TS-UNB defined in the specification is the basis of the mioty technology. Additional protocol settings for device interoperability, such as frequency settings in respective countries, are defined in the mioty alliance specification "Mioty® alliance Task Force New Frequency Bands – Regional radio profiles for mioty® devices v1.0.0" and are implemented in the software as profiles (mioty Regional Radio Profile). The Eval mioty Stack for STM32WL3x currently supports the european frequency profile as per the following table.

Table 1: supported mioty regional profiles

mioty® Regional Radio Profile	Equivalent Profile	Uplink Channels (in MHz)	Downlink Channels (in MHz)	TSMA Parameters	Comment
EU868	EU1	A: 868.180 B: 868.080	A: 869.575 B: 869.475	Standard	

The Software supports the following features:

Table 2: Unterstützte Protokollfunktionen

Feature	Description	supported	Comment
Class Z		Yes	
Class A		Yes	
Class B		No	
Class C		No	
MAC Mode	Fixed MAC	Yes	
UPG3	Support of low latency Pattern UPG3	No	
ULP8	Support of high datarate (19.2 kSym/s)	No	
Link Layer Control			
UL-TS-ULP	Uplink symbol rate 2,380.371 Sym/s	Yes	
UL-TS-ER	Uplink symbol rate 396 Sym/s	No	
UL-TS_ULP8	Uplink symbol rate 19.2 kSym/s	No	
DL-SB		No	

DL-TS-ULP	Downlink symbol rate of 2,380.371 kSym/s	Yes	
UL Repetition	UL repetition supported	No	Deprecated feature
LINK Layer Support	Setting of Control Flag Supported	Yes	
OTAA	Over the Air Attach & Detach support	No	Devices are preattached
DLRX	DLRX Status Response	No	
Link Adaptation		No	
Other supported Link Layer	For future use	No	
MAC Header Flags			
MAC Version	Version 0	Yes	Default value
MPF Support		No	
Response Flag support		No	
RX Open Flag Support		No	
Response Priority Flag support		No	
DL ACK	DL ACK flag support	Yes	
DL Variables			
TSI Support	Is read from received DL Core frame	No	Fixed value of 512

The software is intended for general purposes across a variety of hardware products. In particular, it is not specifically designed for implementation in medical or diagnostic products and/or for use in diagnostic, therapeutic, or other medical purposes.