In **Dubai (UAE)**, the **legal LoRa frequency band** is regulated by the **Telecommunications and Digital Government Regulatory Authority (TDRA)**.

✅ Allowed LoRa BAND in Dubai:

`868 MHz`

- Specifically, **863–870 MHz** is the **ISM band** approved for LoRa use in the UAE.
- The `433 MHz` **band is not officially permitted** for LoRa applications in UAE.

> 🔴 **Do NOT use** `433 MHz` in Dubai — it may be **illegal** or interfere with other services.

◆ So, updated values to use in Dubai:

Parameter	Suggested Value	Reason
BAND	868	Legal and standard in UAE
NETWORKID	12	Rare, non-default value
ADDRESS	in its range	High, uncommon address

✅ AT Commands Example for RYLR896:

```
AT+BAND=868000000
AT+NETWORKID=12
AT+ADDRESS=<range>
```

- Make sure to set the same `NETWORKID` on all devices in the same network.
- Each device should have a **unique** `ADDRESS`.

PROF

To **initialize the RYLR896 LoRa module** properly, you only need a few essential **AT commands** to set up the module for communication. Below is a minimal and **correct initialization sequence** that ensures the module is ready to send and receive data.
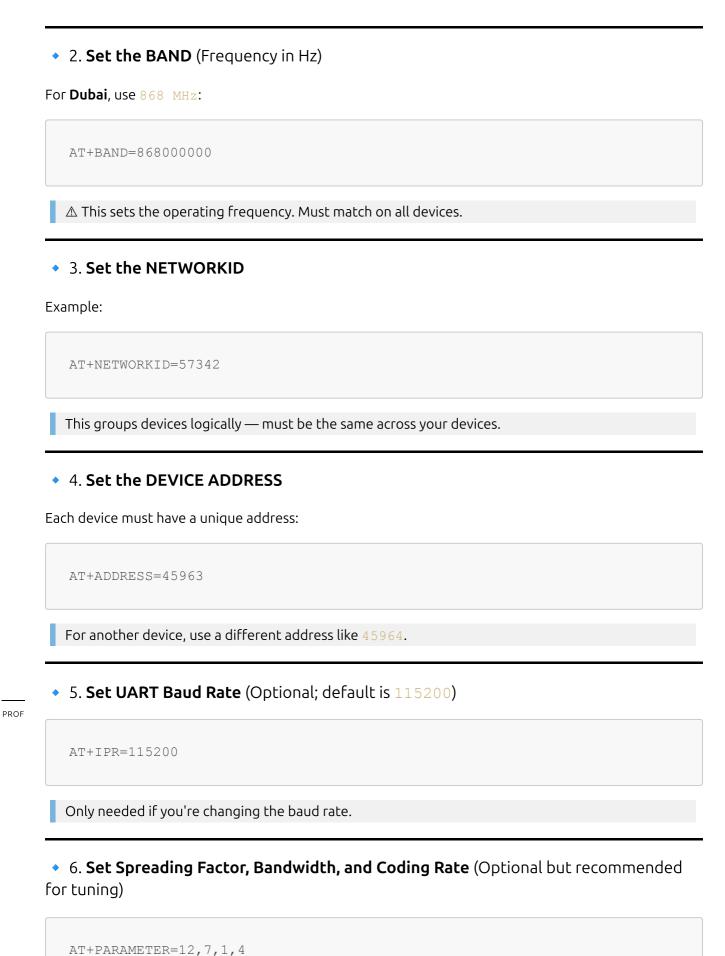

✅ Necessary AT Commands to Initialize RYLR896

◆ 1. **Reset the Module** (Optional but recommended)

```
AT+RESET
```

- Reboots the module.
- Wait ~1 second after this before sending the next command.

◆ 2. **Set the BAND** (Frequency in Hz)

For **Dubai**, use `868 MHz`:

```
AT+BAND=868000000
```

⚠ This sets the operating frequency. Must match on all devices.

◆ 3. **Set the NETWORKID**

Example:

```
AT+NETWORKID=57342
```

This groups devices logically — must be the same across your devices.

◆ 4. **Set the DEVICE ADDRESS**

Each device must have a unique address:

```
AT+ADDRESS=45963
```

For another device, use a different address like `45964`.

◆ 5. **Set UART Baud Rate** (Optional; default is `115200`)

```
AT+IPR=115200
```

Only needed if you're changing the baud rate.

◆ 6. **Set Spreading Factor, Bandwidth, and Coding Rate** (Optional but recommended for tuning)

```
AT+PARAMETER=12,7,1,4
```

Format: `AT+PARAMETER=SF,BW,CR,PreambleLen`

Field	Value	Meaning
SF (Spreading Factor)	12	Higher range, lower data rate
BW (Bandwidth)	7	125 kHz
CR (Coding Rate)	1	4/5
PreambleLen	4	Default preamble

◆ 7. **Enable or Disable Acknowledgement (ACK)**

If you want the module to **expect ACKs** (reliable delivery):

```
AT+CRFOP=1
```

To **disable ACK**:

```
AT+CRFOP=0
```

✅ Example Full Initialization Script:

```
AT+RESET
<wait 1 sec>
AT+BAND=868000000
AT+NETWORKID=12
AT+ADDRESS=45963
AT+PARAMETER=12,7,1,4
AT+CRFOP=1
```

✅ Check Module is Ready

You can send:

```
AT
```

And you should get:

```
OK
```

✅ Sending a Message

To send a message to another device:

```
AT+SEND=45964,5,HELLO
```

> Format: `AT+SEND=<address>,<length>,<data>`