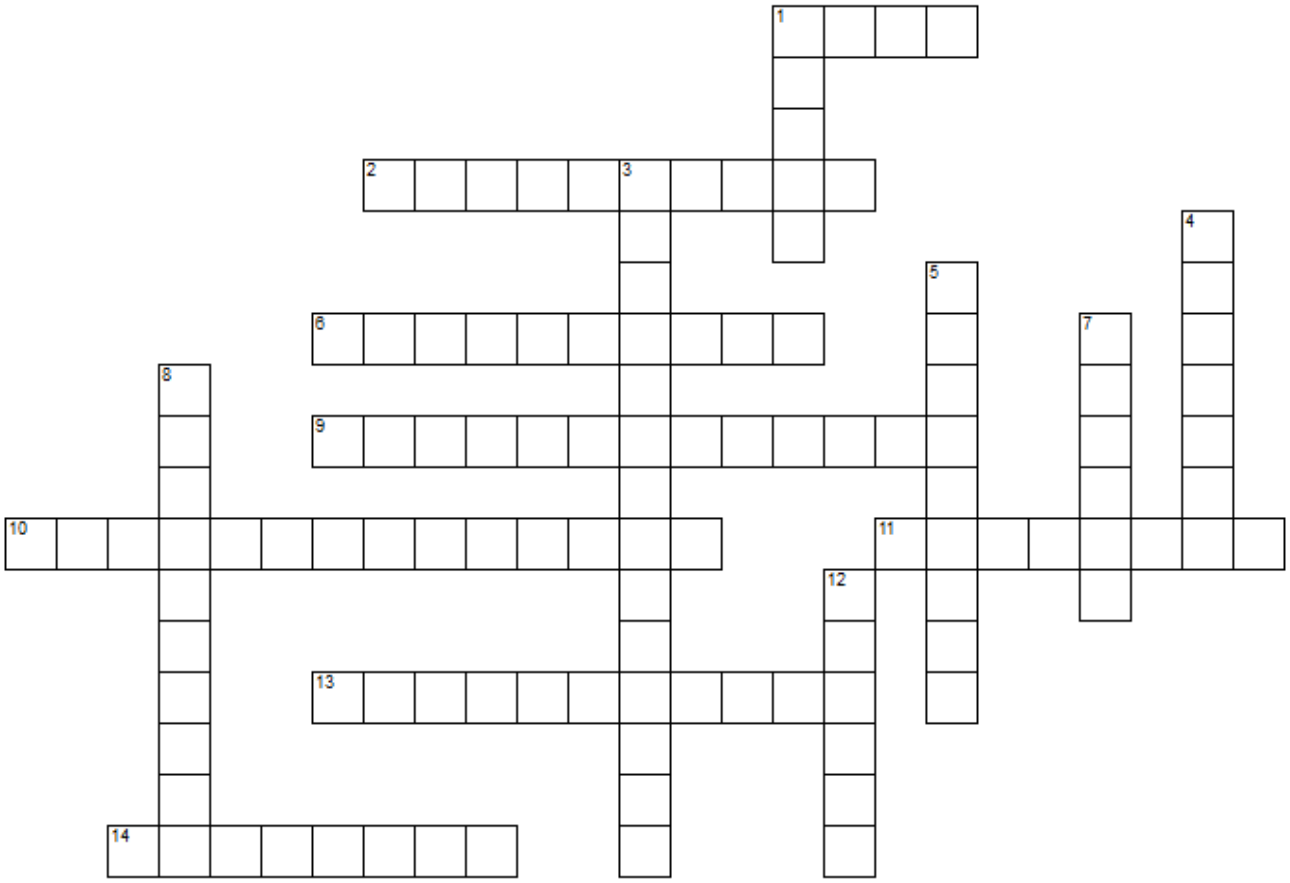
LoRa® Adaptive Data Rate

and Blind ADR



ACROSS

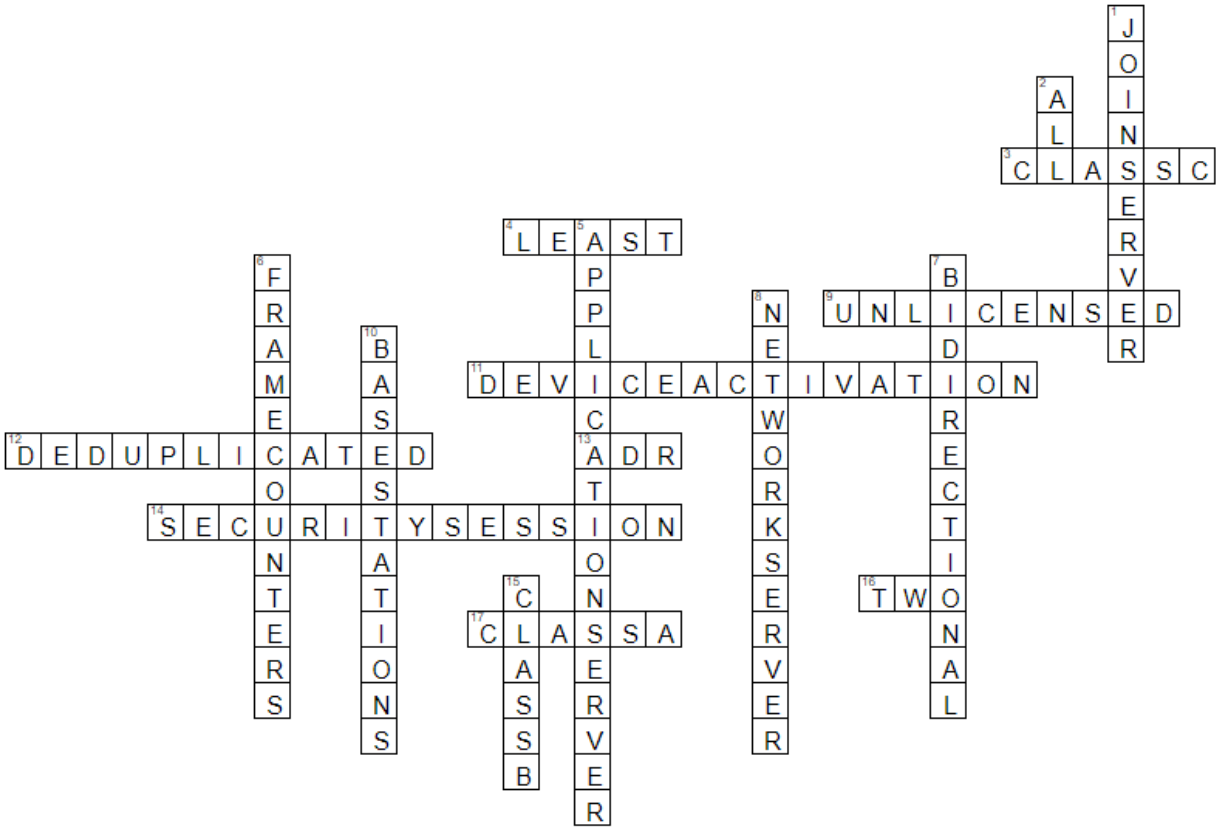
1 Nodes with a high data rate spend ___ time on air
2 Gateway operation type not permitted in the EU
6 Blind ADR __ battery life
9 Determines optimal node data rate
10 End nodes far from a gateway need this
11 ADR can drastically increases this in a network
13 Whether using ADR is appropriate is determined by this.
14 Used to manage data rates for mobile devices

DOWN

1 If the link budget is low you can ___ the data rate
3 ADR Acknowledge delay is expressed in these units
4 SF10 is the ___ spreading factor permitted in the U.S.
5 If the link budget is low the SF can be ___
7 To reduce the range of communication, ___ the link budget
8 LoRaWAN communications are this
12 The lower the data rate, the ___ the range

Solution to Previous Puzzle

LoRaWAN Foundations



Across

3 Can always receive downlinks
4 Class A devices use the _____ energy of all device modes
9 LoRaWAN operates in the _____ spectrum
11 Join Server handles _____
12 Multiple messages sent to the Network Server must be _____.
13 Use _____ to control the data rate
14 Consists of the device address, session keys, and frame counters.
16 Every Class A uplink is followed by _____ receive windows
17 Limited as to when they can receive a downlink message

Down

1 Derives session keys
2 _____ LoRaWAN devices must support Class A devices
5 Encrypts and decrypts the application payload
6 Help prevent relay attacks
7 Two-way communication
8 Gateways forward messages to a(n) _____.
10 Another name for “gateways”
15 Send or receive messages at configurable intervals