The Thing Network

Kurz: Open Source IoT Netzwerk auf **868Mhz / 433Mhz ****
Kickstarter: https://www.kickstarter.com/projects/419277966/the-things-network/description
Webseite: http://thethingsnetwork.org/
Forum: http://forum.thethingsnetwork.org
**==== Wie baut man einen Node? ==== Auf Basis eines * Arduino Nano * RFM95 / RFM95W * Sensor Anleitungen: * Verkabeln: https://things4u.github.io/HardwareGuide/Arduino/Mini-Sensor-HTU21/mini-lowpower.html * Code: https://github.com/things4u/LoRa-Thing * Code / Anleitung für TTN Setup: https://github.com/lukastheiler/ttn_moteino * http://staging.thethingsnetwork.org/wiki/Backend/ttnctl/QuickStart ==== Wie baut man einen Single Channel Gateway? ==== **Ein Single Channel Gateway kann nur 1 Channel von 8 Channel benutzen.
Ein Single Channel Gateway kann keine Daten an die Nodes schicken.**

Auf Basis von:

- Pi B / Pi Zero
- Alternativ: Esp8266 (NodeMCU / Wemos)
- RFM95 / RFM95W
- Lan / Wlan

Anleitung:

- Pi: http://things4u.github.io/HardwareGuide/Single-Channel-Gway/index.html
- Pi: Code und Verkabelung: https://github.com/tftelkamp/single_chan_pkt_fwd
- Pi Zero PCB: https://oshpark.com/shared_projects/36EsiJqR
- Esp Anleitung: http://things4u.github.io/HardwareGuide/Single-Channel-Gway/ESP-Gateway.html
- TTN Forum: http://forum.thethingsnetwork.org/t/single-channel-gateway/798

TheThingsNetwork Node/Sensor Workshop

Materialliste

Artikel	Menge	Preis	Link
Arduino 328 Nano Micro USB (untested)	10x	~1,88/St.	http://www.aliexpress.com/item/Nano-CH340-ATmega328P-MicroUSB-Compatible-for-Arduino-Nano-V3/32572612009.html
oder MassDuino-UNO (untested)	10x	~1,88/St.	http://de.aliexpress.com/item/MassDuino-UNO-LC-MD-328D-R3-5V-3-3V-Development-Board-for-Arduino-Compatible-Low-Cost/32655296623.html
RFM95/RFM95W	10x	~16,00/2St.	http://www.aliexpress.com/item/RFM95W-RFM98W-100mW-433-868-915Mhz-High-sensitivity-sx1278-sx1276-Lora-module-ultra-long-range-RF/32626274785.html
Sensor Kit	10x	~11,95/37St	http://www.aliexpress.com/item/37-IN-1-SENSOR-KITS-FOR-ARDUINO-HIGH-QUALITY-FREE-SHIPPING-Works-with-Official-for-Arduino/32542655411.html
Kabel	100x	~2,60/120St	http://de.aliexpress.com/item/Dupont-line-120pcs-20cm-male-to-male-male-to-female-and-female-to-female-jumper-wire/32551814663.html
Adapter PCB	10x	~2,58/10St	http://nl.aliexpress.com/store/product/10pcs-lot-ESP8266-serial-WIFI-module-connecting-plate-applicable-to-ESP-07-the-ESP-08-ESP/403088_32262406988.html?storeId=403088

Optional:

Artikel	Menge	Preis	Link
Antenne	10x	~1,70/St.	
SMA	10x	~1,95/10St.	http://de.aliexpress.com/item/10pcs-SMA-Female-Jack-Solder-Edge-PCB-Mount-Straight-RF-Connector/32429747943.html

ToDo

- Materialliste prüfen!
- Passt die SMA Buchse?

TheThingsNetwork Gateway Workshop

Materialliste

Artikel	Menge	Preis	Link
Pi	10x	~20,00/St.	bring ur own
RFM95/RFM95W	10x	~16,00/2St.	http://www.aliexpress.com/item/RFM95W-RFM98W-100mW-433-868-915Mhz-High-sensitivity-sx1278-sx1276-Lora-module-ultra-long-range-RF/32626274785.html
PCB	10x	~23,80/10St	https://oshpark.com/shared_projects/36EsiJqR

oder

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Pi	10x	~20,00/St.	bring ur own
RFM95/RFM95W	10x	~16,00/2St.	http://www.aliexpress.com/item/RFM95W-RFM98W-100mW-433-868-915Mhz-High-sensitivity-sx1278-sx1276-Lora-module-ultra-long-range-RF/32626274785.html
ugly PCB	10x	~2,58/10St	http://nl.aliexpress.com/store/product/10pcs-lot-ESP8266-serial-WIFI-module-connecting-plate-applicable-to-ESP-07-the-ESP-08-ESP/403088_32262406988.html?storeId=403088
Kabel	100x	~2,60/120St	http://de.aliexpress.com/item/Dupont-line-120pcs-20cm-male-to-male-male-to-female-and-female-to-female-jumper-wire/32551814663.html

oder

Artikel	Menge	Preis	Link
Wemos	10x	~2,60/St.	http://de.aliexpress.com/item/Smart-Electronics-D1-mini-Mini-NodeMcu-4M-bytes-Lua-WIFI-Internet-of-Things-development-board-based/32630067955.html
RFM95/RFM95W	10x	~16,00/2St.	http://www.aliexpress.com/item/RFM95W-RFM98W-100mW-433-868-915Mhz-High-sensitivity-sx1278-sx1276-Lora-module-ultra-long-range-RF/32626274785.html
ugly PCB	10x	~2,58/10St	http://nl.aliexpress.com/store/product/10pcs-lot-ESP8266-serial-WIFI-module-connecting-plate-applicable-to-ESP-07-the-ESP-08-ESP/403088_32262406988.html?storeId=403088
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Antenne	10x	~1,70/St.	
SMA	10x	~1,95/10St.	http://de.aliexpress.com/item/10pcs-SMA-Female-Jack-Solder-Edge-PCB-Mount-Straight-RF-Connector/32429747943.html

ToDo

- Materialliste prüfen!
- Oder wäre eine Dual Channel Gateway Workshop besser?
  - https://store.uputronics.com/index.php?route=product/product&product_id=68
  - https://github.com/bokse001/dual_chan_pkt_fwd
- Sind 20cm Kabel zu lang?
- Wie wäre ein https://github.com/hallard/WeMos-Lora ?

Dauerhafter Link zu diesem Dokument:
https://wiki.technikkultur-erfurt.de/projekte:thethingnetwork?rev=1467200856

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