



## LICENSE PACKAGES

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## 1 INTRODUCTION

The STACKFORCE Protocol Stacks are sold in License Packages, containing software, legal and commercial elements, which are mandatory for the use of our Protocol Stacks.

License Package consists of:



### **License**

Usage rights for one or multiple Protocol Stacks



### **Deliverable**

Verified Protocol Stack software package for a certain hardware platform



### **Support & Maintenance**

- 12 months of maintenance
- Support according to the relevant license package

Basically, we offer four License Packages (please refer to Page 4), providing different licensing options for both, small and large quantities. Customized upgrades of individual elements within a License Package are possible under the conditions specified in Section 3. Thus, a suitable License Package is available for every IoT project.

Please note that not all License Packages are available for every Protocol Stack resp. hardware platform. We will be happy to advise you on this!

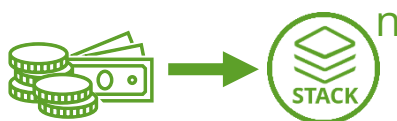


## 2 LICENSE PACKAGES

	STARTER	PROFESSIONAL	ENTERPRISE <sup>1</sup>	UNLIMITED
	Explore the possibilities of wireless connectivity at small scale.	Enables predictable scaling of wireless connectivity solutions.	Technically unlimited, flexible business: Only pay what you need.	No limits, no reports – unlimited wireless connectivity!
Commercial	Pre-paid royalties: <ul style="list-style-type: none"> <li>• 100 copies</li> <li>• 500 copies</li> <li>• 1.000 copies</li> <li>• 5.000 copies</li> </ul>	Pre-paid royalties: <ul style="list-style-type: none"> <li>• 10.000 copies</li> <li>• 50.000 copies</li> </ul>	Post-paid royalties: <ul style="list-style-type: none"> <li>• Upfront fee</li> <li>• Quarterly reporting</li> </ul>	One-off license fee: <ul style="list-style-type: none"> <li>• Product License: Unlimited copies per product</li> <li>• Vendor License: Unlimited copies</li> </ul>
Technical	<ul style="list-style-type: none"> <li>• Protocol Stack: Object code</li> <li>• RF Driver: Object code</li> <li>• HAL: Source code</li> <li>• Limited address range</li> </ul>	<ul style="list-style-type: none"> <li>• Protocol Stack: Object code</li> <li>• RF Driver: Object code</li> <li>• HAL: Source code</li> <li>• Limited address range</li> </ul>	<ul style="list-style-type: none"> <li>• Protocol Stack: Object code</li> <li>• RF Driver: Object code</li> <li>• HAL: Source code</li> </ul>	<ul style="list-style-type: none"> <li>• Protocol Stack: Object code</li> <li>• RF Driver: Object code</li> <li>• HAL: Source code</li> </ul>
Support & Maintenance	<ul style="list-style-type: none"> <li>• 12 months maintenance &amp; warranty</li> <li>• No support included</li> </ul>	<ul style="list-style-type: none"> <li>• 12 months maintenance &amp; warranty</li> <li>• 8 hours of support</li> <li>• Support via email</li> <li>• Response time: &lt; 5 business days</li> </ul>	<ul style="list-style-type: none"> <li>• 12 months maintenance &amp; warranty</li> <li>• 8 hours of support</li> <li>• Support via email</li> <li>• Response time: &lt; 5 business days</li> </ul>	<ul style="list-style-type: none"> <li>• 12 months maintenance &amp; warranty</li> <li>• 16 hours of support</li> <li>• Support via email &amp; phone</li> <li>• Response time: &lt; 2 business days</li> </ul>

<sup>1</sup> Available for customers from EU and Switzerland only.

## 2.1 COMMERCIAL



### Pre-paid royalties...

...are license fees for each copy of the software **paid in advance** for the whole **number of ordered copies**.

In contrast to software licensed via one-off or post-paid royalties, pre-paid royalty licensed software is technically limited to the exact number of software copies ordered and paid. This is e.g. done by limiting it to a certain address range reflecting the number of licensed copies. To extend the number of copies purchased, a new order needs to be placed and paid.

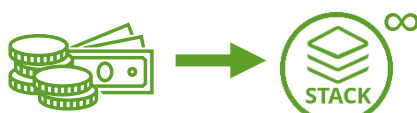


### Post-paid royalties...

...are consisting of an **upfront fee** as well as a **license fee** for **each copy** of the software.

1. The upfront fee is due in advance to delivery of the software.
2. Licensee frequently provides a report<sup>2</sup> about the number of units produced and equipped with the licensed software. This report must be created and sent to STACKFORCE unsolicited within 30 days after the end of each quarter of a year. STACKFORCE will then invoice the royalties according to the relevant price per unit.

<sup>2</sup> STACKFORCE has the right to verify the correctness of the reports at any time. STACKFORCE also has the right to hire a third-party service provider for this verification. Licensee is obliged to support STACKFORCE resp. a hired third-party service provider by providing the necessary access to accounting and production information.



## One-off license...

...is an agreement meant for end device manufacturers that grants rights for **unlimited copies** by paying a **one-time fee** only. The license fee is due in advance to delivery of the software. STACKFORCE provides the following one-off license models:

License model	Protocol Stack	Platform	Manu- facturer	Product <sup>4</sup>
<b>Product License</b> <sup>3, 4</sup> Unlimited copies of one deliverable for one specific product	1	1	1	1
<b>Vendor License</b> <sup>4</sup> Unlimited copies of one deliverable for unlimited products	1	1	1	∞

**“Product”** means a device

- available at the marketplace under the customer’s own name
- with a specific name, article number or order code,

while **product derivatives** are accepted as one product under the following conditions:

- Identical purpose and application range
- Identical product specific essential characteristics / features (e.g. electrical data, range of characteristic functionalities, ...)

Example:



In its basic construction and essential functions identical temperature sensor for food industry with identical application data

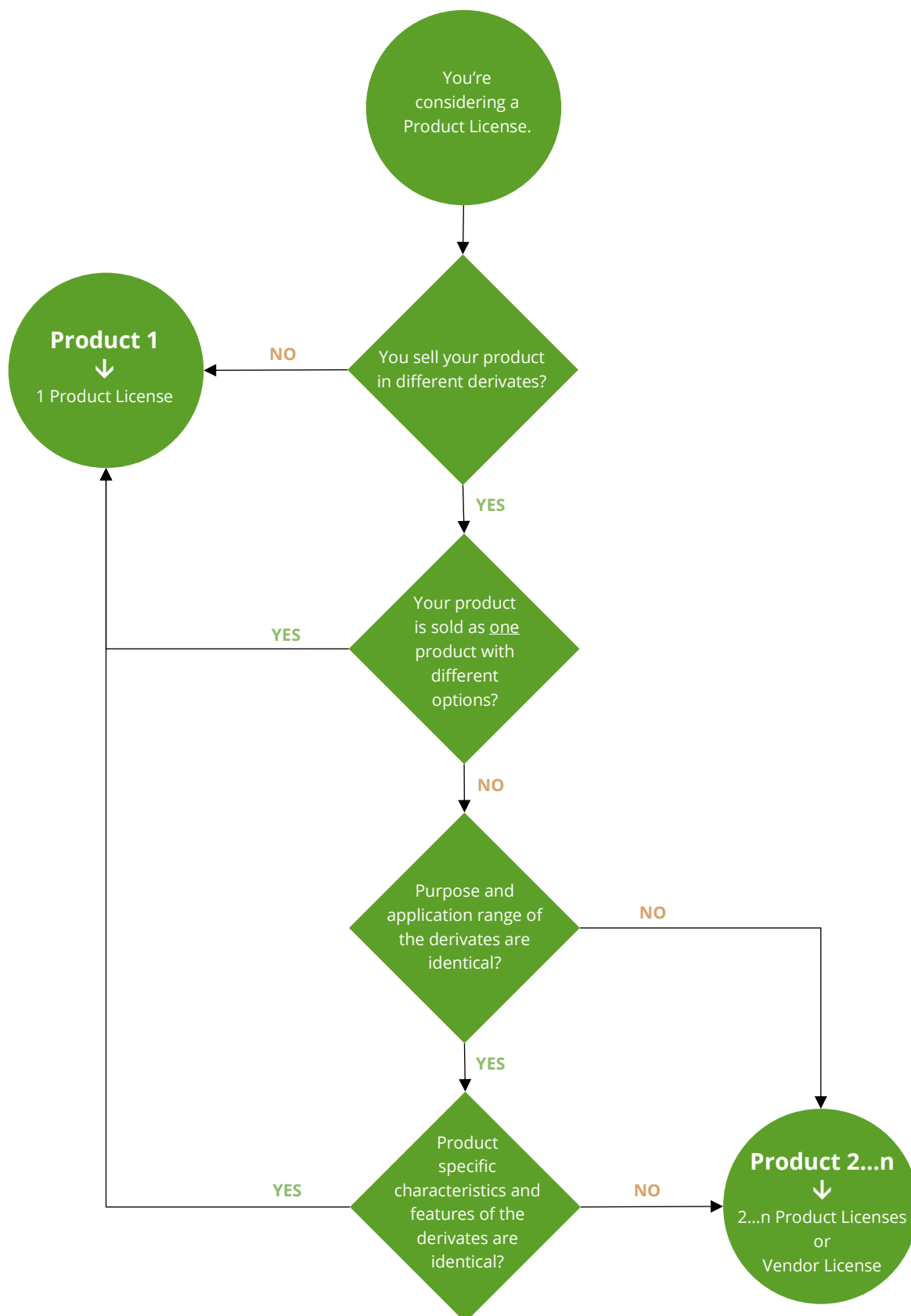
available in various variants to meet different installation requirements, e.g. regarding size, weight, color and connections.

**The variants differ in non-major properties only.**

<sup>3</sup> The product assigned to a Product License shall be specified in the quote with all product-specific data (e.g. name, (article) number, order code).

<sup>4</sup> The rights of use apply exclusively to the contractual partner.

**Guidance: Product License – Is one license sufficient for your product(s)?**



## 2.2 TECHNICAL

### RF Driver

The RF Driver implements the actual interface to a certain radio silicon. It contains all relevant configurations and state management of the respective radio and connects to the actual Protocol Stack. This component is hardware specific and not part of the actual Protocol Stack.

### Hardware Abstraction Layer (HAL)

In order to operate a Protocol Stack in conjunction with a certain hardware, a HAL for a certain platform is required. The HAL consists of the necessary drivers and driver abstractions for either

- a microcontroller (MCU) or microprocessor (CPU),
- a single chip transceiver (TRX), or
- a system-on-chip (SoC) combining MCU / CPU and TRX in one package or silicon.

The HAL typically connects the following required hardware functions to software (depends on stack and configuration):

- 1 – 2 x Timer
- 1 x SPI, 2 – 4 x GPIO (applies to and depends on the actual single chip transceiver)
- Software RF interface (applies to system-on-chip)
- AES encryption, CRC calculation, encodings (if available and applicable)

### Limited address range

In order to enable the pre-paid royalty license model, all protocol standards that do require a unique address per device, get limited to a certain address range. This range includes a number of addresses, corresponding to the number of copies you're allowed to create according to the related license agreement. This address range can be

- specified when ordering, or
- assigned automatically from address pool by STACKFORCE.



## 2.3 SUPPORT AND MAINTENANCE

### Support

The support budget<sup>5</sup> depends on the relevant License Package (please refer to Chapter 2) unless stated differently at the related quotation.

Workflow for every support request:

1. STACKFORCE receives a support request.
2. STACKFORCE provides first feedback including an effort estimation and a possible service period.
3. Based on feedback and effort estimation, the customer will decide:
  - a. Approved: STACKFORCE will process the support request.
  - b. Declined: Processing of support case will be rejected (Up to 2 h will be charged to the budget though for first feedback.).
4. In case STACKFORCE recognizes unforeseen issues preventing to keep efforts within initially approved budget, STACKFORCE will immediately inform the customer. Based on this updated effort estimation, the customer will decide:
  - a. Approved: Updated overall effort estimation accepted and processing of the support request will be continued.
  - b. Declined: Support case processing stopped, already spent efforts will be charged to the budget.

All details regarding support are specified in STACKFORCE's "*Standard Support Conditions*" document, which is available on our website [stackforce.com](https://stackforce.com) or upon request at [info@stackforce.com](mailto:info@stackforce.com).

### Maintenance

One year of maintenance is included in each license package, while an extension of the maintenance period is possible on an annual base.

During the active maintenance period, maintenance includes the reception of new package versions (= package updates) providing updates against the background of

- a) removal of malfunctions (bug fixes),
- b) functional improvements, and
- c) functional extensions,

whereas type and scope regarding b) and c) are up to STACKFORCE.

Advantages during maintenance period:

- ✓ Extension of **warranty**
- ✓ Benefit of **package updates**
- ✓ **Discount** on upgrades to related and successor products (please refer to Item 3)

Package updates and product upgrades outside maintenance period will be charged with full license fee.

<sup>5</sup> Unused support budget expires 12 months after the effective date of the respective License Agreement and a new support model can be purchased.

## 3 UPGRADES

### Commercial upgrades...

...to other volumes and license packages are possible as follows at any time:

- Increasing volume of included number of copies within license package *"Starter"* or *"Professional"*.
- Upgrading from license package *"Starter"* to *"Professional"*.
- Upgrading from any other license package to license package *"Unlimited"*.

### Product upgrades...

...are possible at any time during an active maintenance period. Functional upgrades for instance are upgrade from

- unidirectional to bidirectional stack,
- single to dual stack,
- ...

Purchasing a functional upgrade by default

- a) extends an existing license agreement, and
- b) replaces included deliverables.

Remaining runtime and budget of support and maintenance included in the previous license agreement will be discarded respective replaced by service included in the new license.

### Additional deliverables

Every license agreement includes one deliverable as well as support and maintenance for this deliverable. For each additional deliverable, an additional fee applies. This fee typically is way below the cost for a new license but is required though in order to cover support and maintenance for an additional deliverable.

Examples for purchasing additional deliverables:

1. After a functional upgrade (e.g. from unidirectional to bidirectional), the previously included deliverable shall still receive support and maintenance.
2. After purchasing a Protocol Stack suitable for radio silicon A, the stack shall also be used in another product based on radio silicon B.<sup>6</sup>

<sup>6</sup> In case the initial stack has been receiving a special discount related to silicon vendor Texas Instruments, the discount is not applicable anymore and needs to be balanced as a prerequisite for purchasing an additional deliverable related to another silicon vendor.

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