

JBB Rechtsanwälte, Christinenstrasse 18/19, 10119 Berlin

Landgericht [regional court] Berlin
Littenstrasse 12 - 17

10179 Berlin

via beA¹

Berlin, July 27, 2023

Our reference: 22-1485

ComplaintSebastian Steck, 

– Plaintiff –

Attorney of record: JBB Rechtsanwälte Jaschinski
Biere Brexl Partnerschaft mbB,
Christinenstrasse 18/19, 10119
Berlin

v.

AVM Computersysteme Vertriebs GmbH, represented by its
managing directors Johannes Nill, Peter Fixel, Ulrich Müller-Albring,
Alt-Moabit 95, 10559 Berlin

– Defendant –

RE: Surrender

Claim value: EUR 7,500.00

Dr. Martin Jaschinski 1
Sebastian Biere 1
Oliver Brexl 1
Thorsten Feldmann, LL.M. (UCLA) 2
Dr. Till Jaeger 2
Thomas Nuthmann 1
Julian Höppner, LL.M. (Edinburgh) 3
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¹ Translator's note: „beA“ indicates that this complaint was filed using an e-filing account.

This action is brought on behalf of and in the name of the plaintiff

to compel the defendant

1. to surrender to the plaintiff the complete source code of the program libraries uClibc, libblkid, libexif and libosip2 licensed under the GNU Lesser General Public License, Version 2.1, in the version used by the defendant to generate binary files for the firmware versions 6.83 and 7.02 of the FRITZ!Box 4020, including the scripts for compilation and the scripts for the permanent installation of these compiled libraries on the flash memory of the FRITZ!Box 4020, and

2. to reimburse the plaintiff for his extrajudicial attorneys' fees in the amount of EUR 800.39 plus 5% [interest] above the base interest rate from the time the case was pending.

In the event that the court orders written preliminary proceedings, and the defendant does not indicate its willingness to defend itself within the time limit set for this purpose, we respectfully request the Court enter

a default judgment against the defendant without an oral hearing.

Reasons

A) Facts of the Case

1. Overview

The defendant is the manufacturer of the WLAN router "AVM FRITZ!BOX 4020" (hereinafter referred to as "Fritz!Box"), which it also markets in Germany.

The Fritz!Box is based on the Linux operating system kernel and contains numerous other open source program libraries whose licenses require the distributor of the software to make the complete source code available to anyone upon request.

The plaintiff purchased a Fritz!Box and asked the defendant for the complete source code of some open source components in order to program a functionality for logging data transfers.

Evidence: Invoice for the purchase and a letter dated May 7, 2021,
Exhibit K 1

However, the defendant only provided an incomplete source code, which, contrary to the applicable license terms, does not allow the compiled software to be reinstalled on the plaintiff's device. Despite extensive efforts to come up with an amicable solution, the defendant has been refusing to make the complete corresponding source code available. Therefore, legal action is now required.

2. AVM FRITZ!BOX 4020

Fritz!Box is a router that enables users to connect to the Internet via WLAN and LAN and is widely used in Germany. The Fritz!Box is still offered for sale today.

Evidence: Screenshot of the Amazon website,
Exhibit K 2

The defendant advertises the device with the "FRITZ!IOS" operating system, which is simply a Linux operating system adapted by the defendant. Together with the applications and program libraries running on this operating system, it forms the "firmware" of the device.

It is a fact recognized by the courts that the defendant attempts to prevent third parties from modifying the open source components of the firmware of its devices (LG [Landgericht/regional court] Berlin, judgment dated November 8, 2011, case no. 16 O 255/10).

3. Licensing of the Open-Source Software Components

While the “FRITZ!OS” operating system kernel is licensed under the GNU General Public License, Version 2, (GPL-2.0), a number of program libraries contained therein are subject to the GNU Lesser General Public License, Version 2.1, (LGPL- 2.1) at the application level. This includes the following program libraries:

- uClibc
- libblkid
- libexif
- libosip2

LGPL-2.1 is a special license for program libraries and differs from GPL-2.0 primarily in the scope of its “copyleft.” Whereas with the GPL-2.0 all modifications and work connections must be licensed again under the GPL-2.0 if the modified software is redistributed, the copyleft of LGPL-2.1 is limited to the library itself, while linked software components (particularly applications) may have different license conditions.

Section 4 of the LGPL-2.1 stipulates that the person to whom a copy of the software in object code (binary code) is provided must also be provided with the complete corresponding source code:

“You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code,

which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange."

Evidence: License text of the GNU Lesser General Public License, Version 2.1,

Exhibit K 3

The term "source code" is defined in more detail in section 0:

*"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, **plus the scripts used to control compilation and installation of the library.**" (Emphasis added by the undersigned.)*

The license thus makes it clear that the scripts that control the compilation, i.e., the translation of the source code into the object code, as well as the scripts that enable the library to be installed, must also be made available. The aim of the license conditions is not only to give the user access to the source code, but also to provide the practical means to modify, compile, and reinstall it on the original device. The target group consists primarily of interested programmers.

Furthermore, Section 6 of the LGPL-2.1 stipulates that the licensee who redistributes the library – in this case, the defendant – provides the source code with the compiled object code or makes a written offer to do so:

„c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.“

The defendant chose this fulfillment option and offered the source code with the following text:

“If and to the extent that open source software is provided, the terms of use to which the open source software is subject apply in addition and with priority over these provisions.

AVM shall provide the source code of relevant open source software upon request, insofar as the terms of use of such open source software provide for the release of the source code.”

Evidence: Screenshot of the defendant's website, available at https://service.avm.de/help/de/FRITZ-Box-4020/016/rechtliche_hinweise,

Exhibit K 4

In addition, the help menu of the Fritz!Box states the following:

„GNU Lesser General Public License - Copyright Notice and Warranty Disclaimer

This product's firmware contains library software that is free software; you can redistribute the library software and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation (version 2.1 of the License).

The library software is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License (version 2.1) for more details.

All copyrights are identified in more detail in the library source code. The library software source code can at least for a period of three years be requested from AVM GmbH (email fritz-box_info@avm.de or write to: Alt-Moabit 95, 10559 Berlin, Germany).“

Evidence: Screenshot of the defendant's website, available at https://service.avm.de/help/de/FRITZ-Box-4020/016/rechtliche_hinweise,

Exhibit K 4

The fact that the user is to be enabled to reinstall the program on the original device is not only evident from the definition with the reference to "*scripts used to control... installation*," but also from the fact that the LGPL-2.1, Subection 6 b), makes it quite explicitly clear that the user must be enabled to exchange ("link") the LGPL-2.1 libraries linked to the program:

*„Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library **already present on the user's computer system**, rather than copying library functions into the executable, and (2) **will operate properly with a modified version of the library, if the user installs one**, as long as the modified version is interface-compatible with the version that the work was made with.“* (Emphasis added by the signatory.)

“Shared libraries” are program libraries that are dynamically loaded into the working memory at runtime and can therefore be used by several applications at the same time.

The background to this regulation is a kind of compensation for the limited copyleft compared to GPL-2.0. Although providers do not have to release their applications linked to LGPL-2.1-licensed libraries as open source software themselves, the user should at least have the opportunity to receive the source code of the open source libraries, adapt it to their own needs, and relink it to the application with which the library was originally linked (see *Jaeger/Metzger*, *Open Source Software*, 5th Ed. 2020, para. 116).

In addition, this allows the user to adapt open source libraries used by many programs once and to install this adapted version at the location expected by the previously linked applications, instead of having to make the adaptations for each program separately. On the Fritz!Box, for example, this affects the following application programs of the defendant:

- /bin/avmike
- /bin/avmipc_send_event
- /bin/avmipcd
- /bin/showfritznasdbstat
- /sbin/avmradiostats
- /sbin/avmstickandsurf
- /sbin/avmusbeventsend
- /sbin/avmwlancfg
- /sbin/avmwlanlifetest
- /sbin/fritznasdb

Accordingly, the preamble of the LGPL-2.1 states:

*„For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. **If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it.**“*
(Emphasis added by the signatory.)

4. Plaintiff's Motivation

The plaintiff programmed an additional function for the uClibc library. Among other things, uClibc provides functions for establishing network connections and sending data over them. The plaintiff added a logging function to these functions and would then like to analyze the logged information in order to determine which programs on the Fritz!Box establish connections to servers on the Internet and which data they send.

Evidence: Inspection of the source code

For this purpose, the plaintiff must recompile uClibc and install it on his Fritz!Box.

In addition, the plaintiff is generally concerned that the license obligations of the GPL and LGPL are fulfilled in such a way that the resulting user rights can also be exercised.

5. Out-of-court proceedings

The plaintiff made use of the defendant's offer to provide the source code and requested the source code for the Fritz!Box by mail on May 7, 2021, namely for the firmware version 6.83 installed on his premises. RSS Rat, Service & Support GmbH, which belongs to the defendant's group of companies, replied via mail on May 11, 2021, and notified the plaintiff that he could download the source code at "osp.avm.de/fritzbox/fritzbox-4020/."

The plaintiff then downloaded the file “source-files-FRITZ.Box_4020-06.83.tar.gz” from the specified source and examined it. He discovered that the source code was incomplete because the scripts for compilation and installation were missing. In a letter dated May 14, 2021, he rejected the source code as incomplete, provided information on the reasons for this [claim], requested rectification, and notified the defendant that it was in default. The defendant did not comply with the request for rectification, which is why the plaintiff sought legal assistance.

Evidence: Correspondence between the parties,

Exhibit K 5

In a letter dated January 12, 2023, the legal situation was explained to the defendant, and rectification with regard to the source code was requested. However, the defendant's reply dated January 27, 2023 did not indicate whether it had not properly understood or did not want to understand the reasons for the assertion of the rectification. The plaintiff then made a genuine effort to explain to the defendant why the source code was not complete and what the aim of his claim for surrender was. In their subsequent communication, it turned out that the defendant was simply not willing to allow the plaintiff to install modified LGPL 2.1 libraries and, in particular, the uClibc on his Fritz!Box.

Evidence: Correspondence between the parties,

Exhibit K 6

In an email dated March 9, 2023, the plaintiff also requested the source code for version 7.02, as the defendant referred to its firmware updates and the plaintiff had downloaded version 7.02. The defendant offers firmware updates for the routers it manufactures at <https://download.avm.de/fritzbox/firmware-updates>. The plaintiff downloaded the update to version 7.02 for his Fritz!Box model via the URL <https://download.avm.de/fritzbox/fritzbox->

4020/deutschland/fritz.os/FRITZ.Box_4020-07.02.image.

Evidence: Inspection of the download offer and the downloaded file

This update file can be loaded into the Fritz!Box by the Fritz!Box user via its administration interface, where the update is then permanently written to the Fritz!Box's flash memory. The firmware update contains the libraries uClibc, libblkid, libexif, and libosip2, whereby the libraries uClibc and libexif are updated versions compared to firmware 6.83. These libraries are licensed under the LGPL 2.1. This shows that it is basically possible for the defendant to install modified software on the Fritz!Box. However, due to the file system used (SquashFS), not only individual files can be uploaded, as is the case on a normal PC, but a complete "firmware image" must also be uploaded.

The information file info_de.txt is located on the defendant's server in the same directory as the update file. It refers to <https://download.avm.de/fritzbox/license.txt> with regard to the license conditions for the update file. The text contains the source code offer "GNU Lesser General Public License - Copyright Notice and Warranty Disclaimer" (see above) for version 6.83 and the text of the LGPL-2.1.

The plaintiff requested the source code of the open source components in firmware version 7.02 from the defendant. Again, the plaintiff only received the incomplete source code, which does not permit compilation and reinstallation on the Fritz!Box. In addition, it appears no "corresponding source code" was made available, but only that of the previous version 7.01, as indicated by the name of the file "source-files-FRITZ.Box_4020-07.01.tar.gz" (on the requirement to provide the corresponding source code, cf. LG [regional court] Hamburg, judgment dated 06/14/2013, case no. 308 O 10/13, www.landesrecht-hamburg.de/bsha/document/KORE721742013).

Evidence: 1. Email dated 03/27/2033,

Exhibit K 6

2. Inspection of the downloaded file

The fact that the makefiles and configuration information provided are not sufficient for compilation is particularly evident in the fact that the defendant, despite express requests, fails to mention how the environment variable `KERNEL_LAYOUT` should be set. When the makefile in the archive `GPL-gcc.tar.gz` (from version 7.02) is executed without setting the environment variable `KERNEL_LAYOUT`, the compilation process terminates with the following error message:

```
cp: Unable to call stat for "[...]/conf/buildroot.config". File or directory not found.
```

In the source code of version 6.83, the error message when aborting the compilation process is as follows:

```
tar: linux-: Function stat failed: File or directory not found  
tar: Exit with error status due to previous errors
```

Evidence: Screenshots of error messages,

Exhibit K 7

The “make” program command uses the information in the “makefile” to carry out the compilation process.

Evidence: Wikipedia article on “make”,

Exhibit K 8

The makefile provided by the defendant is insufficient because this file is apparently not only used on the Fritz!Box 4020 but also for other devices, as the following excerpt from the file content shows, which lists a number of different kernel layouts, whereby it remains unclear which kernel layout is relevant in this case:

```
ifeq ($(KERNEL_LAYOUT),ur8)
export LINUX_KERNEL_VERSION := 2.6.32.61
export LINUX_KERNEL_VERSION_GU := 2.6.32
export ARCH := mipsel
export FILE_ARCH := MIPS
endif
ifeq ($(KERNEL_LAYOUT),virian)
export LINUX_KERNEL_VERSION := 2.6.32.61
export LINUX_KERNEL_VERSION_GU := 2.6.32
export ARCH := mips
export FILE_ARCH := MIPS
endif
ifeq ($(KERNEL_LAYOUT),wasp)
export LINUX_KERNEL_VERSION := 2.6.32.61
export LINUX_KERNEL_VERSION_GU := 2.6.32
export ARCH := mips
export FILE_ARCH := MIPS
endif
ifeq ($(KERNEL_LAYOUT),scrpn)
export LINUX_KERNEL_VERSION := 2.6.32.61
export LINUX_KERNEL_VERSION_GU := 2.6.32
export ARCH := mips
export FILE_ARCH := MIPS
endif
ifeq ($(KERNEL_LAYOUT),hbee)
export LINUX_KERNEL_VERSION := 2.6.32.61
export LINUX_KERNEL_VERSION_GU := 2.6.32
export ARCH := mips
export FILE_ARCH := MIPS
endif

ifeq ($(KERNEL_LAYOUT),drgfly)
export LINUX_KERNEL_VERSION := 2.6.32.61
export LINUX_KERNEL_VERSION_GU := 2.6.32
export ARCH := mips
export FILE_ARCH := MIPS
endif
```

Evidence: Expert's report

The defendant's source code archive contains different configuration files for all these kernel layouts.

Evidence: Overview of the configuration files contained,

Exhibit K 9

Without the additional information as to which environment variable `KERNEL_LAYOUT` is relevant, compilation cannot be carried out in the usual way. Whether compilation is possible by “trying out” all `KERNEL_LAYOUT` variants over a longer period of time is beyond the plaintiff's knowledge. This is also irrelevant because the defendant may not artificially complicate compilation for users but must at least provide the information available to the defendant. However, the defendant does not make its own scripts for compilation and installation available in full and thereby prevents the plaintiff and other interested parties from compiling the software at issue and installing it on the Fritz!Box as provided for by the LGPL-2.1.

The information from the makefile about the “installation” shows that it is not intended to carry out an installation on the Fritz!Box but rather to enable installation on the computer on which the compilation was carried out:

```
build_root_install:
  rm -rf filesystem
  mkdir -pv filesystem/rootfs
  cp -r $(LONG_PREFIX)buildroot-$(BUILD_ROOT_VERSION)/output/target/* filesystem/rootfs
  cp -r $(LONG_PREFIX)buildroot-$(BUILD_ROOT_VERSION)/output/staging/* filesystem/rootfs
  cp -r $(LONG_PREFIX)buildroot-$(BUILD_ROOT_VERSION)/output/host/* filesystem
```

Evidence: Expert's report

The following is of central importance in this regard: The compilation of the software for the Fritz!Box takes place on a different computer (“compiling computer”) than on the computer on which the software is to run (“target computer”). In this context, the term “cross-compiling” is used for the creation of binary files for other target computers (the Fritz!Box). The application programs mentioned above, which are linked to the LGPL 2.1 libraries at issue, are technically neither intended nor capable of running on the compiling computer. This shows that it is pointless to allow the plaintiff to compile the program libraries for use on the compiling computer if the linked applications cannot run on it at all. However, the defendant withholds the scripts required for compilation for use on the target computer from the plaintiff.

The information required for the reinstallation of the compiled program libraries on the Fritz!Box (“installation script”) was also deliberately withheld from the plaintiff. Upon request, the plaintiff only received information that could be used to load the libraries in dispute into the working memory (RAM). However, this is not a sufficient installation on the Fritz!Box because the copy is only created temporarily, meaning “fleetingly [volatile].” When the Fritz!Box is switched off and restarted, the modified versions of the LGPL 2.1 libraries would no longer be present on the device, and the versions created by the defendant would be used instead. This is diametrically opposed to the purpose of the LGPL-2.1, namely, to be able to customize and reinstall the software. Also, according to the wording, loading [files] into RAM does not constitute an “installation,” because the term “installation” implies that a program remains permanently executable on a device until it is “uninstalled.”

In particular, the source code provided by the defendant does not allow for the creation of a firmware image that would be suitable for installing the software on the Fritz!Box. However, the plaintiff would also accept other options that allow him to permanently install modified LGPL libraries on his Fritz!Box.

This is precisely what the defendant wants to prevent and thus violates its license obligations.

If the defendant denies that an average expert is not capable of compiling the libraries in dispute with the source code offered by the defendant and installing them permanently on the Fritz!Box in such a way that they can run again linked with the defendant's applications, the plaintiff can present

experts' reports.

Due to the defendant's stubborn refusal to make the complete corresponding source code available, the plaintiff's only option is to take legal action to enforce his claim.

The plaintiff has paid for legal services.

B) Legal Assessment

1. Claim for Surrender

The plaintiff has a contractual claim against the defendant for the surrender of the complete corresponding source code of the program libraries uClibc, libblkid, libexif, and libosip2 licensed under LGPL-2.1.

The defendant has concluded a license agreement with the licensors of these program libraries under the license conditions of the LGPL-2.1, which it does not deny. The LGPL-2.1 constitutes a license agreement that the defendant had to conclude with the rights holders of the LGPL-2.1 libraries at issue in order to acquire the necessary rights of use (on the conclusion of contracts for open source licenses, cf. *Jaeger/Metzger*, Open Source Software, 5th ed. 2020, para. 244 et seq.).

This license agreement represents a genuine contract in favor of third parties in accordance with Section 328 of the German Civil Code (BGB), namely in favor of the users who receive the software in object code (see also *Nordmeyer*, Legal Issues Concerning Open Source Software, in: Lehmann/Meents (publishers), Handbuch des Fachanwalts Informationstechnologierecht [Handbook of the specialist lawyer for information technology law], 2nd ed. 2011, para. 679, and *Jaeger/Metzger*, Open Source Software, 5th ed. 2020, para. 42 mwN), namely in favor of the users who receive the software in object code and, in accordance with the wording of the LGPL-2.1 license conditions to be handed over to them, have a direct right to the transfer of the complete corresponding source code (see above for the wording).

In order to fulfill these license conditions, the defendant offered the plaintiff – and its other customers – the source code. However, the defendant did not fully fulfill the claim to transfer because it only provided the plaintiff with parts of the “complete corresponding source code” for download. In particular, the scripts to control compilation and installation are missing, making it impossible for an average expert to compile object code files from the source code of the LGPL 2.1 libraries at issue and to install these files on the Fritz!Box 4020 in such a way that they are still available on the device after a reboot. Furthermore, the complete corresponding source code was also not made available for firmware version 7.02.

However, the purpose of the LGPL-2.1 is to enable the user to install exactly this on the Fritz!Box, as this is the only way to make meaningful use of the editing rights relating to the libraries. The correspondingly modified software must also be able to be permanently installed again on the device if, for example, the plaintiff wants to implement additional functionalities, such as logging the router's information sent to third parties. This is precisely the case here.

The defendant thus not only infringes on the LGPL-2.1 and the copyrights of the licensors of the libraries in dispute but has also failed to meet the plaintiff's claim under this license agreement.

2. Claim for Damages

The plaintiff has a claim against the defendant for compensation for damages caused by delay under Section 286 of the German Civil Code (BGB). The costs for legal representation are calculated as a 1.3 fee based on a dispute value of EUR 7,500 plus reimbursement of expenses and sales tax.

This document will be e-filed via the special digital lawyer's mailbox.

Dr. Till Jaeger
Attorney at law