FUTURE NOW.

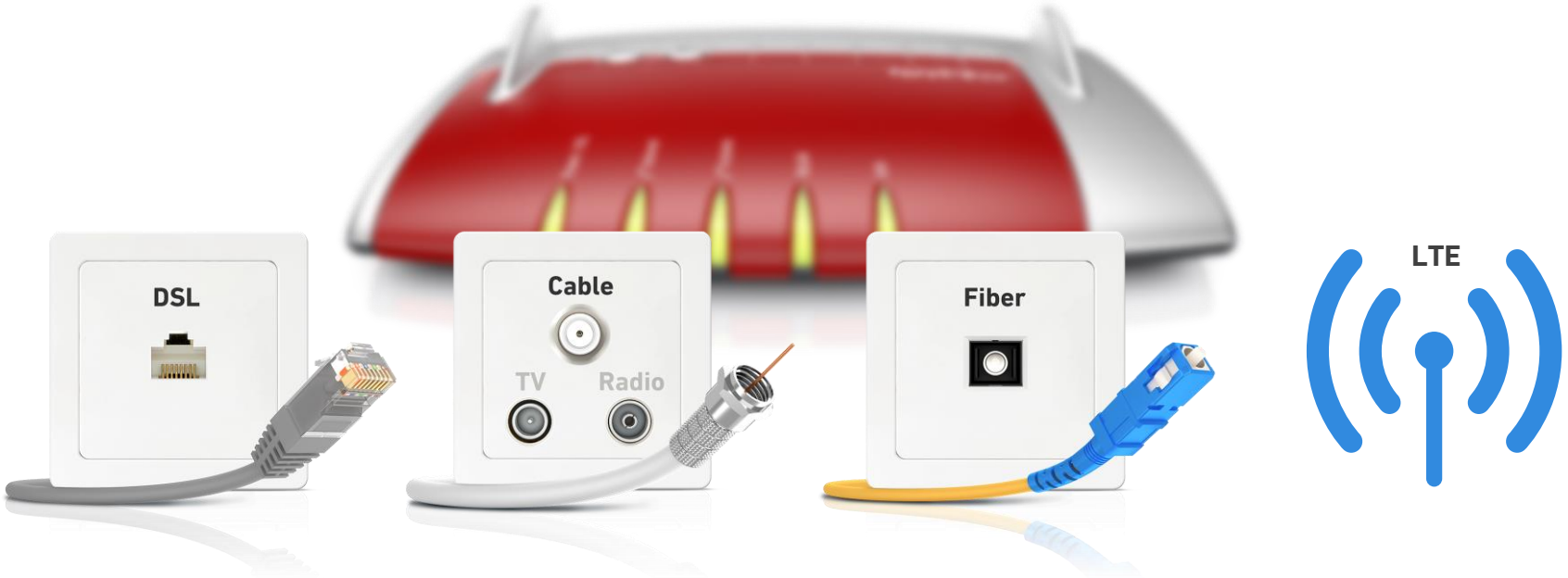
MESH & Wifi 6

Better technology for congested networks

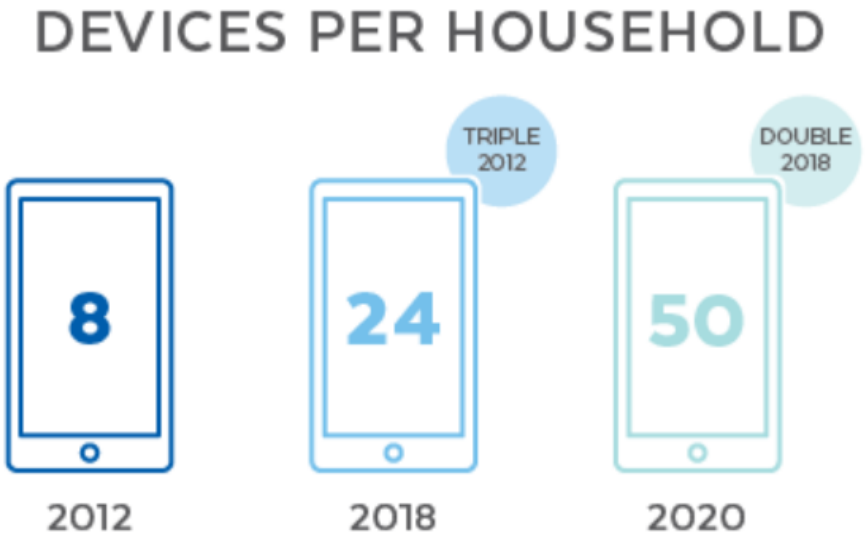
Klaus von Kries – Area Sales Manager

avm.de

Internet access for every connection

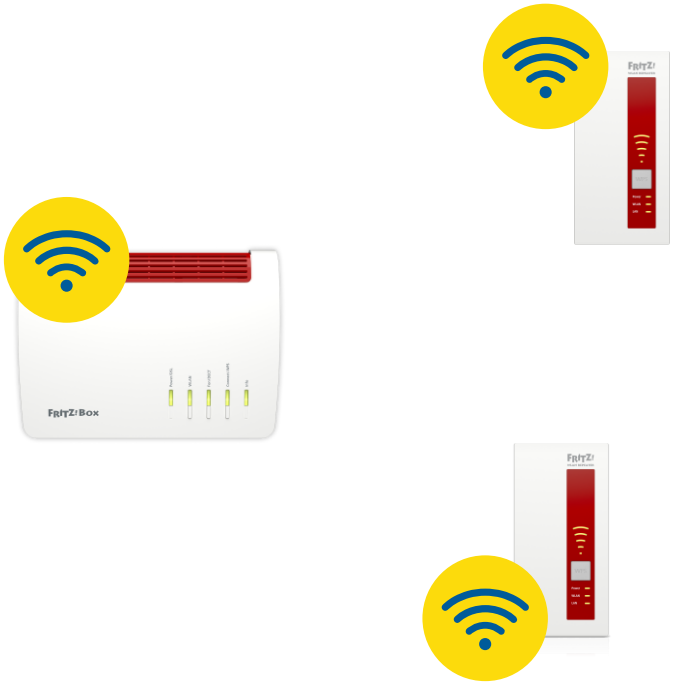


Higher demands on Wifi



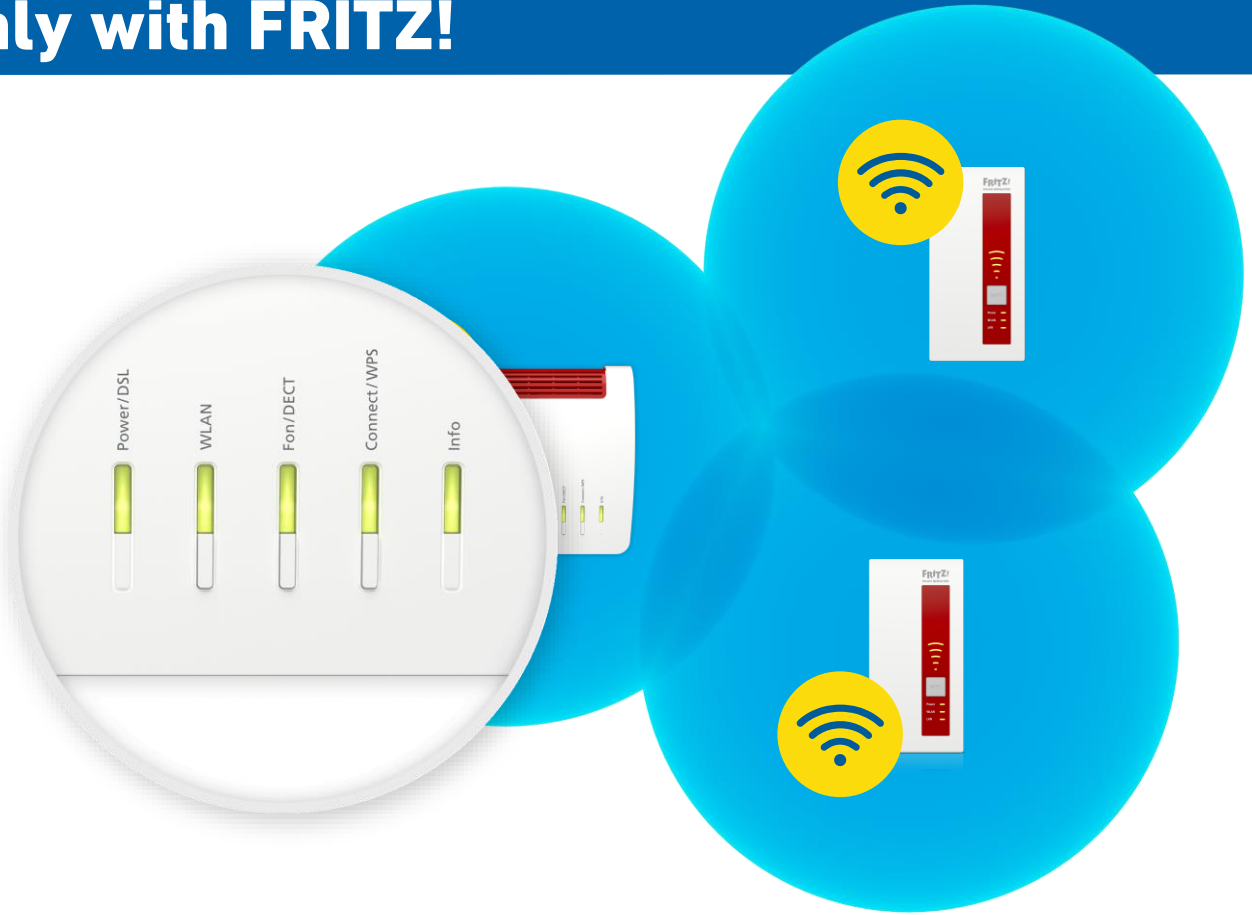
Wifi setup the calssical way

Limitations



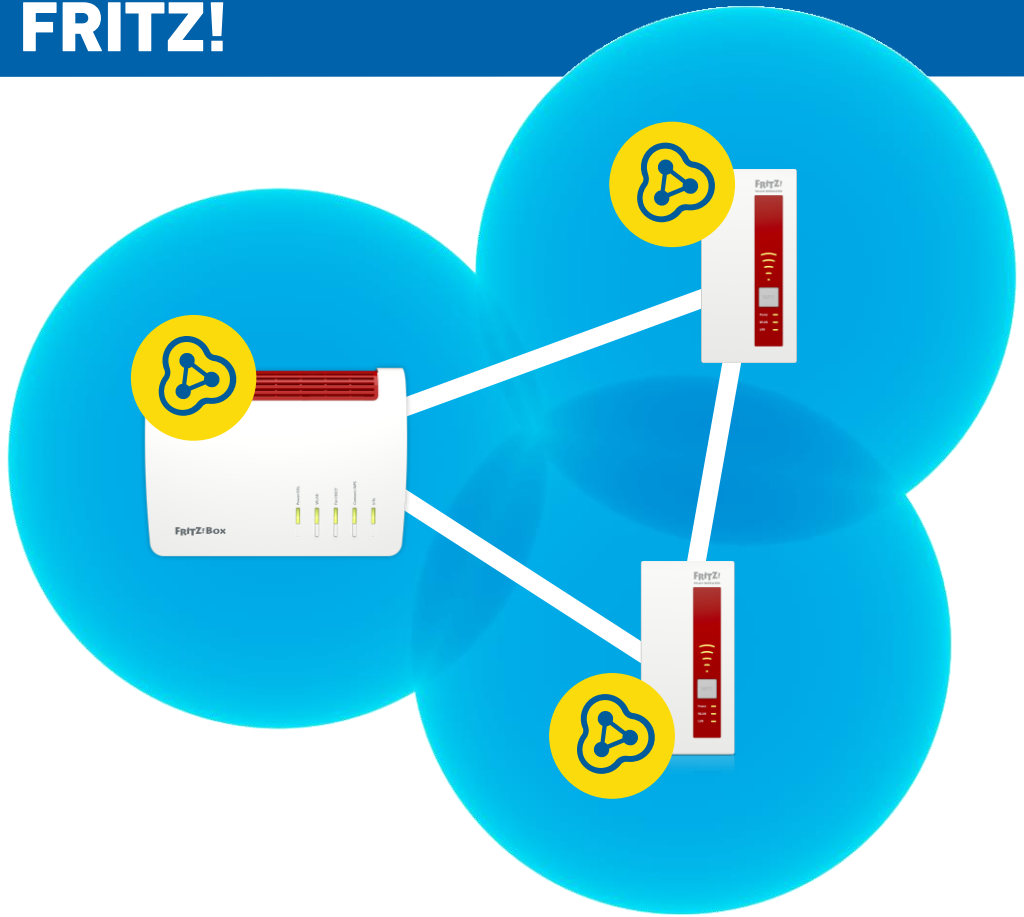
Best wireless LAN with mesh convenience

Only with FRITZ!



FRITZ! home network – best wireless LAN with mesh convenience

Only with FRITZ!

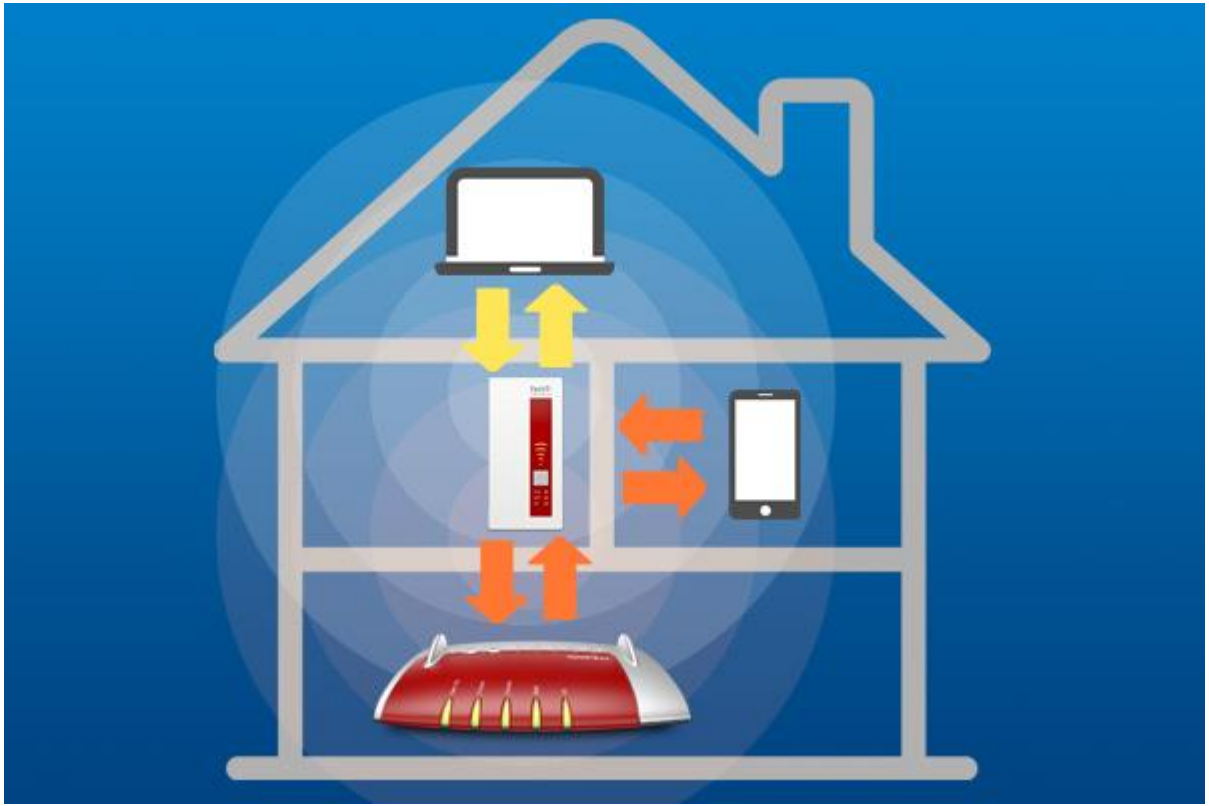


FRITZ! home network – best wireless LAN with mesh convenience

Only with FRITZ!

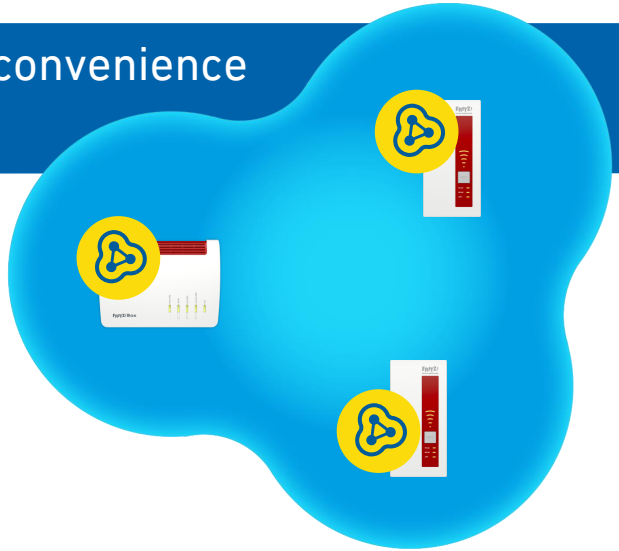
FRITZ! home network – best wireless LAN with mesh convenience

Crossband Repeating



FRITZ! home network – best wireless LAN with mesh convenience

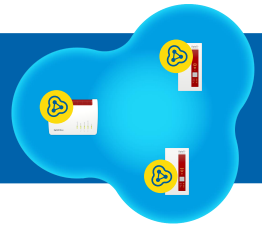
Only with FRITZ!



- One wireless network, same WiFi network name (SSID) and network key
- Modular system, easy to expand
- Connection at the touch of a button
- Optimized TV and video streaming
- Wireless night service
- Shared guest access / FRITZ!Hotspot
- Access and management from anywhere
- Central update for all devices

Best wireless LAN with mesh convenience

All advantages at a glance



WiFi & Mesh functionality

- One wireless network for all devices
- Shared network name (SSID) and network key
- Optimized TV and video streaming in the whole network
- Unified guest access with time and bandwidth (hotspot) limitation
- Wireless night service
- Unified Smart Home use from anywhere
- Password adoption from FRITZ!Box

Modularity & Devices

- Broad range of FRITZ!Box, Repeaters and PLC plus WiFi models
- DSL, cable, fiber optics, LTE – consistent user experience on every connection
- Suitable products for all performance classes
- Different housing for any installation site
- Connection at the touch of a button
- Especially energy efficient
- Expandable with phones, Smart Home products, wireless dongles

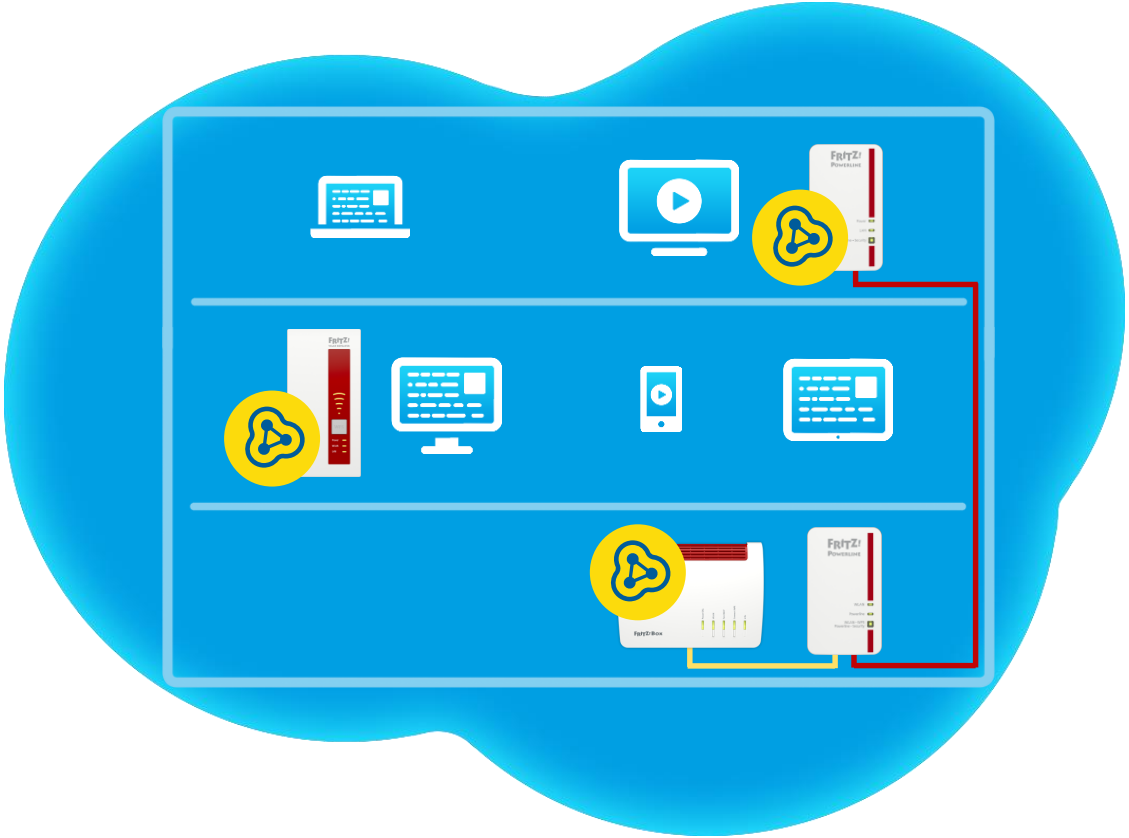
Performance & Security

- Smart crossband repeating for full speed
- Automatic selection of the best wireless channel for each band
- Automatic or manual updates
- Rating for password security
- Parental controls including time budget, blacklist
- MyFRITZ!App: access to information and management from on the go

FRITZ! home network – best wireless LAN with mesh convenience

Customized like your home

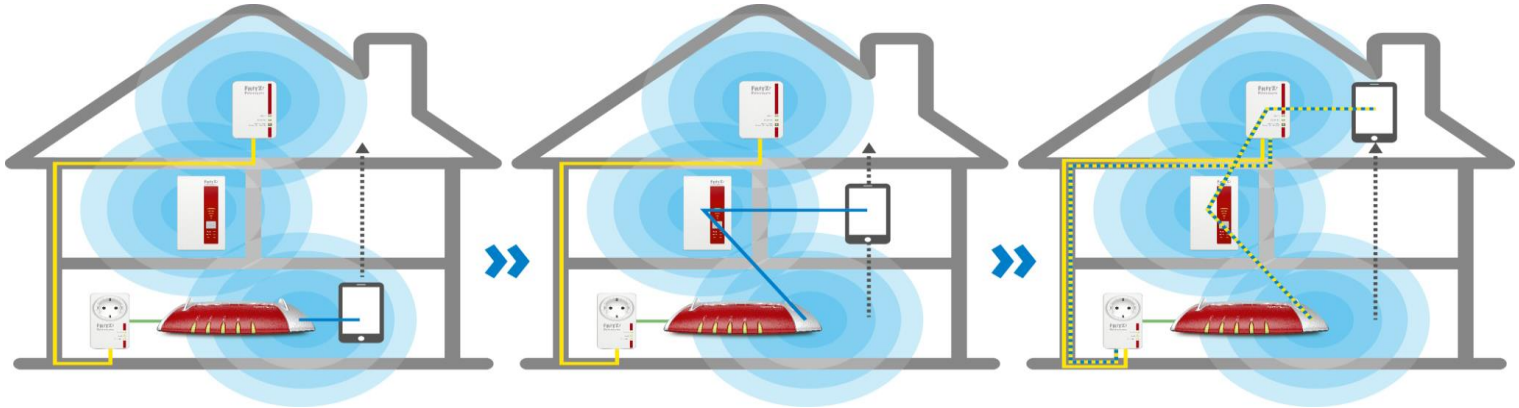
FRITZ!WLAN
WiFi repeater



FRITZ!Powerline
Powerline + WiFi

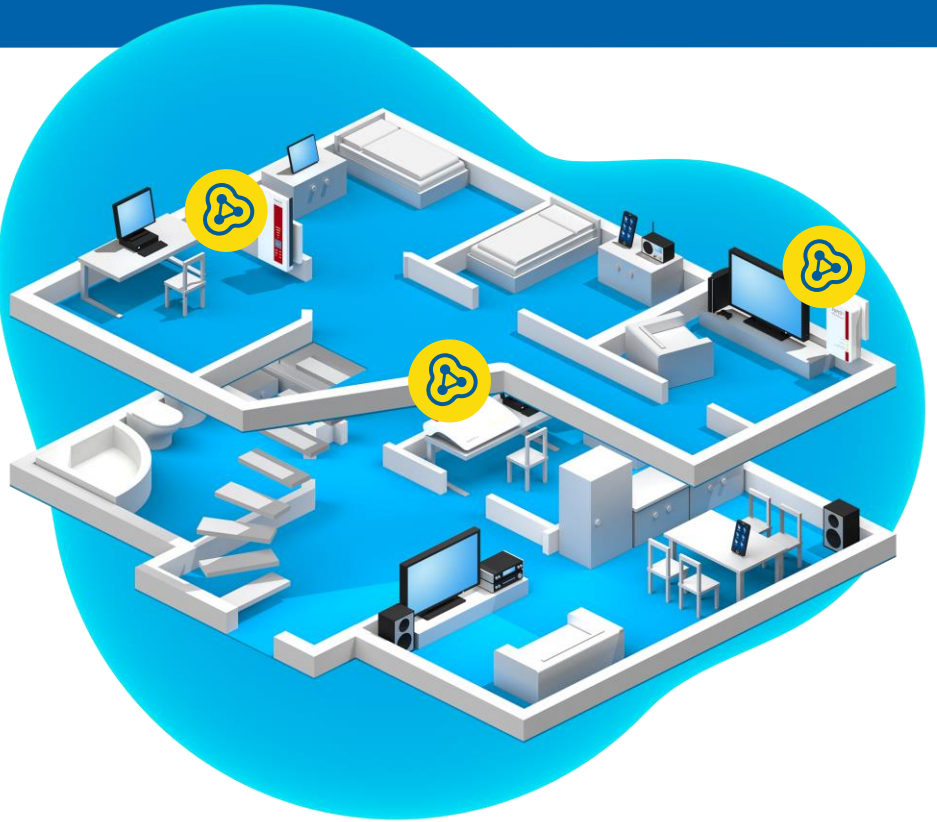
802.11v + 802.11k

Access Point steering



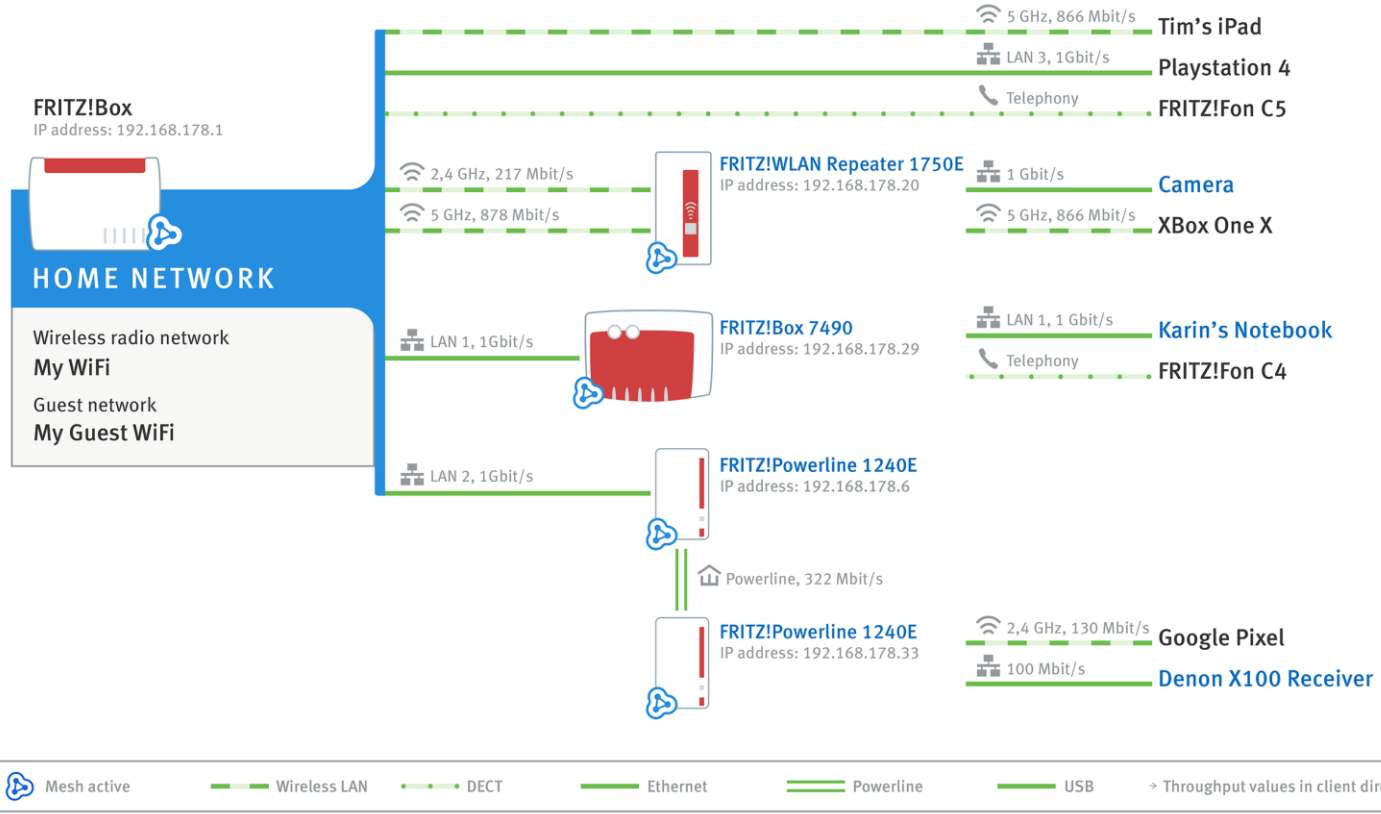
FRITZ! home network – best wireless LAN with mesh convenience

From S to XL



The genius behind FRITZ!

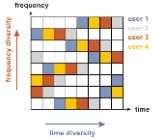
The entire home network at a glance



Wi-Fi 6: What´s different ?

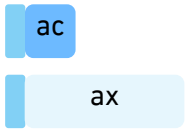
Up to8x8 MU-MIMO

More spatial streams

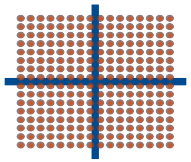


OFDMA
(Uplink/downlink)

Uplink resource scheduling



Long OFDM symbol

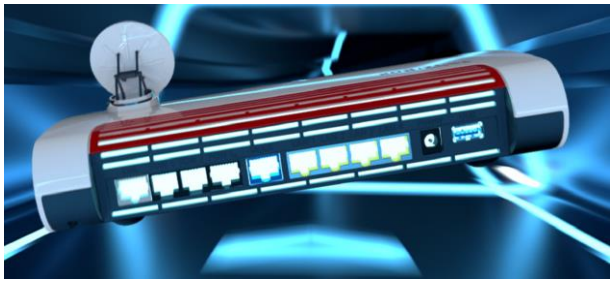


1024 QAM

Extended range

BSS color

Faster speed via 802.11AX

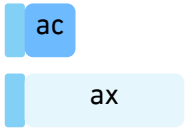


Maximum speed :

AC : 866 Mbit/s per Channel

vs

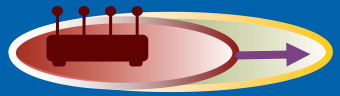
AX : 1201 Mbit/s

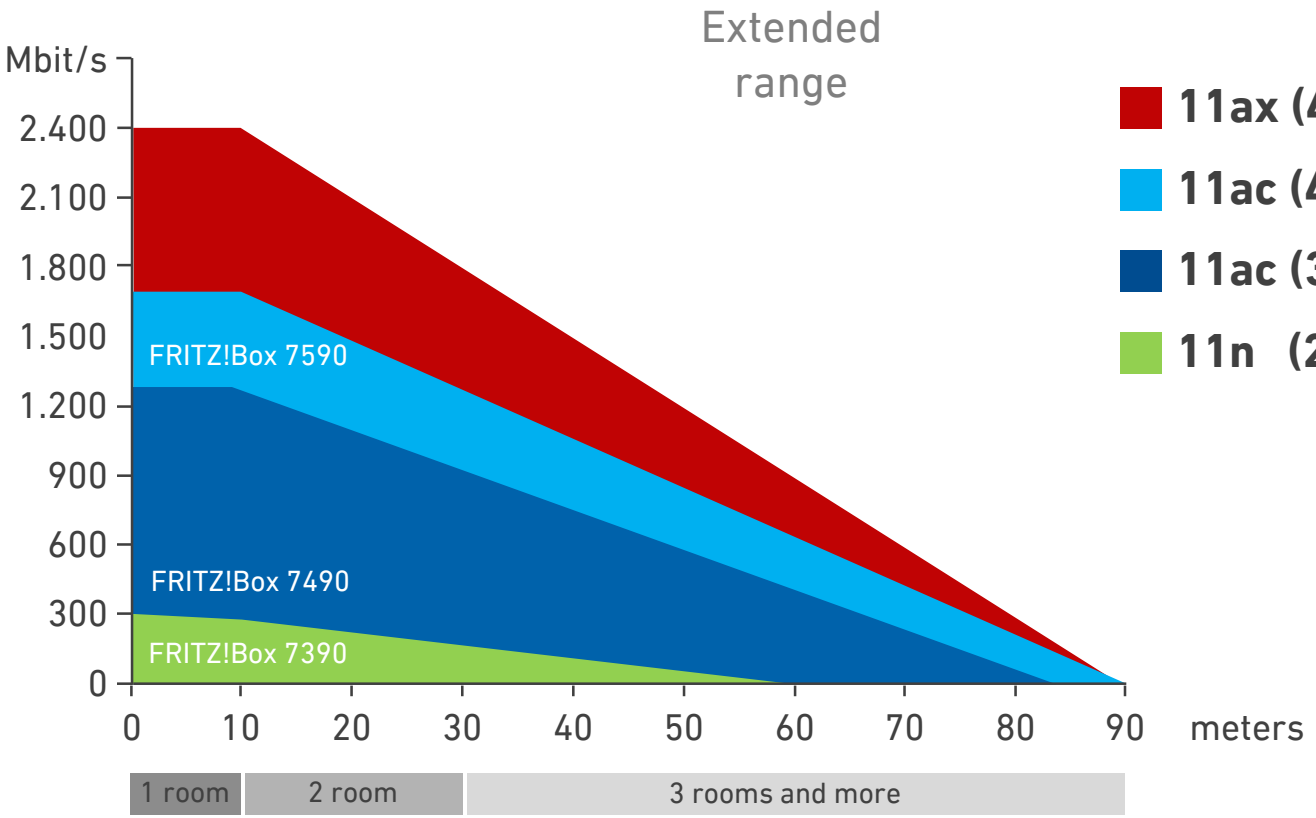


Long OFDM symbol

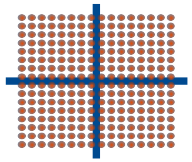
Innovation

WLAN AX





Wifi 802.11ax – QAM – Quadrature Amplitude Modulation



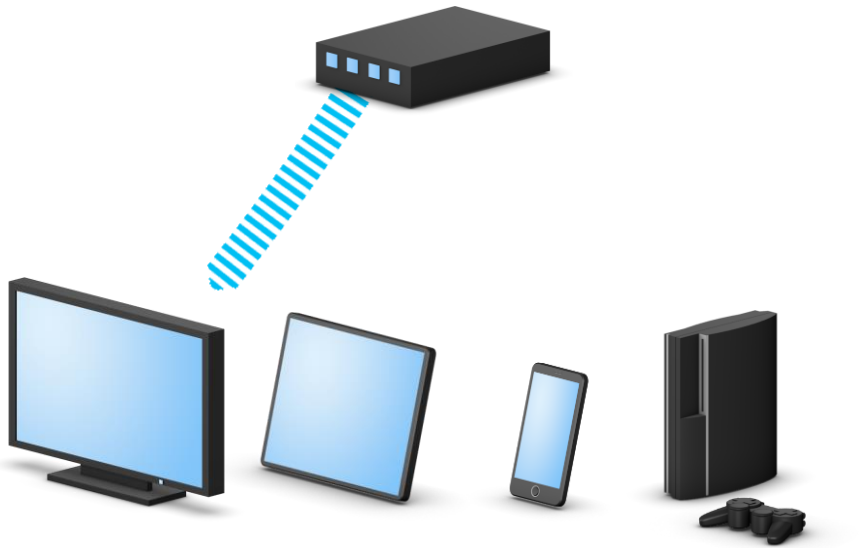
1024 QAM

- 802.11b – 16 QAM
- 802.11g – 32 QAM
- 802.11N – 64 QAM
- 802.11AC – 256 QAM
- 802.11AX – 1024 QAM

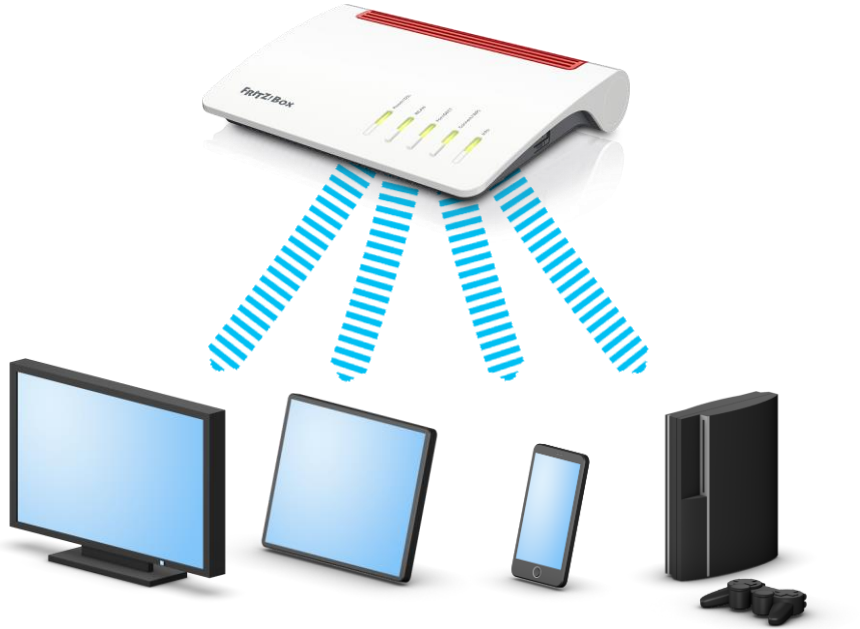
Innovation

Wireless AC with 4 x 4 Multi-User MIMO

Single-User MIMO



Multi-User MIMO



Wifi 802.11ax – MU MIMO

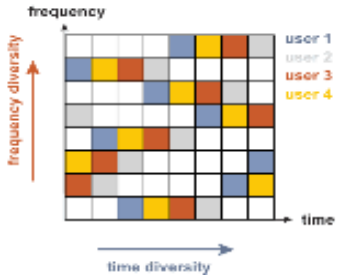
Up to8x8 MU-MIMO

- 802.11 AC supports:
  - up to 4 x 4 MIMO
  - 5 GHz only

More spatial streams

- 802.11 AX supports:
  - up to 8x8 MIMO
  - More spatial streams through the support of 2,4 & 5 GHz

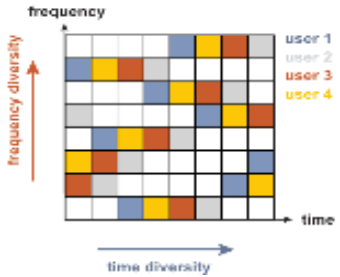
Wifi 802.11ax – OFDMA



OFDMA
(Uplink/downlink)

- One frame in the wifi network is 2300 Bytes large
- average Frame contains only 350 Bytes of data
- A lot of wasted space.

Wifi 802.11ax – OFDMA

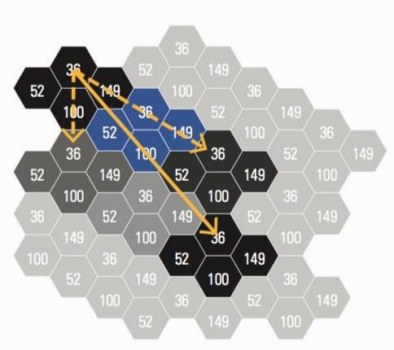


OFDMA
(Uplink/downlink)

- Orthogonal Frequency Division Multiple Access
- Chops up each wireless Channel into many smaller partial channels / sub channels
- Allowing up to 30 devices to the AP at once instead of just one.
- AP is gaining more flexibility allowing to allocate bandwidth to each device based on its data needs

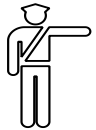
Wifi 802.11ax – BSS Color

BSS color



- BSS (basic service set)
- BSS coloring:
  - Helps ignoring noise from other overlapping Wifi networks
  - Dramatically improves Wifi performance and latency
  - Getting rid of unnecessary wait time

Target wake time



Uplink resource scheduling

- Less energy consumption
- Less unessasary wifi traffic
- Improve battery life time
- IoT ready - updating status once a day

The genius behind FRITZ!

FRITZ!OS

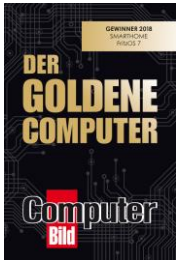
1111 awards for AVM

FRITZ!Box 7590

FRITZ!Box 6890 LTE

FRITZ!Box 5490

FRITZ!Box 7560



FRITZ!OS 7

FRITZ!Box 6890 LTE

All awards at a glance – avm.de/awards_en