

Active Antenna – broadband Internet access via mobile phone networks.



Problems experienced indoors without Active Antenna

**Optimum network coverage outside the building
(e.g. using UMTS / HSDPA / EDGE)**

But no reception or insufficient reception inside the building

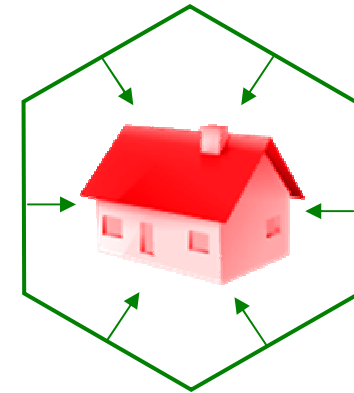
- The building has thermal insulation glazing
- The building is made from reinforced concrete
- The building has other shields

**Poor or virtually no network coverage outside the building
(e.g. using UMTS / HSDPA / EDGE)**

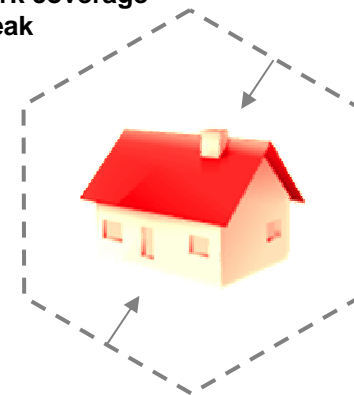
Effect: No reception or insufficient reception inside the building

- The location is at the edge of a cell

Building acts as a shield



Network coverage too weak



Active Antenna system

Exterior unit

- UMTS directional antenna, integrated UMTS booster unit to compensate for cable and connection losses
- Passive GSM unit
- Can be fitted on walls or masts

Coaxial cable, 15 metres

- Bi-directional RF signals
- Exterior unit power supply

Cradle

- Holds the UMTS stick
- Connection to active antenna
- Power consumption and power supply of exterior unit



Characteristics of the Active Antenna

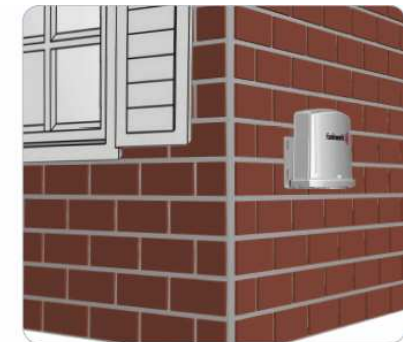
UMTS band I

- Active antenna with a boost of around 7 dB
- Optimum compensation of cable and connection losses
- Increases range
- Therefore ensures steady reception conditions
- Ensures maximum data rate

Passive GSM branch in the antenna

The antenna is designed for outdoor use

- Can be fitted on a mast or building wall
- Cable length between antenna and terminal 15m
- Coaxial cable with 3.2 mm diameter for simple routing



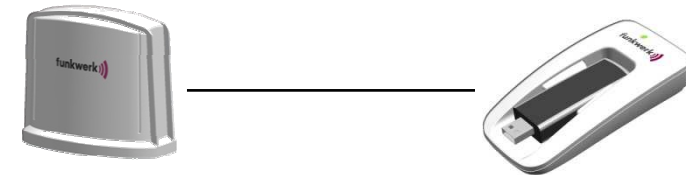
Full performance on terminal



No attenuation losses with Active Antenna

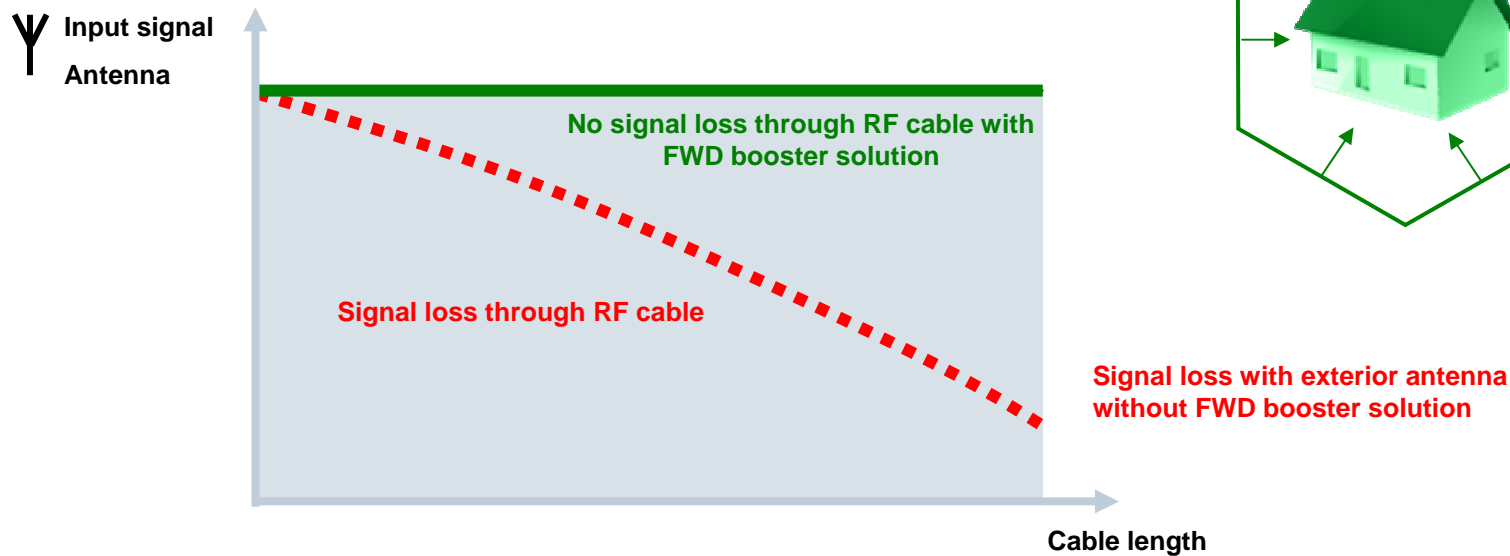
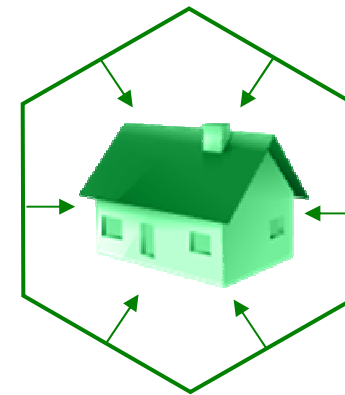
With active antenna

Signal is boosted by the cable and connection attenuations which arise (20db) and therefore transferred to the terminal without any losses



With passive exterior antenna

Signal is received using exterior antennas, but the boost is lost through cable attenuation

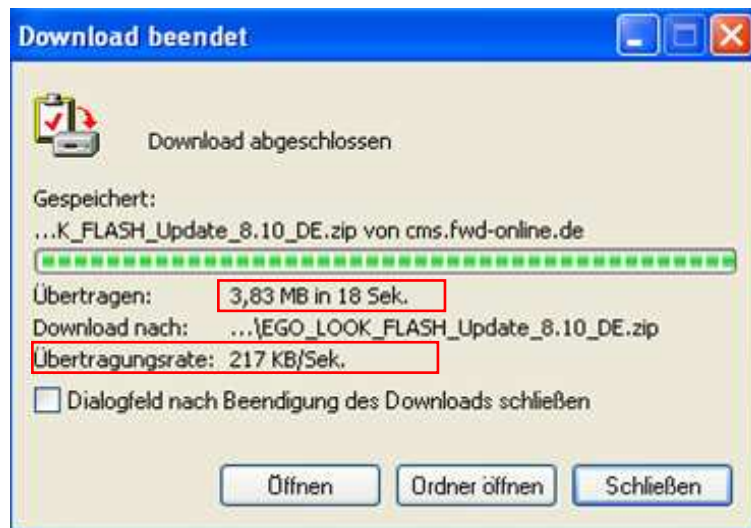


Solution with Active Antenna (before/after comparison)



Poor reception or no reception in building

Vastly improved reception quality in building



Areas of application and target groups

Areas of application

- Areas without an extension to the DSL network and/or with poor UMTS / HSDPA reception
- Building with thermal insulation glazing and/or made from reinforced concrete
- Mobile terminals in places which are hard to access
- Remote reading of meters in cellars
- Medical monitoring

Target groups

- Private clients
- Small and medium-sized companies
- Energy suppliers
- Large companies operating branches (chains of service stations, supermarket chains)
- Maintenance services

