Link: <http://www.studytonight.com/computer-networks/unbounded-transmission-media>

Add this completely new type **after** Disadvantages of Satellite Microwave:

**Infrared waves:**

Infrared waves, with frequencies from 300 GHz to 400 THz, can be used for **short-range** communication. Infrared waves, having high frequencies, **cannot** penetrate walls. This advantageous characteristic prevents interference between one system and another, a short-range communication system in on room cannot be affected by another system in the next room.

When we use infrared remote control, we do not interfere with the use of the remote by our neighbours. However, this same characteristic makes infrared signals useless for long-range communication. In addition, we cannot use infrared waves outside a building because the sun’s rays contain infrared waves that can interfere with the communication.

**Applications:**

* The infrared band, almost 400 THz, has an excellent potential for data transmission. Such a wide bandwidth can be used to transmit digital data with a **very high data rate**.
* **The Infrared Data Association (IrDA),** an association for sponsoring the use of infrared waves, has established standards for using these signals for **communication between devices** such as keyboards, mouse, PCs and printers.
* Infrared signals can be used for **short-range communication** in a closed area using line-of-sight propagation.