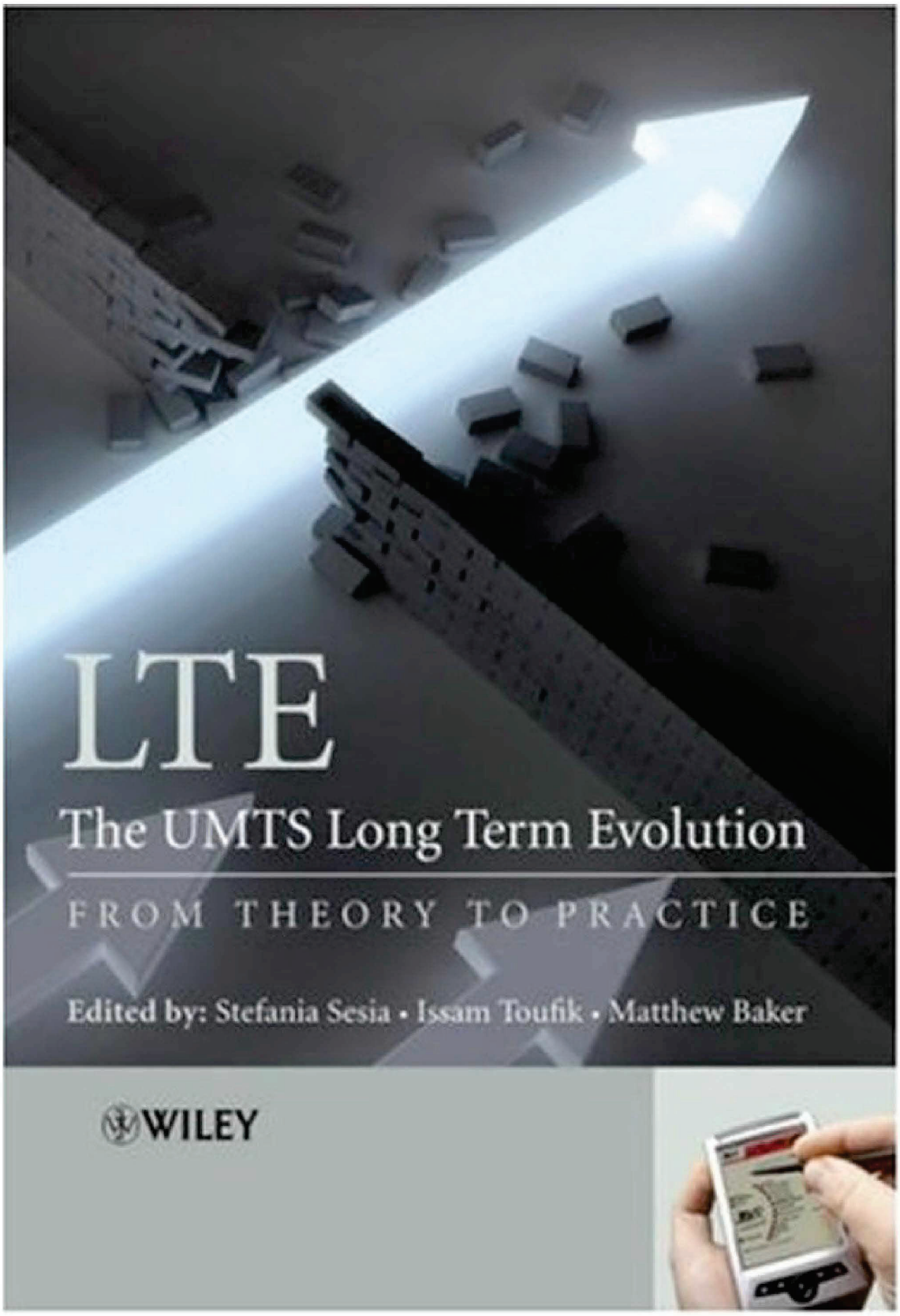
LTE
The UMTS Long Term Evolution
FROM THEORY TO PRACTICE
Edited by: Stefania Sesia • Issam Toufik • Matthew Baker
WILEY

LTE – The UMTS Long Term Evolution

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in units of 12 subcarriers (thus occupying a total of 180 kHz), such that one unit of 12 subcarriers for a duration of one slot is termed a Resource Block (RB).[1]

The smallest unit of resource is the Resource Element (RE), which consists of one subcarrier for a duration of one OFDM symbol. A resource block is thus comprised of 84 resource elements in the case of the normal cyclic prefix length, and 72 resource elements in the case of the extended cyclic prefix.

The detailed resource structure is shown in Figure 6.1 for the normal cyclic prefix length.

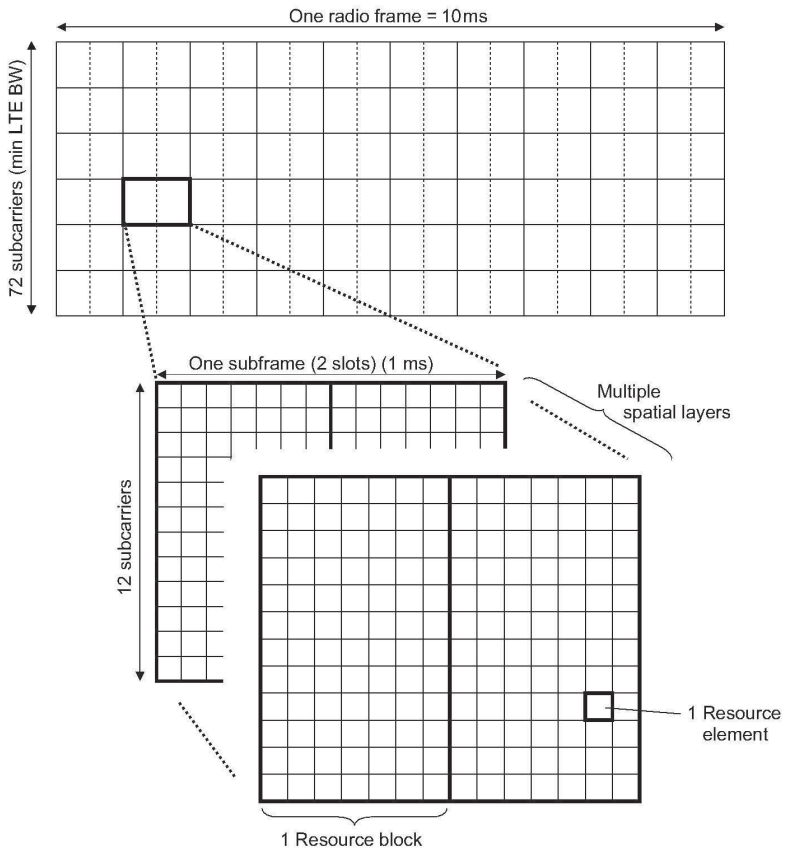

Figure 6.1 Basic time-frequency resource structure of LTE (normal cyclic prefix case).

[1] In the case of the 7.5 kHz subcarrier spacing which may be available for Multimedia Broadcast Multicast Service (MBMS) transmission in later releases of LTE (see Section 5.3.2), one RB consists of 24 subcarriers for a duration of one slot.

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