

# Exhibit “C”

Evolved Universal Terrestrial Radio Access (E-UTRA);  
Radio Resource Control (RRC);  
Protocol specification  
(3GPP TS 36.331 version 8.2.0 Release 8)

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**ETSI**

650 Route des Lucioles  
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C  
Association à but non lucratif enregistrée à la  
Sous-Préfecture de Grasse (06) N° 7803/88

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### 5.2.1.1 General

System information is divided into the *MasterInformationBlock* (MIB) and a number of *SystemInformationBlocks* (SIBs). The MIB includes a limited number of most essential and frequently transmitted parameters to acquire other information from the cell, and is transmitted on BCH. SIBs other than *SystemInformationBlockType1* are carried in *SystemInformation* (SI) messages and mapping of SIBs to SI messages is flexibly configurable by *schedulingInformation* included in *SystemInformationBlockType1*, with restrictions that: each SIB is contained only in a single SI message, only SIBs having the same scheduling requirement (periodicity) can be mapped to the same SI message, and *SystemInformationBlockType2* is always mapped to the SI message that corresponds to the first entry in the list of SI messages in *schedulingInformation*. There may be multiple SI messages transmitted with the same periodicity. *SystemInformationBlockType1* and all SI messages are transmitted on DL-SCH.

### 5.2.1.2 Scheduling

The MIB uses a fixed schedule with a periodicity of 40 ms and repetitions made within 40 ms. The first transmission of the MIB is scheduled in subframe #0 of radio frames for which the SFN mod 4 = 0, and repetitions are scheduled in subframe #0 of all other radio frames.

The *SystemInformationBlockType1* uses a fixed schedule with a periodicity of 80 ms and repetitions made within 80 ms. The first transmission of *SystemInformationBlockType1* is scheduled in subframe #5 of radio frames for which the SFN mod 8 = 0, and repetitions are scheduled in subframe #5 of all other radio frames for which SFN mod 2 = 0.

The SI messages are transmitted within periodically occurring time domain windows (referred to as SI-windows) using dynamic scheduling. Each SI message is associated with a SI-window and the SI-windows of different SI messages do not overlap. That is, within one SI-window only the corresponding SI is transmitted. The length of the SI-window is common for all SI messages, and is configurable. Within the SI-window, the corresponding SI message can be transmitted a number of times in any subframe other than MBSFN subframes, uplink subframes in TDD, and subframe #5 of radio frames for which SFN mod 2 = 0. The UE acquires the detailed time-domain scheduling (and other information, e.g. frequency-domain scheduling, used transport format) from decoding SI-RNTI on PDCCH.

A single SI-RNTI is used to address *SystemInformationBlockType1* as well as all SI messages.

*SystemInformationBlockType1* configures the SI-window length and the transmission periodicity for the SI messages.

Editor's note: It seems best to specify the handling of the scheduling information by means of an "elementary procedure", i.e. related to the reception of the related information elements.

Editor's note: In the unlikely event that serving cell paging and target cell DBCH overlap in time one of the two activities will need to be prioritised. This may lead into paging reception loss or increases in cell reselection interruption time.

### 5.2.1.3 System information validity and notification of changes

System information changes only occur at specific radio frames i.e. the concept of a modification period is used. SI messages may be transmitted a number of times with the same content within a modification period, as defined by its scheduling. The modification period boundaries are defined by SFN mod N. N is configured by system information.

When the network changes (some of the) system information, it first notifies the UEs about this change i.e. this may be done throughout a modification period. In the next modification period, the network transmits the updated system information. These general principles are illustrated in figure 5.2.1.4-1, in which different colours indicate different system information. Upon receiving a change notification, the UE knows that the current system information is valid

Figure 5.2.1.3-1: Change of system Information

The *Paging* message is used to inform UEs in RRC\_IDLE and UEs in RRC\_CONNECTED about a system information change. If the UE receives a Paging message including the *systemInfoModification*, it knows that the system information changes at the next modification period boundary. Although the UE may be informed about changes in system information, no further details are provided e.g. regarding which SI message has changed. The change notification mechanism is not used for the system information using an expiry timer (intended for the more dynamic system information).

*SystemInformationBlockType1* includes a value tag that indicates if a change has occurred in the SI messages. UEs may use this value tag e.g. upon return from out of coverage, to verify if the previously acquired system information is still valid. The UE considers system information to be valid for at most 6 hours from the moment it was received.

Editor's note: The UE requirements corresponding with the above descriptive text are still to be captured elsewhere, e.g. within the paging procedure which may trigger the BCCH acquisition procedure.

Editor's note: It is FFS when UEs in RRC\_CONNECTED monitor paging for system information change detection. For example, UE may only need to monitor one paging occasion per one BCCH modification period, or it may need to monitor several paging occasion per one BCCH modification period with certain periodicity.

Editor's note: If it will be agreed that the ETWS primary notification is performed by means of paging, ETWS capable UEs will be required to read paging.

## 5.2.2 System information acquisition

### 5.2.2.1 General

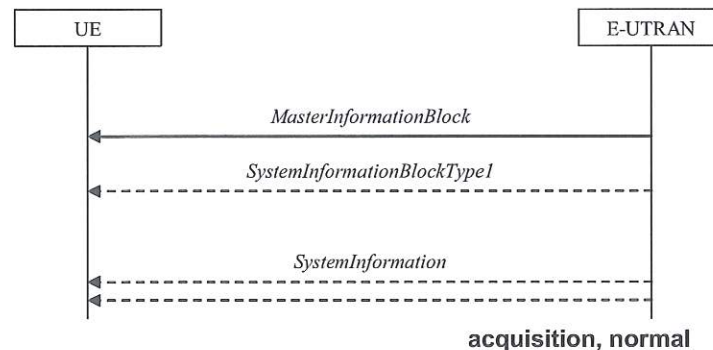


Figure 5.2.2.1-1: System information acquisition, normal

The UE applies the system information acquisition procedure to acquire the AS- and NAS- system information that is broadcasted by the E-UTRAN. The procedure applies to UEs in RRC\_IDLE and to UEs in RRC\_CONNECTED.

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