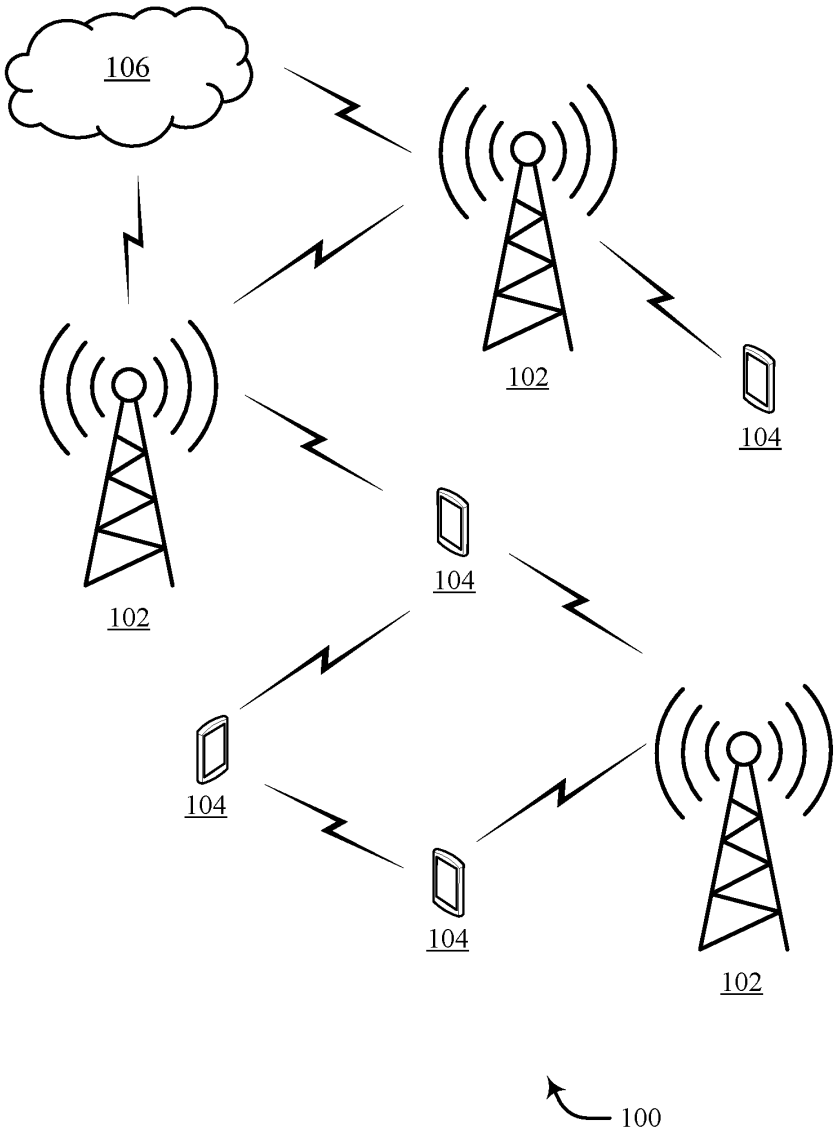


Figure 1

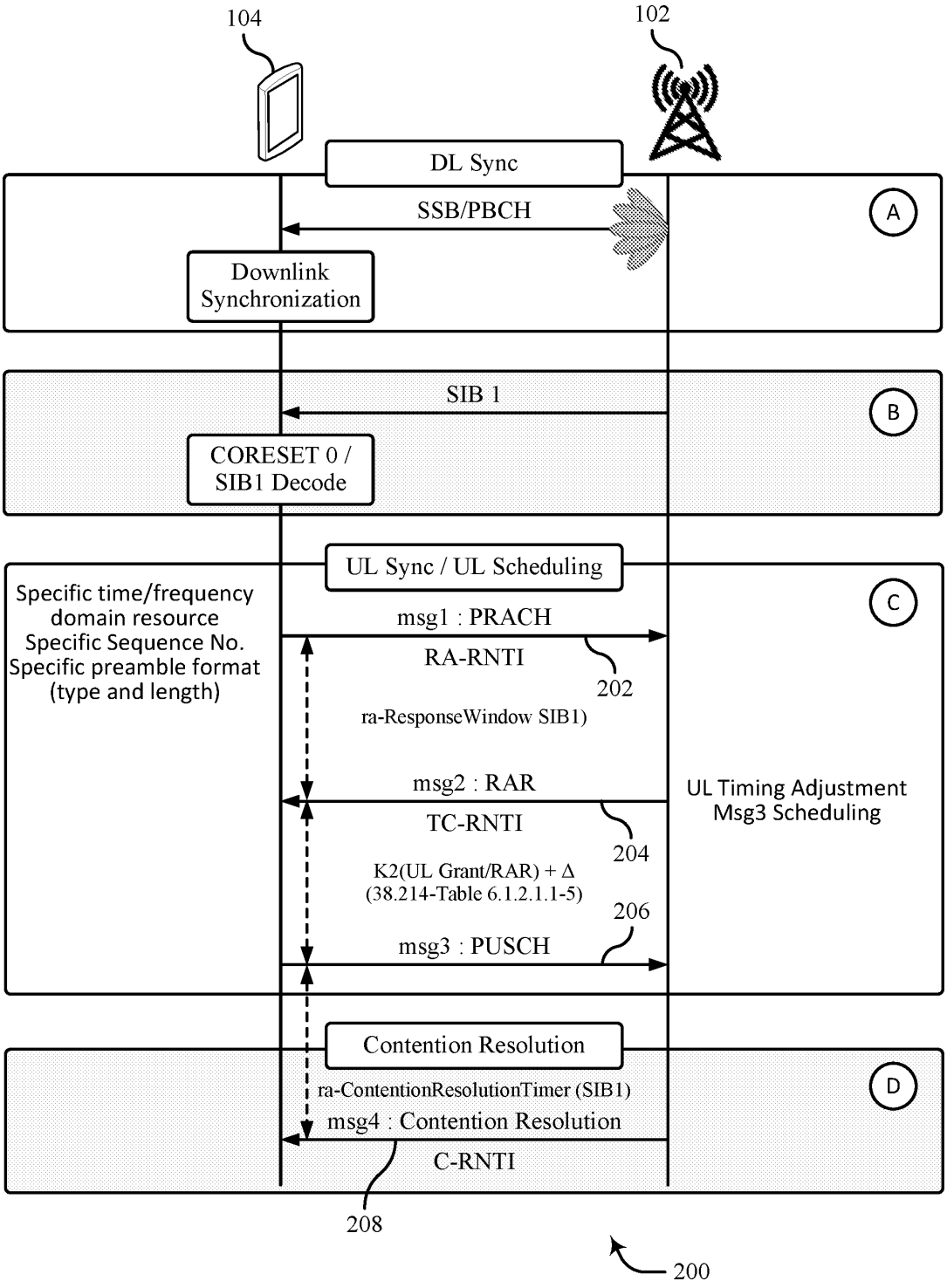

104
102
DL Sync
SSB/PBCH
A
Downlink Synchronization
SIB 1
B
CORESET 0 / SIB1 Decode
UL Sync / UL Scheduling
Specific time/frequency domain resource
Specific Sequence No.
Specific preamble format (type and length)
C
msg1 : PRACH
RA-RNTI
202
ra-ResponseWindow SIB1)
msg2 : RAR
UL Timing Adjustment
Msg3 Scheduling
TC-RNTI
204
K2(UL Grant/RAR) + Δ
(38.214-Table 6.1.2.1.1-5)
206
msg3 : PUSCH
Contention Resolution
ra-ContentionResolutionTimer (SIB1)
D
msg4 : Contention Resolution
C-RNTI
208
200

Figure 2

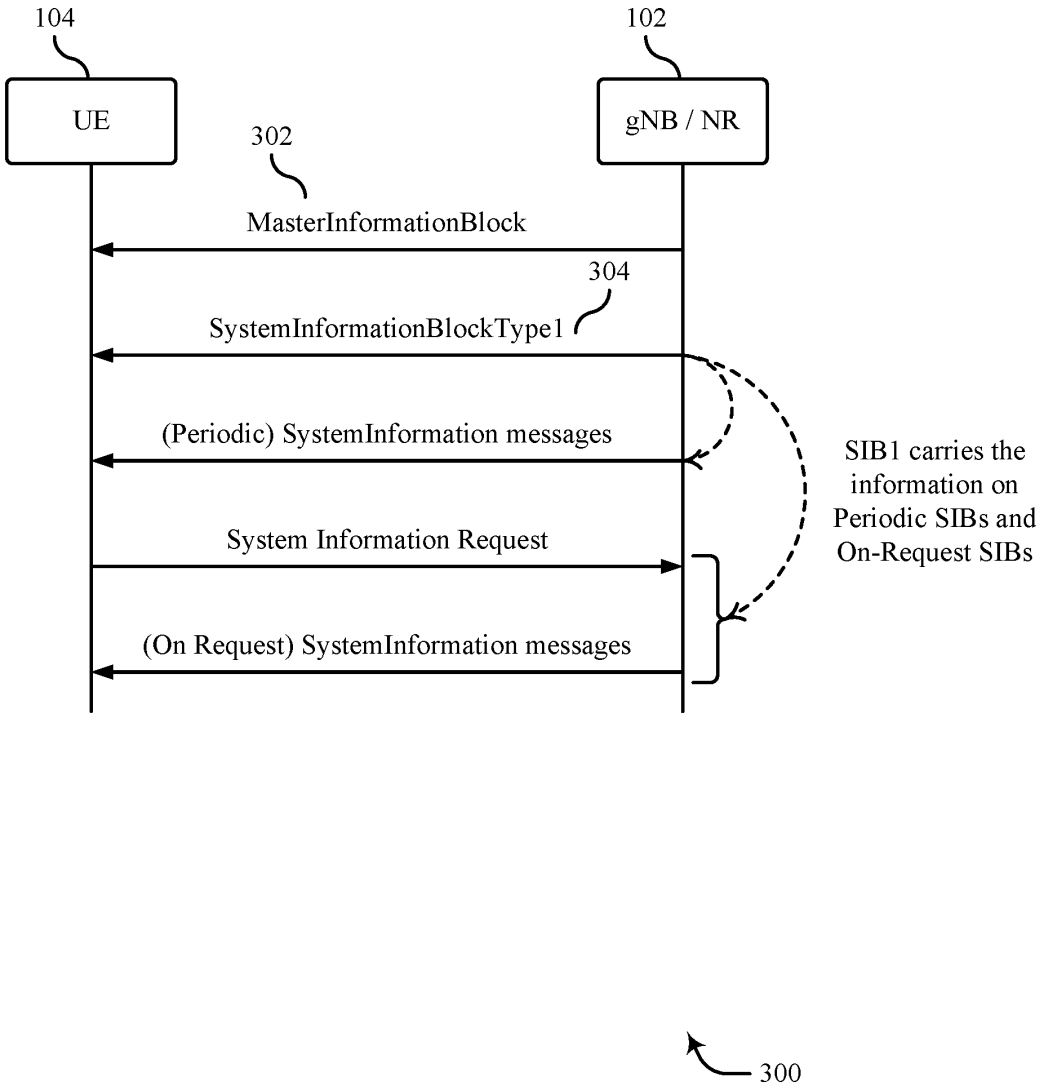

104
102
UE
gNB / NR
302
MasterInformationBlock
304
SystemInformationBlockType1
(Periodic) SystemInformation messages
System Information Request
(On Request) SystemInformation messages
SIB1 carries the information on Periodic SIBs and On-Request SIBs
300

Figure 3

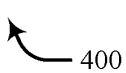
```
-- ASN1START
-- TAG-SIB1-START

SIB1 ::=        SEQUENCE {
    cellSelectionInfo                   SEQUENCE {
        q-RxLevMin                          Q-RxLevMin,
        q-RxLevMinOffset                    INTEGER (1..8)
OPTIONAL,   -- Need S
        q-RxLevMinSUL                       Q-RxLevMin
OPTIONAL,   -- Need R
        q-QualMin                           Q-QualMin
OPTIONAL,   -- Need S
        q-QualMinOffset                     INTEGER (1..8)
OPTIONAL    -- Need S
    }
OPTIONAL,   -- Cond Standalone
    cellAccessRelatedInfo               CellAccessRelatedInfo,
    connEstFailureControl               ConnEstFailureControl
OPTIONAL,   -- Need R
    si-SchedulingInfo                   SI-SchedulingInfo
OPTIONAL,   -- Need R
    servingCellConfigCommon             ServingCellConfigCommonSIB
OPTIONAL,   -- Need R
    ims-EmergencySupport                ENUMERATED {true}
OPTIONAL,   -- Need R
    eCallOverIMS-Support                ENUMERATED {true}
OPTIONAL,   -- Need R
    ue-TimersAndConstants               UE-TimersAndConstants
OPTIONAL,   -- Need R
    uac-BarringInfo                     SEQUENCE {
        uac-BarringForCommon                UAC-BarringPerCatList
OPTIONAL,   -- Need S
        uac-BarringPerPLMN-List             UAC-BarringPerPLMN-List
OPTIONAL,   -- Need S
        uac-BarringInfoSetList              UAC-BarringInfoSetList,
        uac-AccessCategory1-SelectionAssistanceInfo CHOICE {
            plmnCommon                          UAC-AccessCategory1-
SelectionAssistanceInfo,
            individualPLMNList                  SEQUENCE (SIZE (2..maxPLMN)) OF UAC-
AccessCategory1-SelectionAssistanceInfo
        }
OPTIONAL    -- Need S
    }
OPTIONAL,   -- Need R
    useFullResumeID                     ENUMERATED {true}
OPTIONAL,   -- Need R
    lateNonCriticalExtension            OCTET STRING
OPTIONAL,
    nonCriticalExtension                SIB1-v1610-IEs
OPTIONAL
}

SIB1-v1610-IEs ::=              SEQUENCE {
    idleModeMeasurementsEUTRA-r16    ENUMERATED{true}
OPTIONAL,  -- Need R
    idleModeMeasurementsNR-r16       ENUMERATED{true}
OPTIONAL,  -- Need R
    posSI-SchedulingInfo-r16         PosSI-SchedulingInfo-r16
OPTIONAL,  -- Need R
    nonCriticalExtension             SIB1-v1630-IEs
OPTIONAL
}

SIB1-v1630-IEs ::=              SEQUENCE {
    uac-BarringInfo-v1630            SEQUENCE {
        uac-AC1-SelectAssistInfo-r16     SEQUENCE (SIZE (2..maxPLMN)) OF UAC-AC1-
SelectAssistInfo-r16
    }
OPTIONAL,  -- Need R
    nonCriticalExtension             SIB1-v1700-IEs
OPTIONAL
}
```

Figure 4a



```
SIB1-v1700-IEs ::=                SEQUENCE {
    hsdn-Cell-r17                         ENUMERATED {true}
OPTIONAL,  -- Need R
    uac-BarringInfo-v1700                 SEQUENCE {
        uac-BarringInfoSetList-v1700          UAC-BarringInfoSetList-v1700
    }
OPTIONAL,  -- Cond MINT
    sdt-ConfigCommon-r17                  SDT-ConfigCommonSIB-r17
OPTIONAL,  -- Need R
    redCap-ConfigCommon-r17               RedCap-ConfigCommonSIB-r17
OPTIONAL,  -- Need R
    featurePriorities-r17         SEQUENCE {
        redCapPriority-r17            FeaturePriority-r17
OPTIONAL,  -- Need R
        slicingPriority-r17           FeaturePriority-r17
OPTIONAL,  -- Need R
        msg3-Repetitions-Priority-r17 FeaturePriority-r17
OPTIONAL,  -- Need R
        sdt-Priority-r17              FeaturePriority-r17
OPTIONAL   -- Need R
    }
OPTIONAL,  -- Need R
    si-SchedulingInfo-v1700       SI-SchedulingInfo-v1700
OPTIONAL,  -- Need R
    hyperSFN-r17                  BIT STRING (SIZE (10))
OPTIONAL,  -- Need R
    eDRX-AllowedIdle-r17          ENUMERATED {true}
OPTIONAL,  -- Need R
    eDRX-AllowedInactive-r17      ENUMERATED {true}
OPTIONAL,  -- Cond EDRX-RC
    intraFreqReselectionRedCap-r17 ENUMERATED {allowed, notAllowed}
OPTIONAL,  -- Need S
    cellBarredNTN-r17             ENUMERATED {barred, notBarred}
OPTIONAL,  -- Need S
    nonCriticalExtension          SIB1-v1740-IEs
OPTIONAL
}

SIB1-v1740-IEs ::=                SEQUENCE {
    si-SchedulingInfo-v1740           SI-SchedulingInfo-v1740
OPTIONAL,  -- Need R
    nonCriticalExtension              SIB1-v1800-IEs
OPTIONAL
}

SIB1-v1800-IEs ::=                SEQUENCE {
    ncr-Support-r18                   ENUMERATED {true}
OPTIONAL,  -- Need S
    mt-SDT-ConfigCommonSIB-r18        MT-SDT-ConfigCommonSIB-r18
OPTIONAL,  -- Need R
    musim-CapRestrictionAllowed-r18   ENUMERATED {true}
OPTIONAL,  -- Need R
    featurePriorities-v1800           SEQUENCE {
        msg1-Repetitions-Priority-r18     FeaturePriority-r17
OPTIONAL,  -- Need R
        eRedCapPriority-r18               FeaturePriority-r17
OPTIONAL   -- Need R
    }
OPTIONAL,  -- Need R
    si-SchedulingInfo-v1800           SI-SchedulingInfo-v1800
OPTIONAL,  -- Need R
    cellBarredATG-r18                 ENUMERATED {barred, notBarred}
OPTIONAL,  -- Need S
    cellBarredNES-r18                 ENUMERATED {notBarred}
OPTIONAL,  -- Need R
    mobileIAB-Cell-r18                ENUMERATED {true}
OPTIONAL,  -- Need R
    eDRX-AllowedInactive-r18          ENUMERATED {true}
OPTIONAL,  -- Cond EDRX-RC
    intraFreqReselection-eRedCap-r18 ENUMERATED {allowed, notAllowed}
OPTIONAL,  -- Need S
    nonServingCellMII-r18             ENUMERATED {true}
OPTIONAL,  -- Need R
    nonCriticalExtension              SEQUENCE {}
OPTIONAL
}
```

Figure 4b

400

```
UAC-AccessCategory1-SelectionAssistanceInfo ::=    ENUMERATED {a, b, c}

UAC-AC1-SelectAssistInfo-r16 ::=     ENUMERATED {a, b, c, notConfigured}

SDT-ConfigCommonSIB-r17 ::=          SEQUENCE {
    sdt-RSRP-Threshold-r17               RSRP-Range
OPTIONAL, -- Need R
    sdt-LogicalChannelSR-DelayTimer-r17  ENUMERATED { sf20, sf40, sf64, sf128, sf512,
sf1024, sf2560, spare1}  OPTIONAL, -- Need R
    sdt-DataVolumeThreshold-r17          ENUMERATED {byte32, byte100, byte200, byte400,
byte600, byte800, byte1000, byte2000, byte4000,
                                                     byte8000, byte9000, byte10000,
byte12000, byte24000, byte48000, byte96000},
    t319a-r17                            ENUMERATED { ms100, ms200, ms300, ms400, ms600,
ms1000, ms2000,
                                                      ms3000, ms4000, spare7, spare6,
spare5, spare4, spare3, spare2, spare1}
}

RedCap-ConfigCommonSIB-r17 ::= SEQUENCE {
    halfDuplexRedCapAllowed-r17    ENUMERATED {true}
OPTIONAL,  -- Need R
    cellBarredRedCap-r17           SEQUENCE {
        cellBarredRedCap1Rx-r17        ENUMERATED {barred, notBarred},
        cellBarredRedCap2Rx-r17        ENUMERATED {barred, notBarred}
    }
OPTIONAL,  -- Need R
    ...,
    [[
    cellBarredRedCap-r18           SEQUENCE {
        cellBarred-eRedCap1Rx-r18      ENUMERATED {barred, notBarred},
        cellBarred-eRedCap2Rx-r18      ENUMERATED {barred, notBarred}
    }
OPTIONAL   -- Need R
    ]]
}

FeaturePriority-r17 ::= INTEGER (0..7)

MT-SDT-ConfigCommonSIB-r18 ::=       SEQUENCE {
    sdt-RSRP-ThresholdMT-r18             RSRP-Range
OPTIONAL, -- Need S
    sdt-LogicalChannelSR-DelayTimer-r18  ENUMERATED { sf20, sf40, sf64, sf128, sf512,
sf1024, sf2560, spare1}  OPTIONAL, -- Cond MT-SDT1
    t319a-r18                            ENUMERATED { ms100, ms200, ms300, ms400, ms600,
ms1000, ms2000,
                                                      ms3000, ms4000, spare7, spare6,
spare5, spare4,
                                                      spare3, spare2, spare1}
OPTIONAL  -- Cond MT-SDT2
}

-- TAG-SIB1-STOP
-- ASN1STOP
```

400

Figure 4c

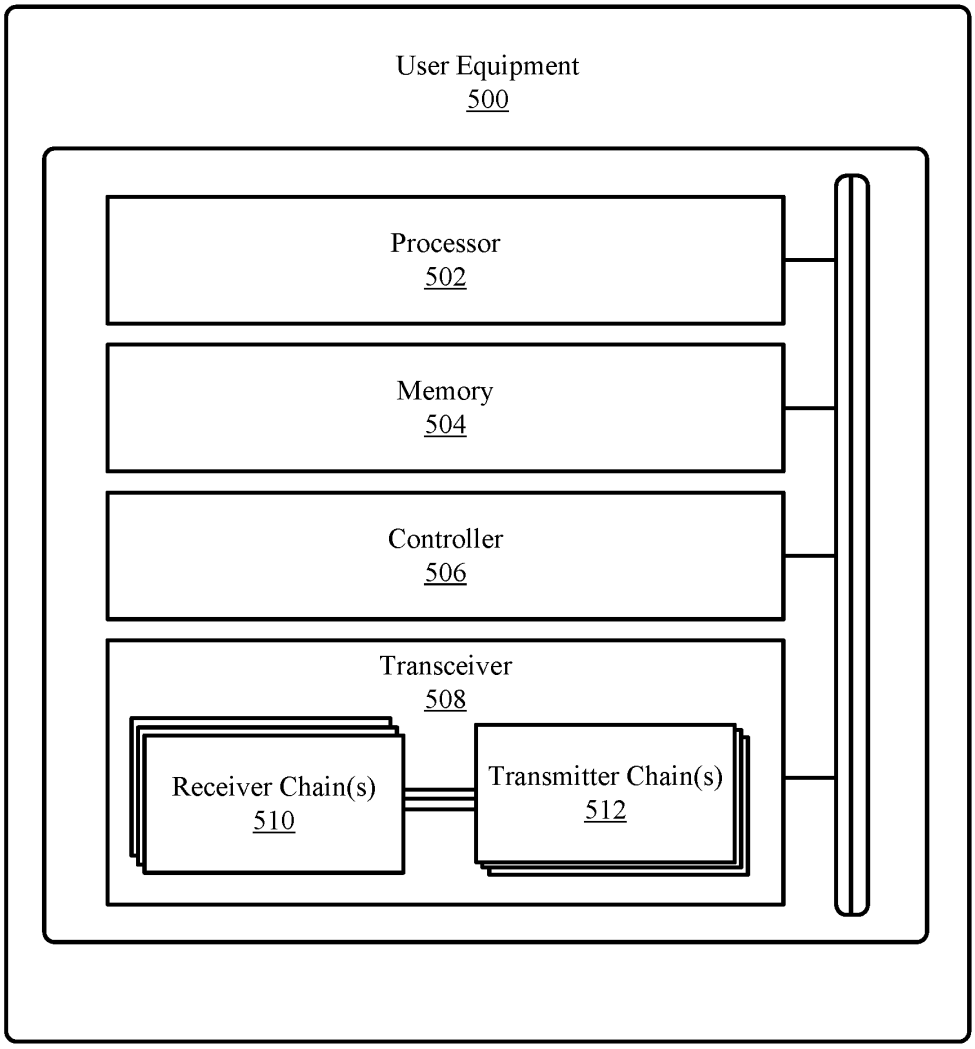

User Equipment
500
Processor
502
Memory
504
Controller
506
Transceiver
508
Receiver Chain(s)
510
Transmitter Chain(s)
512

Figure 5

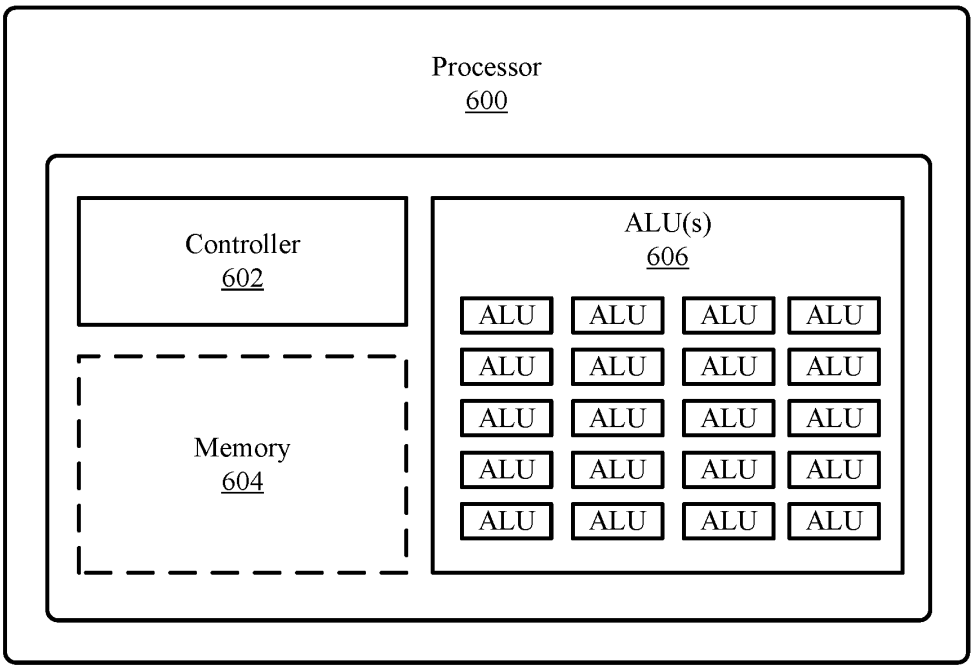

Processor
600
Controller
602
Memory
604
ALU(s)
606
ALU
ALU
ALU
ALU
ALU
ALU
ALU
ALU
ALU
ALU
ALU
ALU
ALU
ALU
ALU
ALU
ALU
ALU
ALU
ALU

Figure 6

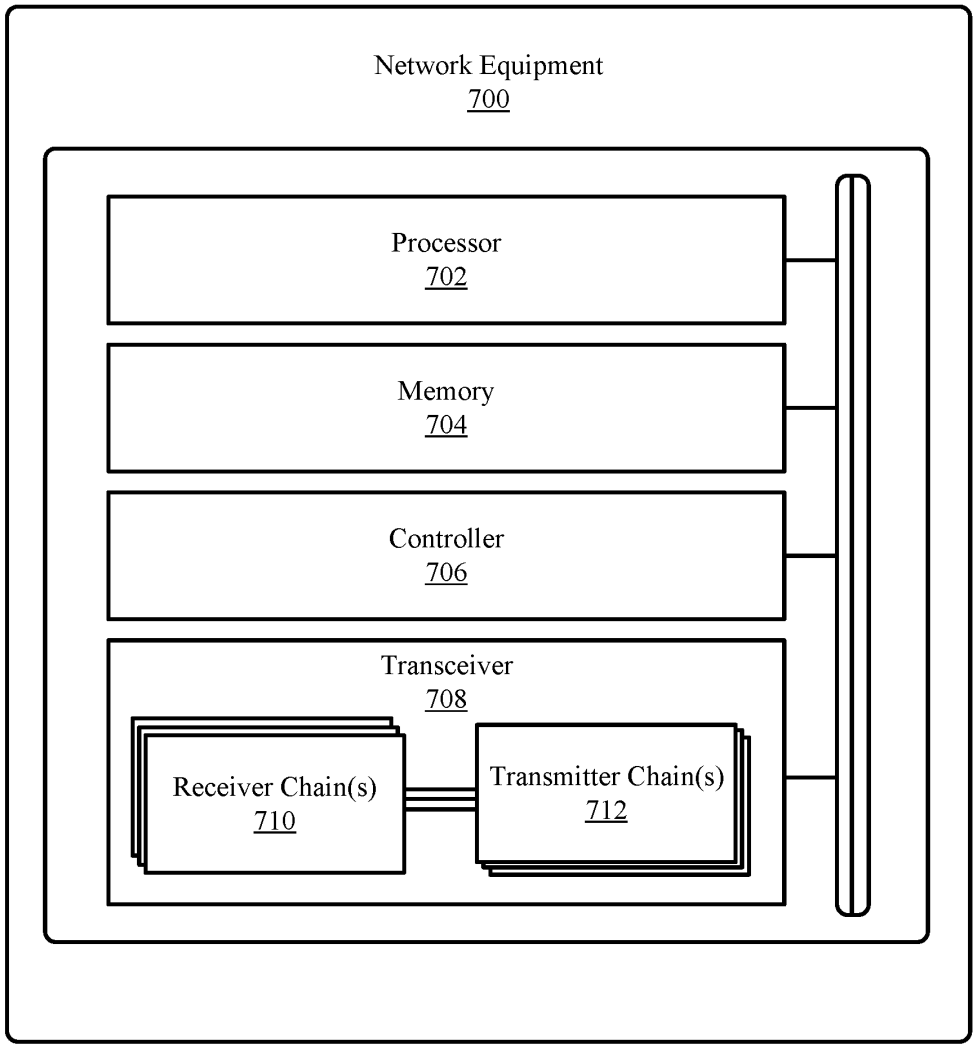

Network Equipment
700
Processor
702
Memory
704
Controller
706
Transceiver
708
Receiver Chain(s)
710
Transmitter Chain(s)
712

Figure 7

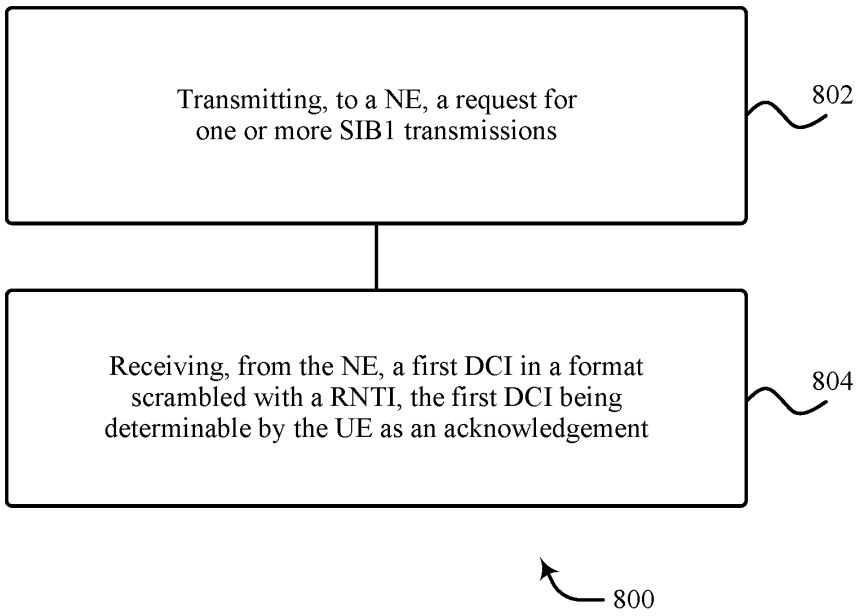


Figure 8

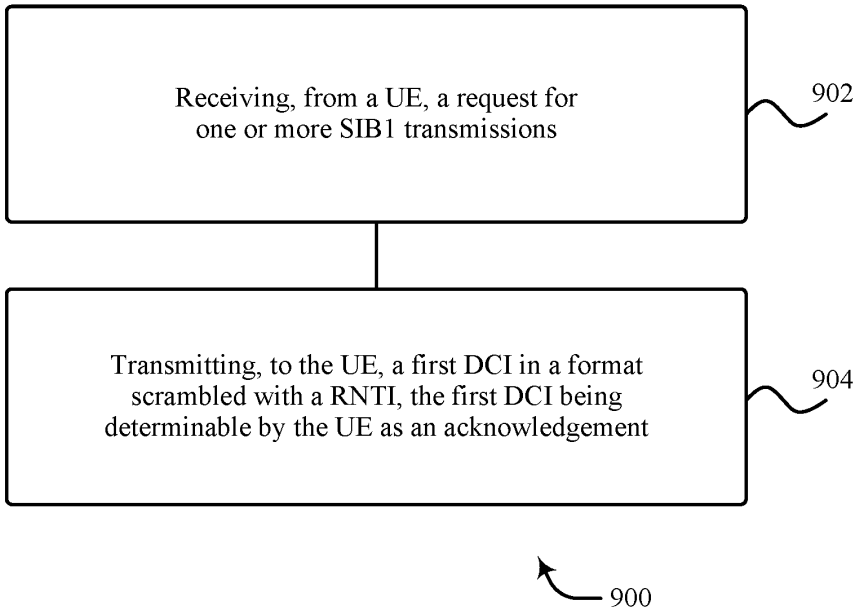


Figure 9