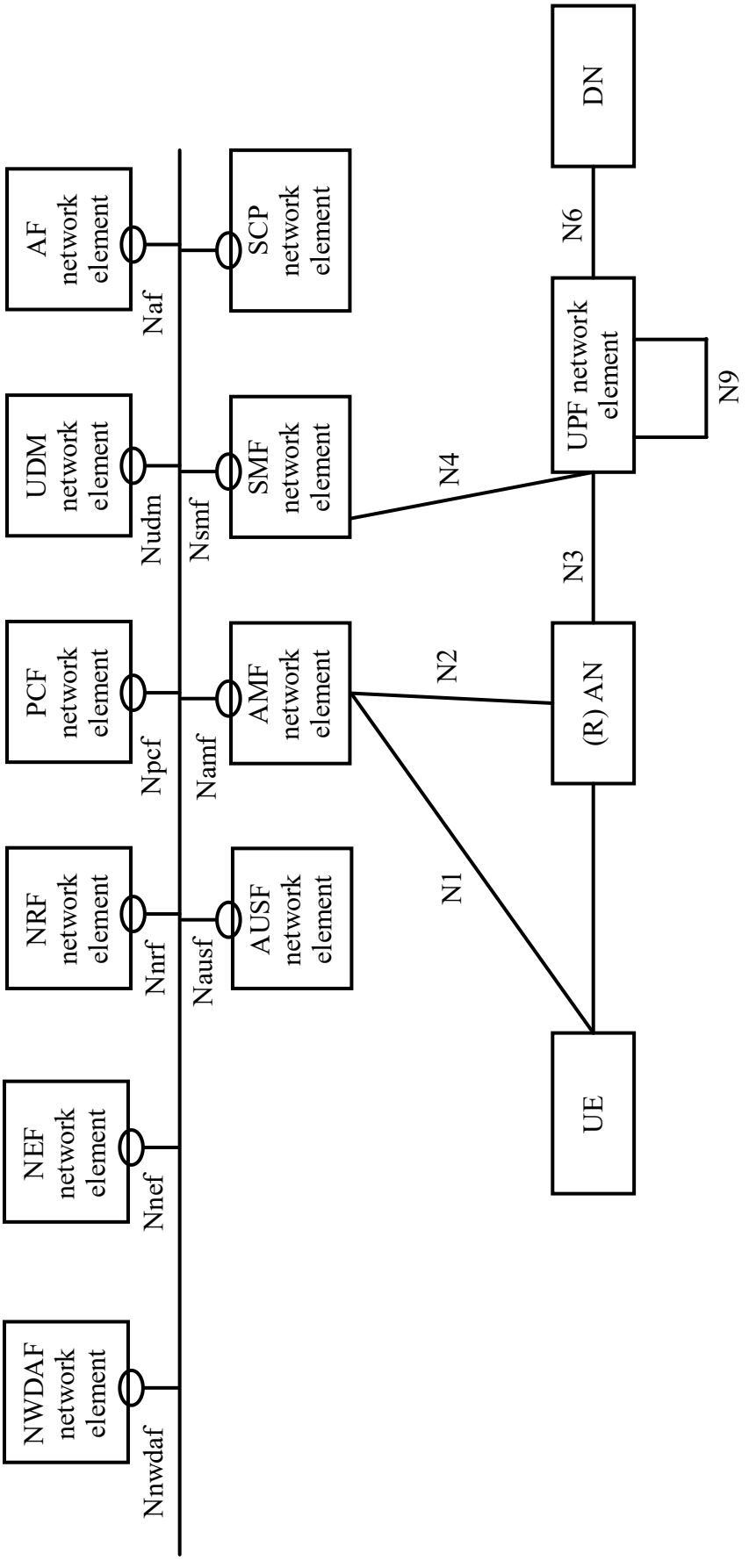

AF network element
SCP network element
UDM network element
SMF network element
PCF network element
AMF network element
NRF network element
AUSF network element
NEF network element
NWDAF network element
Naf
Nudm
Nsmf
Npcf
Namf
Nnrf
Nausf
Nnef
Nnwdaf
N1
N2
N3
N4
N6
N9
(R) AN
UPF network element
DN
UE

FIG. 1

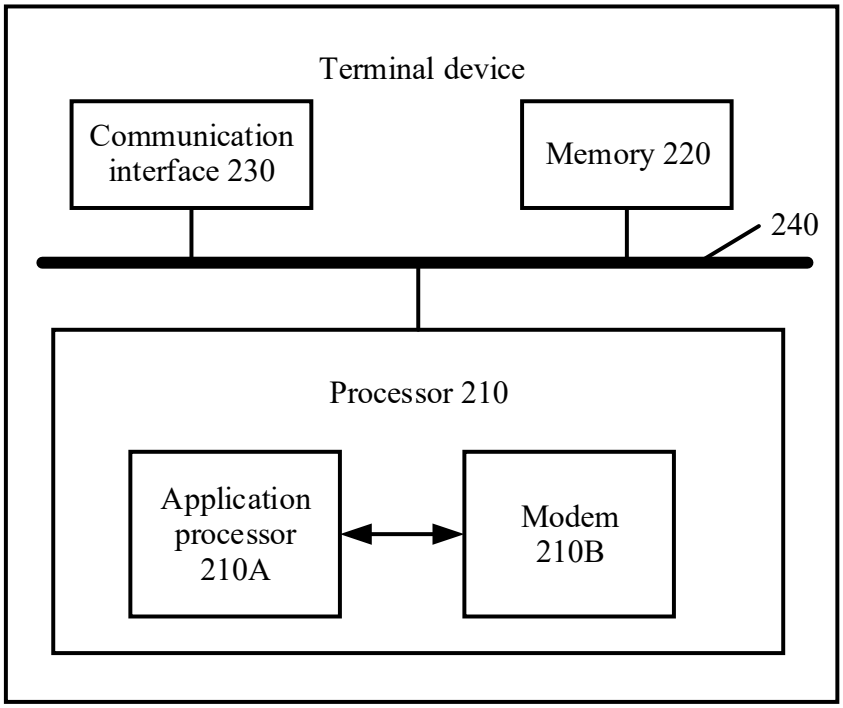

Terminal device
Communication interface 230
Memory 220
240
Processor 210
Application processor 210A
Modem 210B

FIG. 2

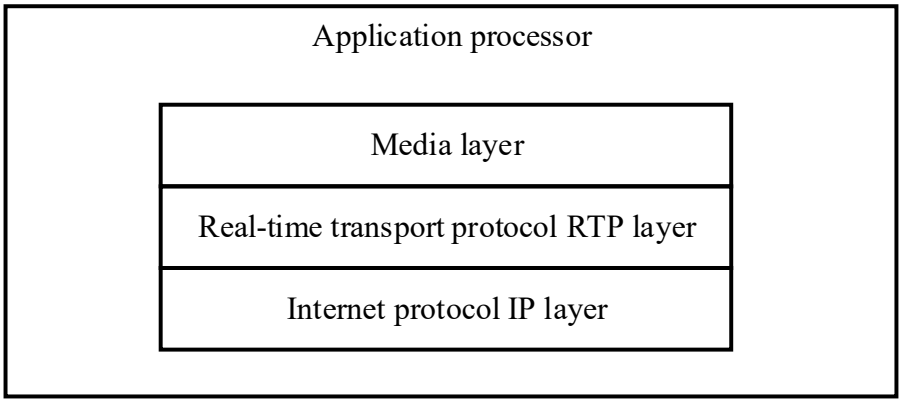

Application processor
Media layer
Real-time transport protocol RTP layer
Internet protocol IP layer

FIG. 3

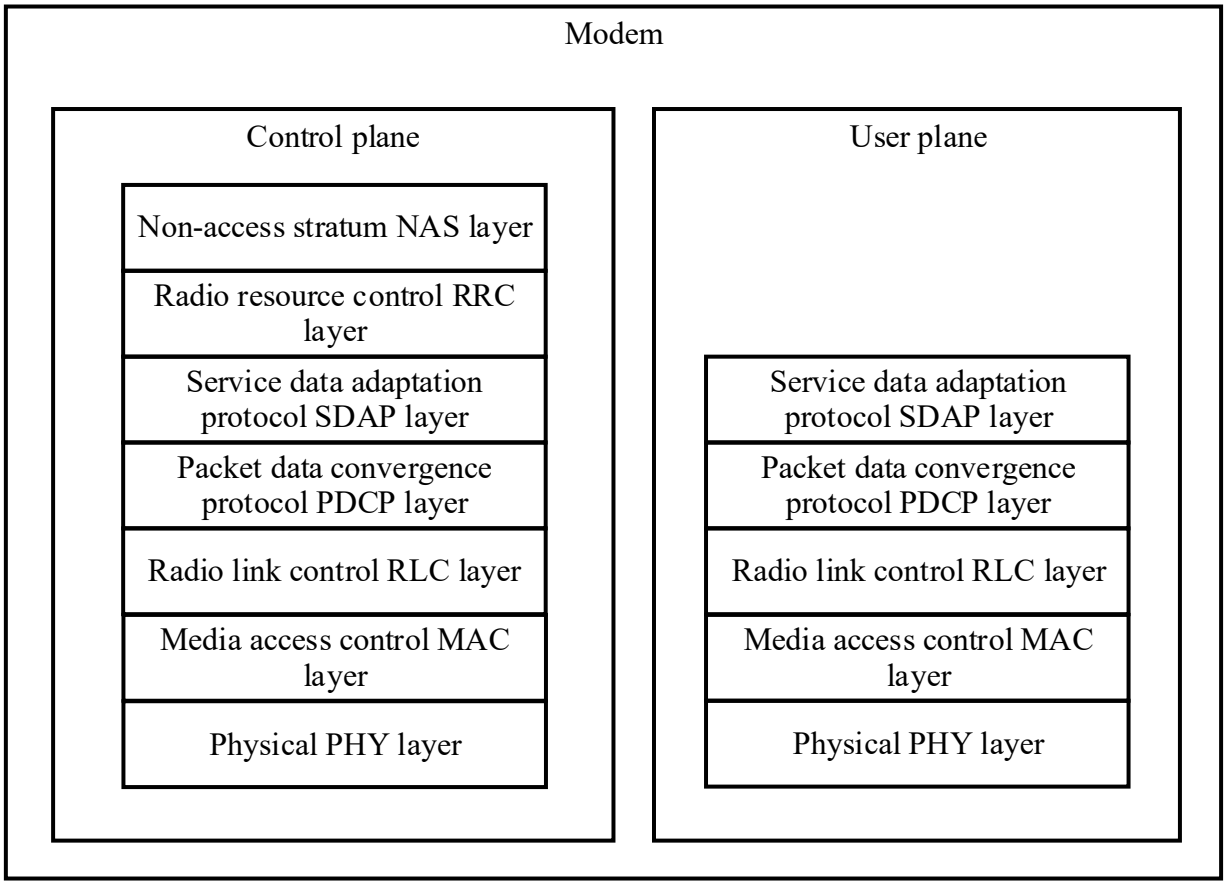

Modem
Control plane
Non-access stratum NAS layer
Radio resource control RRC layer
Service data adaptation protocol SDAP layer
Packet data convergence protocol PDCP layer
Radio link control RLC layer
Media access control MAC layer
Physical PHY layer
User plane
Service data adaptation protocol SDAP layer
Packet data convergence protocol PDCP layer
Radio link control RLC layer
Media access control MAC layer
Physical PHY layer

FIG. 4

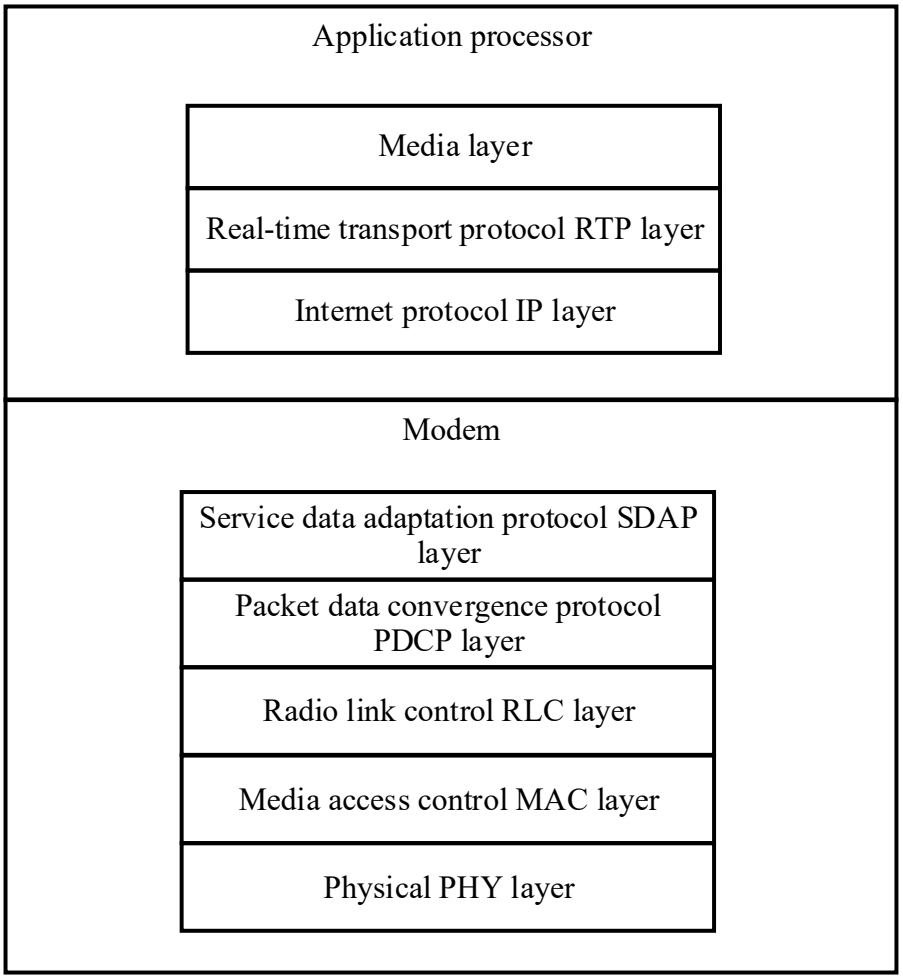

Application processor
Media layer
Real-time transport protocol RTP layer
Internet protocol IP layer
Modem
Service data adaptation protocol SDAP layer
Packet data convergence protocol PDCP layer
Radio link control RLC layer
Media access control MAC layer
Physical PHY layer

FIG. 5

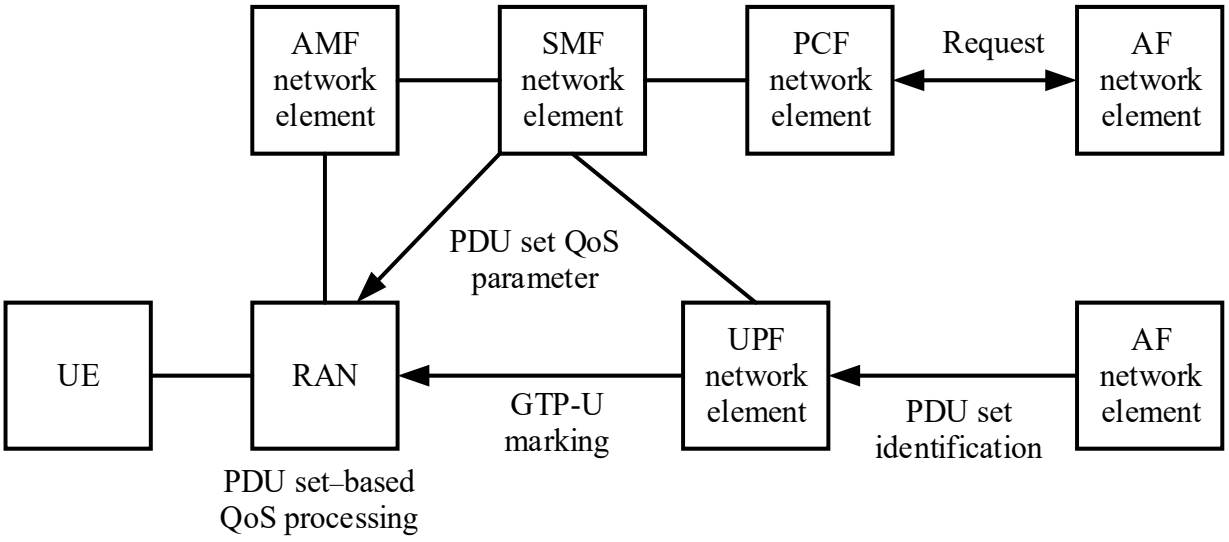

AMF network element
SMF network element
PCF network element
Request
AF network element
PDU set QoS parameter
UE
RAN
UPF network element
AF network element
GTP-U marking
PDU set identification
PDU set–based QoS processing

FIG. 6

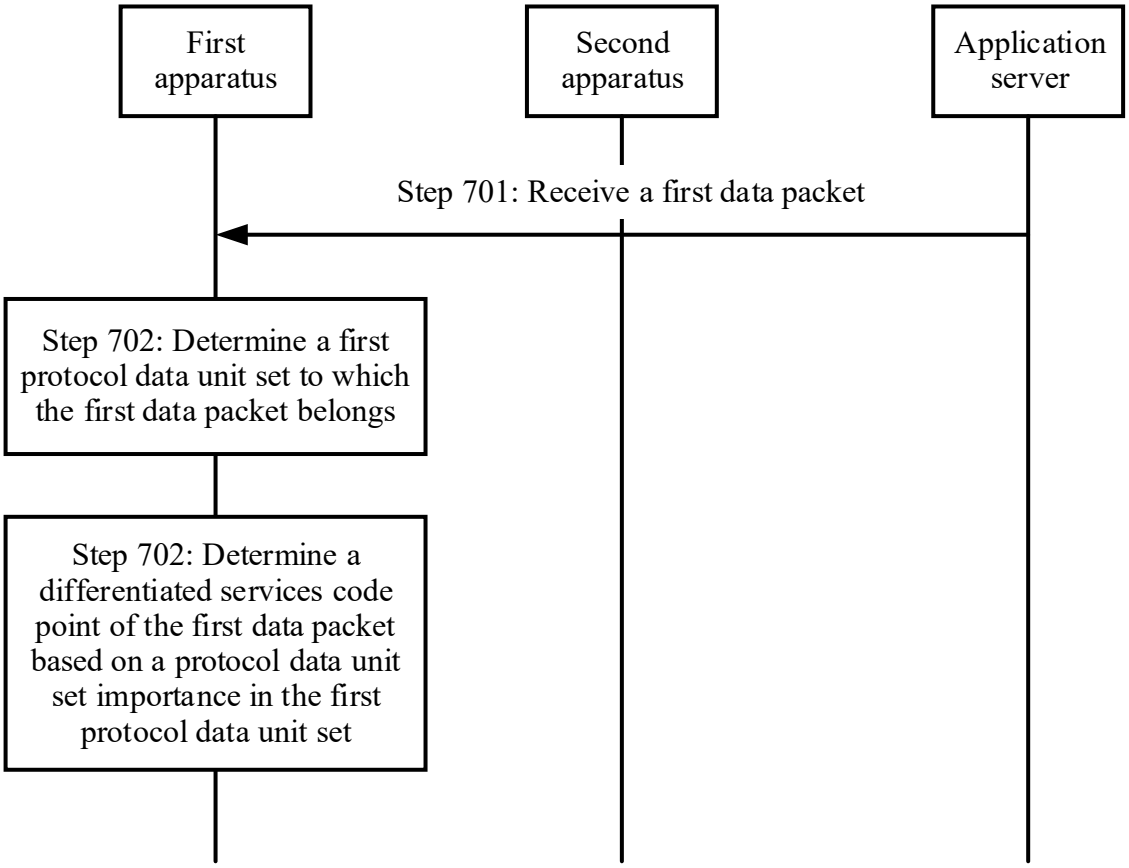


FIG. 7

V=2	P	X	CC	M	PT	Sequence number (sequence number)
Timestamp						
Synchronization source (SSRC) identifiers (synchronization source (SSRC) identifiers)						
Contributing source (CSRC) identifiers (contributing source (CSRC) identifiers)						

FIG. 8A

	0xBE		0xDE		Length	
	ID	L=5	E	EDB	PSI	PSSN	PSN
	PSSize					

FIG. 8B

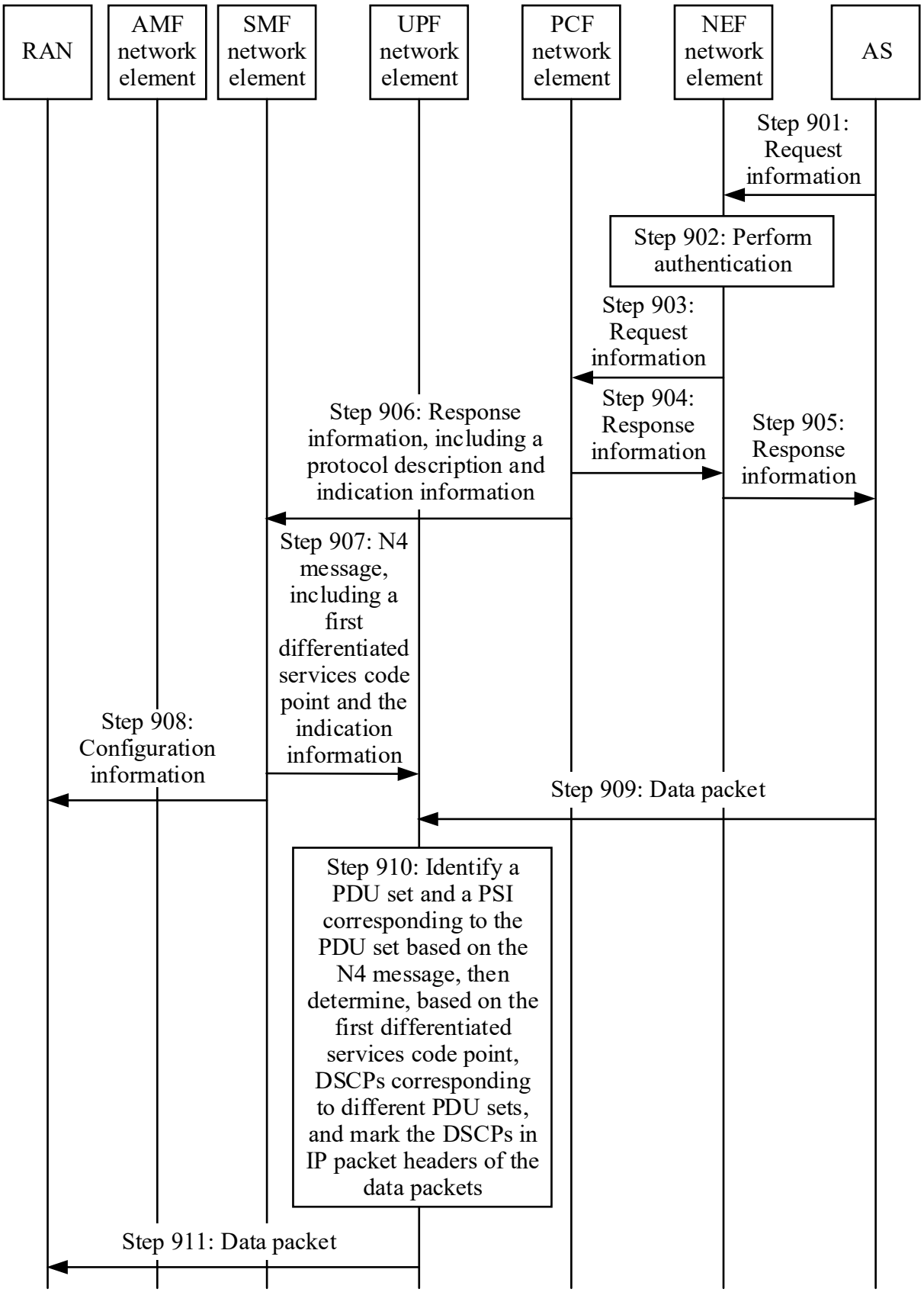

RAN
AMF network element
SMF network element
UPF network element
PCF network element
NEF network element
AS
Step 901: Request information
Step 902: Perform authentication
Step 903: Request information
Step 904: Response information
Step 905: Response information
Step 906: Response information, including a protocol description and indication information
Step 907: N4 message, including a first differentiated services code point and the indication information
Step 908: Configuration information
Step 909: Data packet
Step 910: Identify a PDU set and a PSI corresponding to the PDU set based on the N4 message, then determine, based on the first differentiated services code point, DSCPs corresponding to different PDU sets, and mark the DSCPs in IP packet headers of the data packets
Step 911: Data packet

FIG. 9

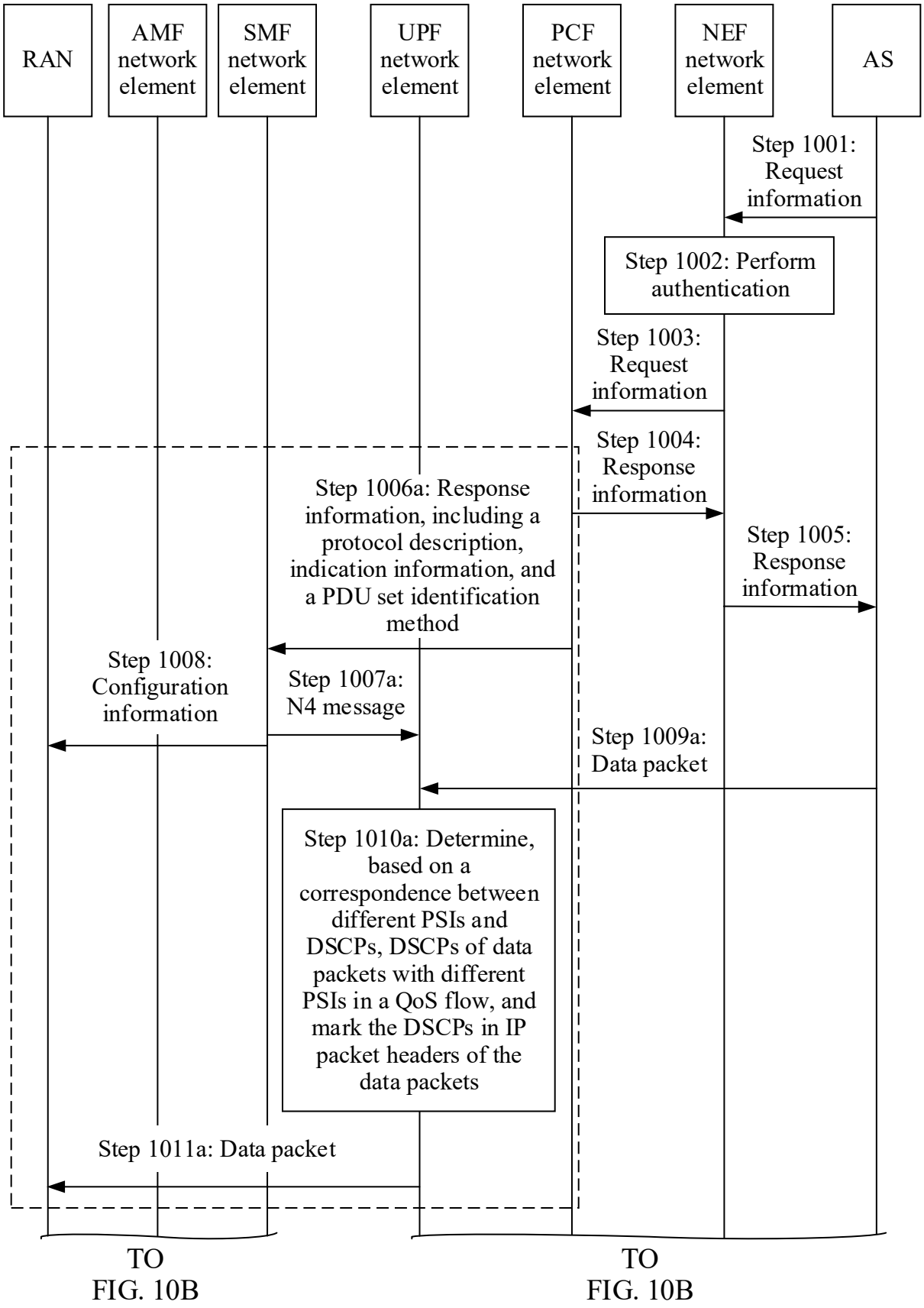

RAN
AMF network element
SMF network element
UPF network element
PCF network element
NEF network element
AS
Step 1001: Request information
Step 1002: Perform authentication
Step 1003: Request information
Step 1004: Response information
Step 1005: Response information
Step 1006a: Response information, including a protocol description, indication information, and a PDU set identification method
Step 1007a: N4 message
Step 1008: Configuration information
Step 1009a: Data packet
Step 1010a: Determine, based on a correspondence between different PSIs and DSCPs, DSCPs of data packets with different PSIs in a QoS flow, and mark the DSCPs in IP packet headers of the data packets
Step 1011a: Data packet
TO FIG. 10B
TO FIG. 10B

FIG. 10A

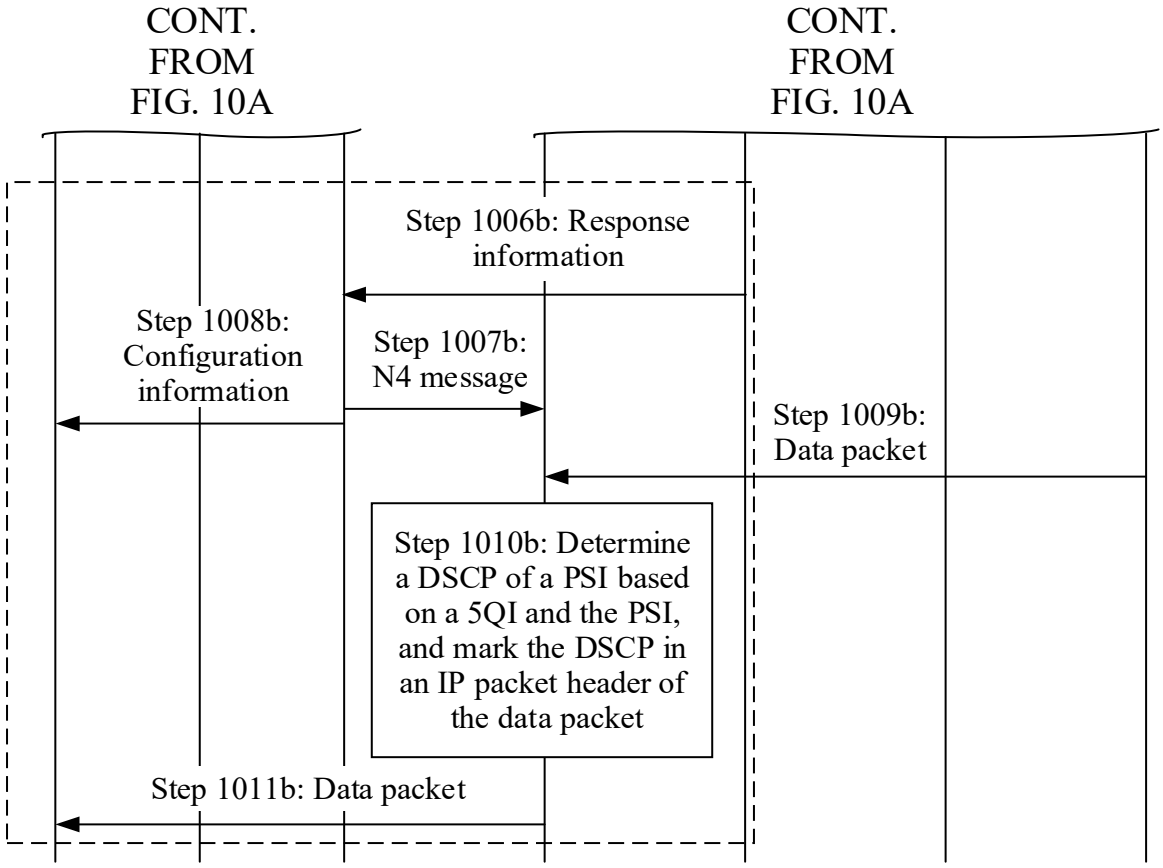

CONT. FROM FIG. 10A
CONT. FROM FIG. 10A
Step 1006b: Response information
Step 1008b: Configuration information
Step 1007b: N4 message
Step 1009b: Data packet
Step 1010b: Determine a DSCP of a PSI based on a 5QI and the PSI, and mark the DSCP in an IP packet header of the data packet
Step 1011b: Data packet

FIG. 10B

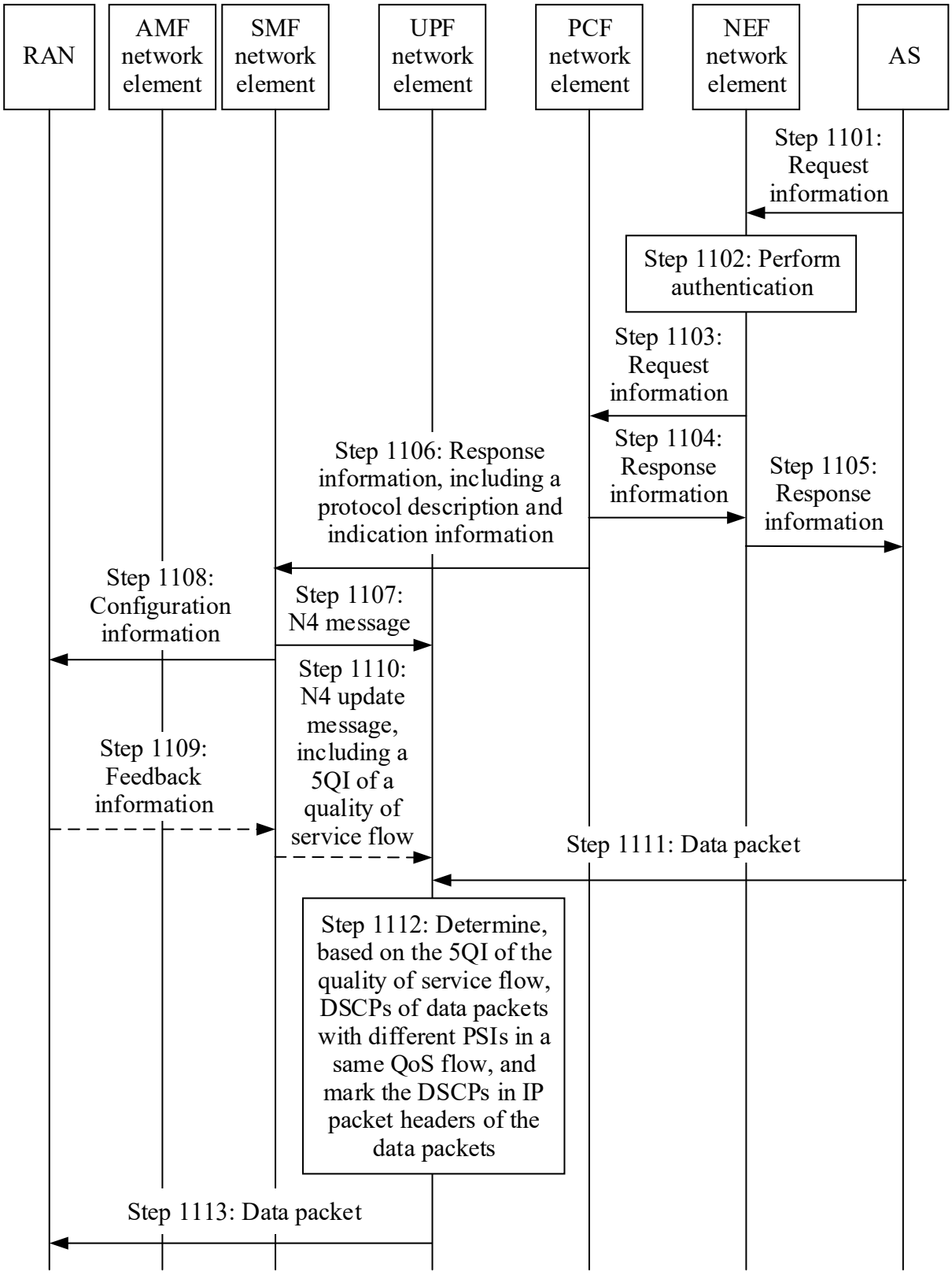

RAN
AMF network element
SMF network element
UPF network element
PCF network element
NEF network element
AS
Step 1101: Request information
Step 1102: Perform authentication
Step 1103: Request information
Step 1104: Response information
Step 1105: Response information
Step 1106: Response information, including a protocol description and indication information
Step 1107: N4 message
Step 1108: Configuration information
Step 1109: Feedback information
Step 1110: N4 update message, including a 5QI of a quality of service flow
Step 1111: Data packet
Step 1112: Determine, based on the 5QI of the quality of service flow, DSCPs of data packets with different PSIs in a same QoS flow, and mark the DSCPs in IP packet headers of the data packets
Step 1113: Data packet

FIG. 11

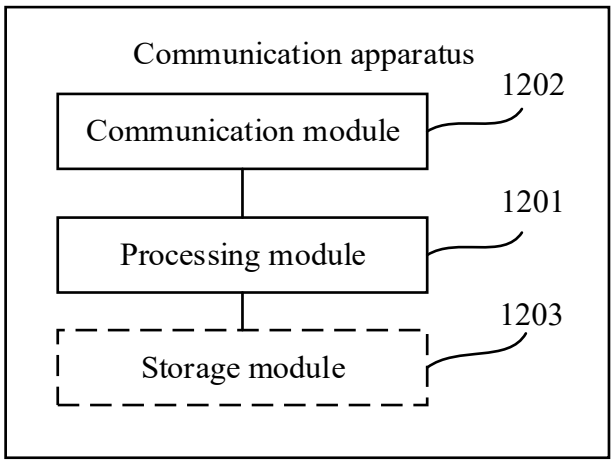

Communication apparatus
1202
Communication module
1201
Processing module
1203
Storage module

FIG. 12

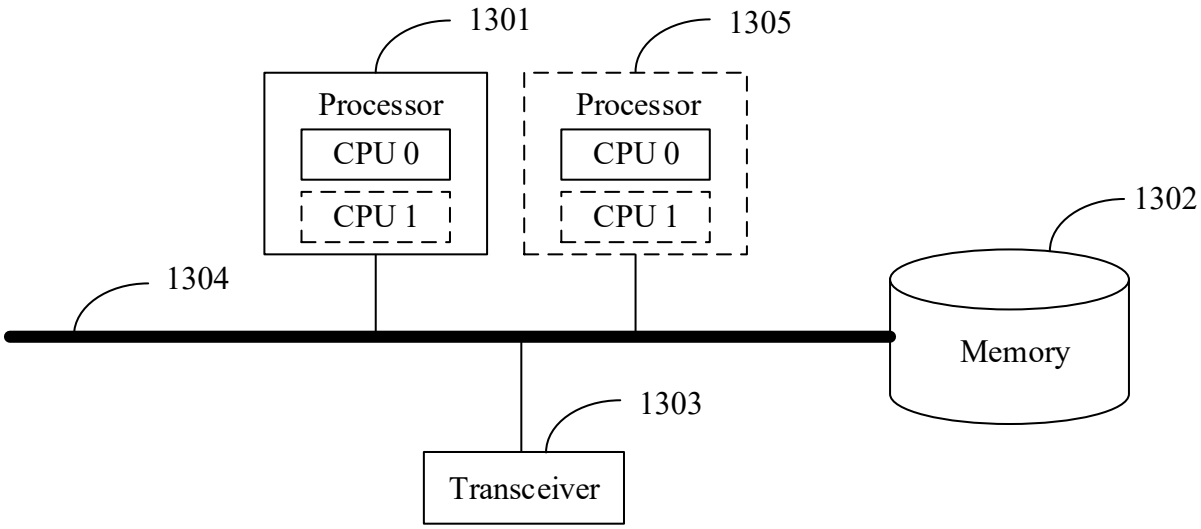

1301
1305
Processor
CPU 0
CPU 1
Processor
CPU 0
CPU 1
1302
1304
Memory
1303
Transceiver

FIG. 13

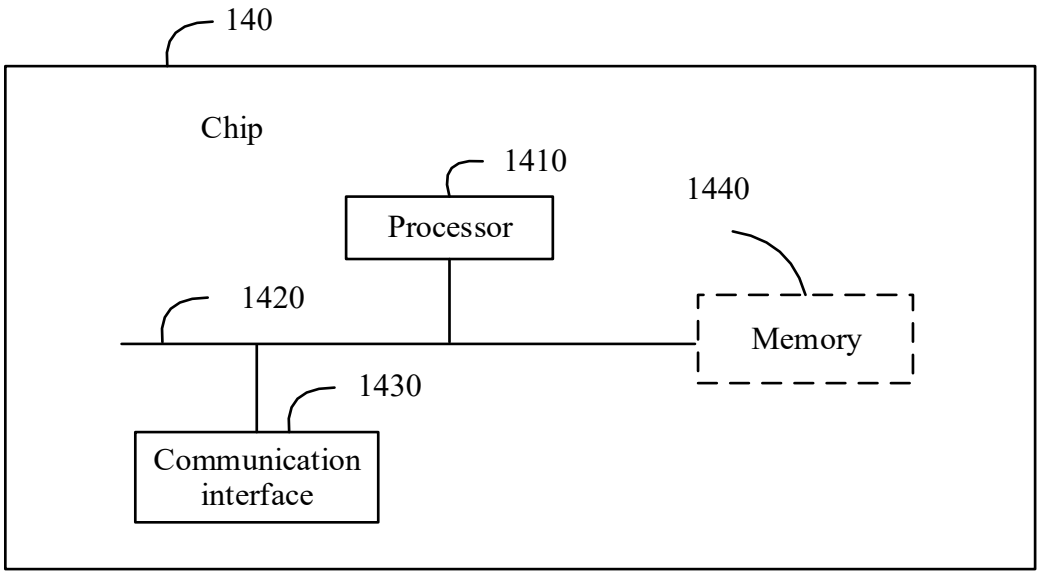

140
Chip
1410
Processor
1440
1420
Memory
1430
Communication interface

FIG. 14