

UE

gNB

moto\_edge\_30\_pro.pcap

RRC Setup Request

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
Conn	1024
HARQ pid	0
UL LCID	52 (CCCH (48 bits))
Random	46c66e3536
Cause	mo-Data
UL LCID	63 (Padding)

[Frame 1] RRC Setup Request – Msg3 over CCCH; UE asks gNB to establish RRC connection

RRC Setup

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
DL LCID	62 (UE Contention Resolution Identity)
DL LCID	0 (CCCH)
Trans ID	0
SRB add	1
CellGroup	0
SRB add	1
RLC mode	AM
T-PollRetx	ms45
maxRetx	t8
T-Reassembly	ms35
T-StatusProhibit	ms0...
	14 more

[Frame 2] RRC Setup – Msg4 payload carrying SRB1 config and master cell group; UE moves to RRC\_CONNECTED on receipt

RRC Setup Complete

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
UL LCID	1 (1)
SRB	1
Trans ID	0
PLMN idx	1
NAS	7e013ed7e2ccad7e...
NAS msg	Registration request
NAS msg	Registration request
UL LCID	61 (Short BSR)
BSR LCG0 idx	0
UL LCID	57 (Single Entry PHR)
UL LCID	63 (Padding)

[Frame 3] RRC Setup Complete – UE acks SRB1 and piggybacks an initial NAS message to the AMF

RLC AM Status PDU

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
DL LCID	1 (1)
RLC mode	Acknowledged
Bearer	1
RLC SN size	12-bit
ACK SN	1
E1	A set of NACK_SN, E1, E2 and E3 does not follow

[Frame 4] RLC AM Status PDU – receiver reports cumulative ACK\_SN and any NACK\_SN list; drives RLC retransmissions on the AM bearer

Security Mode Command

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0

[Frame 5] Security Mode Command – gNB activates AS security; subsequent SRB/DRB traffic is ciphered and integrity-protected

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DL LCID	1 (1)
SRB	1
Trans ID	1
Cipher	nea0
Integrity	nia2
DL LCID	63 (Padding)

Security Mode Complete

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
UL LCID	1 (1)
UL LCID	1 (1)
SRB	1
Trans ID	1
UL LCID	61 (Short BSR)
BSR LCG0 idx	0
UL LCID	57 (Single Entry PHR)
UL LCID	63 (Padding)

RLC AM Status PDU

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
DL LCID	1 (1)
RLC mode	Acknowledged
Bearer	1
RLC SN size	12-bit
ACK SN	2
E1	A set of NACK_SN, E1, E2 and E3 does not follow
DL LCID	1 (1)
RLC mode	Acknowledged
Bearer	1
RLC SN size	12-bit
DL LCID	63 (Padding)

DL Information Transfer

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	1
DL LCID	1 (1)
SRB	1
Trans ID	0
NAS	7e0206c757538b7e...
NAS 5GMM	Registration accept
DL LCID	63 (Padding)

UL Information Transfer

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
UL LCID	1 (1)
UL LCID	1 (1)
SRB	1
NAS	7e02c4b45222ae7e...
NAS 5GMM	Registration complete
UL LCID	61 (Short BSR)
BSR LCG0 idx	0
UL LCID	57 (Single Entry PHR)
UL LCID	63 (Padding)

RLC AM Status PDU

[Frame 6] Security Mode Complete – UE confirms AS security activation

[Frame 7] RLC AM Status PDU – receiver reports cumulative ACK\_SN and any NACK\_SN list; drives RLC retransmissions on the AM bearer

[Frame 8] DL Information Transfer – transparent NAS container from AMF/SMF to UE

[Frame 9] UL Information Transfer – transparent NAS container from UE to AMF/SMF

[Frame 10] RLC AM Status PDU – receiver reports cumulative

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Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
DL LCID	1 (1)
RLC mode	Acknowledged
Bearer	1
RLC SN size	12-bit
ACK SN	3
E1	A set of NACK_SN, E1, E2 and E3 does not follow
DL LCID	63 (Padding)

ACK\_SN and any NACK\_SN list; drives RLC retransmissions on the AM bearer

[DL Information Transfer](#)

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
DL LCID	1 (1)
SRB	1
Trans ID	0
NAS	7e02307ec4b18c7e...
NAS 5GMM	Configuration update command
DL LCID	63 (Padding)

[Frame 11] DL Information Transfer – transparent NAS container from AMF/SMF to UE

[DL Information Transfer](#)

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
DL LCID	1 (1)
SRB	1
Trans ID	0
NAS	7e02307ec4b18c7e...
NAS 5GMM	Configuration update command
DL LCID	63 (Padding)

[Frame 12] DL Information Transfer – transparent NAS container from AMF/SMF to UE

[DL Information Transfer](#)

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	1
DL LCID	1 (1)
SRB	1
Trans ID	0
NAS	7e02307ec4b18c7e...
NAS 5GMM	Configuration update command
DL LCID	63 (Padding)

[Frame 13] DL Information Transfer – transparent NAS container from AMF/SMF to UE

[UL Information Transfer](#)

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
UL LCID	1 (1)
SRB	1
NAS	7e02c4b45222ae7e...
NAS 5GMM	Registration complete
UL LCID	61 (Short BSR)
BSR LCG0 idx	0
UL LCID	57 (Single Entry PHR)
UL LCID	63 (Padding)

[Frame 14] UL Information Transfer – transparent NAS container from UE to AMF/SMF

[RLC AM Status PDU](#)

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI

[Frame 15] RLC AM Status PDU – receiver reports cumulative ACK\_SN and any NACK\_SN list; drives RLC retransmissions on the AM bearer

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HARQ pid	2
DL LCID	1 (1)
RLC mode	Acknowledged
Bearer	1
RLC SN size	12-bit
ACK SN	3
E1	A set of NACK_SN, E1, E2 and E3 does not follow
DL LCID	63 (Padding)

[DL Information Transfer](#)

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
DL LCID	1 (1)
SRB	1
Trans ID	0
NAS	7e02307ec4b18c7e...
NAS 5GMM	Configuration update command
DL LCID	63 (Padding)

[RLC AM Status PDU](#)

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
UL LCID	1 (1)
RLC mode	Acknowledged
Bearer	1
RLC SN size	12-bit
ACK SN	3
E1	A set of NACK_SN, E1, E2 and E3 does not follow
UL LCID	61 (Short BSR)
BSR LCG0 idx	0
UL LCID	57 (Single Entry PHR)
UL LCID	63 (Padding)

[Short BSR](#)

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
UL LCID	61 (Short BSR)
BSR LCG0 idx	0
UL LCID	57 (Single Entry PHR)
UL LCID	63 (Padding)

[UL Information Transfer](#)

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
UL LCID	1 (1)
SRB	1
NAS	7e02efa7d8e7af7e...
NAS 5GMM	UL NAS transport
NAS 5GSM	PDU session establishment request
UL LCID	61 (Short BSR)
BSR LCG0 idx	0
UL LCID	57 (Single Entry PHR)
UL LCID	63 (Padding)

[RLC AM Status PDU](#)

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI

[Frame 16] DL Information Transfer – transparent NAS container from AMF/SMF to UE

[Frame 17] RLC AM Status PDU – receiver reports cumulative ACK\_SN and any NACK\_SN list; drives RLC retransmissions on the AM bearer

[Frame 18] Short Buffer Status Report – UE reports queued UL data for one Logical Channel Group

[Frame 19] UL Information Transfer – transparent NAS container from UE to AMF/SMF

[Frame 20] RLC AM Status PDU – receiver reports cumulative ACK\_SN and any NACK\_SN list; drives RLC retransmissions on the AM bearer

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HARQ pid	0
DL LCID	1 (1)
RLC mode	Acknowledged
Bearer	1
RLC SN size	12-bit
ACK SN	4
E1	A set of NACK_SN, E1, E2 and E3 does not follow
DL LCID	63 (Padding)

UE Capability Enquiry

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
DL LCID	1 (1)
SRB	1
Trans ID	2
RAT	nr
DL LCID	63 (Padding)

UE Capability Enquiry

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
DL LCID	1 (1)
SRB	1
Trans ID	2
RAT	nr
DL LCID	63 (Padding)

RLC AM Status PDU

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
UL LCID	1 (1)
RLC mode	Acknowledged
Bearer	1
RLC SN size	12-bit
ACK SN	4
E1	A set of NACK_SN, E1, E2 and E3 does not follow
UL LCID	1 (1)
RLC mode	Acknowledged
Bearer	1
RLC SN size	12-bit
UL LCID	61 (Short BSR)...
	1 more

UE Capability Information

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
UL LCID	1 (1)
SRB	1
Trans ID	2
PowerClass	pc2
PowerClass	pc2
PowerClass	pc2
PowerClass	pc2
PowerClass	pc2
PowerClass	pc2
PowerClass	pc2
PowerClass	pc2
UL LCID	62 (Long BSR)...
	1 more

[Frame 21] UE Capability Enquiry – gNB asks UE to report supported bands, MIMO layers, modulation, ROHC profiles

[Frame 22] UE Capability Enquiry – gNB asks UE to report supported bands, MIMO layers, modulation, ROHC profiles

[Frame 23] RLC AM Status PDU – receiver reports cumulative ACK\_SN and any NACK\_SN list; drives RLC retransmissions on the AM bearer

[Frame 24] UE Capability Information – UE returns supported bands, MIMO, modulation, ROHC profiles

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RLC AM Status PDU

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	1
DL LCID	1 (1)
RLC mode	Acknowledged
Bearer	1
RLC SN size	12-bit
ACK SN	5
E1	A set of NACK_SN, E1, E2 and E3 does not follow
DL LCID	63 (Padding)

[Frame 25] RLC AM Status PDU – receiver reports cumulative ACK\_SN and any NACK\_SN list; drives RLC retransmissions on the AM bearer

RRC Reconfiguration

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	2
DL LCID	1 (1)
SRB	1
Trans ID	3
PDU Session	1
SDAP DL	absent
SDAP UL	absent
Default DRB	True
QFI	1
DRB add	1
PDCP-SN UL	len12bits
PDCP-SN DL	len12bits...
	12 more

[Frame 26] RRC Reconfiguration – gNB pushes radio-bearer / measurement / PHY config; may carry a piggybacked NAS message

Single Entry PHR

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0

[Frame 27] Long (Truncated) Buffer Status Report – UE reports per-LCG buffer occupancy across up to 8 Logical Channel Groups

Long BSR

LCG7	Not Present
LCG6	Not Present
LCG5	Not Present
LCG4	Not Present
LCG3	Not Present
LCG2	Not Present
LCG1	Not Present
LCG0	Not Present

Padding

RLC AM Status PDU

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
UL LCID	1 (1)
RLC mode	Acknowledged
Bearer	1
RLC SN size	12-bit
ACK SN	4
E1	A set of NACK_SN, E1, E2 and E3 does not follow
UL LCID	61 (Short BSR)
BSR LCG0 idx	0
UL LCID	63 (Padding)

[Frame 28] RLC AM Status PDU – receiver reports cumulative ACK\_SN and any NACK\_SN list; drives RLC retransmissions on the AM bearer

RRC Reconfiguration

Duplex	FDD
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[Frame 29] RRC Reconfiguration – gNB pushes radio-bearer / measurement / PHY config; may carry a piggybacked NAS message

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RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
DL LCID	1 (1)
SRB	1
Trans ID	3
PDU Session	1
SDAP DL	absent
SDAP UL	absent
Default DRB	True
QFI	1
DRB add	1
PDCP-SN UL	len12bits
PDCP-SN DL	len12bits...
	12 more

RRC Reconfiguration Complete

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
UL LCID	1 (1)
UL LCID	1 (1)
SRB	1
Trans ID	3
UL LCID	61 (Short BSR)
BSR LCG0 idx	0
UL LCID	57 (Single Entry PHR)
UL LCID	63 (Padding)

RLC AM Status PDU

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
DL LCID	1 (1)
RLC mode	Acknowledged
Bearer	1
RLC SN size	12-bit
ACK SN	6
E1	A set of NACK_SN, E1, E2 and E3 does not follow
DL LCID	63 (Padding)

RLC AM Data SN=0

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
UL LCID	4 (4)
RLC mode	Acknowledged
Bearer	4
RLC SN size	12-bit
P	Status report not requested
SI	Data field contains all bytes of an RLC SDU
UL LCID	4 (4)
RLC mode	Acknowledged
Bearer	4
RLC SN size	12-bit
P	Status report not requested...
	1 more

RLC AM Data SN=1

UL LCID	4 (4)
RLC mode	Acknowledged
Bearer	4
RLC SN size	12-bit

[Frame 30] RRC Reconfiguration Complete – UE has applied the new bearer/PHY config

[Frame 31] RLC AM Status PDU – receiver reports cumulative ACK\_SN and any NACK\_SN list; drives RLC retransmissions on the AM bearer

[Frame 32] RLC AM Data PDU – sequenced PDCP SDU segment on the AM bearer. The Poll bit forces an immediate Status PDU back

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? P	Status report not requested
✂ SI	Data field contains the first segment of an RLC SDU

RLC AM Data SN=2

UL LCID	61 (Short BSR)
UL LCID	57 (Single Entry PHR)

RLC AM Data SN=2

Duplex	FDD
ID RNTI	0x4601
RNTI type	C-RNTI
♻ HARQ pid	0
UL LCID	4 (4)
🔧 RLC mode	Acknowledged
🚚 Bearer	4
1 2 3 4 RLC SN size	12-bit
? P	Status report is requested
✂ SI	Data field contains the last segment of an RLC SDU
✂ SO	394
✂ SDU fragments	2
UL LCID	62 (Long BSR)
UL LCID	63 (Padding)

RLC AM Status PDU

Duplex	FDD
ID RNTI	0x4601
RNTI type	C-RNTI
♻ HARQ pid	0
DL LCID	4 (4)
🔧 RLC mode	Acknowledged
🚚 Bearer	4
1 2 3 4 RLC SN size	12-bit
✅ ACK SN	3
🔗 E1	A set of NACK_SN, E1, E2 and E3 does not follow
DL LCID	63 (Padding)

RLC AM Data SN=3

Duplex	FDD
ID RNTI	0x4601
RNTI type	C-RNTI
♻ HARQ pid	0
UL LCID	4 (4)
🔧 RLC mode	Acknowledged
🚚 Bearer	4
1 2 3 4 RLC SN size	12-bit
? P	Status report is requested
✂ SI	Data field contains all bytes of an RLC SDU
UL LCID	61 (Short BSR)
📊 BSR LCG0 idx	0
UL LCID	57 (Single Entry PHR)
UL LCID	63 (Padding)

RLC AM Data SN=4

Duplex	FDD
ID RNTI	0x4601
RNTI type	C-RNTI
♻ HARQ pid	0
UL LCID	4 (4)
🔧 RLC mode	Acknowledged
🚚 Bearer	4
1 2 3 4 RLC SN size	12-bit
? P	Status report not requested
✂ SI	Data field contains all bytes of an RLC SDU
UL LCID	4 (4)
🔧 RLC mode	Acknowledged
🚚 Bearer	4

💡 [Frame 33] RLC AM Data PDU – sequenced PDCP SDU segment on the AM bearer. The Poll bit forces an immediate Status PDU back

💡 [Frame 34] RLC AM Status PDU – receiver reports cumulative ACK\_SN and any NACK\_SN list; drives RLC retransmissions on the AM bearer

💡 [Frame 35] RLC AM Data PDU – sequenced PDCP SDU segment on the AM bearer. The Poll bit forces an immediate Status PDU back

💡 [Frame 36] RLC AM Data PDU – sequenced PDCP SDU segment on the AM bearer. The Poll bit forces an immediate Status PDU back

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RLC SN size	12-bit
P	Status report is requested...
	1 more

RLC AM Data SN=5

UL LCID	61 (Short BSR)
BSR LCG0 idx	0
UL LCID	57 (Single Entry PHR)
UL LCID	63 (Padding)

RLC AM Status PDU

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
DL LCID	4 (4)
RLC mode	Acknowledged
Bearer	4
RLC SN size	12-bit
ACK SN	6
E1	A set of NACK_SN, E1, E2 and E3 does not follow
DL LCID	63 (Padding)

RLC AM Data SN=6

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
UL LCID	4 (4)
RLC mode	Acknowledged
Bearer	4
RLC SN size	12-bit
P	Status report not requested
SI	Data field contains all bytes of an RLC SDU
UL LCID	4 (4)
RLC mode	Acknowledged
Bearer	4
RLC SN size	12-bit
P	Status report not requested...
	1 more

RLC AM Data SN=7

UL LCID	4 (4)
RLC mode	Acknowledged
Bearer	4
RLC SN size	12-bit
P	Status report is requested
SI	Data field contains all bytes of an RLC SDU

RLC AM Data SN=8

UL LCID	61 (Short BSR)
BSR LCG0 idx	0
UL LCID	57 (Single Entry PHR)
UL LCID	63 (Padding)

RLC AM Status PDU

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
DL LCID	4 (4)
RLC mode	Acknowledged
Bearer	4
RLC SN size	12-bit
ACK SN	9
E1	A set of NACK_SN, E1, E2 and E3 does not follow

[Frame 37] RLC AM Status PDU – receiver reports cumulative ACK\_SN and any NACK\_SN list; drives RLC retransmissions on the AM bearer

[Frame 38] RLC AM Data PDU – sequenced PDCP SDU segment on the AM bearer. The Poll bit forces an immediate Status PDU back

[Frame 39] RLC AM Status PDU – receiver reports cumulative ACK\_SN and any NACK\_SN list; drives RLC retransmissions on the AM bearer

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DL LCID	63 (Padding)
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RLC AM Data SN=9

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
UL LCID	4 (4)
RLC mode	Acknowledged
Bearer	4
RLC SN size	12-bit
P	Status report not requested
SI	Data field contains the first segment of an RLC SDU
UL LCID	61 (Short BSR)
UL LCID	57 (Single Entry PHR)

[Frame 40] RLC AM Data PDU – sequenced PDCP SDU segment on the AM bearer. The Poll bit forces an immediate Status PDU back

RLC AM Data SN=9

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
UL LCID	4 (4)
RLC mode	Acknowledged
Bearer	4
RLC SN size	12-bit
P	Status report is requested
SI	Data field contains the last segment of an RLC SDU
SO	534
SDU fragments	2
UL LCID	62 (Long BSR)
UL LCID	63 (Padding)

[Frame 41] RLC AM Data PDU – sequenced PDCP SDU segment on the AM bearer. The Poll bit forces an immediate Status PDU back

RLC AM Status PDU

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
DL LCID	4 (4)
RLC mode	Acknowledged
Bearer	4
RLC SN size	12-bit
ACK SN	10
E1	A set of NACK_SN, E1, E2 and E3 does not follow
DL LCID	63 (Padding)

[Frame 42] RLC AM Status PDU – receiver reports cumulative ACK\_SN and any NACK\_SN list; drives RLC retransmissions on the AM bearer

RLC AM Data SN=10

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
UL LCID	4 (4)
RLC mode	Acknowledged
Bearer	4
RLC SN size	12-bit
P	Status report is requested
SI	Data field contains all bytes of an RLC SDU
UL LCID	61 (Short BSR)
BSR LCG0 idx	0
UL LCID	57 (Single Entry PHR)
UL LCID	63 (Padding)

[Frame 43] RLC AM Data PDU – sequenced PDCP SDU segment on the AM bearer. The Poll bit forces an immediate Status PDU back

RLC AM Data SN=11

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0

[Frame 44] RLC AM Data PDU – sequenced PDCP SDU segment on the AM bearer. The Poll bit forces an immediate Status PDU back

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UL LCID	4 (4)
RLC mode	Acknowledged
Bearer	4
RLC SN size	12-bit
P	Status report is requested
SI	Data field contains all bytes of an RLC SDU
UL LCID	61 (Short BSR)
BSR LCG0 idx	0
UL LCID	57 (Single Entry PHR)
UL LCID	63 (Padding)

RLC AM Status PDU

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
DL LCID	4 (4)
RLC mode	Acknowledged
Bearer	4
RLC SN size	12-bit
ACK SN	12
E1	A set of NACK_SN, E1, E2 and E3 does not follow
DL LCID	63 (Padding)

RLC AM Data SN=12

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
UL LCID	4 (4)
RLC mode	Acknowledged
Bearer	4
RLC SN size	12-bit
P	Status report not requested
SI	Data field contains the first segment of an RLC SDU
UL LCID	61 (Short BSR)
UL LCID	57 (Single Entry PHR)

RLC AM Data SN=12

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
UL LCID	4 (4)
RLC mode	Acknowledged
Bearer	4
RLC SN size	12-bit
P	Status report not requested
SI	Data field contains the last segment of an RLC SDU
SO	534
SDU fragments	2
UL LCID	4 (4)
RLC mode	Acknowledged
Bearer	4...
	3 more

RLC AM Data SN=13

UL LCID	62 (Long BSR)
UL LCID	63 (Padding)

RLC AM Status PDU

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
DL LCID	4 (4)

[Frame 45] RLC AM Status PDU – receiver reports cumulative ACK\_SN and any NACK\_SN list; drives RLC retransmissions on the AM bearer

[Frame 46] RLC AM Data PDU – sequenced PDCP SDU segment on the AM bearer. The Poll bit forces an immediate Status PDU back

[Frame 47] RLC AM Data PDU – sequenced PDCP SDU segment on the AM bearer. The Poll bit forces an immediate Status PDU back

[Frame 48] RLC AM Status PDU – receiver reports cumulative ACK\_SN and any NACK\_SN list; drives RLC retransmissions on the AM bearer

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RLC mode	Acknowledged
Bearer	4
RLC SN size	12-bit
ACK SN	14
E1	A set of NACK_SN, E1, E2 and E3 does not follow
DL LCID	63 (Padding)

Single Entry PHR

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0

Long BSR

LCG7	Not Present
LCG6	Not Present
LCG5	Not Present
LCG4	Not Present
LCG3	Not Present
LCG2	Not Present
LCG1	Not Present
LCG0	Not Present

Padding

Long BSR

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
LCG7	Not Present
LCG6	Not Present
LCG5	Not Present
LCG4	Not Present
LCG3	Not Present
LCG2	Not Present
LCG1	Not Present
LCG0	Not Present

Padding

RLC AM Data SN=14

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
UL LCID	4 (4)
RLC mode	Acknowledged
Bearer	4
RLC SN size	12-bit
P	Status report not requested
SI	Data field contains all bytes of an RLC SDU
UL LCID	4 (4)
RLC mode	Acknowledged
Bearer	4
RLC SN size	12-bit
P	Status report is requested...
	1 more

RLC AM Data SN=15

UL LCID	61 (Short BSR)
BSR LCG0 idx	0
UL LCID	57 (Single Entry PHR)
UL LCID	63 (Padding)

RLC AM Status PDU

Duplex	FDD
RNTI	0x4601

[Frame 49] Long (Truncated) Buffer Status Report – UE reports per-LCG buffer occupancy across up to 8 Logical Channel Groups

[Frame 50] Long (Truncated) Buffer Status Report – UE reports per-LCG buffer occupancy across up to 8 Logical Channel Groups

[Frame 51] RLC AM Data PDU – sequenced PDCP SDU segment on the AM bearer. The Poll bit forces an immediate Status PDU back

[Frame 52] RLC AM Status PDU – receiver reports cumulative ACK\_SN and any NACK\_SN list; drives RLC retransmissions on the AM bearer

UE

gNB

RNTI type	C-RNTI
HARQ pid	0
DL LCID	4 (4)
RLC mode	Acknowledged
Bearer	4
RLC SN size	12-bit
ACK SN	16
E1	A set of NACK_SN, E1, E2 and E3 does not follow
DL LCID	63 (Padding)

UL Information Transfer

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
UL LCID	1 (1)
SRB	1
NAS	7e02ee57a25fb07e...
NAS 5GMM	UL NAS transport
NAS 5GSM	PDU session release request
5GSM cause	Regular deactivation
UL LCID	61 (Short BSR)
BSR LCG0 idx	0
UL LCID	57 (Single Entry PHR)
UL LCID	63 (Padding)

RLC AM Status PDU

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
DL LCID	1 (1)
RLC mode	Acknowledged
Bearer	1
RLC SN size	12-bit
ACK SN	7
E1	A set of NACK_SN, E1, E2 and E3 does not follow
DL LCID	63 (Padding)

DL Information Transfer

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	1
DL LCID	1 (1)
SRB	1
Trans ID	0
NAS	7e02c253c9158e7e...
NAS 5GMM	DL NAS transport
NAS 5GSM	PDU session release command
5GSM cause	Regular deactivation
DL LCID	63 (Padding)

UL Information Transfer

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
UL LCID	1 (1)
UL LCID	1 (1)
SRB	1
NAS	7e024b35d85fb17e...
NAS 5GMM	Deregistration request (UE originating)
UL LCID	61 (Short BSR)
BSR LCG0 idx	0
UL LCID	57 (Single Entry PHR)

[Frame 53] UL Information Transfer – transparent NAS container from UE to AMF/SMF

[Frame 54] RLC AM Status PDU – receiver reports cumulative ACK\_SN and any NACK\_SN list; drives RLC retransmissions on the AM bearer

[Frame 55] DL Information Transfer – transparent NAS container from AMF/SMF to UE

[Frame 56] UL Information Transfer – transparent NAS container from UE to AMF/SMF

UE

gNB

UL LCID	63 (Padding)
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RLC AM Status PDU

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
DL LCID	1 (1)
RLC mode	Acknowledged
Bearer	1
RLC SN size	12-bit
ACK SN	8
E1	A set of NACK_SN, E1, E2 and E3 does not follow
DL LCID	63 (Padding)

[Frame 57] RLC AM Status PDU – receiver reports cumulative ACK\_SN and any NACK\_SN list; drives RLC retransmissions on the AM bearer

RRC Release

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
DL LCID	1 (1)
RLC Poll	Status report is requested
RLC SN=6	
SRB	1
PDCP COUNT	6
PDCP SN=6	
Trans ID	0
MAC-I	0xeacb8577
DL LCID	63 (Padding)

[Frame 58] RRC Release – gNB sends UE to RRC\_IDLE (or RRC\_INACTIVE if suspendConfig is present). Watch for repeated SN+Poll: that signals UE already gone (RLC poll-retx storm).

RRC Release

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	1
DL LCID	1 (1)
RLC Poll	Status report is requested
RLC SN=6	
SRB	1
PDCP COUNT	6
PDCP SN=6	
RLC retx (dup PDCP SN 6)	
Trans ID	0
MAC-I	0xeacb8577
DL LCID	63 (Padding)

[Frame 59] RRC Release – gNB sends UE to RRC\_IDLE (or RRC\_INACTIVE if suspendConfig is present). Watch for repeated SN+Poll: that signals UE already gone (RLC poll-retx storm).

RRC Release

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI
HARQ pid	0
DL LCID	1 (1)
RLC Poll	Status report is requested
RLC SN=6	
SRB	1
PDCP COUNT	6
PDCP SN=6	
RLC retx (dup PDCP SN 6)	
Trans ID	0
MAC-I	0xeacb8577
DL LCID	63 (Padding)

[Frame 60] RRC Release – gNB sends UE to RRC\_IDLE (or RRC\_INACTIVE if suspendConfig is present). Watch for repeated SN+Poll: that signals UE already gone (RLC poll-retx storm).












RRC Release

Duplex	FDD
RNTI	0x4601
RNTI type	C-RNTI















[Frame 61] RRC Release – gNB sends UE to RRC\_IDLE (or RRC\_INACTIVE if suspendConfig is present). Watch for repeated SN+Poll: that signals UE already gone (RLC poll-retx storm).

 UE















 gNB

 HARQ pid	1
 DL LCID	1 (1)
 RLC Poll	Status report is requested
 RLC SN=6	
 SRB	1
 PDCP COUNT	6
 PDCP SN=6	
 RLC retx (dup PDCP SN 6)	
 Trans ID	0
 MAC-I	0xeacb8577
 DL LCID	63 (Padding)















 RRC Release

 Duplex	FDD
 RNTI	0x4601
 RNTI type	C-RNTI
 HARQ pid	0
 DL LCID	1 (1)
 RLC Poll	Status report is requested
 RLC SN=6	
 SRB	1
 PDCP COUNT	6
 PDCP SN=6	
 RLC retx (dup PDCP SN 6)	
 Trans ID	0
 MAC-I	0xeacb8577
 DL LCID	63 (Padding)






 RRC Release


 Duplex	FDD
 RNTI	0x4601
 RNTI type	C-RNTI
 HARQ pid	1
 DL LCID	1 (1)
 RLC Poll	Status report is requested
 RLC SN=6	
 SRB	1
 PDCP COUNT	6
 PDCP SN=6	
 RLC retx (dup PDCP SN 6)	
 Trans ID	0
 MAC-I	0xeacb8577
 DL LCID	63 (Padding)


 RRC Release


 Duplex	FDD
 RNTI	0x4601
 RNTI type	C-RNTI
 HARQ pid	2
 DL LCID	1 (1)
 RLC Poll	Status report is requested
 RLC SN=6	
 SRB	1
 PDCP COUNT	6
 PDCP SN=6	
 RLC retx (dup PDCP SN 6)	
 Trans ID	0
 MAC-I	0xeacb8577
 DL LCID	63 (Padding)


 RRC Release

 Duplex	FDD
 RNTI	0x4601
 RNTI type	C-RNTI
 HARQ pid	1
 DL LCID	1 (1)

 [Frame 62] RRC Release – gNB sends UE to RRC\_IDLE (or RRC\_INACTIVE if suspendConfig is present). Watch for repeated SN+Poll: that signals UE already gone (RLC poll-retx storm).

 [Frame 63] RRC Release – gNB sends UE to RRC\_IDLE (or RRC\_INACTIVE if suspendConfig is present). Watch for repeated SN+Poll: that signals UE already gone (RLC poll-retx storm).

 [Frame 64] RRC Release – gNB sends UE to RRC\_IDLE (or RRC\_INACTIVE if suspendConfig is present). Watch for repeated SN+Poll: that signals UE already gone (RLC poll-retx storm).

 [Frame 65] RRC Release – gNB sends UE to RRC\_IDLE (or RRC\_INACTIVE if suspendConfig is present). Watch for repeated SN+Poll: that signals UE already gone (RLC poll-retx storm).

UE

gNB

? RLC Poll	Status report is requested
📦 RLC SN=6	
🚚 SRB	1
1 2 3 4 PDCP COUNT	6
1 2 3 4 PDCP SN=6	
🔄 RLC retx (dup PDCP SN 6)	
1 2 3 4 Trans ID	0
🛡️ MAC-I	0xeacb8577
📦 DL LCID	63 (Padding)

**RRC Release**

📶 Duplex	FDD
ID RNTI	0x4601
🔑 RNTI type	C-RNTI
♻️ HARQ pid	2
📦 DL LCID	1 (1)
? RLC Poll	Status report is requested
📦 RLC SN=6	
🚚 SRB	1
1 2 3 4 PDCP COUNT	6
1 2 3 4 PDCP SN=6	
🔄 RLC retx (dup PDCP SN 6)	
1 2 3 4 Trans ID	0
🛡️ MAC-I	0xeacb8577
📦 DL LCID	63 (Padding)

**RRC Release**

📶 Duplex	FDD
ID RNTI	0x4601
🔑 RNTI type	C-RNTI
♻️ HARQ pid	1
📦 DL LCID	1 (1)
? RLC Poll	Status report is requested
📦 RLC SN=6	
🚚 SRB	1
1 2 3 4 PDCP COUNT	6
1 2 3 4 PDCP SN=6	
🔄 RLC retx (dup PDCP SN 6)	
1 2 3 4 Trans ID	0
🛡️ MAC-I	0xeacb8577
📦 DL LCID	63 (Padding)

**RRC Release**

📶 Duplex	FDD
ID RNTI	0x4601
🔑 RNTI type	C-RNTI
♻️ HARQ pid	1
📦 DL LCID	1 (1)
? RLC Poll	Status report is requested
📦 RLC SN=6	
🚚 SRB	1
1 2 3 4 PDCP COUNT	6
1 2 3 4 PDCP SN=6	
🔄 RLC retx (dup PDCP SN 6)	
1 2 3 4 Trans ID	0
🛡️ MAC-I	0xeacb8577
📦 DL LCID	63 (Padding)

**RRC Release**

📶 Duplex	FDD
ID RNTI	0x4601
🔑 RNTI type	C-RNTI
♻️ HARQ pid	0
📦 DL LCID	1 (1)
? RLC Poll	Status report is requested
📦 RLC SN=6	

💡 [Frame 66] RRC Release – gNB sends UE to RRC\_IDLE (or RRC\_INACTIVE if suspendConfig is present). Watch for repeated SN+Poll: that signals UE already gone (RLC poll-retx storm).








💡 [Frame 67] RRC Release – gNB sends UE to RRC\_IDLE (or RRC\_INACTIVE if suspendConfig is present). Watch for repeated SN+Poll: that signals UE already gone (RLC poll-retx storm).

💡 [Frame 68] RRC Release – gNB sends UE to RRC\_IDLE (or RRC\_INACTIVE if suspendConfig is present). Watch for repeated SN+Poll: that signals UE already gone (RLC poll-retx storm).

💡 [Frame 69] RRC Release – gNB sends UE to RRC\_IDLE (or RRC\_INACTIVE if suspendConfig is present). Watch for repeated SN+Poll: that signals UE already gone (RLC poll-retx storm).

 UE

 gNB

 SRB	1
 PDCP COUNT	6
 PDCP SN=6	
 RLC retx (dup PDCP SN 6)	
 Trans ID	0
 MAC-I	0xeacb8577
 DL LCID	63 (Padding)