

अनिवार्य आवश्यकताएँ

संख्या : TEC40082111

Essential Requirements

ER No. : TEC40082111

SGSN/GGSN

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Telecommunication Engineering Centre

Government of India

Khurshid Lal Bhawan, Janpath, New Delhi-110001, INDIA

Essential Requirements for:

SGSN/GGSN

Certification Scheme: **GCS**

Product Fee Group: **C**

Essential Requirements under Mandatory Testing and Certification of Telecommunication Equipment notified by Government of India vide Gazette Notification No. G.S.R. 113 (E) dated 5th September 2017 for SGSN or GGSN to be used in Indian Telecom Network

Note: Annexures referred to in this ER are Annexures as mentioned in "Annexures to ERs" No. TEC/SD/DD/TCP-222/02/June19 as updated from time to time and available on MTCTE portal.

This product has the following variants:

1. GGSN
2. SGSN For GSM
3. SGSN For LTE
4. SGSN For WCDMA

1. Variant 1 : GGSN

1.1 Parameters Linked with Product Variant

S.No.	Parameter Name	Standard Name
1.1.1	Conducted And Radiated Emission - Class A	TEC EMI EMC Standard CISPR 22/32 EN55022/32. Annex-B
1.1.2	Dual IP Layer Operation RFC 4213 - DNS	RFC 4213 Cl. 2.1 and 2.2. Annex-P6
1.1.3	Immunity to AC Voltage Dips and Short Interruptions	TEC EMI EMC Standard EN/IEC:61000-4-11. Annex-B
1.1.4	Immunity to DC Voltage Dips and Short Interruptions	EN/IEC:61000-4-29. Annex-B
1.1.5	Immunity to Electrostatic Discharge	TEC EMI EMC Standard EN/IEC:61000-4-2. Annex-B

1.1.6	Immunity to Fast Transients (Burst)	TEC EMI EMC Standard EN/IEC:61000-4-4. Annex-B
1.1.7	Immunity to Radiated RF	TEC EMI EMC Standard EN/IEC:61000-4-3. Annex-B
1.1.8	Immunity to RF Field Induced Conducted Disturbance	TEC EMI EMC Standard EN/IEC:61000-4-6. Annex-B
1.1.9	Immunity to Surges	TEC EMI EMC Standard EN/IEC:61000-4-5. Annex-B
1.1.10	IPV6 Extn Header Parameters	RFC 2460 or RFC 8200 . Annex-P7
1.1.11	IPV6 Header Parameters	RFC 2460 / RFC 8200 . Annex-P7
1.1.12	IT Equipment Safety	IS 13252-1 or IEC:60950-1 or IEC 62368-1. Annex-A1

1.2 Interface 1 : Gi interface to Internet

S.No.	Parameter Name	Standard Name
1.2.1	Interface Management Procedures (Gi interface to Internet)	Direct IP interface to Internet with following - Radius: IETF RFC 2865 Diameter: IETF RFC 3588 DNS: IETF RFC 1035 DHCP: IETF RFC 2131 L2TP: IETF RFC 2661
1.2.2	Internet Traffic Handling Procedure	Direct IP interface to Internet with following - Radius: IETF RFC 2865 Diameter: IETF RFC 3588 DNS: IETF RFC 1035 DHCP: IETF RFC 2131 L2TP: IETF RFC 2661

1.3 Interface 2 : Gn or Gp Interface towards SGSN

S.No.	Parameter Name	Standard Name
1.3.1	Interface Management Procedures (Gn or Gp Interface towards SGSN)	3GPP TS 29.060. 3GPP TS 23.060
1.3.2	IPv4v6 Mobile IP Procedures	3GPP TS 29.060. 3GPP TS 23.060
1.3.3	Tunnel Management Procedures (Gn or Gp Interface towards SGSN)	3GPP TS 29.060. 3GPP TS 23.060

1.4 Interface 3 : Lawful Interception

S.No.	Parameter Name	Standard Name
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1.4.1	Interception Procedures	3GPP TS 33.106 3GPP TS 33.107 3GPP TS 33.108
1.4.2	Interface Management Procedures (Lawful Interception)	3GPP TS 33.106 3GPP TS 33.107 3GPP TS 33.108

2. Variant 2 : SGSN For GSM

2.1 Parameters Linked with Product Variant

S.No.	Parameter Name	Standard Name
2.1.1	Conducted And Radiated Emission - Class A	TEC EMI EMC Standard CISPR 22/32 EN55022/32. Annex-B
2.1.2	Dual IP Layer Operation RFC 4213 - DNS	RFC 4213 Cl. 2.1 and 2.2. Annex-P6
2.1.3	Immunity to AC Voltage Dips and Short Interruptions	TEC EMI EMC Standard EN/IEC:61000-4-11. Annex-B
2.1.4	Immunity to DC Voltage Dips and Short Interruptions	EN/IEC:61000-4-29. Annex-B
2.1.5	Immunity to Electrostatic Discharge	TEC EMI EMC Standard EN/IEC:61000-4-2. Annex-B
2.1.6	Immunity to Fast Transients (Burst)	TEC EMI EMC Standard EN/IEC:61000-4-4. Annex-B
2.1.7	Immunity to Radiated RF	TEC EMI EMC Standard EN/IEC:61000-4-3. Annex-B
2.1.8	Immunity to RF Field Induced Conducted Disturbance	TEC EMI EMC Standard EN/IEC:61000-4-6. Annex-B
2.1.9	Immunity to Surges	TEC EMI EMC Standard EN/IEC:61000-4-5. Annex-B
2.1.10	IPV6 Extn Header Parameters	RFC 2460 or RFC 8200 . Annex-P7
2.1.11	IPV6 Header Parameters	RFC 2460 / RFC 8200 . Annex-P7
2.1.12	IT Equipment Safety	IS 13252-1 or IEC:60950-1 or IEC 62368-1. Annex-A1

2.2 Interface 1 : CAP based interface towards IN-SCP

S.No.	Parameter Name	Standard Name
2.2.1	Interface Management Procedures (CAP based interface towards IN-SCP)	3GPP TS 23.078 3GPP TS 29.078

2.2.2	Subscriber Charging Procedures for Call	3GPP TS 29.078
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2.3 Interface 2 : Gb Interface Towards BSC

S.No.	Parameter Name	Standard Name
2.3.1	Gb interface management procedures	3GPP TS 48.016. BSSGP - 3GPP TS 48.018. LLC - 3GPP TS 44.064
2.3.2	Mobility Management Procedures (Gb Interface Towards BSC)	3GPP TS 48.016. BSSGP - 3GPP TS 48.018. LLC - 3GPP TS 44.064
2.3.3	Session Management Procedures (Gb Interface Towards BSC)	3GPP TS 48.016. BSSGP - 3GPP TS 48.018. LLC - 3GPP TS 44.064

2.4 Interface 3 : Gf MAP based interfaces towards EIR

S.No.	Parameter Name	Standard Name
2.4.1	Equipment Authentication Procedures (Gf MAP based interfaces towards EIR)	3GPP TS 29.002
2.4.2	Interface Management Procedures (Gf MAP based interfaces towards EIR)	3GPP TS 29.002

2.5 Interface 4 : Gn or Gp Interface towards GGSN

S.No.	Parameter Name	Standard Name
2.5.1	Interface Management Procedures (Gn or Gp Interface towards GGSN)	3GPP TS 29.060
2.5.2	Tunnel Management Procedures (Gn or Gp Interface towards GGSN)	3GPP TS 29.060

2.6 Interface 5 : Lawful Interception

S.No.	Parameter Name	Standard Name
2.6.1	Interception Procedures	3GPP TS 33.106 3GPP TS 33.107 3GPP TS 33.108
2.6.2	Interface Management Procedures (Lawful Interception)	3GPP TS 33.106 3GPP TS 33.107 3GPP TS 33.108

2.7 Interface 6 : Lg Interface towards GMLC (Either MAP or Diameter Based)

S.No.	Parameter Name	Standard Name
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2.7.1	Interface Management Procedures (Lg Interface towards GMLC Either MAP or Diameter Based)	3GPP 23.271. MAP: 3GPP TS 29.002. Diameter: IETF RFC 3588
2.7.2	Location Services Procedures (Lg Interface GMLC- MAP or Diameter Based)	3GPP 23.271. MAP: 3GPP TS 29.002. Diameter: IETF RFC 3588

2.8 Interface 7 : MAP based interfaces to HLR or AuC or HSS functional

S.No.	Parameter Name	Standard Name
2.8.1	Call Control (MAP based interfaces to HLR or AuC or HSS functional)	3GPP TS 29.002
2.8.2	Interface Management Procedures (MAP based interfaces to HLR or AuC or HSS functional)	3GPP TS 29.002
2.8.3	SMS Related Procedures (MAP based interfaces to HLR or AuC or HSS functional)	3GPP TS 29.002
2.8.4	Subscriber authentication procedures (MAP based interfaces to HLR or AuC or HSS functional)	3GPP TS 29.002
2.8.5	Subscriber Information Management Procedures (MAP based interfaces to HLR or AuC or HSS functional)	3GPP TS 29.002
2.8.6	Supplementary Services Related Procedures (MAP based interfaces to HLR or AuC or HSS functional)	3GPP TS 29.002

3. Variant 3 : SGSN For LTE

3.1 Parameters Linked with Product Variant

S.No.	Parameter Name	Standard Name
3.1.1	Conducted And Radiated Emission - Class A	TEC EMI EMC Standard CISPR 22/32 EN55022/32. Annex-B
3.1.2	Dual IP Layer Operation RFC 4213 - DNS	RFC 4213 Cl. 2.1 and 2.2. Annex-P6
3.1.3	Immunity to AC Voltage Dips and Short Interruptions	TEC EMI EMC Standard EN/IEC:61000-4-11. Annex-B
3.1.4	Immunity to DC Voltage Dips and Short	EN/IEC:61000-4-29. Annex-B

	Interruptions	
3.1.5	Immunity to Electrostatic Discharge	TEC EMI EMC Standard EN/IEC:61000-4-2. Annex-B
3.1.6	Immunity to Fast Transients (Burst)	TEC EMI EMC Standard EN/IEC:61000-4-4. Annex-B
3.1.7	Immunity to Radiated RF	TEC EMI EMC Standard EN/IEC:61000-4-3. Annex-B
3.1.8	Immunity to RF Field Induced Conducted Disturbance	TEC EMI EMC Standard EN/IEC:61000-4-6. Annex-B
3.1.9	Immunity to Surges	TEC EMI EMC Standard EN/IEC:61000-4-5. Annex-B
3.1.10	IPV6 Extn Header Parameters	RFC 2460 or RFC 8200 . Annex-P7
3.1.11	IPV6 Header Parameters	RFC 2460 / RFC 8200 . Annex-P7
3.1.12	IT Equipment Safety	IS 13252-1 or IEC:60950-1 or IEC 62368-1. Annex-A1

3.2 Interface 1 : CAP based interface towards IN-SCP

S.No.	Parameter Name	Standard Name
3.2.1	Interface Management Procedures (CAP based interface towards IN-SCP)	3GPP TS 23.078 3GPP TS 29.078
3.2.2	Subscriber Charging Procedures for Call	3GPP TS 29.078

3.3 Interface 2 : Gf MAP based interfaces towards EIR

S.No.	Parameter Name	Standard Name
3.3.1	Equipment Authentication Procedures (Gf MAP based interfaces towards EIR)	3GPP TS 29.002
3.3.2	Interface Management Procedures (Gf MAP based interfaces towards EIR)	3GPP TS 29.002

3.4 Interface 3 : Gn or Gp Interface towards GGSN

S.No.	Parameter Name	Standard Name
3.4.1	Interface Management Procedures (Gn or Gp Interface towards GGSN)	3GPP TS 29.060
3.4.2	Tunnel Management Procedures (Gn or Gp)	3GPP TS 29.060

	Interface towards GGSN)	
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3.5 Interface 4 : Lawful Interception

S.No.	Parameter Name	Standard Name
3.5.1	Interception Procedures	3GPP TS 33.106 3GPP TS 33.107 3GPP TS 33.108
3.5.2	Interface Management Procedures (Lawful Interception)	3GPP TS 33.106 3GPP TS 33.107 3GPP TS 33.108

3.6 Interface 5 : Lg Interface towards GMLC (Either MAP or Diameter Based)

S.No.	Parameter Name	Standard Name
3.6.1	Interface Management Procedures (Lg Interface towards GMLC Either MAP or Diameter Based)	3GPP 23.271. MAP: 3GPP TS 29.002. Diameter: IETF RFC 3588
3.6.2	Location Services Procedures (Lg Interface GMLC- MAP or Diameter Based)	3GPP 23.271. MAP: 3GPP TS 29.002. Diameter: IETF RFC 3588

3.7 Interface 6 : MAP based interfaces to HLR or AuC or HSS functional

S.No.	Parameter Name	Standard Name
3.7.1	Call Control (MAP based interfaces to HLR or AuC or HSS functional)	3GPP TS 29.002
3.7.2	Interface Management Procedures (MAP based interfaces to HLR or AuC or HSS functional)	3GPP TS 29.002
3.7.3	SMS Related Procedures (MAP based interfaces to HLR or AuC or HSS functional)	3GPP TS 29.002
3.7.4	Subscriber authentication procedures (MAP based interfaces to HLR or AuC or HSS functional)	3GPP TS 29.002
3.7.5	Subscriber Information Management Procedures (MAP based interfaces to HLR or AuC or HSS functional)	3GPP TS 29.002
3.7.6	Supplementary Services Related Procedures (MAP based interfaces to HLR or AuC or HSS functional)	3GPP TS 29.002

3.8 Interface 7 : S3 Or Gn Interface towards MME

S.No.	Parameter Name	Standard Name
3.8.1	Data transfer related procedures	3GPP TS 29.060
3.8.2	Interface Management Procedures (S3 Or Gn Interface towards MME)	3GPP TS 29.060

4. Variant 4 : SGSN For WCDMA

4.1 Parameters Linked with Product Variant

S.No.	Parameter Name	Standard Name
4.1.1	Conducted And Radiated Emission - Class A	TEC EMI EMC Standard CISPR 22/32 EN55022/32. Annex-B
4.1.2	Dual IP Layer Operation RFC 4213 - DNS	RFC 4213 Cl. 2.1 and 2.2. Annex-P6
4.1.3	Immunity to AC Voltage Dips and Short Interruptions	TEC EMI EMC Standard EN/IEC:61000-4-11. Annex-B
4.1.4	Immunity to DC Voltage Dips and Short Interruptions	EN/IEC:61000-4-29. Annex-B
4.1.5	Immunity to Electrostatic Discharge	TEC EMI EMC Standard EN/IEC:61000-4-2. Annex-B
4.1.6	Immunity to Fast Transients (Burst)	TEC EMI EMC Standard EN/IEC:61000-4-4. Annex-B
4.1.7	Immunity to Radiated RF	TEC EMI EMC Standard EN/IEC:61000-4-3. Annex-B
4.1.8	Immunity to RF Field Induced Conducted Disturbance	TEC EMI EMC Standard EN/IEC:61000-4-6. Annex-B
4.1.9	Immunity to Surges	TEC EMI EMC Standard EN/IEC:61000-4-5. Annex-B
4.1.10	IPV6 Extn Header Parameters	RFC 2460 or RFC 8200 . Annex-P7
4.1.11	IPV6 Header Parameters	RFC 2460 / RFC 8200 . Annex-P7

4.2 Interface 1 : CDMA

S.No.	Parameter Name	Standard Name
4.2.1	CDMA Int Parameters	1xS0011 or EN 301 908-04 CDMA. Annex-

		F9
4.2.2	Operating Frequency for CDMA Int	NFAP. Annex-F

4.3 Interface 2 : Gf MAP based interfaces towards EIR

S.No.	Parameter Name	Standard Name
4.3.1	Equipment Authentication Procedures (Gf MAP based interfaces towards EIR)	3GPP TS 29.002
4.3.2	Interface Management Procedures (Gf MAP based interfaces towards EIR)	3GPP TS 29.002

4.4 Interface 3 : Gn or Gp Interface towards GGSN

S.No.	Parameter Name	Standard Name
4.4.1	Interface Management Procedures (Gn or Gp Interface towards GGSN)	3GPP TS 29.060
4.4.2	Tunnel Management Procedures (Gn or Gp Interface towards GGSN)	3GPP TS 29.060

4.5 Interface 4 : IuPS Interface towards RNC

S.No.	Parameter Name	Standard Name
4.5.1	IuPS interface management procedures	RANAP - 3GPP TS 25.413. Layer-3 Specifications - 3GPP TS 24.008
4.5.2	Mobility Management Procedures (IuPS Interface towards RNC)	RANAP - 3GPP TS 25.413. Layer-3 Specifications - 3GPP TS 24.008
4.5.3	Session Management Procedures (IuPS Interface towards RNC)	RANAP - 3GPP TS 25.413. Layer-3 Specifications - 3GPP TS 24.008

4.6 Interface 5 : Lawful Interception

S.No.	Parameter Name	Standard Name
4.6.1	Interception Procedures	3GPP TS 33.106 3GPP TS 33.107 3GPP TS 33.108
4.6.2	Interface Management Procedures (Lawful Interception)	3GPP TS 33.106 3GPP TS 33.107 3GPP TS 33.108

4.7 Interface 6 : Lg Interface towards GMLC (Either MAP or Diameter Based)

S.No.	Parameter Name	Standard Name
4.7.1	Interface Management Procedures (Lg Interface towards GMLC Either MAP or Diameter Based)	3GPP 23.271. MAP: 3GPP TS 29.002. Diameter: IETF RFC 3588
4.7.2	Location Services Procedures (Lg Interface GMLC- MAP or Diameter Based)	3GPP 23.271. MAP: 3GPP TS 29.002. Diameter: IETF RFC 3588

4.8 Interface 7 : MAP based interfaces to HLR or AuC or HSS functional

S.No.	Parameter Name	Standard Name
4.8.1	Call Control (MAP based interfaces to HLR or AuC or HSS functional)	3GPP TS 29.002
4.8.2	Interface Management Procedures (MAP based interfaces to HLR or AuC or HSS functional)	3GPP TS 29.002
4.8.3	SMS Related Procedures (MAP based interfaces to HLR or AuC or HSS functional)	3GPP TS 29.002
4.8.4	Subscriber authentication procedures (MAP based interfaces to HLR or AuC or HSS functional)	3GPP TS 29.002
4.8.5	Subscriber Information Management Procedures (MAP based interfaces to HLR or AuC or HSS functional)	3GPP TS 29.002
4.8.6	Supplementary Services Related Procedures (MAP based interfaces to HLR or AuC or HSS functional)	3GPP TS 29.002