

# ETSI TS 121 101 V12.0.2 (2017-01)



**Universal Mobile Telecommunications System (UMTS);  
Technical Specifications and Technical Reports  
for a UTRAN-based 3GPP system  
(3GPP TS 21.101 version 12.0.2 Release 12)**

PREVIEW  
iTech Standards (Cambridge, MA)  
https://standards.iteh.ai/standards/etah/etah-ts-121-101-v12.0.2-78d1-4a3c-9603-0afe77b2a/m/etah-ts-121-101-v12.0.2-78d1-4a3c-9603-0afe77b2a/2017-01-01



## Reference

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## Keywords

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## Foreword

This Technical Specification (TS) has been produced by ETSI 3rd Generation Partnership Project (3GPP).

The present document may refer to technical specifications or reports using their 3GPP identities, UMTS identities or GSM identities. These should be interpreted as being references to the corresponding ETSI deliverables.

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## Modal verbs terminology

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Full standard:  
<https://standards.iteh.ai/catalog/standards/sist/e8fc8e13-78d1-4a3c-9603-0afe77b28cf0/etsi-ts-121-101-v12.0.2-2017-01>

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## Foreword

This Technical Specification (TS) has been produced by the 3<sup>rd</sup> Generation Partnership Project (3GPP).

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- x the first digit:
  - 1 presented to TSG for information;
  - 2 presented to TSG for approval;
  - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

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## 1 Scope

The present document identifies the 3GPP system specifications for Release 12. The specifications and reports of this Release have a major version number 12 (i.e. 12.x.y). The listed Specifications are required to build a system based on UTRAN radio technology.

## 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] 3GPP TR 21.900: "Technical Specification Group working methods".

## 3 Abbreviations

For the purposes of the present document, the terms and definitions given in 3GPP TS 21.905 [1] apply.

## 4 General

The numbering scheme for specifications is described in 3GPP TR 21.900 [2].

## 5 Specifications and Reports

NOTE 1: The "for publication?" column of the table below indicates whether or not the documents are intended for adoption by the partner Standards Development Organizations as their own publications. Those marked "no" are internal working documents of the 3GPP TSGs.

NOTE 2: Some of the algorithm specifications in the 35.-series are available only under licence.

NOTE 3: "Type" indicates Technical Specification (TS) or Technical Report (TR).

NOTE 4: For definition of "freezing" of specifications (last two columns), see 3GPP TS 21.900 [2].

Type	Number	Title	WG prime	For publication?	freeze date	frozen
TS	21.101	Technical Specifications and Technical Reports for a UTRAN-based 3GPP system	SP	Yes		
TS	21.111	USIM and IC card requirements	C6	Yes	2014-09-17	yes
TS	21.202	Technical Specifications and Technical Reports relating to the	SP	Yes		

Type	Number	Title	WG prime	For publication?	freeze date	frozen
		Common IP Multimedia Subsystem (IMS)				
TR	21.801	Specification drafting rules	SP	No	2014-09-17	yes
TR	21.900	Technical Specification Group working methods	SP	Yes	2014-09-17	yes
TR	21.905	Vocabulary for 3GPP Specifications	SP	Yes	2014-09-17	yes
TS	22.001	Principles of circuit telecommunication services supported by a Public Land Mobile Network (PLMN)	S1	Yes	2014-09-17	yes
TS	22.002	Circuit Bearer Services (BS) supported by a Public Land Mobile Network (PLMN)	S1	Yes	2014-09-17	yes
TS	22.003	Circuit Teleservices supported by a Public Land Mobile Network (PLMN)	S1	Yes	2014-09-17	yes
TS	22.004	General on supplementary services	S1	Yes	2014-09-17	yes
TS	22.011	Service accessibility	S1	Yes	2014-09-17	yes
TS	22.016	International Mobile station Equipment Identities (IMEI)	S1	Yes	2014-09-17	yes
TS	22.022	Personalisation of Mobile Equipment (ME); Mobile functionality specification	S1	Yes	2014-09-17	yes
TS	22.024	Description of Charge Advice Information (CAI)	S1	Yes	2014-09-17	yes
TS	22.030	Man-Machine Interface (MMI) of the User Equipment (UE)	S1	Yes	2014-09-17	yes
TS	22.031	3G Security; Fraud Information Gathering System (FIGS); Service description; Stage 1	S3	Yes	2014-09-17	yes
TS	22.032	Immediate Service Termination (IST); Service description; Stage 1	S3	Yes	2014-09-17	yes
TS	22.034	High Speed Circuit Switched Data (HSCSD); Stage 1	S1	Yes	2014-09-17	yes
TS	22.038	(U)SIM Application Toolkit (USAT); Service description; Stage 1	S1	Yes	2014-09-17	yes
TS	22.041	Operator Determined Barring (ODB)	S1	Yes	2014-09-17	yes
TS	22.042	Network Identity and TimeZone (NITZ); Service description; Stage 1	S1	Yes	2014-09-17	yes
TS	22.053	Tandem Free Operation (TFO); Service description; Stage 1	S4	Yes	2014-09-17	yes
TS	22.057	Mobile Execution Environment (MExE); Service description; Stage 1	S1	Yes	2014-09-17	yes
TS	22.060	General Packet Radio Service (GPRS); Service description; Stage 1	S1	Yes	2014-09-17	yes
TS	22.066	Support of Mobile Number Portability (MNP); Service description; Stage 1	S1	Yes	2014-09-17	yes
TS	22.067	enhanced Multi Level Precedence and Pre-emption service (eMLPP); Stage 1	S1	Yes	2014-09-17	yes
TS	22.071	Location Services (LCS); Service description; Stage 1	S1	Yes	2014-09-17	yes
TS	22.072	Call Deflection (CD) service description; Stage 1	S1	Yes	2014-09-17	yes
TS	22.076	Noise suppression for the AMR codec; Service description; Stage 1	S4	Yes	2014-09-17	yes
TS	22.078	Customised Applications for Mobile network Enhanced Logic (CAMEL); Service description; Stage 1	S1	Yes	2014-09-17	yes
TS	22.079	Support of Optimal Routeing (SOR); Service definition; Stage 1	S1	Yes	2014-09-17	yes

Type	Number	Title	WG prime	For publication?	freeze date	frozen
TS	22.081	Line Identification supplementary services; Stage 1	S1	Yes	2014-09-17	yes
TS	22.082	Call Forwarding (CF) Supplementary Services; Stage 1	S1	Yes	2014-09-17	yes
TS	22.083	Call Waiting (CW) and Call Holding (HOLD); Supplementary Services; Stage 1	S1	Yes	2014-09-17	yes
TS	22.084	MultiParty (MPTY) supplementary service; Stage 1	S1	Yes	2014-09-17	yes
TS	22.085	Closed User Group (CUG) supplementary services; Stage 1	S1	Yes	2014-09-17	yes
TS	22.086	Advice of Charge (AoC) supplementary services; Stage 1	S1	Yes	2014-09-17	yes
TS	22.087	User-to-User Signalling (UUS); Service description; Stage 1	S1	Yes	2014-09-17	yes
TS	22.088	Call Barring (CB) supplementary services; Stage 1	S1	Yes	2014-09-17	yes
TS	22.090	Unstructured Supplementary Service Data (USSD); Stage 1	S1	Yes	2014-09-17	yes
TS	22.091	Explicit Call Transfer (ECT) supplementary service; Stage 1	S1	Yes	2014-09-17	yes
TS	22.093	Completion of Calls to Busy Subscriber (CCBS); Service description, Stage 1	S1	Yes	2014-09-17	yes
TS	22.094	Follow Me service description; Stage 1	S1	Yes	2014-09-17	yes
TS	22.096	Name identification supplementary services; Stage 1	S1	Yes	2014-09-17	yes
TS	22.097	Multiple Subscriber Profile (MSP) Phase 2; Service description; Stage 1	S1	Yes	2014-09-17	yes
TS	22.101	Service aspects; Service principles	S1	Yes	2014-09-17	yes
TS	22.105	Services and service capabilities	S1	Yes	2014-09-17	yes
TS	22.115	Service aspects; Charging and billing	S1	Yes	2014-09-17	yes
TS	22.129	Service aspects; Handover requirements between UTRAN and GERAN or other radio systems	S1	Yes	2014-09-17	yes
TS	22.135	Multicall; Service description; Stage 1	S1	Yes	2014-09-17	yes
TS	22.140	Multimedia Messaging Service (MMS); Stage 1	S1	Yes	2014-09-17	yes
TS	22.141	Presence service; Stage 1	S1	Yes	2014-09-17	yes
TS	22.142	Value Added Services (VAS) for Short Message Service (SMS) requirements	S1	Yes	2014-09-17	yes
TS	22.146	Multimedia Broadcast/Multicast Service (MBMS); Stage 1	S1	Yes	2014-09-17	yes
TS	22.153	Multimedia priority service	S1	Yes	2014-09-17	yes
TS	22.173	IP Multimedia Core Network Subsystem (IMS) Multimedia Telephony Service and supplementary services; Stage 1	S1	Yes	2014-09-17	yes
TS	22.174	Push Service; Service aspects; Stage 1	S1	Yes	2014-09-17	yes
TS	22.182	Customized Alerting Tones (CAT) requirements; Stage 1	S1	Yes	2014-09-17	yes
TS	22.183	Customized Ringing Signal (CRS) requirements; Stage 1	S1	Yes	2014-09-17	yes
TS	22.220	Service requirements for Home Node B (HNB) and Home eNode B (HeNB)	S1	Yes	2014-09-17	yes



Type	Number	Title	WG prime	For publication?	freeze date	frozen
TS	22.226	Global Text Telephony (GTT); Stage 1	S1	Yes	2014-09-17	yes
TS	22.228	Service requirements for the Internet Protocol (IP) multimedia core network subsystem (IMS); Stage 1	S1	Yes	2014-09-17	yes
TS	22.233	Transparent end-to-end packet-switched streaming service; Stage 1	S1	Yes	2014-09-17	yes
TS	22.234	Requirements on 3GPP system to Wireless Local Area Network (WLAN) interworking	S1	Yes	2014-09-17	yes
TS	22.240	Service requirements for 3GPP Generic User Profile (GUP); Stage 1	S1	Yes	2014-09-17	yes
TS	22.242	Digital Rights Management (DRM); Stage 1	S1	Yes	2014-09-17	yes
TS	22.243	Speech recognition framework for automated voice services; Stage 1	S1	Yes	2014-09-17	yes
TS	22.246	Multimedia Broadcast/Multicast Service (MBMS) user services; Stage 1	S1	Yes	2014-09-17	yes
TS	22.250	IP Multimedia Subsystem (IMS) Group Management; Stage 1	S1	Yes	2014-09-17	yes
TS	22.259	Service requirements for Personal Network Management (PNM); Stage 1	S1	Yes	2014-09-17	yes
TS	22.268	Public Warning System (PWS) requirements	S1	Yes	2014-09-17	yes
TS	22.278	Service requirements for the Evolved Packet System (EPS)	S1	Yes	2014-09-17	yes
TS	22.279	Combined Circuit Switched (CS) and IP Multimedia Subsystem (IMS) sessions; Stage 1	S1	Yes	2014-09-17	yes
TS	22.340	IP Multimedia Subsystem (IMS) messaging; Stage 1	S1	Yes	2014-09-17	yes
TS	22.368	Service requirements for Machine-Type Communications (MTC); Stage 1	S1	Yes	2014-09-17	yes
TS	22.519	Business communication requirements	S1	Yes	2014-09-17	yes
TR	22.801	Study on non-MTC mobile data applications impacts	S1	No	2014-09-17	yes
TR	22.805	Feasibility study on user plane congestion management	S1	No	2014-09-17	yes
TR	22.852	Study on Radio Access Network (RAN) sharing enhancements	S1	No	2014-09-17	yes
TR	22.888	Study on enhancements for Machine-Type Communications (MTC)	S1	No	2014-09-17	yes
TR	22.895	Study on service aspects of integration of Single Sign-On (SSO) frameworks with 3GPP operator-controlled resources and mechanisms	S1	No	2014-09-17	yes
TR	22.896	Study on continuity of data sessions to local networks	S1	No	2014-09-17	yes
TR	22.903	Study on Videotelephony teleservice	S1	Yes	2014-09-17	yes
TR	22.906	Study on IMS based peer-to-peer content distribution services	S1	Yes	2014-09-17	yes
TR	22.908	Study on Paging Permission with Access Control (PPAC)	S1	Yes	2014-09-17	yes
TR	22.912	Study into network selection requirements for non-3GPP access	S1	Yes	2014-09-17	yes
TR	22.934	Feasibility study on 3GPP system to Wireless Local Area Network (WLAN) interworking	S1	Yes	2014-09-17	yes
TR	22.935	Feasibility study on Location Services (LCS) for Wireless Local Area Network (WLAN) interworking	S1	Yes	2014-09-17	yes
TR	22.936	Multi-system terminals	S1	Yes	2014-09-17	yes

Type	Number	Title	WG prime	For publication?	freeze date	frozen
					09-17	
TR	22.937	Requirements for service continuity between mobile and Wireless Local Area Network (WLAN) networks	S1	Yes	2014-09-17	yes
TR	22.940	IP Multimedia Subsystem (IMS) messaging	S1	Yes	2014-09-17	yes
TR	22.942	Study on Value Added Services (VAS) for Short Message Service (SMS)	S1	Yes	2014-09-17	yes
TR	22.944	Report on service requirements for UE functionality split	S1	Yes	2014-09-17	yes
TR	22.947	Study on Personal Broadcast Service (PBS)	S1	Yes	2014-09-17	yes
TR	22.948	Study of requirements of IP-Multimedia Subsystem (IMS) convergent multimedia conferencing	S1	Yes	2014-09-17	yes
TR	22.949	Study on a generalized privacy capability	S1	Yes	2014-09-17	yes
TR	22.950	Priority service feasibility study	S1	Yes	2014-09-17	yes
TR	22.951	Service aspects and requirements for network sharing	S1	Yes	2014-09-17	yes
TR	22.952	Priority service guide	S1	Yes	2014-09-17	yes
TR	22.953	Multimedia priority service feasibility study	S1	Yes	2014-09-17	yes
TR	22.967	Transferring of emergency call data	S1	Yes	2014-09-17	yes
TR	22.968	Study for requirements for a Public Warning System (PWS) service	S1	Yes	2014-09-17	yes
TR	22.973	IMS Multimedia Telephony service; and supplementary services	S1	Yes	2014-09-17	yes
TR	22.977	Feasibility study for speech-enabled services	S1	Yes	2014-09-17	yes
TR	22.978	All-IP network (AIPN) feasibility study	S1	Yes	2014-09-17	yes
TR	22.979	Feasibility study on combined Circuit Switched (CS) calls and IP Multimedia Subsystem (IMS) sessions	S1	Yes	2014-09-17	yes
TR	22.980	Network composition feasibility study	S1	Yes	2014-09-17	yes
TR	22.982	Study of Customised Alerting Tone (CAT) requirements	S1	Yes	2014-09-17	yes
TR	22.983	Services alignment and migration	S1	Yes	2014-09-17	yes
TR	22.985	Service requirements for the User Data Convergence (UDC)	S1	Yes	2014-09-17	yes
TR	22.986	Study on Service Specific Access Control	S1	Yes	2014-09-17	yes
TR	22.987	Study of haptic services requirements	S1	Yes	2014-09-17	yes
TR	22.988	Study on alternatives to E.164 for Machine-Type Communications (MTC)	S1	Yes	2014-09-17	yes
TS	23.002	Network architecture	S2	Yes	2014-09-17	yes
TS	23.003	Numbering, addressing and identification	C4	Yes	2014-09-17	yes
TS	23.007	Restoration procedures	C4	Yes	2014-09-17	yes
TS	23.008	Organization of subscriber data	C4	Yes	2014-09-17	yes

Type	Number	Title	WG prime	For publication?	freeze date	frozen
TS	23.009	Handover procedures	C4	Yes	2014-09-17	yes
TS	23.011	Technical realization of Supplementary Services	C4	Yes	2014-09-17	yes
TS	23.012	Location management procedures	C4	Yes	2014-09-17	yes
TS	23.014	Support of Dual Tone Multi-Frequency (DTMF) signalling	C1	Yes	2014-09-17	yes
TS	23.015	Technical realization of Operator Determined Barring (ODB)	C4	Yes	2014-09-17	yes
TS	23.016	Subscriber data management; Stage 2	C4	Yes	2014-09-17	yes
TS	23.018	Basic call handling; Technical realization	C4	Yes	2014-09-17	yes
TS	23.031	3G Security; Fraud Information Gathering System (FIGS); Technical realization; Stage 2	S3	Yes	2014-09-17	yes
TS	23.032	Universal Geographical Area Description (GAD)	S2	Yes	2014-09-17	yes
TS	23.034	High Speed Circuit Switched Data (HSCSD); Stage 2	C1	Yes	2014-09-17	yes
TS	23.035	Immediate Service Termination (IST); Stage 2	S3	Yes	2014-09-17	yes
TS	23.038	Alphabets and language-specific information	C1	Yes	2014-09-17	yes
TS	23.040	Technical realization of the Short Message Service (SMS)	C1	Yes	2014-09-17	yes
TS	23.041	Technical realization of Cell Broadcast Service (CBS)	C1	Yes	2014-09-17	yes
TS	23.042	Compression algorithm for text messaging services	C1	Yes	2014-09-17	yes
TS	23.053	Tandem Free Operation (TFO); Service description; Stage 2	S4	Yes	2014-09-17	yes
TS	23.057	Mobile Execution Environment (MEExE); Functional description; Stage 2	S2	Yes	2014-09-17	yes
TS	23.060	General Packet Radio Service (GPRS); Service description; Stage 2	S2	Yes	2014-09-17	yes
TS	23.066	Support of Mobile Number Portability (MNP); Technical realization; Stage 2	C4	Yes	2014-09-17	yes
TS	23.067	enhanced Multi-Level Precedence and Pre-emption Service (eMLPP); Stage 2	C4	Yes	2014-09-17	yes
TS	23.072	Call Deflection (CD) supplementary service; Stage 2	C4	Yes	2014-09-17	yes
TS	23.078	Customised Applications for Mobile network Enhanced Logic (CAMEL) Phase 4; Stage 2	C4	Yes	2014-09-17	yes
TS	23.079	Support of Optimal Routeing (SOR); Technical realization	C4	Yes	2014-09-17	yes
TS	23.081	Line Identification supplementary services; Stage 2	C4	Yes	2014-09-17	yes
TS	23.082	Call Forwarding (CF) supplementary services; Stage 2	C4	Yes	2014-09-17	yes
TS	23.083	Call Waiting (CW) and Call Hold (HOLD) supplementary services; Stage 2	C4	Yes	2014-09-17	yes
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TS	23.085	Closed User Group (CUG) supplementary service; Stage 2	C4	Yes	2014-09-17	yes
TS	23.086	Advice of Charge (AoC) supplementary services; Stage 2	C4	Yes	2014-09-17	yes

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TS	23.087	User-to-User Signalling (UUS) supplementary service; Stage 2	C4	Yes	2014-09-17	yes
TS	23.088	Call Barring (CB) Supplementary Services; Stage 2	C4	Yes	2014-09-17	yes
TS	23.090	Unstructured Supplementary Service Data (USSD); Stage 2	C4	Yes	2014-09-17	yes
TS	23.091	Explicit Call Transfer (ECT) supplementary service; Stage 2	C4	Yes	2014-09-17	yes
TS	23.093	Technical realization of Completion of Calls to Busy Subscriber (CCBS); Stage 2	C4	Yes	2014-09-17	yes
TS	23.094	Follow-Me (FM); Stage 2	C4	Yes	2014-09-17	yes
TS	23.096	Name identification supplementary services; Stage 2	C4	Yes	2014-09-17	yes
TS	23.097	Multiple Subscriber Profile (MSP) (Phase X); Stage 2	C4	Yes	2014-09-17	yes
TS	23.101	General Universal Mobile Telecommunications System (UMTS) architecture	S2	Yes	2014-09-17	yes
TS	23.107	Quality of Service (QoS) concept and architecture	S2	Yes	2014-09-17	yes
TS	23.108	Mobile radio interface layer 3 specification, core network protocols; Stage 2	C1	Yes	2014-09-17	yes
TS	23.110	Universal Mobile Telecommunications System (UMTS) access stratum; Services and functions	S2	Yes	2014-09-17	yes
TS	23.116	Super-Charger technical realization; Stage 2	C4	Yes	2014-09-17	yes
TS	23.119	Gateway Location Register (GLR); Stage 2	C4	Yes	2014-09-17	yes
TS	23.122	Non-Access-Stratum (NAS) functions related to Mobile Station (MS) in idle mode	C1	Yes	2014-09-17	yes
TS	23.135	Multicall supplementary service; Stage 2	C4	Yes	2014-09-17	yes
TS	23.139	3GPP system - fixed broadband access network interworking; Stage 2	S2	Yes	2014-09-17	yes
TS	23.141	Presence service; Architecture and functional description	S2	Yes	2014-09-17	yes
TS	23.142	Value-added Services for SMS (VAS4SMS); Interface and signalling flow	C4	Yes	2014-09-17	yes
TS	23.146	Technical realization of facsimile Group 3 non-transparent	C3	Yes	2014-09-17	yes
TS	23.153	Out of band transcoder control; Stage 2	C4	Yes	2014-09-17	yes
TS	23.167	IP Multimedia Subsystem (IMS) emergency sessions	S2	Yes	2014-09-17	yes
TS	23.172	Technical realization of Circuit Switched (CS) multimedia service UDI/RDI fallback and service modification; Stage 2	C3	Yes	2014-09-17	yes
TS	23.202	Circuit switched data bearer services	C3	Yes	2014-09-17	yes
TS	23.203	Policy and charging control architecture	S2	Yes	2014-09-17	yes
TS	23.204	Support of Short Message Service (SMS) over generic 3GPP Internet Protocol (IP) access; Stage 2	S2	Yes	2014-09-17	yes
TS	23.205	Bearer-independent circuit-switched core network; Stage 2	C4	Yes	2014-09-17	yes
TS	23.207	End-to-end Quality of Service (QoS) concept and architecture	S2	Yes	2014-09-17	yes
TS	23.216	Single Radio Voice Call Continuity (SRVCC); Stage 2	S2	Yes	2014-09-17	yes