هيئة الاتصالات وتقنية المعلومات
Communications & Information Technology Commission

CITC Technical Specification

Specification for Equipment connecting to Wired Network

(SHDSL, DSL, ADSL, ADSL2, ADSL2+ and HSSI)

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Contents

Scope

This specification applies to Equipment connecting to any wired network, which includes the following services:

- SHDSL
- DSL
- ADSL, ADSL2 and ADSL2+
- High Speed Serial Interfaces (HSSI)

Equipment covered by this specification includes, but is not limited to the Analogue PSTN interfaces of the following equipment types:

ADSL Splitter devices	For direct connection to the ADSL line circuit.
ADSL Modems	For direct connection to the ADSL line circuit or indirect connection via an ADSL line splitter.
Other equipment	For direct connection to the ADSL line circuit or indirect connection via an ADSL line splitter.

Enforcement

This specification shall enter into force on 20/07/2021.

Any previous version of this technical specification is withdrawn.

General Requirements

- All equipment must comply with the requirement of CITC specification GEN001, be safe and must not adversely affect other electrical equipment.
- All telecommunications and radio terminal equipment must comply with the relevant technical specifications established by CITC. In addition, such equipment may be subject to regulations for Declaration of Conformity or registration. Please visit www.citc.gov.sa for details.
- If more than one interface type is offered by a piece of equipment, each interface must meet the applicable technical specifications.
- Further information on the characteristics and presentation of network interfaces can be obtained by coordinating with the mobile network operators.
- It is mandatory that test reports are obtained from a laboratory that has been accredited by a body that is a member of the ILAC Mutual Recognition Arrangement.

Limits and conditions

Technical requirements to limit disturbance to services operating at frequencies above the voiceband service.

Testing should be carried out to ensure compliance with the following specifications:

Technology	Applicable Standard	Additional Requirements
DSL	ETR 152 TS 101 524-1	

Technology	Specification	Upstream PSD	Aggregate upstream transmit power	Comments
ADSL (G.dmt)	G.992.1 (07/1999)	Annex A (A2.4)	Annex A (A2.4.3.3)	ITU-T Recommendation
Splitterless ADSL (G.Lite) (Non overlapped spectrum)	G.992.2 (07/1999)	Annex A (A1)	Annex A (A1.2.3)	ITU-T Recommendation
Splitterless ADSL (Overlapped spectrum)	G.992.2 (07/1999)	Annex B (B1)	Annex B (B1.2.3)	ITU-T Recommendation
ADSL2	G.992.3 (01/2005)	Annex A	Annex A	ITU-T Recommendation
RE-ADSL2	G.992.3 (01/2005)	Annex L	Annex L	ITU-T Recommendation
ADSL2 increased upstream rate	G.992.3 (01/2005)	Annex M	Annex M	ITU-T Recommendation
Splitterless ADSL2	G.992.4 (07/2002)	Annex A	Annex A	ITU-T Recommendation
ADSL2+	G.992.5 (01/2005)	Annex A (A2.2)	Annex A (A2.2.2)	ITU-T Recommendation
ADSL2+ increased Upstream rate	G.992.5 (01/2005)	Annex M	Annex M	ITU-T Recommendation

Technical Requirements to limit disturbance to Voiceband Services:

The equipment must be tested against ES 202 913, TS 101 952-1-1 and TS 101 952-1-2.

Power Spectral Density in the 0 to 4 KHz band.

The total power in the voiceband (0 Hz to 4 kHz) shall not exceed +15 dBm. The power spectral density in the range 0 to 4 kHz shall not exceed -97.5 dbm/ Hz.

Power Spectral Density (PSD).

ADSL equipment shall operate within the specified upstream PSD mask (see Table above) to prevent interference to other services.

Aggregate transmit power

The Upstream aggregate transmit power for an ADSL equipment shall not exceed the limits specified in the table above.

Technical Requirements to Equipment connecting to High Speed Serial Interfaces (HSSI):

Testing should be carried out to ensure compliance with the specifications ANSI/TIA/EIA-612.

Licensing Requirements

No licensing requirements apply.

Additional Requirements

Additional requirements are detailed in the table in limits and conditions section.

References

The following referenced documents are indispensable for the application of this document. If no issue or revision number is quoted along with the title of a technical specification or standard, the latest published version should be used.

ES 202 913
Access and Terminals (AT); POTS requirements applicable to ADSL modems when connected to an analogue presented PSTN line

TS 101 524-1
Transmission and Multiplexing. Access transmission system on metallic access cables. Symmetrical single pair high bit rate Digital Subscriber Line (SDSL)

TS 101 952-1-1
Access network xDSL transmission filters; Part 1: ADSL splitters for European deployment; Sub-part 1: Specification of the low pass part of ADSL/POTS splitters

TS 101 952-1-2
Access network xDSL transmission filters; Part 1: ADSL splitters for European deployment; Sub-part 2: Specification of the high pass part of ADSL/POTS splitters

ETR 152
Transmission and Multiplexing TM; High bit-rate Digital Subscriber Line (HDSL) transmission system on metallic local lines; HDSL core specification and applications for 2048 kbit/s based access digital sections.

G.992

ITU-T Recommendation

SERIES G: TRANSMISSION SYSTEMS AND MEDIA, DIGITAL SYSTEMS AND NETWORKS

ANSI/TIA/EIA-612

Electrical characteristics for an interface at Data Signaling Rates up to 52 Mbit/s

History

For reference, the latest versions of the technical specifications are published on the CITC website www.citc.gov.sa.

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	Issue 1	10/07/2021