BABT Application Note 101

Technical Requirements for a BABT Certified for Network Connection Certificate

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This application note should be read in conjunction with the **Guide to the BABT Certified for Network Connection Approval Scheme (BABT 721).**

1. Introduction

This application note identifies the standards which may be used for assessment under BABT's Certified for Network Connection scheme.

2. Connection Definition

To enable a CNC certificate to be issued details of the telecommunications and radio interfaces must be provided to BABT. This may either be in the form of published data from the network provider or a reference to recognised standards.

3. Technical Basis for Certification

BABT will certify equipment against publicly available standards or sets of requirements from standards where those sets have acceptability from an industry association or similar organisation..

The following standards are acceptable with international standards preferred to PTO or distributor procurement standards:

- ITU (CCITT) Recommendations; or
- Regional Standards (e.g. ETSI, CEPT, ERC or ANSI); or
- Global Industry Forum Documents; or
- National Standards; or
- Connection Provider Technical Specifications; or
- Procurement Specifications.

To enable the widest application of test results to establish compliance to the requirements of a number of different connection providers BABT encourages the use of the widest applicable standards.

Where you have any doubt about the acceptability of a standard for certification you are advised to contact BABT in advance of testing.

4. Base Technical Requirements

The following lists the default standards which may be used for BABT Certification

Interface	Technical Requirements
GSM 900 and GSM 1800	3rd Generation Partnership Project (3GPP) specification TS 51.010 as invoked by GSM industry forum Global Certification Forum (GCF) document GCF-CC **Note:** Where BABT is satisfied that a successful field trial has been carried out in accordance with the GSM industry forum Global Certification Forum (GCF) recommendations, this will be noted on the certificate. See Annex A for user guide recommendations.
ISDN Basic Rate	**TBR 3 : 1995** ISDN: Attachment requirements for terminal equipment to connect to an ISDN using ISDN basic access; including **TBR 3: A1 : 1997** Amendment to ISDN: Attachment requirements for terminal equipment to connect to an ISDN using ISDN basic access
ISDN Primary Rate	**TBR 4 : 1995** ISDN: Attachment requirements for terminal equipment to connect to an ISDN using ISDN Primary access; ncluding **TBR 4: A1 : 1997** Amendment to ISDN: Attachment requirements for terminal equipment to connect to an ISDN using ISDN Primary access
G.703 2,048 kbit/s digital unstructured leased lines	**ETSI TBR 012 ed.1 (1993-12)** - Business Telecommunications (BT); Open Network Provision (ONP) technical requirements; 2 048 kbit/s digital unstructured leased line (D2048U) Attachment requirements for terminal equipment interface; Including **ETSI TBR 012/A1 ed.1 (1996-01)** - Business Telecommunications (BTC); Open Network Provision (ONP) technical requirements; 2 048 kbit/s digital unstructured leased line (D2048U); Attachment requirements for terminal equipment interface
G.703 2,048 kbit/s digital structured leased lines	**ETSI TBR 013 ed.1 (1996-01)** - Business Telecommunications (BTC); 2 048 kbit/s digital structured leased lines (D2048S); Attachment requirements for terminal equipment interface
X.21 and X.21bis Digital Private Circuits	**TBR 2: 1997** Attachment requirements for Data Terminal Equipment (DTE) to connect to Packet Switched Public Data Networks for CCITT Recommendation X.25 Interfaces at Data signalling rates up to 1920 kbit/s utilising interfaces derived from CCITT Recommendations X.21 and X.21bis
PSTN Analogue Interfaces of Public Switched Telephone Networks	**TBR 21: 1998** Attachment Requirements for Pan European approval for connection to the Analogue PSTN of TE (excluding TE supporting the voice telephony service) in which network addressing, if provided, is by means of DTMF signalling. Where the Certifiable Equipment does not support pulse dialling then a CNC may be obtained as a result of full compliance to TBR 21. The following ATAAB Notes as published in EG 201 121 may optionally be applied: ATAAB Note 13: Which defines test methods for voice stimulated Equipment ATAAB Note 14: Which relaxes the range of feeding conditions used during test ATAAB Note 15: Which relaxes the connection methods for multi-line equipment ATAAB Note 16: Which clarifies the test methods for Clauses 4.4.4 and 4.7.5.

5. Testing

Test results must be presented to BABT with the TCF. Normally these results should be obtained from a BABT Recognised Test Facility. However BABT will also accept test results from Test Laboratories who are accredited to perform tests to the reported standard where they are accredited by an Accreditation authority accepted by the EA.
Details of the requirements for test labs and the contents of a TCF are given in document BABT 721.

If you have any concerns over the acceptability of reports from your intended test laboratory please contact BABT.

Annex A GSM User Instructions

There is a need to provide advisory and cautionary instructions to users of GSM mobile stations regarding their own and third party safety.

It is recommended that the following instructions be included in user handbooks for GSM mobile stations:

A.1 Electrical Safety

Where provision is made for the connection of any class of mobile station to power supply units or battery chargers using voltages in excess of 50v rms ac or 75v dc, it is recommended that the user handbook specifies the power supply unit(s) or battery charger(s) suitable for use with the mobile station and includes the following statement:

> "This equipment is intended for use when supplied with power from (identification of battery charger(s) and/or power supply unit(s)). Other usage will invalidate any certification given to this apparatus and may be dangerous."

A.2 Aircraft Safety

It is recommended that user handbooks for transportable and handportable stations include the following:

> "Switch off your cellular telephone when in an aircraft. The use of cellular telephones in an aircraft may be dangerous to the operation of the aircraft, disrupt the cellular network and may be illegal. Failure to observe this instruction may lead to suspension or denial of cellular telephone services to the offender, or legal action or both."

A.3 Explosive Atmospheres

It is recommended that user handbooks for all classes of mobile stations include the following:

> "Users are advised not to use the equipment when at a refuelling point.
>
> Users are reminded of the need to observe restrictions on the use of radio equipment in fuel depots, chemical plants or where blasting operations are in progress."

A.4 Road Safety

Mobile stations may not use an 'Alert' device to cause a vehicle horn to sound or lights to flash on receipt of a call on public roads.

Installation instructions must not show how to make such a connection, and should avoid the use of terms such as 'horn relay'. Reference may be made to a port enabling other apparatus to be controlled.

It is recommended that user handbooks offering an 'Alert' facility contain the following text:

> "The use of the Alert device to operate a vehicle's lights or horn on public roads is not permitted."

It is recommended that the following text, which appears in The Highway Code, be incorporated in user handbooks:

> " You **MUST** exercise proper control of your vehicle at all times. Do not use a hand-held telephone or microphone while you are driving. Find a safe place to stop first. Do not speak into a hands-free microphone if it will take your mind off the road. You **MUST NOT** stop on the hard shoulder of a motorway to answer or make a call, except in an emergency."

A.5 Non-Ionising Radiation

It is recommended that user handbooks for mobile equipment draw attention to the following, in the case of Class 1 or Class 2 equipment:

As with other mobile radio transmitting equipment, users are advised that for satisfactory operation of the equipment and for the safety of personnel, it is recommended that no part of the human body be allowed to come too close to the antenna during operation of the equipment.

It is recommended that installation instructions for vehicle mounted stations include, for Class 1 and Class 2 equipment:

> "The radio equipment shall be connected to the antenna via a non-radiating cable (e.g. coax).

The antenna shall be mounted in a position such that no part of the human body will normally rest close to any part of the antenna unless there is an intervening metallic screen, for example, the metallic roof."

The effect of the GSM transmit/duty cycle on hearing aids and pacemakers is being investigated, and it is recommended that the user instructions draw attention to the potential hazard associated with use close to such personal medical electronic devices.