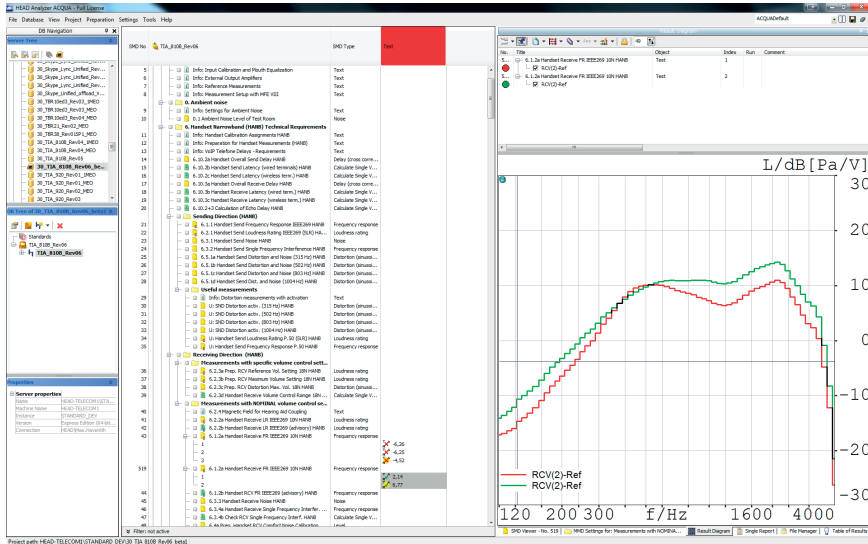


DATASHEET
TIA-810 (Code 6772)
 Transmission Requirements for Narrowband Digital Telephones according to ANSI/TIA/EIA-810-B



ACQUA User Interface with Measurement Tree and Result Diagram Window for TIA-810

Overview
 Advances in digital voice communications over non-traditional channels such as the Internet and Local Area Networks have made it necessary to redefine the way digital telephones are evaluated for voice quality.
 ANSI/TIA/EIA-810-B establishes handset, headset and handsfree telephone audio performance requirements for narrowband (300 to 3400 Hz) digital telephones regardless of protocol or digital format.
 HEAD acoustics implemented the measurements specified by ANSI/TIA/EIA-810-B into an automated test suite for the communication quality analysis system ACQUA.

DESCRIPTION

The transmission requirements for narrowband digital telephones specified by the standard ANSI/TIA/EIA-810-B have been fully implemented by HEAD acoustics into the measurement standard TIA-810 for the communication quality analysis system ACQUA.

The measurements can be modified or extended if required in order to conduct additional tests. The tests can be combined in any way to create individual test sequences.

Combined with the advanced communication quality analysis system ACQUA and the measurement front end MFE VI.1 as well as the VoIP reference gateway MFE VIII.1, the TIA-810 test suite with its predefined measurement descriptors and automated measurement sequences allows the fast and easy acquisition, analysis and documentation of measurement data.

APPLICATIONS

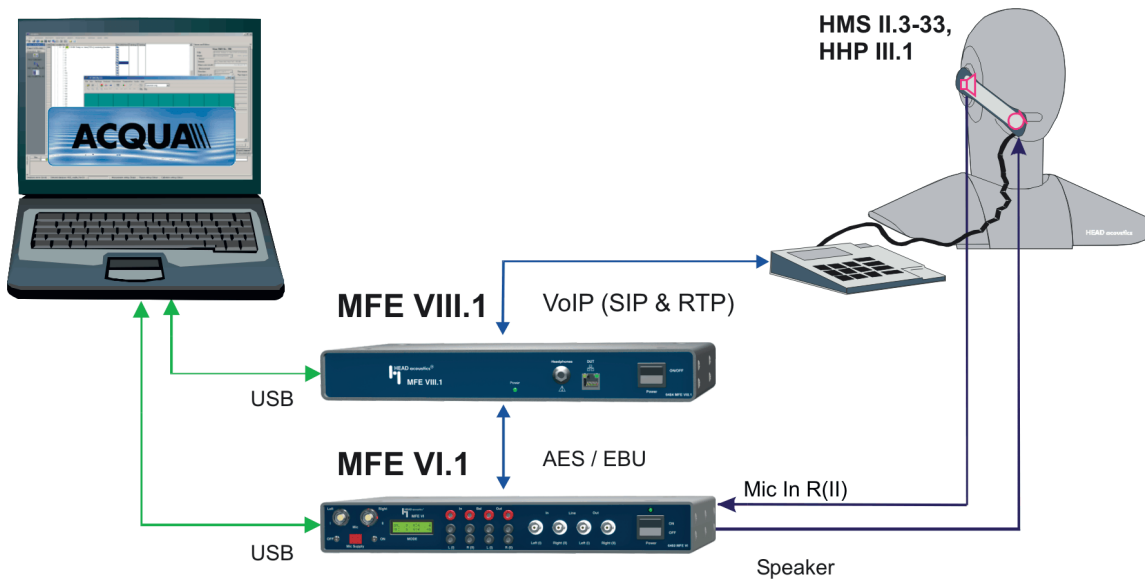
- Automated Analysis of narrowband digital telephones according to TIA 810-B November 2006 which refers to IEEE Standard 269a-2012 (Amendment 1) and IEEE Standard 1329-2010.

MEASUREMENTS

The measurements included in the TIA-810 test suite are summarized in the following table:

SMD Title
6/7/8.1.1 SND Frequency Response
6/7/8.1.2 RCV Frequency Response
6/7/8.2.1 SND Loudness Rating
6/7/8.2.2 SND Loudness Rating
6.2.3 Handset RCV Volume Control Range
6.2.5 & 7/8.2.3 Talker Sidetone
6.2.6 Handset Sidetone Delay
6/7/8.3.1 SND Noise
6/7/8.3.2 SND Single Frequency Interference
6/7/8.3.3 RCV Noise
6/7/8.3.4 RCV Single Frequency Interference
6.5.1 & 7/8.4.1 SND Distortion and Noise
6.5.2 & 7/8.4.2 RCV Distortion and Noise
6.6.1 & 7/8.5.1 SND Weighted Terminal Coupling Loss
6.6.2 & 7/8.5.2 RCV Weighted Terminal Coupling Loss
6.8 & 7.6 Long Duration Maximum Acoustic Pressure
6.9 & 7.7 Short Duration Maximum Acoustic Pressure
6.10 Handset Overall Send Delay
6.7 & 8.6 Stability Loss

	Handset (HAWB)	Speakerphone (DVWB)	Headset (HEWB)
6/7/8.1.1 SND Frequency Response	•	•	•
6/7/8.1.2 RCV Frequency Response	•	•	•
6/7/8.2.1 SND Loudness Rating	•	•	•
6/7/8.2.2 SND Loudness Rating	•	•	•
6.2.3 Handset RCV Volume Control Range	•	n/a	n/a
6.2.5 & 7/8.2.3 Talker Sidetone	•	•	•
6.2.6 Handset Sidetone Delay	•	n/a	n/a
6/7/8.3.1 SND Noise	•	•	•
6/7/8.3.2 SND Single Frequency Interference	•	•	•
6/7/8.3.3 RCV Noise	•	•	•
6/7/8.3.4 RCV Single Frequency Interference	•	•	•
6.5.1 & 7/8.4.1 SND Distortion and Noise	•	•	•
6.5.2 & 7/8.4.2 RCV Distortion and Noise	•	•	•
6.6.1 & 7/8.5.1 SND Weighted Terminal Coupling Loss	•	•	•
6.6.2 & 7/8.5.2 RCV Weighted Terminal Coupling Loss	•	•	•
6.8 & 7.6 Long Duration Maximum Acoustic Pressure	•	n/a	•
6.9 & 7.7 Short Duration Maximum Acoustic Pressure	•	n/a	•
6.10 Handset Overall Send Delay	•	n/a	n/a
6.7 & 8.6 Stability Loss	•	•	n/a



Configuration Example

SYSTEM REQUIREMENTS

TIA-810 requires the following system components:

- **ACQUA** Communication Analysis System as one of the following variants (version 3.1.300 or later):
 - Full License (Code 6810)
 - Workplace (Code 6830, for post-analysis and documentation only)
 - Compact Systems (Code 6860.xx)
- **MFE VI.1** Measurement Front End with integrated power amplifier (Code 6462)
- **MFE VIII.1** VoIP Reference Gateway with Ethernet Interfaces and SIP-VoIP Client (Code 6484)
- **HMS II.3-33** Head and Torso Simulator (HATS) according to ITU-T P.57 and P.58 with pinna type 3.3 (Code 1230.1).
Note: additional left ear simulator (HIS L, Code 1231) required for binaural headset measurements.
- **HHP III.1** Handset Positioner according to ITU-T P.64 (Code 1403)
- **Free-field microphone** or option **MFEVI-BEQ** (Code 6461), only required for hands-free measurements

DELIVERY

- **TIA-810** (Code 6772), delivered as ACQUA database
- **V2C file** (for ACQUA 3.1.300 or later)
- **Manual** as PDF

represented by

