



BLUETOOTH 5

Bluetooth LE interface option for APx analyzers



FIRMWARE

- ◆ Bluetooth core v. 5.4

AUDIO CODEC

- ◆ Low Complexity Communication Codec (LC3)

APPLICATIONS

- ◆ Headphones
- ◆ Headsets
- ◆ Hearing Aids
- ◆ Speakers

HIGHLIGHTS

- ◆ LE Audio Support
- ◆ Unicast Music
- ◆ Unicast Voice
- ◆ Auracast (broadcast)
- ◆ Fast connection time
- ◆ Filtered discovery scanning
- ◆ Field-upgradeable firmware

Bluetooth LE Solution

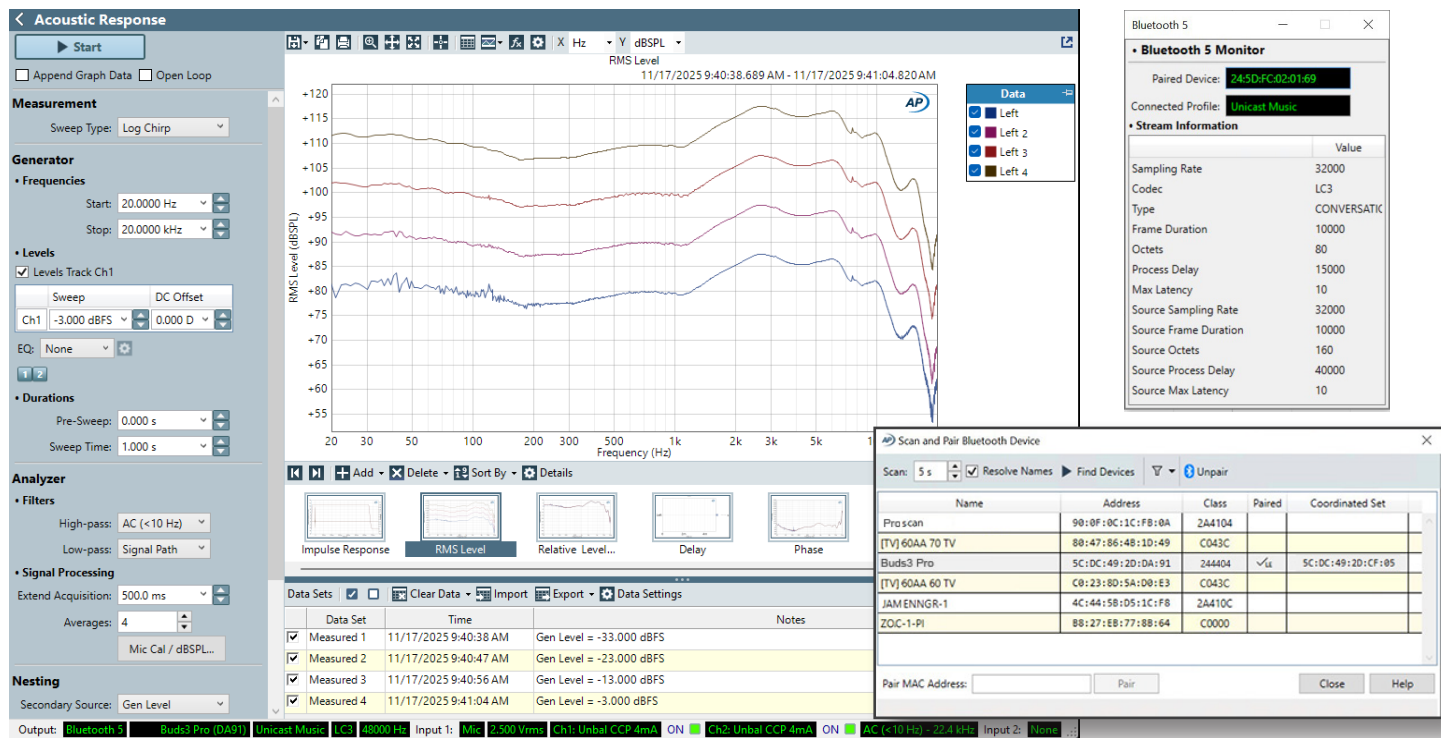
The Audio Precision Bluetooth 5 option is a new Bluetooth® hardware module, with Bluetooth LE support using new Bluetooth chips and the latest firmware. Supported by Audio Precision's APx500 measurement software (version 9.2 and later), Bluetooth 5 utilizes the Bluetooth LC3 codec to provide Unicast Music, Unicast Voice, and Auracast functionality. The Bluetooth 5 option can be installed into any APx B-Series modular analyzer as well as any APx516 and APx517 analyzers with an available module bay.

Auracast is a new Bluetooth feature which allows an audio stream to be broadcast to many receivers. Among other uses, this feature is being promoted by hearing aid manufacturers as a replacement for magnetic induction as a mechanism to distribute audio to hearing aids in churches, public spaces, and other venues.

As an APx module, Bluetooth 5 is part of an all-in-one solution, integrated into the analyzer and leveraging the power and flexibility of the APx system. Bluetooth 5 can share the analog, digital, chip-level I2S and TDM protocols, PDM, or HDMI input/output capabilities installed in the analyzer. Intuitive and powerful, the APx500 software provides access to a long list of audio measurements and Bluetooth LE settings and parameters. When new Bluetooth features and improvements are made available, Bluetooth firmware upgrades can be distributed and installed in the field.



APx517 acoustic audio analyzer with Bluetooth 5 module and KEMAR fixture for a complete Bluetooth LE test configuration



APx500 software showing Bluetooth 5 Acoustic Response results

The Bluetooth 5 Monitor display with stream information (top) and the Bluetooth 5 Scan and Pair dialog (bottom).



WARRANTY

Audio Precision is proud to offer a limited three year warranty on its new products. Any instrument covered under a valid Audio Precision new product warranty—where the damage is not caused by owner misuse or abuse—is repaired free of charge. If the repair is made within a year of purchase, the unit will also receive an Accredited Calibration.

NEW TO AUDIO PRECISION?

If this data sheet is your first contact with us, please explore our website at audioprecision.com. Audio Precision is the world leader in audio test, with over 30 years of providing scientists, engineers and manufacturers with the finest audio analysis instruments available. We make audio analyzers with unsurpassed analog performance and a wide array of connectivity, including AES3/SPDIF digital, chip-level I2S, TDM and other serial interfaces, a PDM interface, an HDMI interface, an ASIO interface, and of course, a Bluetooth interface. We also offer a number of solutions for acoustic test and measurement, including measurement microphones and accessories, and a headphone test fixture.

SUPPORTED PROFILES

- ◆ **Basic Audio Profile (BAP)** Basic framework for establishing and managing audio streams for unicast and broadcast audio.
- ◆ **Published Audio Capabilities Service (PACS)** Enables a device to share its supported audio capabilities with other devices to facilitate robust connections and ensure compatibility.
- ◆ **Audio Stream Control Services (ASCS)** Manages stream setup and use between compatible devices for both unicast and broadcast streams.
- ◆ **Coordinated Set Identification Profile (CSIP) / Service (CSIS)** Facilitates discovery, group-based pairing, and synchronized controls for connections with multiple devices designed to work as a coordinated set, such as a pair of earbuds or hearing aids.

SPECIFICATIONS

Bluetooth core version	v. 5.4
Audio codec	LC3
RF connection	SMA
RF input impedance	50 Ω
RF output impedance	50 Ω
RF power	Typical maximum +8 dBm
RF sensitivity	Typically −81 dBm

APPLICATIONS

- ◆ Headphones
- ◆ Headsets
- ◆ Hearing Aids
- ◆ Speakers
- ◆ Automotive