

## Technical Description

The Acoustas Melody-G is a wireless guitar microphone set which operates in the 2.4GHz ISM band. It uses a Texas Instruments PurePath Wireless chipset, closely following the reference design with the exception of using a CC2591 range booster instead of a CC2590. The CC2591's PA is about 8dB more powerful than the CC2590's. The Melody-G set consists of a master and a slave, seen at the left and the right respectively in the photograph, and referred to in marketing materials as a transmitter and a receiver even though both are technically transceivers.



The battery-powered master is mounted within a guitar and connects to various microphones, compressing the audio signals and sending them over the air to the slave. TI's "SLAC" compression is used with a sampling frequency of 48kHz and a bit depth of 16. Two audio channels are transmitted through the 2Mbps network and can be mixed or attenuated by the slave, depending on internal settings. The resulting output is sent through a 1/4" phone jack and optionally over USB. The slave is always powered through the USB port, but it can accept a 5V charging brick without any USB signals.

The slave uses a pairing button to identify a master - once pressed, the ID of the master with the best signal strength will be written into the slave's non-volatile memory and that master will be used as the audio source until the process is optionally repeated.