ROHDE&SCHWARZ
Make ideas real

MEASURING TRANSMITTER VoIP AUDIO DELAY

Delay verification of VoIP (ED-137B/C) radios with R&S®CMA-K611

Your benefit	Features
Audio delay test	Transmitter test at the touch of a button
Seamless integration	The measurement is integrated into existing VoIP and transmitter tests for ease of use
Quality measurement	High measurement precision and repeatability

Your challenge

New air traffic control (ATC) and MilCom radios transmit and receive audio via VoIP and legacy analog audio interfaces. Radios now need to have their digital VoIP interface tested along with their analog audio interface. The radio needs to have an IP connection that supports the ED-137B/C protocol. VoIP adds another layer to the well-known transmitter and receiver test. Since radios receive audio via IP stream, the audio needs to run through a jitter buffer, be processed and sent to the modulator, which can take up time and cause delays. Transmitter delay is an important factor in evaluating audio quality and network setups.

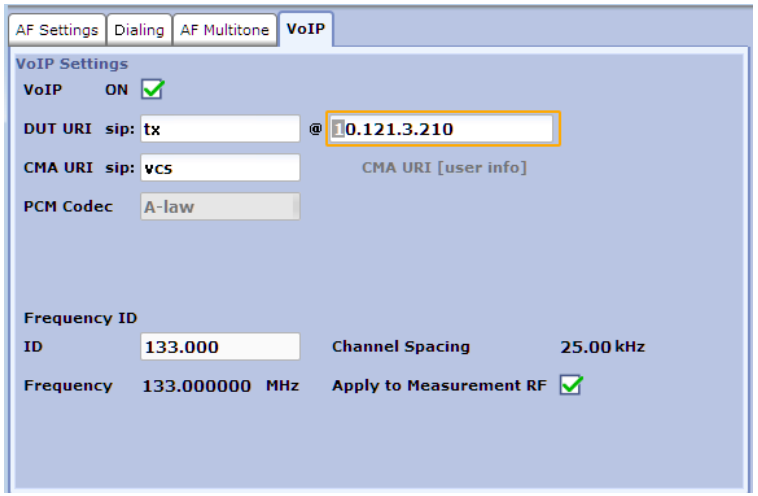
Our solution

The CMA VoIP option R&S®CMA-K610 provides a VoIP interface for both analyzers and generators. The option seamlessly integrates into the user interface for fast switching between analog and digital audio interfaces.

For transmitter VoIP audio delay measurements, the R&S®CMA-K611 option can provide results without the use of any external equipment. Simply press a button.

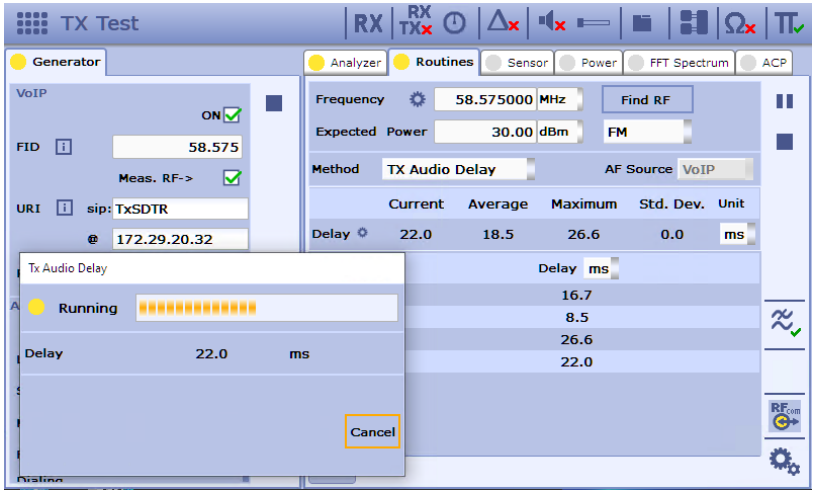
For more information, visit
www.rohde-schwarz.com/product/CMA180

Setting the VoIP connection



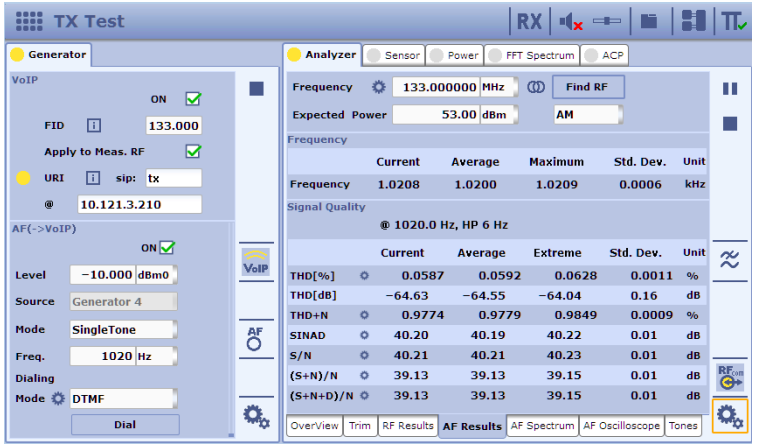
Setting up the URI of the radio and CMA

VoIP transmitter delay test



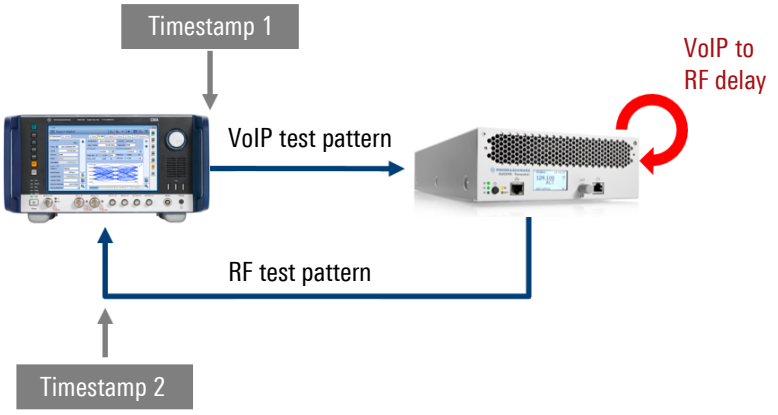
The CMA provides a signal with a test pattern to the DUT and measures the VoIP transmitter delay.

VoIP transmitter test



The VoIP audio generator provides an IP connection and audio input to the radio. The CMA receives the modulated RF signal and measures the RF parameters and signal quality.

Setup for VoIP transmitter delay



The VoIP delay is determined as the difference between two timestamps. One when the test pattern leaves the R&S®CMA and a second one when the test pattern is detected by the CMA via RF.

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