

Agilent PN 8590-5

Measuring Close-in AM in the Presence of FM

Product Note

How to use the FFT function in Agilent Technologies 8590 C/E/L-series spectrum analyzers

Analysis of AM using the built-in Fast Fourier Transform (FFT) of 8590 C/E/L-series spectrum analyzers is simplified with a smart user interface. FFT features include:

- AM demodulation spans from 20 Hz to 10 kHz (optional to 10 MHz)
- >50 dB dynamic range
- Automatic operation with just a few key strokes
- Continuous or single-shot operation
- Multiple markers
- Save and recall of complete FFT displays
- Signal identification

Easy close-in AM measurements

With the FFT function, it's possible to make quick, continuous, close-in AM measurements of RF or microwave signals, such as hum measurements, even when FM is present. Mark the signal to be tested and press [AUTO FFT]. The analyzer computes and displays the FFT AM sideband spectrum in a convenient demodulation span. To change the demodulation span, just change the stop frequency.

Repeatable and convenient

Spectrum analyzer one-button measurements are repeatable, giving you confidence in the measurement of signals or components over time, temperature, and calibration variations. You can select continuous sweep to see changes as they happen, or single sweep to get snapshots of the spectra.

Increase demodulation span to 10 MHz

The FFT function with a 10 kHz maximum demodulation span, is standard in all 8590 C/E/L-series spectrum analyzers. If you install or retrofit the Fast ADC, Option 101, the maximum FFT stop frequency is increased to 10 MHz. The Fast ADC option is not available on the 8590L or 8592L.

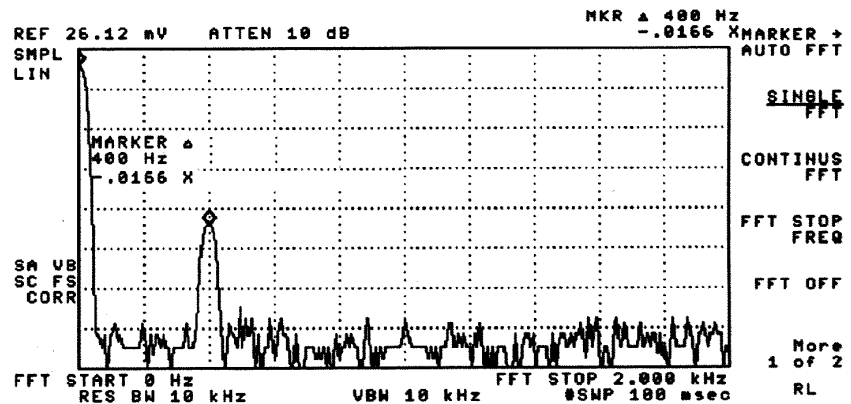


Figure 1. Percent AM is measured on a signal source that also has FM. The measurement is refreshed with each sweep.



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Ordering information

Compatible spectrum analyzers

- 8590L
- 8591C
- 8591E
- 8592L
- 8593E
- 8594E
- 8595E
- 8596E

Required configuration

- Standard, FFT stop frequency up to 10 kHz
- Fast Time-Domain Sweeps, Option 101 on 8590C/E models only, FFT stop frequency up to 10 MHz

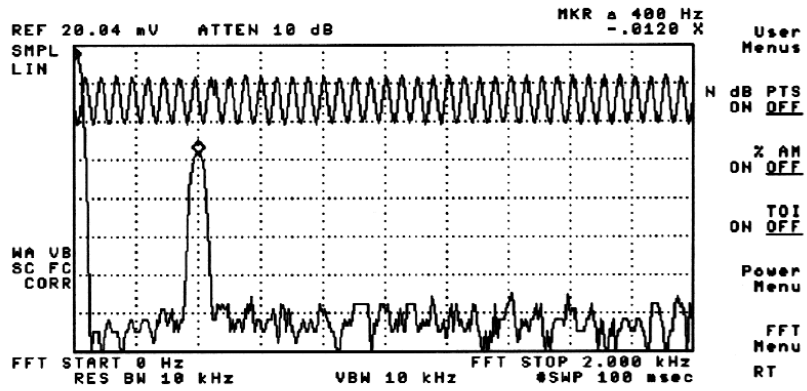


Figure 2. While viewing the AM sidebands, you can display the time-domain source signal.

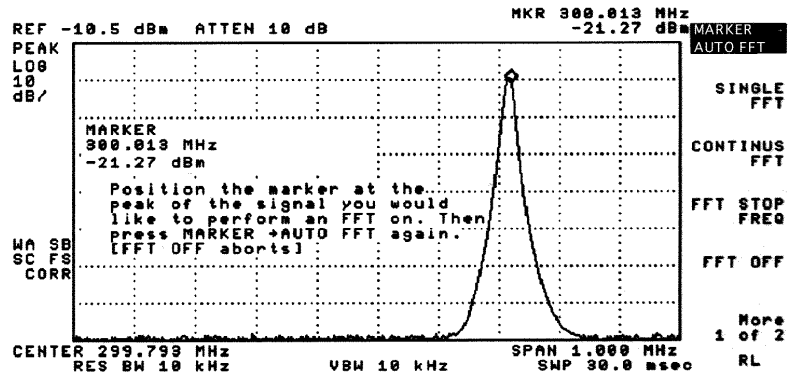


Figure 3. On-screen operation instructions assist you in making AM measurements.

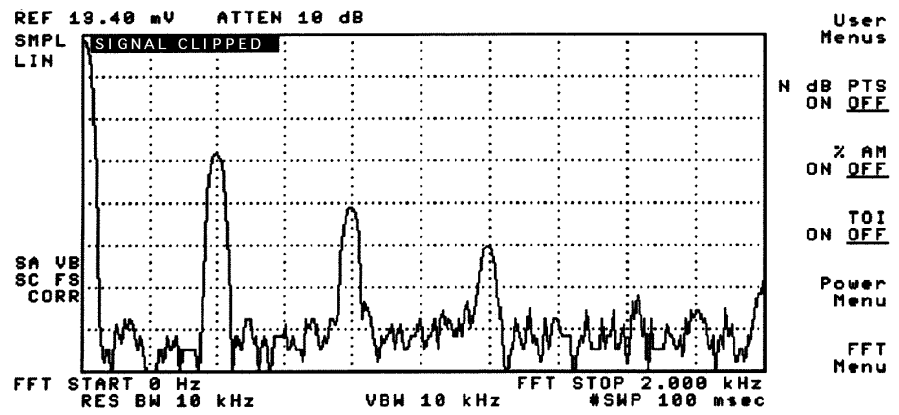


Figure 4. If the input signal becomes compressed, a clipping message warns of possible false FFT responses.

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(fax) (61 3) 9272 0749

New Zealand:

(tel) 0 800 738 378

(fax) (64 4) 495 8950

Asia Pacific:

(tel) (852) 3197 7777

(fax) (852) 2506 9284

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