



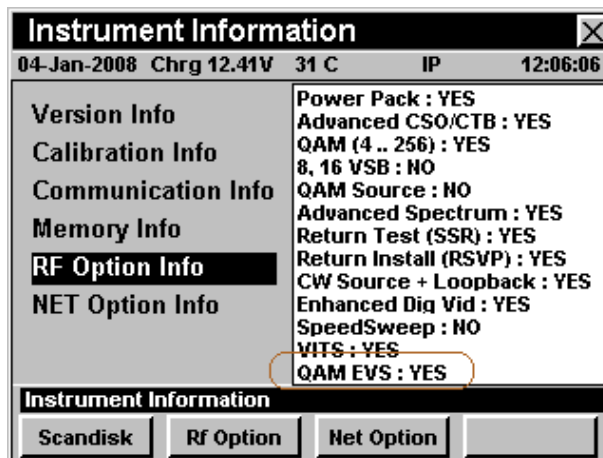
860 DSPi Error Vector Spectrum

Error Vector Spectrum (EVS) in the 860 DSPi

The Error Vector Spectrum Menu (QAM EVS) allows the operator to tune the meter to a downstream QAM channel and display its error vector spectrum, to reveal noise and ingress that may be present under the QAM channel. This feature is a component of the QA-1 option for the 860 DSP and QA-2 option for the 860 DSPi, and will present itself when the unit is updated with the January 2008 firmware. 860 DSPi owners may activate the QA-2 option and 860 DSP owners may activate the QA-1 option in the field by purchasing a key code.

How can I see if my 860 DSP or 860 DSPi supports QAM EVS?

The easiest method to see if your 860 DSP or 860 DSPi supports QAM Error Vector Spectrum is to go to the Information Menu on the Setup TAB and display the RF Options. Note: Firmware must be V8.1.1.1 or higher.

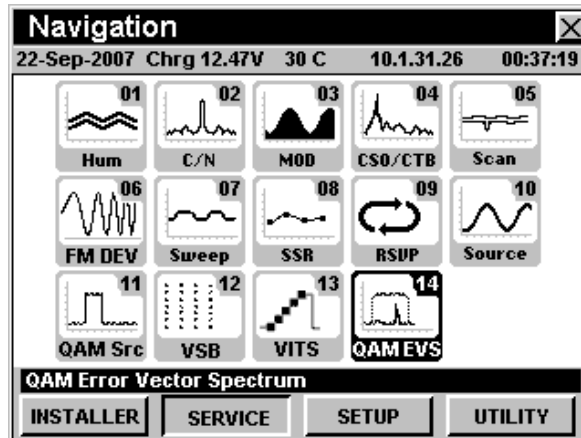


For Additional Help Contact
 Trilithic Applications Engineering
 1-800-344-2412 or 317-895-3600
support@trilithic.com or www.trilithic.com

860 DSPi Error Vector Spectrum
 P/N 0010275033 – Rev 1/08
 1 of 3

How do I use the QAM EVS mode?

The QAM Error Vector Spectrum test can be performed on a channel from a specified channel plan or custom user entered QAM channel. The mode of operation is a cross between the QAM mode and the Spectrum Analyzer mode.



As soon as the operator enters the QAM EVS mode, it is tuned to the last tuned channel in the QAM mode. The operator can then adjust the reference (top line of spectrum display), the digital channel, the modulation, the frequency, the symbol rate, the bandwidth, and the dB per division.

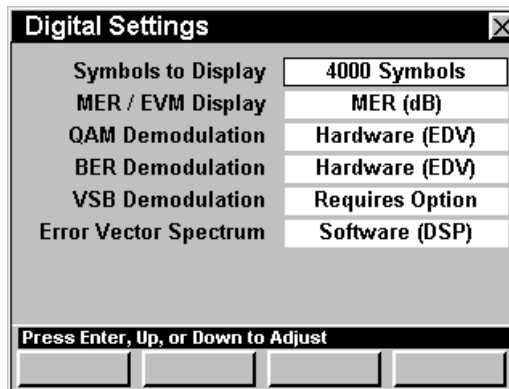
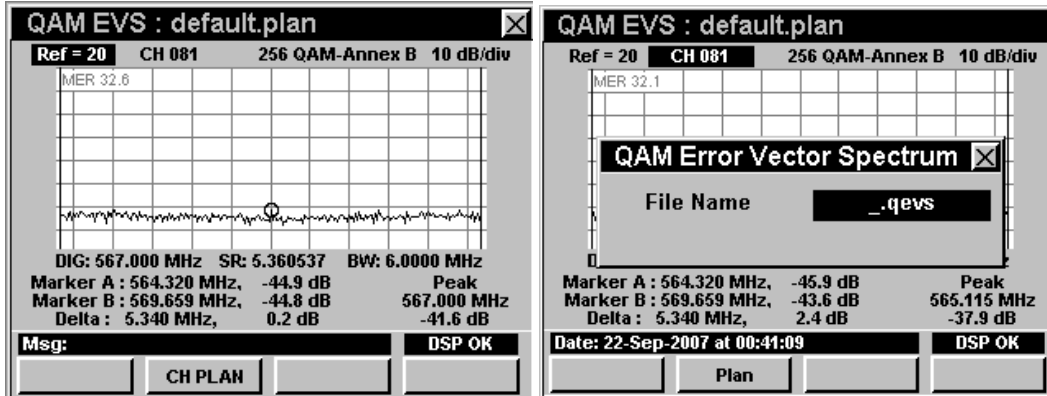
The center frequency of the display is the center frequency of the channel. The span of the display is the channel's symbol rate.

When the unit locks onto the QAM signal, the error vector spectrum is plotted. The user can also see the current MER in the upper left of the graph. The markers and peak can be used to help determine the frequency of unwanted signals present in the QAM channel.

For Additional Help Contact
Trilithic Applications Engineering
1-800-344-2412 or 317-895-3600
support@trilithic.com or www.trilithic.com

860 DSPi Error Vector Spectrum
P/N 0010275033 – Rev 1/08
2 of 3

The displayed amplitude level is relative to the QAM channel's total average power. For example, if a QAM channel's total power is 12dBmV and an interfering signal at the channel center frequency is -18 dBmV, then the interfering signal will be displayed on the Error Vector Spectrum graph with an amplitude of -30dB (-18 dBmV – 12 dBmV = -30 dB). The EVS display range is typically equal to the MER reading +10 dB. For example, with an MER of 32.5 the displayed noise floor on the EVS graph will be about -32.5 – 10 = -42.5 dB.



WorkBench Support

Data logs can be created on the 860 and will be supported in WorkBench.

For Additional Help Contact
 Trilithic Applications Engineering
 1-800-344-2412 or 317-895-3600
support@trilithic.com or www.trilithic.com

860 DSPi Error Vector Spectrum
 P/N 0010275033 – Rev 1/08
 3 of 3