



Microwave Filter Company, Inc.

NEW PRODUCT RELEASE

DTV Mask Emission Test (Bandstop) Filters

Choose from one of two new model filters offered by MFC - specifically designed for use as the **bandstop test filter** described in the IEEE Broadcast Technology Society's preferred test method (#2) from their document "Practice for Measurement of 8-VSB Digital (US) Television Mask Compliance".



The information pertaining to these bandstop test filters is as follows :

Model	Test Channel (Fc) Center Frequency Option	Filter Performance			DTV Mask Classification
		Stopband	Stopband	Passband	
16150-(ch)	(54-806) MHz	Fc ± 2.5 MHz 49 dB [Min.]	Fc ± 3 MHz 43 dB [Min.]	Fc ± 5 MHz 3 dB [Max.]	Full Service
16560-(ch)	(54-806) MHz	-----	Fc ± 3 MHz 20 dB [Min.]	Fc ± 5 MHz 3 dB [Max.]	LPTV/Translator

Features:

- Available for any DTV broadcast channel from (54-806) MHz.
- Rugged N-female connectors (50 ohm).
- Superior RF-shielding from other transmission sources.
- Choice of Plate Mount or Rack Chassis Mount Configuration.

Contact our Sales Dept. Visit our website for more information on these products.

Toll-Free Telephone : (800)448-1666

E-mail : mfcsales@microwavefilter.com

Web: www.microwavefilter.com



Microwave Filter Company, Inc.

ATTENTION: DTV Broadcasters!!!

Will Your DTV Transmit Signal MASK be FCC-Compliant ?

As a broadcaster you know the characteristics of a DTV signal differ substantially from an analog signal. While an analog signal consists of three separate carriers (video, color & audio), a DTV signal consists of one composite carrier and, most notably, consumes more bandwidth than an analog signal.

As a result, a DTV transmit mask must exhibit far superior out-of-channel emissions performance than that of an analog transmit mask, particularly when considering adjacent DTV channel broadcasting.

Consequently, the FCC has adopted strict regulations for DTV transmitter Out-of-Channel Emissions performance. So, it is important that broadcasters take the necessary steps to assure that their DTV transmit signal mask is FCC-compliant as we make this historic transition from analog to digital television broadcasting.

Do you have all the information needed to "Proof" your DTV Mask ?

Since the characteristics of the DTV mask differ from an analog mask, the methodology used to measure DTV mask emissions will also differ from that used to measure analog mask emissions.

This means that the broadcaster will need reliable DTV emissions testing information in order to accurately "Proof" their DTV transmit signal mask.

Where can you find reliable information on DTV Mask Measurement ?

In their ongoing efforts to codify industry standards, the IEEE Broadcast Technology Society (BTS) has drafted a document entitled:

"Recommended Practice for Measurement of 8-VSB Digital Television Mask Compliance"

... a comprehensive tutorial on how to accurately & consistently measure the emissions of a DTV transmit signal.

Essentially, this document describes (2) test methods that can be used to characterize the output signal of a DTV transmit mask.

For more information on this IEEE (BTS) document - visit the Web at www.ieee.org.

Which DTV Mask test method is preferred by the IEEE BTS ?

A brief summary of the (2) test methods described in the IEEE (BTS) document indicates the following :

Test Method # 1 Takes the mask filter's transfer function parameters and mathematically applies them to derive the characteristics of the DTV transmit mask signal.

However, many times these transfer function parameters are established in the factory at room temperature and since the actual (on-site) operating temperature may deviate from room temperature, at the very least, those parameters may be deemed questionable and may even be non-applicable for such a precise measurement.

As a result, the FCC may not be willing to accept factory performance data and, instead, may request an on-site characterization of the transmit mask.

Unfortunately, an on-site characterization would require disassembly & re-assembly of the mask filter components - a major drawback to consider - if using this test method.

Test Method # 2 Takes a sample of the DTV transmit signal after the mask filter (via a directional coupler) and routes it through a (same) channel **Bandstop filter** for characterization.

This bandstop filter provides sharp attenuation of the sample DTV transmit signal with minimal effect on the out of band emissions.

This allows the operator to increase the sensitivity of the test equipment, which raises the out of band emissions above the noise floor providing a more accurate characterization of the DTV mask emissions.

Although this method does require an additional component (bandstop filter), mask filter components remain undisturbed during this emissions test.

That aspect alone makes this the IEEE's **preferred** test method when measuring DTV mask emissions.

6743 KINNE STREET, E. SYRACUSE, NY 13057
Toll-Free Telephone (800)448-1666
E-Mail: mfcsales@microwavefilter.com

Web: www.microwavefilter.com